MagicQ User Manual

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Contents

This manual is designed for operators of the MagicQ to help them quickly and effectively learn how to use the system. It has been written by lighting designers for lighting designers. The reader is assumed to have a basic familiarity with the concepts of lights and lighting control systems.

The manual starts with an introduction to the MagicQ lighting console its features, functions and concepts. It then moves into detailed descriptions of patching, programming and playback.

Readers who are tight for time and just want to find out how to quickly program a working show should read the Quick Start guide.

ChamSys Ltd

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Chapter 1

Introduction

MagicQ supports an extensive array of features to enable lighting designers to quickly and easily realise their innovative and imaginative designs.

- Sixty four full 512 channel universes (32768 channels)

- Up to 202 playbacks

- DMX512, Art-Net I, II and III, Pathport, ACN and many 3rd party DMX dongles

- Extensive personality library

- In-built personality editor

- In-built Pixel Mapping

- Advanced Media Server control

- Colour mixing library including Lee and Rosco colours

- Flexible control of both heads and generic lighting

- Cloning and Morphing of heads

- Thousands of cues and cue stacks

- Naming of all items

- Virtually unlimited internal show storage & show merging

- FX generator with extensive FX library

- Immediate control of any chase / FX parameter

- Fully featured and enabled PC/Mac version

- Comprehensive multi console networking

- Remote control via consoles, tablets, and phone applications

- Export and import of patch data to spreadsheets / databases

- DMX input, over-riding, merging and testing option

MagicQ has been designed to be as flexible as possible so that it can be used equally well for pre-programmed shows / tours or for busking festivals. All parameters can be changed during run at the touch of a button.

Ease of use and speed of programming have been at the forefront of the design process ensuring patching and programming a show in the minimum amount of time without complex button sequences and multi level menus.

The first few chapters of this guide describe an overview of MagicQ including scenes, chases, fx and playbacks. If you wish to go straight into programming a show then turn to the Quick Start section.

1.1 MagicQ software and consoles

MagicQ software runs on PCs, Macs and MagicQ consoles and has the same features and user interface on all systems.

MagicQ software enables shows to be pre-programmed on a PC (Windows, Mac or Linux) enabling Lighting Designers to design and program their shows in advance. Shows can be transferred between PC, Mac and MagicQ consoles using USB memory sticks, or via direct network connection.

MagicQ PC / Mac supports the same functionality and user interface as the physical consoles making it easy to move between the two products. MagicQ PC / Mac can also be used to run complete shows, either as a back-up to the main console or as console in its own right.

MagicQ consoles are available in several different models all using the powerful MagicQ software on a Linux operating system giving a reliable operating environment for programming and playback of shows. A show can be programmed on one model and then played back on a different model.

MagicQ supports 202 playbacks in total – which can be be accessed through physical playbacks or through the touch screen. The different models in the MagicQ console series have different numbers of physical playbacks and buttons, enabling the size of console to be matched to the show.

Connecting MagicQ USB Wings to MagicQ PC / Mac gives the playback and programming control of the MagicQ consoles (faders, encoders and buttons) but with a small low cost lightweight solution.

DMX512 serial outputs are available from MagicQ software on PC/Mac using the MagicDMX interface, directly from all MagicQ consoles and from the Mini Wing, PC Wing and Maxi Wing.

MagicQ supports Art-Net I, Art-Net II, Art-Net III, Pathport and streaming ACN network outputs from PC, Mac or MagicQ consoles. MagicQ consoles have multiple network ports for connecting to Art-Net, Pathport and sACN installations.

1.2 MagicQ MQ500 Stadium Console

The MagicQ MQ500 Stadium is the latest control console from ChamSys designed to operate at the highest level of show control. MagicQ MQ500 Stadium enables shows to be designed from concept to reality including lighting, media, LED and scenic design.

MQ500 Key Features:

- Dual multi touch displays in full HD with adjustable viewing angle and gesture support.

- inbuilt MagicVis 3D visualiser with high quality beam and gobo rendering.

- 200 universes onboard direct from the console without the need for external processing. MagicHD media server runs on board enabling pixelmapping to all 200 universes.

- Intensity wheel and 100mm split crossfaders for theatre control, and incorporates 42 fader and executor playbacks for live busking.

The picture below shows the connections on the MagicQ MQ500 Stadium console.

The MQ500 rear panel has:

- 4 port Network swtich

- 4 Direct DMX ports

- LTC In and Out

- Midi In and Out

- Remote input

- RS232 Port

- DVI-D monitor output

- Audio Input

- 3 x USB ports

1.3 MagicQ Compact Series

MagicQ Compact series comprises the MagicQ MQ40, MagicQ MQ60, MagicQ MQ70 and MagicQ MQ80 consoles together with the MagicQ Extra Wing for more faders and buttons.

1.4   MagicQ Wings for use with PC/Mac

The MagicQ Mini Wing, MagicQ PC Wing and MagicQ Maxi Wing connect directly to a PC or Mac. The PC or Mac runs the MagicQ software and processes the Cues whilst the wing acts as a physical surface with faders, buttons and encoders and outputs DMX.

1.5   Plugging Up

All MagicQ consoles and SnakeSys interfaces have auto ranging power supplies and can accept 110V to 240V AC on the blue powercon socket.

• Connect the power lead to the power socket labelled LINE INPUT.

• Put the console lamp(s) into the console lamp socket(s)

• Connect the keyboard to the socket on the back panel marked KEYBOARD

MagicQ Pro 2010, Pro 2014 and Compact consoles support USB keyboards and mice. It is not necessary to connect the mouse. The mouse is only required if the touch screen becomes damaged.

Note that the power cable lead should be connected before other connectors and should remain connected at all time that other connections such as DMX, network, serial, USB or video are connected to the console. This ensures that the console is correctly grounded.

1.6   DMX Connections

The MagicQ Pro, Pro 2010 and Pro 2014 series of consoles have 4 direct DMX outputs on the rear of the panel so you can connect your DMX cables direct to the console.

Alternatively you can connect to an Ethernet network using the Art-Net, Pathport or ACN Streaming DMX protocols and use external Ethernet to DMX converters to output the DMX.

The network ports on the Pro 2010, Pro 2014 and Compact series all have auto MDI/MDIX detection so a normal or inverted network cable can be used to connect to other network devices. Most modern laptops and computers also have auto MDI/MDIX detection.

ChamSys offer a range of Ethernet to DMX convertors including the SnakeSys T2, B4, R4 and R8 Ethernet to DMX interfaces. These can be used to convert any of the 64 Art-Net or ACN Streaming DMX universes to be output on DMX512 serial. For systems requiring all 64 universes on DMX512, multiple interfaces may be used connected via network switches.

1.7   Powering Up

To power up the console press the power switch on the rear panel. The blue LEDs on the ten S buttons will light up in turn. After a few seconds the screen will come to life and you will see the operating system quickly performing self tests. Once the self tests are completed the MagicQ application is started.

1.8   Powering Down

To power down the console it is necessary to quit the MagicQ application. The console operating system then performs an automatic shutdown and turns itself off when complete. To quit the MagicQ application, press the SETUP button and then the QUIT soft button. When asked for confirmation, press the YES.

VIEW SETTINGS	VIEW SYSTEM	VIEW DMX I/O	FILE MANAGER	SAVE SHOW	BACKUP TO USB	SAVE SETTINGS	IMPORT SETTINGS	LOAD SHOW	NEW SHOW	CAL TOUCH	QUIT

Note that just removing the power cord to the console will not have the desired effect since the internal UPS continues to provide power.

If for some reason you are unable to power off the console then you may need to reset it as below.

Note that the power cable should remain connected at all time that other connections such as DMX, network, serial, USB or video are connected to the console. This ensures that the console is correctly grounded. The power cable should be the last connection removed.

1.9   Resetting the Console

Under rare circumstance it may be necessary to reset the console.

To reset the console, press SETUP to go to the Setup Window and press SHIFT and QUIT. This performs an immediate soft reset of the console - the MagicQ application will be running the show again within about 2-3 seconds.

If for some reason the console does not respond to button presses then try pressing CTRL BREAK on the external keyboard (hold CTRL whilst pressing BREAK).

1.10   Hard Reset

If s software reset has no effect then a hard reset may be required. Hard resets should be avoided as they bypass the operating system shutdown procedures and may cause problems with the file system.

To perform a hard reset, press and hold the reset button on the back panel for 5 seconds. On MQ40, MQ40N, MQ60, MQ70, MQ80 the reset button is inset, so a thin object like a pen is needed to operate the button.

To force the console to power off completely, press and hold the reset button on the back panel until it powers off (approximately 10 seconds.)

To force a MQ80 to power off, remove all the cables from the rear panel except the powercon connector. Then remove the powercon connector and then hold the reset button for 10 seconds. For safety reasons the powercon cable should be the last cable removed.

1.11   Power Supply Protection

MagicQ MQ60, MQ70, MQ80, MQ100, MQ200, MQ300 and MQ500 consoles have an internal battery designed to protect the system against short term power losses on troublesome power supplies. The internal battery is not designed to support the running of the console for long periods of time. If the power is lost then the console will prompt the user to fix the problem or to shut down the console. The battery when fully charged will support the console for between 5 and 15 minutes.

To maintain the life of the UPS battery, the console should be run for a period of at least 12 hours constantly every 2 months to ensure the battery remains fully charged at all. Note that the cosole needs to be powered on and running MagicQ for the battery to charge.

If your version of the console does not have an internal battery then we recommend the use of a UPS (Un-interruptible Power Supply).

1.12 Care of your MagicQ console

- To keep your MagicQ console in best condition please observe the following recommendations:

- Keep liquids away from the MagicQ. Drinks split over your console may cause irreparable damage.

- Keep the console out of direct sunlight – place the console in the shade.

- Do not use the console outside its operating temperature range.

- Handle the console with care when moving or transporting it. The console contains components that may be damaged by shock. Always use a padded flight case or padded bag wherever possible.

- Do not use solvents or cleansers to clean the console. Do not rub firmly on the metal or plastic surfaces – this may cause the paint or lettering to be removed. Gently use a damp cloth to clean the panels.

1.13 Safety Information

- Do not open the front, rear or lower panels of the console unless you have electrical expertise. The console contains components with voltages that may shock.

- Always disconnect the power cable before opening any panels.

- Do not use the console if the power cables are damaged in any way.

- Repairs should only be undertaken by authorised service representatives.

- If liquids are spilt over the console then remove power immediately, and seek advice from your authorised service representative.

1.14 Disposal Information

Please be aware that ChamSys products must be disposed of in accordance with the WEEE disposal and recycling regulations. ChamSys products must not be disposed of through normal household waste. For non UK customers please contact your local distributor. For UK customers, please contact us on +44 (0)23 8023 8666, or email support@chamsys.co.uk.

WEEE Producer registration number WEE/FF5605UX.

Chapter 2

Installing MagicQ Software & Drivers

2.1 MagicQ software

MagicQ software runs on PCs and Macs and can be downloaded free from the ChamSys web site www.chamsys.co.uk/download.

2.2 MagicDMX

MagicDMX devices do NOT need any additional drivers – they use HID drivers within the operating system. Simply plug in the device and start MagicQ.

To confirm that the MagicDMX is operating correctly go to Setup, View System, View status, Interfaces. The MagicDMX Status should say "Connected" and "DMX out".

MagicDMX is enabled as DMX output by default. It can be disable/enabled from Setup, View Settings, Ports, MagicDMX.

When first plugged in the MagicDMX alternates green and orange LEDs every second. When MagicQ is started and connects to the device then the green LED is on permanently and the orange flashes faster as it receives data from MagicQ.

When using MagicDMX Basic and MagicDMX Full interfaces *demo mode* will continue to be shown at the top of the MagicQ window. This does not affect the programming of MagicQ or restrict the output if you have a MagicDMX Full interface. *Demo mode* does restrict some advanced MagicQ functions which are unlocked with MagicQ hardware (Not MagicDMX).

2.3 MagicQ Wings & Interfaces

MagicQ Wings (Mini wing, PC Wing, Maxi Wing, Extra Wing, Playback Wing, Execute Wing) and MagicQ DMX interfaces (Dual DMX, Audio, MIDI/SMPTE) use a USB chipset made by FTDI which requires the installation of the correct drivers.

After the drivers have been installed then MagicQ can be started and the Wing/Interface should be detected. Ensure the setting "Setup, View Settings, Ports, MagicQ Wings & Interfaces" is set to "Yes (auto DMX)"

Note that the drivers for MagicQ Wings and MagicQ DMX interfaces ARE NOT applicable to MagicDMX Basic or MagicDMX Full. Do not attempt to install drivers for MagicDMX.

2.4 MagicQ on Windows

MagicQ supports Windows 7, Windows 8 and Windows 10.

MagicDMX devices do not need any drivers - see Section 2.2.

To use MagicQ Wings and MagicQ Interfaces on Windows the FTDI drivers must be installed manually as Windows is not able to detect the products correctly. The drivers are included in the MagicQ installation folder

C:\ProgramFiles\ChamSys Ltd\Magicq\MagicQ Wing Drivers. On 64 bit systems MagicQ is installed in Program Files (x86) instead of Program Files.

Disconnect all MagicQ Wings and Interfaces except the one you are trying to install the driver for.

Open Device Manager. This is found in different places depending on the version of Windows, but it can normally be accessed by opening Control Panel and then selecting System, and then selecting Device Manager.
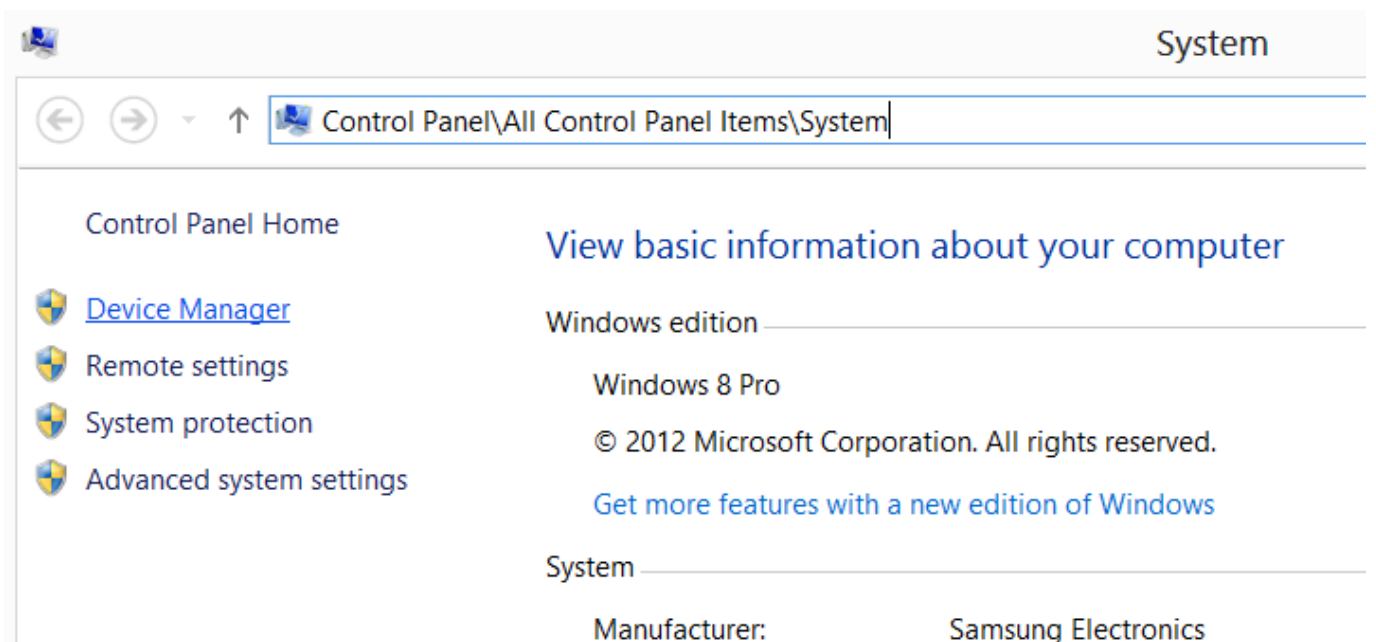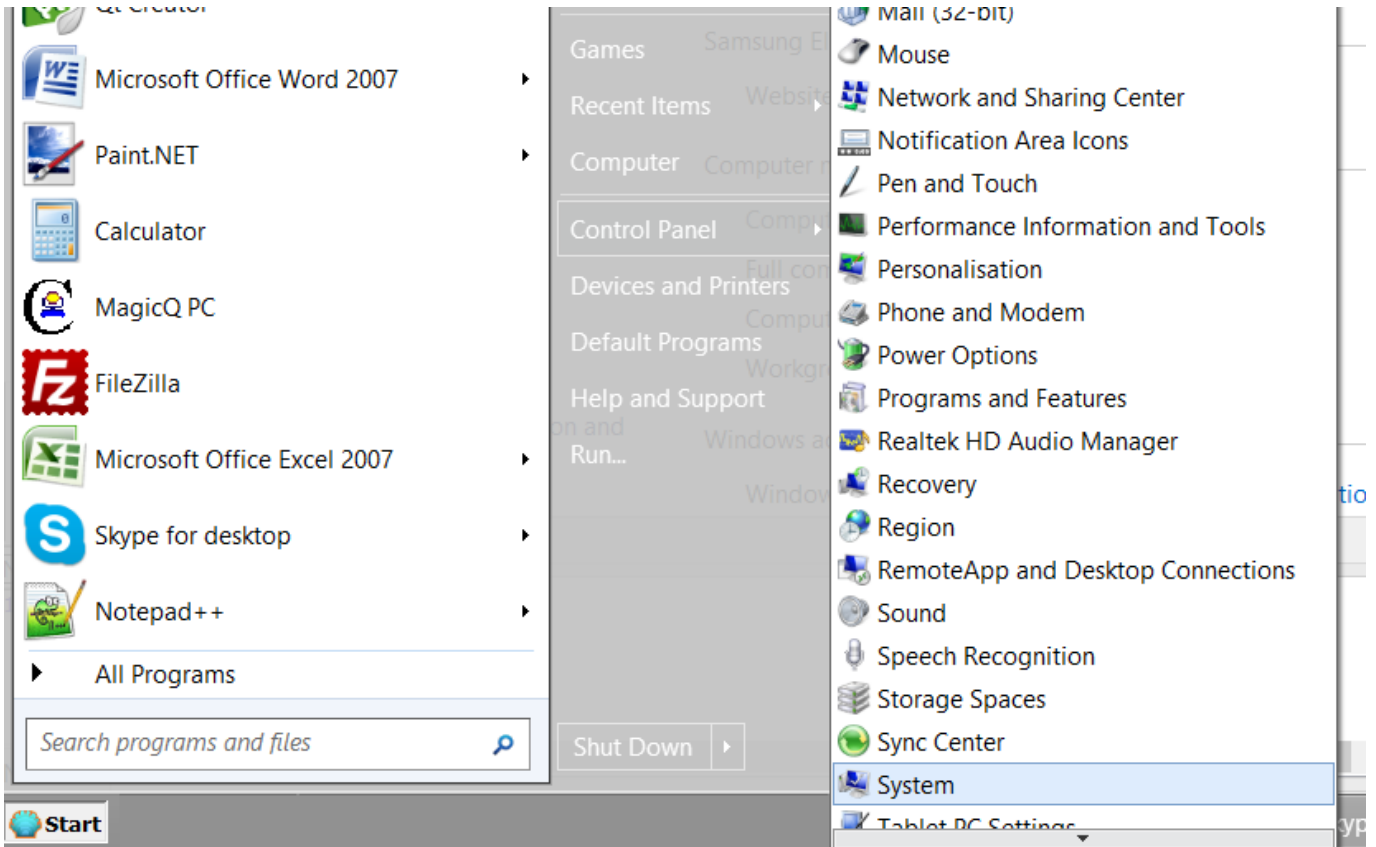
Device Manager lists all the devices on your system. The MagicQ device is normally listed at the bottom under Universal Serial Bus Controllers but it may be under any other section. It may be listed as a ChamSys or MagicQ device or just as a FTDI device. If you can not find it then try disconnecting and reconnecting the USB cable to the device - the listing should update and indicate to you which device is being plugged/unplugged.

Device Manager

File   Action   View   Help

▲ cpkultra
    ▷ Audio inputs and outputs
    ▷ Batteries
    ▷ Bluetooth
    ▷ Computer
    ▷ Disk drives
    ▷ Display adapters
    ▷ Human Interface Devices
    ▷ IDE ATA/ATAPI controllers
    ▷ Imaging devices
    ▷ Intel WiUSB
    ▷ Keyboards
    ▷ Mice and other pointing devices
    ▷ Monitors
    ▷ Network adapters
    ▷ Print queues
    ▷ Printers
    ▷ Processors
    ▷ Security devices
    ▷ Software devices
    ▷ Sound, video and game controllers
    ▷ Storage controllers
    ▷ System devices
    ▲ Universal Serial Bus controllers
        ChamSys MIDI Timecode
        Generic USB Hub
        Generic USB Hub
        Generic USB Hub
        Generic USB Hub
        Intel(R) 7 Series/C216 Chipset Family USB Enhanced Host Controller - 1E2D
        Intel(R) 7 Series/C216 Chipset Family USB Enhanced Host Controller - 1E26
        Intel(R) USB 3.0 eXtensible Host Controller - 0100 (Microsoft)
        Realtek USB 2.0 Card Reader
        USB Composite Device
        USB Composite Device
        USB Printing Support
        USB Root Hub
        USB Root Hub
        USB Root Hub (xHCI)

When you have identified the device then right click and press Update Driver.
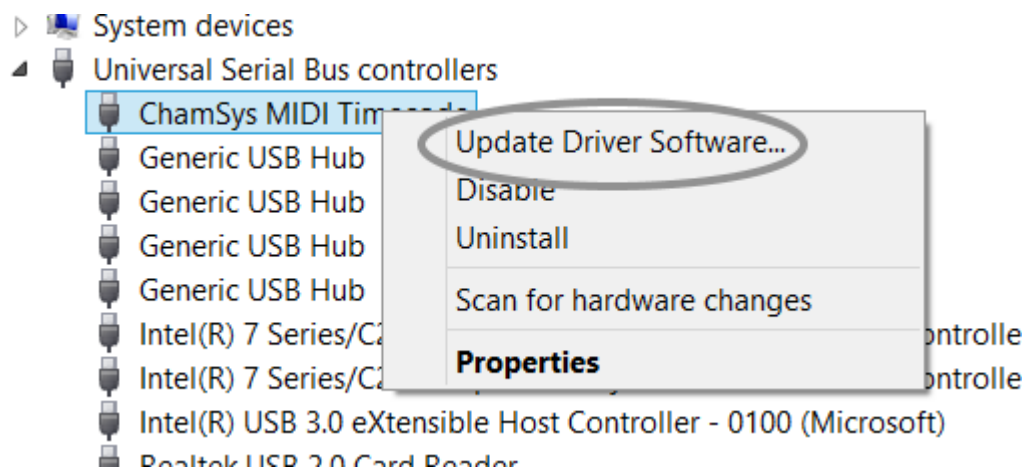
Select "Browse My Computer for Driver Software (Locate and Install Driver Software Manually)". Do not let Windows search for a driver.
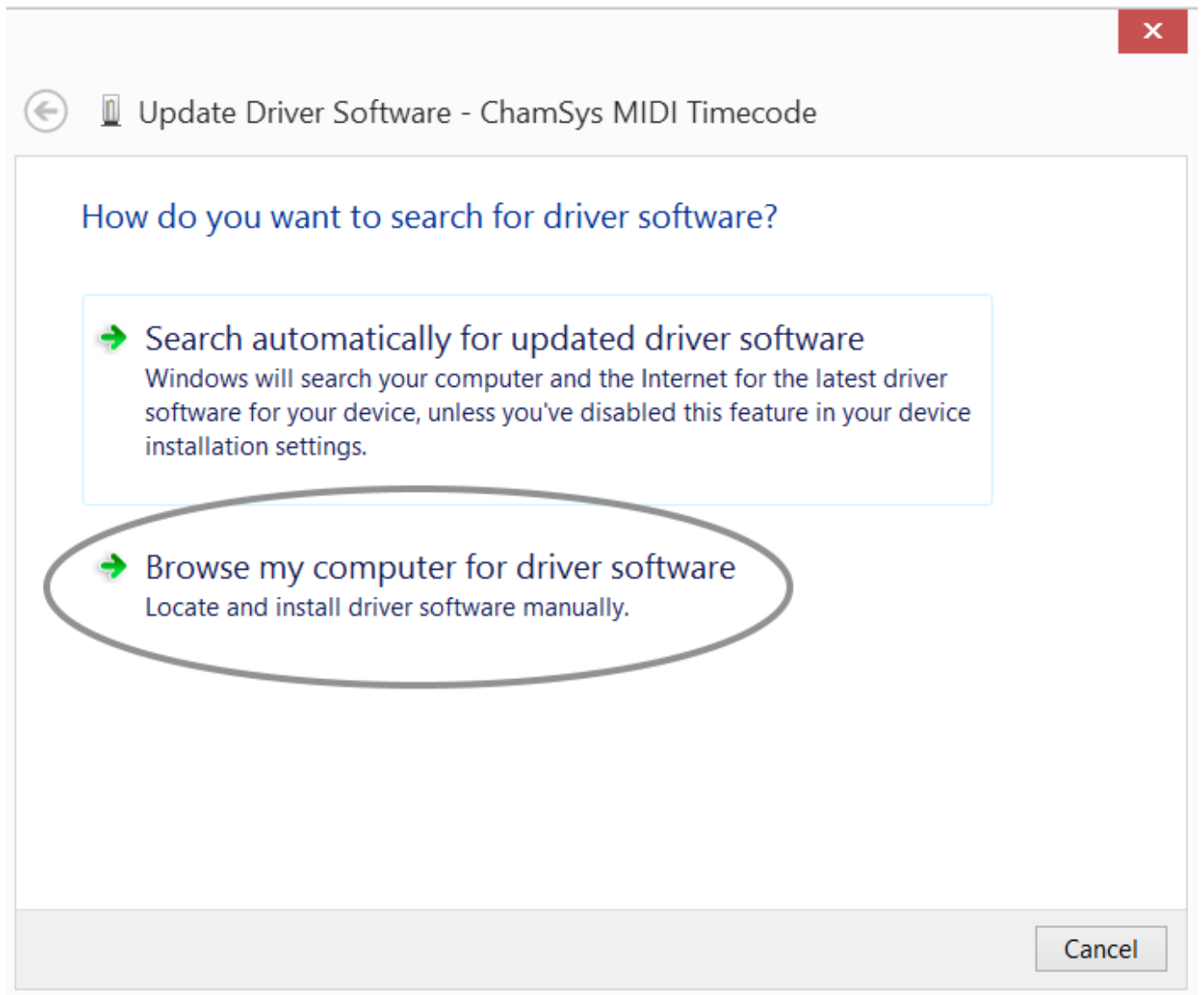
Select the option "Let me pick from a list of device drivers on my computer".
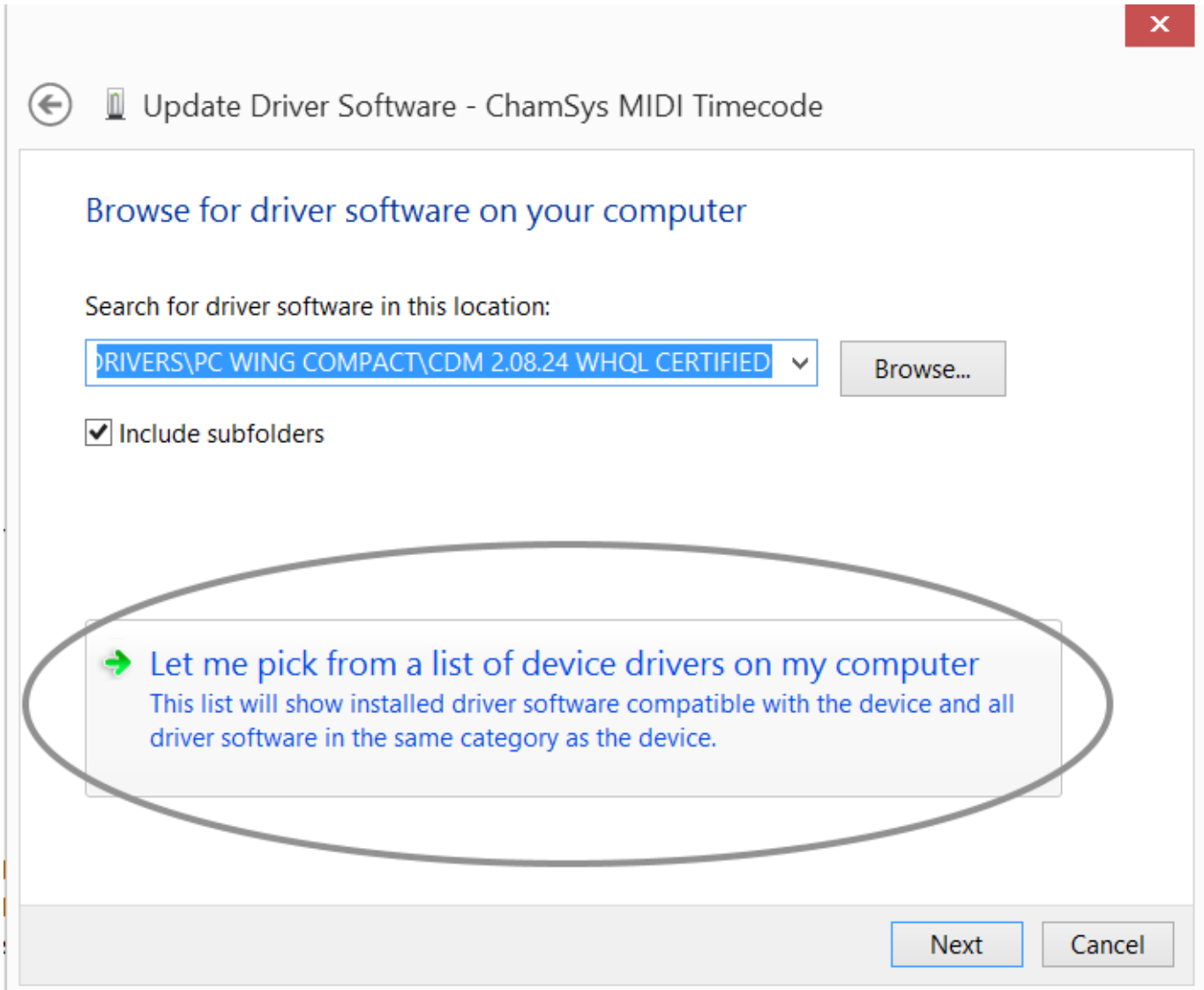
Select "Have Disk". If you cannot find "Have Disk" then click on items in the list until you get it.
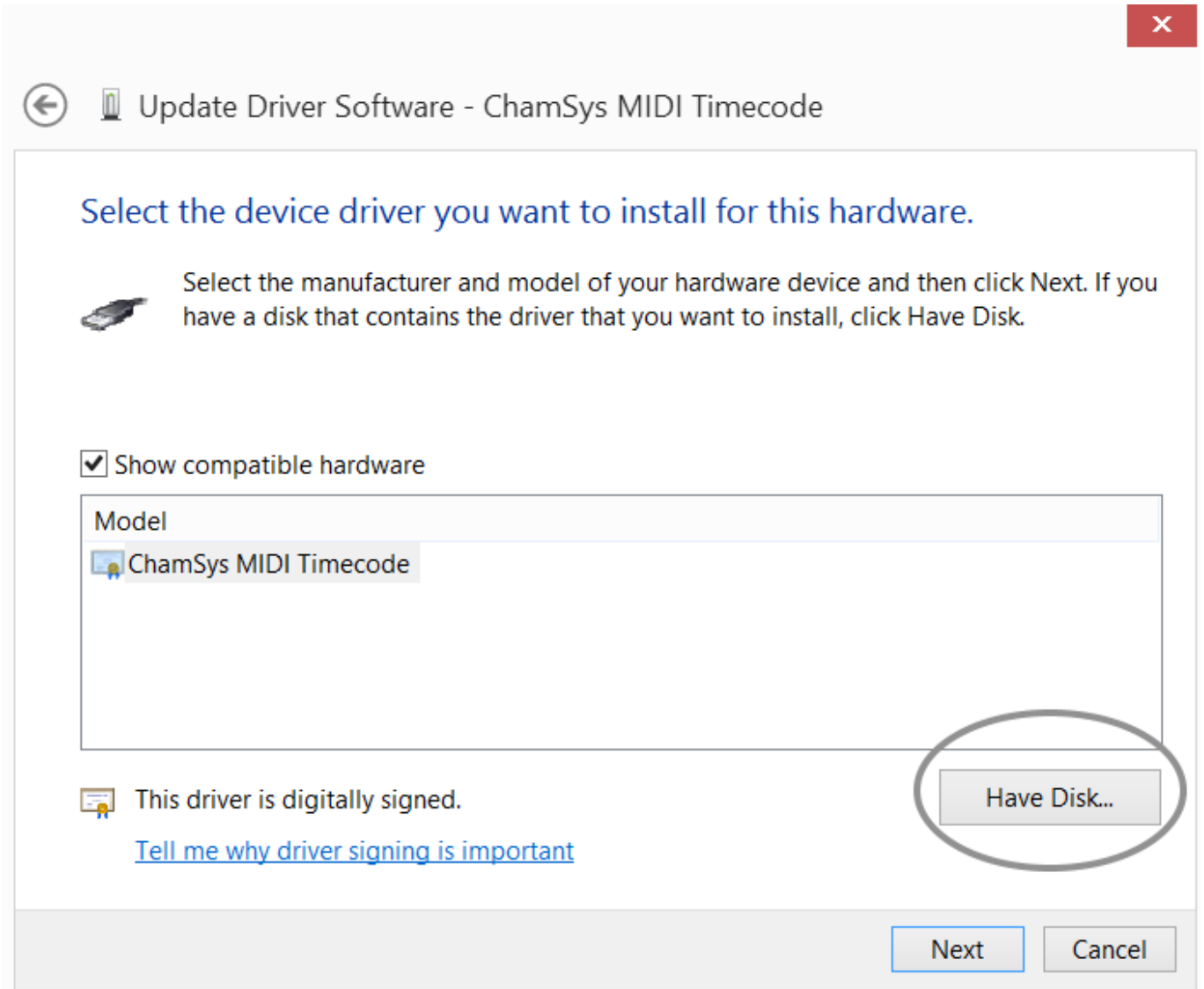
For PC Wing Compacts the drivers are in c:\Program Files\ChamSys Ltd\Magicq\MagicQ Wing Drivers\PC Wing Compact\CDM 2.08.24 WHQL Certified\ftdibus.inf

PC Wing Compacts require MagicQ software version 1.5.8.0 or above.
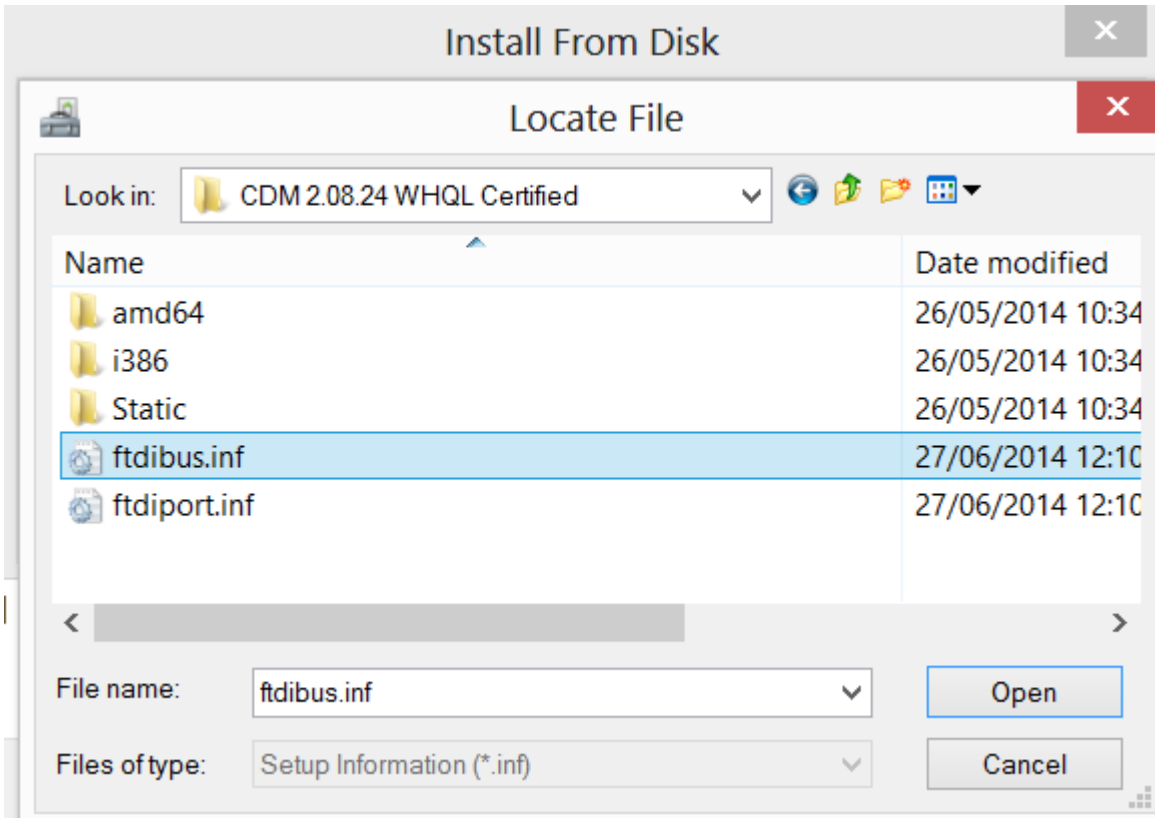
For all other products the drivers are in c:\Program Files\ChamSys Ltd\Magicq\MagicQ Wing Drivers\FTDI\chamsys.inf
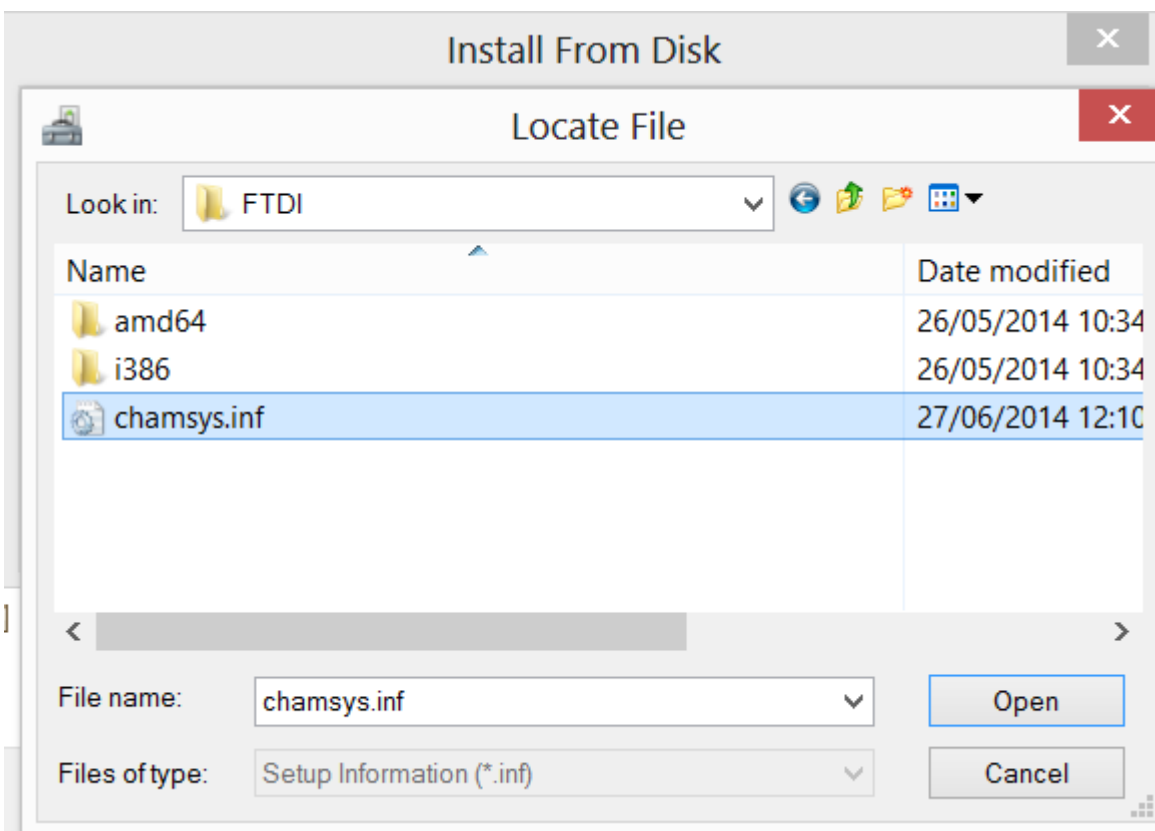
If the MagicQ USB wing periodically disconnects and restarts then check the Windows settings for your USB ports - Windows may be shutting down the USB ports when it incorrectly thinks they are idle. Click on Control Panel, System, Device Manager

and scroll to the bottom to get a list of the USB devices. For each USB Root Hub click on Properties, Power Management and make sure that the option "Allow the computer to turn off this device to save power" is NOT selected.

On some Windows systems the Update Drivers dialog will not show the driver files even though they are correctly in the MagicQ Wing Drivers folder. In this case try copying the whole MagicQ Wing Drivers folder to the desktop (using Windows Explorer) and then try to update the drivers again.

2.4.1 User permissions on Windows

Note that Vista, Windows 7, 8 and 10 has User Authentication which may cause your show / head files to be stored in c:\users\username\AppData\Local\VirtualStore\Program Files\ChamSys Ltd\MagicQ PC\show instead of c:\Program Files\ChamSys Ltd\MagicQ PC\show.

If MagicQ does not store settings after a restart - it forgets the number of universes, IP address or DMX I/O settings - then this is likely caused by Windows restricting write access to the folders where MagicQ stores this data. Check permissions and try to run MagicQ as administrator. To Run MagicQ as an administrator on Windows, right click on the MagicQ desktop icon and select *run as administrator* from the options menu.

Windows controls the level of access to system folders through the User Account Control Settings. This can be found in Control Panel, User Accounts, Change User Account Control settings. Setting this to "Never Notify" will make Windows less restrictive. Note that for security reasons this is only recommended for stand alone systems dedicated to MagicQ which are not connected to the internet - please make sure you understand the implications for your computer, before changing this setting.

2.5 MagicQ on Mac

MagicQ Support macOS 10.11, 10.12 and 10.13.

macOS includes all the required drivers for MagicQ wings and interfaces and no action should be required to install them.

MagicQ wings and interfaces must be powered up and connected to the Mac before MagicQ is started.

2.5.1 OSX 10.11 El Capitan or later

In 10.11 El Capitan, Apple have forced the use of their Apple FTDI Driver rather than the manufacturer provided driver - the option to Disable the Apple FTDI Drivers in the MagicQ Tools Menu will not work as Apple have blocked it.

In MagicQ version 1.7.0.2 we have modified MagicQ to enable MagicQ PC Wing Compact and MagicQ Extra Wing Compact to use the Apple inbuilt FTDI (VCP) Drivers. If you are only trying to connect a MagicQ PC Wing Compact or a MagicQ Extra Wing Compact, then check that the option Setup, View Settings, Ports, MagicQ Wings & Interfaces is set to "Yes, auto DMX".

Due to problems with the Apple FTDI Driver, when MagicQ version 1.7.0.2 is run on OSX 10.11 then by default it does not have support enabled for older MagicQ Wings such as MagicQ Mini Wing, Maxi Wing, old PC Wing, old Extra Wing, Playback Wing, Extra Wing and 3rd party devices such as Enttec Pro.

To use these interfaces with v1.7.0.2 on OSX 10.11, set the option Setup, View Settings, Ports, MagicQ Wings & Interfaces to "FTDI + VCP driver, auto DMX". When this option is enabled, MagicQ will take about a minute to start up and look for wings even if there are none present - during this time the system will be blocked. We are working with FTDI to try to find a work around to this problem.

2.5.2 Turning off App Nap

On all versions we recommend you disable Computer sleep and turn off App Nap to avoid MagicQ being shut down inadvertently.

• Quit MagicQ

• From the OSX Finder, navigate to the /Applications/MagicQ folder

• Select MagicQ.app, then go to the "File" menu and select "Get Info" (or select the app and hit Command+i)

- Check the box for "Prevent App Nap", found under the General section of Get Info
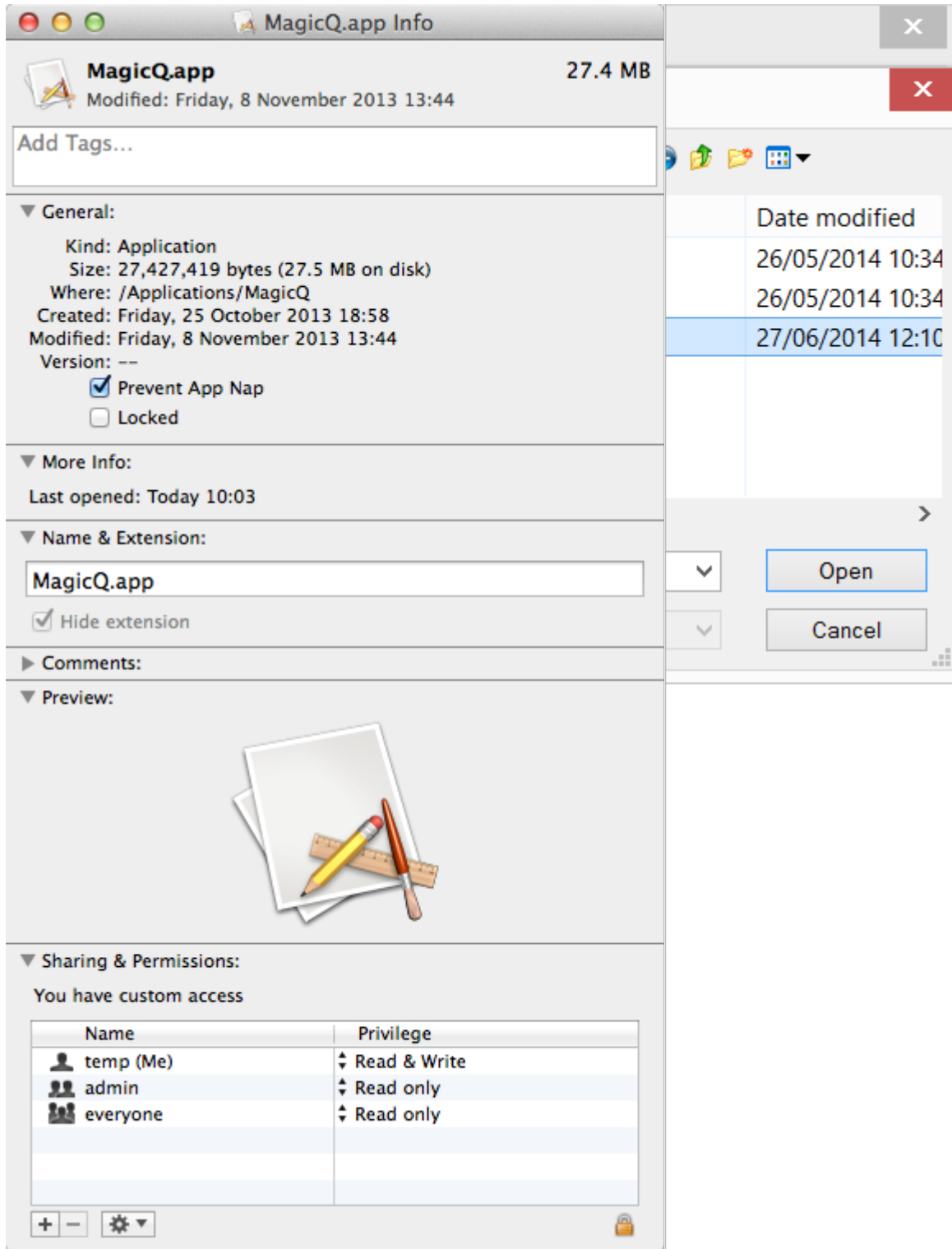
2.5.3   Making the MagicQ folder writeable

If you get the message "Cannot write file" when trying to save a show file, or your settings changes are not saved then check that the MagicQ folder and all its subfolders have both read and write permission.

If you get a message starting with "MagicQ needs to write to the install folder. . . ", you will need to check the permisions of the "MagicQ" folder. There are detailed steps in the troubleshooting chapter.

2.6   MagicQ on Linux

MagicQ can be installed on Ubuntu 14.04, 16.04 and 18.04 64 bit.

We cannot provide support for Linux specific issues; the best place to ask questions is on community forums and social media websites.

Using MagicQ wings and interfaces requires the ftdi_sio kernel driver which is included as standard on most Linux distributions.

You can download MagicQ for Linux from the bugtracker.

⚠ **Important**
MagicQ for Linux is only available for 64 bit AMD/Intel systems. We no longer provide downloads for 32 bit Linux from version 1.8.0.3. MagicQ will not run on other architectures (e.g. ARM).

2.6.1   Installing

To install the downloaded .deb file, run the following command in a terminal:

```
sudo dpkg -i magicq_ubuntu_vx_x_x.deb
```

Replacing the filename above the the name of the downloaded file.

2.6.2   High DPI screens

Automatic scaling for high resolution screens is disabled by default as with some screens it made the MagicQ user interface too big.

From version 1.8.0.4 you can create a file called `.magicq_init.sh` in your home directory (`/home/USERNAME/.magicq_init.sh`) and make sure it has executeble permissions.

```
# ~/.magicq_init.sh


# Uncomment the following line if you want MagicQ to try to scale automatically
#export QT_AUTO_SCREEN_SCALE_FACTOR=1


# Uncomment and adjust the following line if you want to manually decide how to  ←
   scale MagicQ
# You can specify a fractional number (e.g. specify 1.5 to make it 50% bigger)
#export QT_SCALE_FACTOR=1.0


# If you have multiple screens that need different scaling, uncomment and set the  ←
   following
# line to a semicolon-separated list of scale factors
#export QT_SCREEN_SCALE_FACTORS=1.5;1.0
```

See http://doc.qt.io/qt-5/highdpi.html for more information on the environment variables in this file.

Chapter 3

Using MagicQ on PCs and Macs

The MagicQ software for PCs and Macs has exactly the same features as the MagicQ console software with support for 64 Universes. All 64 Universes are enabled and can be used. A wide range of 3rd party USB interfaces are supported on Universe 1.

When MagicQ PC or Mac is installed for the first time, it will show a window with choices of demo shows.
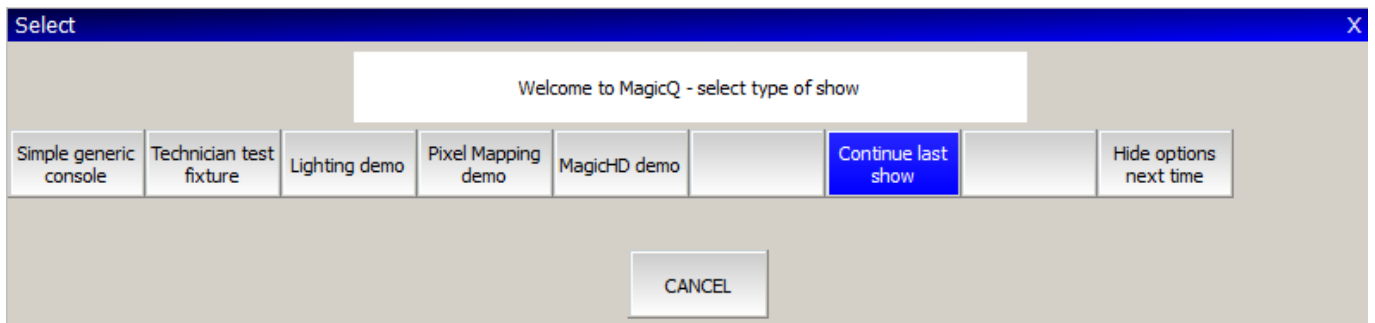
This window can be hidden on subsequent starts by pressing the "Hide Options Next Time" button. It can be reactivated by setting the Setup, View Settings, Windows, Start Mode option to "Choose Demo show".

3.1 Simple Generic Console

Choosing Simple Generic Console opens MagicQ in Simple View and loads a Simple 48 Channel Generic Console show file.
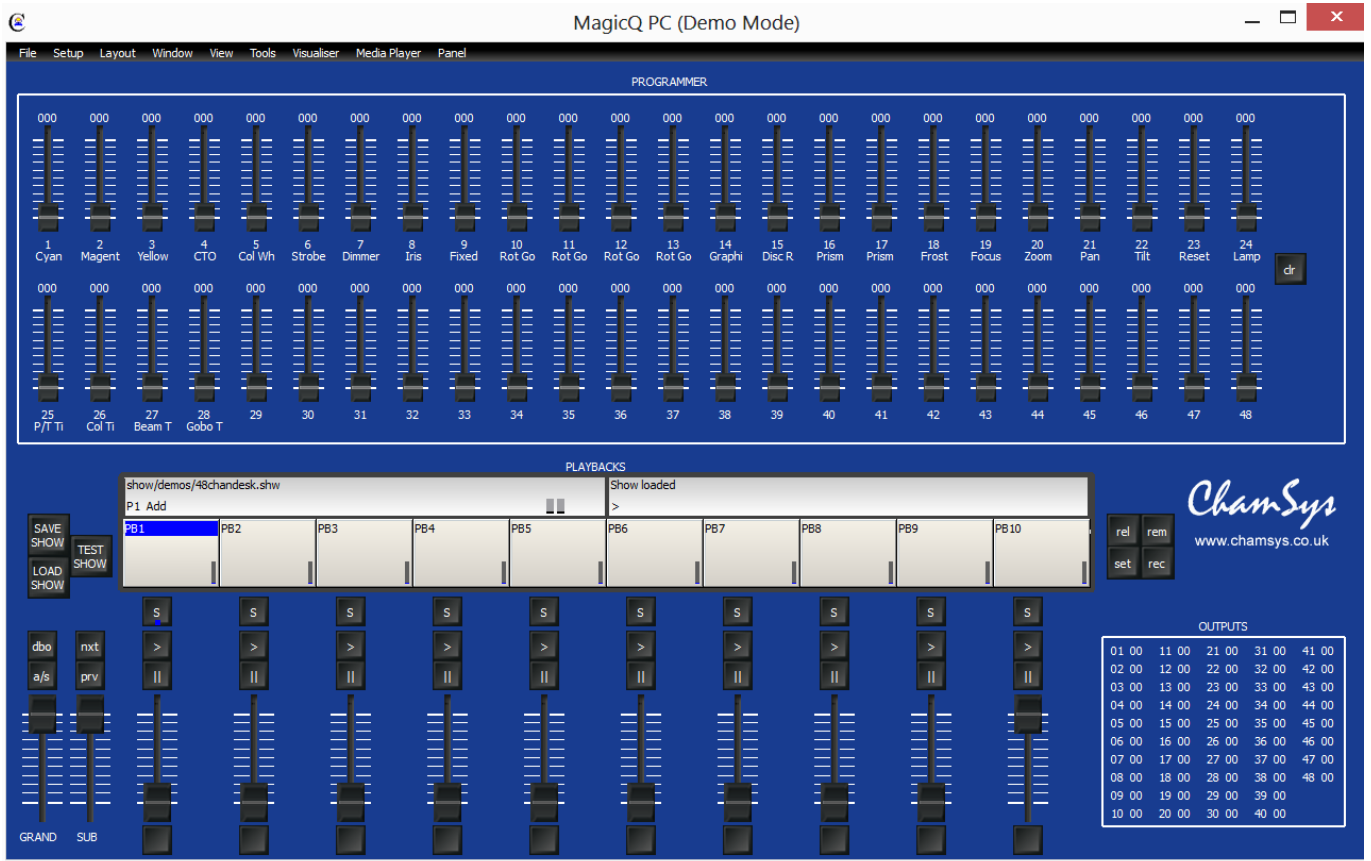
In this mode the console simply operates as a 48 channel traditional theatre console with 48 dimmers patched on Universe 1 at channels 1 through 48.

If a MagicQ Wing, MagicQ Dual DMX Interface or MagicDMX interface is connected to MagicQ then the 48 channels will be automatically output on the 1st output.

There are 10 Playback Faders labelled PB1 to PB10. Depending on your screen resolution you may have a S, > and ‖ button for each fader. Pressing in the box labelled PB1 to PB10 is the same as pressing the appropriate S button.

To record a Cue set the faders as required. Then press REC and press the S button of the Playback fader you wish to record it to.

Press CLEAR to clear the Programmer and retrun the faders to their defaults.

To record a chase, record multiple Cues to a Playback fader simply record more than one cue to a Playback fader.

To remove the Cues from a fader press REM and press the S button of the Playback fader you wish to remove Cues from.

To name a fader press SET and press the S button of the Playback fader you wish to name. You will be shown a text entry box. Type the name followed by RETURN.

Multiple pages of faders are supported through the Next Page / Previous Page buttons.

It is possible to interchange between the Normal and Simple views of the console by pressing the Norm and Simple buttons in the top right corner of the Application.

3.2 Technician Test Fixture

The Technician Test Fixture mode enables technicians to test a moving light or other fixture in a very simple way. Simply press the TEST SHOW soft button and select a fixture and a mode.

A new show will be created using that fixture patched at DMX address 1 on the first Universe. The 48 faders show up to 48 channels of the fixture. Each fader is named with the attribute name and the values are set to their default values.

The picture below shows a Clay Paky Alpha Spot HPE 1200 in Standard mode.
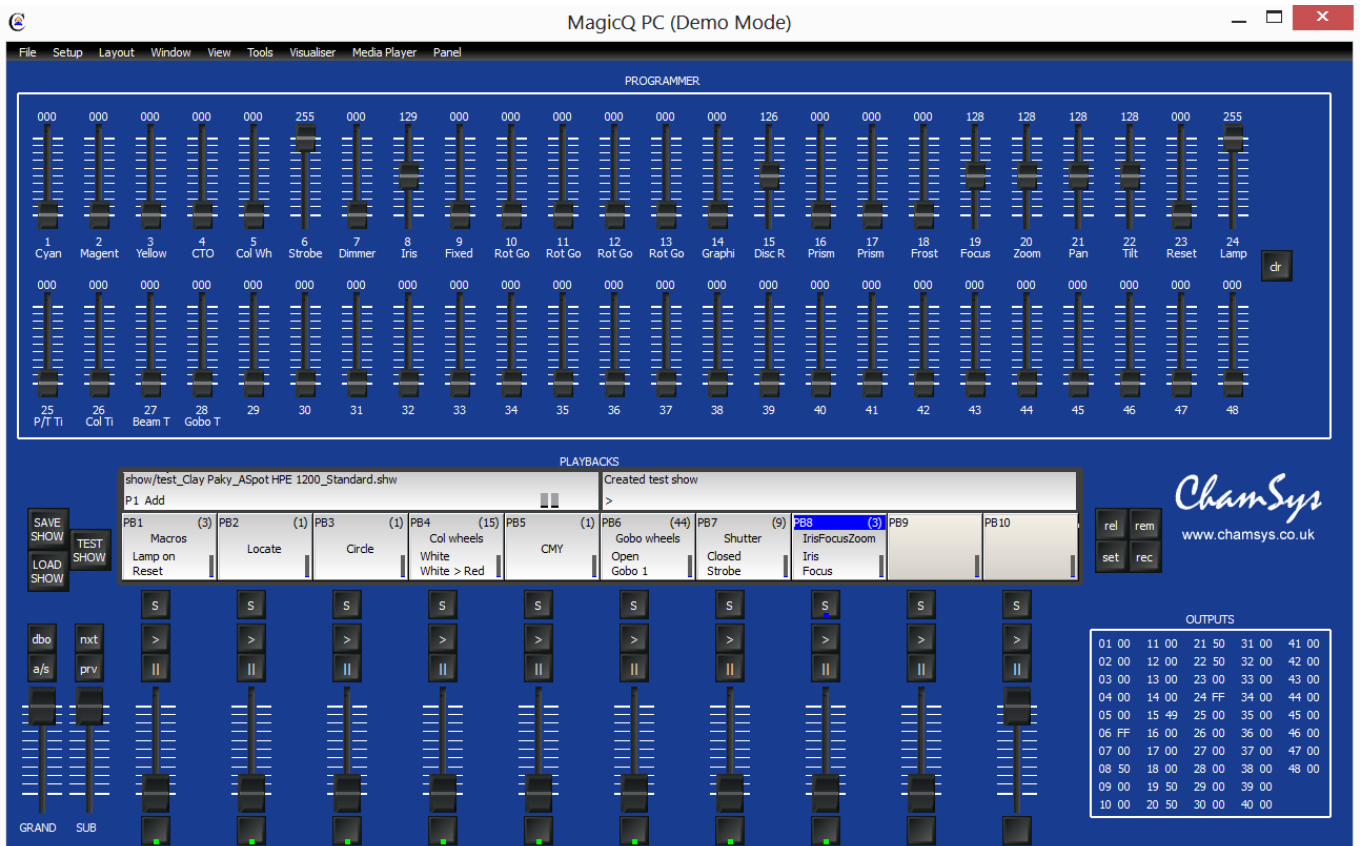
The Playback faders are automatically set up with some useful functions including Macros for Lamp On, Reset and Lamp Off, Locate and Movement, Colour, Gobo and Strobe tests.

If a MagicQ Wing, MagicQ Twin DMX Interface or MagicDMX interface is connected to MagicQ then the fixture will be controlled on the 1st output.

The preset faders can be used to change the values of individual attributes. Use SHIFT and the faders to make a fine adjustment.

3.3   Demo Shows

The start up Window gives also gives a choice of a standard Lighting demo show or a PixelMapping demo show.

Additional demo shows for other fixture types, media servers and visualisers can be found by going to Setup, View Settings, Load Show and selecting the demo show folder.
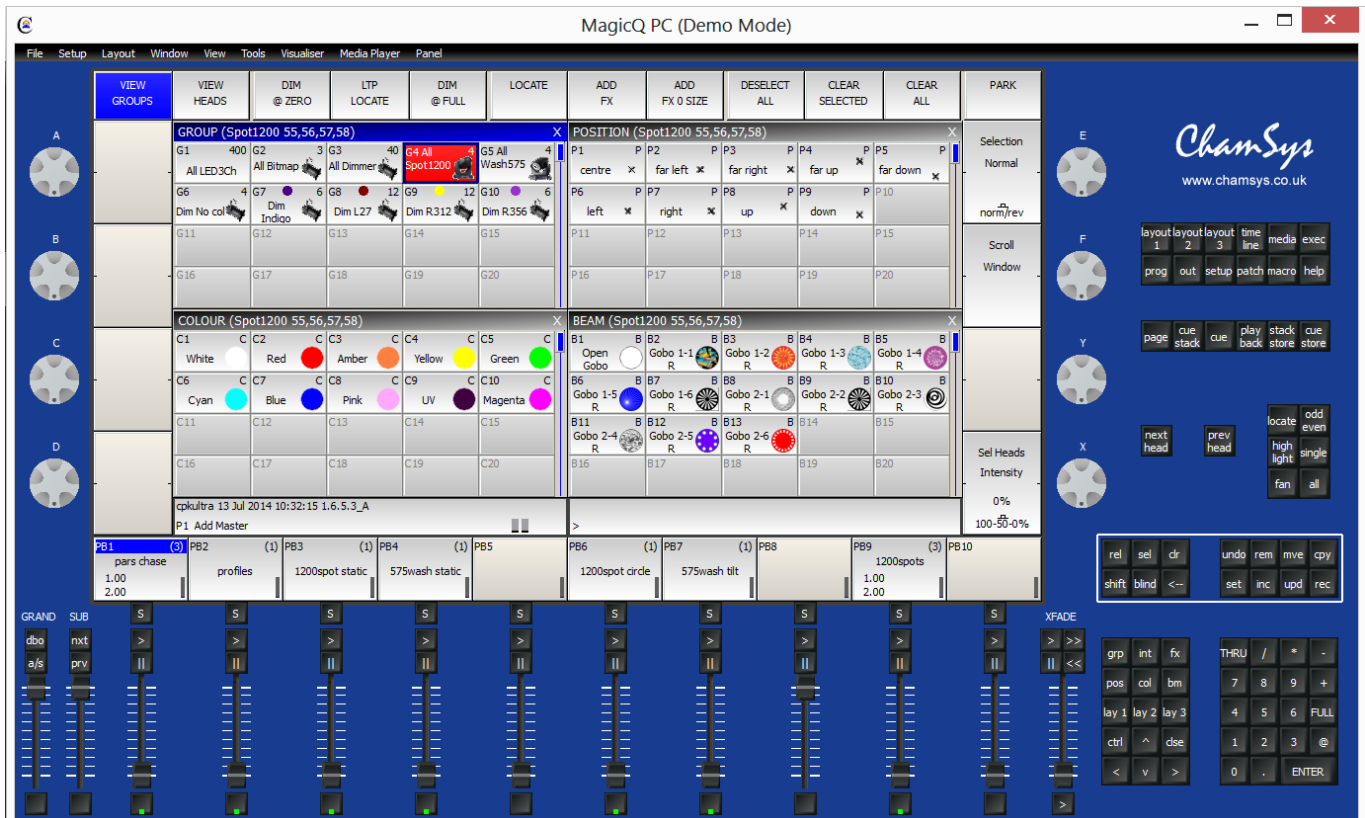
3.4   Touch View

The Touch View is designed for use with touch screens with buttons that are sized bigger so that it is easier to select functions. Select Touch View by pressing Touch or Touch2 in the top right corner of the Application.

3.5   Playback mode

MagicQ PC supports a Playback Mode which enables MagicQ to be run in a pure "Playback" mode. This mode is selected by clicking on the new Playback mode Icon on the desktop or in the Programs, ChamSys MagicQ PC menu.

Playback mode is only supported when connected to a MagicQ Wing or MagicQ USB interface. The MagicQ interface must be connected and powered on before MagicQ is started in Playback mode. Note Playback mode is not supported with MagicDMX or 3rd Party interfaces.

In Playback mode MagicQ it is not possible to record or make changes to the show data. MagicQ will not save the show files / status files. Changes (e.g. change of chase speed) will be lost when the application is stopped and restarted.

Playback Mode shows a much reduced set of buttons on the screen – only buttons required for show playback are shown.

In Playback Mode only pages of playbacks that have been programmed are shown – pressing NEXT PAGE will automatically change to the next programmed page and will cycle around all programmed pages.

3.6   Copy and paste to external applications via the clipboard

MagicQ now supports copying and pasting to external applications such as Word, Excel and text editors.

On the toolbar select Edit, Copy or press the short cut key CTRL C. The item at the cursor position in the focused window, or multiple items if cursor selection is active, will be copied to the Clipboard. In the external application CTRL V (or Paste) can be used to paste the information.

It is possible to quickly select all items in a window on the toolbar by selecting Edit, Select All or using the short cut CTRL A.

It is also possible to copy and paste into MagicQ from external applications. In the external application use CTRL C or Copy to copy the required data to the Clipboard. In MagicQ change to the Window that you wish to paste to, cursor select the required cells and on the toolbar select Edit, Paste or press CTRL V. The data will be pasted into the MagicQ window. MagicQ only supports pasting of text data - typically names of items. When pasting to multiple selected cells MagicQ verifies that the quantity of data on the Clipboard matches the number of selected cells.

Extreme care should be used when pasting into MagicQ.

3.7 MagicQ PC / Mac Restrictions

When MagicQ PC (Windows, Linux or Mac) is not connected to a MagicQ USB interface, MagicQ USB Wing or SnakeSys network product, then a small number of remote and automation features are restricted and "Demo Mode" is shown in the title bar. This does not affect show programming or playback.

The restricted features that require a MagicQ USB interface, MagicQ Wing or SnakeSys node to be connected are:

- Execute Window full screen

- Scheduled Events

- iOS / Android Remote

- Remote Control Protocol (serial, or network)

- Web Server editing (viewing is supported)

- Auto starting Playbacks

- Playback Synchronisation

- Multi Programming including Net Sessions

- Triggering of playbacks using DMX input

- Mouse control of pan/tilt (only supported when connected to a MagicQ Wing with encoders)

- Audio control and playback synchronisation with Winamp (this is supported when connected via network to a MagicQ console)

- Timecode receive from ArtNet

- Timecode from 3rd Party USB/Virtual interfaces.

- Audio input from PC/Mac sound card

Note that the MagicDMX interface (Basic or Full) does not lift these restrictions, as this is a low cost interface intended for learning how to program the system.

Support for receiving MIDI notes from the generic USB MIDI interface on PC is only enabled when the system has the special MagicQ Rack Mount Dongle connected - note this functionality is NOT supported when out of *demo mode*. You must use the special *MagicQ Rack Mount Dongle* for Midi notes from 3rd party/virtual interfaces.

MagicQ PC/Mac running with the restricted features unlocked, supports control of the first 10 playbacks (PB1 to PB10) via ChamSys remote control protocol, MIDI and automations. This enables synchronisation with show control systems. Playbacks 11 to 202 can only be controlled by MagicQ Playback/Execute/Extra Wings. On MagicQ consoles all 202 playbacks can be controlled by these protocols.

3.8 MagicHD Stand Alone Restriction

MagicHD when run as part of MagicQ supports 8 layers.

MagicHD when run as a stand alone program (not as part of MagicQ) only supports 1 layer unless a MagicQ / MagicHD USB Dongle is fitted to the system, or is connected via network to a MagicQ console with encoders, or connected via network to a MagicQ PC/MAC system with a connected MagicQ USB Wing with encoders.

SnakeSys products do not unlock stand alone MagicHD.

Chapter 4

MagicQ Concepts

A system diagram of the console is shown in the diagram below
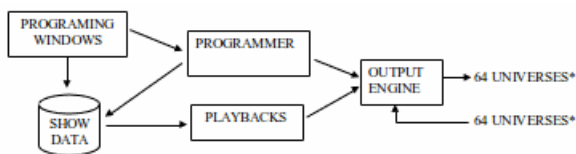
- 64 universes except MQ40 (4), MQ60 (12), MQ70 (12), and MQ100 Expert (12). Older consoles such as MQ Pro support 18 and MQ Pro 2010 supports 32.

4.1 Show Storage

MagicQ stores show data in a single show file stored on the hard drive of the MagicQ console, PC or Mac. The show file contains all the show settings, patch, palettes, cues and cue stack data. It also stores copies of all the personalities that are used within the show.

A MagicQ show can be transferred between MagicQ consoles and MagicQ PC or Mac systems simply by copying the show file. MagicQ show files are compatible across all MagicQ products. MagicQ maintains forward and backward compatibility for show files - enabling users to load shows created on any version of MagicQ software into any other version fo MagicQ software.

Favourite shows, personalities, palettes and FX patterns can be imported into new shows to simplify and speed up show programming.

Show files can be copied using USB memory sticks or the network can be used to access the file system of MagicQ consoles.

When the user saves the show using the SAVE SHOW menu item or soft button MagicQ stores the show file with a .shw file extension. At all other times MagicQ automatically backs up the show data whenever changes are made to a (.sbk) file.

4.2 Output channels

MagicQ supports up to 64 DMX512 universes output over Ethernet. This allows up to 32,768 channels of lighting to be controlled. Ethernet to DMX Interfaces are used to convert from Ethernet to serial DMX512 as required.

Lighting consoles are often limited in the number of DMX channels or the number of intelligent heads they can control independently. MagicQ allows control of all DMX channels individually, whilst utilising grouping and programming functions to enable control of multiple heads or dimmers together.

MagicQ provides a library of over 10,000 personalities – data for each of the different types of intelligent head available. This data determines how the different attributes of an intelligent head are controlled by the console.

ChamSys adds new personalities for fixtures as the information for new fixtures becomes available. If a personality is not available then it can be requested from ChamSys. Users also have the ability to create the persoanlity themselves in the inbuilt Head Editor.

4.2.1 HTP / LTP channels

The console supports two types of channels, highest takes precedence (HTP) and latest takes precedence (LTP). Generally HTP channels are used for channels controlling dimmers and for the dimmer channel of intelligent heads. LTP channels are used for the attributes of intelligent heads such as pan, tilt, colour, gobo etc...

For HTP channels the value that is output is the highest value of that channel on all of the active playbacks and the programmer. The console can be configured so that if a HTP channel is in the programmer it always overrides any active playbacks.

For LTP channels the value output is the value from the last active playback unless that channel is active in the programmer in which case the value output is the value stored in the programmer.

The last active playback is the last playback to be raised above zero, which is still above zero. Playbacks that are bumped in using ADD or SWAP buttons automatically become the last active playback until the button is released.

The type of channel used by the console is determined by the personality used to patch the dimmer or intelligent head.

Playbacks can be set so that all channels controlled by the Playback act in a LTP way, thus allowing Intensity channels to be overridden by a single Playback.

4.3 Cues

The console stores lighting states as Cues – each Cue stores

- Level information

- Timing information

- FX information

The Cue stores level information for each of the channels recorded into it. If the channel level was set using a Palette, then a reference to the Palette is also stored so that the Cue can keep track of changes to the Palette.

The Cue stores timing information for the channels that have been recorded into it. Two types of timing information are stored:

General Times:

Stored for each type of attribute (Int In, Int Out, Position, Colour, Beam)

Individual Times:

Stored on an individual channel basis

The Cue stores FX information for each of the FX that has been recorded into the Cue. The FX information includes the type of FX, the heads that the FX is applied to, and the FX parameters for each head.

Each Cue has a number (e.g. Q1) and an optional name.

4.4 Cue Stacks

Cue Stacks are used to manage sequences of Cues. Cue Stacks keep track of the order of the Cues and the options for how they are played back. A Cue Stack may have only one Cue associated with it or may have a whole list of Cues.

The Cue Stack stores a Cue Id and a textual field for each Cue so that the different steps in the stack can be labelled. The Cue Id and textual field are shown on the playback display when the stack is played back which enables operators to keep track of the current position in the show.

Cue Stacks can be configured to run as a chase rather than as a simple list of Cues. The difference is that as a chase each the timing of cue is determined by the chase speed and chase contrast rather than by the individual delay and fade times for each cue.

Each Cue Stack has a number (e.g. CS1) and an optional name.

4.5 Playbacks

The console enables playing of recorded show data through Playbacks. Playbacks are associated with physical faders and buttons – each Playback can have one cue stack assigned to it.

The console supports 202 Playback; 10 main Playbacks situated below the touch screen and up to 8 extension wings each with 24 Playbacks.

On models where less than 8 wings are fitted, the not fitted playbacks can be utilised through the touch screen and associated buttons.

4.6 Pages

The console supports multiple pages of Playbacks enabling Playback faders to have different functions depending on the current page. Typically one page is used for each song in a show.

The current page is selected through the NEXT PAGE and PREV PAGE buttons on the main playback section or by selecting a page in the Page Window.

The 24 Playbacks on each wing are divided up into two rows of 12 Playbacks. Each of the rows has separate NEXT PAGE and PREV PAGE buttons. This enables the Page used by these Playbacks to be set differently to the main Playbacks.

This provides significant flexibility to how shows are played back – for example one section of a wing can be used to control par lamps whilst another could be used to control intelligent heads. Changing the Page of the par lamps would not change the Page of the heads.

4.7 FX

The console contains a powerful engine for creating special effects (FX). FX can be applied to a group of heads at the touch of a button; there is no need to program lots of different Cues to create the effect. Special effects can be easily modified live, enabling, for example, the speed and size of the FX to be modified to match the mood of the show.

The console supports an extensive library of standard FX such as circles, squares, pan and tilt saws, lifts, zig zags, etc. In addition the console supports FX on colour, beam and intensity attributes. The console supports programming and storing of new custom FX, which can then be re-used in shows as required. The FX engine enables complete shows to be programmed within a matter of minutes.

4.8   Window Layouts

The console provides a means of storing the positions and sizes of Windows as a Window layout to enable easy recall of useful Windows. This allows, for example, a Window configuration consisting of the Group, Position, Colour and Beam Windows to be stored and recalled at a button press.

The system supports several standard views, including several oriented towards programming and several oriented towards playback.

Window layouts are recalled by pressing CTRL and selecting one of the top soft buttons.

The three spare buttons in the Windows section default to Layout 1 (Palettes), Layout 2 and Layout 3.

4.9   Shift Functions

The MagicQ lighting console uses SHIFT and CTRL buttons to enable access to advanced features. There is a SHIFT button and a CTRL button adjacent to the top corners of the touch screen in addition to the keys on the keyboard.

The SHIFT button is used with the cursor keys to enable selection of multiple items in Windows.

The ALT button is used on the Compact series (MQ40/60/70) to access alternative functions such as Page Up, Page Down and the window sizing options.

4.10   The Programmer

All recording of show data is carried out using the Programmer. The Programmer takes priority over all playbacks, and channels. It can also be used during live running to override the outputs – for example, for changing the colour or gobo of intelligent heads.

The Programmer can be considered to be a table of channel level and active flags for each of the channels patched onto the console. Initially (and after the Programmer has been cleared) all the channel levels are set to zero and all the channels are flagged as inactive. When a channel is changed to be non zero the channel level for that entry in the table is set to the new level and the channel is flagged as active.

The console outputs any channels that are marked as active in the Programmer at highest priority – i.e. they over-ride all other playbacks.

To clear the Programmer press CLEAR. All channels will be deactivated and all HTP channels will be set to zero. It is possible to force all LTP channels to zero by using CTRL CLEAR.

The programmer can be set into a Blind mode using the BLIND button so that the contents of the programmer do not affect the output of the console. This allows programming adjustments to be made during a live show and special effects to be "busked" in.

4.11   Help

The Help Window enables the operating manual to be viewed on-line. Press the HELP button at any time to open the Help Window. To close the window, press the CLOSE button.

Use the scroll encoder, the cursor keys, and the hyperlinks to navigate through the manual. You can go directly to a particular section using the top soft buttons, e.g. CONTENTS or QUICK START.

You can search through the manual by typing some text and pressing SEARCH. To search for the same words again, press SEARCH AGAIN.

Chapter 5

MagicQ Layout

5.1   Physical layout

All MagicQ consoles are very similar - they differ mainly in the number of playback faders. The programming interface is consistent across the entire range of consoles. MagicQ software on PC and Mac mimics the layout of the physical buttons on the MagicQ Consoles - a choice of different Panels is available from the Panel Menu. The Full Panel mode mimics Pro and Compact whilst the Stadium Panem mode mimics the MQ500. It is possible to change between different panel views at any time - it does not affect the programmed show - it just determines what buttons, faders and encoders are available for programming and playback.

5.1.1   Touch Screen, Encoders & Soft Buttons

There are 24 buttons and 8 rotary encoders placed around the main touch screen.

The buttons are referred to as soft buttons since their function changes according to the active window on the touch screen. The current function of a soft button is displayed on the touch screen adjacent to the button. To select the function you can either press the screen or the soft button itself.
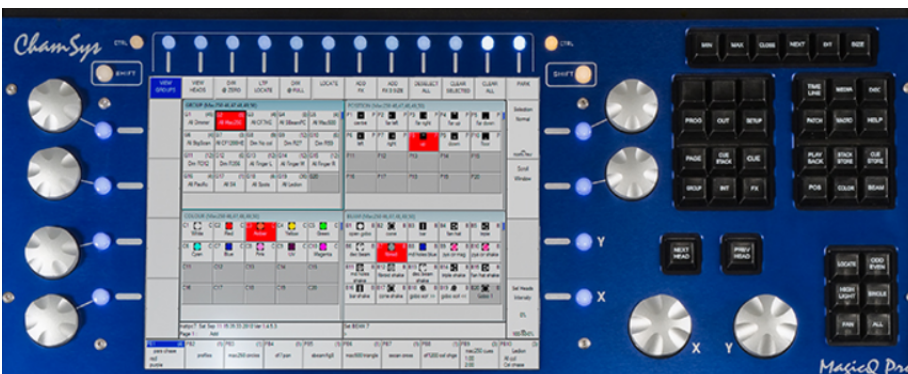
The function of the rotary encoders also changes according to the active window with the current function being displayed adjacent to the encoder.

There are ALT, SHIFT and CTRL buttons.

SHIFT is used for extra MagicQ programming functions.

CTRL is used for console settings such as setting screen brightness, console lamp brightness.

ALT is used to select alternative functions on MagicQ consoles that do not have a physical button for the particular function - the ALT function of a button is normally labelled on the panel.

5.1.2 Main Windows

The area in the centre of the screen is the windows section in which the various control windows are displayed. There are two main types of windows – boxes style windows which have large boxes such as the Group Window and spreadsheet style editing windows such as the Patch Window.
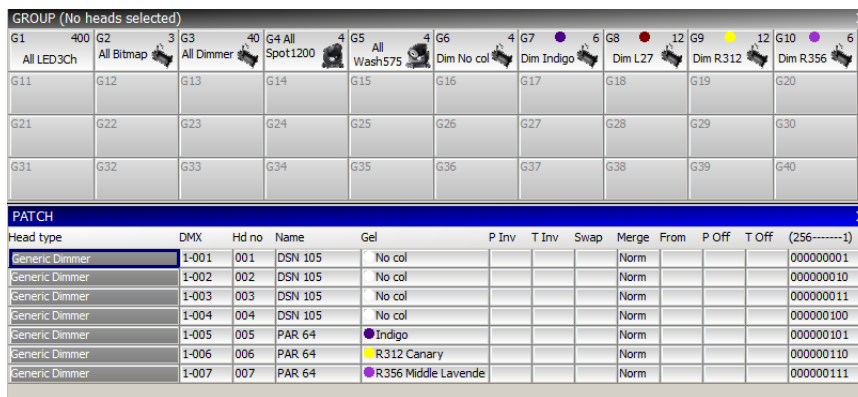
A window is displayed by pressing the appropriate window button. On MagicQ PC/Mac the window can be selected from the Window Menu from the toolbar. Changing window does not affect programming or playback.

Multiple windows can be displayed at one time by sizing and positioning the windows appropriately by clicking on the window title bar or using the SIZE button. On MagicQ PC/Mac the size and position can also be selected from the View Menu from the toolbar.
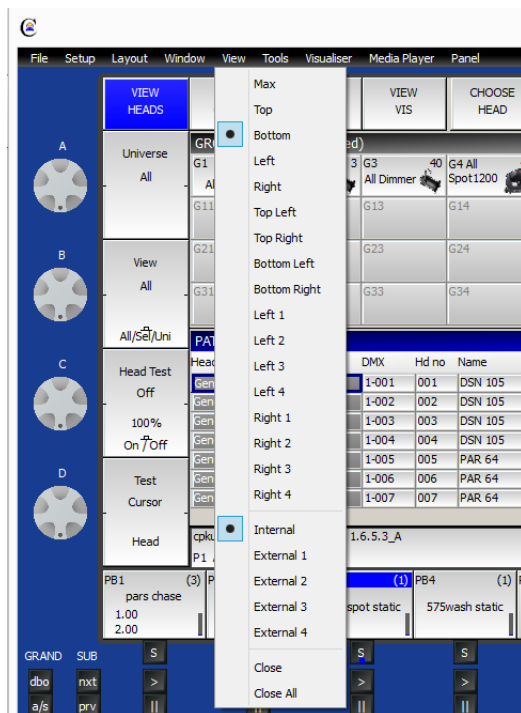
In addition a complete configuration of windows – i.e. a complete layout can be selected using the Layout buttons - to select the Palettes layout (Groups, Positions, Colours and Beams) press the Layout 1 button.

On the MQ500 the layout buttons are on the left side of the main touch screen. On Compact consoles there are physical Layout 1, Layout 2 and Layout 3 buttons by the keypad. On these consoles SHIFT + Layout 1 gets Layout 4, SHIFT + Layout 2 gets Layout 5 and SHIFT + Layout 3 gets Layout 6.

Palettes	Prog	Cue Stacks	Outputs								

When a window button is pressed, that window becomes the active window. The active window is on the top of the screen and is easily identified as the window with the highlighted title bar at the top. It is also the window with the cursor in it.

An item in a window can be selected either

1. By pressing the touch screen over the appropriate part of the window

2. By moving the cursor to the appropriate position and pressing the ENTER button.

3. By moving the mouse to the position and pressing the left mouse button.

The cursor can be moved around the active window using the cursor keys in the Editor area of the console or via the cursor keys on the keyboard. PG UP, PG DN, PG LEFT and PG RIGHT can be used to scroll the window in the appropriate direction. HOME and END can be used to get to the start and end of the window respectively.

On Compact consoles some window buttons and cursor buttons are accessed using the ALT button. PG UP, PG DN, PG LEFT and PG RIGHT use ALT and the cursor keys. HOME and END use ALT and LAYOUT 1 and LAYOUT 3 respectively.

On PC/Mac the contents of a Window can be printed to a printer or pdf file by selecting File, Print Window from the toolbar.

5.1.2.1   Window Sizing

From v1.4.8.0 MagicQ now supports a Window Size dialogue box to enable the window position and window size to be selected directly with one press directly rather than stepping through all the possible window sizes and postions.

The window size dialog box can also be opened by double clicking on the titlebar of the window that you wish to size. On MagicQ consoles the window size button SIZE (ALT EXEC on MQ40/60/80 and ALT PATCH on MQ500) opens the Window Size dialog box.

The old style window positioning and sizing is still available by pressing SHIFT + SIZE. Previously SHIFT + SIZE made a window external - but this has not been needed for many years as MAgicQ has had a dedicated EXT button.

MagicQ allows sizing of windows to 1,2 or 3 rows when using the LEFT (1..4) and RIGHT (1..4) window sizes. By default they continue to size as before - filling the left or right side automatically, but you can now specify for each window whether they should be restricted to 1,2 or 3 rows.

If you only have LEFT (1..4) windows opened then they will automatically spread across the whole width - so this new option is available on the left column, on the right column or across the whole width.

When you set a window to size of LEFT (1..4) or RIGHT (1..4) then you get extra options in the Toolbar, View menu to select the number of rows; Default, 1 row, 2 row, 3 row.

The setting is stored/recalled in Layouts and also in the show file.

5.1.2.2   Support for Find in MagicQ windows

MagicQ supports a Find function which searches the text fields in the current focused Window.

On the toolbar select Edit, Find or press the short cut key CTRL F. Alternatively on consoles press CTRL and CURSOR RIGHT. Then enter the text to search for. The find can also be invoked by entering text on the command line and then using any of the previous methods to start the Find operation.

To search again forwards press CTRL and CURSOR RIGHT. To search again backwards press CTRL and CURSOR LEFT.

The CTRL F shortcut only works on PC/Macs when MagicQ Keyboard Mode is set to Normal. In all other MagicQ Keyboard Modes the CTRL and keyboard keys open MagicQ windows.

5.1.3 Status and Display Windows

Towards the bottom of the touch screen are two small windows, the Status Display and the Input Display. The Status Display shows the current date and time, the ADD / SWAP status of the console and other relevant status information.

The status window also shows warnings - for example if *INVALID NET* is seen here this indicates MagicQ has been setup to output via Network e.g. Artnet and that MagicQ's IP address has been set differently to the PC's network adapter.
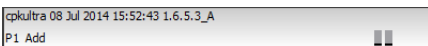
The Input Display shows the data that has been currently entered through the keypad and the keyboard. Note that text is not entered into the main Windows until ENTER is pressed. This allows the user to choose whether the keyboard data is SET into fields in the windows or onto Playbacks.

After a command has been entered it also confirms that the command has been accepted and shows any error messages when a command is not possible.

5.1.4 Head Control

The area around the two large rotary encoders is referred to as the head control area. It is used to alter the parameters of individual heads and apply effects such as fans over groups of heads.

The NEXT HEAD and PREV HEAD buttons are used to select an individual head to modify.

The other buttons control the selection mode; LOCATE, HIGHLIGHT, FAN, SINGLE, ODD/EVEN, and ALL.

5.1.5 Editor Buttons

The Editor buttons are used to modify program data. The 8 buttons on the right hand side are the action buttons which are used to modify show data. The action buttons are UNDO, REMOVE, MOVE, COPY, SET, INCLUDE, UPDATE, and RECORD.

The buttons on the left:

BLIND and CLEAR affect the programmer

REL and SELECT affect playbacks

SHIFT selects alternate functions

←- undoes keyboard input and clears actions

5.1.6 Playback

The Playback area is situated directly below the touch screen and consists of 10 playbacks each with a fader and four buttons (FLASH, GO, STOP, SELECT). The area above each of the playbacks on the touch screen is used to provide information about the status of the playback.
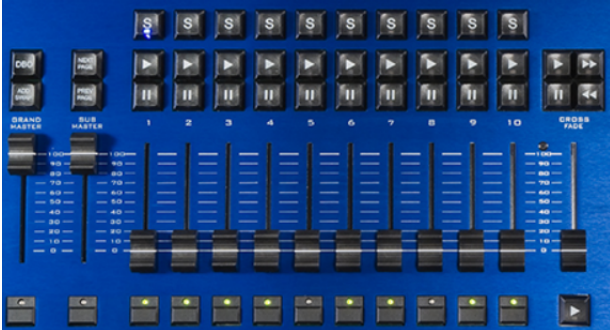
The playback area also contains a Grand Master, a Sub Master, Page Select buttons and a Manual Playback for taking control of Cue Stacks.

The cross fade section contains a GO, STOP. FWD, BCK buttons, a cross fader and a master GO button. The cross fade section controls the current playback selected with the S button.

On the MQ500 there are 15 fader playbacks and 15 execute playbacks above them.

5.2 Keyboard, Keypad, Select & Confirm Windows

MagicQ has a set of additional on-screen Windows that can be used to enter text, select items and confirm actions. You can choose whether you use the physical keyboard/keypad to navigate around these items or whether you use the mouse/touch.

To open the Keyboard Window at any time press SET SET. To open the icon selector press SHIFT + SET.

Confirm Windows are shown when you carry out important actions that may overwrite or delete show data. You can confirm an action by pressing 1 on the keypad. To cancel the action press 0 on the keypad.

5.3 Common Actions

MagicQ utilises many common actions for carrying out programming functions. All the actions use similar button presses. Once you understand the action in one Window, you will understand how it is done in another Window.

We strongly recommend you make yourself familiar with these actions – they will save you valuable programming time.

5.3.1 Items

Actions in a Window can be carried out on individual items or on multiple items. For actions on a single item, use the cursor keys to move around the Window so that the cursor is over the required item.

For multiple items in a Window, move the cursor to the first item. Then press and hold the SHIFT button whilst moving the cursor to the last item. All the items will be highlighted.

Alternatively hold the CTRL button and select multiple individual items.

In spreadsheet style Windows (e.g. Patch) pressing the touch screen or left clicking on the item with the mouse moves the cursor to the item. You can highlight multiple Window items by pressing the touch screen and moving the touch across multiple items.

In boxes style Windows (e.g. Group), pressing the touch screen or left clicking performs the function associated with the item (e.g. recalls that Group). In these Windows use SHIFT or CTRL and the cursor keys to highlight multiple boxes.

5.3.2   Setting the value of items

To set the value of one or more items in a spreadsheet style window:

- Move the cursor over the item (s)

- Enter a value on the keypad and press ENTER.

OR

- Type in the value on the keypad

- Press the touch screen / click / ENTER over the item.

For items that have a simple value of yes or no if you do not enter a value on the keypad then the value will toggle. For items that have multiple values double click on the field for a list of values. On the touch screen select the field and then press anywhere in the Input Display (right side area underneath the main window) to bring up the list of values.

Items that are coloured darker are read only and therefore cannot be set.

5.3.3   Naming items

- Press the SET button

- Press the touch screen / click / ENTER over the item to name.

- Enter the name on the external or on screen keyboards

When working in spreadsheets style windows with an external keyboard it is not necessary to press the SET button in the above sequence - you can edit the spreadsheet like any other, just by moving to the appropriate box and entering text on the keyboard.

To name multiple items it is often easier to highlight the items before pressing SET. If you press SET immediately after highlighting multiple items then the console will assume that these are the items you wish to set.

You can also press SET instead of pressing ENTER in the above sequences.

5.3.4   Moving items

- Press the MOVE button.

- Press the touch screen / click / ENTER over the source item.

- Press the touch screen / click / ENTER over the destination item.

You can also press MOVE instead of pressing ENTER in the above sequences.

To move multiple items it is often easier to highlight the items before pressing MOVE. If you press MOVE immediately after highlighting multiple items then the console will assume that these are the source items and will only prompt for the destination. You can hold SHIFT or CTRL to highlight multiple items.

From 1.7.6.4 MagicQ supports dragging to move items within Windows. Press SHIFT + MOVE to enter Drag Move mode. Items can then be dragged and dropped within windows. Drag Move mode will contirnue until MOVE is pressed again, or BACKSPACE is pressed.

The MOVE button flashes when in Drag Move mode.

5.3.5 Copying items

- Press the COPY button.

- Press the touch screen / click / ENTER over the source item.

- Press the touch screen / click / ENTER over the destination item.

You can also press COPY instead of pressing ENTER in the above sequence.

To copy multiple items highlight it is often easier to highlight the items before pressing COPY. If you press COPY immediately after highlighting multiple items then the console will assume that these are the source items and will only prompt for the destination. You can hold SHIFT or CTRL to highlight multiple items.

When copying Cues, Cue Stacks or Pages the console by default does not make individual copies of the Cues - the Cue Stacks link to the same Cues. To copy unlinked (i.e. to create new Cues) then press SHIFT and COPY in the above sequence and select Unlinked.

5.3.6 Removing items

- Press the REMOVE button.

- Press the touch screen / click / ENTER over the item to remove.

To remove multiple items highlight it is often easier to highlight the items before pressing REMOVE. If you press REMOVE immediately after highlighting multiple items then the console will assume that you wish to remove the highlighted items.

You can also press REMOVE instead of pressing ENTER in the above sequence.

5.3.7 Recording items

In boxes style windows it is possible to record an item (e.g. in the Group Window, to record a group):

- Press the RECORD button.

- Press the touch screen / click / ENTER over the item to record.

You can also press RECORD instead of pressing ENTER in the above sequence.

5.4 Icons

MagicQ supports icons for all programmed items. The size of the icons can be set in the Window Settings in the Setup Window.

Icons can be used on Groups, Colours, Beams, Positions, Cues, Cue Stacks and in the Execute Window.

To set an icon for a Window item (e.g. a Palette Entry) press SHIFT SET. Press the touch screen / click / ENTER over the item to set an icon for. This will open the Icon library. The Icon library is split into different types of Icons for colours, positions and different types of gobos.

Select the icon from the icon library.

5.4.1 Actions on Playbacks

Actions on playbacks are similar to window items except that the S buttons are used instead of window items.

To select a Playback, press the S button for the appropriate Playback.

To record a Playback, press RECORD, then press the S button for the appropriate Playback.

To name a Playback press SET, then press the S button for the Playback. Enter the name using the on screen keyboard or the external keyboard.

To move a Playback, press MOVE, then press the S button for the source Playback and then press the S button for the destination Playback.

To copy a Playback, press COPY, then press the S button for the source Playback and then press the S button for the destination Playback.

To include the contents of a Playback into the Programmer, press INCLUDE, then press the S button for the destination Playback.

To remove a Playback, press REMOVE, then press the S button for the Playback. Press the S button again to confirm the remove.

Chapter 6

Quick Start

6.1 Starting up MagicQ

On MagicQ consoles hold the power button on the rear panel. On MagicQ PC and Mac click on the MagicQ application icon.

On start up you are presented with an option to load demo shows or to continue the last show. Selecting last show will load and run the last show used on the system. This option can be hidden for subsequent start ups.

The console remembers all windows that were open when the console was last used. To close all windows press SHIFT and CLOSE.

Press SETUP to open the Setup Window.
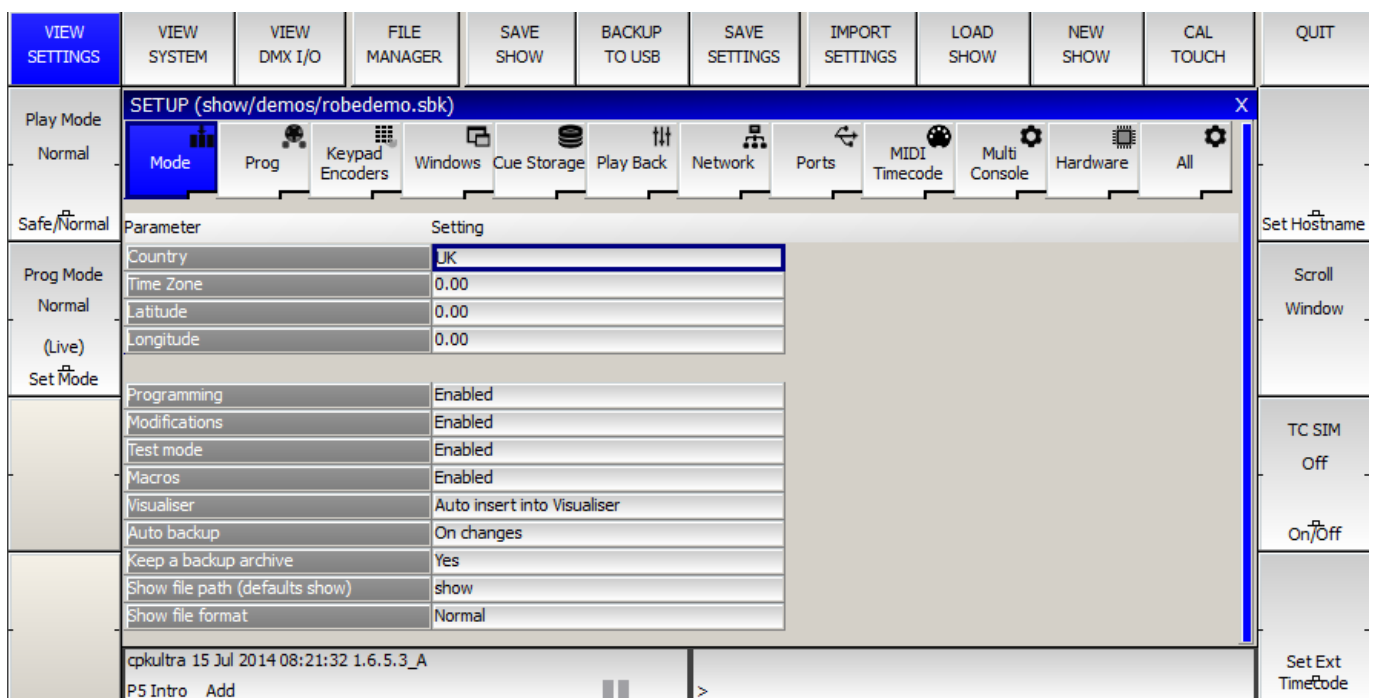
6.2 Calibrating the Touch Screen

On MagicQ consoles if the touch screen does not seem to be responding to your touch correctly then you may need to calibrate the touch screen.

Press the SETUP button to open the Setup Window. Press the CAL TOUCH soft button. When asked for confirmation press 1 on the keypad or press the CAL TOUCH soft button again.

Calibration works by finding the bottom left and top right corners of the screen. First press the bottom left of the touch screen and then the top right. You may wish to use a fine but blunt object.

The shortcut CTRL + SET can be used to open the Calibrate window at any time.

6.3   Starting a New Show
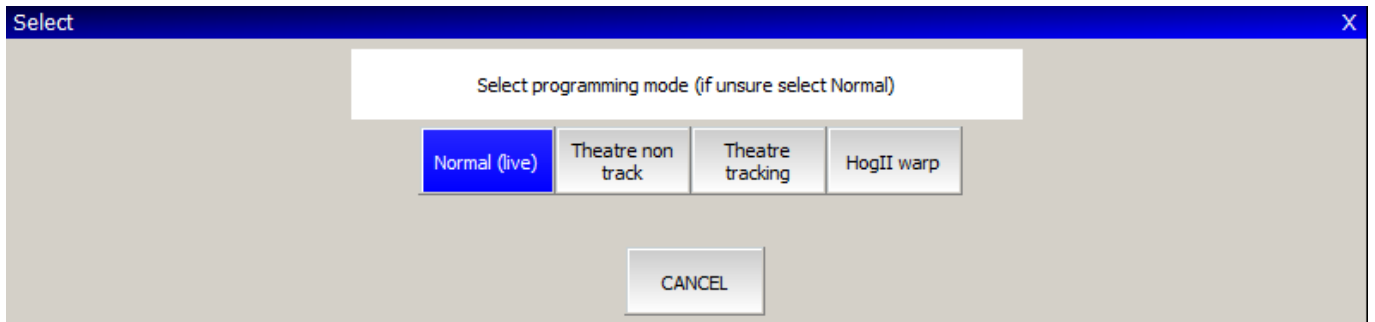
To start a new show, go to the Setup Window and press the NEW SHOW soft button. This will clear the current show from memory – shows that have been previously saved to disc will not be affected. You will be asked to confirm by selecting YES.

There is a choice of four modes.

- Normal - faders activate Cue Stacks. When recording, all data in the programmer is stored in recorded cues

- Theatre non-track - faders operate levels only. When recording, all data in the programmer is stored in recorded cues

- Theatre tracking - faders operate levels only. When recording only data in the programmer that has changed since the last record is stored in recorded cues

- Hog II warp – like Theatre Tracking but with some extra features to make the programming more familiar to Hog II users.

In Theatre and Hog II modes, fixtures return to their default values when not under control of a playback or the programmer. The keypad is set up to enable selection of Palettes using Palette numbers, and Cue Stack timing defaults to being stepped timing rather than chase timing.

The mode can be changed at any time by using the Programming Mode soft button in the Setup Window. In addition each individual option / default value can be customised by the user and saved as their personal settings file.

Starting a show clears all patching, all programming and all palettes. It does not clear console specific options such as the configuration of the DMX outputs or the calibration of the touch screen.

See <_programming_mode,Programming Mode> for more details.

6.4 Enabling Outputs

To enable output of channel data select the DMX IO VIEW in the Setup Window. This windows enables modification of the inputs and outputs for all the universes. MagicQ consoles support DMX directly from the console or via an external Ethernet to DMX convertor. On MagicQ PC or Mac you can output via USB to DMX interfaces (such as MagicDMX) or via DMX outputs from the Wings.

6.4.1 Using Direct DMX Outputs

All current MagicQ consoles have DMX output ports directly on the rear panel.

The four DMX outputs on the rear panel automatically output universes 1 to 4 unless they are configured otherwise. The DMX will be output regardless of the "Status" enabled or disabled in the Setup DMX I/O window. On Pro consoles there is a green LED on the rear panel that indicates when DMX is being output.

If you wish to choose alternative universes to be output to the four DMX outputs on the rear panel then you will need to configure the outputs manually. For each of the Universes you wish to output on the rear panel, select Out Type as "MagicQ Direct" and Port 1, Port 2, Port 3 and Port 4 and enable the universes.

The picture below shows the direct ports to output Universes 5 to 8.

Uni	Name	Status	Out Type	Out Uni	In Type	In Uni	Test	Copy	Visualiser	Hot takeover	Unica
1		Enabled	Art-Net	Art 0	Art-Net	Art 0	No	No	MagicVis	No	Broa
2		Enabled	Art-Net	Art 1	Art-Net	Art 1	No	No	MagicVis	No	Broa
3		Enabled	Art-Net	Art 2	Art-Net	Art 2	No	No	MagicVis	No	Broa
4		Enabled	Art-Net	Art 3	Art-Net	Art 3	No	No	MagicVis	No	Broa
5		Enabled	MQ Direct	Port 1	Art-Net	Art 4	No	No	MagicVis	No	Broa
6		Enabled	MQ Direct	Port 2	Art-Net	Art 5	No	No	MagicVis	No	Broa
7		Enabled	MQ Direct	Port 3	Art-Net	Art 6	No	No	MagicVis	No	Broa
8		Enabled	MQ Direct	Port 4	Art-Net	Art 7	No	No	MagicVis	No	Broa
9		Disabled	Art-Net	Art 8	Art-Net	Art 8	No	No	MagicVis	No	Broa
10		Disabled	Art-Net	Art 9	Art-Net	Art 9	No	No	MagicVis	No	Broa
11		Disabled	Art-Net	Art 10	Art-Net	Art 10	No	No	MagicVis	No	Broa

6.4.2 Using Outputs via network

MagicQ supports output via the network ports using Art-Net, Pathport or ACN Streaming DMX.

To output Art-Net on a Universe enable it and ensure that the output type is set to Art-Net. Choose which Art-Net Universe you wish to Output the MagicQ Universe on. MagicQ defaults to outputing MagicQ universe 1 on the first Art-Net Universe (Art 0-0).

If you are using Ethernet to DMX512 conversion boxes then you will need to configure the boxes to respond to the correct Art-Net sub-net and Art-Net universe.

With ChamSys SnakeSys B4 or R4 you need to set up the two rotary switches to the correct values – the left one for Art-Net sub-net and the right one for Art-Net universe. The interface will then decode the four Art-Net universes starting from that Art-Net subnet and universe.

In most networks the Art-Net sub-net is set to 0. If you are using only one Ethernet to DMX512 interface then you can normally use subnet 0 universe 0.

If you are using multiple Ethernet Interfaces then you will need to set each Ethernet Interface to a different Art-Net Universe – for example when using two ChamSys SnakeSys B4 Interfaces set the first Interface to Art-Net Universe 0 and the second one to Art-Net Universe 4.

MagicQ includes a DMX viewer for monitoring Art-Net on the Network – select Tools, DMX View.

6.5 Connecting a MagicQ Playback Wing

To connect a MagicQ Playback or Extra Wing simply connect the Wing to the MagicQ console via USB. In the Setup Window, View System, View Wings set the first Wing to be type USB Wing.

By default the Playback Wings are set so that the Wings change page when the Next Page / Prev Page button are pressed on the MagicQ console. It is possible to make the Wings operate completely independently of the main MagicQ console by changing the "Lower Bank Tie" and "Upper Bank Tie".

To use multiple Playback Wings simply connect them and change the type to USB wing.

6.5.1 Setting Playback Wing IDs

When using MagicQ consoles with multiple Playback / Extra Wings (or multiple Execute Wings) it is now possible to set a Wing ID for each Wing. The required wing ID can then be set in Setup, View Wings to ensure that the Wings are identified correctly and control the correct Playbacks. Previously Wings could swap over if one was reset or they were powered on in a different sequence.

Note that the Wing ID is only supported on new Wings with blue LCDs and the most recent Wing firmware. The Wing ID is set by holding the reset button under the armrest of the Wing whilst holding the lower most Page UP and Page Down buttons.

6.6 Connecting External Monitors

MagicQ consoles have either VGA or DVI connectors depending on the console model for connecting external monitors. On Pro2014, MQ60/70 and MQ80 consoles these monitors can be touch screen monitors. The MQ40N does not support touch screen monitors. The MQ40N external monitor is always fully enabled without the need for any configuration.

VIEW SETTINGS	VIEW SYSTEM	VIEW DMX I/O	VIEW WINGS	VIEW MEDIA	VIEW STATUS	VIEW MONITORS	REMOTE CONTROL		RELOAD MULTI W	CAL TOUCH	QUIT

Play Mode
Normal

SETUP (show/TueJul150823302014.sbk) X

Monitor	Status	Fitted	Resolution	Touch no	Touch type	Left	Top	Width	Height
Main	Enabled	Fitted	1920x1080	None	Not set	0	0	1920	1080
Monitor 2	Disabled	Not detected	1920x1080	None	Not set	1200	0	1920	1080
Monitor 3	Disabled	Not detected	Custom	None	Not set	0	0	0	0
Monitor 4	Disabled	Not detected	Custom	None	Not set	0	0	0	0

Safe/Normal

Prog Mode
Normal

(Live)
Set Mode

Touch	Status
Touch 1	
Touch 2	
Touch 3	
Touch 4	

Set Hostname

Scroll Window

TC SIM Off

6.6.1 Pro 2010 and Pro 2014 Operating System

On MagicQ consoles running the Pro 2010 there is support for two external monitors with resolution up to 1440x900. The Pro 2014 supports one external monitors up to 1920x1080 resolution.

Monitors can be touch screens (only External 1 on Pro 2010/14). MagicQ supports a number of touch screen protocols

External monitors must be powered and connected when the console powers up in order to be detected correctly.

Set the required resolution in the Resolution column and enable it.

When using USB touch screens, go to Setup, View System, View Monitors to see the status of the connected touch screens.

6.6.2 Pro Operating System

From MagicQ version 1.5.9.4 there is no longer support for an external monitor on the original Pro systems since the graphics card is not capable of handling the resolutions of modern monitors. Full external monitor support can be obtained by upgrading the hardware to Pro 2014.

6.7 Patching

Open the Patch Window by pressing the PATCH button. The Patch Window has three views, VIEW HEADS, VIEW CHANS and VIEW DMX. In this section we describe patching in VIEW HEADS.

VIEW HEADS	VIEW CHANS	VIEW DMX	VIEW VIS	CHOOSE HEAD	CHOOSE DIM/MEDIA	PATCH IT	EDIT HEAD	AUTO GROUPS	CLONE HEAD	MORPH HEAD	SORT

Choose the head you wish to patch by pressing the CHOOSE HEAD soft button. The Window will change to give you a list of manufacturers and heads. Select a head by pressing the touch screen. Alternatively scroll around the Window using the cursor keys, and press ENTER when the cursor is over the correct head.

FILE MANAGER (hard drive: show/heads)

5star	abstract	ac lighting	Acme	Airstar	alkalite	Alpha One	American DJ	Amptown	apollo
ariane	arkaos	avr	ayrton	borealis	cameleon	canvix	capture	chameleon	Chauvet
chroma q	Chromlech	cirro	city theat	Clay Paky	cls	coef	coemar	colours	columbus
compulite	constella	coolux	cxi	d-tek dmx	desisti	dha	discotech	diversitron ic	DTS
eee	effect co+c34	elation	elite	ETC	eurocolour2	eurolite	eurotech euro	eurotech	evl
expolite	fal	fly	futurelight	G-Lites	generic	geni	glp	griven	high end
hippo	hq power	hubbell	hungaroflas h	ipix	irideon	jb systems	JB	jem	jt eng
labscan	lampo	lanzini	laserage	le maitre	led	licht technik	light curtain	light sky	lighting inov

Once you have chosen a head you will be returned to the Patch Window. Press the PATCH IT soft button to patch the head. You will be prompted for the number you wish to prompt and the address where you wish to patch the heads. Use @ to patch at a specific address.
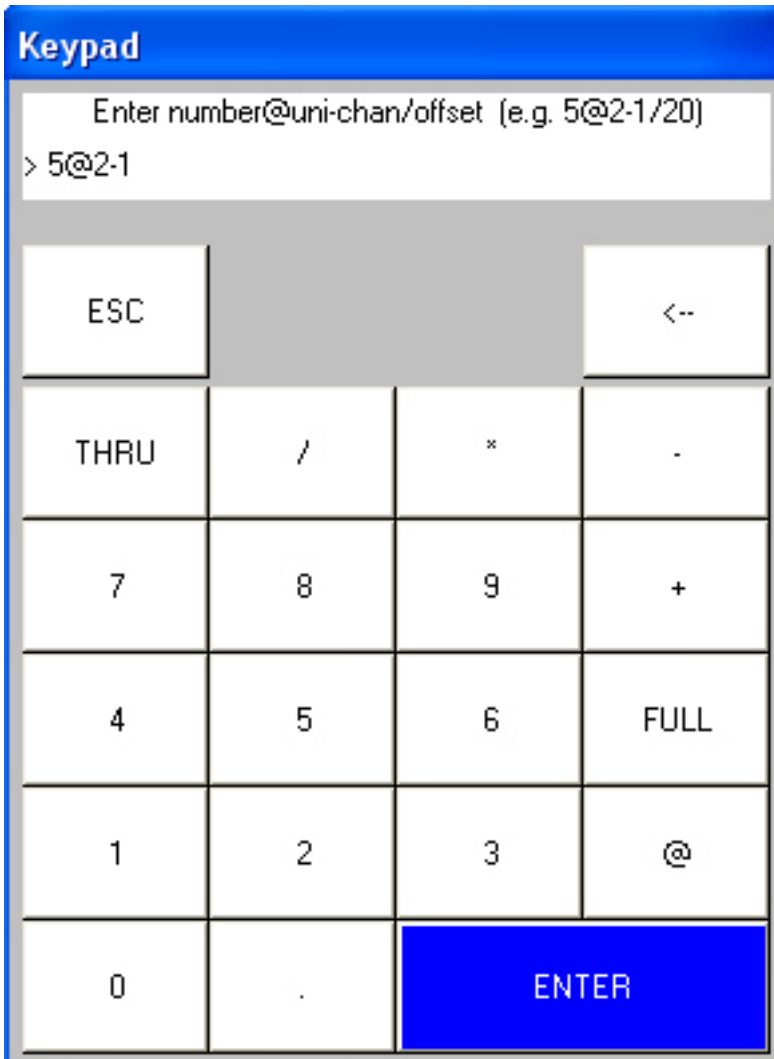
For example to patch 5 Mac250 mode 4 to Universe 2 channel 1 enter

5 @ 2 - 1

If you wish to patch multiple channels at fixed offsets e.g. five Martin Mac250s at DMX channels 1,21,41,61,81 then enter

5 @ 2 – 1 / 20

To patch a dimmer, simply press CHOOSE DIM/MEDIA, select Generic Dimmerer and then patch one or more dimmers as above.

In the Patch Window all the lighter coloured fields can be configured. To modify a field, first move the cursor to the field, then input the new value using the keypad, and finally press ENTER.

In this way you can modify DMX address, head number, head name and gel for each of your patched heads.

6.7.1 Naming and Numbering Heads

Once you have patched all the heads you can then name and number them as you wish. It is recommended that you name the dimmer or the head based on its location (e.g. front wash / back truss SL). For dimmers you may wish to configure the gel. This makes programming easier – enabling the console to auto program cues for you.

Head type	DMX	Hd no	Name	Gel	P Inv	T Inv	Swap	Merge	From
Generic Dimmer	1-001 (000000001)	001	Spots	○ No col				Norm	
Generic Dimmer	1-002 (000000010)	002	Spots	○ No col				Norm	
Generic Dimmer	1-003 (000000011)	003	Spots	○ No col				Norm	
Generic Dimmer	1-004 (000000100)	004	Spots	○ No col				Norm	
Generic Dimmer	1-005 (000000101)	005	Finger L	● R59 Indigo				Norm	
Generic Dimmer	1-006 (000000110)	006	Finger L	○ R312 Canary				Norm	
Generic Dimmer	1-007 (000000111)	007	Finger L	● R356 Middle Lavende				Norm	
Generic Dimmer	1-008 (000001000)	008	Finger L	● R27 Medium Red				Norm	
Generic Dimmer	1-009 (000001001)	009	Finger L	○ R312 Canary				Norm	
Generic Dimmer	1-010 (000001010)	010	Finger L	● R27 Medium Red				Norm	
Generic Dimmer	1-011 (000001011)	011	Finger L	● R59 Indigo				Norm	
Generic Dimmer	1-012 (000001100)	012	Finger L	○ R312 Canary				Norm	
Generic Dimmer	1-013 (000001101)	013	Finger L	● R356 Middle Lavende				Norm	
Generic Dimmer	1-014 (000001110)	014	Finger L	● R27 Medium Red				Norm	
Generic Dimmer	1-015 (000001111)	015	Finger L	○ R312 Canary				Norm	
Generic Dimmer	1-016 (000010000)	016	Finger L	● R27 Medium Red				Norm	
Generic Dimmer	1-017 (000010001)	017	Finger M	● R59 Indigo				Norm	
Generic Dimmer	1-018 (000010010)	018	Finger M	○ R312 Canary				Norm	
Generic Dimmer	1-019 (000010011)	019	Finger M	● R356 Middle Lavende				Norm	
Generic Dimmer	1-020 (000010100)	020	Finger M	● R27 Medium Red				Norm	

The gel field uses gel numbers. For Lee colours enter the gel number directly (e.g. 181 for Lee 181). For Rosco colours enter the gel number preceded by dot (e.g. .14 for Rosco 14). For no colour enter 0. If you would prefer to use colour names rather than gel numbers then simply enter the colour name.

To test a patched head or dimmer, simply press the TEST MODE soft button (soft button encode C) and the head which the cursor is over will be tested. For heads it locates the fixture; for dimmers it sets the dimmer to 100%. Press the TEST MODE soft button again to turn test mode off.

6.8 Controlling Heads

6.8.1 Selecting Heads

In order to control intelligent heads it is necessary to be able to select which heads to use. The MagicQ console keeps track of the currently selected heads to enable it to determine which heads to apply changes to. The operator can select head individually or can use groups to recall configurations of heads that are used frequently.

In "Hog Warp" mode or when the Setup option "Keypad always selects head is set" you can select heads from the keypad – for instance to select heads 1 through 4.

1 THRU 4 ENTER

In other modes, you can select the heads using

1 THRU 4 @@

6.8.2 Selecting heads from the Group/Heads Window

The console automatically generates a group for all the heads of a particular head type. In addition new groups can easily be recorded.

The Group Window has two views. VIEW GROUPS enables selection of heads using groups whilst VIEW HEADS enables individual selection of heads.

In VIEW GROUPS, pressing the touch screen for a particular group selects all the heads associated with that group. All other heads are deselected. To select multiple groups, press SHIFT and a group to toggle the group in and out of selection.

In VIEW HEADS, individual heads are selected / deselected by pressing the touch screen. Use PG UP and PG DN to scroll through the heads.

6.8.3 Recording a Group

Select the heads you want in a group using keypad selection or in the VIEW HEADS view of the Group Window.

Change to the VIEW GROUPS view.

Press RECORD and then select the group you wish to record either by pressing the touch screen or by using the cursor keys and then pressing ENTER.

6.9 Naming a Group

When recording a group, if you key in a name before pressing the touch screen (or pressing ENTER) then the group will be named at the same time as it is recorded.

You can name a group at any time by keying in the name, pressing SET, and pressing the touch screen.

If you do not have a keyboard then press SET and select the group to name by pressing the touch screen (or using cursor keys and ENTER). A keyboard window will be displayed for you to enter the name on screen.

6.10 Recalling a Group

Once a group has been recorded then pressing the touch screen for the group will make all the heads in the group selected. All other heads will be deselected. Use SHIFT to select multiple groups. There is a Setup option to allow the user to default to selecting multiple groups.

6.11 Setting Levels for Dimmers

From the keypad you can enter commands such as

1 @ 50 ENTER

1 THRU 4 @ FULL ENTER

It is also possible to use the Intensity Window by pressing the INT button. This window displays a fader for each dimmer and head patched onto the console. Pressing the slider part of the fader sets the appropriate level. When a fader is moved from 0 the channel in the programmer is activated – and the fader will turn red.

The Window has two views, View Prog and View Preset – faders changed in the Prog View affect the intensity levels in the programmer and are recorded into Cues. Faders changed in the Preset View are like traditional "one per channel" preset faders on older lighting consoles – this enables levels on channels to be set without affecting programming. This is equivalent to "Parking" on other consoles.

The SQUARE OFF soft button enables fast programming of intensities. Using the touch panel select the channels you wish to have at full and at zero – but don't bother being exactly accurate with the level of the selection. Pressing SQUARE OFF finishes the job by setting all channels that are less than 50% to 0 whilst setting channels above 50% to full.

Use the ALL TO FULL and ALL TO ZERO buttons to change the level of all the channels.

Press the CLEAR soft button to clear the programmer.
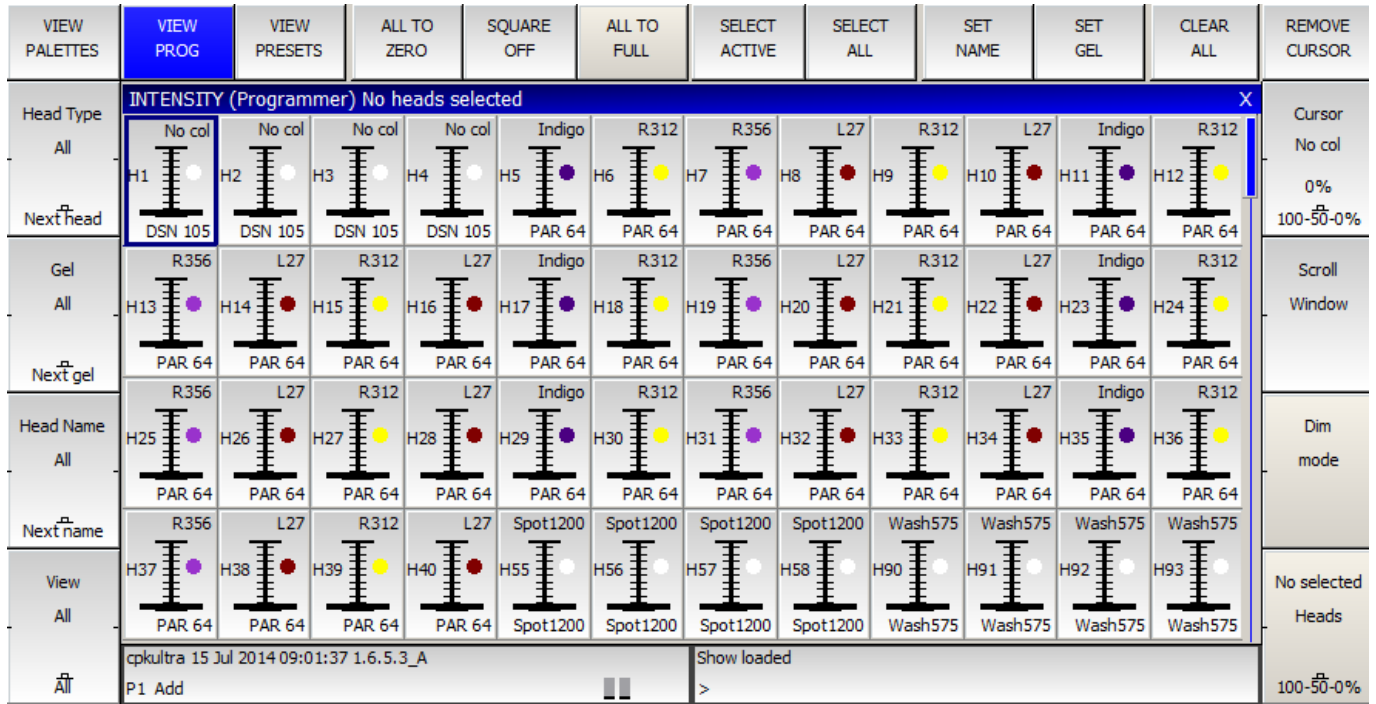
6.12   Locating Heads

The first action you are likely to want to do is to locate the heads – i.e. to put them into a starting position. Select the required heads and then press the LOCATE button. Locating a head brings all the attributes for that head into the programmer.

If the heads enable DMX control of the striking of the lamp then you may need to "Lamp On" the head in order to see the beam. Select the heads and then press SHIFT LOCATE. This runs the "Lamp On" macro.

6.13   Modifying Attributes

Intelligent heads have several different attributes typically including pan and tilt, colour, gobo and iris. When the MagicQ lighting console patches an intelligent head it maps the head parameters to standard attributes to enable easy access of the features of the head.

Attributes are categorised into four types – Intensity, Position, Colour and Beam. On MagicQ there is a window for each of these attribute types. Select the required heads, then open the required window.

You can quickly open all the Palette Windows by pressing Layout 1 or holding CTRL and pressing the top soft button marked Palettes – this opens the windows in the layout below.

GROUP (Spot1200 55,56,57,58)				X
G1 400 All LED3Ch	G2 3 All Bitmap	G3 40 All Dimmer	G4 All 4 Spot120	G5 All 4 Wash575
G6 4 Dim No col	G7 6 Dim Indigo	G8 12 Dim L27	G9 12 Dim R312	G10 6 Dim R356
G11	G12	G13	G14	G15
G16	G17	G18	G19	G20

POSITION (Spot1200 55,56,57,58)				X
P1 P centre	P2 P far left	P3 P far right	P4 P far up	P5 P far down
P6 P left	P7 P right	P8 P up	P9 P down	P10
P11	P12	P13	P14	P15
P16	P17	P18	P19	P20

COLOUR (Spot1200 55,56,57,58)				X
C1 C White	C2 C Red	C3 C Amber	C4 C Yellow	C5 C Green
C6 C Cyan	C7 C Blue	C8 C Pink	C9 C UV	C10 C Magenta
C11	C12	C13	C14	C15
C16	C17	C18	C19	C20

BEAM (Spot1200 55,56,57,58)				X
B1 B Open Gobo	B2 B Gobo 1-1 R	B3 B Gobo 1-2 R	B4 B Gobo 1-3 R	B5 B Gobo 1-4 R
B6 B Gobo 1-5 R	B7 B Gobo 1-6 R	B8 B Gobo 2-1 R	B9 B Gobo 2-2 R	B10 B Gobo 2-3 R
B11 B Gobo 2-4 R	B12 B Gobo 2-5 R	B13 B Gobo 2-6 R	B14	B15
B16	B17	B18	B19	B20

The highlighted window enables controls the soft buttons and rotary encoders. In each of the Windows the X and Y encoders control the most important attributes – Pan and Tilt in Position Window, Col Wheel 1 and Col Wheel 2 in the Colour Window and Gobo Wheel 1 and Gobo Wheel 2 in the Beam Window. In the Beam Window there are more than eight attributes to be controlled – these are accessed using multiple pages of encoders – by pressing the NEXT PAGE soft button.
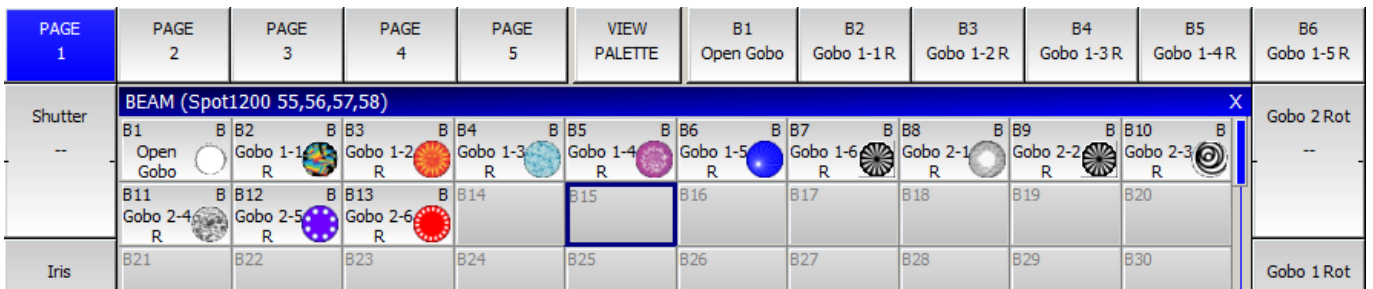
PAGE 1	PAGE 2	PAGE 3	PAGE 4	PAGE 5	VIEW PALETTE	B1 Open Gobo	B2 Gobo 1-1 R	B3 Gobo 1-2 R	B4 Gobo 1-3 R	B5 Gobo 1-4 R	B6 Gobo 1-5 R
Shutter --	BEAM (Spot1200 55,56,57,58) X										Gobo 2 Rot --
	B1 B Open Gobo	B2 B Gobo 1-1 R	B3 B Gobo 1-2 R	B4 B Gobo 1-3 R	B5 B Gobo 1-4 R	B6 B Gobo 1-5 R	B7 B Gobo 1-6 R	B8 B Gobo 2-1 R	B9 B Gobo 2-2 R	B10 B Gobo 2-3 R	
	B11 B Gobo 2-4 R	B12 B Gobo 2-5 R	B13 B Gobo 2-6 R	B14	B15	B16	B17	B18	B19	B20	
Iris	B21	B22	B23	B24	B25	B26	B27	B28	B29	B30	Gobo 1 Rot

For indexed attributes such as colour wheels and gobo wheels, the button associated with each encoder can be used to bump the attribute value to the next range. Pressing SHIFT and the button bumps back to the previous range.

In addition the window enables selection of palette values for the attribute type using the touch screen. When heads are recorded the system automatically generates palettes for each attribute type. You can record new palette entries, or modify existing ones as you see fit.

COL MIX	COL NORM	COL CMY	COL RGB	COL HSI	VIEW PALETTE	C1 White	C2 Red	C3 Amber	C4 Yellow	C5 Green	C6 Cyan
Cyan --	COLOUR (Spot1200 55,56,57,58) X										
	C1 C White	C2 C Red	C3 C Amber	C4 C Yellow	C5 C Green	C6 C Cyan	C7 C Blue	C8 C Pink	C9 C UV	C10 C Magenta	
	C11	C12	C13	C14	C15	C16	C17	C18	C19	C20	
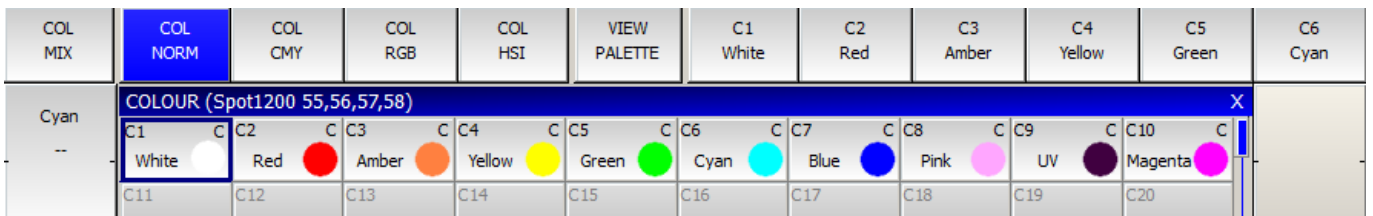
In the Colour Window pressing the COL MIX / COL ATTRIBS button changes to the colour picker. Press COL TYPE to select standard colours, Lee colours, Rosco colours or HIS model.

6.14 Recording a Palette

To record a favourite combination of attributes into a palette (e.g. a rotating triangle with a prism on a MAC500), first modify the attributes to the values you wish to record. Then press RECORD and select the palette entry you wish to record. By default only selected heads get recorded into a palette (this can be changed by pressing SHIFT + RECORD and choosing Record options).

To name the palette, key in the name on the external keyboard, then press SET and select the palette entry you wish to name. To use the on screen keyboard, first move the cursor over the palette entry, then press SET and key in the name followed by ENTER.

6.15 Adding in FX

To add a FX to some heads, select the heads then from the Group Window or the Prog Window press the ADD FX soft button. Choose the FX to add.

Once you have chosen a FX you are returned to the Prog Window. Use the encoders to modify the parameters of the FX such as the speed, size and spread between heads.

You can add multiple FX to a head, provided that the FX uses different attributes - e.g. you can mix a Pan Sine with a Tilt Sine.

6.16 Recording a Cue

To record a look onto a Cue, first set up the look, then press RECORD and press the S button of the Playback to record the Cue onto.

To test the Cue, first clear the programmer by pressing CLEAR then raise the Playback fader or press the Playback flash button.

Note that recording a Cue onto a Playback, generates a Cue Stack with a single Cue. However, as there is only one step, it behaves as though it is just the Cue on the Playback.

To view a recorded Cue, press the S button for the Playback, and then press CUE to open the Cue Window.

To configure options when recording, press SHIFT + RECORD and a toolbar of record options will be displayed. Choose the options you require then press the S button of the Playback as above.

6.17   Recording a Cue Stack (Chase or Theatre Stack)

Recording a Cue Stack is the same as recording a Cue - you simply record multiple Cues onto a Playback and you end up with a Cue Stack.

So, for example to record a stack of two looks, the first yellow dots, the second blue triangles:

- Generate the yellow dots look.

- Press RECORD and press the S button of the playback.

- Generate the blue triangles look.

- Press RECORD and press the S button of the playback.

To test the Cue, clear the programmer by pressing CLEAR then raise the Playback fader or press the Playback flash button.

View the Cue Stack by selecting the Playback and pressing CUE STACK to open the Cue Stack Window.

When you record more than one Cue onto a Playback the Cue Stack controls the transition from one Cue to another. In Normal mode by default the Cue Stack operates like a chase - i.e. each Cue is executed in turn, with timing being handled by a Chase Speed for the whole Cue Stack.

In Theatre Modes the default timing is Cue Timing – individual Fade times on each step with GO stepping from one step to the next.

The timing mode can be changed, so that the Cues play back in a theatre style using the GO / STOP buttons. Select the VIEW OPTIONS view and press the CUE TIMING and CHASE TIMING soft buttons to modify the timing mode.
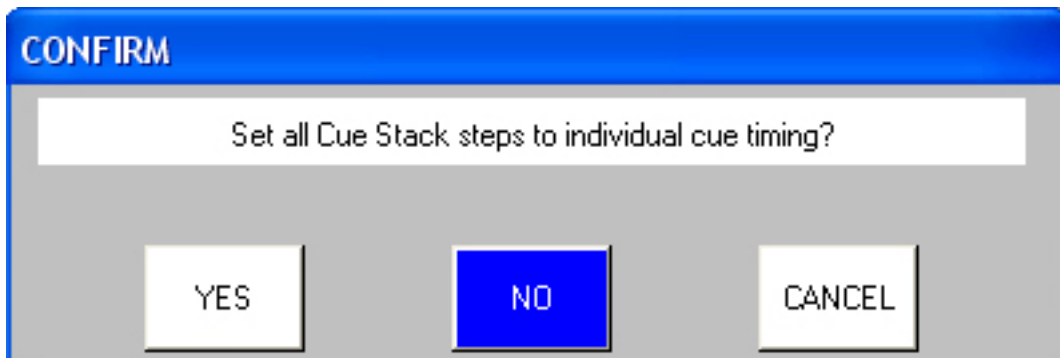
6.18   Selecting and recording complete window layouts

The console enables complete window layouts to be recorded and selected. The console incorporates several standard window layouts including Palettes and Cue Stacks.

There are physical buttons for Layout 1, 2 and 3. Layouts 1 to 12 can also be accessed by holding CTRL and selecting one of the top soft buttons.

To select a Window layout press one of the Layout buttons, or hold down CTRL and select one of the top soft buttons.

To record a Window layout first close all windows (SHIFT + CLOSE). Then open the required Windows and size them appropriately. Press RECORD and then press a Layout button or hold down CTRL and select one of the top soft buttons.

To name the Window layout, press SET and then press a Layout button or hold down CTRL and select one of the top soft buttons. Enter a name for the layout.

6.19   Saving the Show

When programming a show the show is stored in memory. In order to store your show on the disk you need to press the SAVE SHOW soft button in the Setup Window.

Whilst programming, you should regularly save your show, so that if the power fails your show data is not lost. You can chose any filename - MagicQ will automatically set the file extension to .shw.

By default, MagicQ periodically saves a backup of your show to disk. It uses the same show name but with the file extension .sbk.

It is a good idea to save your show to different file names so that you have various points you can back-track to if things go wrong. For example, save the show as myshow-patch.shw after you have patched and then as myshow-final.shw after you have finished programming.

When you shut down MagicQ through the QUIT soft button in the Setup Window, MagicQ automatically saves a backup copy of your show with a .sbk extension. When you subsequently restart MagicQ this file will be re-loaded. This ensures that MagicQ starts up as it was when the QUIT soft button was pressed.

MagicQ show files are typically only a few megabytes in size so many different shows or versions of a show can be saved without problem.

6.20   Playback

Now you have Cues and Cue Stacks recorded you can play back your show using the Playback faders and buttons. You can control how each Cue Stack is played back using the Cue Stack options – for example you can set the fader to control LTP fades or FX size and speed.

Make sure the master faders are raised!

Note that if you have a large show file you may wish to turn auto backups off during playback. Remember to turn them back on when you are programming.

If you get stuck at any point, just press the HELP button!

Chapter 7

Patching

7.1 Patching on MagicQ

MagicQ considers DMX and console channels to be the same and therefore there is no need for complex patching to be carried out before the console can be used. MagicQ allows access to all DMX channels on all DMX universes supported on the console. Each channel can be controlled and programmed independently.

Each head can be allocated a head number for recall using the keypad and a name for identification. However to save time, MagicQ will automatically allocate numbers and names according to head types.

7.2 Getting started with patching

MagicQ supports comprehensive patching facilities for allocating dimmers and intelligent heads to DMX channels. Patching can be carried out at any time and has an immediate effect.

Press the PATCH button to open the Patch Window. The Patch Window has four views, VIEW HEADS, VIEW CHANS, VIEW DMX and VIEW VIS.

VIEW HEADS is used to patch heads, name and number then and set and gel colour.

VIEW CHANS is used to carry out operations on individual DMX channels, such as testing the channel and setting inverts.

VIEW DMX is used when patching more than one DMX channel to a MagicQ Head.

VIEW VIS is used for setting up and modifying visualiser heads in the MagicVis visualiser.

7.3 Patching a Head or Dimmer

MagicQ supports a large library of heads. MagicQ treats dimmers just like any other head - they just happen to have a single channel. Dimmers use the "Generic Dimmer" personality.

Head type	DMX	Hd no	Name	Gel	P Inv	T Inv	Swap	Merge	From
Generic Dimmer	1-001 (000000001)	001	Spots	○ No col				Norm	
Generic Dimmer	1-002 (000000010)	002	Spots	○ No col				Norm	
Generic Dimmer	1-003 (000000011)	003	Spots	○ No col				Norm	
Generic Dimmer	1-004 (000000100)	004	Spots	○ No col				Norm	
Generic Dimmer	1-005 (000000101)	005	Finger L	● R59 Indigo				Norm	
Generic Dimmer	1-006 (000000110)	006	Finger L	● R312 Canary				Norm	
Generic Dimmer	1-007 (000000111)	007	Finger L	● R356 Middle Lavende				Norm	
Generic Dimmer	1-008 (000001000)	008	Finger L	● R27 Medium Red				Norm	
Generic Dimmer	1-009 (000001001)	009	Finger L	● R312 Canary				Norm	
Generic Dimmer	1-010 (000001010)	010	Finger L	● R27 Medium Red				Norm	
Generic Dimmer	1-011 (000001011)	011	Finger L	● R59 Indigo				Norm	
Generic Dimmer	1-012 (000001100)	012	Finger L	● R312 Canary				Norm	
Generic Dimmer	1-013 (000001101)	013	Finger L	● R356 Middle Lavende				Norm	
Generic Dimmer	1-014 (000001110)	014	Finger L	● R27 Medium Red				Norm	
Generic Dimmer	1-015 (000001111)	015	Finger L	● R312 Canary				Norm	
Generic Dimmer	1-016 (000010000)	016	Finger L	● R27 Medium Red				Norm	
Generic Dimmer	1-017 (000010001)	017	Finger M	● R59 Indigo				Norm	
Generic Dimmer	1-018 (000010010)	018	Finger M	● R312 Canary				Norm	
Generic Dimmer	1-019 (000010011)	019	Finger M	● R356 Middle Lavende				Norm	
Generic Dimmer	1-020 (000010100)	020	Finger M	● R27 Medium Red				Norm	

Choose the head you wish to patch by pressing the CHOOSE HEAD soft button. The Window will change to give you a list of heads. Select a head by pressing the touch screen. Alternatively scroll around the Window using the cursor keys, and press ENTER when the cursor is over the correct head.

Once you have chosen a head you will be returned to the Patch Window. Press the PATCH IT soft button to patch the head, and you will be prompted for an address to patch the head to.

Press ENTER to patch to the next free address – the title bar shows the next free address that a head of the chosen type can be patched. If you wish to patch multiple heads at fixed offsets e.g. four Martin Mac500s at DMX channels 1,21,41,61 then enter 4/20.
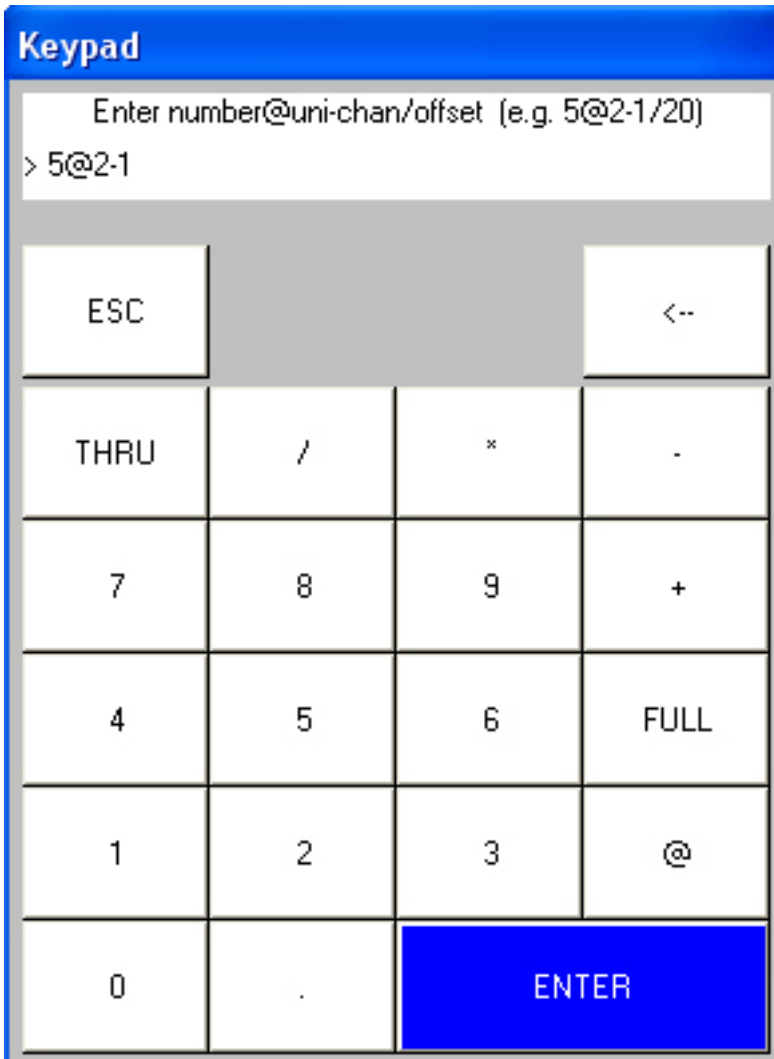
To patch a head at a specific address use @. For example to patch 10 dimmers at DMX address 20 key in 10@20. To patch to the 2nd universe use 10@2-20. To patch at the first free address on a universe other than the first universe use +, e.g. for the second universe use 10@+2-1.

If this is the first patch you have patched then MagicQ will prompt you whether to add the head into the visualiser. Pressing yes will create a visualiser head within the show file, so that you can see the head in the MagicQ visualiser.

To patch more heads, just repeat the above process.

To patch a dimmer, simply press CHOOSE DIM/MEDIA, select Generic Dimmer, and then patch one or more dimmers as above.

In the Patch Window all the fields coloured yellow can be configured. To modify a field, first move the cursor to the field, then input the new value using the keypad and keyboard, and finally press ENTER.

In this way you can modify DMX address, head number, head name and gel for each of your patched heads.

7.4 Head Names and Head Numbers

Press the VIEW HEADS soft button to check the heads you have patched, and to name and number them as you wish. In the Patch Window all the light coloured fields can be configured. To modify a field, first move the cursor to the field, then input the new value using the keypad and keyboard, and finally press ENTER.

Multiple head names and numbers can be set at the same time by using SHIFT and the cursor keys to select multiple items. Turning on test mode using the TEST HEAD soft button makes it easy to view each head / dimmer in turn.

By default the VIEW HEADS view is sorted by head number. If you are setting head numbers by entering each head number individually then you may find it easier if the view is sorted by DMX. Press the SORT soft button and select BY DMX. Note that the sort also affects the order in the Intensities Window, the Programmer Window and the Group Window.

7.4.1 Head Names

Head names are used to identify the Dimmer or Head. We recommend that you set the head name based on its location (e.g. front wash / back truss SL). It is not necessary to name intelligent heads according to their product name (e.g. Mac500) as this is already stored in the head.

Head type	DMX	Hd no	Name	Gel	P Inv	T Inv	Swap	Merge	From
Generic Dimmer	1-001 (000000001)	001	Spots	○ No col				Norm	
Generic Dimmer	1-002 (000000010)	002	Spots	○ No col				Norm	
Generic Dimmer	1-003 (000000011)	003	Spots	○ No col				Norm	
Generic Dimmer	1-004 (000000100)	004	Spots	○ No col				Norm	
Generic Dimmer	1-005 (000000101)	005	Finger L	● R59 Indigo				Norm	
Generic Dimmer	1-006 (000000110)	006	Finger L	● R312 Canary				Norm	
Generic Dimmer	1-007 (000000111)	007	Finger L	● R356 Middle Lavende				Norm	
Generic Dimmer	1-008 (000001000)	008	Finger L	● R27 Medium Red				Norm	
Generic Dimmer	1-009 (000001001)	009	Finger L	● R312 Canary				Norm	
Generic Dimmer	1-010 (000001010)	010	Finger L	● R27 Medium Red				Norm	
Generic Dimmer	1-011 (000001011)	011	Finger L	● R59 Indigo				Norm	
Generic Dimmer	1-012 (000001100)	012	Finger L	● R312 Canary				Norm	
Generic Dimmer	1-013 (000001101)	013	Finger L	● R356 Middle Lavende				Norm	
Generic Dimmer	1-014 (000001110)	014	Finger L	● R27 Medium Red				Norm	
Generic Dimmer	1-015 (000001111)	015	Finger L	● R312 Canary				Norm	
Generic Dimmer	1-016 (000010000)	016	Finger L	● R27 Medium Red				Norm	
Generic Dimmer	1-017 (000010001)	017	Finger M	● R59 Indigo				Norm	
Generic Dimmer	1-018 (000010010)	018	Finger M	● R312 Canary				Norm	
Generic Dimmer	1-019 (000010011)	019	Finger M	● R356 Middle Lavende				Norm	
Generic Dimmer	1-020 (000010100)	020	Finger M	● R27 Medium Red				Norm	

7.4.2 Head Numbers

Head numbers are used in various displays to indicate which heads are being operated on. Head numbers can also be used for selecting heads and setting intensities directly from the keypad.

By default MagicQ numbers in the order that they are patched starting from 1.

If you expect to be selecting heads using the keypad then we recommend you use unique head numbers for each head. MagicQ uses unique numbers by default. You can modify head numbers manually so that they are more meaningful to your rig. Alternatively you can use one of the in-built renumber algorithms.

For multi head elements, by default MagicQ allocates each element of a multi element head ascending head numbers. MagicQ also supports the multiple elements of a multi element head all having the same head number and then use of the dot (.) operator to select individual heads.

Multiple multi head elements can be set to use only a single head number in Patch, View Heads by setting the Head Number appended with /1 to indicate only 1 head number in use for that fixture.

7.4.3 Renumbering Head Numbers

Pressing RENUM HEAD NOS and selecting BEST FIT causes MagicQ to use an intelligent algorithm to allocate heads starting with numbers that you can easily recall. For example, if you patch 4 MAC500s and 4 HPEs then when you renumber using BEST FIT it will number the MAC500s from 1 to 4 and the HPEs from 11 to 14.

If you would rather work with DMX channel numbers, then press the RENUM HEAD NOS soft button and select BY DMX. This will configure the head number for all patched heads to be the DMX channel address of the head. You can then select heads and set intensities using the DMX channel numbers.

Selecting HEADS (ALL START 1) sets the head numbers so that for each head the numbers start from 1 - this is the default option. Selecting BY NAME sets the head numbers so that they use head name, gel and type to order the heads.

7.4.4 Patching to specific Head numbers

It is possible to patch direct to a specific head number using the * operator.

For example:

10 @ 7 – 2 * 201

This will patch 10 heads at channel 2 on Universe 7 starting at head number 201.

7.5 Gel name and number

For dimmers you may wish to configure the gel name or number. This makes programming easier – enabling MagicQ to auto program cues for you.

The gel field uses gel numbers. For Lee colours enter the gel number directly (e.g. 181 for Lee 181). For Rosco colours enter the gel number preceded by dot (e.g. .14 for Rosco 14). For no colour enter 0. If you would prefer to use colour names rather than gel numbers then simply enter the colour name. MagicQ knows standard colour names.

7.6 Col Tags

It is possible to assing a Col Tag to each head. Col Tags from the Patch are used in other windows if Setup, View Settings, Windows, Col tags is set to "Patch".

7.7 Generating auto groups

MagicQ automatically generates groups for each of the different heads patched – e.g. "All Dimmers", "All Mac500".

MagicQ is also capable of generating groups based on gel colours and head names. Press the AUTO GROUPS soft button in the VIEW HEADS view of the Patch Window and then select Dimmers and/or Heads.

When Dimmers are selected MagicQ will examine all dimmers patched and generate a group for each different gel colour and a group for each different head name.

When Heads is selected MagicQ will generate a group for each different head type that has heads with a distinct head name. Thus if you have named some of your Mac500s "front" and some of them "back" it will generate a "Mac500 front" group and a "Mac500 back" group.

7.8 Auto Palettes

When patching fixtures, MagicQ creates Palettes based on the Palettes stored in the Personality - typically the 10 basic colours. MagicQ also creates Palettes based on the main Gobo ranges for any Ranges in the Personality that have Auto Pal set. If the personality does not have any gobo ranges with the Auto Pal option set, then MagicQ now generates gobo palettes based on all the gobos set with Range Type of Fixed, Index or Rotate.

From 1.7.4.4 MagicQ also automatically generates beam palettes for shutter, gobo rotation, iris and zoom attributes. Beam palettes for gobo rotation contain both Rotate 1 and Rotate 2 attributes if present in the fixture.

Auto palette generation can be turned on and off and customised in the Patch Window, View Heads, soft button X. When set to All, all auto groups and auto palettes are generated. It is possible to individually select generation of groups, intensity, position, colour, gobos, rotate, iris, shutter, and zoom.

7.9 Heads with multiple elements

MagicQ supports heads that have multiple attributes of one type – e.g. more than one dimmer or more than one red, green or blue channel.

The dot (.) syntax is used to access the sub elements. Individual elements can be selected using the dot (.) operator. For example to select the 1st element only, enter .1 NEXT HEAD or .1 @@. This sub selects only the 1st element. Pressing ALL returns the selection to all elements.

MagicQ heads can be written to support one of two methods for supporting multiple attributes of the same type - the newer way is "Duplicated Heads" whilst the older way uses "Multi Elements Heads".

7.9.1 Duplicated Heads

Duplicated Heads treats the head as a single head but with attributes that appear multiple times in the personality.

When using the head, the duplicated elements by default are treated as one element - so the 2nd, 3rd and 4th elements just copy the programming from the 1st element. This ensures that the Head is simple to use and appears to act as if it only had a single element.

When locating, selecting palettes and using soft buttons or encoders on attribute parameters only the first element is made active in the programmer and therefore only the first element is recorded into Cues. When the Cues are played back then MagicQ copies the calculated values from the 1st element to the other elements.

When a sub selection is active on a Duplicated Head then the specific elements will be made active in the Programmer and subsequently recorded into Cues. When the Cues are played back MagicQ uses the programming from the Cue for elements that have been recorded in to the Cue, only copying for elements that have not been recorded.

All elements can be selected if you wish to apply split times across all elements or to include all elements in a FX. Select all elements using the syntax .> @@

Palettes values are by default created for the first element. When a sub selection is in operation MagicQ will use the value in the Palette for the first element if there is no specific palette entry for the element selected - this avoids the need for creating separate palette information for each element. When a Palette is updated it will update Cues that use that Palette from the sub element if it exists in the Palette - otherwise it will use the data from the 1st element - ensuring that the Cue gets updated as expected.

Note that Duplicated heads operate slightly differently to normal fixtures when splitting elements between different playbacks or the programmer. The playback that has the first element active controls all the other elements. If that playback has only the 1st element active in it then all elements will output the same regardless of whether other elements are active on other playbacks. Similarly if the programmer only has the 1st element active in it then all elements will output the same regardless of whether other elements are active on any playbacks.

7.9.2 Multi Element Heads

Multi Element Heads treats the head as multiple different heads each patched automatically to adjacent addresses.

Multi element heads are patched in exactly the same way as normal heads, but MagicQ shows a * next to the DMX address to indicate that it is a multi element head.

MagicQ recognises three kinds of multi element heads – those which simply have a repeated element, those that have a main element followed by a repeated element and those that have repeated elements followed by a main element.

When multi element heads are patched MagicQ generates the "All" group which contains both the main and repeated elements. MagicQ will also generate separate groups for the main "Mn" part and the repeated "Ele" part.

Multi element heads can have a separate head number for each element in the head – so that when patching several of these heads, the head numbers will increase by more than one per head. Alternatively all the elements can be set to the same head number.

When all the elements are set to the same head number the separate elements of the head can also be sub selected using the dot operator from the keypad – for example for head 2 you can select 2.4 to sub select the 4th element.

7.10   Inverting and Swapping

In VIEW HEADS you can invert the pan and tilt channels of moving heads and also swap the pan and tilt channels. Pressing ENTER in the appropriate field changes the field value.

Individual channels can also be inverted in VIEW CHANS if required.

7.11   Pan and Tilt Offsets

To add a Pan or Tilt offset then enter the offset in degrees in the Pan offset or Tilt offset in the Patch Window. The offset affects all programmed values.

7.12   Applying Offsets using Update

MagicQ supports a quick method of applying an offset to channels such as a pan or tilt offset, or an offset on a colour scroll.

To apply an offset, playback the Cues and then override only the parameters you wish to offset in the programmer. Then press the Update button. The Update options have been modified to include an extra option "Patch Offset". Selecting this option applies a permanent offset to the channel in the Patch rather than modifying the individual Palettes and Cues.

To remove the offset go to Patch, View Chans and remove the offset from the appropriate channels.

Offsets apply only to LTP channels, not to HTP (Intensity) channels.

The Outputs window shows channels with offsets in green colour.

The Patch window shows offsets applied to Pan and Tilt in the Pan Offset and Tilt Offset field.

7.13   Minimum and Maximum levels

You can set minimum and maximum levels for each patched channel from the VIEW CHANS view. This is useful for setting pre-heat on dimmers or for limiting output values of certain lamps where power is tight.

The minimum and maximum levels have absolute over-ride over all other playback and programming. Master faders and the DBO button do not affect the minimum and maximum levels.

Minimum levels can be useful to force a minimum light level on a stage, for example during a changeover.

7.13.1 Limits and Offset.

It is possible to set limits and offsets on channels using the Limit and Offset dimmer curves.

Limit enables a maximum level to be set for the channel whilst retaining the normal linear dimming curve. When dimmer curve is set to "Limit" the channel has a linear curve up to the maximum value rather than using the normal linear curve and then stopping at the maximum value.

Offset enables an offset value to be applied to a channel – this can be useful if a moving light is not calibrated correctly or it has been moved. When dimmer curve is set to "Offset" then the minimum value specifies the offset to be applied. When a channel value exceed 255 then it wraps back to 0.

7.14 Dimmer curves

MagicQ supports 10 user dimmer curves that can be selected in the Patch Window, View Chans view.

User dimmer curves are specified in files of format csv (comma separated variable) with filename dimmercurveuser1.csv, dimer-curveuser2.csv etc. . . stored in the show/heads folder.

The files consist of 256 lines each with a value between 0 and 255. These files can be generated in a spreadsheet (e.g. Microsoft Excel) and saved as csv format.
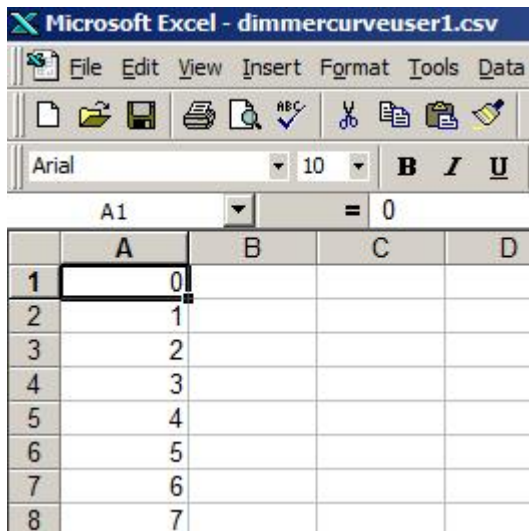
From v1.6.0.7 dimmer curves can have 16bit values (0..66535) instead of just (0..255). If any value in the user dimmer curve file is over 255 then 16bit is assumed.

User dimmer curves are not stored into the show or settings files. Each MagicQ system that uses user dimmer curves must have the curves stored in the show/heads folder.

In the CSV file the line after the last line of data (the 257th line) can hold a name for the curve which is then displayed in MagicQ. The name has a maximum of 15 characters.

Dimmer curve files are read on startup of MagicQ – so you will need to reset MagicQ for new curves to be loaded.

7.15 Testing channels

To test channels in VIEW CHANS press the TEST CHANS soft button to enter test mode. In this mode the channel which the cursor is on is set to the level configured on the TEST CHANS encoder. Use the cursor keys to move through different channels. Test mode remains active until the TEST CHANS soft button is pressed again.

Channel testing works for both patched and unpatched channels. Note that for channels patched as LTP, the level of the Grand Master does not affect the channel level and after test is turned off the channel remains at the test level. LTP channels can be set to zero by pressing CTRL CLEAR.

DMX	Head type	Attrib	Chan name	Hd no	Min	Max	Curve	Invert	Merge	From	Type	16bit
1-001	Generic Dimmer	No col	DSN 105	1	0%	100%	Linear	no	Norm		HTP	no
1-002	Generic Dimmer	No col	DSN 105	2	0%	100%	Linear	no	Norm		HTP	no
1-003	Generic Dimmer	No col	DSN 105	3	0%	100%	Linear	no	Norm		HTP	no
1-004	Generic Dimmer	No col	DSN 105	4	0%	100%	Linear	no	Norm		HTP	no
1-005	Generic Dimmer	Indigo	PAR 64	5	0%	100%	Linear	no	Norm		HTP	no
1-006	Generic Dimmer	R312	PAR 64	6	0%	100%	Linear	no	Norm		HTP	no
1-007	Generic Dimmer	R356	PAR 64	7	0%	100%	Linear	no	Norm		HTP	no
1-008	Generic Dimmer	L27	PAR 64	8	0%	100%	Linear	no	Norm		HTP	no
1-009	Generic Dimmer	R312	PAR 64	9	0%	100%	Linear	no	Norm		HTP	no
1-010	Generic Dimmer	L27	PAR 64	10	0%	100%	Linear	no	Norm		HTP	no
1-011	Generic Dimmer	Indigo	PAR 64	11	0%	100%	Linear	no	Norm		HTP	no
1-012	Generic Dimmer	R312	PAR 64	12	0%	100%	Linear	no	Norm		HTP	no
1-013	Generic Dimmer	R356	PAR 64	13	0%	100%	Linear	no	Norm		HTP	no
1-014	Generic Dimmer	L27	PAR 64	14	0%	100%	Linear	no	Norm		HTP	no
1-015	Generic Dimmer	R312	PAR 64	15	0%	100%	Linear	no	Norm		HTP	no
1-016	Generic Dimmer	L27	PAR 64	16	0%	100%	Linear	no	Norm		HTP	no
1-017	Generic Dimmer	Indigo	PAR 64	17	0%	100%	Linear	no	Norm		HTP	no

You can also test channels by moving to the appropriate channel and pressing the TEST SELECT CHANS soft button. The channel will be set to the level of the Grand Master fader. Pressing TEST SELECT CHANS soft button again returns the channel to zero. You can test multiple channels by using SHIFT and the cursor keys to select multiple channels and then pressing the TEST SELECT CHANS soft button. Channels that are in test mode are highlighted in red.

Pressing Soft Button A (NEXT UNI or PREV UNI) soft button moves you up or down the window to the first channel of the next or previous universe.

7.16 Changing the DMX address of heads

Heads (including Dimmers) can be moved to different DMX addresses as required. When they are moved all the programming and palettes associated with them also moves to the new channels. In Patch, VIEW HEADS simply edit the DMX field with a new address.

If you try and move to a location where there are already channels patched then MagicQ will prompt whether you wish to continue and move the already patched channels aside. If you confirm YES the already patched channels will be moved to the next free locations. If you confirm NO then no move will be performed.

Multiple heads can be moved at a time using SHIFT and the cursor keys. When making a change to multiple heads the change defaults to an absolute change – the first head will be moved to the specified address and the next heads to the addresses immediately following. To make a relative change enter a / after the new address - i.e. to move 4 heads from 1-1 to 2-1, but keeping the relative DMX offsets between the heads, enter 2-1/. You can also specify an explicit offset to use, just like when patching e.g. 2-1/20.

7.17 Patching a Head to multiple DMX addresses

The View DMX view in the Patch Window enables multiple DMX channels to be easily assigned to one head. Up to 5 additional DMX channels can be set up for each Head in addition to the main DMX address. Remove additional channels by pressing REMOVE and selecting the additional channel fields or by typing "u" (unpatch) instead of a DMX address.

7.18   Unpatching a Head from a DMX address

It is possible to "unpatch" a head – i.e. to remove the association between the programmed data and a DMX address. The programmed data for the head is maintained and the head can subsequently be patched to a new DMX address. To unpatch a head move the cursor to the first DMX field in View DMX view and press REMOVE, or type "u".

7.19   Patching scrollers

There are two ways to patch scrollers – the first method is to patch the dimmer and scroller separately – then the dimmer and scroller will operate independently. Use the "generic dimmer" personality for the dimmer and the "generic scroller" personality for the scroller.

MagicQ has enhanced support for scrollers, so that the colour scroll channel can be tied up with the dimmer channel in one head.

To use this support, patch a Generic Scroller With Dim. This will appear in the View Heads with the DMX address marked as "virtual" and any DMX address you specified when you patched it will be ignored. Change to the View DMX view and specify in the appropriate DMX columns the DMX address of the dimmer and the scroller.

The Generic Scroller With Dim is set up as a "Virtual" personality – i.e. the channels in the personality can be patched to any location on MagicQ – unlike normal personalities where the channels are sequential from the DMX start address. In the View DMX view, the DMX address fields are used to specify the addresses for each channel in the virtual personality – up to a maximum of 5 channels. (For normal personalities these fields are used to specify multiple heads patched to one head.)

7.20   Editing Heads

You can modify the Head or create a new head in the Head Editor. Choose the head you wish to edit and then press the EDIT HEAD soft button.

To quickly choose a head that you have already patched move the cursor to the head in the Patch Window, hold SHIFT and press CHOOSE HEAD.

To quickly edit a head that you have already patched move the cursor to the head in the Patch Window, hold SHIFT and press EDIT HEAD.

7.21   Cloning (Adding extra heads / dimmers to a programmed show)

Cloning enables a show programmed with a certain number of heads to be expanded to use more of the same head type without having to reprogram all of the show.

For example, if you have a show programmed with 4 MAC500s and you want to add 4 more MAC500s, then you can clone the 4 programmed MAC500s. All the Cues, Cue Stacks, Groups and Palettes that have the original 4 MAC500s will now have the additional 4 MAC500s as well.

By cloning heads in this way you have a quick and easy approach to expanding your show. You can then programme some new Cues and Cue Stacks that use the new and old heads individually.

To Clone heads

Enter the Patch Window and choose the *view heads* view. Select the heads you wish to clone using SHIFT and the cursor keys. Note a new cloned head is created for each of the selected heads. e.g. selecting 4 heads when cloning will patch 4 more fixtures each cloned to one of the 4 selected heads.

Then press the CLONE HEAD soft button.

Cloned heads are patched on the next free universe/channel in MagicQ, these can then be re addressed as needed.

There are several options when cloning heads. It is possible to choose whether both Palettes and Cues are cloned or just Palettes.

It is also possible to specify that FX are split when the heads are cloned, so that the new heads are part of a different FX from the original FX. This function should be used with care when cloning multiple heads in order to avoid fragmenting the F X too much.

7.21.1   Copy Head Programming

If you patch new heads into a show, without cloning it is still possible to then copy programming from other heads to the new heads. To copy programmed data from one head to another press the SHIFT + COPY HEAD PRG soft button in the HEAD VIEW, then select the source head followed by the destination head. All the Cues, Cue Stacks, Groups and Palettes that contain the source head will be updated to include the destination head.

7.21.2   Patch Channel Copy

Another way to expand existing shows is to patch the new heads and dimmers but then in the Patch window to set a real time channel copy from another already programmed channel. The value of the channel will always be that of the already programmed channel. Any programming of the newly patched channel will be ignored. To set up real time copies, edit the Merge and From Chan columns in the View Chans view of the Patch Window. Press ENTER in the Merge column to change it to "Copy" and then set the From Chan column.

7.22   Morphing Heads (Changing Head type)

It is possible to morph one head type into another head type. The system will copy the programming from the old head type to the new head type. The system takes into account the different pan and tilt ranges of the heads when copying pan and tilt data.

As no two heads are exactly the same, the programming will not create exactly the same looks as with the original heads. A closer representation will be obtained by morphing a spot into a spot compared to a spot into a wash light.

If the new head types have more channels than the original head types then MagicQ morphs the heads but leaves them unpatched – the user must then repatch the heads at a suitable location.

In the Patch Window, choose the new head type, then move the cursor to the head to change or select a block of heads using SHIFT and the cursor keys. Press the MORPH HEAD soft button and confirm that the action is what is required.

CONFIRM

Morph head(s) into Clay Paky ASHPE1200-std

YES   NO   CANCEL
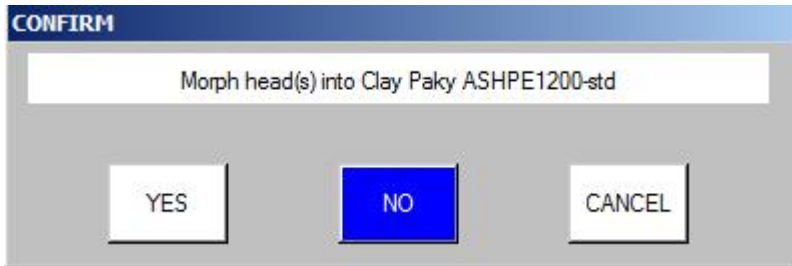
After morphing heads your groups, palettes, and cues will be updated to reflect the new head types.

7.22.1   Morphing Multi Part Heads

From v1.5.1.0 MagicQ supports full morphing between multi part heads, from single part heads to multi part heads, and from multi part heads to single part heads.

When morphing between multi part heads, if the new head has less parts than the original head then the excess parts in the original heads will be ignored. If the new head has more parts than the original head then the excess parts in the new head will be a repeat of the parts from the original head.

This also enables easy changing of mode of multi part heads which was not previously possible – e.g. when changing a Thomas Pixeline from 18 pixel to 9 pixel mode, or when changing a Chromalec Jarag from 25 to 31 channel mode.

7.22.2   Morphing Heads with virtual dimmers

It is possible to morph between heads with inbuilt dimmers and heads with virtual dimmers. For example it is possible to morph a RGB head with an inbuilt dimmer to a RGB head with a virtual dimmer. It is also possible to morph back from a head with a virtual dimmer to one that has an inbuilt dimmer.

7.22.3   Morphing between CMY and colour wheel Heads

When morphing between heads with CMY/RGB and Colour Wheel to heads with only Colour Wheels, MagicQ now converts the CMY/RGB data to Col Wheel rather than trying to map between the Colour Wheels. This ensures that shows programmed with Cues using RGB palettes morph to Col Wheel palettes.

When morphing to heads with greater number of colour wheels or greater number of gobo wheels MagicQ now includes the extra colour or gobo wheels channels in Palettes and Cues where the colour wheels or gobo wheels were previously used. This enables easy updating of shows, for example when changing from heads with only 1 gobo wheel to heads with 2 gobo wheels.

7.23   Importing Heads

A quick way of patching heads is to import the heads from a file. MagicQ supports comma separated variable files (.csv) which can be from Visualisers like WYSIWYG and VectorWorks or generated manually from spread sheets and text editors.

In Patch, View Chans press the IMPORT HEADS soft button and select a file in .csv format. MagicQ auto detects the contents of the file recognising formats from Capture, WYSIWYG and VectorWorks.

Fixtures must have a DMX address or MagicQ may not be able to patch them. If no DMX address is provided then MagicQ will check the head number to see whether there is a fixture already patched with that head number that matches the requested number of channels. If no match is found MagicQ will choose a spare DMX address to patch the head.

If a Head is already allocated at the required DMX address then MagicQ will not patch a new head - however it will import Visualiser XYZ data if available.

If no Head at the DMX address or head number is found then MagicQ will attempt to match the Headtype provided.

In WYSIWYG they need to have an Address and Universe in the Fixture Properties dialog however there do not need to be any devices mapped in the device manager,

7.23.1 Supported column headings

MagicQ supports a large number of column headings and will attempt to detect the contents of the file - e.g. whether it has come from a specific Visualiser such as Capture, WYSIWYG, VectorWorks, or whether it is just a head list.

The column heading is the first row in the file, except in the case of Capture where the first rows are "Channel Report" - MagicQ skips these and expects the next row to be the column headings.

Column headings are case insensitive.

The file can be delimited by semicolons (;) instead of commas (,). MagicQ detects the first occurrence of either to choose which is the delimiter.

The column headings supported are:

Column Heading	MagicQ Function	Comment
Head no,Headno,Hdno,Headnum,Channel,Spot	Head No	
Head name,Hd name,Headname,Hdname,Purpose	Name	
DMX,DMX no,DMXno,DMX num,DMX num,DMX,Patch,Patch Address,Patch Universe	DMX	Patch Address and Patch Universe used together
Manufacturer,Man	Manufacturer	Tries to match MagicQ manufacturer
Type,Head type,Headtype,Hd type,Hdtype,Fixture,Instrument Type	Head Type	Tries to match standard MagicQ names, Capture, Wyg names
gel,colour,filter	Gel	Gel number - starting with L for Lee, R for Rosco. Otherwise MagicQ colour numbers
Pinv,P inv,Pan inv,Paninv,Pani,Pan i	P Inv	
Tinv,T inv,Tilt inv,Tiltinv,Tilti,Tilt i	T Inv	
Swap,Flip	Swap	
Chans,Num chans,Numchans,# of Data Channels,Num channels	Num Of Chans	Used for checking type/mode
X,X Location	X Pos	
Y,Y Location	Y Pos	Note for Wyg/VectorWorks Y is treated as MagicQ Z Pos
Z,Z Location	Z Pos	Note for Wyg/VectorWorks Z is treated as MagicQ Y Pos
RotX,X Rotation	X Rot	
RotY,Y Rotation	Y Rot	Note for Wyg/VectorWorks RotY is treated as MagicQ Z Rot
RotZ,Z Rotation	Z Rot	Note for Wyg/VectorWorks RotZ is treated as MagicQ Y Rot

X, Y and Z position in MagicQ default to metres - this is the recommended values for import. When MagicQ imports from CSV it checks the range of X,Y and Z position values and then auto detects the scale. For example, if the positions where in millimetres - e.g. 7000,1000 - MagicQ would divide by 1000.

7.23.2 WYSIWYG

WYSIWYG R38 can export the positions and rotations of fixtures so that they can be viewed in MagicVis.

The columns "# of Data Channels" and "Fixture Options" or the columns "Hookup" and "Circuit Name" must be present for MagicQ to detect it as a WYSIWYG file and import the patch correctly.

To get the fixture rotation correct go to the Data→Spreadsheet view in WYSIWYG, then click on OPTIONS → View. In the *View Options* dialog select the *Data Options* tab and ensure that the *RotX*, *RotY*, and *RotZ* columns are checked. Click *OK* then select FILE → Export and select *.CSV* to export the data. The data can then be imported into MagicQ.

If the DMX Universes are named numerically (for example *1* or *21*) then they will be assigned to that MagicQ universe.

MagicQ will automatically swap Y/Z positions and rotations when importing WYSIWYG files.

7.23.3 VectorWorks

VectorWorks can output csv files with all the fixture parameters.

The columns "Channel" and "Symbol Name" must be present for MagicQ to detect it as a VectorWorks file and import the patch correctly.

The below table shows the exported column heads from VectorWorks required and their function within MagicQ

Vector works Column Heading	Comment
Instrument Type	this should be fixture manufacturer followed by_name separated with an underscore e.g. "Clay Paky_GoldenScan3"
Num channels	the number of channels in the fixture
Universe	should be a number starting at 1 for the first universe
Adress	should be a number between 1 and 512 to indicate the DMX address within the universe
Channel	should be a number between 1 and 65356 to indicate head number
Purpose	a text field that if present will be used as the Head Name in MagicQ
X Position	should be in metres - e.g. 1.1 represents 1.1 metres. MagicQ will attempt to scale if it detects large values - e.g. if the positions are in millimetres
Y Position	should be in metres - e.g. 1.1 represents 1.1 metres. MagicQ will attempt to scale if it detects large values - e.g. if the positions are in millimetres
Z Position	should be in metres - e.g. 1.1 represents 1.1 metres. MagicQ will attempt to scale if it detects large values - e.g. if the positions are in millimetres
X Rotation	should be in degrees
Y Rotation	should be in degrees
Z Rotation	should be in degrees

Where possible X,Y,Z position should be in metres - e.g. 1.1 represents 1.1 metres. MagicQ will attempt to scale if it detects large values - e.g. if the positions are in millimetres.

MagicQ will automatically swap Y/Z poitions and rotations when importing VectorWorks files.

7.23.4 Creating a head list

To create a CSV file from Excel use Save As,Other Format, Comma Separated Variable (.csv).

The first row of the file indicates which columns are present in the file. The next rows of the file contain the data for each head.

Headno,Headname,Dmxno,Headtype,Gel,Pinv,Tinv,Swap 0001,Spots,1-001,Generic_Dimmer,No col,no,no,no 0002,Spots,1-002,Gener col,no,no,no 0003,Spots,1-003,Generic_Dimmer,No col,no,no,no 0004,Spots,1-004,Generic_Dimmer,No col,no,no,no 0005,Finger L,1-005,Generic_Dimmer,R59 Indigo,no,no,no 0006,Finger L,1-006,Generic_Dimmer,R312 Canary,no,no,no 0007,Finger L,1-007,Generic_Dimmer,R356 Middle Lavender,no,no,no 0008,Finger L,1-008,Generic_Dimmer,R27 Medium Red,no,no,no

7.24   Exporting Heads

MagicQ can export the contents of any window to CSV format and includes options to select which fields are exported. To export the Patch this way open the Patch Window, View Heads and from the toolbar select File and Print Window, select the required fields and then press Create CSV.

In older versions of MagicQ there was only the option to export with fixed column headings of Headno, Headname, Dmxno, Headtype, Gel, Pinv, Tinv, Swap. In Patch, View Chans press the EXPORT HEADS soft button. MagicQ asks for a file name and will save the file in the show folder.

7.25   VL5 type channels (split personalities)

MagicQ supports heads such as the Vari-lite VL5^{TM} where the head functionality is split between different non-contiguous DMX addresses.

The personality for the main channels in the head includes the extra channels. The extra channels are then patched separately and set to have their levels copied from the main channels.

For example for a VL5, patch the VL5 to the required DMX address for the main head. This will include a dummy dimmer channel.

In Patch, View DMX set the address of the real dimmer channel in the second DMX field.

7.26   Merging with DMX input

MagicQ supports comprehensive merging of data from each of the input and output universes. Any output channel can be set to output data from any received input channel, or to merge the two.

In addition channels can be configured so that they are passed through transparently unless MagicQ is controlling the channel from the programmer or a playback. This provides a powerful over-ride mode.

To set a channel to output data received as input from another channel set the Merge field to "Input" and the From field to the channel number you wish to get the data from.

You can easily set up a large number of channels by using SHIFT and the cursor keys to select multiple channels.

You can also set up a channel so that it outputs data from an input channel except when that channel is being controlled by a playback or the programmer. Set the Merge field to "Over".

To HTP merge the output with the received input use the "Merge" option.

The "Mult" option enables another channel on the console to control the level of the output of the channel- this is useful with RGB LED heads where you wish to make another channel control the overall level of the RGB.

The "Mul-In" option multiplies the received input with the calculated value for the channel. MagicQ can therefore be used as a DMX modifier to modify the level of individual or groups of channels.

It is possible to set multiple channels all to copy or multiply by one channel. Use SHIFT and the cursor keys to select all the required channels and enter <chan> / 0.

7.27   Customising Locate, Default, Highlight and Lowlight values

MagicQ allows the user to define the Locate, Default, Highlight and Lowlight values for each attribute of each patched heads.

The Locate values are the values that are used when the Locate button is pressed. The Default values are the values that are output when a channel is not in the programmer and no playback is controlling a channel. Note that the Setup Window option "Unused chans return to defaults" must be enabled for this mode of operation.

The Hightlight and Lowlight values are used when Highlight Mode is set to one of the Advanced modes.

By default, the Locate values and Default values are taken from the personality of the patched head – these typically put the position to centre, beam open, colour white and intensity at full.

These values can be re-programmed by creating a Cue that represents the desired Locate Values and/or a Cue that represents the desired Default Values. For Highlight and Lowlight create a Cue that represents the desired Highlight or Lowlight values.

Simply record a Cue into the Cue Store and then press the SET LOC CUE, SET DEF CUE, SET HIGHL CUE, SET LOWL CUE soft buttons. The Cue is indicated as Default, Locate, Highlight or Lowlight by a D, L,H or Lo after the Q number.

Only one Cue can be set for each type - however one cue can be set for more than one type – e.g. one Cue can be set for both the Default Cue and the Locate Cue.

It is not necessary to program all the different attributes into the Locate, Default, Highlight or Lowlight Cues. Simply program the values that you want to be different from normal operation. For instance to record a default position with all heads positioned towards FOH position, simply record a Cue with the FOH position data and press the SET DEF CUE soft button.

If you wish to change the Locate, Default, Highlight or Lowlight Cue then simply re-record the Cue. If you update Palettes used in the Cue, or modify the Cue directly from the Cue Window then you may need to reset the Cue in the Cue Store before the change takes place. Press the CLEAR DEF CUE and SET DEF CUE for the desired Cue.

7.28   Theatre Patch syntax

MagicQ supports a Theatre Patch option which changes the syntax used for patching to simplify patching (and re-patching) of large numbers of dimmers.

The option is enabled in Setup,View Settings, Keypad, Keypad Syntax Theatre Patch. When this option is set to "yes" the keypad can be used to patch a dimmer or moving light directly to a DMX address and head number – e.g.

10 @ 2 – 5 will patch head number 10 to Universe 2 channel 5.

7.29   Virtual Dimmers

MagicQ enables LED and other heads with colour mixing but no dimmer channel to have an associated virtual dimmer. This allows the LED heads to be used as simple RGB fixtures with a dimmer. This development does not affect the internal pixel mapping (Bitmap FX) which already has a virtual dimmer.

To add a virtual dimmer channel for a LED head (i.e. a head without a dimmer) simply patch a generic dimmer and set the head number to the same head number as the LED head. The generic dimmer will then be shown with a 'v' after the head number to indicate the association with the LED fixture. The LED head will then appear with a dimmer in the Intensity, Group, Outputs and Programmer windows.

Note that virtual dimmers will only work if there are only 2 heads with the same head number – if there are more than 2 heads with the same head number then each head will be treated as a separate head.

When MagicQ assigns a virtual dimmer in this way, in the Cue Engine it takes the value of the RGB (CMY) attributes from the playbacks and programmer and then scales these values according to the value of the virtual dimmer channel.

Virtual Dimmers take effect at the Patch level rather than at the Programmer level. This means that the Output Window, View Heads will show the virtual levels on the RGB channels (i.e. the RGB levels before the virtual dimmer is applied).

The Outputs Window, View Chans, View DMX will show the actual levels output to the RGB channels (i.e. the level after the virtual dimmer is applied).

The full head can be selected using the head number. The title bar of the Group, Pos, Colour, Beam windows will show +v for each head with a virtual dimmer.

7.29.1   Quickly adding Virtual Dimmers to patched heads

It is possible to add virtual dimmers to a head in the Patch, View Heads view using a single action. Place the cursor on the head you wish to add a virtual dimmer for and then press SHIFT and ADD VDIM. You can use SHIFT or CTRL + the cursor keys to select multiple heads.

Virtual dimmers can only be added to heads that do not have an intensity channel. For heads with multiple RGB elements, a virtual dimmer will be made for each RGB element.

Virtual dimmers added in this way will appear unpatched. Note that virtual dimmers take up channels from the total channel count.

It is possible to hide the virtual dimmers from the Patch View using Setup, View Settings, Cue Storage, Hide Vdims. In this case the virtual dimmers are not shown as separate heads in the Patch View. Instead the head with the virtual dimmer shows a +v in the Head No field.

Virtual dimmers can be removed from a head by pressing SHIFT and REMOVE VDIM.

7.29.2   Heads always with virtual dimmers

It is possible to make heads that automatically patch a virtual dimmer. In the Head Editor, View General, Options there is an option "Virtual Dim". If this is set to "yes" and the head has no dimmer then a virtual dimmer is automatically patched for this head.

The MagicQ head library includes a mode of LED3chan with a virtual dimmer.

Note that Virtual Dimmer is distinct from Virtual Channels where all the channels of the head have separate DMX addresses.

7.30   Patch Head Filtering

In Patch, Choose Head it is possible to filter personalities by type, making it easier to find the personalities required. Filter options include All, Patched, Live, Club, Film/TV and User.

Patched enables users to see which heads are patched in the current show and to re choose them easily.
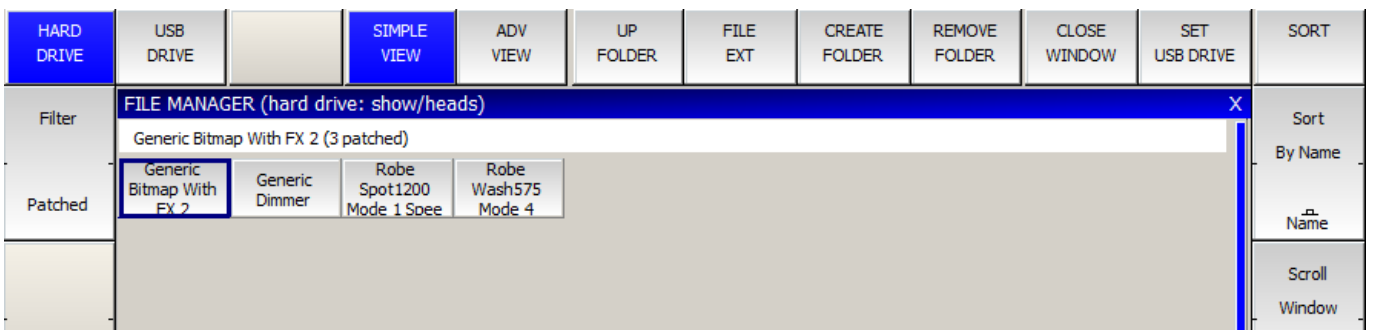
Users can tag heads that they use frequently so that they appear in the User filter. This could be used for example to include all heads in the stock of a rental company.

Heads can be tagged and untagged in both Choose Head, Simple View and Choose Head, Adv View. In Simple View you can tag all heads from a particular manufacturer, or all modes of a specific head. In Adv View you can tag individual modes of a head.

In Adv View the Tag column shows a "U" for all heads tagged as user.

MagicQ stores a file of all tagged heads in the heads folder called userheads.csv. It is possible to create or edit this file with a text editor/spreadsheet. The format is:

<manufacturer> , <short name> , <mode>

7.30.1 Duplicated elements operating independently

Duplicated heads can operate in a Duplicated or Independent Mode in the Patch, View Heads view - scroll to the right to find the "Independent" column. This is useful when you wish to record different elements into different playbacks and mix them together - the elements will operate as if they were separate heads. Independent mode is supported from v1.7.9.6.

When set to "Ind", all elements act independently. When selecting a complete head all elements are made active in the programmer and programmed into Cues. When selecting elements of a head using the dot (.) syntax only the selected elements are made active in the programmer and programmed into Cues. FX can operate across all elements either in sync or offset across the elements.

When set to "Dup", elements 2 and above are duplicated from element 1 when they are not explicitly in the programmer or active on a playback. This provides a simple programming mode where the head generally operates as a single element. FX can operate across all elements either in sync or offset across the elements. Using the dot (.) syntax different levels can be programmed for the different element into a single Cue.

The default for this field comes from the Head Editor where it is possible to set the "Independent" field per channel. When a head is patched, then MagicQ will use the defaults from the Head Editor for each channel - if one or more duplicated elements 2 or above is set as Independent in the personality then the head will show as Independent in the Patch View.

The setting in the Patch window overides the setting in the Head Editor, enabling the option to be set differently per head. Users should change the option in the Patch not in the Head Editor.

Chapter 8

Setting Intensity levels

The intensity level of heads (including dimmers) are controlled from the Intensity Window. Press the INT button to open the window.

8.1   Using the on screen faders

This window displays a fader for each head (including dimmers) patched onto the console. Pressing the slider part of the fader sets the appropriate level. When a fader is moved from 0 the channel in the programmer is activated – and the fader will turn red.
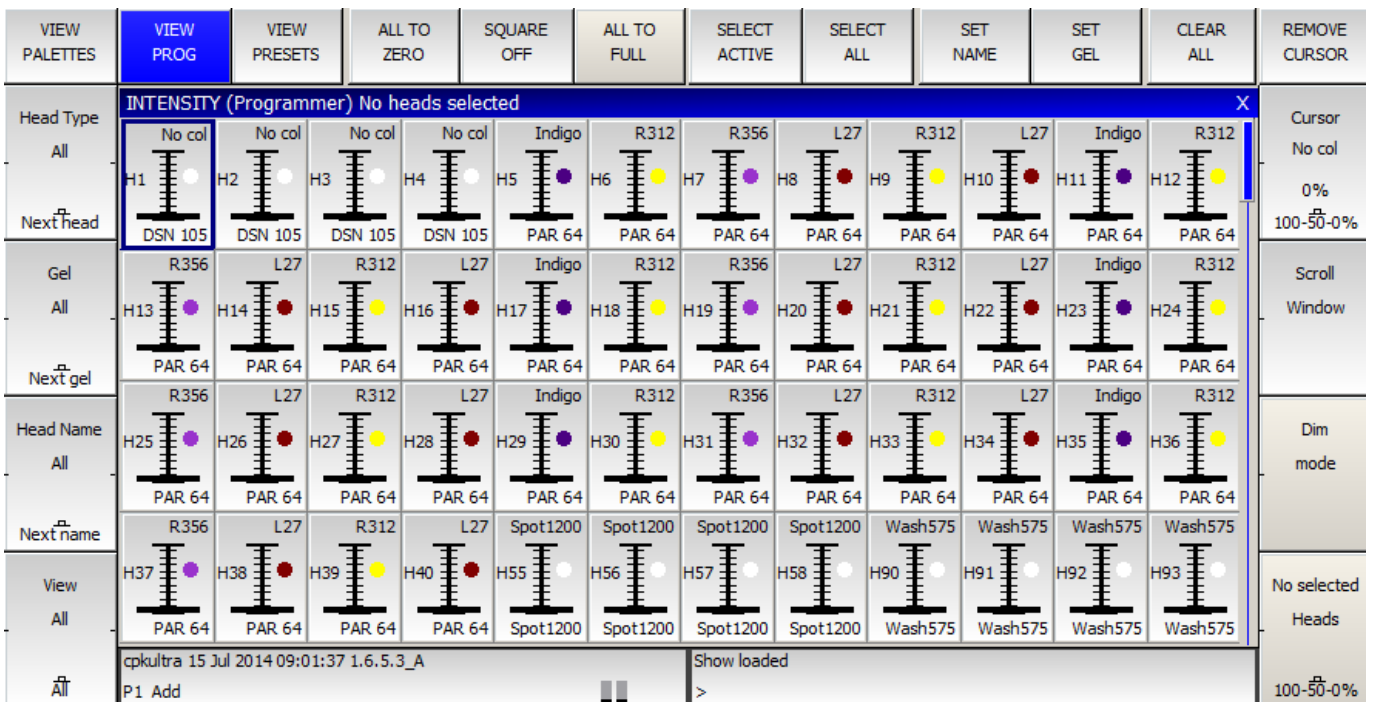
The SQUARE OFF soft button enables fast programming of intensities. Using the touch screen select the channels you wish to have at full and at zero – but don't bother being exactly accurate with the level of the selection. Pressing SQUARE OFF finishes the job by setting all channels that are less than 50% to 0 whilst setting channels above 50% to full.

Use the ALL TO FULL and ALL TO ZERO buttons to change the level of all the channels.

Press SHIFT and SQUARE OFF to invert the faders - all channels less than 50% go to 100% whilst all channels above 50% go to 0%.

Press the CLEAR soft button to clear the programmer.

8.2   Using the encoders

A single fader or multiple faders can be controlled using the top right rotary encoder in the Intensity Window. The encoder controls the fader, which the cursor is over. Selecting a block of faders by pressing the cursor keys whilst holding the SHIFT button down enables multiple faders to be selected.

8.3   Using the keypad

The level of the intensity channel of heads can be set from the keypad. Head numbers are used to reference the required heads.

If you intend to use this method for setting intensities then you should set up the head numbers when patching. It is easy to do - the console can automatically renumber them, or they can be set to be the same as the DMX start address of the dimmer / head. See the section on patching.

Keypad setting of intensities is supported regardless of which Window is currently active.

To set heads 1 to 4 to 40% key in

1 THRU 4 @ 40

To set heads 1 to 4 and heads 8 to 11 to 100% key in

1 THRU 4 + 8 THRU 11 @ FULL

To set heads 1 through 12 but not head 7 to 10% more than their current value key in

1 THRU 12 - 7 @ +10

The console supports theatre style key entry – so you can set head 1 to 40% by typing

1 @ 4 ENTER

and you can set head 1 to 4% by typing

1 @ .4 ENTER or 1 @ 04

Note that if the Setup option "Auto enter on keypad intensity set" option is set, you do not need to press ENTER after you have entered a 2 digit level. The console knows that you are setting an intensity due to the @ key. Valid levels are 0% to 100%.

On MagicQ PC / Mac you can use > to indicate THRU and # to indicate FULL.

8.3.1   Setting fade times from the keypad

Fade times for intensity channels can be entered from the keypad. Ensure that "Auto Enter on Keypad Intensity Set" is set to "No" for this to function correctly.

This can be done when setting levels, e.g. to set heads 1 to 4 at 80% with fade time of 5 seconds:

1 > 4 @ 80 / 5

Or without changing the level

1 > 4 @ / 5

To set a delay time and a fade time (e.g. delay 2 seconds, fade 5 seconds)

1 > 4 @ / 2 / 5

Split fade times can be set from the keypad:

1 > 10 @ FULL / 3 * // Heads 1 to 10 at 100% split times over 3s

1 > 10 @ FULL / 0 > 5 // Heads 1 to 10 at 100% split fades 0s to 5s

1 > 10 @ FULL / 0 > 4 / 1 // Heads 1 to 10 at 100% split delays 0s to 4s, 1s fade

1 > 10 @ FULL / 0 > 5 / 0 > 4 // Heads 1 to 10 at 100% split delays and fades

When using split fade times it is possible to enter max > min as well as min > max.

1 > 10 @ FULL / 4 > 0 / 1 // Heads 1 to 10 at 100% split delays 4s to 1s, 1s fade

8.4 Setting intensity FX from the keypad

IT is possible to set intensity FX "Dimmer chase" directly using the keypad. When setting an intensity level it is now possible to specify a range - for example, to set some channels to run an intensity FX between 10% and 20% this can be set from the keypad:

@ 10 THRU 20 ENTER

Note that for this syntax to be accepted the Setup, View Setting, Keypad & Encoders, "Auto enter on intensity set" must be set to "No".

If the channels already are part of an intensity FX in the programmer then the size of the channel within that FX will be modified and an according change to the base level of that channel in the programmer. If the channel is not part of an intensity FX then if there is already a "Dim chase" FX in the programmer the channel will be added to that FX. If there is no "Dim chase" FX in the programmer then one will be added with this channel.

Once a channel has a FX in the programmer it can not be removed using the keypad syntax - however it can be set to a zero FX (i.e. has no effect) by setting the channel using a fixed range - for example @ 20 THRU 20 will set it to 20% with a zero size FX.

It is also possible to directly add the FX by entering this syntax directly into the Intensity value fields in the Programmer, View Levels view. This view will also show the min and max levels when a FX with a size greater than 0 is in the programmer. This only affects Intensity attributes - it is currently not possible for any other attributes.

8.5 Multi Element Heads

From software version 1.6.5.1 the "." operator is now universally used for selecting elements of multiple heads. The repeated element of a multiple head are indexed .1 .2 .3 etc.. whilst the main part of a multi element head in indexed as .0. Note that if a multi element head does not have a main part - i.e. it is just a repeated head then there is no .0 element. The operators +, -, and THRU (>) can be used to select more than one element of a multi element head. Only one . is supported per command.

Examples of supported syntax are:

. 3 // Select 3rd element of currently selected heads . 1 > 3 // Select 1st, 2nd and 3rd elements of currently selected heads . 1 + 4 // Select 1st and 4th elements of currently selected heads

1 > 10 . 1 @ FULL // Set element 1 of heads 1 to 10 at FULL 1 > 10 . 1 > 3 @ 50 // Set elements 1,2,3 of heads 1 to 10 at 50%

Depending on the MagicQ setup options, it may be necessary to enter @@ at the end of the line to select heads or to press ENTER at the end of the line to enter intensities.

MagicQ now supports the multiple elements of a multi element head all having the same head number. By default MagicQ allocates each element of a multi element head ascending head numbers - this can be modified in Patch, View Heads by setting the Head Number appended with /1 to indicate only 1 head number in use for that fixture.

Note that prior to v1.6.5.1 the "." was used for selecting or setting intensity direct to a DMX channel rather than a head number. This functionality is no longer supported - see below.

8.6 Setting intensity levels for DMX channels

To set a DMX channel intensity rather than a head number intensity precede the dmx number with a *. For example to set DMX channel 1-50 to FULL, type * 1 . 50 @ FULL

8.7 Using Selected Heads

When you use the keypad to modify heads, by default this does not modify which heads are selected. This ensures that you can be busking moving heads whilst modifying individual dimmer levels at the same time.

However, at any time you can set the levels of the intensities of the currently selected heads using the keypad. To set the selected heads to 70% key in:

@ 70

This method also supports standard key entry syntax such as + and – for relative changes.

You can change which heads are selected at any time through the Group Window – see Selecting Heads.

In the Intensities Window you can change which heads are selected by moving the cursor to a fader and pressing ENTER. You can also select/deselect heads by holding down SHIFT and selecting faders. When faders are shown with a thick stem they are selected. Holding SHIFT and pressing the fader toggles the selection of the fader.

In the Intensities Window press SELECT ACTIVE or SHIFT and SELECT NON ZERO to select the heads you have modified – this can be useful for creating groups.

8.8 Using gel colours in the Intensity Window

Programming time is significantly improved by making use of the gel colour facility built into the console. Assigning a colour to each dimmer is quick and easy and then enables the programming of scenes based on colours. In the Intensity Window the dimmers can be selected on a per colour basis, thus easily enabling the operator to identify the colour and position of the lamps to program into each scene.

First ensure that each Dimmer has been given a name and a gel colour. This can be carried out either from the Patch Window or from the Intensity Window.

To name a Dimmer in the Intensity Window, either:

- Type in the name on the external keyboard and then press the SET NAME soft button.

- Press SET, then type in the name on the screen keyboard. Then press the SET NAME soft button.

To set a Gel Colour in the Intensity Window, either:

- Type in the colour number on the keypad. Press the SET GEL soft button. Note that colour numbers are assumed to be Lee – proceed the colour with a dot for Rosco colours.

- Type in the colour name (or part of it) on the external keyboard and then press the SET NAME soft button.

- Press SET, then type in the colour name (or part of it) on the screen keyboard. Then press the SET NAME soft button.

Note, you should not press ENTER in any of the above operations as this will try and use the text or number you have entered to set the level for the fader which the cursor is over.

8.8.1 Programming of Dimmers using gel colours

In the Intensity Window you can filter out faders based on gel colour, head type and head name thus providing a view of only the data you are interested in at the time.

Use the top three left rotary encoders / soft buttons to page through head types and gel types. The display will show only the heads and colours that match the selection.

At any time press the VIEW ALL soft button to revert to viewing all faders regardless of head type, head name and gel colour.

Pressing the ALL TO ZERO and ALL TO FULL soft buttons only affects the faders that match the selected filter. So for example in order to set all the red lamps to full, page through the gel type till you reach RED and then press ALL TO FULL.

Remember that although you only view the gel type that you have requested there may be other gel types that have been previously activated in the programmer. Press CLEAR before starting programming a new look.

8.9   Setting levels whilst running a show

The Intensities Window supports two fader views - Programmer View and Presets View. The faders in each of these views behave differently. In the Programmer View the faders control values within the programmer whilst in the Presets View the faders act like individual preset faders. Intensity channels are generally configured to be HTP so the level of a particular channel will be a combination of the faders in the two views - the highest of the two faders.

It is important to understand the distinction - preset faders do not affect the contents of the programmer and therefore can not be used for programming Cues.

When programming a show you should always use the Programmer View. When playing back a show you may wish to use the Presets View - this has the advantage that since it is not part of the programmer, fader values are not affected by actions on the Programmer such as CLEAR. You could, for example, add in some face lighting from some profiles using faders in the Presets View which would not be affected by effects that you are busking on some moving heads.

Faders in both the Programmer and Presets Views are affected by the level of the Grand Master. They are also affected when a SWAP button is pressed - any HTP channels in the Programmer or the Presets View will be reduced to zero.

8.10   Viewing Intensities in the Outputs Window

The Outputs Window includes a View for showing the intensities of all patched channels in a theatrical manner with channels and percentages. Open the Outputs Window by pressing the Out button and select the View Chans soft button.

Chapter 9

Controlling Attributes

MagicQ supports many different ways of modifying the values of attributes for moving heads - using encoders, using buttons, and using the touch screen.

In order to control intelligent heads it is necessary to be able to select which heads to use. MagicQ keeps track of the currently selected heads to enable it to determine which heads to apply changes to. You can select heads individually or can use groups to recall configurations of heads that are used frequently.

9.1 Selecting Heads

MagicQ automatically generates a group for all the heads of a particular head type. In addition new groups can easily be recorded.

The Group Window has two views. VIEW GROUPS enables selection of heads using groups whilst VIEW HEADS enables individual selection of heads.

In VIEW GROUPS, pressing the touch screen for a particular group selects all the heads associated with that group. All other heads are deselected.

In VIEW HEADS, individual heads are selected by pressing the touch screen. All other heads are deselected. Use PG UP and PG DN to scroll through the heads. To select multiple heads hold SHIFT and press a head. The head will be toggled in and out of selection.

9.2 Using Groups

Once a group has been recorded, then pressing the touch screen for the group will make all the heads in the group selected. All other heads will be deselected. To select multiple groups press SHIFT and a group to toggle the group in and out of selection. (Note that you can change an option in the Setup Window to enable multiple groups to be selected without pressing SHIFT.)
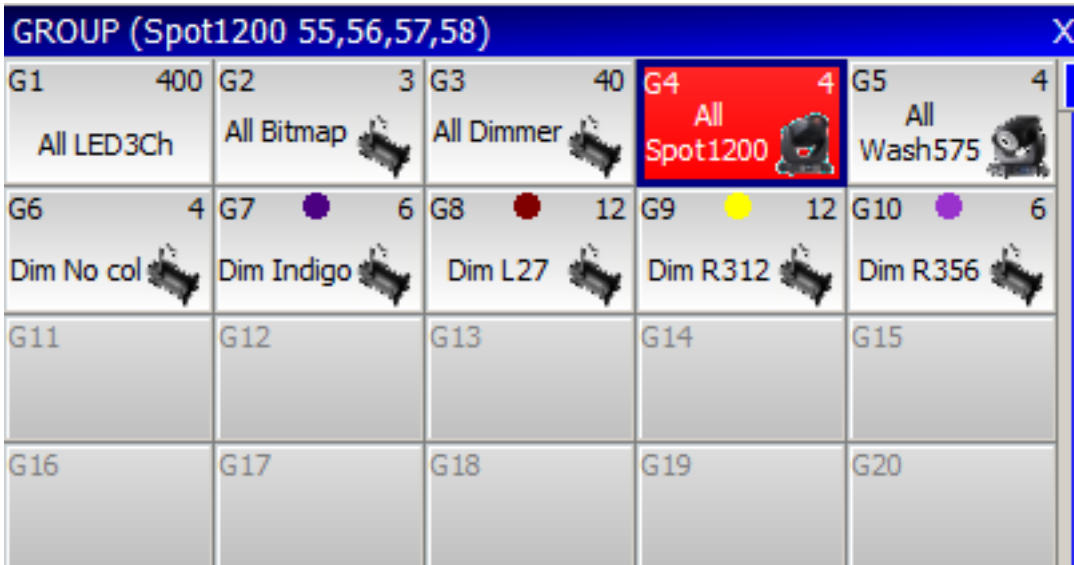
When in the VIEW GROUPS view you can also use the keypad to select a group - simply enter the group number. You can use + and - to select multiple groups.

Pressing + before a group is selected adds the group to previously selected heads, i.e. the heads in the group are all selected as before, but other heads are not deselected.

For example to select groups 1 and 3 press

1 + 3 ENTER

To deselect group 4 from the selection press

- 4 ENTER

MagicQ generates groups for each head as they are patched. In addition MagicQ can generate auto groups based on gel colour and head name.

9.2.1   Recording a Group

Select the heads you want in a group in the VIEW HEADS view of the Group Window.

Change to the VIEW GROUPS view.

Press RECORD and then select the group you wish to record either by pressing the touch screen or by using the cursor keys and then pressing ENTER.

9.2.2   Naming a Group

When recording a group, if you key in a name before pressing the touch screen (or pressing ENTER) then the group will be named at the same time as it is recorded.

You can name a group at any time by keying in the name, pressing SET, and pressing the touch screen.

If you do not have a keyboard then press SET and select the group to name by pressing the touch screen (or using cursor keys and ENTER). A keyboard window will be displayed for you to enter the name on screen.

9.2.3   Setting Group Icon or Col Tag

Set a Icon for a Group by pressing SHIFT and SET and then selecting the Group item to set an icon to. The File Manager will be opened with a list of icons.

It is possible to show Col Tags associated with each Group. In Setup, View Settings, Windows set the Col Tag to Fixture Type - this will automatically show a different colour tag for each type of fixture. Alternatively set the Col to Patch. This will then use the Col Tag assigned in the Patch to the first head in the Group.

9.3   Selecting Heads using the keypad

Heads can be selected based on the head numbers of your dimmers / moving lights - if you intend to use this method then you should set up the head numbers of your lamps when patching. It is easy to do; MagicQ can automatically renumber them, or they can be set to be the same as the DMX start address of the dimmer / head. See the section on patching.

By default on MagicQ the keypad is used for many functions including selecting heads, settings times, editing fields in spread sheets. This is different to some other consoles which primarily use the keypad for selection of heads. On MagicQ it is possible to select heads directly form the keypad at any time by entering the head numbers terminated by @@.

9.3.1   Selecting Heads on the keypad using @@

To select heads 1 to 4 key in

1 THRU 4 @@

To select heads 1 to 4 and heads 8 to 11 key in

1 THRU 4 + 8 THRU 11 @@

To select heads 1 through 12 but not head 7 key in

1 THRU 12 - 7 @@

To select all heads of a certain type without specifying the entire range use

1 THRU @@

This selects all heads of the same type as head 1 starting at head no 1 in ascending head order until it reaches a head that is not of the same type.

At any time you can select all of the heads of a particular type (regardless of head no) by selecting one of the heads and then using SHIFT ALL

1 @@

SHIFT ALL

Note that on MagicQ PC you can use > to indicate THRU.

@@ 0 deselects all heads.

To sub select an element of a multi element head use the dot operator, for example head 1 element 2.

1 . 2 @@ . 3 @@ // Select 3rd element of currently selected heads . 1 > 3 @@ // Select 1st, 2nd and 3rd elements of currently selected heads . 1 + 4 @@ // Select 1st and 4th elements of currently selected heads .> @@ // Select all duplicated elements of currently selected heads . @@ // Cancel selection of duplicated elements - revert to normal head selection

9.3.2   Selecting heads on the keypad without @@

It is also possible to set the Setup Option "Keypad always select head". In this mode entering numbers on the keypad always selects heads – however, to perform other operations, like editing fields in the spread sheet views, you need to press the SET button first.

An alternative to using @@ is to use @ ENTER. This is only supported if the Select heads on intensity set option is set. This method works by detecting @ in the keyboard input and instead of passing the input to the active Window it attempts to parse the input as setting intensities for / selecting heads.

When selecting Colour, Beam or Positions the @@ can be replaced by COL, BEAM or POS if you set the Select Heads and Palettes from keypad Setup option. For example:

1 > 4 COL 5 ENTER

Selects heads 1 to 4 and applies Colour Palette 5.

9.3.3 Remove Dimmer (Rem Dim) Function

The keypad now supports functionality to enable selecting of individual selections of heads and automatically setting all other heads to zero intensity – this is similar to the "Rem Dim" function found in some other theatre consoles. After selecting heads or setting intensities for heads, type - -.

For example, 1 THRU 4 @ FULL - - will set heads 1 to 4 at full intensity and all other heads in the programmer will have their intensity set to zero.

4 THRU 8 - - will bring heads 4 to 8 at full intensity into the programmer, whilst all other heads in the programmer will be set to zero intensity.

9.4 Selecting heads using the rig plan view

Heads can be selected from a plan of the rig in the View Plan view of the Outputs window. See Plan View.

9.5 Head Macros

MagicQ loads macros for the head from the personality file. Typical macros are "Lamp On", "Lamp Off" and "Reset" - however they are very head dependent.

The "Lamp On", "Lamp Off" and "Reset" macros can be run at any time by using the following short-cuts:

SHIFT + LOCATE Lamp on selected heads

CTRL + LOCATE Reset selected heads

CTRL + SHIFT + LOCATE Lamp off selected heads

Other head macros can be accessed in the Macro Window - press the HEAD MACRO soft button. A list of the available macros is displayed. Select the macro you wish to run. Progress of the macro is shown in the Input Display.

It is also possible to lamp on or off all fixtures from the MACRO window.

VIEW MACROS	VIEW DATA	VIEW AUTOM	INBUILT MACRO	SET TIMING	START MACRO	END MACRO	ASSIGN MACRO	DEASSIGN MACRO	LAMP ON ALL	LAMP OFF ALL	HEAD MACROS

9.6 Locating Heads

The first action you are likely to want to do is to locate the heads – i.e. to put them into a starting position. Select the required heads and then press the LOCATE button.

Pressing LOCATE, locates all the selected heads. LOCATE places all the attributes of the head into the Programmer at their default values. The personality data for each head specifies what happens to a head when it is located. Typically the shutter is opened, the dimmer is set to 100% and pan and tilt are set to the centre position.

You can locate individual attribute types by holding one of the Pos, Col, Beam or Intensity buttons and pressing LOCATE. Only attributes of that type are located and placed in the Programmer.

9.7 Modifying Attributes

Intelligent heads have several different attributes typically including pan and tilt, colour, gobo and iris. When MagicQ patches an intelligent head it maps the head parameters to standard attributes to enable easy access of the features of the head.

Attributes are categorised into four types – Intensity, Position, Colour and Beam. On MagicQ there is a window for each of these attribute types. Select the required heads, then open the required window.

The window enables the control of all the attributes of that attribute type using the eight rotary encoders. In the Beam Window there are more than eight attributes to be controlled – these are accessed using multiple pages of encoders – by pressing the PAGE 1, PAGE 2, PAGE 3, PAGE 4 or PAGE 5 soft buttons or pressing the BEAM button again.

For indexed attributes such as colour wheels and gobo wheels, the button associated with each encoder can be used to bump the attribute value to the next range. Pressing SHIFT and the button bumps back to the previous range.

In addition the window enables selection of palette values for the attribute type using the touch screen. When heads are recorded the system automatically generates palettes for each attribute type. You can record new palette entries, or modify existing ones as you see fit.

In the Colour Window there is a COL MIX soft button which gives access to libraries of pre-programmed colours. Pressing the COL MIX soft button toggles between the normal palette view and the colour mixing view. In the colour mixing view you can select a colour using the touch screen. The COL TYPE soft button enables the user to choose between the default colour library, the Lee colour library or the Rosco colour library.

To modify a 16bit parameter in high (i.e. 16 bit resolution), hold SHIFT and turn the appropriate encoder.

Layout 1 opens the Group, Position, Colour and Beam windows together.
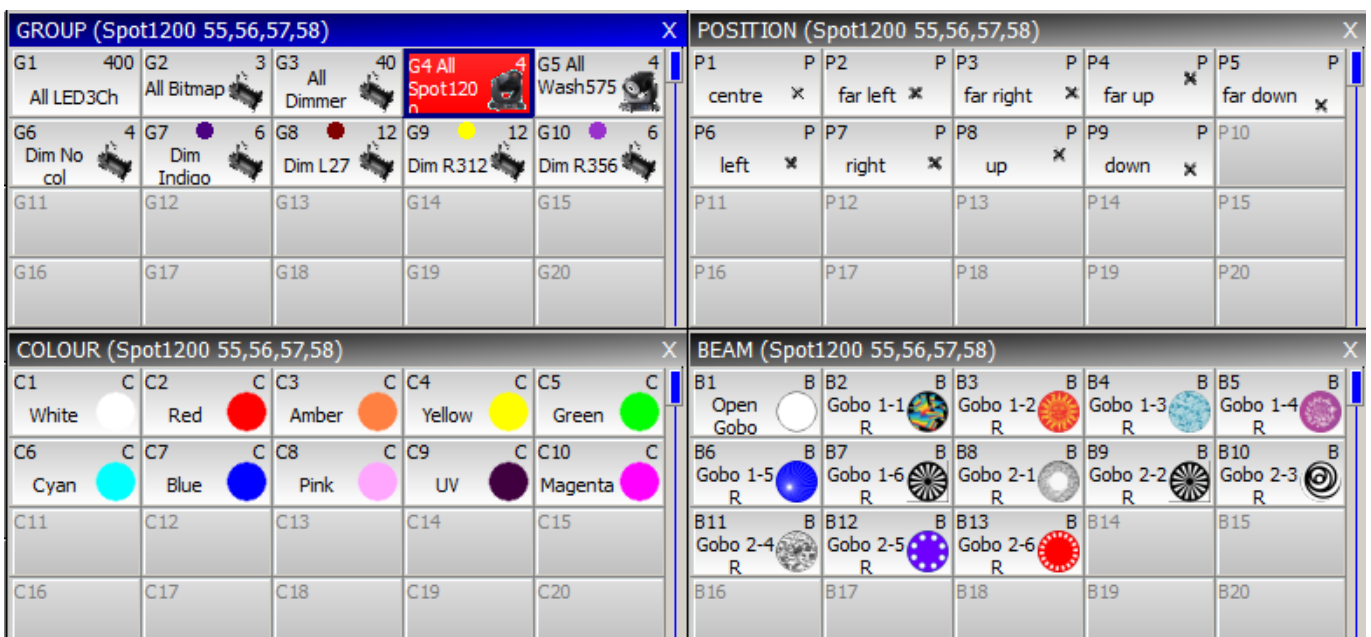
9.8   Using a mouse or track-ball to control pan and tilt

It is possible to use the mouse or trackball for pan/tilt control. Enable the "Enable Mouse to control pan/tilt" option in Setup Window, View Settings.

Press the Right mouse button to enter pan/tilt mode. In this mode the mouse or trackball can be used to control pan and tilt of any selected heads. Press again to return to normal mode.

Support for this function is only available on MagicQ consoles and on MagicQ PC/Mac when connected to a MagicQ PC Wing or MagicQ MaxiWing. It is not available when connected to MagicQ MiniWing or MagicQ USB interface as these products do not have X and Y encoders.

MagicQ consoles support mice and track balls.

9.9   Colour Attributes

In version 1.7.4.4 the colour attributes have been expanded from 8 to 13 attributes to improve the colour model and enable better morphing and control of LED fixtures with white, amber, UV and lime LEDs. The Col Mix attribute has been renamed White and Col 3 has been renamed Amber - this reflects the most common features that have been assigned to these attributes.

The new attributes are CTC, CTO, UVLime, Col5 and Col6. All of the personalities have been processed to ensure that the colours are matched to the correct attribute wherever possible.

The Colour Window now supports two pages of colour attributes. Page 1 is for the core colour mixing - Red, Green, Blue, Amber, White, UV Lime and the main 2 colour wheels Col1 and Col2. CTC and CTO default to encoders A and B on Colour Page 2. Col Macro has been moved from encoder E on page 1 to encoder E on page 2.

The Col Mix option in the personalities (Head Editor, View General, Options tab) has been enhanced to have a RGBW option as well as a RGBA and RGBAW option. RGB heads with white but no amber have been modified to use the RGBW option.

For heads with HSI or HSV models, Hue is always on the Cyan/Red attribute and Saturation is on the Magenta/Green attribute. The Col Mix option is set to HSI to enable MagicQ to recognise these heads.

9.10 Flip / Mirror

Flip modifies the pan and tilt parameters of a moving head so that the beam is positioned in the same place but from the other end of its movement ranges. Select the fixtures and then press the FLIP soft button in the Position Window.

Use the MIRROR soft button in the Position Window to only invert the Pan attribute and not the tilt attribute. On older software versions press SHIFT + FLIP.

The MQ500 includes a dedicated MIRROR button. On Compact consoles (MQ40, MQ60, MQ70) press ALT + FAN.

9.11 Setting attribute values using the keypad

You can set attribute values directly by pressing SET, entering the value on the keypad and then pressing the soft button for attribute in the Intensity, Position, Colour and Beam windows.

9.12 Reversing rotations

To reverse the rotation direction of gobos in the selected heads, hold the MIR button and press the soft button for the rotate attribute (e.g. soft button E and F in beam Page 1).

On MagicQ PC or on systems without a MIR button, press SET and type "-" before pressing the soft button.

Each of the heads will be reversed individually - so if heads have a mixture of clockwise and counter clock wise rotation, then each head will be reversed so that you then have a mixture of counter clockwise and clockwise.

9.13 Selecting individual Heads

When programming it is often useful to be able to control one head out of a group of heads - for instance, in order to set up it's position on the stage. Alternatively you may wish to apply an effect to all the heads, such as fanning the position.

The head control buttons situated to the right of the touch screen enable the individual head to be selected quickly. Once a number of heads have been selected for programming, the head control buttons controls how changes are applied to those heads. By default changes are applied to all the selected heads.

On MagicQ you first select the overall selection of heads you want to control using Groups or keypad selection, then you use the head control buttons to sub-select within that overall selection.

The title bar of the Group, Position, Colour and Beam Windows show the currently selected heads.

9.13.1 Single Mode

Pressing NEXT HEAD, PREV HEAD or SINGLE enters Single mode whereby only one head from the selected heads is sub selected for operation on at a time.

When Single mode is first entered control is given to the first head within the selection – i.e. the first head within the group or the first head the user selected after no heads were selected.

Single mode is indicated by a LED lit on the SINGLE button.

In Single mode changes made by the encoders or through selecting Palettes only affect the one sub selected head. The head is indicated by a * by the head number.

Once in Single mode, the NEXT HEAD and PREV HEAD buttons are used to transfer control between the selected heads. Pressing the ALL button returns the head control area to the default mode whereby all selected heads are controlled.

In Single mode, Locate only affects the sub selected head.

9.13.2 Pair

Pair mode is similar to Single mode except that instead of only a single head being sub selected, a symmetrical pair within the selected heads is sub selected.

Pair mode is indicated by a LED flashing on the SINGLE button.

Pressing NEXT HEAD or PREV HEAD selects the next pair for sub selection. Pressing the ALL button returns the head control area to the default mode whereby all selected heads are controlled.

The MQ500 includes a dedicated PAIR button. On Compact consoles (MQ40/60/70) press ALT + SINGLE to get Pair. On all systems SHIFT + SINGLE will also select PAIR.

9.13.3 Odd/Even

Odd/Even mode is similar to Single mode except that instead of only a single head, half of the heads are sub selected. Odd/Even mode is indicated by a LED lit on the ODD/EVEN button.

Pressing ODD/EVEN selects the odd heads. Pressing NEXT HEAD or PREV HEAD toggles between the odd and even heads. Pressing the ALL button returns the to the default mode whereby all selected heads are controlled.

Holding the ODD/EVEN button brings up the Odd/Even toolbar for quick selection of odd/even or 3s, 4s, 5s. On MagicQ PC/Mac pressing SHIFT and ODD/EVEN opens the toolbar and keeps it open.

Press SHIFT + ODD/EVEN to increase the mode to 3s or more.

9.13.4 Segments

Segments is similar to Odd/Even except that the sub selection is a segment of heads - for example if you have selected 10 heads and then select Seg 3's will sub select the first three heads in the selection. Pressing Next Head will select the next three, then pressing NEXT HEAD again will get the next three, and then pressing NEXT HEAD again will get the tenth head. Pressing NEXT HEAD again goes back to the start with the first three. PREV HEAD works in a similar way but in the opposite direction.

Segments is selected by holding ODD/EVEN to show the ODD/EVEN toolbar and then selecting SEGMENTS.

9.13.5 All

The ALL button is used to return the head control area to the default mode whereby all heads in the current selection are controlled.

Pressing ALL when there are no heads selected causes the selected heads that were active when CLEAR was last pressed, to be reselected.

Pressing SHIFT and ALL selects all the heads of the type last selected.

Pressing CTRL + ALL, or FAN + ALL selects all the heads active in the programmer.

Pressing Next Head and Prev Head reselects all heads in the current selection (like pressing ALL).

9.13.6 Sub selecting Groups

It is also possible to sub select groups. When making a head selection you can choose multiple groups using SHIFT and pressing group items or using the keypad.

To sub select groups, Hold Odd/Even and then select Groups. MagicQ will now sub select heads from the first group. Pressing Next Head moves the sub selection to the next group of heads. Pressing Prev Head moves the sub selection to the previous group of heads.

9.13.7 Sub selecting heads using specific palettes

It is possible to sub select heads from the current selection, sub selecting only the heads using a particular palette and that have intensity greater than 0%.

Hold NEXT HEAD and then select a palette in the Position, Colour, or Beam windows.

9.13.8 Changing Overall Selection order

The order of the overall selection can be changed using the A Soft Button in the Group Window – the options are "Normal", "Reverse", "Into Centre" and "Centre Out".

It is also possible to randomise the overall selection order by holding SHIFT and pressing "RANDOM SELECT". The overall selection order can be randomised multiple times to get different random orders. Note that once the order is randomised it can not be returned to the normal order – to do this you must reselect the overall selection.

Hold the ALL button to bring up a toolbar showing the above options.

9.13.9 Sub selection of heads from Groups / Overall Selection

When you select heads using Groups or the keypad, MagicQ then enables the operation on a sub selection of the main selection using the Next Head, Prev Head, Odd/Even, and All buttons. This enables the user to select a group of heads and work on heads individually without reselecting the heads.

It is possible to sub select heads from within the main selection using the keypad and referring to heads using the index of that head within the overall selection order – for instance, selecting the 1st and 3rd head within the selection, or selecting heads 1 THRU 4 in that selection. The numbers used are the index into the selection order, not the head numbers.

To use this method, select a group of heads, then type the index number followed by NEXT HEAD or PREV HEAD. So to select the 1st and 2nd heads in the current selection:

1+2 NEXT HEAD

Or to the 3rd, 4th and 5th

3 THRU 5 NEXT HEAD

You can select multiple groups as your main selection – so if you have a line of 4 spots and 4 washes you can make a group with of all 8 heads and then access them using the numbers 1 to 8 regardless of their head number.

It is possible to invert the current sub selection - press 0 NEXT HEAD.

Using NEXT HEAD and PREV HEAD without entering a number, operates as normal, selecting the next or previous head within the overall selection.

9.13.10 Sub selection of duplicated elements

In normal operation heads with duplicated elements are treated as if there is only one element of each attribute. MagicQ automatically copies the output from the 1st element to the duplicated elements. This enables the head to be treated in a simple way like any other head.

Sub selection of duplicated elements can be done using the "." operator. The first element in the head is ".1" and the duplicated elements are ".2", ".3" and so on. For heads that have both a main section and duplicate elements (e.g. master colour channels and individual colour pixels) the main element is ".0".

For example, to select the second element of a duplicated head

1. 2 @ @

To select all elements of duplicated heads.

1. > @ @

To go back to normal selection (i.e. no duplicated elements selected)

1. @ @

Note that the @ @ can be replaced by ENTER when the option to select heads from keypad is set. @ @ can also be replaced by NEXT HEAD.

From v1.2.7.1 it is possible to store the duplicated element selection in Groups - so you could make a group with no duplicated element selection and one with all duplicated elements selected. Groups with duplicate element selection show a "." after the number of heads in the top right of the group item. Note that duplicate element selection applies to all selected heads in the programmer and in groups, so it is not possible to store e.g. element 1 from head 1 and element 2 from head 2 in the group.

To make it easier to select all elements of a duplicate head the following shortcuts have been added. When all duplicated elements are selected the head selection text in the Window title bars will show ".all".

9.14 Highlight Mode

Highlight mode is used in conjunction with Single mode and Odd/Even mode. There are four possible modes of operation depending on the setting in the Setup Window of the Highlight Mode - "Normal", "Advanced (highlights/lowlight)", "Advanced Highlight only" and "Advanced, no reset".

In "Normal" mode, the intensities of the selected heads are reduced except for the one (or ones in Odd/Even mode) that are being controlled. Highlighting of the controlled head(s) makes programming of positions much easier.

In "Advanced (highlight/lowlight)" mode, the selected heads are highlighted using the highlight values from the personality. If heads from the current selection are sub selected (e.g. through Single or Odd/Even) then the sub selected heads are highlighted and the remaining heads in the selection are lowlighted.

"Advanced Highlight Only" is the same as above, but no lowlighting occurs. If heads from the current selection are sub selected (e.g. through Single or Odd/Even) then only the sub selected heads are highlighted - all other heads remain at their playback state.

"Advanced no reset" is the same as "Advanced (highlight/lowlight)" but is not cleared when you press CLEAR. Press Highlight again to reset it.

When in Highlight mode the LED on the HIGHLIGHT button is lit - pressing the HIGHLIGHT button again or the ALL button returns the head control area back to the default mode.

9.15   Lowlight function

A lowlight function is accessed by pressing SHIFT and HIGHLIGHT. When active the selected head is lowlighted to the value in the personality. This allows each head in the current selection to be temporarily lowlighted to try to find a particular head – without making a massive change to the current lighting state.

Highlight mode must be set to Advanced highlight/lowlight.

9.16   Reselecting heads using Palettes and Intensities (Active Palette and Intensity)

To reselect all heads using a particular palette, hold ALL and press the palette entry.

<Hold ALL> <Green>

Or use the keypad

<Hold ALL> <COL 5 ENTER>

To reselect all heads at or above an intensity level hold ALL and type the level. Then release ALL or press ENTER.

<Hold ALL> <50 ENTER>

To reselect all heads at a specific intensity level hold ALL and type @ followed by the level. Then release ALL or press ENTER.

<Hold ALL> <@ 60 ENTER>

To reselect all heads active in the programmer

<CTRL> + <ALL>

To select all heads in the current step of a playback

<Hold ALL> <S>

9.17   Fan Mode

The FAN button enables a different mode of operation of the encoders whereby instead of encoder changes being applied to each selected head in a linear fashion, changes are applied in a fan. Positive changes fan the heads apart whilst negative changes fan the heads together. Fan mode cannot be used when Single mode is are active since fanning only makes sense when more than one head is under control.

Pressing and holding the FAN button enters FAN mode temporarily. Releasing the FAN button returns to the normal mode.

When you press and hold FAN you get a toolbar on the screen that gives you direct access to fanning options. On MagicQ PC you can press SHIFT + FAN to bring up the FAN toolbar.

There are 3 types of FAN

Asymmetric (default, as in previous s/w) – fans from centre asymmetric

Symmetric – fans from the centre symmetric

End – fans from the end

It is possible to use "Parts" for fanning parts so that the fan is replicated across the selected heads. For 2's, 3's select the 2 Parts or 3 parts. For higher number of parts, use the N parts option and entering a number on the keypad. In FAN mode the current FAN type and parts is shown in the status display window (Fan-A, Fan-S, Fan-E).

It is possible to use "Segments" for fanning segments – adjacent heads do the same fanning.

It is possible to use "Groups" for fanning. When fanning by groups, the fan is performed on each group in turn as if the group contained the only selected heads. This enables a fan to be simultaneously applied to groups of different sizes.

Fanning by segments overrides fanning by parts. Fanning by groups overrides fanning by parts or segments.

The following short-cuts also work:

Hold FAN + press LOCATE. Returns to default FAN type – asymmetric.

Hold FAN + press NEXT HEAD. Chooses next FAN type.

Hold FAN + press PREV HEAD. Chooses previous FAN type.

9.18   And Only

The AND ONLY (*) function enables selecting of the common heads between groups. It can be used on pairs of groups or on ranges of groups. When selecting a number of groups then the * operator can be used to specify that only the heads that are in both groups are selected.

GROUP 1 * 2 ENTER

This selects heads which are in both groups 1 and 2

And Only can be used with the THRU, + and – operators.

GROUP 1 THRU 4 * 5 THRU 8 ENTER

This select heads which are in one of the groups 1 to 4 and also in one of the groups 5 to 8.

It is possible to use And Only together with the @ operator to set levels directly.

GROUP 1 * 3 @ FULL ENTER

Note that if the option "Select heads and palettes from keypad" is set to "No" – then the * * operator must be used to select groups from the keypad:

1 * 2 * *

1 THRU 4 * 5 THRU 8 * *

1 * 3 * * @ FULL ENTER

Chapter 10

Palettes

MagicQ supports a comprehensive palette system for easy access to your favourite looks. When heads are patched, the console automatically generates palettes for the patched heads.

There are four types of palettes corresponding to Intensity, Colour, Beam and Position. Each palette supports up to 1000 different entries.

10.1   Using Palettes

To use a palette, select the heads you wish to apply the change to. Then open the required palette by selecting one of the Intensity, Colour, Beam or Position Windows.

From within the window select a palette entry. That palette entry will be applied to all the selected heads.

In the Beam Window the first 5 soft buttons above the touch screen are used for selecting the Beam Page 1 to 5 – the rest of the soft buttons are used for selecting the palette entries.
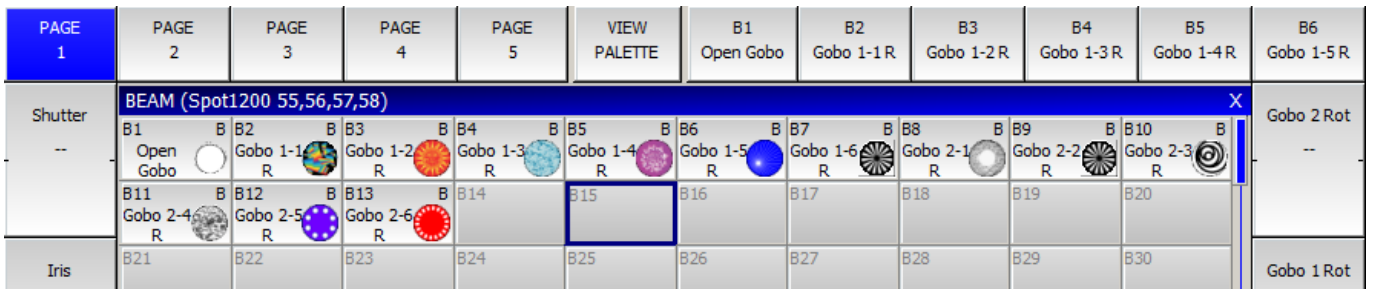
Palette entries that contain data for the currently selected heads are shown in white. Palette entries that do not have any data for the currently selected heads are shown in grey.

In the Colour Window the top soft buttons Col Norm, Col CMY, Col RGB and Col HSI determine how the colour mix encoder wheels are used to modify the colour.

Col Mix is used to select between Palettes and the Lee, Rosco and Generic colour charts and also to select the colour mixing rainbows.
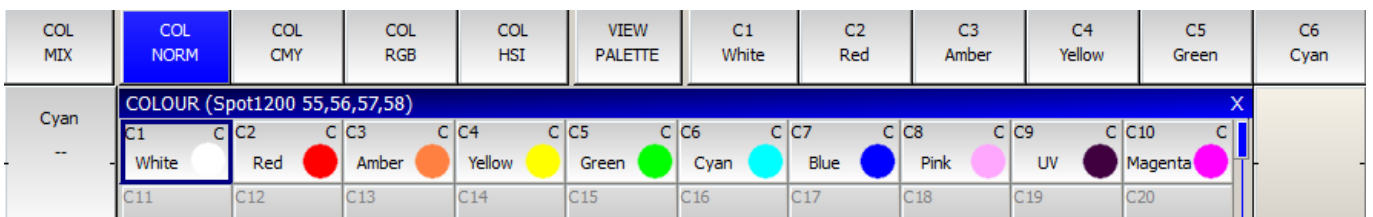
10.2   Recording Palettes

To record a palette entry, select the heads you wish to apply the change to. Then open the required palette by selecting one of the Intensity, Colour, Beam or Position Windows.

Modify the attributes of the heads until you are happy with them. Then record the palette entry by pressing RECORD and then selecting the palette entry in the window.

When you record a palette entry that has already been used in programming of Cues and Cue Stacks then the Cues and Cue Stacks will be updated to reflect the changes. This is useful, for example, for touring shows that play many different venues. If the Cues use positions from the Position palette, then each day it is only necessary to change the palette entries, rather than having to re-record all the Cues.

When palettes are recorded, only the attributes appropriate to the palette are recorded. So when recording to the colour palette, only colour attributes are stored. By default, the console records all the attributes appropriate to the palette, regardless of whether you have adjusted them in the programmer.

Palette values are shown in the Output, Programmer and Cue windows by a small black rectangle in the bottom left corner.

Hd name	Hd type	No	Dim	Pan	Tilt	P/T	Col	Cyan	Mage	Yell	CTC	Shut	Iris	Gobo	Gobo	Gobo
Spot1200	Spot1200	55	0%	UP	UP	Max Sp	Red	Red	Red	Red	000	Open	Wide	Open G	Open G	No Rot
Spot1200	Spot1200	56	0%	UP	UP	Max Sp	Red	Red	Red	Red	000	Open	Wide	Open G	Open G	No Rot
Spot1200	Spot1200	57	0%	UP	UP	Max Sp	Red	Red	Red	Red	000	Open	Wide	Open G	Open G	No Rot
Spot1200	Spot1200	58	0%	UP	UP	Max Sp	Red	Red	Red	Red	000	Open	Wide	Open G	Open G	No Rot
DSN 105	No col	1	0%													

OUTPUTS (Spot1200 55,56,57,58)

10.2.1   Recording individual attributes into a Palette

You may wish only to record only certain attributes into a palette entry – e.g. only the shutter attribute into the beam palette. You can modify the way the console records palettes using masking in the Record Options window. Open the Record Options Window when recording by holding SHIFT and pressing RECORD. Alternatively press the REC OPTIONS soft button in the Programmer Window.

Press the REC INT, REC POS, REC COL, REC BEAM soft buttons to apply masking based on attribute type. Select attributes in the window to apply masking based on individual attributes. For instance to store only the shutter attribute, press the SHUTTER attribute.

In some circumstances you may wish to record other attributes into a palette – e.g. intensity into a beam palette. Simply press the appropriate buttons in the Record Options Window. The Palette entry shows I, P, C, B to indicate which attributes are stored in the Palette.

Once the Palette entry is recorded the masking options are returned to their defaults. You can lock the mask so that it is not returned to the defaults by pressing the LOCK MASK soft button in the Record Options Window.

10.2.2   Recording only the selected heads

By default when recording palette entries, changes are only made for selected heads. The modifications are merged with the existing palette entries.

To ensure that all heads that have been changed are updated, press CTRL + ALL to select all heads in the programmer before re-recording the palette entry.

It is possible to set the "Recording to Palettes" option to "All Heads in Programmer" to force all heads that are active in the programmer to be updated in the palette rather than just the selected heads.

10.3   Intensity Palettes

From v1.6.5.1 the Intensity window has been enhanced to have a View Palettes view similar to the Position, Colour and Beam windows. Palettes can be recorded, moved, copied and removed and used within Cues just as with Position, Colour and Beam palettes.

By default only Intensity parameters are recorded into the Intensity Palettes regardless of whether other attributes are in the programmer. A record mask (SHIFT + RECORD) can be used to override which attributes are recorded.

The only difference with Intensity Palettes compared to Position, Colour and Beam palettes is that by default the record type is set to all heads that have intensity in the Programmer being recorded into the Palette not just the selected heads. This avoids the need to always select heads (e.g. by selecting the All Dimmers group) before recording an Intensity Palette. The record type can be changed by pressing SHIFT RECORD and selecting RECORD TYPE.

To record intensity into a Colour, Beam or Position Palette hold SHIFT and press RECORD to open the Record Options Window (as above) and select the REC INT soft button.

10.4   Duplicate elements in Palettes

In normal operation heads with duplicated elements are treated as if there is only one element of each attribute. MagicQ automatically copies the output from the 1st element to the duplicated elements. This enables the head to be treated in a simple way like any other head.

If you have element specific data in the Programmer then it will be recorded into a Palette during the normal Palette record operation.

If you recall the palette without a duplicated element selection active, then it will only recall for the 1st element - so the duplicated elements will be the same as the main element. If you sub select all duplicated elements before applying the palette then you can recall the element specific data.

You can sub select all duplicated elements by doing e.g. .1 THRU 3 to sub select the 3 elements.

From v1.2.7.1 it is possible to store the duplicated element selection in Groups - so you could make a group with no duplicated element selection and one with all duplicated elements selected.

To select all elements of duplicated heads.

   1. > NEXT HEAD

OR

   1. > @ @

To go back to normal selection (i.e. no duplicated elements selected)

   1. NEXT HEAD

OR

   1. @ @

10.5   Naming Palettes

A palette can be named when it is recorded by keying in the name before selecting the palette entry to record.

A palette can be named at any time by keying in the name, pressing SET and selecting the palette entry. If you are not using an external keyboard the select the palette entry, press SET and enter the name on the on screen keyboard.

10.6 Updating Palettes

A palette can be updated simply be selecting some heads, applying the palette and then re-recording the palette. Only the heads that are selected when you re-record the palette will be modified in the palette - other heads recorded in the palette will not be changed.

A complete palette can be edited using Include and Update. Press Include and then select the Palette entry to include the entire palette into the programmer. The console automatically selects all the heads that are in the Palette entry. Modifications can then be made in the programmer, and when complete pressing Update stores the changes back to the Palette.

10.7 Copying and moving Palettes

Palette entries can be moved and copied just like any other window item.

When a palette entry is moved, programming follows the palette entry - i.e. if you have a Cue which uses a Colour palette entry, then moving that Colour palette entry, will cause the Cue to be updated to continue to reference the palette entry.

10.8 Removing attributes from Palettes

You can delete an entire palette entry by using REMOVE as with any window item.

To remove specific attributes from a palette entry you can use the REC REMOVE record option. This works in a similar way to the normal record mode – except that where items in the programmer are normally merged into the palette entry, they are now removed.

The MASK IPCB and MASK ATTRIB record options enable selection of which options are deleted as for normal recording of palette entries.

For example, to remove the shutter attribute from a previously recorded beam palette entry; clear the programmer, select the heads, and modify the shutter attribute only. Then press SHIFT and RECORD, and select the REC REMOVE and MASK ATTRIB, Shutter record options. Then select the palette entry.

10.9 Viewing / Editing Palette contents

You can view the contents of a palette entry at any time by pressing the VIEW PALETTE soft button in the Colour, Beam and Position windows. This opens the Palette View window and shows the contents of the palette entry that the cursor was on in the Colour, Beam or Position Window.

Note that the View Palette window shows the entire contents of the palette entry regardless of which heads are currently selected. You can modify the contents of the palette entry by editing the values in the spread-sheet. You can remove values, entire heads, or entire attributes from the palette entry using the REMOVE button.

The View Palette, View Used window can be used to determine how many times Palettes have been used within a show.

The View Palettes window shows whether Palettes are linked to other Palettes (highlighted in Red). There is a button to unlink the specific Palettes or using SHIFT, to unlink all the Palettes of that type (Position, Colour or Beam). Unlinking removes links within the Palettes to other Palettes – it does not affect the links within Cues.

It is possible to step through the different Palettes using the Next Palette and Previous Palette buttons.

10.10 Linked Palettes

If you select a Palette and then record it as another Palette without changing any of the attributes then all the values in the new Palette will be linked to the first Palette. Changing any of the attributes in the first Palette will change the attributes in the new Palette. This is a linked Palette. MagicQ shows a L in the Palette entry to indicate a linked Palette.

When you change attributes using the encoder wheels or soft buttons then the Palette will contain hard values instead of links.

It is possible to unlink a Palette from the View Palette Window. Put the cursor on the Palette Entry you wish to unlink, press VIEW PALETTE and then UNLINK.

To unlink all palettes of that type (Intensity, Position, Colour or Beam) press SHIFT + UNLINK ALL.

To unlink a range of palettes, open the Position, Colour or Beam window, cursor select the required palettes and then press SHIFT and UNLINK PALETTES.

Only one level of linking is allowed – a Palette can link to another Palette, but it is not possible to link to further Palettes.

10.11 Using Palettes with times

Palettes can be applied with a time by simply typing in a number of seconds before selecting the Palette - this is very useful for quickly setting fade times when recording Cues or for busking in effects. In addition you can use FAN mode to quickly spread different times across a number of heads.

For example, typing in 3 before selecting a position will cause a fade to the position over 3 seconds.

Typing 0 THRU 3 before selecting a position causes the heads to move to the position with a spread of 3 seconds - i.e. the first head moves immediately whilst the last head takes 3 seconds.

To fan delays, rather than fade times, type delay / fade – e.g. for 1 second fade but delayed from 0 to 3 seconds type 0 THRU 3 / 1 before selecting the palette.

A short-cut can be used to perform fanned delay/fades – type a time followed by * before selecting the Palette to fan the fade across the currently selected heads.

<time> *	Fan times across selected heads
<time> * /	Reverse fan
<time> * +	Into centre fan
<time> * -	Centre out fan
<time> *.	Random
*	Use last fan time

Applying Palettes with times and fanned times can be applied to all Palette types including Beam and Colour. For example to perform a gradual fade from one colour to the next over all your colour mixing heads, select the heads, 0 THRU 5 before selecting a colour palette entry.

You can modify the order that a fan is applied to heads by selecting the heads in the appropriate order - at any time you can invert the order using the Selection soft button in the Group Window.

Whenever a Palette is selected with a time the times are stored in the programmer. This makes it very easy to build up Cues with times. Simply select the Palettes you want with the required times and Record the Cue. The Cue will playback with the required times.

MagicQ v1.7.1.5 has a shortcut for symmetric fans from centre - for older versions hold ALL and select CENTRE OUT and then hold FAN and select SEGMENTS 2.

10.11.1   Using FAN

You can set both delay and fade times in FAN mode by entering delay / fade. For example to move all your heads onto a position in turn, type 2 / 2 before selecting the position.

Minimum fade times can be applied using the + operator, for example to perform a fade of between 2 and 6 seconds to a new position on a group of heads enter FAN mode, type 2+4 and select the new position. The first head will fade over 2 seconds whilst the last will fade over 6 seconds.

To use both minimum delay and fade times type, for example, 2+4/3+5. This gives delay times of between 2 and 6, and fade times of between 3 and 8 seconds.

10.12   Making Palettes into Cue Stacks

You can copy one or more palettes from the Position, Colour or Beam windows to a Playback (use SHIFT + cursor keys to select multiple items). This enables quick generation of Cue Stacks based on your palettes.

The Cue Stack will include one Cue for every Palette selected. The Cues will contain values from the Palette for the currently selected heads. Other attributes can be added using Record Merge.

If a Cue Stack already exists on the Playback, then the extra Cues are appended to the end of the Cue Stack.

Copying a Group to a Playback makes a Cue with Intensity at 100% for all the channels in the Group. Selecting multiple groups using the cursor (SHIFT + cursor keys) and then copying to a Playback creates a multi step Cue Stack of intensities – one Cue step for each group. This is an easy way to create, for example an intensity chase of your different moving light groups or your different par can colour groups.

10.13   Selecting Palettes from the keypad

You can select palettes from the keypad. Enable the Setup Option, "Select channels in Beam, Col, Pos". To select a palette use:

COL 5 ENTER

BEAM 3 ENTER

Timed fades can be entered at the same time – e.g. to apply colour palette 5 with a time of 4 seconds spread across all the selected heads:

COL 5 / 4 * ENTER

It is possible to record, include and remove Palettes from the keypad:

RECORD GROUP <group number> ENTER

RECORD POS <palette entry> ENTER

RECORD COL<palette entry> ENTER

RECORD BEAM <palette entry> ENTER

10.14   Merging of Palettes from another show

It is possible to merge Palettes from any previous show that uses the same type of heads - you can select the palettes from a specific head or all the heads that match with your current show.

It is possible to select Position, Beam or Colour palettes, or combinations of the three attribute types.

To import the Palettes, press the LOAD PALETTES soft button in the View Palette window.

Alternatively from the Setup Window press the SHIFT + IMPORT SHOW soft button and select Palettes.

10.15   Modifying Palettes in the personality

When palettes are recorded they become part of the show data and can be used during programming of the show. Recording palettes does not affect the personality file. This ensures that changes you make for the purposes of the show do not affect future shows.

However, it is sometimes necessary to update the personality file - either because the data in the personality file is incorrect, or to add extra palettes entries to the personality. Pressing SHIFT when you select the palette entry to record, causes the changes to be copied through into the personality.

When recording through into the personality file, the console takes the first selected head and copies the data associated with the palette entry you selected into the personality file. If the palette entry is already in the personality file (i.e. there is a palette entry with the same name as the one you selected) then that palette entry is replaced. Otherwise a new palette entry is created in the file.

You can examine the personality file, by going into the Patch Window and pressing the Edit Head soft button. Then press the Select Head button to choose the personality to examine.

10.16   Capturing Palettes from DMX input

You can program palettes by capturing real DMX data from another consoles. This provides a handy way of converting show data from one console type to another, or to back up data from one console on another.

In order to use DMX Capture the Input Universes in Setup, View DMX I/O must be set up to correctly receive data from the network or from MagicDMX.

First select the heads you are interested in. If no heads are selected then data will be captured for all heads.

10.16.1   Manual Palette Capture

In View Palette window use the PREV or NEXT buttons to move to an empty palette. Then use the CAPTURE PALETTE soft button to capture the values of this palette type (Intensity, Pos, Colour, Beam) and record them into the Palette.

If no heads are currently selected then capture is for all heads, otherwise only data for heads that are currently selected will be captured.

10.16.2   Auto Palette Capture

For auto capture, press SHIFT + AUTO CAPTURE. MagicQ will now automatically capture a palette of this palette type and save it to a free palette entry every time the DMX input changes. Press STOP capture to stop auto capturing palettes.

To use this function with another console first set up the DMX input then press AUTO CAPTURE and on the other console select all the different palettes for capture in turn. MagicQ will detect when it is receiving different data and will record a new palette for each one.

10.16.3   Manual capture from Palette windows

Change to the appropriate Palette Window - Intensity, Position, Colour or Beam.

Press CTRL and RECORD then select a Palette entry – this will load the DMX input data for the selected heads into the programmer and record it into the specified Palette entry.

10.16.4   Manual Including into the Programmer

Alternatively use Include to get the data into the programmer and record the Palette entry in the normal way for recording palette entries.

Press CTRL and INCLUDE and then ENTER. This will include the DMX input data for the selected heads into the programmer. The data can then be stored into a Palette in the usual way using RECORD.

You can grab all attributes of a moving head by changing to the Group window, pressing CTRL and INCLUDE, then ENTER.

10.17   Expanding Palettes

The Expand Palette function allows data in Cues to be expanded to use all attributes from a Palette. For example, consider a show that is using fixtures with RGB colour mixing but now has been morphed to fixtures with extra colour wheels. The Cues programmed into the show do not have the extra colour wheel info - they just have RGB attributes. With Expand Palette it is possible to program the extra colour wheel attributes into the Palette and then expand the Palettes into all the Cues that use the Palette.

In View Palettes, select the Expand Palette or SHIFT and Expand All Palettes soft button.

All programmed Cues that contain heads that use the Palette are expanded. Only heads that are already in the Cue, and that have at least one attribute using the Palette are expanded - it does not affect heads that are not in the Cue or heads that have no attributes from the Palette in the Cue.

To expand a range of palettes, open the Position, Colour or Beam window, cursor select the required palettes and then press SHIFT and UNLINK PALETTES.

Heads that have some attributes in the Cue referencing the Palette but others using hard values, will convert the hard values to use the values from the Palette.

Heads that have some attributes in the Cue referencing the Palette but others using other Palettes, will not change the attributes that are using other Palettes.

10.18   Replacing Palettes in Cues

It is now possible to replace Palettes in one or more Cues in a Cue Stack with different Palettes, for example to change all the channels using the Green palette to use the Red palette.

In the Position, Colour or Beam windows press SHIFT and REPLACE PALETTE. Then select the palette to replace, the new palette, and then the Cue Stack to replace in.

If heads are selected in the programmer then the change will only affect the selected heads. If no heads are selected then all heads that use the palette are affected.

It is possible to select a specific Cue or a range of Cues by entering the Cue numbers before selecting the Cue Stack. If no Cues are specified then MagicQ will prompt whether to use the current Cue or all Cues in the Cue Stack.

Only channels that were already in the Cue will be changed - no new channels will be added. Channels that are using the original Palette but which are not in the new Palettes are unchanged.

10.19   Tracker Palettes

Tracker Palettes are special palettes that use a remote tracker device rather than absolute values stored in the palette. MagicQ supports several different remote tracker protocols and can receive information for up to 10 remote tracker devices.

By setting a Palette to be a Tracker Palette then wherever the Palette is used the channels follow the tracker device with an optional offset. Tracker palettes recorded with values of 128 for the pan and tilt attributes (0 degrees pan and tilt) will have no offset. Any other values will function as an offset to the tracker device.

Enter the tracker number on the keyboard/keypad before pressing the SET TRACKER soft button to set a Palette to be a Tracker Palette. Press UNSET TRACKER to return the palette to be a normal palette.

Chapter 11

FX Engine

11.1 Adding in FX

To apply a FX to some heads, select the heads then from the FX Window, Group Window, or Prog Window press the ADD FX soft button.

MagicQ groups FX into the categories - Intensity, Position, Colour, Beam, Any Attribute, User and Old. MagicQ lists all of the stored "Waveform FX". Choose the Category and then the FX to apply.
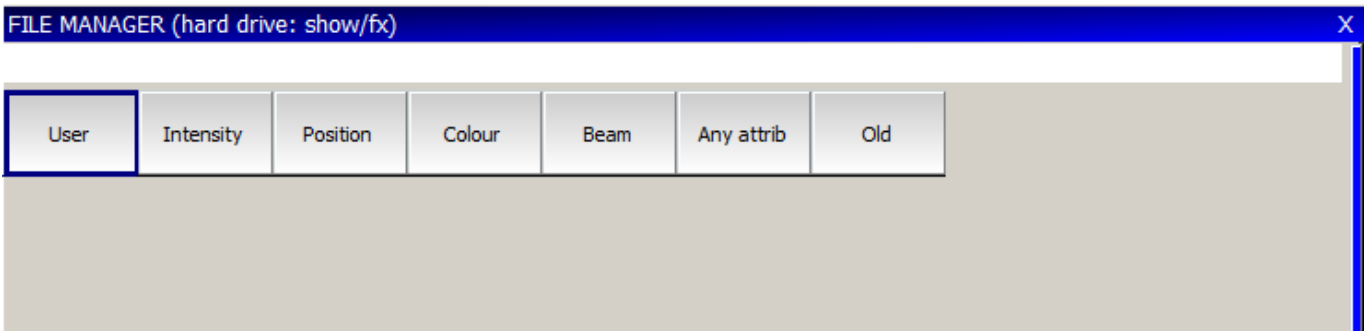
The position category includes FX using the pan and tilt attributes:
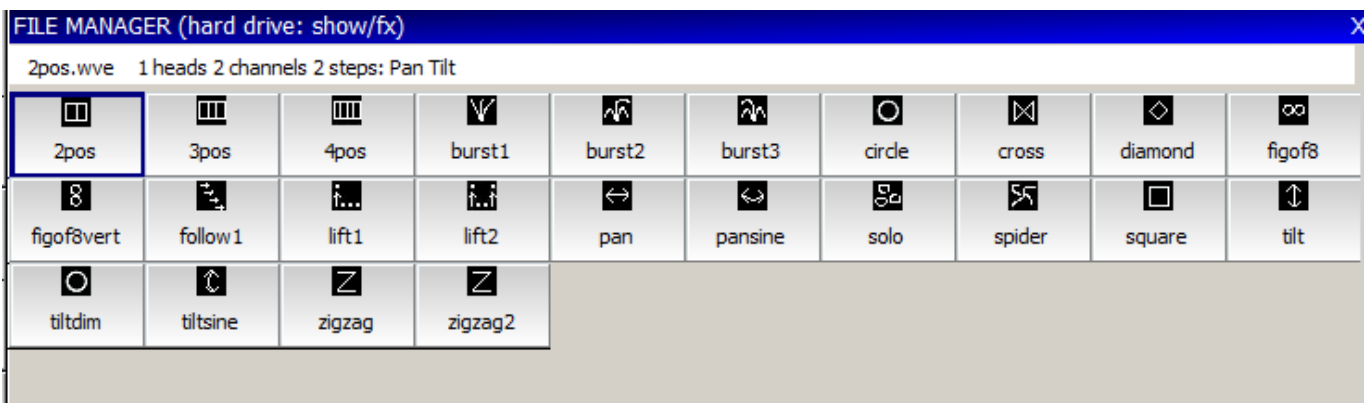
The colour category includes FX using the CMY/RGB attributes:

FILE MANAGER (hard drive: show/fx)   X

2col.wve   1 heads 3 channels 2 steps: Cyan Magenta Yellow

| 2col | 3col | 4col | basepulse | blueflick | cmy | colflick | greenblue | greenflick | redblue |
| redflick | redgreen | rgb | rgbsnap | rndcol | whiteflick |

The Any Attribute folder contains FX that are not specific to particular attributes of the head – these are marked with a * – e.g. Ramp, Sine and Cosine. When one of these is selected you are prompted for which attribute you wish to apply the FX to. For instance you could program a circle using a Sine on the Pan attribute and a Cosine on the Tilt attribute. Alternatively you could just use the circle FX!

FILE MANAGER (hard drive: show/fx)   X

bounce 4steps.wve   4 heads 1 channels 6 steps: Any attribute

| bounce 4steps* | cosine* | oneshot* | pulse 3steps* | pulse 4steps* | pulse 5steps* | pulse 6steps* | pulse* | pulsernd* | ramp* |
| rampdown* | rampup* | sine* |
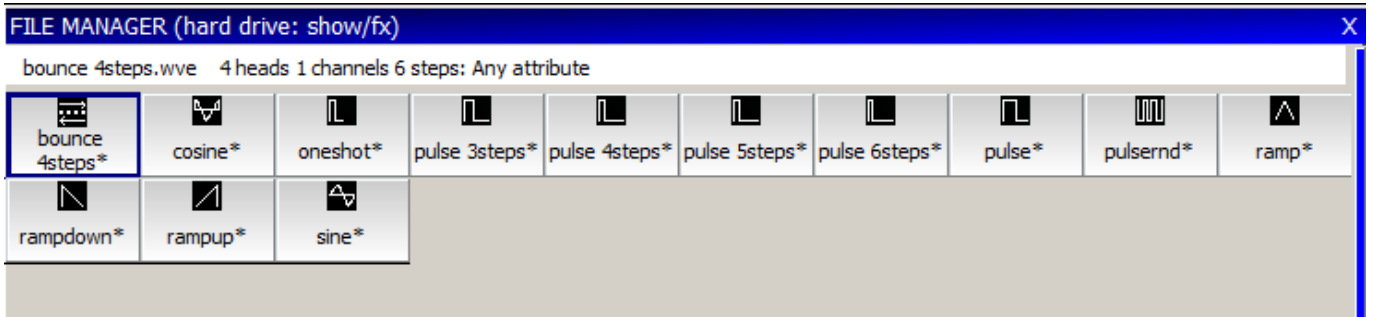
You can apply multiple FX to a head, provided that the FX uses different attributes - e.g. you can mix a Pan Sine with a Tilt Sine.

Once you have chosen a FX you are returned to the Prog Window. Use the encoders to modify the parameters of the FX such as the speed, size and spread between heads. By default FX size goes up to 255. Hold SHIFT and use the encoder to get sizes above 255.

The Prog Window provides a Simple and an Advanced View. The Simple View enables modifications of the FX as applied to all heads. The Advanced View enables the parameters of the FX to be modified for each different head – this, for example, enables different sizes to be set for different heads.

| VIEW LEVELS | VIEW TIMES | VIEW FX | SIMPLE VIEW | ADV VIEW | LOCATE | ADD FX | CHANGE FX | REORDER FX | SNAP SHOT | CLEAR ALL | REMOVE ALL FX |

PROG (Spot1200 55,56,57,58)   X

FX Spread

100% (even)

Head name	Attrib	Speed	Xfade	Size	Stop	0 Size	Dir	Spread	Parts	Segment Add	Width	Init Offset
All	All	2.40s	100%	50%	No	No	Fwd	100% (even	None	None	Normal	0%

○ Circle   4 (Spot1200 55)

All	All	2.40s	100%	50%	No	No	Fwd	100% (even	None	None	Normal	0%
All	Pan	2.40s	100%	50%	No	No	Fwd					
All	Tilt	2.40s	100%	50%	No	No	Fwd					

FX Parts

None

FX Direction

Fwd dir

FX Size

50%
size/no size

All FX

FX Segments

None

FX Xfade

100%
tap to time

FX Speed

2.40s   24
BPM
start/stop

cpkultra 14 Jul 2014 22:22:49 1.6.5.3_A   Added FX
P1 Add   >

FX can be added and removed from the Programmer window.

11.1.1 FX Speed & Size

The FX Speed can be modified on encoder X. The soft button stops/starts the FX allowing it to be temporarily stopped.

The FX Crossfade can be set on encoder Y – 0% is snap whilst 100% is complete crossfade. The soft button can be used to tap to time the speed of the FX.

The Attack of the FX Crossfade can be changed by using SHIFT and encoder Y. The attack defaults to "Even" - equal ramp up and ramp down. The FX must support Width and the Width must be less than 50% for the attack to take effect. Changing the value of Attack from 0% to 100% changes the slope of the attack. 0% is snap in, fade out. 100% is fade in, snap out.

The FX Size can be modified on the encoder wheel D from 0% to 100%. Pressing SHIFT and turning the encoder wheel allows the size to be oversized up to 800%. Pressing the soft button swaps between the chosen size and zero size. This allows an FX to be temporarily taken out.

11.1.2 FX base values

By default FX are added to the current channel values - therefore it is important to ensure that the channel values are set correctly. For example, to run a circle in the centre of a MAC500s pan and tilt range, it is necessary to set both pan and tilt to the centre position (128) before adding the FX. Changing the channel values changes the point around which the FX is centred.

Similarly in order to run a 0% to 100% dimmer chase on HTP channels the channels should be set to 50% intensity and the FX added.

Channel values and FX values do not have to be recorded onto the same playback. One playback can be used to set the centre position of the FX and another to control the FX itself. The centre position can itself be part of a multi Cue Cue-Stack or a chase thus a particular FX can itself be moved around.

If you wish to have a particular playback move heads to a particular position without a FX then record both the position and a zero size FX on the playback. Recording a zero FX ensures any other playback running an FX for those heads is over-ridden. You can add a zero size FX using SHIFT + ADD FX 0 SIZE soft button in the Group or FX windows.

11.1.3 FX add modes

It is possible to change the way that FX are added to the base values. In the FX View of the Prog Window and Cue Window there is an "add mode" field. Page right to see this option. This determines how the FX in a Cue is added to the base values. There are three choices; Normal, Plus and Minus.

- Normal is as default – i.e. a FX will apply both plus and minus of the base.

- Plus adds the FX onto the top of the current base – i.e. the level will never be less than the base.

- Minus subtracts the FX from the current base – i.e. the level will never be greater than the base.

- Abs (absolute). MagicQ ignores the base value for the FX and simply outputs the FX value. This is useful for absolute position FX and for colour change FX.

11.1.4 FX Spread (offsets over heads)

When a FX is applied to a group of heads, the spread determines how the FX is played back over all the heads. By default the spread is even (100%) – i.e. the same FX is applied to each head but offset so that each of the heads is at a different point in the FX cycle. With even spread the heads are spread evenly round the cycle.

Setting the Spread to None (0) causes all of the heads to start at the same point in the cycle – i.e. they all do exactly the same thing. Choosing values between 0% and 100% enables different looks to be generated.

The FX Spread is the maximum offset between heads within the FX. FX Spread values greater than 100% are allowed.

The offsetting of the FX over heads can be further enhanced using FX Parts and FX Segments. FX parts and FX Segments have no effect if FX Spread is 0.

The spread can be viewed in the Outputs Window, View Chans, View DMX, View Move window. This shows a 2D representation of the pan and tilt values of each of the heads.
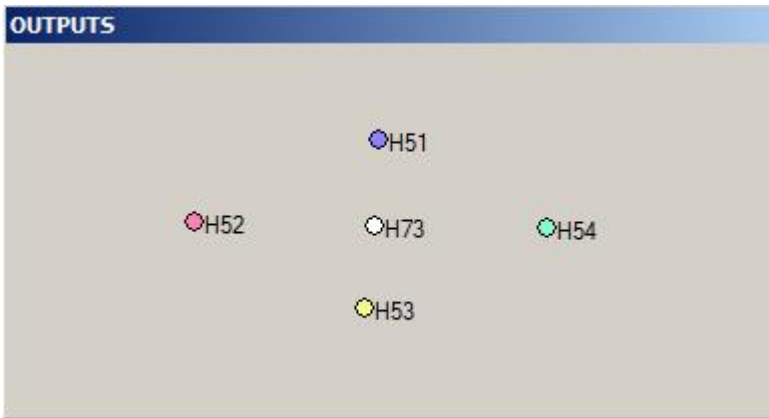
11.1.5 FX Parts

This enables the FX cycle to be repeated across a number of heads. When FX parts is 0 the FX is offset across the total umber of heads selected in the FX. Using Parts the FX can be offset so that, for example the FX can be offset (with FX parts = 3) such that the FX is offset other the first 3 heads, and then the next 3 heads, the next 3 heads, and so on...

The FX part can have the values "none", "2s", "3s" etc. For example when set to "3s" the FX will be played back spread over the first 3 heads and then this will repeat over the remaining selected heads – i.e. heads 1,4,7,10 will do the same thing, heads 2,5,8,11 will do the same thing. When a "FX part" is selected, the "spread" determines how the FX is spread across the 3 heads.

11.1.6 FX Segments

FX segments work together with FX Parts to enable easy control of the relative offsets of different heads within a FX. FX Segments are the number of adjacent heads that have the same offset.

So for example consider 12 heads.

Table 11.1: 100% FX spread (no FX Parts or FX Segments)

1	0%
2	8%
3	16%
4	25%
5	33%
6	41%
7	50%
8	58%
9	66%
10	75%
11	83%
12	91%

Table 11.2: With FX Segments = 2's

1	0%
2	0%
3	16%

Table 11.2: (continued)

4	16%
5	33%
6	33%
7	50%
8	50%
9	66%
10	66%
11	83%
12	83%

Table 11.3: With FX Segments = 3's

1	0%
2	0%
3	0%
4	25%
5	25%
6	25%
7	50%
8	50%
9	50%
10	75%
11	75%
12	75%

Table 11.4: With FX Parts = 2's

1	0%
2	50%
3	0%
4	50%
5	0%
6	50%
7	0%
8	50%
9	0%
10	50%
11	0%
12	50%

Table 11.5: With FX Parts = 2's, Segments = 3's

1	0%
2	0%
3	0%
4	50%
5	50%
6	50%

Table 11.5: (continued)

7	0%
8	0%
9	0%
10	50%
11	50%
12	50%

11.1.7 FX Direction & Inversion

The FX direction can be set to the following options:

- Forward

- Backward

- Centre In

- Centre Out

- Odd/Even

- Even/Odd

- Left/Right

- Right/Left

- Segments

- Invert

- Invert Odd/Even

- Invert Even/Odd

- Invert Left/Right

- Invert Right/Left

- Invert Segments

Forward and Backward affect the direction of the FX.

Odd/Even automatically makes the odd heads go forward and the even heads go backwards. Left/Right splits the heads in two, with the first half going forward and the second half going backwards. Segments alternates forward / backward for each segment.

Centre In and Centre Out split the heads, pairing the outside ones, and so on to the centre.

Inverts change the polarity of the FX waveform rather than reversing the direction. For simple FX Waveforms of 1 or 2 steps the resulting FX will be identical. For FX waveforms with more than 2 steps, they will be different.

Consider a pulse 2 steps on 4 heads, spread 0%

Forward

```
−−−−
####
```

Invert

```
####
----
```

Invert Odd Even

```
-#-#
#-#-
```

Invert Even/Odd

```
#-#-
-#-#
```

Invert Left Right

```
--##
##--
```

Invert Right/Left

```
^^__
__^^
```

Consider a pulse 4 step FX Waveform on 4 heads:

Forward

```
____^
___^_
_^__
^____
```

Backward

```
^____
_^___
__^_
___^
```

Invert

```
^^^_
^^_^
^_^^
_^^^
```

For FX waveforms that have more than one attribute, the invert is applied only to first attribute of the FX waveform. This ensures a simple mirror of movement FX such as circles etc. . .

11.1.8 Width

Waveform FX with one or two steps can have a Width parameter on Encoder C. The pulse, ramp, rampup, rampdown, sineup, sinedown, dimmer chase and iris chase all have Width.

This enables the width of the FX to be altered without having to select different FX (e.g. pulse 2 step, pulse 3 step etc. . .) When set to 50% it is equivalent to a pulse 2 step. When set to close to 0% the pulse or ramp is very narrow, whilst at close to 100% the pulse or ramp is very wide.

For example, consider a head with a ramp on Intensity with crossfade 100% and width set to 50%. The head will ramp up and down between 0% and 100%. Changing to 25% will cause the head to stay at 0% for half the period and then ramp up to 100% and back down to 0% for the other half of the period. Changing to 75% will cause the head to stay at 100% for half the period and then ramp down to 0% and back up to 100% for the other half period.

11.1.9   FX fade times

FX can be configured to fade in and out rather than snapping in and out. The fade times are configured in the View Times view of the Programmer Window and the Cue Window. In older versions of software they were available in the View FX view of these windows (use the PAGE RIGHT button to move to the appropriate columns).

11.1.10   FX delay times

MagicQ supports a FX Delay Type option for applying individual delay times to FX as well as base levels. When enabled, the individual delay times for the base level of an attribute in a head will also apply to any incoming FX on that attribute. This allows sweeping effects across large numbers of moving heads.

The delay FX option is configured in the Cue Window, View FX, Delay Type. Note you need to cursor right to see it. There is a similar option in the Programmer Window if you want to set it before you record a Cue.

When set to "None" there is no delay - all the FX start to fade in at the start of the Cue.

When set to "Delay start" the FX will delay by the amount set for the individual attribute in View Times. If there are no delay times for the individual attributes then there is no delay on the FX. After the delay for a particular head the FX will start as if it was the start of the Cue - i.e. the offset will start from the position it would normally start from at the beginning of the Cue. The final offset between the heads will be dependent on the delay time. Note that if you include a Cue with FX set to "Delay start" into the programmer then it will look different as when Cues are included the delay times are ignored.

When set to "Delay size" this is like "Delay start" except that after the delay the FX is not restarted. Instead the size is faded in and the offset is therefore exactly as it would have been if there was no delay. This means after all heads have delayed then the final offsets between heads will be as if there had been no delay.

If you don't want to change the base level, then you just set it at the same levels as the previous Cue - but you add individual delay times so that MagicQ delays both the start of the level change (could be no change) and the start of the FX.

MagicQ does not currently support FX Out Delay times.

Note that the FX In Delay and FX Out Delay times in the Cue Window and Programmer Window, View Times, Simple View are not currently supported. To add FX delay times set Individual Delay times and configure the FX Delay Type in View FX to "Delay Start" or "Delay Size" as above.

11.1.11   Initial spreads

If you are running multiple FX from within a Cue then you may wish to select an initial spread between the different FX. Configure this from the Programmer Window and the Cue Window (use the PAGE RIGHT button to move to the appropriate columns). Both a coarse and a fine spread can be configured.

11.1.12   FX on CMY and RGB fixtures

The inbuilt colour FX are now designed to work on both CMY and RGB fixtures - these FX are set with the "Auto Invert RGB" option set in the Waveform FX. This means that, for example, adding the RGB FX to a group of CMY and RGB fixtures will cause all fixtures to change colour red, green, blue.

11.1.13   Flicker FX

MagicQ includes a number of FX designed to simulate flickers – these can be used to simulate fires, candles and lightning. FX speed, size and spread can be used to generate different effects. The flicker FX available are:

Flicker Random flicker above and below base level

Flicker up Random flicker above the base level

Flicker down Random flicker below the base level

Flicker sync Random flicker – all heads in the FX synchronised together

Flicker crossfade Random flicker with random levels and random crossfades

11.1.14   Multiple FX

It is possible to have multiple different FX on a head – e.g. a circle on pan and tilt and a red green blue colour mix on the colour mix attributes.

Head name	Attrib	Speed	Xfade	Size	Stop	0 Size	Dir	Spread	Parts	Segment Add		Width	Init Offset
All	All	2.40s	100%	50%	No	No	Fwd	100% (even	None	None	Normal		0%
○ Circle	4 (Spot1200 55)												
All	All	2.40s	100%	50%	No	No	Fwd	100% (even	None	None	Normal		0%
All	Pan	2.40s	100%	50%	No	No	Fwd						
All	Tilt	2.40s	100%	50%	No	No	Fwd						
RGB	4 (Spot1200 55)												
All	All	2.40s	100%	50%	No	No	Fwd	100% (even	None	None	Normal		0%
All	Cyan	2.40s	100%	50%	No	No	Fwd						
All	Magenta	2.40s	100%	50%	No	No	Fwd						
All	Yellow	2.40s	100%	50%	No	No	Fwd						

PROG (Spot1200 55,56,57,58)

When viewing and editing multiple FX in the Programmer Window or Cue Window the encoders A,B,C,D,X and Y affect only the FX that the cursor is placed over. Prior to v1.3.2.4 they always affected all FX in the Programmer/Cue. When a new FX is added the encoders automatically default to controlling the parameters of the new FX.

If the cursor is placed in the All FX row at the top of the Window then these encoders affect all FX as per previous behaviour. The E encoder can still be used to modify the individual parameter at the cursor location.

11.1.15   Joining / Splitting multiple FX

There is a function to split some heads out of a FX or to join similar FX together in the Programmer – use SHIFT and the JOIN FX and SPLIT FX soft buttons.

When Split FX is pressed the currently selected heads are moved out of the FX that they are in, into a separate FX. If the selected heads are the only heads in the FX then no change is made to the FX.

When Join FX is pressed MagicQ analyses all the FX in the programmer and joins any similar FX of the same type together. The speeds/sizes/offsets are retained until the enlarged FX are modified.

11.1.16   Modifying FX for selected Heads

It is possible to change FX for a specific set of heads by first selecting the heads and then modifying the parameters in the FX Window instead of in the Programmer Window. In the FX Window there are FX speed, size, crossfade and offset encoders. These encoders apply changes to the FX of the currently selected heads. Note they affect all FX running on those heads so if the head has a circle and a CMY colour FX then both will be changed. To change FX individually use the encoders in the Programmer Window, FX View.

11.1.17 Changing FX

It is possible to change the type of FX running on a selection of heads from within the Programmer Window using the CHANGE FX soft button. This enables a different FX to be selected, but with the speed, size and offsets remaining the same. The FX can only be changed into compatible FX – i.e. a circle can be changed into a square or diamond, but not into a RGB effect.

11.1.18 FX Reordering

It is possible to reorder the heads in a FX without having to recreate the FX. Press the REORDER FX button in the Programmer, View FX View. MagicQ prompts for the order, Normal, Reverse, Into Centre, Centre Out, Random. Normal will always return them to head number order.

Note that if the current selection order is different to the one in the Cue then it will automatically use this as the new order rather than prompting for an order.

11.1.19 Blocking FX

When the Setup option "Programmer overrides FX" is set then the Programmer automatically includes a "Block FX" option – this means that whenever a channel is in the programmer it has an implicit zero FX – so that any FX running on the channel on Playbacks is ignored. If the channel has a FX in the programmer then the FX will run as expected. This, for example, enables the user to take control of a moving light and place it in a fixed position.

11.1.20 One Shot FX

MagicQ has support for one shot FX – i.e. FX that play back only one cycle and then stop. There are two example one shot FX in the FX library - PulseOne and RampOne. Custom waveform FX can be created and set as one shot in the FX parameters.

11.2 Generating user FX

It is possible to generate user FX by programming a chase and then converting it into a FX. The FX can then be applied to any head with the required attributes.

For example, to create a new movement FX, create a position chase by recording the pan and tilt values for one or more heads. Set the chase speed to the speed that you wish the FX to default to. If you wish the FX to snap (not fade) then set the chase contrast to 0%.

Convert the chase into a FX by opening the Cue Stack window and pressing SHIFT and MAKE FX. If the chase only contains 1 attribute then you will be asked whether you wish the FX to always apply to the specified attribute, or to allow it to be applied to any attribute. If the Cue Stack has more than 1 attribute in it, then the user is prompted to choose which attributes to use in the Waveform FX.

If multiple heads are used in the chase then multiple heads will be generated in the FX – this enables different heads in the FX to do completely different FX. (For example, you could record a FX where 2 heads do a tilt and 2 heads do a pan)

To record a FX that can be applied to any attribute, choose 1 attribute only (e.g. dimmer) and create the chase using this attribute. When you press MAKE FX, then select the "Make FX apply to any attribute" option.

Waveform FX support any number of attributes but it is recommended that only a small number of attributes are stored in Waveform FX – e.g. just position, colour mix or intensity. For more complex FX store the FX in the FX Window and save to a FX Library.

Use Record Remove to remove unwanted attributes from entire Cue Stack.

11.3   Editing user FX

MagicQ includes a FX Editor which can be used to edit the Waveform FX. Note that changing the Waveform FX makes a permanent change to the FX on the MagicQ system including all FX of that type used in the current show and on any new shows made on that console. If users wish to edit the inbuilt Waveform FX then they should use "Save As" to save the FX as a different FX name before editing.

All User FX are shown in the User category - only inbuilt FX are shown in the Intensity, Position, Colour and Beam categories.

All FX are stored in the FX folder as .wve files - MagicQ intelligently filters them into categories.

11.4   Palette FX

Some of the inbuilt FX use Palette values rather than absolute values. This enables FX to be built up quickly from existing Palettes. The FX are updated each time the Palette is changed.

Palettes can be chosen when the FX is applied rather than having to create new Waveform FX. Palette selection can be changed directly in the Programmer, View FX and Cue , View FX windows. Changes of Palette selection are immediately updated in the Output.

The inbuilt library of FX contains several Waveform FX that allow selection of Palettes - including 2col, 3col, 4col, 2pos, 3pos, 4pos, 2iris and 2focus.

For example, to make a FX that colour changes between yellow and magenta simply choose the 2col FX - then select the "Yellow" palette, followed by the "Magenta" palette. Change the width parameter to vary the proportion of time spent on yellow and magenta.

Note that MagicQ maps Red to Cyan, Green to Magenta and Blue to Yellow, so the 2col, 3col and 4col will work equally as well for CMY heads as for RGB LED fixtures.

From v1.7.1.3 if palettes are moved in the Position, Colour or Beam windows then the reference in the FX will be modified to be the new ID, so that the FX stays the same. Versions prior to 1.7.6.1 only supported FX on palettes 1 to 255 of each type.

11.4.1   Palette FX on heads with different attributes

From v1.7.1.5 the Palette FX can be applied to heads even if the heads do not have all the attributes in the Palette FX. In previous versions the heads had to have specific attributes - for example to run the 2col the head had to have Cyan, Magenta and Yellow attributes - it could not be applied on heads with only colour wheels like Clay Paky Sharpys.

The 2col, 3col and 4col inbuilt FX were modified to include all 8 colour attributes (Cyan, Magenta, Yellow, Col Mix, Col1, Col2, Col3 and Col4) so that when these FX are chosen they will run on all the colour attributes that are stored in the chosen Palette. This enables colour palette FX to be run over multi heads with different attributes - CMY, RGB, RGBA, RGBW etc. . .

The older versions of 2col, 3col and 4col inbuilt FX which used Cyan, Magenta and Yellow only have been renamed to 2cmy, 3cmy and 4cmy. These can be used to limit FX to CMY attributes only - no FX on colour wheel, colour correction, White or Amber.

This change only affects shows created in v1.7.1.5 or above, or shows where the FX were not previously used. Shows that have been programmed using the old 2col, 3col and 4col FX continue to operate as before on CMY data since the FX data is stored within the show file.

11.4.2   User created Palette FX

Users can create their own waveform FX using the FX Editor. To make a waveform FX that has selected palettes, set both the "Use Palettes" and "Use FX Palettes" in the Edit FX, View General. The palettes in Edit FX, View Chans are then Palette indices rather than Palette numbers - e.g. Col 1 refers to the first selected Palette when you apply the FX, Col 2 the second selected Palette.

If a FX uses Palettes and the selected Palettes do not have the attribute then MagicQ will use the default value for those attributes. For example, 2col includes all the colour attibutes - so if the Palette only has Cyan, Magenta and Yellow in it, then Colour Wheel would be set to its default value in each FX step.

The Intensity attribute is a special case. If this attribute is included in the Palette FX but is not in the Palette then the MagicQ will change the Intensity between 0% and 100% in each FX step. This enables generation of e.g. TiltDim type effects very easily where the heads move in the dark.

11.5 FX colour flicks

MagicQ supports colour flicks - i.e. FX that apply a different colour over the base colour without mixing the colours - for example running a red flick over a green base without mixing the red and green to get yellow.

The inbuilt FX library now includes Red, Green, Blue and White colour flicks. In addition there is a colflick FX where you select the colour you want from a colour palette. The width parameter can be modified to change the width of the flick.

Users can create their own Waveform FX to perform complex colour flicks. In Edit FX, View General set the Default Add Type to "Abs". In the Edit FX, View Chans set the curve to "Abs" for steps that you want to be absolute and to "Trans" for steps that you want to be transparent (i.e. not affected by the FX - just the base level). The levels for steps set to "Trans" should be 0, or if using Palette based FX then just set them to the first Palette selection (P1,C1,B1).

11.6 FX using base colour

It is possible to create FX that use any chosen colour rather than just primary colours – a new example Colpulse.wve is included as part of the standard FX library.

When the FX is created, the base level of the colour channel will be used to determine the colour that the FX will use. When the FX is played back the base level is used in the FX itself rather than the FX adding to the base.

To create a new FX based on base colour, in the FX Edit Window, View General, set Use Col Base = Yes.

11.7 Group based FX

MagicQ supports FX based on groups. Multiple groups can be selected and than an FX applied to each of those groups rather than to individual fixtures. This enables advanced FX over groups of fixtures. This has the advantage over parts and segments that the groups can split the FX over different numbers of fixtures - e.g. 6 sports on the front truss, 4 on each of the sides, and 8 on the rear. It also has the advantage that if you add a fixture to the group then that fixture automatically becomes part of the FX in all the Cues that use that FX.

If multiple groups are selected then when adding FX, MagicQ automatically requests whether the FX should be applied to the the Groups or to the all the Heads.

FX can be added as a Group FX even if only one group is selected by using the ADD GROUP FX soft buttons in the Group and FX windows. This has the benefit that if the members of the Group are changed then programmed Cues using the FX automatically change to use the new members of the group.

Group FX and Palette FX can be used together to create FX that can be easily changed between different size rigs with only minor changes to Groups and Palettes (from v1.7.1.5).

If groups are moved in the Group Window then the reference in the FX will be modified to be the new ID, so that the FX stays the same (from v1.7.1.3).

As Group based FX contain channels not groups, it is not possible to carry out channel based edits on the FX such as merging changes from the programmer or reordering the channels in the Group based FX.

The groups used within a Group FX can be changed by clicking on the groups in the Programmer and Cue windows.

It is possible to convert Group based FX into channel based FX. In the Programmer Window, View FX press SHIFT and CONV GROUP FX. If the cursor is on the top row all FX will be converted, otherwise the FX at the cursor position will be converted.

11.7.1 Group FX Spread

From v1.7.1.5 the Spread of Group FX can be modified in the Prog Window, View FX and also once recorded in a Cue, in the Cue, View FX Window using the "Group Spread" column. The options are:

Group	Spreads according to the group (all members of group have same spread) - as per previous software
All chans	Spreads across all chans in all selected groups as if it was a standard (non Group) FX
Within groups	Spreads within each group as if each group was selected in turn and a FX added to that group

Parts, Segments and Direction can be used in all "Group Spread" modes. When set to "Group" these will have limited effect unless lots of groups are selected.

The "Within Groups" is particularly useful when running FX on Groups each with different numbers of heads - for example consider a three truss system with 6 heads on the front truss, 5 on the mid and 4 on the rear with corresponding Groups - Front, Mid and Back with 4,5 and 6 heads in each. Using "Within Groups" will run the FX synchronously across each truss.

11.8 FX on Heads with Duplicated Elements

When selecting FX for channels on Head with duplicated elements MagicQ prompts three options for applying the FX:

- Dup Elements

- Include Elements

- Use Elements

Dup Elements treats the elements as duplicated - i.e. all elements in the head do exactly the same thing. This is the default operation which treats all the elements in a head as one. In software prior to v1.6.5.8 this was the only supported mdoe of FX for Duplicated Heads.

Include Elements includes all the elements in the FX enabling separate control of each of the elements as if they were separate heads. For example if you apply a FX to 4 heads each with 3 elements then the FX would be spread over the 12 elements.

Use Elements runs the FX within the Heads, with all Heads performing the same FX synchronously across their elements. This is the same as Include Elements except that MagicQ automatically sets Parts to the number of elements within the heads causing all Heads to have the same offset.

When Group FX are applied to Heads with Duplicated Elements MagicQ will request how to apply to the duplicated elements. If Include Elements is selected then the Group based FX will operate across all the elements of the fixtures in the group according to the selected Group Spread - Group, All Chans, or Within Chans.

11.9 FX Window

FX can be recorded for re-use in multiple Cues when programming, or when busking live to quickly apply a complete FX over multiple heads.

The FX Window enables the storage of FX and combinations of FX that are used regularly. The FX Window is opened by pressing the FX button (formerly the ATTR button.)

					EDIT FX	ADD FX	ADD FX 0 SIZE	SAVE FX LIB	LOAD FX LIB		REMOVE ALL FX

Record FX into the FX Window in the normal way – set up the FX in the programmer and then press RECORD. All of the different FX currently in the programmer are stored including all of the size, speed and offset information. In addition, any base levels for the channels that are controlled by the FX are also stored.

To recall the FX simply select some heads, and then select the FX from the FX Window. FX can be named, moved and copied just like any windows items. FX can be played back on any head that supports the programmed attributes – not just the heads the FX was recorded with.

To edit FX you can include an FX into the programmer and then use Update.

Note that FX are actually stored as Cues – you can see them in the Cue Store – however there is no need to access them other than through the FX window.

When you program new Cues using a FX selected from the FX window, a copy of the FX is made so that you can make individual changes in the programmed Cue. Editing the FX in the FX window will not affect your programmed Cues – only new Cues programmed using the FX.

11.10 Importing and Exporting the FX Library

The FX in the FX Window can be stored to a FX library file so that the FX can be reloaded and reused in any MagicQ show. Use the SAVE FX LIB to make a FX library file – all the FX in the FX window are stored to the file. The FX are saved as generic FX – i.e. they can be played back on any type of head as long as it has the same attributes. Reload a FX library using the LOAD FX LIB.

Chapter 12

Programmer

The programmer is the function of MagicQ where show data is configured for recording. The programmer takes priority over all playbacks. It can also be used during live running to override the outputs – for example, for changing the colour or gobo of intelligent heads.

MagicQ outputs any channels that are active in the programmer at highest priority – i.e. they over-ride all other playbacks.

12.1   What is in the programmer?

The Prog Window enables you to determine exactly what is in the programmer and how it is configured. Press PROG to open the window. The programmer stores three types of data

- Channel Levels

- Channel Times

- Channel FX

In the Prog Window there are three views, corresponding to the three types of data – View Levels, View Times and View FX. Use the three top left soft buttons to select the view.

In the Channel Times and Channel View windows you have a choice of a Simple View or an Advanced View. The Simple View is sufficient for most programming – it enables modifications of fade times on a per attribute type basis and modifications of each programmed FX. The Advanced View enables fade times and FX parameters to be set up on a per channel basis.

In Levels View select Advanced View to view the raw values rather than the palette/range names.

The LED on the CLEAR button is illuminated when there is data in the programmer.

A second copy of the Programmer Window, the Programmer Info Window can be opened for displaying on an external monitor. Press CTRL + Prog to open the Programmer Info Window.

12.2   Clearing the programmer

Programmer cleared
>

To clear the Programmer press CLEAR. All channels will be deactivated and all HTP channels will be set to zero.

Pressing SHIFT CLEAR clears the heads that you have currently selected. Use this to clear one or more heads without clearing all heads from the programmer.

To clear the programmer over a period of time, type a number before pressing CLEAR, e.g. Press 5 CLEAR to clear the programmer over 5 seconds.

To set all channels to default values use CTRL + CLEAR (supported from v1.7.2.1 and above).

It is possible to force all LTP channels to zero by using SHIFT + CTRL + CLEAR. (supported from v1.7.2.1 - in previous version this was supported on CTRL + CLEAR).

12.3   Activation by Channel or by Head?

After CLEAR has been pressed, the programmer is empty - i.e. there are no channels active in the programmer. When the level of a dimmer channel or an attribute of an intelligent head is changed for the first time then it becomes active in the programmer.

For heads with multiple channels, there is a choice here as to how the other attributes of a head are affected by the activation of one of the head attributes.

By default, if one attribute of a head is changed then only that attribute is activated - this is referred to as "Activation by Chan". This can be modified in the Setup Window in the "Activate chans/head" option. When set to "head" then when one attribute of a head is changed, all the attributes of the head are activated. For LTP channels the values of the attributes in the programmer are set to the current output value. HTP channels will remain at zero.

MagicQ also supports "IPCB", "IPC" and "Col". These group similar parameters together, so for example if you touch a colour attribute or the colour attributes are loaded into the programmer. "IPCB" means all Intensity, Position, Colour and Beam attributes work in this way, whereas "IPC" only works on Intensity, Position and Colour attributes, not Beam attributes.

Performing a LOCATE activates all parameters. At any time all of the attributes of the selected heads can be forced into the programmer by opening the Programmer Window, holding SHIFT and pressing ACTIVE.

12.4   Recording a Cue

The basic unit of storage on the console is the Cue, which stores

- Level information

- Timing information

- FX information

This corresponds to the information in the programmer - recording a Cue is simply a matter of transferring what is in the programmer into the Cue.

To record a Cue, first set up the look, then press RECORD and press the SELECT button of the Playback to record the Cue onto.

To name the Cue, key in the name before pressing RECORD. You can name a Cue that has already been recorded by keying in the name, pressing SET and pressing the Select button for the Playback that the Cue was recorded onto.

To test the Cue, first clear the programmer by pressing CLEAR then raise the Playback fader or press the Playback FLASH button.

When a Cue is recorded it is automatically added to the Cue Store - a list of all Cues stored in the show. The Cue will be given a unique Cue Number (e.g. Q1). This enables the Cue to be re-used in future programming.

To view a recorded Cue, press the SELECT button for the Playback, and then press CUE to open the Cue Window.

The Cue Window is very similar to the Programmer Window - it has the same views for Levels, Timing and FX.

12.4.1 Levels

All active channels in the programmer are transferred into the Cue. Thus if "Activation by Head" is in use then all the attributes of activated heads will be stored.

If the channel level was set using a Palette, then that is also recorded so that the Cue can keep track of changes to the Palette. When you subsequently change the Palette the changes will be reflected in the Cue.

12.4.2 Timing

The timing information in the programmer is copied into the Cue. Cue timing can be set up before or after the Cue is recorded.

Timing information for channels consists of two types:

General Times: stored for each type of attribute (Int In, Int Out, Position, Colour, Beam)

Individual Times: stored on an individual channel basis

All Cues have General Times whereas Individual Times are optional. When a Cue has Individual Times then these override the General Times. Cues can have Individual Times set for only certain heads or attributes – in this case Individual Times will be used for those heads and attributes, whilst the General Times will be used for all other heads and attributes.

12.4.3 FX

The Cue stores FX information for each of the FX that is in the programmer.

12.5 Split Cue Times

It is possible to add Split Cue times (different times for different heads) both before a Cue is programmed in the Programmer Window and afterwards in the Cue Window.

Split times can be added by playing back Palettes with time or by directly editing the Times in the Programmer or Cue Windows.

In both the Programmer and the Cue Window the View Times has two views – View Simple and View Advanced. View Simple is used for simple changes to times including entering split times across the selected heads. View Advanced is used for editing attribute times for a particular head one by one.

12.5.1 View Simple

The View Simple shows both General Times and Individual Times. The General Times are the times that are applied by default to attributes in the Cue – i.e. if you do not specify any Individual Time for an attribute on a head then the General Times will be used. The Individual Times lets you enter times for specific heads and for specific attributes.

If you select some heads selected then the Individual Times will show you the times for those heads otherwise it will show times for all heads in the Cue. If heads have different then the lowest and highest times are shown.

You can set split times in the Individual Times by selecting some heads and entering the shortest time followed by THRU and then the longest time. For instance, if you enter 4 THRU 8 in the fade field then it will set a fade times from 4 seconds to 8 seconds across the selected heads. The order is determined by the current order within the selected heads – you can change the selection order from the Group Window.

Using the NEXT HEAD, PREV HEAD displays the times for individual heads so you can step through each of the heads in turn to see their times. Use All to get back to the summary for all selected heads.

It is possible to set individual times on a per attribute view – but you must have some heads selected for this to work.

Use REMOVE to remove delay and fade times from heads – the times will be removed and MagicQ will use the General Times for these heads.

12.5.1.1   Fade Type

It is possible to specify the fade type in both the Programmer Window, View Times and Cue Window, View Times.

• Default – fades according to Instant attribute in Personality

• Fade – always fades

• Snap at start – always snaps at beginning of fade

• Snap at end – always snaps at end of fade

• Damped - fades using a damped fade curve - starts slowly, speeds up, slows down

• Slow start - starts slowly, finishes fast

• Slow end - starts fast, finishes slowly

Fade types can be set for individual attributes or for attribute types such as Intensity, Position, Colour, Beam.

Note that as per individual delay and fade times, the fade type is only adjustable for attributes that are in the Programmer / Cue.

12.5.2 View Advanced

In the View Advanced you can set delay and fade times on a per head and per attribute basis one at a time. It is also possible to set multiple heads and multiple attributes by highlighting multiple items using SHIFT and the cursor keys. To fan times across heads use Simple View.

12.6 Recording to a specific Cue Id

To Record to a specific Cue Id in a Cue Stack, enter the Cue Id number on the keypad before you press RECORD and select the Playback S button.

It is also possible when the Setup option "Select Heads and Palettes from keypad" is set to record Cues using only the keypad.

Press RECORD + ENTER to record directly to the currently selected Playback. You can record to a specific Cue Id on the currently selected playback by entering a number and pressing RECORD + ENTER.

You can record to a specific Cue Id and Playback by entering the Playback number followed by /, followed by the Cue Id and pressing RECORD + ENTER.

For example 6/2.0 ENTER records to Playback 6, Cue Id 2.0.

12.7 Snapshot Icons

MagicQ stores Snapshot images of the Visualisation, Media or Pixel Mapping output when recording Cues and Palettes enabling easy identification of the contents of Cues and Palettes. MagicQ grabs Snapshots directly from MagicVis and MagicHD. MagicQ can also grab Snapshots from Capture using CITP and from MSEX compliant Media Servers. Snapshots are stored into extended show files which can be transferred between consoles.

MagicQ will only store snapshot icons when the relevant Visualiser / Media Server is active and connected.

12.8 Record Options

Record options can be accessed when recording by pressing SHIFT and RECORD or at any time using the REC OPTIONS soft button in the Programmer Window.

12.8.1 Record Short cuts

There are many short-cuts keys for recording

Record Merge

Hold S and press REC	Record Merge into Current Cue on Playback
REC 0 ENTER	Record Merge into Current Cue on Playback
REC UPDATE	Record Merge into Current Cue on Playback
Hold + and press REC	Record Merge (then choose where to merge)
Hold – and press REC	Record Remove (then choose where to record)

Record Cue Only

Hold / and press REC	Record cue only (then choose where to record)

Record selected heads only

Hold * and press REC	Record selected heads only
Hold * and + and press REC	Record merge selected heads only
Hold * and - and press REC	Record remove selected heads only

12.8.2 Masking

The console supports comprehensive masking facilities to enable the operator to select which attributes are recorded from the programmer into Cues.

By default there is no masking applied - all channels in the programmer are recorded into Cues. Two types of masking can be applied - masking by attribute type and masking by attribute.

Masking by attribute type enables the operator to select which of the intensity, position, colour and beam attribute types is recorded. Press the REC INT, REC POS, REC COL and REC BEAM soft buttons to select the attribute types to be recorded.

Select attributes in the Record Options Window to select to record individual attributes into the Cue.

Select Entire State to record all the values in the Programmer regardless of whether they have been changed since the last Cue was record – this forces a blocking Cue to be recorded with hard values. Use ALL + RECORD as a shortcut to select Entire State.

The Status Display indicates when any masking is active. Masking is cleared once a Cue is recorded - this can be prevented by pressing the LOCK MASK soft button in the Record Options Window.

The Record Option Window displays individual attribute names based on the currently selected head so that it is easy to recognise the attributes to select. If no heads are currently selected then it uses the first active head in the programmer.

Masking can be selected quickly by holding Intensity, Position, Beam or Colour and pressing RECORD for recording only the selected attributes.

12.8.3 Options

The console supports several additional options for recording Cues. These include recording all the channels from heads regardless of whether they are active in the programmer and recording only heads that are currently selected. Press the REC OPTIONS soft button and select an option.

Record options return to the defaults once a Cue is recorded.

12.9   Active

MagicQ has an Active function for loading attributes into the programmer at their current value. This can be used to ensure that the programmer contains all the attributes of the selected heads, or to add in individual attributes to the programmer.

To make individual attributes active in the programmer, hold SET and press the soft button associated with the attribute in the Intensity, Position, Colour, Beam windows.

It is also possible to make active entire Intensity, Position, Colour or Beam attributes by holding Position, Colour or Beam or Intensity and pressing SET.

To make all the attributes of a group of heads active, first select the heads you want to control, then hold * and press SET. Alternatively in the Programmer Window press SHIFT and select ACTIVE.

12.10   Removing channels from the Programmer

12.10.1   Removing channels using the REMOVE button

To remove (knock out) items from the programmer.

- Select the heads you wish to remove attributes from. If no heads are selected then all active heads in the programmer are affected.

Then choose one of the following methods

- Hold REMOVE and press All, Position, Colour, Beam. This removes all attributes of these of Intensity, Position, Colour or Beam.

- Hold REMOVE and turn an encoder wheel or press the soft button in the Beam, Colour, Position or Group windows – the specified attribute will be removed.

- Hold All, Position, Colour or Beam and press REMOVE. This removes all attributes of these of Intensity, Position, Colour or Beam.

- Hold a soft button in the Beam, Colour, Position or Group windows and press REMOVE. The specified attribute will be removed.

- Hold * and press REMOVE to remove all attributes of the selected heads.

12.10.2   Removing channels using the Programmer Window

It is also possible to remove attributes from the programmer by editing the spread sheet view in the Programmer Window.

Select the item (s) with the cursor that you wish to remove from the programmer and then press the REMOVE soft button.

For example, to remove the iris attributes for all heads in the programmer:

- Select VIEW LEVELS in the Prog View.

- Select the entire Iris column (move to the top, hold SHIFT and press END)

- Press the REMOVE ATTR soft button.

To remove, all of the attributes of MAC500 head numbers 2 and 3 from the programmer:

- Select VIEW LEVELS in the Prog View.

- Move the cursor to the Head Name column.

- Select MAC500s 2 and 3 (move to the row for number 2, hold SHIFT, move to row for number 3)

- Press the REMOVE HEAD soft button.

To remove, the FX for head number 2:

- Select VIEW LEVELS in the Prog View.

- Select ADV VIEW.

- Move the cursor to the Head Name column for Mac number 2.

- Press the REMOVE HEAD FX soft button.

12.11   Making channels hard values

Channels in the programmer can be set to have hard values instead of palette values. This function can be accessed in the Programmer Window, View Levels with SHIFT + MAKE HARD. All attributes of the currently selected heads that are active in the programmer are made hard (non palette) values. If no heads are selected then all heads in the programmer are affected.

Keyboard shortcuts are also available by holding POS, COL, BEAM, * or one of the attribute soft buttons and pressing INC. This operates in a similar way to making channels active using SET, knocking out channels using REMOVE or partial locating channels with LOCATE.

To make channels hard in the the programmer.

- Select the heads you wish to remove attributes from. If no heads are selected then all active heads in the programmer are affected.

Then choose one of the following methods

- Hold INCLUDE and press All, Position, Colour, Beam. This makes the Intensity, Position, Colour or Beam attributes hard.

- Hold INCLUDE and turn an encoder wheel or press the soft button in the Beam, Colour, Position or Group windows – the specified attribute will be made a hard value.

- Hold All, Position, Colour or Beam and press INCLUDE. This makes all of the Intensity, Position, Colour or Beam attributes hard values.

- Hold a soft button in the Beam, Colour, Position or Group windows and press INCLUDE. Channels of the specified attribute will be made hard.

- Hold * and press INCLUDE to set all attributes of the selected heads to hard values.

12.12   Copy between heads

You can copy between heads using the keypad. To copy the head data, select some heads from the keypad, press COPY and then enter the destination heads. For example, to copy from heads 1 to 2 to heads 5 to 8

1 THRU 2 COPY 5 THRU 8 ENTER

MagicQ also supports the @ Syntax.

COPY 1 THRU 2 @ 5 THRU 8 ENTER

It is not necessary to have the same number of source heads as destination heads. Each of the source heads is used in turn to copy data to the destination heads.

If the source head is using a palette for an attribute then the destination head automatically also uses the palette - but uses its value from the palette, not the value from the source head.

Head data can be copied between different types of heads. If the source head is not using a palette then MagicQ will try to match range information - for example if the source head has a random strobe in the shutter channel then MagicQ will try to find a random strobe in the shutter channel of the destination head. If no range match can be found then MagicQ simply uses the hard value from the source head.

In 1.6.7.4 a setting has been added to determine whether copying of heads in the programmer is limited to the attributes that are in the programmer or whether it includes attributes that are active on playbacks. The setting is in Setup, View Settings, Cue Storage, Copy Heads Mode. Note that in v1.6.6.9 to 1.6.7.3 MagicQ always copied from both programmer and active playbacks. Prior to v1.6.6.9 only attributes in the programmer were copied.

Fade times will only be copied if the source head has level data in the programmer. FX data will only be copied between heads where the source head has FX data in the programmer.

Selected attributes can be copied rather than the entire head, by using SHIFT + COPY instead of COPY and setting the attribute mask. A shortcut to copy just one attribute type is to hold the attribute type button and press COPY - e.g. to copy just colour, hold COLOUR and press COPY.

COPY GROUP 1 @ 2 ENTER will copy head data from heads in Group 1 to heads in Group 2.

You can copy from the current selection to other heads by using the COPY @ syntax, e.g. to copy from currently selected heads to heads 1 and 2:

COPY @ 1 THRU 2 ENTER.

Copying head data in this way respects sub selection on the source - so when sub selection is active then it will only copy from heads that are sub selected not from all heads that are selected.

12.13 Blind programming

A show can be programmed without affecting the state of the outputs using blind programming mode. In this mode the programmer will operate as normal (with the current levels being displayed in the Prog Window) but the contents of the programmer will not be output.

Enter and exit blind mode by pressing the BLIND button. The button illuminates to indicate blind mode is active and BLIND is indicated in the status display.

Blind mode is also useful during playback for busking in FX. For example you might wish to set up a FX on some moving heads using blind mode – configuring the speed and size before you make it live.

You can enter and exit blind mode with times. For example, press 10 BLIND to enter blind mode over 10 seconds.

12.14 Parking (freezing) channels

It is possible to park (freeze) channels using the PARK soft button in the Group Window. Press SHIFT + PARK to unpark channels.

All attributes of selected heads that are in the programmer are parked/unparked. To make all the attributes of the selected heads active, go to the Programmer Window and press SHIFT and ACTIVE.

Parking persists over shutdowns and resets. Parking information is stored in the show file.

Parking forces HTP values to the parked value regardless of other playbacks (In Group window, SHIFT + ACTIVE).

Chapter 13

Outputs Windows

On MagicQ you can view the Outputs in many different ways. MagicQ supports up to 4 different Output Windows. This allows four different output views to be viewed simultaneously.

Press the Out button to open the main Output Window. Press 2 and then Out to open the second Output Window, 3 + Out for Output Window 3 and 4 + Out for Output Window 4. The 2nd Output Window – the Output Info Window can also be opened by pressing CTRL + OUT.

In the Outputs Window, just as in the Programmer Window and Palette View Window there is auto ordering of heads. MagicQ orders the heads according to the selection order. When no heads are selected the order is the normal head order. Auto ordering can be turned off in the Setup Window under Windows, "Auto Row ordering".

The Outputs Window has many different views – press the soft buttons on the top left hand side to change the views.

13.1   Heads View

The Heads View shows information for all of the heads patched in the show - press the VIEW HEADS soft button.

The sort order of the heads is as chosen in the Patch Window, Sort Head. If the Setup option, View Settings, Windows, Auto Row Ordering is set to "yes" then the sort order is modified to show the currently selected heads at the top.

The Output values shown are the values calculated internally in MagicQ BEFORE any patch adjustments are made such as dimmer curves, offsets, inverts, merges, min and max and vdims.

Press CTRL and SHIFT to see the 16bit raw DMX output values.

You can request only information for certain heads to be shown by using the PROG ONLY, SEL ONLY and SEL PB soft buttons. These show respectively, heads that are active in the programmer, selected heads, and heads in the current cue on the selected playback.

You can choose what information is shown for the heads using the VIEW VALS, VIEW RAW and VIEW PLAYBACK and VIEW CUE IDS soft buttons. VIEW VALS shows the values including range and palette names. VIEW RAW shows the numeric values. VIEW PLAYBACKS shows which Playback is controlling the attribute and VIEW CUE IDS shows which Cue ID in a Playback is controlling the attribute.

OUTPUTS																					
Hd name	Hd type	No	Dim	Pan	Tilt	Col1	Cyan	Mage	Yell	Shut	Iris	Gobo	Gobo	G1Sp	G1Sp	Focu	Zoom	Effe	Ef_S	Lens	FX4	Cont
cf7	cf7he	51	100%	064	104		000	000	255	open	wide >	open g	open g	000	gobo in	000	128	effect c	effect ir	iris focu		lamp or
cf7	cf7he	52	100%	064	104		000	000	255	open	wide >	open g	open g	000	gobo in	000	128	effect c	effect ir	iris focu		lamp or
cf7	cf7he	53	100%	192	104		000	000	255	open	wide >	open g	open g	000	gobo in	000	128	effect c	effect ir	iris focu		lamp or
cf7	cf7he	54	100%	192	104		000	000	255	open	wide >	open g	open g	000	gobo in	000	128	effect c	effect ir	iris focu		lamp or
m250	mac250	46	100%	130	065	000				open		open g		000		070		prism of		000	000	
m250	mac250	47	100%	068	106	000				open		open g		000		070		prism of		000	000	
m250	mac250	48	100%	089	177	000				open		open g		000		070		prism of		000	000	
m250	mac250	49	100%	162	181	000				open		open g		000		070		prism of		000	000	
m250	mac250	50	100%	189	111	000				open		open g		000		070		prism of		000	000	
spots	no col	1	0%																			
spots	no col	2	0%																			
spots	no col	3	0%																			

The following colours are used:

Red: Attributes that are in the Programmer

White: Attributes under control of a Playback.

Blue: Attributes controlled by the currently selected Playback

Grey: Attributes not under control of Playbacks or Programmer

13.2   Intensity View

The Intensity View shows just intensity information for the patched heads enabling a large number of heads to be shown within the window. Press the VIEW CHANS and VIEW INT soft buttons. Intensity level is shown as a percentage (%).

The sort order of the heads is as chosen in the Patch Window, Sort Head. If the Setup option, View Settings, Windows, Auto Row Ordering is set to "yes" then the sort order is modified to show the currently selected heads at the top.

The Output values shown are the values calculated internally in MagicQ BEFORE any patch adjustments are made such as dimmer curves, offsets, inverts, merges, min and max and vdims.

Use the VIEW HORIZ soft button to change whether heads are shown horizontally or vertically.

The VIEW NAMES soft button allows names to be shown. Deselect this option if you wish to maximise the number of heads shown in this window or you wish to have a more traditional theatre channel list view.

The VIEW COLS soft buttons allows colours to show the state of the channel.

Red	In programmer
Cyan	Increasing value
Green	Decreasing value
White	Static value controlled by Playback/Cue
Magenta	Tracked value

13.3   DMX Channels View

The DMX Channels View shows the actual values that are being output on the DMX or on the network. Press the VIEW CHANS, VIEW DMX and VIEW VALS soft buttons. Note that these values are the real output values – if the output is enabled then these values will be the values transmitted in the DMX packets on the wire. Inversions, merging, and all other modifications are made to the values before they are displayed in this Window.

Intensity channels are shown in red, position in green, colour in purple and beam in yellow. Channels that are not patched are shown in grey.

Use the View Names option on soft button B to make it easier to find specific DMX channel outputs.

Use the VIEW INPUTS / VIEW OUTPUTS soft buttons to view the DMX / network values that are being received rather than the ones being transmitted.

When viewing the Inputs it is possible to select the VIEW MIN MAX soft button to show the maximum values received. Deselecting the VIEW MIN MAX resets the view.

VIEW ARTNET changes to a view of the first 256 Art-Net universes with a count of the number of Art-Net packets being received on each universe per second. From v1.7.1.3, counts in red show an Art-Net universe where there is a conflict from 2 or more consoles.

13.4   Movement View

Press the VIEW CHANS, VIEW DMX and VIEW MOVE soft buttons for movement view.

The movement view shows the relative positions of heads in terms of pan and tilt range on a 2D map. It also shows the current colour of the heads. This enables previewing of FX and relative positions without the lighting rig. Press the VIEW CHANS, VIEW DMX, VIEW MOVE soft buttons.

13.5   Chart View

Press the VIEW CHANS, VIEW DMX and VIEW CHART soft buttons for chart view.

In this view whole universes of DMX are shown in a graphical format. Use Encoder A to change the starting universe.

Press VIEW INPUTS to view the DMX inputs to the console instead of the outputs.

13.6   Plan View

Plan View enables 2D plans of the stage rig constructed and viewed. It also enables grids of LED or dimmers to be created for use with the in-built pixel mapping (Bitmap FX) engine. Press the VIEW PLAN soft button.

13.6.1   Creating rig plans

It is possible to create a rig plan in the Outputs window, so that you can easily identify the levels and colours of your moving lights based on their position in the lighting rig. The model of the rig in MagicQ consists of a grid - each cell can be assigned to a particular head number.
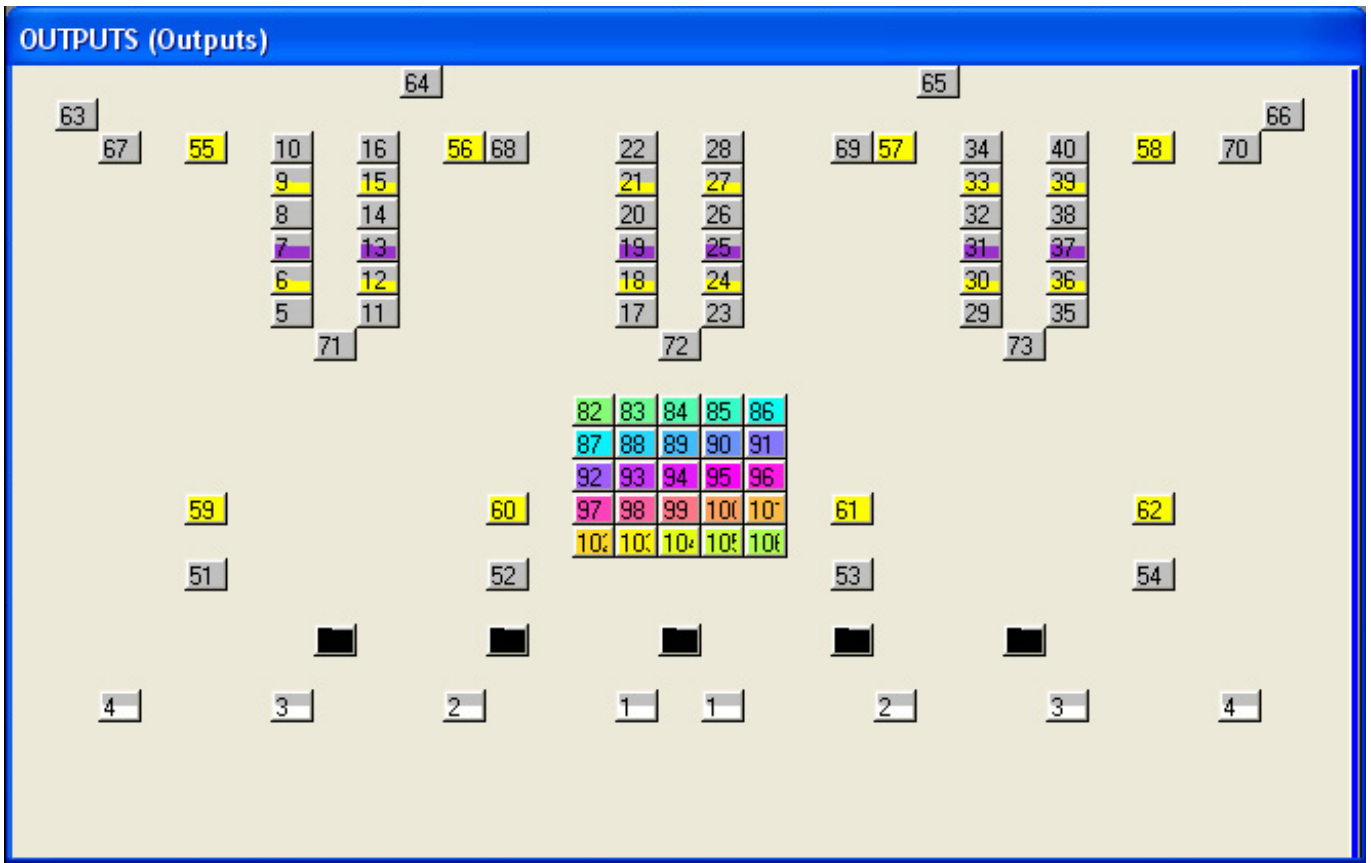
In the Outputs Window, select View Plan. Then select View Grid and View Hd Nos. Press Grid Size and enter a matrix size for your lighting rig – e.g. 30/20 gives a 30 by 20 grid.

A grid is now displayed. In each of the boxes enter the head number of the head that you wish to be represented in this box. In order to make best use of this feature all heads should have unique numbers.

The grid can be zoomed on encoder E.

13.6.2   Inserting heads using heads numbers

You can use SHIFT or CTRL and the cursor keys to cursor select a number of items and set a sequence of head numbers starting from the entered head number. The order of the cursor selection determines how the items are ordered - for example, cursor selecting an area from bottom right to bottom left and then to top left will cause the heads to be number from bottom right to top left starting horizontally.

Note that it is not necessary to have a head number assigned to every cell in the grid – cells can be blank. This enables the lights to be positioned in the grid in a corresponding way to how the heads are positioned on the rig.

To remove a head number from a cell, press REMOVE and select the cell. Move and Copy can also be used to quickly move or copy one or more cells.

13.6.3   Inserting Heads using Insert Heads

You can use the INSERT HEADS button to insert the currently selected heads into the grid. The heads are placed in order of head number. If no heads are selected then all heads from the patch are inserted.

The Insert Heads soft button has the options Horiz, Vert, Dup Ele (Horiz), Dup Ele (Vert), 3D and and Col Web.

Horiz, Vert insert into the Grid in the horizontal or vertical direction. Multi element heads will be inserted into separate grid cells according to the width and height specifiers in the personality and using the shape from the personality to determine the orientation of the multiple elements. Duplicate element heads will be inserted as a single cell.

Dup Ele (Horiz) and Dup Ele (vert) are used to insert all the elements of a Duplicated Element head into the grid as separate cells. The duplicated elements will be inserted into separate grid cells according to the width and height specifiers in the personality and using the shape from the personality to determine the orientation of the duplicated elements.

Note that Horiz and Vert refer to the relationship between separate heads, not the orientation of the multi elements or duplicated elements within a head. To rotate a multi element or a duplicated element head to an orientation that is different to that specified in the personality, use the Output Multi Head Support below.

3D is used for inserting for 3D pixel mapping in the 3rd dimension - only multi element heads can be inserted in 3D.

Col Web is for inserted Col Web only.

13.6.4   Output Grid Multi Head Support

The Output Grids supports manipulation of multi element heads and duplicated heads as complete objects. Multi Head mode is enabled on soft button D.

In Multi Head mode, MagicQ automatically keeps tracks of the elements of the the multi element or duplicated heads, adjusting them each time the head is inserted, moved or rotated in the Grid.

Setting Multi Head "off" will change back to each element operating independently as in previous versions of software.

13.6.5   Output Grid display modes

Press View Colours to view the outputs of your rig. When a head has a level greater than 0% the box starts to get filled until at 100% it is completely filled. The colour of the lamp is also indicated.

Pressing SHIFT + VIEW HD+INT shows both the head number and the current intensity.

Pressing SHIFT + VIEW CUE shows the contents of the current Cue instead of the Output. The current Cue is the Cue that is showing in the Cue Window - which normally is the active Cue on the currently selected Playback - unless the Cue Window has been locked to a specific Cue in a Cue Stack.

13.6.6   Selection of heads in Outputs Plan View

Heads can be selected from the plan view and then their parameters changed by pressing and holding the Group, Position, Colour or Beam buttons. When the programmer setting "Highlight defaults beam and colour" is enabled, any heads selected will have their dimmer set to 100% in open white.

When the Outputs Plan view is used as a stage plan it is possible to select multiple heads in a row or column by clicking on blank spaces in the grid.

Clicking on a blank space at the top edge of the grid will select/deselect heads in the whole column depending on the current selection state of the heads.

Clicking on a blank space on the left edge of the grid will select/deselect heads in the whole row depending on the current selection state of the heads.

Clicking on a blank space at the bottom edge of the grid will select the whole column regardless of the current state of selection of the heads.

Clicking on a blank space at the right edge of the grid will deselect the whole row regardless of the current state of selection of the heads.

Clicking within the grid on a blank space that is adjacent to a head will have the same effect as above – but only for all the heads directly adjacent to each other. As it is possible that the blank space that is clicked on may have more than one adjacent head, the priority is left, top, right, bottom.

For other plans where head numbers are packed into the grid with no blank spaces – e.g. LED arrays, it is still possible to use this method but the grid must have blank spaces around the edges of the grid.

13.6.7   Groups within Grids

From v1.7.6.8 it is possible to mix both individual heads and groups within a Grid.

Create a Grid as normal and then copy any required Groups from the Group Window into the Grid.

Groups in Grids can be used to select fixtures and are also used by the Pixel Mapper to output for all heads in the group instead of just for one head.

Note that if you wish to make an entire Grid work on Groups then this continues to be supported using Soft Button B "Grid Type" to select "Groups" instead of "Heads". All boxs in the Grid now refer to Groups instead of Heads.

Chapter 14

Editing Cues

14.1 Including Cues into the Programmer

A programmed Cue can be included back into the Programmer so that the information can be used to program further Cues. When a Cue is included all the level, timing and FX information is loaded. The only exception is if the Programmer already contains FX information for the heads - in this case the FX information from the Cue is ignored.

Cues can be included directly from Playbacks - the current Cue in the Cue Stack is included. Cues can also be included from the Cue Stack, Cue and Cue Store Windows.

Including of Cues is an easy way to edit Cues. You can also use the Record Options to specify that only part of the Cue should be included into the programmer – for example only selected heads or only certain attributes. Press SHIFT and INCLUDE to get the options.

Masking can be selected quickly by holding Intensity, Position, Beam or Colour and pressing INCLUDE for including only the selected attributes.

By default only the data recorded into the specified Cue is included into the programmer. Use the Entire State option when including Cues into the programmer to include the whole tracking state of a Cue. The short cue ALL + INCLUDE can be used to select Entire State.

When Cues are included into the Programmer then the channels from the Cue are automatically selected if the Setup option "Select Heads on Include" is set. At any time, CTRL + ALL selects all heads in the programmer.

14.1.1 Including Cues at a specified level

By default Include loads the Cue into the programmer at 100%. It is possible to modify this action using the keypad to use selected levels.

To include a Playback or Cue at a particular level (e.g. 40%), press INCLUDE, type @ 40 and select the Playback or Cue to include.

To include a playback at its current level press INCLUDE, type @ and press the Select button of the playback.

14.1.2 Snapshot

The Snapshot function enables the complete current output to be loaded into the programmer and hence recorded into a Cue. This function takes the Cues running on all active playbacks and includes them into the programmer based on the level of the fader. Both channel information and FX information is included into the programmer.

To snapshot the current output, open the Programmer Window and press the Snapshot soft button.

There is a shortcut for recording a complete snapshot - hold THRU and press REC.

14.2 Editing using Include and Update method

Cues can be edited using INCLUDE and UPDATE. This includes the Cue data into the programmer where it can then be changed, before it is saved back to the Cue using Update.

First, clear the Programmer, then include the required Cue back into the Programmer. Modify the required values in the Programmer and then use Update to re-record the Cue.

You can include multiple Cues into the programmer. When you press UPDATE, the last Cue that you included will be modified. The Status Display shows which Cue was the last one to be Included.

14.3 Record Merge (Updating a Cue with the contents of the programmer)

You can quickly and easily merge the contents of the programmer into the current Cue on a Playback by holding the S button for the playback and pressing REC. The programmer is merged into the current Cue on the Playback.

To merge into a specific Cue on a Playback, hold + and REC to select Record Merge and then type the Cue ID on the keypad before pressing the S button for the Playback.

14.4 Making changes to multiple Cues

Changes can be made to multiple Cues using the REC MERGE and REC REMOVE record options to specify a change in the programmer which is then merged with or removed from a number of Cues.

There are some short-cuts for selecting RECORD MERGE and RECORD REMOVE

Hold '+' and press REC for REC MERGE

Hold '-' and press REC for REC REMOVE

14.4.1 Changes to multiple Cues using keypad

MagicQ supports record merging / record removing to a range of cues using the keypad – for example, to merge into Cue ids 2 through 4:

RECORD MERGE 2 THRU 4 S

This function also works for the shortcuts – e.g. holding S and then typing a range of Cue Ids before pressing RECORD.

Both the THRU and the + and – operators are supported.

14.4.2 Changes to multiple Cues using Cue Stack window

To remove all the pan and tilt information for a group of heads from all the Cues in a Cue Stack on a particular playback.

Clear the programmer.

Select the heads and modify the pan and tilt attributes.

Open the Cue Stack Window and select the playback with the Cue Stack to modify.

In the Cue Window, use cursor keys to select all the Cues (PG LEFT, HOME, SHIFT+END).

Press SHIFT + RECORD and select REC REMOVE record option.

Press ENTER.

14.5 Editing using Update

MagicQ supports a function for easy updating of Cues and Palettes without first Including the Cues and Palettes. This is useful when making modifications to a pre-programmed show.

When you press Update (when not in Include Mode) a list of all the Palettes and Cues that have been over-riden is shown. You can then choose which of the Palettes and Cues to update by selecting from the select box. One you have finished your selection press the "Done" button. You can press "Cancel" at any point to cancel the Update.

When using a tracking Cue Stack, MagicQ will show all the Cues that have been overriden in the Stack – hence you can make an update even if the attributes were used in a previous Cue on that Cue Stack.

Pressing SHIFT + UPDATE forces an update using the above method even if a Cue was previously included.

14.6 Direct Modification of Intensities in Cues

To add or change the intensity of heads (or dimmer channels) recorded into a Cue on a Playback without using the programmer, press and hold the SELECT button of the Playback with the Cue to be modified. Then use the keypad to adjust the intensity channels – e.g. typing 1 THRU 4 @ FULL will add channels 1 to 4 at FULL into the current Cue on the Playback. The change is immediate and permanent. The programmer is not affected.

Setting intensities in a Cue can be absolute - e.g. setting some heads to 50% - or relative, e.g. setting some heads +10% where they are already used.

To remove a level from the current Cue on a Cue Stack – hold the S button and set the channel at the special level . .

```
For example, whilst holding S type
```

1 @ FULL Sets head 1 to FULL in current cue on Playback with S held 1 @ +10 Adjusts head 1 intensity +10% in current cue on Playback with S held 1 @ FULL THRU Sets head 1 to FULL in all cues on Playback with S held 1 @ +10 THRU Adjusts head 1 intensity +10% in all cues on Playback with S held 1 @ .. THRU Removes head 1 intensity in all cues on Playback with S held

Note that in order to use THRU at the end of the syntax line to select all Cues in the Playback the Setup option, View Setup, View Settings, Keypad, Auto Enter on Intensity Set, must be set to No.

14.7 Copy heads in Cues

To COPY HEADS in a Cue / Cue Stack use one of the following:

• Hold + and COPY

• Press SHIFT + COPY and select the COPY HEADS option

• Press COPY HEADS option from the Copy toolbar (when Always Show Record Options = Yes)

Once in COPY HEADS mode choose the heads to copy by either selecting from the keypad

2 @ 3 ENTER

Or from the Group Window by selecting a source and destination Group.

Finally select an item to copy heads in - for example press the S button of a Playback.

If a Playback has more than one step then MagicQ will offer the choice of copying heads in the Entire Cue Stack or in a specific Cue. It is also possible to manually enter the steps to copy heads in before pressing the S button.

The process of a selecting a Cue Stack and Cues is similar to the process when record merging or record removing in Cues/Cue Stacks - just in this case a copy head data operation is carried out instead of a merge/remove from the Cue/Cues.

Chapter 15

Cue Stacks

MagicQ stores sequence of Cues as Cue Stacks. Cue Stacks keep track of the order of the cues and the options for how they are played back. A Cue Stack may have only one Cue associated with it or may have a whole list of Cues.

When you record a Cue onto a Playback, MagicQ automatically generates a Cue Stack. MagicQ adds the Cue Stack to the Stack Store. The Stack Store is a list of all Cue Stacks stored in the show. The Cue Stack will be given a unique Cue Stack Number (e.g. CS1). This enables the Cue Stack to be re-used in future programming.

If a Playback already has a Cue Stack stored on it, then by default the new Cue will be added to the end of the Cue Stack. However if you key in a Cue Id before pressing RECORD then the Cue will be inserted into the Cue Stack in the appropriate place.

To view a Cue Stack, press the SELECT button of the Playback and then CUE STACK to open the Cue Stack Window. Alternatively double click the SELECT button of the Playback.

15.1   Cue Stack Window

The Cue Stack Window shows details of all the Cues in the Cue Stack including their names, numbers and timing information. The fields can be edited in a similar way to the Prog Window and Patch Windows.

Status	Cue id	Cue text	Wait	Halt	Delay	Fade	Cue	Next cue	Timing	Track	Block FX	Cue Only	Macro
*	1.00	Start	Follow	Yes	0.00s	3.00s	Q34 Start	Next	Cue	L	No	No	
	2.00	Move1	Follow	Yes	0.00s	3.00s	Q35 Move1	Next	Cue	L	No	No	
	3.00	Move2	Follow	Yes	0.00s	3.00s	Q36 Move2	1.00	Cue	L	No	No	
End (0.00s)													

CUE STACK (CS17: 1200spots)

The status field indicates the current status of the Cue in the Cue Stack. If the Cue is active (i.e. it is in the process of execution) then the field indicates a % complete and the entire cue is coloured red.

Each Cue within a Cue Stack has a Cue Id (e.g. 1.0). This value is specific to the Cue Stack and is used for tying up Cues with a script in theatre style playback. It is distinct from the Cue Number (e.g. Q1) used to identify the Cue in the Cue Store.

Each Cue also has some text associated with it. This text enables easy recognition of the contents of the Cue when the Cue Stack is played back. This text is displayed above the main Playbacks. It can also be displayed on the displays above the Wing Playbacks.

Soft button A can be used to select different views. The different view modes show the columns in different orders. View modes include Default, Info, Macro and Tracking and Media.

It is possible to open two cue stack windows on MagicQ systems. To open a second cue stack window using CNTRL + Cue Stack window button. The Choose Cue stack soft button inside the window can be used to lock a cue stack window to a particular stack.

15.2   Chase Timing

When you record more than one Cue onto a Cue Stack, the Cue Stack behaviour kicks in to control the transition from one Cue to another. By default the Cue Stack operates like a chase - i.e. each Cue is executed in turn, with timing being handled by a Chase Speed for the whole Cue Stack.

The timing mode can be changed, so that the Cues play back in a theatre style using the GO / STOP buttons, by pressing the CUE TIMING and CHASE TIMING soft buttons in the Cue Stack View Options Window to modify the timing mode.

In Chase Timing mode it is possible to manually change the Fade and Delay times by pressing Cue Stack, View Options, Chase Times. The delay/crossfade is determined by whichever was set last - the specific delay times or the crossfade.

15.3   Cue Timing

When using Cue Timing, the timing of each cue is determined by individual Wait, Delay and Fade times for each Cue in the Cue Stack. The MagicQ can execute multiple Cues at one time - for example a Cue Stack could have one Cue that fades in MAC500s in green whilst another Cue fades in HPEs in red.

The Wait time affects when execution of the Cue is started. The Delay and Fade times affect how each individual Cue is executed. The Wait time can be set to "Follow" - in this case the Cue is executed when the last Cue finishes - i.e. Cues are executed sequentially.

Each Cue has a Next Cue - by default this is set up to be the following Cue in the Cue Stack. You can change the Next Cue to be any of the Cues in the Cue Stack. This enables loops and sequences to be set up.

The Next Cue for the last Cue in the Cue Stack defaults to being the first Cue in the Cue Stack.

15.3.1   Cue Timing Example

To illustrate the above Cue Timing consider a Cue Stack with three Cues. When the Cue Stack starts executing it executes the first Cue using its Delay and Fade times.

As soon as the first Cue has been started (regardless of whether the first Cue is in a Delay, Fade or Complete stage) the next Cue in the Cue Stack will be examined to determined its Wait time.

If the Halt field on the next Cue is set, then the Cue Stack waits for Go to be pressed before starting the next Cue – otherwise it executes the next Cue using its Fade and Delay time. The picture below shows 3 Cues each set to follow the previous Cue but with "Halt" set to "Yes".

Status	Cue id	Cue text	Wait	Halt	Delay	Fade	Cue	Next cue	Timing	Track	Block FX	Cue Only	Macro
CUE STACK (CS17: 1200spots)													X
*	1.00	Start	Follow	Yes	0.00s	3.00s	Q34 Start	Next	Cue	L	No	No	
	2.00	Move1	Follow	Yes	0.00s	3.00s	Q35 Move1	Next	Cue	L	No	No	
	3.00	Move2	Follow	Yes	0.00s	3.00s	Q36 Move2	1.00	Cue	L	No	No	
End (0.00s)													

If the Wait time on the next Cue is set to "Follow" then the Cue Stack will wait until the first Cue has completely finished fading (i.e. all channels have reached their final values) before starting the next Cue.

If the Wait time on the next Cue is set to a time then the Cue Stack waits that time before executing the next Cue. This time is completely independent of the first cue – the first cue may still be in Delay or Fade and will continue until the Fade completes.

If you enter a wait time in the Wait field MagicQ automatically changes the Halt field to No so that the Cue executes after the specified Wait time. The picture below shows Cues 2.00 and 3.00 automatically running 1 second and 2 seconds after Cue 1.00.

Status	Cue id	Cue text	Wait	Halt	Delay	Fade	Cue	Next cue	Timing	Track	Block FX	Cue Only	Macro
*	1.00	Front spots	Follow	Yes	0.00s	1.00s	Q34 Front spots	Next	Cue	L	No	No	
	2.00	Mid spots	1.00s	No	0.00s	1.00s	Q35 Mid spots	Next	Cue	L	No	No	
	3.00	Rear spots	2.00s	No	0.00s	1.00s	Q36 Rear spots	1.00	Cue	L	No	No	
End (0.00s)													

15.3.2   The Halt field

This field determines whether MagicQ waits for the user to press GO before executing the next Cue. It can also be use to setup Cue triggers from the remote interface, Scheduled events or timecode.

Pressing ENTER only toggles between Yes and No. To get the advanced options, such as Timecode, Scheduled or Remote either double click the field or press SHIFT + ENTER.

The options "Yes (Ignore TC)" and "No (Ignore TC)" are the same as "Yes" and "No" except that when these Cues execute the incoming timecode will be ignored.

15.3.3   Cue Delay and Fade times

The Delay and Fade times shown in the Cue Stack Window are properties of the Cue whilst the Wait time is a property of the Cue Stack. Modifying the Delay and Fade times of the Cue may affect other Cue Stacks that use the Cue.

The Delay and Fade time fields show the maximum delay and fade times used by any channel within the Cue – so giving a summary of the maximum delay and fade of the Cue. To view the actual times of the Cue move the cursor to the Delay or Fade field and press the View Cue soft button. This opens the Cue Window for the selected Cue, automatically showing the Cue Times.

Delay and fade times can be entered directly in the Cue Stack Window – note however that this will set the times for all attributes. If you wish to change just the times for Position, Beam or Colour then these should be set up in the Cue Window, Simple View for general times or Cue Window, Advanced View for channel specific times.

Split intensity in/out times can be entered into the Cue Stack Window in the Delay and Fade fields using /. For example, 2/3 entered in the Fade field will produce an in fade of 2 seconds and an out fade of 3 seconds. Only intensities times are affected – Beam, Colour and Position times remain at their current values.

When executing Cues, MagicQ will primarily use the specific delay and fade times entered in the Advanced View, of the Cue Window. If no times are specified, then the general times used in the Simple View will be used.

Times can be added in the Advanced View using the keypad and can be removed using the REMOVE button. In the Advanced View, the times shown are fade times, except where delay times have been set up, then times are shown as delay/fade.

Times can also be set up for the selected heads in the Simple View.

In the Cue Stack and Cue Windows delay and fade times with a '>' symbol at the end indicate when there are advanced times set for the Cue.

15.4   Tracking

By default MagicQ works in a similar way to most traditional lighting consoles, in that what is in the programmer is recorded into the Cue. This is a "no nonsense" mode where you get what you expect recorded into your Cues.

If you program just a FX chase on pan and tilt into a Cue, then that is what you get. If you program a complete look for a head including all the attributes, then that is what you get. Looking at a Cue in the Cue Window gives you the full picture.

In a Cue Stack, you can choose for each Cue whether the Playback continues to control HTP and LTP channels used earlier in the Cue Stack but not stored in the current Cue. In "Normal Mode" the LTP channels are tracked, but HTP channels (Intensities) are not.

Traditionally lighting consoles used tracking mode to reduce show storage by only recording changes into each Cue. This can be confusing as when you jump around in Cue Stacks they may not play back as they were programmed. Busking live shows can be particularly difficult, as it can be more difficult to predict what is going to happen.

MagicQ show files do not require a significant amount of space compared to the storage space available so show size is not a major concern. MagicQ has powerful editing modes that enable changes to be made to multiple Cues simultaneously – overcoming any benefits tracking mode might have for storing Cues in separate parts.

The MagicQ supports a tracking mode, which can be turned on through View Settings in the Setup Window. We recommend that users unfamiliar with tracking use MagicQ in its default, "non tracking" mode.

15.4.1   Tracking on MagicQ

The easiest way to change between tracking and non tracking is to change the "Programming Mode" by pressing soft button B in the Setup Window and choosing one of the modes – Normal, Theatre Non-Tracking, Theatre Tracking or Hog II Warp.

Changing the "Programming Mode" affects the "Programmer Tracking" option in the Setup Window and also the defaults for tracking ("Track","Zero old HTP" , "Zero old FX", "Rel old chans") on the Cues Stack options. The "Programmer Tracking" option by itself determines how Cues are recorded - it does not affect how they are played back.

When programmer tracking mode is off, then the entire contents of the programmer is recorded into Cues regardless of whether attributes have been change since the last Cue was recorded.

When programmer tracking mode is on, then only attributes that have been modified since the Cue was recorded are stored into the new Cue. Attributes are determined as modified if their value had been changed using an encoder, using keypad entry, using a range button, using a palette or by a locate fixture. Note that modifying an attribute to a new value and then returning it to its old value counts as modified.

Whilst in programmer tracking mode it is possible to force a record of the whole of the programmer by selecting the ENTIRE STATE record option. Record options are configured by pressing SHIFT and RECORD; whereupon the Record Options window is opened. Pressing any Window select button hides the display option and returns to the appropriate Window.

Timing	Track	Zero old HTP	Zero old FX	Rel old chans	Block FX	Cue Only	Macro
Cue	L	Yes	Yes	No	No	No	
Cue	HL	No	Yes	No	No	No	
Cue	HLF	No	No	No	No	No	

As a Cue Stack is executed, it keeps track of channels that have been used in previous Cues but are not used in the current Cue. How these channels are handled depends on the following settings on each Cue in the Cue Stack – there are three options which are shown in the Track field.

H Track HTP (Defaults Yes in tracking mode)

L Track LTP (Defaults Yes in all modes)

F Track FX (Defaults Yes in tracking mode)

So, to get a Cue Stack recorded in tracking mode to track all channel state during playback, ensure that all the Cue Stack steps have HLF set in the Track field.

If Track LTP is not set then LTP channels that were used in previous steps in the Cue Stack but not in the current step are released with the release time of the Cue Stack. If Track HTP is not set then HTP channels that were used in previous steps in the Cue Stack but not in the current step are faded out using the Intensity fade out time of that Cue step.

In addition there is an option on the Cue Stack that affects how tracking works for jumps and going backwards up the Cue Stack. If "recalculate state on jumps" is set, then MagicQ recalculates the entire state of the Cue Stack when you jump to a new Cue using "Goto Cue" or if you press the Pause button to go backwards up the Cue Stack.

When tracking Duplicated Elements, if a Cue has Duplicated element 1 but not other elements, then any other elements that were tracking are removed. This ensures it is possible to go from reduced elements back to control of all Duplicted elements.

15.4.2   Viewing Cue Data and Tracking Data

The Cue Window shows the Cue data for the current Cue on the selected Playback. The Cue Window, has three views, View Levels, View Times and View FX just like the Programmer Window.

When looking at a Cue Stack in the Cue Stack Window it is possible to go directly to the Cue Window by placing the cursor on the required Cue and pressing the View Cue soft button. If the field the cursor is on is a timing field then the Cue Window will open to show View Times, otherwise it will open to show View Levels.

It is possible to view Cue data for different Cues in a Cue Stack by pressing the PREV CUE and NEXT CUE soft buttons. When a Cue is examined that is not the current Cue on the selected Playback, the Cue Window becomes locked to that Cue. Press the UNLOCK WINDOW soft button to return to viewing the current Cue.

The Cue Window can also be used to preview Cues when in tracking modes – there is a View Tracking soft button. When this option is on the Window shows all of the values that are tracking from previous Cues as well as the data in the selected Cue. The tracked data is shown in dark colour whereas the data from the selected Cue is shown in active colours.

When running a Cue Stack it is possible to determine which values have been tracked through the Cue Stack by selecting "View Cue Ids" in the Outputs Window. This shows which playback and which Cue on that playback is controlling the outputs. Thus, when values are tracking through a Cue Stack the Outputs Window will show the Cue that originated that value.

15.4.3   Tracking out FX

From v1.8.4.7 FX tracking has been improved to enable individual FX to be tracked out in Cues. Previously there was only the option to track out all Cues (by removing the "F" from the Cue Track field). A work around was to record zero size FX - but this meant that the FX remained in the Cue which complicated the FX view and used up valuable FX.

FX in Cues can now be set as "Track Out" - page right to the "Track Out" field in the Cue, View FX and Programmer, View FX views.

When a Cue executes a FX with "Track Out" set it removes the FX for all the channels in this FX from the playback. The parameters of a "Track Out" FX are ignored - except for fade out times - the FX will continue to run using the parameters it was using before until the fade out completes. The FX will fade out using the FX Out time in the View Times view unless the "Fade Out" field in the FX is changed from "Default" to a specific time.

The "Track Out" FX do not need to exactly match the original FX - but it would be normal to copy the original FX and set it to "Track Out" to ensure that all the channels from the original FX are tracked out.

It is possible to have both "Track Out" FX for an old FX and at the same time new FX for the same channel in a Cue. Channels from the new FX will ignore the "Track Out" for the old FX and will crossfade from the old FX as per previous software.

Track Out will work for both normal FX and Group FX.

15.4.4   Copying Cues in tracking mode

When in tracking mode, performing an unlinked copy of a Cue in a Cue Stack now copies the entire state of the Cue, not just the specific cue values. When copying multiple Cues from one Cue Stack to another Cue Stack, the first Cue will be copied entire state with the following cues being just the changes.

If Cues are copied linked in tracking mode then they will always be just the change values not the entire state.

When using Theatre Tracking mode, Hog II Warp mode and Film mode, MagicQ defaults the Cue Storage option "Copy mode (unlinked/linked) to "unlinked".

15.4.5   Blocking / Unblocking Cues

It is possible to block and unblock Cues from the Cue Stack Window and from the Cue Window through soft buttons.

Blocking a Cue has the effect of adding to that Cue all the state information that would track through into that Cue if the Cue Stack was executed up to and including that Cue. When a Cue is blocked it becomes a hard Cue – i.e. if edits are made to previous Cues then the edits will not affect the blocked Cue.

Unblocking a Cue has the effect of removing from the Cue all the state information that would track through into that Cue if the Cue Stack was executed up to and including that Cue. When a Cue is unblocked it removes any hard values in the Cue – therefore it enables values to track through from where they were first used.

Unblocking and blocking Cues in a Cue Stack does not affect the appearance of the Cues and Cues Stacks when the Cue Stack is played back – it simply affects where the data is stored and what effect an edit will have on a Cue.

Multiple Cues can be blocked / unblocked in the Cue Stack Window by selecting a range using SHIFT and the cursor keys.

15.5 Cue Only

The "Cue Only" function in the Cue Stack Window can be used to mark a Cue as a temporary change to the lighting state before continuing the tracked state from the following Cue. The Cue Only field is on the right hand side of the Cue Stack Window (page right) and is only relevant when using tracking mode.

MagicQ enables one or more Cues to be marked as Cue Only – when MagicQ moves on to the next Cue which is not set to "Cue Only" then it reverts to tracking the Cue Stack from before the "Cue Only" cues.

Note that sequential Cues marked "Cue Only" will each be based on the state previous to the first "Cue Only" Cue with the additions of the specific Cue. To track changes through a sequence of "Cue Only" Cues, record each Cue using "Entire State" to capture the entire programmer contents in to each "Cue Only" Cue.

15.6 Mark Cues

Mark Cues are special cues that are used to pre-load LTP values before the following Cue is executed thus ensuring that, for instance, moving heads are in the correct position before the Cue executes. Note that Mark Cues only take effect if the corresponding head has intensity set to 0 – otherwise the change would be noticeable.

The Mark Cue only affects LTP values for heads controlled by the Cue Stack which are currently at zero intensity. If these heads are used in the next Cue then their value will be faded to the value of the next Cue. By default the fade is set to 3 seconds but this can be modified as required. Note that attributes that are specified as Instant in the personality file will snap to the new value.

The Mark Cue executes as soon as the previous Cue has completed execution.

In the Cue Stack Window press the Mark Cue soft button insert a Mark Cue before the Cue which the cursor is currently on. Alternatively enter a Cue Id and press Mark Cue to insert a mark before the specified Cue Id.

An entire Cue Stack can be configured to automatically perform the function of marking all Cues - set the Move When Dark option in View Options in the Cue Stack Options.

When using Marking and Move When Dark attributes of moving lights will be marked even if they have not been previously used in the Cue Stack. This result is that when a Mark Cue is executed in a Cue Stack, MagicQ will take control of the parameters used in the Marked Cue from other Cue Stacks even though the Cue is not yet executed.

15.7 The Cue Store and Cue Stack Store

MagicQ stores Cues and Cue Stacks in the Cue Store and Cue Stack Store respectively. Since you can program Cues and Cue Stacks directly onto playbacks, it is possible to program complete shows without referring to the Cue Store or the Cue Stack Store.

However, sometimes you may wish to build up a library of Cues or Cue Stacks that are not assigned to playbacks. You might then assign them to playbacks later, e.g. during a technical rehearsal.

To record a Cue into the Cue Store simply set up the required look in the programmer, open the Cue Store Window, press RECORD and press an empty Cue in the Cue Store Window.

To record a Cue into a Cue Stack in the Cue Stack Store Window set up the look as above, open the Cue Store Window, press RECORD and press the Cue Stack you wish to record the Cue into. If the Cue stack is empty then a new Cue Stack will be

generated. Otherwise the Cue will be added to the existing Cue Stack, either at the specified Cue Id, or at the end of the Cue Stack.

You can test programmed Cues and Cue Stacks in the Cue Store and Cue Stack Store by pressing the appropriate Cue or Cue Stack. MagicQ searches for an unused playback (from the last playback down) to test the Cue on. Pressing the Cue or Cue Stack again removes the Cue or Cue Stack from the playback.

You can restart a Cue or Cue Stack that is being tested by pressing the "Retest" soft button. Holding CTRL and selecting a Cue or Cue Stack also restarts the Cue / Cue Stack.

You can view the contents of a programmed Cue by moving he cursor to the required Cue in the Cue Store Window and pressing the View Cue soft button. This opens the Cue Window locked to the specified Cue. Pressing the Unlock Cue button returns the Cue Window to monitoring the current Cue on the currently selected playback.

You can view the contents of a programmed Cue Stack by moving he cursor to the required Cue Stack in the Cue Stack Store Window and pressing the View Stack soft button. This opens the Cue Stack Window locked to the specified Cue Stack. Pressing the Unlock Stack button returns the Cue Stack Window to monitoring the Cue Stack on the currently selected playback.

Note that the Cue Id used as a sequence number in the Cue Stack (e.g. 1.00) is different to the QId used in the Cue Store (e.g. Q5). The Cue Id is the sequence number within the Cue Stack wheras the QId is the reference number in the Cue Store.

Some users prefer to hide the QId and only use and view Cue Ids – use the Setup, Cue Storage Settings – "Hide Cue Store Ids (Qxxx). When this option is set the Cue Stack window and Cue Window only either show the Cue Ids from within the Cue Stack – they do not show the Q ids from the Cue Store.

15.8   Assigning Cues and Cue Stacks

Cues and Cue Stacks can be assigned to Playbacks at any time.

To assign a Cue, open the Cue Store Window, press the MOVE button, select a Cue, and then select a playback to assign the Cue to. You can assign to real playbacks or to playbacks in the Playbacks Window. You can assign to a specific Cue Id in a Cue Stack on a playback, by keying in a Cue Id before you select the playback.

To assign a Cue Stack, open the Cue Stack Store Window, press the MOVE button, select a Cue Stack, and then select an empty playback to assign the Cue to. You can assign to real playbacks or to playbacks in the Playbacks Window.

Multiple Cues and Cue Stacks can be assigned at a time, by using SHIFT or CTRL and the cursor keys to select multiple Cues and Cue Stacks in the appropriate window.

15.9   Copying and Moving Cues

Cues can be copied and moved within a Cue stack using the standard move and copy procedures. For example, to move a cue, press COPY, select the source, then select the destination. To copy multiple cues, press and hold COPY, select multiple entries, release COPY and select the destination.

When copying or moving within a Cue Stack, Cues the Cues are moved or copied before the destination Cue that you select. To copy or move onto the end of the Stack select "End" as the destination.

Cues can be copied onto other Cue Stacks that are assigned to playbacks. Select the Cues in the Cue Stack window and then select a playback fader as the destination.

By default when copying Cues MagicQ does not create new Cues - it simply makes another link to the existing Cue. To force MagicQ to create a new Cue press SHIFT and COPY and select Unlinked.

15.10   Linked Cues

Cues that are used more than once in a Cue Stack or that are used in more than one Cue Stack are called Linked Cues. If you edit a linked cue it will affect all places where the Cue is used. The Cue Store Window shows where each cue is used.

In Cue Stacks linked Cues are shown with a "L" in the Cue field. It is possible to unlink a Cue by moving to the Cue in the Cue Stack and pressing SHIFT and UNLINK CUE.

If you wish to avoid creating linked Cues, then when copying Cues and Cue Stacks use SHIFT + COPY (copy unlinked) rather than COPY and select COPY UNLINKED.

15.11 Copying Cue Stacks

When Copying Cue Stacks MagicQ will create a new Cue Stack, but will only create new Cues when COPY UNLINKED is used.

From v1.7.6.4 when copying Cue Stacks unlinked MagicQ now takes into account linked Cues in the source Cue Stack.

Any Linked Cues that are linked to other Cues outside of the source Cue Stack remain as Linked Cues. Any linked Cues that were only linked within the Source Cue Stack are copied to a new Cue, but all of these Cues in the new Cue Stack are Linked together.

15.11.1 Selective copying of Cue Stacks

From v1.6.7.4 MagicQ supports the SELECTED ONLY option when copying Cues and Cue Stacks. Only the selected heads from the source Cues and Cue Stacks will be copied. If none of the selected heads are in a source Cue then an empty Cue will be generated.

The Cues in Cue Stacks created using copying SELECTED ONLY will always be unlinked.

15.11.2 Creating a new Cue Stack for different heads

MagicQ can create a Cue Stack based on an old Cue Stack but using different heads.

Press SHIFT + COPY and select the COPY TO SEL option. This creates a new Cue Stack with identical Cues to the original Cue Stack except that it uses the selected heads instead of the heads in the original Cue Stack. The new Cue Stack will not contain the heads from the old Cue Stack, unless they are part of the new selection.

MagicQ will rotate around the heads from the existing Cue to provide data for the new heads - for example if the old Cue Stack had 4 heads and 8 heads are selected then heads 1 and 5 from the selection will both use data from the first head in the old Cue Stack.

This option will work on Cue Stacks containing multiple head types, but the best conversion will occur when copying from one set of heads to another set of heads. In some situations it may be preferable to do a selective copy of the original Cue Stack to heads of only one type and then to use the COPY TO SEL option on that new Cue Stack.

The Cues in Cue Stacks created using COPY TO SEL will always be unlinked.

15.12 Removing Cues and Cue Stacks

Cues can be removed from a Cue Stack by opening the Cue Stack window, then pressing REMOVE and selecting the Cue you wish to remove by pressing in the "Status or Cue Id" field.

It is also possible to remove a specific Cue from a Cue Stack using the keypad. Type a Cue Id on the keypad then press REMOVE and select the S button of the Playback you wish to remove the Cue from.

To remove an entire Cue Stack from a Playback press REMOVE and hit the S button of the Playback. Press S button again to confirm.

Note that the Cue Storage Setting in the Setup options determine whether the Cue and Cue Stack are removed from the Cue Store and Cue Stack Store as well.

15.13   Cue Stack Defaults

The default operation of Cue Stacks can be modified in the Defaults view of the Cue Stack Window.

Defaults can be configured for all of the Cue Stack options including operation of the faders and buttons, chase defaults and the defaults for each Cue Stack step.

Changing the Defaults does not change Cue Stacks and Cues which have already been recorded – it only changes the options for when new Cue Stacks and Cues are recorded.

When inserting and adding Cues to a Cue Stack MagicQ by default derives the settings from the previous Cue in the Cue Stack. If the setting Setup, Cue Storage Settings, "Derive settings from previous Cue" is set to "No" then all new recorded Cues will use the default step settings.

15.14   Col Tags

MagicQ supports Col Tags on each of the Cue Stacks. Set Col Tags in the Cue Stack, Options, Function. When a Col Tag is set for a Cue Stack then that Col Tag is shown in the Playback legend above the Playback faders and buttons.

The RGB LEDs on the MQ500 and Stadium Wing playbacks can be set to show the colour of the Col Tags - in Setup, View Settings, View Windows set Playback Col Tags Playback to Cue Stack.

15.15   Audio Sound FX Cues

MagicQ supports playback of audio files triggered from Cues within Cue Stacks for playing back sound effects in theatre shows and for playing back Cues timed to audio.

Audio output is available direct from the ports on the rear of the MagicQ Pro 2014, on the jack port front left side of MQ500 consoles and from the audio port when using MagicQ PC on Windows, Mac and Linux. MagicQ Compact consoles/Pro2010 consoles do not have audio output ports.

First place the audio files in the show\audio folder. They can then be selected directly from the Audio field in the Cue Stack.

Each playback supports play of one audio file at a time. If a Cue executes with audio then any audio playing from a previous Cue in the CueSatck will be stopped. Multiple playbacks can be used to play multiple sounds simultaneously.

The audio field can also take some special commands as well as specifying new audio files to play. The following commands are supported:

filename.wav	Plays filename.wav (also supports other file types)
stop	Stops playing the file
close	Stops playing the file and closes the audio port
jump	Jumps within the current audio file to the calculated position (timecode only)
dev	Changes to use output device d
param 1,g	*Changes gain level (volume) where g is value 0 to 100*

From v1.7.1.3 the Cue Stack audio field supports an option to allow audio files to jump to new position when stepping a timecode Cue Stack. Set the text "jump" in the audio field of Cues that should cause the current audio file to be restarted at the new duration (calculated as the difference in timecode value from the Cue step where the audio file was first played. In the Cue Stack use Encoder A to select View Mode to Media to choose and view the audio clip for each Cue step.

When using WAV, only 8 and 16 bit formats are supported.

15.16   Cue Stack Macros

Cue Stack macros enable control over other Cue Stacks from within Cue Stacks such as activation, release, go, stop, and setting level of other Cue Stacks. Macros are typed into the Macro field in the Cue Stack window (scroll to the right). Macros can affect multiple Cue Stacks on different Playbacks enabling complete shows to be driven from one master Cue Stack.

Cue Stack macros take the following format:

A <Playback no>	Activate playback
A <Playback no> / <Level>	Activate playback at level
B <Macro no>	Run macro (0 = stop all macros)
R <Playback no>	Release playback (0 = release this playback)
R1000	Release All Heldover Playbacks
R999	Release Heldover Cue Stack on this Playback
T < Playback no>	Test playback (activate with level 100%)
U <Playback no>	Un-test playback (release with level 0%)
G <Playback no>	Go on playback.
G <playback number> / <cue id> / <preload flag> / <fade time>	Go to Cue id on playback.
H <Type>	1 – Lamp on all heads, 2 reset all heads, 3 lamp off all heads, 4 cancel screen save
H <Type> / <zone>	Type is 5 for enable zone, 6 for disable zone
S <Playback no>	Stop playback
C <Playback no>	Choose playback
K <level> / <fade time>	Set level of last Cue Stack to be activated (e.g. with an A command) / fade time
L <level> / <fade time>	Set level of current playback / fade time
M <level> / <fade time>	Set level of the playback that is running the macro / fade time
J <Cue Id>	Jump to Cue Id on current playback
E <Cue Stack id>	Activates Cue Stack (in Stack Store).
E <Cue Stack id>/<level>	Activate Cue Stack at level.
F <Cue Stack id>	Releases Cue Stack (in Stack Store)
I <Time code>	Set internal time code
O <Time code>	Set current received time code
P <Page no>	Change page (page no of 0 means next page)
V <View no>	Open view (window layout)
W <Enable>	Enable / disable time code generation (1 for enable, 0 for disable)
Q <Time code>	Enable time code gen from time code e.g Q100(disables time code receive)
Lamp on all heads	H1
Reset all heads	H2
Lamp off all heads	H3
Cancel screen save	H4
Enable Zone	H5<zone number>
Disable Zone	H6<zone number>

Playbacks can be the master playbacks 1 to 10 or the wing playbacks 1-1 to 1-24, 2-1 to 2-24 etc. . . Playbacks can be playbacks with faders or virtual playbacks (playbacks on non fitted wings). Multiple playbacks can be selected using + and THRU.

For example to activate playback 18 on wing 1,

A1-18

To press GO on playbacks 3 to 5,

G3THRU5

Multiple commands can be put in a Cue Stack macro, e.g. to set the level of playback 6 to 60%

C6L60

The G macro optionally supports two parameters separated by a /. The first parameter is the playback, the second is the Cue ID to GO. For example, G5/6 will GO Cue Id 6 on Playback 5.

The A macro optionally supports two parameters separated by a /. The first parameter is the playback, the second is the level in %. For example, A5/60 will activate Playback 5 at 60%. To activate at 100% we suggest using the T macro rather than A - i.e. T5 instead of A5/100.

The R macro supports the parameter 0 to release itself – i.e. R0 releases the playback that is running the macro.

15.17   Timecode Cue Stacks

MagicQ supports execution of the Cues in a Cue Stack according to timecode - either generated internally, or received externally from other devices.

To use timecode in a Cue Stack set the Halt field of one or more steps to timecode. Note you will need to double click the Halt field or put the cursor on the Halt field and press in the Input Window to open the Halt options. Pressing SHIFT and ENTER will toggle through the options.

When setting Cues to timecode for the first time, the initial timecode value is set to previous timecode value in the Cue Stack + 1 second.

Timecode values in a Cue Stack MUST be in increasing order otherwise the Cue Stack may not play back at all. Timecode values that are out of sequence are shown with a !.

CUE STACK (CS23:)										
Status	Cue id	Cue text	Wait	Halt	Delay	Fade	Cue	Next cue	Timing	Track
*	1.00	preset	0/00/00.00	Tc	0.00s	3.00s		1.10	Cue	HLF
	1.10	mark cue	Mark	Tc	0.00s	3.00s		2.00	Cue	HLF
	2.00	with H/L	0/00/02.00	Tc	0.00s	3.00s		3.00	Cue	L
	3.00		0/00/03.00	Tc	>0.00s	>3.00s		4.00	Cue	L
	4.00		0/00/10.00	Tc	1.00s	4.00s		4.49	Cue	L
	4.49	mark cue	Mark	Tc	0.00s	2.00s		4.50	Cue	HLF
	4.50		0/00/15.00	Tc	0.00s	3.00s		5.00	Cue	L
	5.00		0/00/20.00	Tc	0.00s	3.00s		6.00	Cue	HLF
	6.00		0/00/25.00	Tc	0.00s	0.00s		7.00	Cue	HLF
	7.00		0/00/28.00	Tc	0.00s	3.00s		8.00	Cue	HLF
	8.00		0/01/04.00	Tc	0.00s	1.00s		9.00	Cue	HLF

MagicQ supports both external and internal timecode - choose using soft button C. External timecode is received from LTC, MIDI, Winamp or from the MagicQ timecode simulator.

Internal timecode is run on a per Cue Stack basis, starting from 0/0/0 when the Cue Stack is activated.

When the Cue Stack is active and a timecode value reaches a value in one of the steps then that step is executed.

See Timecode Support for how to set up external timecode on the console.

15.17.1 Editing timecode

Timecode values can be edited individually and can be set in the format 0/0/0.00. The + and – operators can be used to add or subtract times to the timecode times for one or more cues. This is useful for changing the absolute times of a Cue Stack whilst maintaining the relative times between Cues. Use SHIFT or CTRL and the cursor keys to select multiple times and offset their values using + or -.

To set a Cue Step to use the current timecode being received enter / in the Wait field. If multiple Cues are cursor selected then the first Cue will take the current timecode and the following Cues will all be modified, but keeping the same offsets between Cues aas they previously had. This enables a whole section of Cues to be moved to a new timecode.

15.17.2 Learn Timing

It is possible for the console to learn the timing live. Set the steps in the Cue Stack to timecode. Then release the Cue Stack, and in the Cue Stack window, press SHIFT and RECORD TC.

Now press the GO button for the Cue Stack. MagicQ starts the time code running at 0/0/0 and each time you press GO it moves to the next Cue whilst recording the current timecode into the Wait fields. At the end of the Cue Stack, press RELEASE to end the timecode record mode.

15.17.3 Testing timecode

When a Cue Stack has some steps set to timecode the Cue Stack Window shows the timecode simulator / internal timecode on soft buttons X and Y.

When a Cue Stack is set to External Timecode then the timecode simulator is available - this is the same simulator that is available in the Setup window, but is easier to access when working on a timecode Cue Stack. Use soft button Y to turn the timecode simulator on and off. The display for soft button X shows the current timecode value (either received from external timecode or set by the simulator). Use soft button X to start and stop the timecode, or enter a value on the keyboard/keypad and press the soft button to jump to a new timecode value.

When a Cue Stack is set to Internal Timecode then soft button X shows the current internal timecode value of the playback. Use soft button X to start and stop the timecode, or enter a value on the keyboard/keypad and press the soft button to jump to new timecode value. Soft button Y can be used to restart the internal timecode at 0.

When using the TC simulator or internal timecode, manually jumping to a Cue that is set to timecode timing will cause the timecode to be set to that timecode value. Jumping to a Cue can be done by pressing GOTO CUE or putting the cursor on the Cue Status field of a Cue and pressing ENTER.

15.17.4 External timecode

A Cue Stack on a Playback will only run external timecode steps when it is active - it will not activate by itself. Either manually activate the playback before the external timecode is started or use an Autom event to set a Playback to activate when a particular external timecode range is detected.

In some cases it may be useful to have a master Cue Stack controlled by timecode that is always active which then activates other Cue Stacks for each song.

When timecode values jump (for example when changing tracks), MagicQ checks for each active Cue Stack, whether the external timecode received is within the range of the first timecode value in the Cue Stack and the last timecode value in the Cue Stack. MagicQ will only execute a change of Cue if the new value is within the range controlled by that Cue Stack. This helps to avoid the erroneous execution of an entire Cue Stack.

When timecode values jump forward, MagicQ will jump to the Cue that corresponds to the new timecode. If the Cue Stack, Options, Advanced, Recalculate State on Jumps is set to "Yes" then MagicQ will execute all of the Cues from the current Cue to the new Cue including any macros, media and audio clips. If Recalculate on Jumps is set to "No" then only the new Cue will be executed.

15.17.5 Timecode offset

From v1.8.4.2 MagicQ supports a timecode offset field for each Cue Stack. This can be used to add a positive or negative timecode offset to all timecode values within a Cue Etack including all TC Tracks associated with that Cue Stack. For example if the Cues in the Cue Stack have been set to respond to timecode starting at 0/0/0 and the timecode received actually starts at 2/0/0 then setting the timecode offset to 2/0/0 will make the Cue stack correctly respond to the received times. Similarly if the Cue Stack has been set to respond to timecode starting at 5/0/0 then and timecode is actually received startign at 0/0/0 then setting a timecode offset of -5/0/0 will have the desired effect.

The timecode offset is set in Cue Stack options, Advanced. Note that all the Cues will still show their programmed timecode values but an offset will be applied when playing back or recording timecode.

15.17.6 Automatic activation and release of Playbacks

From v1.8.4.2 MagicQ supports an option to automatically activate and release Playbacks according to the current received timecode. To use this feature set Setup, View Settings, MIDI & Timecode, Timcode activate/release to either Act/Rel TC Playbacks or Act/Rel TC playbacks at full. MagicQ will activate and release all playbacks on the current playback page that contain timecode depending on the received timecode.

Note that when this option is enabled, Playbacks that are in the range of the incoming timecode can not be released.

15.17.7 Internal timecode

Cue Stacks set to Internal timecode start the internal timecode from 0 when the Cue Stack is activated.

There is support for setting the internal timecode from within a Cue Stack using the macro command 'I'. To reset the internal timecode for a Cue Stack to 0/0/0.0 use the macro I0. To set a specific time, e.g. 10 seconds use the macro I10.

Note when using internal timecode MagicQ uses seconds as the unit of measure rather than timecode frames.

15.17.8 Enabling / Disabling Timecode

It is possible to turn timecode decode on and off for a Cue Stack using soft button A in the Cue Stack Window. When timecode is turned off the Cue Stack will not execute timecode Cues.

Press SHIFT + soft button A to avoid the confirmation request.

15.18 Cue Stack time code tracks

MagicQ supports up to 10 time code tracks linked to each Cue Stack. A time code track allows a sequence of button presses/fader movement events to be associated with the playback of a Cue Stack. This is useful where a main Cue Stack is used to program the overall look, but additional effects and bumps need to be added in time to the music. The time code tracks are independent of the Cues in the Cue Stack, so it is therefore not necessary to generate a Cue for each of these effects/bumps.

All recorded time code tracks are started when the Cue Stack is activated and are released when the Cue Stack is released.

Time code tracks are visible in the Cue Stack, View TC view. Note that the Cue Stack, View Default soft button has now moved to under the View Options soft button to make way for the View TC button.

Tracks 1 to 10 are selected by soft button A. Tracks can be recorded and removed using the RECORD TRACK and REMOVE TRACK soft buttons.

The RECORD TRACK function is used to record the tracks - in this mode MagicQ records all button presses and fader movements as they occur with the appropriate times. The events and times can be modified afterwards. Each event can be edited individually, or whole sections can be cursor selected and moved in time.

Each time code track is stored in MagicQ as a keyboard macro and can also be viewed and played back in the Macro Window. Events in the timeline are stored in the same way as keyboard macros.

Time code tracks can be edited and steps can be manually added to them.

Each time code track can be turned on and off individually using soft button D.

15.19   Importing timecode timings

MagicQ supports importing time code values from .CSV files which can be exported from software such as InqScribe and Reaper. In Cue Stack, View TC View select the IMPORT TC TIMINGS soft button.

MagicQ normally looks for a .csv in the format:

<timecode>,<short name>,<long name>,<options>

Where the <short name> is used as the cue name and <long name> the comment field within MagicQ.

For example:

Header line 10:02:36.09,all on,Guests enter the room

10:02:36.13,OPP 2 ON CHASE,Start the event

10:02:36.23,ALL ON,Interval

When importing from InqScribe, first export as .XML, open using a spreadsheet editor (for example Excel), reorder the columns to be as above and then save out as a .csv file.

MagicQ autodetects input from Reaper (first line starts with a #) - the format for Reaper is

<short name>,<long name>,<start tc>,<end tc>,<length tc>,<colour>

For example:

#,Name,Start,End,Length,Color R1,Intro,0:00:00:00,0:00:02:00,0:00:02:00, M1,Accent,0:00:00:11,,,FFF80A

Once the times have been imported it is then possible to make a Cue Stack based on those times - press the MAKE CUES soft button. An empty Cue will be generated for each timecode timing point and each Cue can be programmed by merging into it. Remove any unwanted Cues.

15.20   Timeline / Track Sheet

MagicQ supports a Timeline Window for viewing the contents of Cues in a Cue Stack in a timeline format and also for viewing a Track Sheet.

Use encoders A to specify the level of detail shown for each head and encoder B to choose specific attribute masks.

By default all of the heads in the Cue Stack on the selected Playback are shown – use the SEL HDS ONLY soft button to make it only show the currently selected heads from that Playback.

Press VIEW TACKING to show the tracking information.

15.20.1   Track Sheet

Press View Track Sheet to view the track sheet.

Colours in the track sheet are as follows.

Red	In programmer
Cyan	Increasing value
Green	Decreasing value
White	Static value controlled by Playback/Cue
Magenta	Tracked value

15.20.2   Timeline

Press View Timeline to view the timeline.

Encoder D is used to modify the horizontal scale to choose how many Cue Steps are shown in the window.

Use encoders X and Y to scroll around the timeline.

View Vals and View Raw can be used to view the data values rather than the timeline.

Chapter 16

Playback

MagicQ consoles support 10 main playbacks situated immediately below the touch screen. Up to 192 additional playbacks available on up to 8 expansion wings.

All playbacks have a fader, a FLASH button and a SELECT button.

The 10 main playbacks also have GO and PAUSE buttons for control of Cue Stacks.

Cue Stacks on wings have GO buttons. SHIFT + GO gives PAUSE function.

16.1   Playback Display

The area above each of the main playbacks on the display is used to provide information about the status of the playback. This includes the name of the Cue Stack that is loaded on the playback, the current Cue and the next Cue. The status of the Cue is shown as a percentage along with an indication of whether the Cue is running or paused.

The LCD screen above each of the Playbacks on the Playback Wings and Execute Wings displays the name of the Cue Stack. The name can be up to 12 characters. When a Cue Stack is assigned to Wing Playbacks that has multiple steps then the name of the Cue Stack is displayed on the first line of the Wing Playback and the second line shows the current step. If no name is set for the Cue Stack then the first line shows the current step and the second line shows the next step.

16.2   Activating and Releasing Playbacks

Playbacks are activated and released by pressing the associated buttons and raising the associated faders depending on the options of the Cue Stack. Once a playback is activated it affects the output of the console until it is released.

By default the Cue Stack on a playback is activated when the fader is raised above zero and released when it is returned to zero. Similarly it is activated when a flash button is pressed and then deactivated when the button is released.

The Cue Stack options can be configured so that the flash buttons/faders do not affect activation or deactivation. In this case the playback can be activated by pressing the GO button. It can be released by pressing the S button to make the playback the current playback and then pressing the RELEASE button.

The Cue Stack can also be configured so that it does not reset to the first step when it is released.

A Cue Stack can be set so that pressing the FLASH button, activates and releases the playback on alternate presses. Set the "Flash Button toggles" option.

A release time can be set for the Cue Stack in the Cue Stack options, so that when released the levels fade out over a specified time.

At any time a playback can be released with time by pressing the SELECT button of the playback, typing a time and pressing the RELEASE button.

Pressing SHIFT + RELEASE releases all playbacks simultaneously. It is also possible to enter a time before doing SHIFT + RELEASE. Holding a single SELECT button and pressing SHIFT + RELEASE releases all the playbacks except the one for which the SELECT is held.

Holding multiple Select buttons and pressing RELEASE releases all the selected playbacks.

Cue Stacks can be set to automatically activate or release on page change. When a Cue Stack is set to release on page change then holding the S button of the Playback when changing page avoids the release of the Cue Stack.

16.3 Fader control

By default the playback fader controls the level of any HTP channels recorded into the current Cue on the Cue Stack. If the "Fader controls HTP chans" option is set to "No" then the fader will no longer control the HTP channels – the Playback will automatically be always set to 100% level.

The Cue Stack options can be configured so that the fader also controls LTP channels using the Fader controls LTP (IPCB) option. This is useful for example, to set up a fader to perform a "fly away" at the end of a song. As the fader is moved up the LTP channels are changed from their current values to the values recorded in the Cue.

MagicQ supports an additional option "All chans controlled LTP". This options allows the Playback when it is the last activated, to consider all channels to be LTP. The value of HTP channels controlled by the Playback is the value output, regardless of the HTP level of other Playbacks. This allows soloing of Intensities.

The Cue Stack can also be configured so that the fader controls the size and/or speed of any FX recorded in the current Cue. For example, you can set up one fader to control a pan swing and another to control a tilt swing. Moving the faders to half gets a small circle whilst moving to full gets a big circle. Varying the faders enables generation of ellipses.

16.4 Playback Buttons

In a Cue Stack set to Chase timing, GO runs the chase whilst PAUSE stops it.

In a Cue Stack set to Theatre timing, GO steps to the next step in the Cue Stack. When a Cue Stack is fading, pressing PAUSE stops the fade mid step. When a Cue Stack is paused, pressing PAUSE fades backwards through the stack.

Pressing S + GO steps to the next step without fading. Pressing S + PAUSE steps back to the previous step without fading.

Pressing S + FLASH reasserts the Cue Stack to be the latest touched - this has the effect of reasserting channels that have been overriden by other Playbacks.

Double clicking the S button opens the Cue Stack Window, View Cue Stack for that playback. Triple clicking the S button opens the Cue Stack options for that playback (i.e. the Cue Stack Window, View Options). Holding SHIFT and double clicking the S button opens the Cue Window for that playback to show the contents of the current Cue on that playback.

Each of the buttons illuminates to indicate its current state:

FLASH	Green	Add
	Red	Swap
	Green flash	Add - playback held over
	Red flash	Swap - playback held over
GO	Green	Cue Stack is running
PAUSE	Red	Cue Stack is paused
SELECT	Blue	Playback is selected

16.4.1 Playbacks without faders

MagicQ Extra Wings and Execute Wings have some playbacks without faders and without GO or PAUSE buttons.

On these playbacks the FLASH buttons can be set to toggle on/off in the Cue Stack Options, Buttons, Flash toggles.

From v1.7.1.3 there is support for toggling on/off these playbacks without permanently setting the FLASH buttons to toggle. Hold SHIFT and press the FLASH or press S + FLASH to toggle.

16.4.2   Grand Master & Sub Master

To the left of the 10 playbacks are two master faders - a Grand Master which controls the overall HTP output level of the console, and a Sub Master which controls the HTP output level of the playbacks. In addition the Sub Master can be configured to control the level of the FLASH buttons.

Both the Grand Master and the Sub Master have FLASH buttons which respectively bump the overall HTP output level, and the HTP output level of the playbacks to full.

LTP channels are not affected by the master faders.

16.4.3   Dead Black Out (DBO)

Above the Grand Master there is a DBO button. Pressing this button causes all HTP values to be set to zero, thus generating a black out. Releasing the button causes the original HTP levels to be restored. LTP channels are not affected by the DBO button.

16.4.4   Add / Swap

Above the Grand Master there is an ADD / SWAP button which controls the function of the playback FLASH buttons. When set to ADD, pressing a FLASH button causes the playback to be added to the output. When set to SWAP, pressing a FLASH button again causes the playback to be added to the output, but all other playbacks are removed from the output.

Each FLASH button has an LED which is lit green for ADD and red for SWAP.

The ADD / SWAP functionality only affects HTP channels on the playbacks - LTP channels are not affected by the FLASH buttons. The level of the playback is determined by the master faders – see configuring the masters.

Cue Stacks can be set to always swap. Open the Cue Stack window and press the SELECT button with the playback. In the VIEW OPTIONS view set the "Flash Button Swaps" option to YES.

The "Flash acts like fader" option enables the FLASH button to act as if the fader was raised to full. This is useful if the fader controls LTP (IPCB) channels, FX size or FX speed, or if the Fader is a master for intensity, size or speed.

16.4.5   Page Select

Above the Sub Master are NEXT PAGE and a PREV PAGE buttons. These control which playback page is active, and hence which Cue Stacks the physical playback faders and buttons control.

The current page number and name is displayed in the Status Display under the clock. The current page can also be changed from the Page Window by selecting a new page, or by pressing PAGE and entering the page number on the keypad.

Changing the current page whilst playbacks are active does not affect the output of these playbacks - the playbacks are "held over" until the playback is released.

It is possible to set up Cue Stacks to be activated and released on a page change in the Cue Stack options. When a Cue Stack is set to release on page change then holding the S button of the Playback when changing page avoids the release of the Cue Stack.

The next Page can be preloaded in the Page Window by moving the cursor to the required item in the Page Window and pressing the PRELOAD PAGE soft button. The preloaded page will be indicated in the Status Display above PB1 to PB5. Pressing NEXT PAGE goes to the preloaded page.

The preloaded page can also be loaded using the keypad syntax <Page> <number> *. So PAGE 34 * preloads page 34. Pressing NEXT PAGE goes to page 34.

16.4.6 Page Levels

It is now possible to save levels associated with the main playbacks and additional wing playbacks that are tied to the main playbacks. Whenever the main page is changed to a new page it will set the levels for the playbacks according to the saved state - this means that a "Song" will always start with the same playback levels. If the physical fader is not at the required level then the level must be matched before the fader will control the playback.

To save levels for a page go to the Page Window and use the SAVE LEVELS and CLEAR LEVELS soft buttons. The levels are stored in the show file and can be updated at any time using SAVE LEVELS again.

To set ties between playbacks on wings and the main playbacks go to Setup, View System, View Wings and set the required "Tie" fields to "Main".

Cue Stacks can be set to Activate and Release on page change so that when a new page is selected one or more Cue Stacks activated at a required level.

16.4.7 Current Playback

The current playback is the one that has its SELECT button illuminated. The current playback is used by the Cue and Cue Stack windows to determine the Cue and Cue Stack to view / modify.

You can change the current playback at any time by pressing the SELECT button for the playback you want to make the current playback

Press the SELECT button of a Playback twice in quick succession to select the Playback and automatically open the Cue Stack Window so that you can view / change the contents of the Cue Stack.

Press the SELECT button of a Playback three times in quick succession to select the Playback and automatically open the Cue Stack Window in the Options View.

Sometimes you may wish that the currently selected fader changes to follow the last fader that was raised. This behaviour can be enables from the Setup Window by setting the "Current Playback follows last touched" option to YES.

16.4.8 Playbacks across multiple Pages

Multiple Playbacks can be active at one time from different pages. By deafult a particular Playback can only be active on one Page – it is not possible to activate Playback 1 on Page 1 and Playback 1 on Page 2 at the same time. To activate two Cue Stacks on one Playback see Page Holdover below.

It is possible to temporarily transfer a Playback that is active to a different Playback in order to unblock a Playback. Press SHIFT + SEL to action the transfer, and then select the S button of the Playback to transfer followed by the S button of the destination.

Transfer is only possible when a Playback is active. Once a transfer has occurred the original Playback can be used to run a Playback from a different page. When the transferred Playback is released then it returns to its original Playback.

16.4.9 Page Holdover

From v1.8.2.0 MagicQ supports two page holdover whereby it is possible for two Cue Stacks from different pages on a single Playback to be active simultaneously. Previously it was not possible to access Cue Stacks from different pages on the same playback - the playback was blocked until the active Cue Stack was released, or until the user transferred (SHIFT+SEL) the Cue Stack to a different playback.

In Setup, View Settings, Playback set "Page Holdover" to "Two page holdover".

When an active Cue Stack holds over the Playback legend area is split with a small area at the bottom showing the page and name of the Cue Stack holding over. Full access is then available to start another Cue Stack from a different page. The fader and buttons control the new Cue Stack.

When two Cue Stacks are active on the same playback then when changing pages between their two respective pages, the legends will swap around. The Cue Stack from the current page is always shown above, whilst the Cue Stack holding over is always shown below.

To make changes to a Cue Stack that is holding over, first change back to the page it was activated on and then use the buttons and faders.

Page Holdover is best used on the main playbacks where there is full legending of the playback state. On MagicQ Extra Wings, MagicQ Playback Wings and MagicQ Execute Wings the top line of the display shows the name of the Cue Stack from the current page and the bottom line flashes the name of the over Cue Stack holding over.

Page Holdover can be used with Playbacks set with Default Cue Stacks in the same was as with normal Cue Stacks. The Cue Stack from Page 1 of the default Cue Stack can be released from Page 1 or any page where there is no other specific Cue Stack recorded.

It is possible to release all playbacks that are holding over by pressing ALT + RELEASE. There is also an inbuilt macro for RELEASE ALL HOLDOVER which can be assigned to a button. The Cue Stack Macro R1000 also releases all held over Cue Stacks similar to ALT RELEASE. Releasing all playbacks does not affect Cue Stacks which are set with "Masters affect level" to "No".

When Cue Stacks are holding over they use up free playbacks in a similar way to the Execute Window - there is an overall limit of 202 active playbacks/executes.

In Two Page Holdover mode, Cue Stacks set to Activate on Page Change will now activate regardless of whether other Cue Stacks are active on that Playback. If there are already two Cue Stacks active then the oldest running one will be automatically released.

The Cue Stack Macro R999 can also be used to release held over Cue Stacks for this playback.

16.4.10 Manual Control

To the right of the 10 playbacks is the manual control section, consisting of a Manual Fader, four buttons (GO, PAUSE, FWD, BKWD) and an extra large GO button below the fader. This section controls the current playback – that is the playback whose SELECT button is illuminated.

Pressing the SELECT button associated with a playback causes that playback to become the current playback and hence to be controlled by the manual section.

When a playback is controlled by the manual section, the playbacks fader and buttons continue to function as normal so that the HTP level can be set using the fader and the playback can be bumped using the FLASH button. The manual section simply provides extra control features above those available on each of the playbacks.

The GO and PAUSE buttons in the manual section have the same function as the GO and PAUSE buttons on each playback. The FWD and BKWD buttons move through the Cue stack without fading. The extra large GO button below the Manual Fader is designed for theatre style playback and has the same function as the GO button on each playback.

If multiple SELECT buttons are held down then the Go, Pause, Fast Forward and Fast Back buttons in the manual control section can be used to control multiple Playbacks simultaneously.

The Manual Fader is unlike all the other faders in that it controls the progress of the current CUE rather than the HTP level of the Cue Stack. This enables a Cue to be manually faded, the level of the Manual Fader representing the % of the fade that is complete - from 0% to 100%.

The Manual Fader enables you to fade in a Cue Stack. To start a manual crossfade, hold the SELECT button for the playback and move the crossfader. The display window will show "pickup" until the crossfader level matches the current position in the fade - it will then change to "manual". You can also start a manual crossfade on the currently selected playback by holding SHIFT and moving the crossfader.

As the fader reaches the limits of the Cue Stack it moves to the next Cue.

16.4.11 Goto

The GO buttons in the manual section can also be used to jump to a different Cue id in a Cue Stack – enter the Cue ID in the Cue Stack and press the Go button in the manual section.

It is also possible to perform a Goto and a Preload of the next step to got to in the Cue Stack Window.

16.4.12   Manual Split Crossfade

Two faders may be assigned as theatre style split crossfade masters.

When enabled from the Setup Window, playbacks faders 9 and 10 become Crossfade Masters for manual Fade In and Fade Out. Pressing the Pause button on either playback 9 or 10 brings the current playback under manual control.

The two faders can then be used to fade in each new Cue with separate control for fade in and fade out.

Pressing the Go button on either Playback 9 or 10 returns the current playback to normal Cue execution.

When enabled, playbacks faders 9 and 10 can not be used as normal playbacks.

16.4.13   Rate Sub Master

It is possible in the Setup Window to set the function of manual crossfade fader to be a rate sub-master to control the execution rate of the current playback, or the global execution rate of all playbacks. The rate is shown in the bottom right of the Status Display from 0% to infinity. The fader should be set to 50% for normal execution rate.

The options are:

- Rate Master

- Global Rate Master

- Cue Stack Rate Master

- Cue Stack Global Rate Master

- Club Master

- Tested Stacks Rate Master

The Rate Master and Global Master affect both the Cue Stack times, FX times and Pixel FX times. The Cue Stack Rate Master and Cue Stack Global Rate Master control just the rate of the Cue Stack (not the FX in it).

The Club Master affects both Cue Stack times, FX Times, Pixel FX Times and Cue Stack from the Execute window.

Tested Stacks Rate Master – only tested Cue Stacks from the Execute Window or externally triggered are affected by rate changes.

16.4.14   Tap to time

It is possible to change the chase speed or FX speed using Tap to Time. Holding the S button of the playback and then pressing soft button Y (2nd soft button up on right side of touch screen).

If the current step in the Cue Stack is set to Chase Timing then the Chase speed will be modified. If the step is set to Cue Timing then the FX speed of any FX in the current Cue will be modified.

If a Cue Stack is set to Chase Timing then the GO button can also be used to tap the time. Note that this only works on chases when the option "Go Jumps Out of Loop" is set to "No".

It is also possible to configure the S buttons or the GO buttons to perform Tap to Time – Setup, View Settings, Playbacks, Tap to time buttons.

Tap to Time can also be triggered from Autom events.

The remote input can also be set to always tap to time the currently selected playback.

It is possible to set the GO button in the Master Crossfade Section to a Selected Playback or Global Tap to Time button. In the Setup Window, View Settings, Playback, set Crossfade button function to "Tap To Time Selected" or "Global Tap to Time". "Tap to Time Selected" affects the absolute rate of the currently selected Playback. "Global Tap to Time" affects the absolute rate of all active playbacks.

16.4.15 Global Tap to Time

When the Crossfade button function is set to "Global Tap to Time" then the absolute rate of all active playbacks can be controlled. This is also possible through a Global Tap button in the Execute Window.

Cue Stacks can be set to use a divisor of the tapped time - in Cue Stack Options, Audio set the rate of the Rate Divisor - by default it is set to "Normal" and takes the tapped time. Options include "Div by 2" to "Div by 8" and "Mult by 2". The divisor affects setting of the rate by tap to time either as the selected playback, as part of global tap to time, or as part of audio BPM rate setting.

Cue Stacks can also have the Rate Divisor can be set to "Inhibit" - in this case the rate of the Cue Stack is never affected by global tap to time options. This allows Global Tap to Time to be used without affecting particular Cue Stacks.

Tap to time affects the absolute rate of the Cue Stack - if it is a Chase, then the Chase Speed, or if it is a Cue Stack Step with FX then the FX rate - the programmed rate of the Cue Stack or Cue is changed. The programmed rate is then modified by the relative speed controllers - it can be reduced by speed masters and fader controls FX speed options before being potentially increased or decreased by the playback rate/global rate masters.

16.5 Playbacks Window

The Playbacks Window enables management of all 202 playbacks regardless of how many physical wings are attached. This ensures that shows that will be run on consoles with wings can be programmed on a MagicQ system without wings. It also provides an ideal way of expanding your show control by using virtual playbacks.

The Playbacks Window displays a button for each of the 202 playbacks - starting with the 10 main playbacks and then with 8 wings each with 24 playbacks.

On MQ500 there are 15 main fader playbacks, with the 15 execute playbacks below and then wings each with 24 playbacks.

The top right encoder is used to select which Page of playbacks is displayed. This is completely separate from the Page used for the physical playbacks - you can have the physical playbacks set to one page whilst you view and modify playbacks on a different page.

Cues can be recorded onto any of the playbacks in the same way as they are recorded onto a real playback. After pressing RECORD, instead of selecting a playback SELECT button, just press the appropriate button in the Playbacks Window.

16.5.1 Testing playbacks

Any playback can be tested, by pressing the button in the Playbacks Window. This has the same effect as raising the physical fader from zero to full. Pressing the button again sets the fader back to zero. We will refer to this as a virtual playback.

You can use physical playbacks and virtual playbacks simultaneously - however if you activate a virtual playback for an active physical playback then the result will depend on whether the physical playback and the virtual playback are on the same page. If they are, then the effect will be that the playback will be activated and set to the highest level of the physical playback and the virtual playback. If not, then the physical playback will not be affected and the virtual playback will be ignored. This is because only one Cue Stack can be run on a playback.

Use the View Faders soft button to change the view in the Playbacks Window into faders rather than buttons. Faders can then be moved up and down using the touch screen / mouse. This enables full control of virtual playbacks. The GO, PAUSE and RELEASE soft buttons enable immediate control of virtual playbacks.

You can select a virtual playback as the currently selected playback by pressing the SELECT button and then pressing the required virtual playback in the Playbacks Window. This enables the Cue Stack from the virtual playback to be controlled, including the modification of Cues and Cue Stack parameters.

In the Playback Window there is a soft button to release all test Cues, Cue Stacks and Playbacks. This does not release Playbacks that have been activated on real faders or buttons. This function is also available on the short cut CTRL + RELEASE.

16.5.2 Naming playbacks

Playbacks can be named in the Playbacks Window as per naming of any Windows item.

16.5.3   Copying and moving playbacks

Playbacks can be moved and copied in the Playbacks Window just like any Window item. You can also change the Playback Window page between selecting the source and destination, so that you can copy or move between pages.

When a Playback is copied to another Playback, the Cue Stack on the source playback is copied (i.e. a new Cue Stack is generated) to the destination Playback. By default, the Cues that make up the Cue Stack are not copied - both Cue Stacks reference the same Cues. This means, for example, that you can generate several copies of a chase, each with the same Cues but with different chase speeds.

You can force an unlinked copy of Cue Stacks by holding SHIFT down when you press the COPY button and electing Unlinked. This forces both the Cue Stack and its Cues to be copied.

16.5.4   Removing playbacks

Playbacks can be removed in the Playbacks Window as per removing of any Windows item.

16.5.5   Playback Rate

It is possible to set the playback rate of a Playback using Encoder X in the Playback Window. Press the S button of the required playback to choose which playback to change.

By default the playback rate is locked to 100%. Press the X soft button to enable changes to playback rates. The playback rate % is shown for each of the main playbacks when the % is other than 100%.

The playback rate is stored in the show file, so that the rate will persist over resets and power downs.

Global playback rate can be set using the Y soft button in a similar way.

If you have accidentally set playback rates then you can reset all playback rates to 100% using the top soft button RESET ALL RATE.

16.5.6   Checking Active playbacks

Playbacks can only be active on one page at a time. To view which page a playback is active on press soft button B to select "View Active".

In this view, the active playbacks are shown together with the page that they are active on. The top soft buttons, GO, PAUSE and RELEASE can be used on the active playbacks. Playbacks that are not active show the Cues Stack that would be activated if that playback was activated.

To return to the current page press soft button C "View Cur Page"

16.5.7   Moving Playbacks for all pages

It is possible to move playbacks on all pages to a new playback number. This is particularly useful when converting a show from Compact console (10 main faders) to MQ500 (15 main faders).

Press soft button B to "View All". Moving will now move the Cue Stacks on all pages to the new playback.

It is possible to move multiple playbacks (and pages) at one time.

16.6   Wing Playbacks Pages

Playback wings support 24 playbacks divided into two rows of 12 playbacks. Each row of playbacks has separate NEXT PAGE and PREV PAGE buttons.

This is a very powerful feature as it allows the playbacks to be split into separate sections without forcing all the playbacks to be on the same page.

This provides significant flexibility to how shows are played back – for example one section of a wing can be used to control traditional lamps whilst another could be used to control intelligent heads. Changing the Page of the par lamps would not change the Page of the heads.

By default the page buttons on the main section affect all playbacks whilst the buttons on each wing row only affect that row. If you plan to operate a wing section separately then you can avoid the main page buttons affecting that wing section. In the Setup Window, select VIEW SYSTEM, VIEW WINGS.

For each wing section you can specify which page buttons the section is tied to. To operate a section independently of any other page buttons set the tie to be itself. For example, to operate the upper section of Wing 1 independently set the upper bank tie to Wing 1 upper.

You can also tie multiple wing banks together to use one set of page buttons. Thus if you want both sections of a wing to operate off 1 set of buttons, then you can configure the ties to do this.

When any NEXT PAGE or PREV PAGE buttons are pressed the LCD displays temporarily change to indicate the current page number.

You can jump to a Wing Playback Page by entering a page number, then holding the Wing NEXT PAGE button and pressing the Wing PREV PAGE button.

16.7   Default Cue Stacks

Cue Stacks can be made to appear on all pages of a Playback. To use this feature, record a Cue Stack on Page 1 and then in the Playbacks Window set "Default Cue Stack" to "On" for the selected Playback.

The Cue Stack on Page 1 then appears on any Pages which do not have a Cue Stack assigned.

16.8   Synchronising Playbacks

It is possible to sychronise the Cue Stacks on two or more Playbacks. Set the "Sync next playback to this one" option. MagicQ matches the Cue Ids in the Cue Stack so it is possible to have different numbers of Cues in the Stacks. If there is no Cue Id matching in the next Cue Stack then it will remain at the current Cue.

It is possible to have several Playbacks synced to one master Playback by setting the option "Sync next playback to this one" on the master and each adjacent Cue Stack, except for the last one in the chain. MagicQ tries to match the Cue Id within each Cue Stack to the master Cue Stack.

16.9   Set lists

It is possible to save and load set lists in the Page Window. Set lists are simply text files with a list of page names. When the set list is loaded, MagicQ rearranges the pages so that they are in the order specified in the set list. Pages that are not specified in the set list (for example songs not being used today) are moved after all the pages specified in the set list file.

To use set lists, first name all the pages in the Page Window according to the song name or section name. You can then save this as a set list by pressing the Save Set List soft button – the file is saved into the show folder with a .txt file extension. You can edit this file with a text editor (e.g. Windows Notepad) to rearrange the songs. Load the set list back into MagicQ using the Load Set List soft button.

Chapter 17

Cue Stack Options

The Cue Stack Window has three Views – View Cue Stack, View Options and View Defaults.

The View Options view shows the settings for the Cue Stack on the current Playback. Changing these settings immediately affects the currently selected Cue Stack.

The View Defaults view shows the settings that will be used when new Cues and Cue Stacks are recorded. Changing the settings in View Defaults does not affect Cues and Cues Stacks that have already been recorded.

The View Defaults view contains two columns – one for single step Cue Stacks and one for multiple step Cue Stacks. When the first Cue is first recorded on a Cue Stack the single step defaults are used. When a second Cue is recorded on the Cue Stack the Cue Stack settings are modified to use the multiple step defaults.

17.1 Faders

17.1.1 Fader activates stack

When set to Yes raising the fader from 0 to above the activation threshold activates the Cue Stack. When set to No the fader does not activate the Cue Stack.

The activation threshold defaults to 0. It is a global setting which is set in Setup, View Settings, Hardware.

17.1.2 Fader releases stack

When set to Yes lowering the fader to the activation threshold releases the Cue Stack. When set to No the fader does Not release the Cue Stack.

The activation threshold defaults to 0. It is a global setting which is set in Setup, View Settings, Hardware.

17.1.3 Fader controls HTP chans

When set to Yes the fader will control the level of all channels from the Playback that are patched as HTP channels.

When set to No then all HTP channels will be activated at 100% of the their level within the Playback, ignoring the level of the fader.

MagicQ personalities normally only have Intensity set as HTP channel - but it is sometimes useful to patch fixtures without Intensity as HTP – e.g. the Red, Green, Blue channels of LED fixtures.

The fader controls the levels proportionately from 0% to 100% through the length of the fader.

If the Cue includes FX on HTP channels then the size of the FX is also reduced proportionately according to the fader level.

When this setting is set to Yes then the other "Fader controls" settings should generally be set to No.

The overall intensity level of HTP channels is also affected by the Grand Master and the Sub Master and any active Group Masters.

17.1.4 Fader controls LTP (IPCB) chans

When set to Yes the fader will crossfade all channels that are operating as LTP channels (generally this is everything apart from Intensity).

When the fader is at 0% the LTP channels are not controlled by this Cue Stack. When the fader is raised above 0% then MagicQ crossfades the LTP channels to the values stored in the Cue under control of the fader. When the fader is at 100% then the LTP channels are exactly as stored in the Cue.

MagicQ crossfades the LTP channels from the values that they were at before the fader was raised above 0 – i.e. the current value of these channels. This will either be the values from other Cue Stacks, or if no other Cue Stacks are controlling these channels the LTP or default values.

When set to Yes then the other "Fader controls" settings should generally be set to No.

If the setting Fader controls HTP is set to No, and the setting Advanced, All Channels Controlled LTP is set to Yes, then MagicQ will crossfade channels that are normally HTP as well such as Intensity.

17.1.5 Fader controls Absolute chans

When set to Yes the fader will control the value of all LTP chans in an absolute way - when the fader is at 0% then the channels are at 0% - when at 100% the channels are at the programmed value. This allows direct control of the attributes from the fader.

This is similar to Fader Controls LTP (IPCB) chans except that the crossfade always starts from 0% rather than the value from other Playbacks.

17.1.6 Fader controls FX size

When this setting is set to Yes the fader controls the size of any FX that are running in the Cue Stack – this includes FX from the current Cue and also any FX that are tracking from previous Cues in the Cue Stack.

When the fader is at 100% then the FX is the size that was recorded in the Cue - lowering the fader reduces the size until there is No size (No FX) at 0%.

Fader controls size affects FX on any attribute.

When set to Yes then the other "Fader controls" settings other than "Fader controls speed" settings should generally be set to No.

17.1.7 Fader controls FX speed

When this setting is set to Yes the fader controls the speed of any FX that are running in the Cue Stack – this includes FX from the current Cue and also any FX that are tracking from previous Cues in the Cue Stack.

When the fader is at 100% then the FX runs at the speed that was recorded in the Cue - lowering the fader reduces the speed until it stops at 0%.

Fader controls speed affects FX on any attribute.

When set to Yes then the other "Fader controls" settings other than "Fader controls size" settings should generally be set to No.

17.1.8 Fader controls manual crossfades

When set to Yes then the fader performs a manual crossfade on the Cue Stack in a similar way to the dedicated manual crossfader. This enables multipel Cue Stacks to be manually crossfaded.

All other "Fader controls" settings, especially "Fader controls HTP" should be set to No, otherwise there will be unpredictable results.

17.1.9 Fader jumps to Cue Step

When set to Yes and the Cue Stack has multiple steps then raising the fader will step through the Cue Stack - at 0% it will be on step 1 and at 100% it will be on the last step.

17.2 Buttons

17.2.1 Flash activates stack

When set to Yes pressing the Flash button activates the Cue Stack and sets the level of the Playback to 100%.

When set to No pressing the Flash button sets the level of the Playback to 100% but does not activate the Cue Stack.

The overall level of HTP channels is also affected by the Grand Master and Sub Master and any active Group Masters. The Sub Master can be configured in Setup to be an Add Swap Master.

17.2.2 Flash releases stack

When set to Yes releasing the Flash button releases the Cue Stack and sets the level of the Playback to 0%.

When set to No pressing the Flash button sets the level of the Playback to 0% but does not release the Cue Stack.

Note that if the option Fader Activates Stack is set to Yes then releasing of the Playback is also dependent on the fader. If the Playback was activated by raising the fader then pressing the Flash button will not release the Playback. In this case the Playback will only be released by lowering the fader to 0% or by pressing the Rel button. This allows the Flash button to be used both to bump in a Cue which was not activated by fader, and to also bump a Cue to 100% which was activated by the fader at a lower level.

17.2.3 Flash always swaps

When set to Yes, pressing the Flash button will always act as a Swap rather than an Add, regardless of the state of the Add/Swap button. When the button is pressed the Intensity of all other active Playbacks will be set to 0%. When the button is released the other Playbacks will be restored to their previous level.

When this option is set Yes then the LED in the Flash button will always be red.

17.2.4 Flash acts as Go/Pause

When set to Yes, pressing the Flash button acts as if the Go button had been pressed and pressing Shift + the Flash button acts as if the PAUSE button had been pressed. When set this way the button does Not act as a bump button.

When set to No the Flash button acts as a bump button in the normal way.

Holding Shift and pressing Flash will perform Pause instead of Go.

When set to Yes the settings "Flash activates Stack", "Flash releases Stack" and "Flash toggles" are ignored.

17.2.5 Flash acts as Flash + Go

When set to Yes the Flash button acts as both a Flash button and a Go button.

Pressing the Flash button performs the Go function – this will active the Cue Stack, or if the Cue Stack is already active, it will Go to the next step. At the same time the Flash button will operate in the Normal way, setting the Playback level to 100%.

Releasing the Flash button will set the Playback level back to 0% or if the fader is raised to the leve l of the fader.

Holding SHIFT and pressing the Flash button will perform Flash + Pause.

Normally when "Flash acts as Flash + Go" is set Yes then the setting "Flash Releases Stack" should be set to No. If the option "Flash Releases Stack" is set to Yes then releasing the Flash button will also release the Playback unless the fader is raised.

When set to Yes, the setting "Flash acts as Go/PAuse" is ignored.

17.2.6 Flash toggles

When set to Yes the Flash button acts as a toggle rather than a bump. Pressing the button the first time activates the Playback. Pressing the button again releases the Playback.

When this option is set and the playback is active the LED in the Flash button Flashes to indicate the toggle mode is latched.

When set to Yes, the settings "Flash activates Stack" and "Flash releases Stack" are ignored.

17.2.7 Flash acts like fader

When set to Yes the Flash button has the same effect as if the fader has temporarily been raised to 100%. This is useful for enabling the FLASH button to control attributes other Intensity. For example if the fader is set to control FX size then pressing the Flash button would act like the fader being fully raised – so 100% FX size.

17.2.8 Go jumps out of loop

This setting affects Cues that are set to Chase Timing which are in a loop. When set to Yes, pressing Go will exit the loop – jumping to the step after the Cue that loops back to an earlier Cue. When set to No, pressing Go will step one step within the chase.

17.2.9 Go exits loop after end

This setting has no effect.

17.2.10 Go stop/starts

When set to Yes then pressing GO stops a Cue that is already running or starts a Cue that is stopped.

When set to No then pressing GO starts the next Cue.

17.2.11 Pause swaps

When set to Yes the Pause button acts as a Flash button in Swap mode.

Pressing the Pause button the Playback will be set to 100% and the Intensity of all other active Playbacks will be set to 0%. When the button is released the other Playbacks will be restored to their previous level.

This setting enables a Playback to have both an Add button and a Swap button.

17.2.12 Pause releases

When set to Yes the Pause button releases the Cue Stack.

17.3 Function

17.3.1 Cue Stack is an Intensity Master

When this setting is set to Yes then the Cue Stack behaves as an Intensity Master. The Cue Stack normal Cue execution behaviour is disabled.

The Group Id settings specifies the group of channels that are under control of the Intensity Master. Updating the channels stored within the specified group updates the channels under control of the FX Size Master.

If the Group ID is 0 or refers to an invalid group, then the channels stored in the first Cue are used to determine which channels are under control of the Intensity Master. The levels of the channels in the first Cue are not important – only that the channels are present at some level in the Cue.

In order for the Intensity Master to be activated the Go button must be pressed. To release the Intensity Master the Playback must be selected and the REL button pressed. The Button settings "Flash activates Stack" and "Flash releases Stack" are ignored. In order to avoid sudden changes in output level the fader should be raised to 100% before activating or releasing.

When the fader is at 100% then the Cue Stack has no effect. As the fader is lowered then all the channels under control have their intensity reduced.

It is possible to have multiple Intensity Masters that control the same channel which work proportionately.

Normally when this setting is set to Yes, the settings Cue Stack is a Size Master and Cue stack is a Speed Master should be set to No.

When this setting is set to No then the Cue Stack behaves normally.

17.3.2   Cue Stack is a Size Master

When this setting is set to Yes then the Cue Stack behaves as an FX Size Master. The Cue Stack normal Cue execution behaviour is disabled.

The Group Id settings specifies the group of channels that are under control of the FX Size Master. Updating the channels stored within the specified group updates the channels under control of the FX Size Master.

If the Group ID is 0 or refers to an invalid group, then the channels stored in the first Cue are used to determine which channels are under control of the Size Master. The levels of the channels in the first Cue are not important – only that the channels are present at some level in the Cue.

In order for the Size Master to be activated the Go button must be pressed. To release the Intensity Master the Playback must be selected and the REL button pressed. The Button settings "Flash activates Stack" and "Flash releases Stack" are ignored. In order to avoid sudden changes in output level the fader should be raised to 100% before activating or releasing.

When the fader is at 100% then FX size is as programmed. As the fader is lowered then the FX size is reduced until it reaches zero size at 0%.

A particular channel can only be controlled from one FX Size Master.

Normally when this setting is set to Yes, the setting Cue Stack is an Intensity Master should be set to No. It is possible to have a Cue Stack set to both a Size Master and a Speed Master.

When this setting is set to No then the Cue Stack behaves normally.

17.3.3   Cue Stack is a Speed Master

When this setting is set to Yes then the Cue Stack behaves as an FX Speed Master. The Cue Stack normal Cue execution behaviour is disabled.

The Group Id settings specifies the group of channels that are under control of the FX Speed Master. Updating the channels stored within the specified group updates the channels under control of the FX Speed Master.

If the Group ID is 0 or refers to an invalid group, then the channels stored in the first Cue are used to determine which channels are under control of the Speed Master. The levels of the channels in the first Cue are not important – only that the channels are present at some level in the Cue.

In order for the Speed Master to be activated the Go button must be pressed. To release the Intensity Master the Playback must be selected and the REL button pressed. The Button settings "Flash activates Stack" and "Flash releases Stack" are ignored. In order to avoid sudden changes in output level the fader should be raised to 100% before activating or releasing.

When the fader is at 100% then FX size is as programmed. As the fader is lowered then the FX size is reduced until it reaches zero size at 0%.

A particular channel can only be controlled from one FX Speed Master.

Normally when this setting is set to Yes, the setting Cue Stack is an Intensity Master should be set to No. It is possible to have a Cue Stack set to both a Size Master and a Speed Master.

When this setting is set to No then the Cue Stack behaves normally.

17.3.4   Group ID (0 is not used)

This setting is used when the Cue Stack is an Intensity Master, FX Size Master or FX Speed Master. It specifies the group to use for the Master.

When set to zero the Master will use the data in the first Cue of the Cue Stack to determine which heads are controlled by the master.

17.3.5   Group Attributes

This setting is used when the Cue Stack is an FX Size Master or FX Speed Master and the Group ID is non zero. It specifies which attributes the FX Speed or Size master should control for the heads in the Group.

The Group Attributes defaults to all attributes. The options are All, Pos, Pan, Tilt, Col, Int, Zoom.

If the Group ID is zero or invalid then this setting is not used and MagicQ uses the data in the first Cue of the Cue Stack to determine which heads and attributes are controlled by the master..

17.3.6   Cue stack is a Prog Master

The Playback with this Cue Stack operates as a Programmer Master.

17.3.7   Intensity Master to 200%

When Cue Stack is an Intensity Master is set to yes, then the fader will operate from 0% to 200% intensity. Above 100% the level recorded in the Cue will be boosted - although the maximum level will always be 100%.

17.4   Activate/Release

17.4.1   Halt at last step

When set to Yes the Cue Stack halts at the last step in the Cue Stack. When set to No then the Cue Stack will return to the first step after the last step.

17.4.2   Release after last step

When set to Yes the Cue Stack automatically releases after the last step in the Cue Stack has completed fading. When set to No the Cue Stack must be released manually.

17.4.3   Release resets to first step

When set to Yes the Cue Stack always starts from the first step when the Cue Stack is activated. The setting "Release steps 1 step" is ignored.

When set to No the Cue Stack activates at the step it was on when it was last released.

17.4.4   Release steps 1 step

When set to Yes the Cue Stack activates at the step following the step the Cue Stack was on when it was last released.

When the setting "Release resets to first step" is set to Yes, this setting has no effect.

17.4.5   Release time

This is the time for channels to release when the Cue Stack is released (using the REL button or via fader/flash button). The exact behaviour depends upon whether channels are active on other Playbacks. Intensity channels not used by other channels will fade out using the release time.

The release time also affects channels that are released from Cue steps within a Cue Stack step – i.e. when the Cue Stack step Tracking option is not set to LTP ("Rel old chans" = yes)

This setting can also be set in the End field in View Cue in the Cue Stack Window.

17.4.6   Release Executes Last Step

When the Playback is released then MagicQ executes the last step of the Cue Stack before releasing. Any macros in the last step of the Cue Stack are also executed.

It affects all releases including releasing by flash button, fader to 0% or RELEASE button.

This can be used with a Release Time on the Cue Stack to perform a fade out of a different look when the Cue Stack is released.

17.4.7   Activate on page change

When set to Yes, then this Cue Stack is activated when the page is changed to the page that this Cue Stack is assigned to.

If there is an active Cue Stack on this Playback then the new Cue Stack will only be activated if the old Cue Stack is set to release on page change.

17.4.8   Release on page change

When set to Yes, then this Cue Stack is released when the page is changed to any page other than the page that this Cue Stack is assigned to.

17.4.9   HTP always active (Use HTP)

When set to Yes then the fader always controls the Intensity (HTP) channels from the Cue Stack regardless of whether the Cue Stack is activated. Whenever the fader is raised above zero the Intensity channels will affect the Output. The highest level from this Cue Stack and any other Playbacks will determine the Output level for each channel.

This setting overrides the Advanced Setting "All Channels controlled LTP".

This setting is similar to the Use HTP setting on some other consoles.

17.5   Advanced

17.5.1   All chans controlled LTP

When set to Yes all HTP channels under control of the Playback act as if they were LTP channels. When the Playback with this Cue Stack is the latest activated and highest priority Playback then the Playback has complete control of all HTP channels regardless of whether they are active on other faders.

HTP channels that are active on higher priority Playbacks will be under control of the higher priority Playback and will ignore this setting.

HTP channels that are active on other Playbacks with the same priority, but which were activated/reasserted more recently than this Playback, will be under control of the other Playbacks.

17.5.2 Block FX from other playbacks

When set to Yes then any channels controlled by this Playback block FX on those channels from other Playbacks.

Channels controlled by this Playback that have levels but no FX are not affected by FX on other Playbacks. In effect an implicit zero FX is added to these channels to block the other Playbacks.

When set to No then channels controlled by this Playback that have levels but no FX are affected by FX on those channels from other Playbacks.

17.5.3 Masters affect level

When set to Yes then the levels of HTP channels (generally Intensity) are affected by the grand master and sub master faders. Channels also are affected by DBO and can be released by SHIFT RELEASE.

When set to No then the levels of HTP channels are not affected by the grand master and sub master faders. They are also not affected by DBO or by SHIFT RELEASE.

Note that Group Masters are not affected by this setting. Therefore even with "Masters affect level" set to No, channels will still be affected by Group Masters.

17.5.4 Playback priority

The Playback priority can be set to NORMAL, HIGH and ABOVE PROGRAMMER.

When all Playbacks are set to priority NORMAL then the latest Playback to be activated/reasserted will control the channels.

Playbacks set to HIGH priority always have higher priority than Playbacks set to NORMAL priority.

Playbacks set to ABOVE PROGRAMMER have higher priority than the Programmer – in order to edit the Cues in the Programmer and see the changes on the Output it is best to release the Cue Stack.

17.5.5 Move when dark

When set to Yes, then MagicQ checks after each Cue is executed whether it should perform a move when dark.

Any heads that are used in the next Cue but which have 0% intensity in the current cue are checked to see whether the Position, Beam and Colour attributes should be preloaded before the next Cue is executed. If the Position, Beam or Colour values are different from the current values then the new values are crossfaded with a time of 3 seconds.

This option is similar to putting a Mark Cue before every Cue in a Cue Stack.

17.5.6 Recalculate state on jumps

This option specifies how MagicQ calculates the Cue State when playing back a Cue Stack.

When set to Yes, MagicQ recalculates the Cue State whenever a jump is made in the Cue Stack. The Output of a particular Cue always appears the same regardless of which Cue was executed preciously. MagicQ recalculates the Output as if the Cue Stack had been played back from the first Cue to this Cue by pressing the GO button.

When set to No, MagicQ calculates the Cue State based on the Cues that it has actually executed – when jumping to a new Cue only the Cues that have been previously executed will make up the Output.

In tracking modes this setting defaults to Yes. In non-tracking modes this setting defaults to No.

17.5.7   Stomp other playbacks

Stomping enables Playbacks that have been completely overridden by other Playbacks to be automatically released.

This option is only relevant when the Setup, Playback setting "Stomp playbacks" is set. When "Stomp Playbacks" is set to No then this setting is ignored.

When this setting is set to Yes then this Playback is allowed to stomp other playbacks.

17.5.8   Sync next Playback to this one

This setting enables one or more playbacks to be synchronised together so that they step the same Cue Ids at the same time. Setting this option to yes forces the next Playback (higher number) to synchronise to this Playback. If enabled for playback PB10 then Wing 1 PB1 will be synced to it.

If you Go on this playback to a Cue Id that is not implemented on the next playback then the next playback will not change step. It will only sync to steps where the Cue Ids match.

It is possible to synchronise multiple playbacks by enabling this setting on several adjacent playbacks. In this case all the adjacent playbacks are synced to the first playback in the adjacent playbacks. It is not neccesrary for each of he adjacent playbacks to have all the Cues - each adjacent playback syncs indepently to the first adjacent playback ignoring the Cues of any intermediate adjacent playbacks.

17.5.9   External timecode

This setting affects any steps in this Cue Stack that have their Halt field are set to "Timecode.

When set to Yes this Cue Stack is controlled by external timecode. When set to No then this Cue Stack is controlled by internal timecode – activating the Playback starts the timecode from 0.

17.5.10   Send playback state to other consoles

When set to Yes then the state of this Playback is sent to other MagicQ consoles on the network.

If the Setup, Multi Console setting "Send Playback state to other consoles" is set to Yes then the state of all Playbacks is sent to other consoles regardless of this Cue Stack setting.

This setting requires Setup, Network, Ethernet Remote Protocol to be set to "ChamSys TX" or "ChamSys TX and RX".

17.6   Chase Options

17.6.1   Skip first times

When this setting is set to Yes, then when the Cue Stack is activated the fade times for the first step are ignored and the levels bumped straight in.

This only affects Cue steps set to "Chase Timing".

17.6.2   Speed

This controls the speed of any Cue Steps in the Cue Stack set to "Chase Timing". This setting can also be controlled via encoder X in the Cue Stack view.

17.6.3   Xfade

This controls the crossfade of any Cue Steps in the Cue Stack set to "Chase Timing". This setting can also be controlled via the Y encoder in the Cue Stack view.

17.6.4 Direction

This controls the direction (forward or backward) of any Cue Steps in the Cue Stack set to "Chase Timing". This setting can also be controlled via encoder C in the Cue Stack view.

17.6.5 Repeat type

The options are Normal, Bounce and Random. Bounce executes the Chase alternating backward and forward direction. This setting can also be controlled via encoder D in the Cue Stack view.

17.6.6 Number of repeats

This setting specifies how many repeats of the Chase should take place.

When set to 0 then the Chase will continue until the chase is exited manually.

17.6.7 Running

This setting specifies whether Chases start running or halted.

17.7 Chase Times

17.7.1 HTP in fade, HTP out fade, Position fade, Colour fade, Beam fade

The fade times for any Cue Steps in the Cue Stack set to "Chase Timing". These times generally match the Chase speed. These times can also be controlled via encoder C in the Cue Stack view.

Setting one or more attribute group fade times to 0 causes that attribute group to snap rather than fade.

The overall Chase speed corresponds to attribute group with the biggest combined delay and fade time.

HTP in delay, HTP out delay, Position delay, Colour delay, Beam delay

The delay times for any Cue Steps in the Cue Stack set to "Chase Timing".

These times can be used to make one or more attribute groups snap at end.

The overall Chase speed corresponds to attribute group with the biggest combined delay and fade time.

17.8 Audio

Audio Controls Fader Level

When set to Yes, the level of the playback is controlled by the received audio level on the chosen. The level of the real fader is ignored. The effect on the Playback is determined by the Cue Stack, Fader settings.

The Cue Stack must be active for the audio to take effect.

When this setting is set to Yes, the settings "Audio Bumps Go" and "Audio sets BPM" should be set to No.

The setting can be used in conjunction with the setting "Audio jumps to Cue Step".

The audio level, audio parameter 1, and audio parameter 2 settings can be used to fine tune how the received audio affects the fader level.

17.8.1 Audio bumps Go

When set to Yes, the Cue Stack bumps to the next step every time a peak in the audio is detected on the specified channel. This enables a Cue Stack to follow the beat of the music.

This is best used with the Cue Stack set to Cue Timing instead of Chase Timing.

The Cue Stack must be active for the audio to take effect.

When this setting is set to Yes, the settings "Audio controls fader level", "Audio sets BPM" and "Audio jumps to Cue Step" should be set to No.

Audio parameter 1 is used as a divider – set it between 2 and 16 to divide the received beat frequency by a value between 2 and 16 times.

Audio parameter 2 should be set to 0.

17.8.2 Audio sets BPM

When set to Yes, then the chase speed of the Cue Stack is set to the timing of the peaks on the specified audio channel. The Cue Stack should be set to Chase Timing.

The Cue Stack must be active for the audio to take effect.

When this setting is set to Yes, the settings "Audio controls fader level", "Audio bumps Go" and "Audio jumps to Cue Step" should be set to No.

Audio level, audio parameter 1, and audio parameter 2 should be set to 0.

17.8.3 Audio jumps to Cue Step

"Audio jumps to Cue Step" enables the level of the specified audio channel to determine which step in the Cue Stack is executed – for example if you have a Cue Stack with 10 steps, then a level of 0% will execute step 1, 10% will execute step 2 whilst a level of 100% will execute step 10. This is very useful if you wish to program different Cues onto LED or media servers.

The Cue Stack must be active for the audio to take effect.

When this setting is set to Yes, the settings "Audio bumps Go" and "Audio jumps to Cue Step" should be set to No.

If the setting "Audio Controls fader level" is set to YES then audio level, audio parameter 1, and audio parameter 2 will affect the level of the Playback and hence the Cue step chosen.

17.8.4 Audio channel

This setting specifies the audio channel that the Playback will respond to.

The ChamSys audio interface supports 7 different frequency bands on two audio inputs (left and right).

Selecting the option "Energy" uses all frequency bands mixed together.

17.8.5 Audio level

When "Audio controls fader level" is set to Yes then the settings Audio parameter 1 and Audio Parameter 2 can be set to control the response:

Audio P1 = 0 Normal (direct trigger from level)

Audio P1 = 1 Decayed (decays by Audio P2 each sample)

Audio P1 = 2 Pulse (triggers at Audio Level, Audio P2 is duration of pulse)

Audio P1 = 3 Pulse decay (triggers at Audio Level, decays by Audio P2 each sample)

Audio P1 = 4 Switch (triggers to on/off at Audio Level)

Audio P1 = 5 Slow (increases/decreases by Audio P2 each sample)

These parameters are ignored for the settings "Audio Bumps Go" and "Audio sets BPM", and "Audio jumps to Cue Step"

When the setting "Audio Bumps Go" is set to Yes, then Audio P1 acts as a divider - from 2 to 64 so that the Cue Stack is bumped at a slower rate than the audio input.

17.8.6 Audio parameter 1

See Audio level above.

17.8.7 Audio parameter 2

See Audio level above.

17.8.8 Rate Divisor

Cue Stacks can be set to use a divisor of the tapped time - by default it is set to "Normal" and takes the tapped time. Options include "Div by 2" to "Div by 8" and "Mult by 2". The divisor affects setting of the rate by tap to time either as the selected playback, as part of global tap to time, or as part of audio BPM rate setting.

Cue Stacks can also have the Rate Divisor can be set to "Inhibit" - in this case the rate of the Cue Stack is never affected by global tap to time options. This allows Global Tap to Time to be used without affecting particular Cue Stacks.

17.9 Step (View Defaults only)

17.9.1 Step controlled as a chase

When set to Yes, the step defaults to Chase timing. When set to No the step defaults to Cue timing.

17.9.2 Step follows last

When set to Yes, the step executes after the completion of the previous step. When set to No the step executes after the wait time specified in the Cue step.

17.9.3 Step halts before executing

When set to Yes, the step halts and waits for the user to pres GO before executing the Cue step.

When set to No the step executes immediately after the previous step has completed – this is either after it has completed fading (when "Step follows last" is set to YES) or immediately after the wait time has expired.

When "Step Controlled as Chase" is Yes then this setting is normally set to No so that the chase runs step to step without user interaction.

When "Step Controlled as Chase" is No then this setting is normally set to Yes so that the Cue Stack is executed step by step under user control.

17.9.4 Zero old HTP (from previous steps)

When set to Yes, any HTP channels from previous Cues that are not in this Cue step are faded out.

In tracking modes this setting defaults to No. In non-tracking mode this setting defaults to Yes.

The Tracking flag "H" corresponds to the inverse of this setting.

17.9.5   Zero old FX (from previous steps)

When set to Yes, any FX on channels from previous Cues that are not controlled by a FX in this Cue step have the FX faded out.

In tracking modes this setting defaults to No. In non-tracking mode this setting defaults to Yes.

The Tracking flag "F" corresponds to the inverse of this setting.

17.9.6   Release old chans

When set to Yes, any channels used in previous Cues but not used in this Cue step are released.

This setting defaults to No in all modes.

The Tracking flag "L" corresponds to the inverse of this setting.

17.10   Step Times (View Defaults only)

17.10.1   HTP in fade

The default fade times used when new Cues are recorded in a Cue Stack. Used by Cues in the Cue Stack set to "Cue Timing".

Once Cues have been recorded then the times for Specific Cues are edited in the Cue Window, View Times.

17.10.2   HTP out fade

The default fade times used when new Cues are recorded in a Cue Stack. Used by Cues in the Cue Stack set to "Cue Timing".

Once Cues have been recorded then the times for Specific Cues are edited in the Cue Window, View Times.

17.10.3   Position fade

The default fade times used when new Cues are recorded in a Cue Stack. Used by Cues in the Cue Stack set to "Cue Timing".

Once Cues have been recorded then the times for Specific Cues are edited in the Cue Window, View Times.

17.10.4   Colour fade

The default fade times used when new Cues are recorded in a Cue Stack. Used by Cues in the Cue Stack set to "Cue Timing".

Once Cues have been recorded then the times for Specific Cues are edited in the Cue Window, View Times.

17.10.5   Beam fade

The default fade times used when new Cues are recorded in a Cue Stack. Used by Cues in the Cue Stack set to "Cue Timing".

Once Cues have been recorded then the times for Specific Cues are edited in the Cue Window, View Times.

17.10.6   HTP in delay

The default delay times used when new Cues are recorded in a Cue Stack. Used by Cues in the Cue Stack set to "Cue Timing".

Once Cues have been recorded then the times for Specific Cues are edited in the Cue Window, View Times.

17.10.7 HTP out delay

The default delay times used when new Cues are recorded in a Cue Stack. Used by Cues in the Cue Stack set to "Cue Timing".

Once Cues have been recorded then the times for Specific Cues are edited in the Cue Window, View Times.

17.10.8 Position delay

The default delay times used when new Cues are recorded in a Cue Stack. Used by Cues in the Cue Stack set to "Cue Timing".

Once Cues have been recorded then the times for Specific Cues are edited in the Cue Window, View Times.

17.10.9 Colour delay

The default delay times used when new Cues are recorded in a Cue Stack. Used by Cues in the Cue Stack set to "Cue Timing".

Once Cues have been recorded then the times for Specific Cues are edited in the Cue Window, View Times.

17.10.10 Beam delay

The default delay times used when new Cues are recorded in a Cue Stack. Used by Cues in the Cue Stack set to "Cue Timing".

Once Cues have been recorded then the times for Specific Cues are edited in the Cue Window, View Times.

17.11 FX (View Defaults Only)

Default speed

This is the default FX speed used when creating new Waveform FX in the FX Editor Window.

17.11.1 Default in fade

This is the default FX fade in used when setting a specific FX fade in time. Note that by default FX are faded in using the fade times of the Cue step.

17.11.2 Default out fade

This is the default FX fade in used when setting a specific FX fade out time. Note that by default FX are faded out using the fade times of the Cue step.

Chapter 18

Advanced Playback / Cue Stack Options

18.1   Interaction of HTP and LTP channels between Playbacks

Channels are set as either HTP (Highest Takes Priority) or LTP (Latest Takes Priority) in their personality file – the property can be edited in the Head Editor.

By default, Playbacks use the HTP / LTP property to determine how channels are controlled from multiple playbacks simultaneously. For HTP channels the highest level will be output, for LTP channels the highest priority or latest touched playback will control the channel.

This operation can be modified on a per Cue Stack basis.

18.2   HTP handling

The console handles HTP (Highest Takes Precedence) channels in a very simple way - the highest value from all the playbacks, the programmer and the preset faders is the value that is output.

If the "Programmer overrides HTP chans" option is enabled then any HTP channels in the programmer will override channels on the playbacks. Channels on preset faders still affect the output.

The console supports a powerful swap mode selected through the ADD/SWAP button. In SWAP mode when a FLASH button for a playback is pressed then the HTP channels from all other playbacks are disregarded. Only playbacks with a FLASH button pressed affect the HTP output. Similarly, the programmer and preset faders have no effect on HTP output.

FX and channel values are handled independently enabling operators to program one playback with channel values and one with FX. For example one playback could have an ambient level whilst another has a dimmer chase. The FX is added to the highest channel value.

Note that if a Cue Stack on a Playback is set to "All chans controlled LTP" then when that Playback is activated as the last touched playback then all channels controlled by that Playback are considered to be LTP. Thus that Playback will exclusively control the levels of all channels used by the Cue Stack.

18.3   HTP always active (Use HTP) option

By default HTP channels programmed in a Playback only affect output when the Playback is active. It is possible to make a Playback so that the activation of the Playback is separated from the operation of the HTP channels using the "HTP always active (Use HTP)" in Cue Stack options, Activate/Release.

When this option is set, then HTP channels on the playback will be output whenever the fader is above the activation point (defaults 0) regardless of the other activate options on the Cue Stack. They will only be released when the fader is taken back down to 0. They are not affected by pressing the RELEASE or the SHIFT RELEASE buttons.

If a Playback is set to "HTP Always Active" then raising the fader or pressing the FLASH button will not use any specified Intensity delay or fade times. If the Cue Stack has multiple steps then delay and fade times will still be used when changing steps – i.e. pressing the GO or PAUSE buttons.

The "HTP always active (Use HTP)" has priority over the "All chans controlled LTP" option – therefore HTP channels on playbacks will be output regardless of any other higher priority faders with "All chans controlled LTP".

LTP channels will be activated in the normal way – i.e. by pressing GO, or if the "Fader activates" option is set by moving the fader upwards. If the "Flash activates" option is set then pressing the FLASH button will also activate the channels.

When one of the main faders has HTP levels active then it is coloured orange. Only once the playback is activated fully will it be coloured red.

Note that this option affects all channels that are patched as HTP channels (normally only Intensity – but potentially other attributes if desired).

18.4   LTP handling

The MagicQ console provides powerful handling of LTP (Latest Takes Precedence) channels allowing new effects to be "bumped" onto intelligent heads for a period of time before reverting to the previous effect.

Note that several other consoles handle LTP channels in a less intuitive way - when the last active playback is returned to zero then the values on that playback still control the channel rather than reverting to the previous raised playback that is still active.

The programmer always over-rides playbacks. If a LTP channel is active in the programmer then playbacks will be disregarded for this channel.

FX and channel values are handled independently enabling operators to program one playback with channel values and one with FX. For example one playback could have MAC500 positions (channels) whilst another has MAC500 movements (FX).

18.5   Interaction of FX between Playbacks

By default, the FX and levels on MagicQ operate independently so it is possible to have a FX running on one Playback and the level (base values that the FX is applying to) coming from a separate Playback.

Only one FX is ever active on a particular channel, so the FX from the last touched playback will over-ride any FX for that channel from other playbacks.

If a Playback has a Cue with both a FX and a level for a channel then that will Playback controls then the output will be the level plus the FX from that Playback.

If a Playback has a Cue with only a level for a channel (i.e. no FX), then a FX may be added to that level from another active Playback.

It is possible to set the Cue Stack option "Ignore FX from other Playbacks" so that when the Playback is the last touched Playback, any FX from other Playbacks are ignored, regardless of whether this Playback has FX for these channels.

It is also possible to set the Cue Option "Block FX" to block other Playbacks with FX from affecting the levels in a particular Cue. Note that when the option "Programmer overrides FX" is active (e.g. in Hog II Warp mode) then Cues are automatically recorded with the "Block FX" option set. The Cue option "Block FX" can be viewed and changed in the Cue Stack Window (page right).

An alternative way to block FX from other Playbacks is to use "Add FX Zero Size" in Cues where you wish to block other Playbacks.

18.6   Playback Priority

By default all playbacks have the same priority. It is possible to set a playback to maximum priority using the Cue Stack option "Highest Playback priority". The options are:

- Normal – same priority as other playbacks – last activated has control

- Mid – above Normal but lower than programmer

- High – highest priority of all playbacks but lower priority than the programmer

- Above Programmer – higher than playbacks and the programmer

When the Cue Stack has highest priority, LTP channels under control of the playback are not affected by other playbacks. HTP channels continue to operate as normal.

18.7   Playbacks ignore masters levels

Sometimes it is necessary to program playbacks that are not affected by the Grand Master or Sub Master. Use the "Masters do not affect level" option to prevent the Cue Stack being affected by the master faders – this is useful for controlling channels that must stay up – e.g. house lights, smoke machines etc. . . Cue Stacks set with this option are not affected by grand master, sub master, DBO button.

Cue Stacks with this option set are not released by pressing SHIFT RELEASE to release all playbacks.

18.8   Playback Stomping

There is a Playback Stomping option in the Setup Window, View Settings, Playback. With this option enabled playbacks that have been fully overridden by other playbacks will be automatically released (stomped).

This is useful in some environments such as night-clubs where the operator wishes to continually play back new functions without having to turn off the older functions.

There is a choice of Stomping - LTP or both LTP and HTP.

When set to just LTP then playbacks that contain HTP channels are never released (stomped) as they may still be affecting the output. When set to LTP and HTP then playbacks are stomped if all of the LTP channels have been overridden by another playback and the HTP channels are at the same or higher level in another playback.

When using the Playback Stomping option it is possible to allow some playbacks to be marked as "non stomping". This enables certain playbacks to be bumped in without stomping over the original playback.

18.9   Group Masters (Inhibit Masters)

Playbacks can be used to control groups of channels – you can assign a playback to be a master for Intensities, FX size or FX speed for a specified set of heads. Using Intensity Masters you can make an "Inhibit Master" to give overall control for the levels of a group of channels.

Group masters can be based either on a particular group in the Group Window, or based on the channels recorded into a Cue. Masters based on groups are updated whenever a group is changed.

Group Masters are activated and released in the same way as normal Cue Stacks. When you set Cue Stacks to be Intensity Masters, FX Speed or FX Size Masters it is not necessary to set Fader Activates Stack to No and Fader Releases Stack to No. MagicQ will ignore these settings and always activate only using the GO button and release using the RELEASE button.

When editing the channels in a Group Masters you should ensure that the fader is released before you make the edit.

Note that the channel levels, times, and FX information in the Cue that is used as the Group Master are ignored and hence do not affect the output in any way.

18.9.1 Intensity Masters

18.9.1.1 Group based Intensity Masters

To make an Intensity Master based on a Group simply clear the programmer, then select the Group and record to a Playback. Make sure that there are no active channels in the programmer. MagicQ will automatically create a Group Master, setting the Cue Stack Options, Function, Intensity Master = Yes and setting the Cue Stack Options, Function, Group Id to the selected Group.

The group associated with an Intenity Master can be changed in Cue Stack Options, Function. When a group number other than 0 is set in the Cue Stack Options, Function menu then MagicQ automatically edits and generates the Cue assigned to the first step in that Cue Stack. Ensure you set the group id on the correct Cue Stack.

You can have multiple Group Masters that control one channel – they will work together.

18.9.1.2 Channel based Intensity Masters

It is possible ro record an Intensity Master without a link to a particular group.

Record a cue with the channels that you wish to control - the level of the channels can be any level as long as the channel is in the programmer. Then set the Cue Stack option "Fader is an Intensity Master".

Activate the playback (press GO or raise the fader) and now it acts as an Intensity Master. Press RELEASE to stop the master having any effect.

18.9.2 FX Size and FX Speed Master

FX Size and FX Speed masters allow control of the FX size and speed on multiple heads, either based on a group or based on the channels recorded into a Cue.

You can set-up multiple FX Size and FX Speed Masters – however you should only have one Master of each type to control each head – otherwise there is a conflict.

To make a FX Size or FX Speed Master you record a single Cue onto a Playback. Then in Cue Stack Settings, Function set the FX Size Master or FX Speed Master to Yes.

18.9.2.1 Group based FX Size and FX Speed Masters

For group based FX Size and FX Speed masters simply set the Group ID in Cue Stack Settings, Function.

To choose which attributes to control set the Group Attribs.

18.9.2.2 Channel based FX Size and FX Speed Masters

For channel based FX Size and FX Speed masters, record a Cue that contains the attributes that you wish to control.

To make a FX size master for pan movement, record a cue with only the pan attribute in the programmer for the heads you wish to control. Then set the Cue Stack option "Fader is a Size Master". Activate the playback and now it acts as a FX Size Master for pan movement.

18.10 Advanced activate and release options

The FLASH button can be set to release the Cue Stack using the "Flash releases stack" option. This option works in a slightly different way depending on the "Fader releases stack".

When "Fader releases stack" = "no" (Theatre, Hog II Warp modes), pressing and then releasing the FLASH button will always release the stack regardless of the fader level. When "Fader releases stack" = "yes" (Normal mode), pressing and releasing the FLASH button will only release the Cue Stack if the fader is at 0.

The Cue Stack can be configured in different ways to affect whether the Cue Stack resets to the first step on release, whether it stays at the current step, or whether it moves on one step.

Chapter 19

Live Programming (Busking)

19.1   Adding individual channels using preset faders

Individual channels can be added into the show as required using the Intensities Windows. Channels can be added using the faders in either the Programmer View or the Presets View.

Channels added in the Programmer View are added into the programmer in the usual way. If the programmer is cleared then they are cleared. Channels added using the Presets View are not affected by operations on the programmer - they act like preset faders.

Channels added in both views are affected by the Grand Master and by the pressing of SWAP buttons.

19.2   Over-ride / take-over

The MagicQ architecture supports the combined use of the programmer, playbacks and preset faders so that there is no need to constantly swap between modes, losing your overridden effects. This makes the console ideal for busking shows.

ADD and SWAP buttons work regardless of whether you are programming or playing back. Similarly the programmer works as an over-ride, regardless of what you are doing.

By default, the console makes no distinction between programming and run modes. Some operators may wish to restrict what is allowed in run mode – this can be configured in the Setup Window. You can choose to disable programming or to disable modification of programmed Cues / Cue Stacks.

19.3   Viewing Cues and Cue Stacks

The Cue and Cue Stack Windows are used to monitor and adjust the execution of Cues and Cue Stacks respectively. Both windows monitor the currently selected playback.

For a Cue Stack with a single Cue recorded on it, then the Cue Stack window will not be of much interest. In this case the Cue can be monitored and adjusted using the Cue Window.

For a Cue Stack with multiple Cues, the Cue Stack window can be used to watch the progress of the Cue Stack. The position within the Cue Stack can be changed along with the timing information. You can make the Cue Stack window follow the Cue currently executing on the selected playback - set the Display Current Cue option to YES in the Cue Stack Window.

19.4   Modifying chase speed / contrast

To modify the speed or contrast of a Cue Stack that is running with Chase Timing, press the SELECT button for the playback, and then adjust the encoders in the Cue Stack Window. The chase direction and chase type (Normal, Bounce, Random) can

also be selected. Pressing and holding the SELECT button of a Playback with a chase on it automatically opens the Cue Stack Window.

Use the top right encoder to modify individual attributes - Position, Beam, Colour, Intensity In and Intensity Out (soft button selects the different attributes). Once the speed of an attribute is changed it is no longer controlled by the master chase speed. Modifying the attribute so that it is the same as the master chase speed brings it back under control of the master chase speed.

Modifications are retained even after the playback is released.

19.5 Modifying FX parameters

To modify the parameters of a FX that is programmed in a Cue, press the SELECT button for the playback, and then adjust the encoders in the Cue Window.

FX size, shape, spread and speed are all adjustable.

Modifications are retained even after the playback is released.

19.6 Stop / Starting Cue Stacks

Cue Stacks can be started and stopped using the GO and STOP buttons associated with the playback.

For wing playbacks, make the playback the current playback and then press the GO / STOP buttons in the manual control section.

19.7 Jumping to a Cue in a Cue Stack

There are several ways to jump to a specific Cue in a Cue Stack.

Press the S button of the Playback, enter a Cue Id on the keypad and press the manual GO button.

In the Cue Stack window, use the cursor keys or press the touch screen to move the cursor to the required Cue. Press the GOTO CUE soft button to jump directly to the Cue. Alternatively key in the Cue ID within the Cue Stack of the Cue you wish to jump to and press GOTO CUE.

Pressing the PRELOAD CUE button rather than the GOTO CUE button selects the Cue that will be executed when the GO button for the Cue Stack is next pressed. This enables the next Cue to be selected in advance of the Cue being required.

Pressing ENTER in the first column of the Cue Stack also jumps to the specified Cue.

19.8 Over-riding using the programmer

When playing back a show, you can over-ride the programmed effect in the playbacks by using the programmer. For instance, assume that you are running a yellow circle on your MAC500s. You wish to change the colour to Red.

Select the MAC500s from the Group Window.

In the Colour Window select the Red palette entry.

If you wish to remove the over-ride then you can either clear all off the programmer by pressing CLEAR. Alternatively you can remove only certain attributes or certain heads by selecting the items with the cursor in the Prog Window and pressing the REMOVE soft button.

When you press CLEAR or remove selected heads from the programmer, the programming will be immediately removed and the heads will be controlled by the playbacks as if the programming had not been applied. This is different to some other consoles where clearing the programmer has non deterministic effects.

Note that in order to over-ride individual attributes of an intelligent head you need to be in SELECT BY CHAN rather than SELECT BY HEAD mode. If you are in SELECT BY HEAD mode then all of the head attributes will be set to what is in the programmer.

19.9   Adding in new FX

MagicQ does not make a distinction between programming and run modes so it is always possible to busk new FX. For instance, assume that you have an active playback which has the MAC500s statically focused on the centre vocals position. You now wish to temporarily add in a tilt saw.

Select the MAC500s from the Group Window.

In the Prog Window, select the ADD FX soft button.

Select the TILT SAW FX.

Adjust the encoder wheels as appropriate.

If you wish to set the speed / size of the FX before you make it live on stage, then go into BLIND mode before you ADD in the FX. Then you can adjust the chase without affecting the stage output. Use the Move View in the Outputs Window to get a 2D picture of how your FX will look. Then when you are happy, go out of BLIND mode and the FX will appear on stage.

Alternatively use the ADD FX ZERO SIZE soft button – this adds an FX into the programmer exactly as when using the ADD FX soft button except that the Zero Size option is set. You can then select the size you want using the SIZE encoder before pressing the ZERO SIZE soft button to clear the Zero Size option.

Use the CHANGE FX soft button to change the waveform of the FX live.

Pressing and releasing BLIND will enable you to busk the FX in and out – e.g. in the chorus / verse transitions.

19.10   Applying palettes with time

Palettes can be applied with a time by simple entering a time in seconds before selecting the palette entry to apply.

For example, to apply a 4.5 second movement from the current position to your programmed centre vocals position, simply type 4.5 and select the vocals position in the Position Window.

The fades are carried out in the programmer (you don't need any playbacks free). All attributes in the palette are faded regardless of whether they are marked as instant or fading in the personality file.

If you apply a palette with time whilst in FAN mode then the times will be fanned across the different heads in the order that the heads have been selected. See Using Palettes with time.

19.11   Releasing / Clearing with time

Release times can be set on a per Cue Stack basis, in the Cue Stack Options. Default release times can be set up in the Cue Stack, Defaults view including times for Cue Stacks with single Cues and Cue Stacks with multiple Cues.

It is also possible to release a Playback with time by typing a number and then pressing REL. For example, 3 REL releases the currently selected playback over 3 seconds.

In addition it is possible to clear the programmer and to enter and exit blind mode with times. Press 5 CLEAR to clear the programmer over 5 seconds. Press 10 BLIND to enter blind mode over 10 seconds.

19.12   Busking Master

It is possible in the Setup Window to set the manual crossfade fader to be a "busking rate" sub-master from 0 seconds to 10 seconds. The rate is shown in the bottom right of the Status Display. The time is applied to selection of palettes and intensities. When FAN mode is selected the change is applied in turn across each of the selected heads.

19.13 Programmer Master

It is possible to make a Playback into a Programmer Master. Record an empty Cue onto a Playback and then set the Cue Stack option, Function, Programmer Master.

When the Playback is activated by pressing the GO button then the fader level becomes the Programmer level. Releasing the fader level causes the Programmer level to go back to 100%.

When the fader is less set to less than 100%, the FLASH button can be used to bump in the Programmer at 100%.

The GO button and PAUSE buttons are used to swap Palette values in the Programmer when the Programmer has mixed palette values.

For instance if some heads are set to use the RED palette in the programmer and others using the GREEN palette then pressing GO will swap all the heads using RED palette to use GREEN and all the heads using GREEN palette to use RED.

If there are more than 2 colour Palettes in use in the Programmer, then the colours rotate around all the different Palettes.

Odd/Even can be used to easily set up an initial look of 2 or more colour palettes.

Currently only one Programmer Master can be active at a time.

Chapter 20

Execute Window

The Execute Window is a special window designed to allow customisation of the look and feel of the MagicQ. This layout of the window is configurable by the user and can contain Groups, Palettes, Macros, Cues and Cue Stacks. It is also automatically accessible on the MagicQ remote iOS and Android applications.

Press the Exec button to open the Execute Window. Press 2 and Exec or 3 and Exec to open additional Execute Windows. Each Execute Window operates independently and can select different Execute Grid pages. Items can be copied between different Execute Windows.

There are three views, View Design, View Execute and View Max. Use View Design to design the grid size and to place items in the grid. Use View Execute for playback, or View Max for full screen playback.

20.1   Design View

Use the Set Grid Size soft button to specify a grid size and then copy the relevant items from other windows. For example, to place a Group in the Execute Window; go to the Group Window, press Copy, select the Group, and then go to the Execute Window and select the box to place the Group.

Cues and Cue Stacks can be recorded directly into the Execute Window using Record and selecting a free item.

Multiple items can be selected for copying into the Execute Window.

You can also assign Special Functions to items in the Execute grid. These include Execute Page Up, Execute Page Down, Change to Exec Page, Close, Blind, Clear, Lamp On, Lamp Off, Reset, Key Lock. Press the ASSIGN SPECIAL soft button.
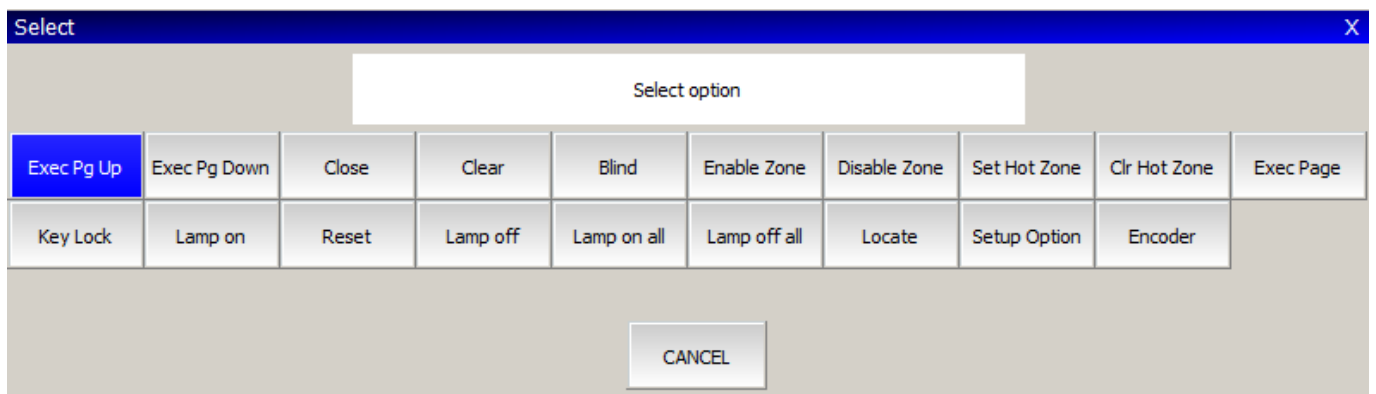
There are special functions for controlling zones – enabling, disabling and setting the hot takeover state. These enable complete control of complex DMX routing from a simple interface.

To view the details of an item in the Execute Window use the View Item soft button. This makes it easy to change FX and Chase speed quickly.

20.2   Full Screen View

The Execute Window can be run in full-screen mode (View Max), allowing the whole of the screen to be customised. The size of the full screen Execute Window can be set via GRID OPTIONS soft button and selecting Win Size – this defaults to 1024 by 768 for MagicQ PC/Mac and 800 by 600 for the console.

Selecting the "Run in Execute Window" option in the Setup Window ensures that the MagicQ will start up directly in the Execute Window. Note that on MagicQ PC/Mac, the buttons on the full screen Execute Window will only work when a MagicQ PC Wing is connected.

Use the close icon in the title bar to close the Execute Window. Use Assign Special to add a specific Close button into the Execute Grid. On MagicQ consoles you can press the CLOSE button to return to normal MagicQ windows.

It is possible to have the legends for the 10 main playbacks displayed even when in full screen view - use soft button C, Playbacks = On. The Playback legends take up the bottom part of the window, thus reducing the total size available for items.

Note that View Max is only supported on the first Execute Window.

20.3   Password Protection

It is possible to protect the Execute Window so that operators only see the Execute Window and can not use the main MagicQ application windows. From the Execute Window set up a password using the Set Password soft button. If an operator tries to close the window then they have the choice of shutting down or entering the password to re-enter the main MagicQ application windows.

For security reasons there is not a master password. To reset the password that is locked, please contact your local dealer.

Protection can be added so that users cannot operate any Execute buttons until they enter a password. A "Key Lock" Special Function button can be placed in the Execute Window. When pressed the Execute Window is locked and can only be unlocked by entering the password. If no password has been set, then entering a blank password will unlock the window.

20.4   Automated Start

MagicQ includes several options for automated start of Playbacks and Executes. These options are available on MagicQ consoles and on MagicQ PC systems when connected to a MagicQ USB Wing or Interface. See Setup, View Settings, Playback, Activate Playbacks On Start.

20.5   Faders

The Execute Window supports faders as well as buttons. Cue Stacks and Cues can be represented as faders. To set a Cue Stack or Cue as a fader, move the cursor to the item and press SOFT button E to toggle the Type between button and fader. A 'F' appears in the corner of the item when it is set to be a fader. Faders are only shown in Execute View and Max View, not in Design View.
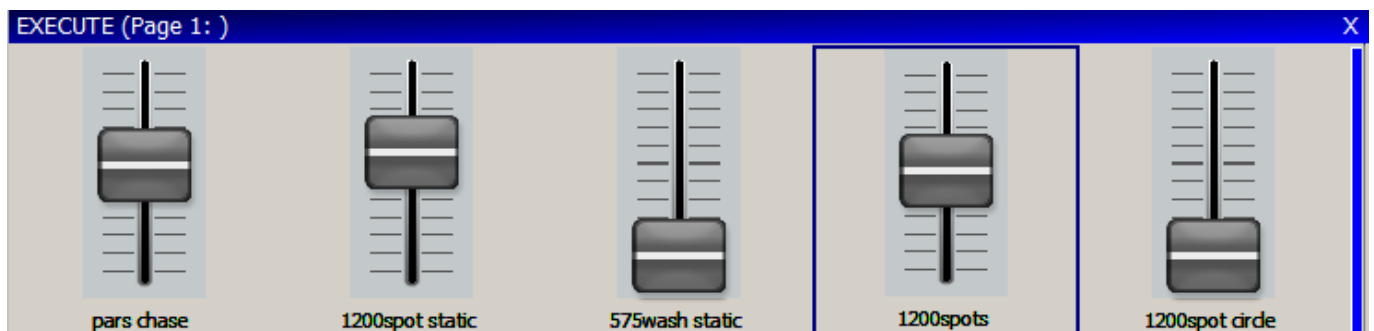
Faders can be twice as tall as buttons. When setting faders in the Execute Window leave the box below the fader free. The fader will automatically be adjusted in the Execute View to fill the two boxes.

Use SHIFT or CTRL and the cursor keys to cursor select multiple items to set the type for multiple items in one go.

20.6   Buttons

By default buttons in the Execute Window are set to toggle their function on and off each time the button is pressed. It is possible to set a button in the Execute Window that is controlling a Cue or a Cue Stack to momentary rather than toggling. Move the cursor to the required item and use Soft button E to set the item type "Button Fl".
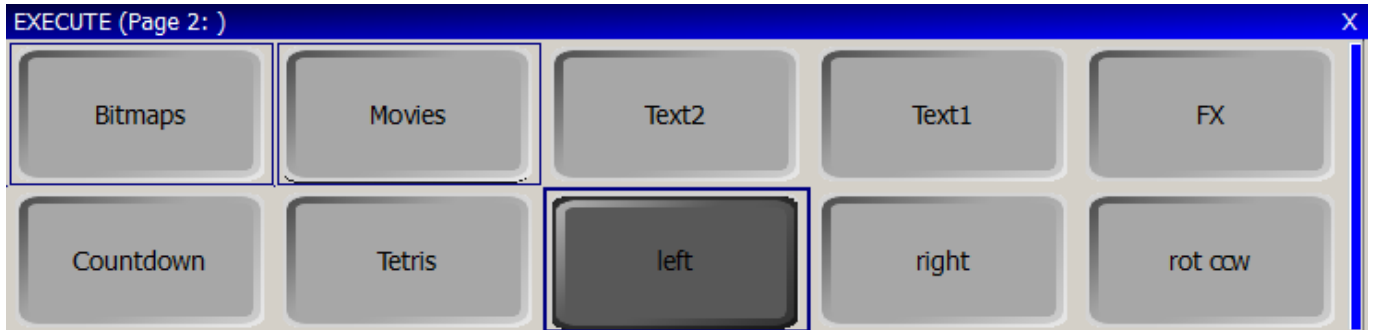
Buttons can also be set as solo buttons (also known as radio buttons) so that a group of buttons programmed as Cues or Cue Stacks can be set so that only one of the group is active at a time. Use soft button E to select "Solo".

The group consists of all adjacent buttons in a horizontal row that have their "Item Type" set to "Solo". "Solo" buttons must be immediately adjacent. Empty items or items that are not set to "Solo" will end the group.

Use SHIFT or CTRL and the cursor keys to cursor select multiple items to set the type for multiple items in one go.

20.7   Regions

Added Regions to the Execute Window to enable easier control of multiple items for attribute selection and soloing. Items in the Execute Window can be made part of the Region by selecting them with the cursor keys and pressing the SET REGION soft button.

If the Region includes a Group item then Palettes within that Region will only affect the fixtures within that Group. The Group does not need to be selected first - those palettes will affect the fixtures regardless of fixture selection. This enables colours and other attributes to be selected on different fixture types without changing the current selection. All Palettes are applied in the programmer as normal.

A Region should only have one Group in it.

If a Region includes Cue Stacks that are set as Solo, then all those Cue Stacks will solo together - i.e. only one will be active at a time. This enables the solo areas to be set out as a block whereas previous solo selections had to be in a horizontal line.

Use SHIFT and CLEAR REGION to clear a region. In Design View the region ID is shown in the top right corner of the item in Design View. Note that Win Size, Wallpaper, and Password have now been moved from the top menu to under the SET OPTIONS soft button.

If the CLEAR, LOCATE, LAMP ON, LAMP OFF, LAMP ON ALL, LAMP OFF ALL buttons are included in a Region then they only affect the fixtures from the Group controlling that region.

20.8   Timing

It is now possible to add Timing items to the Execute Window via the Assign Special, Timing button. The timings affect how Palettes are played back in the Execute Window. The options include setting a time in seconds for Palette fades, setting a split fade, and directions - normal, reverse, in to out, out to in and random.

The timing options include standard fades of 0, 1, 2, and 3 seconds and also allow custom times. A fade of 0 seconds ensures that Palettes snap in regardless of other MagicQ console settings such as Busking Rate masters.

If the Timing items are within a Region then those times only affect the fixtures from the Group controlling that region. Using multiple regions this enables different times to be used on different fixtures simultaneously.

A Region can be set up with palettes and timing items but without a Group. In this case the timing will be used with those Palettes when applied to the currently selected heads. This is useful for example to have timings on Colour and Position Palettes, but not on Beam Palettes.

20.9   Rate and parameters

It is now possible to add Rate items to the Excecute Window via the Assign Special, Rate Params button. The rate items affect how Cues, Cue Stacks and Programmer FX in the Execute Window are controlled. The Rate items include a Rate Tap to set the speed, controls to select Fade or Snap and controls to set the Parts to 2, 3 or 3.

If the Rate items are within a Region then they only affect the Cues, Cue Stacks and Programmer FX that are within the Region.

If the Rate items are not within a Region then they affect all Cues and Cue Stacks and Programmer FX in the Execute Window that do not have a Region set.

Rate items affect both FX and Chases. When a Cue Stack is set as Chase Timing then the Rate will affect the Cue Stack rate not the FX rate within the chase steps. Chases are not affected by Width controls.

The rate items affect the Cues and Chases regardless of whether they are active - so it is possible to set the speed, snap and width of a FX before activating a Cue or Cue Stack. Changes are stored with the Cue or Cue Stack so that when they are reactivated they will use the same parameters.

20.10   Execute Window FX

It is now possible to add simple FX items directly to the Execute Window via the Assign Special, FX button. The FX items generate FX for Intensity chase, Zoom chase, Colour flick, 2 Colour chase, 3 Colour chase and White Flick. In addition it is possible to add Colour 1, Colour 2 and Colour 3 buttons to select the Colours Palettes used within the FX.

If the FX items are within a Region then they use only the channels from the Group of that Region. If the FX items are not within a Region then they will use currently selected heads.

All the Colour FX items are affected by a change in Colour Palette. Note that Colour Flick only uses Colour 1, 2 Colour only uses Colour 1 and Colour 2. Intensity Chase, White Flick and Zoom Chase do not use any Colour Palettes. Colour Palettes can be selected before the FX items are active.

When the item is activated the FX is added to the Programmer. When it is deactivated the FX is removed from the Programmer. As the FX are in the Programmer they run at normal programmer priority overiding any FX from Playbacks. The BLIND button affects these FX just like any other values/FX in the programmer.

20.11   Execute Window Soft Palettes

The Execute Window supports Soft Palettes. These are Palettes that can easily be updated from other Palettes so that Cues and Chases can be immediately changed to have new values. This is useful for instance when running Cue Stacks with colour chases and wanting to update the colours.

Set "Item Type" to "Link" (Encoder E) in the Execute Window to set the Palette to be a Soft Palette. Soft Palettes are marked with a "S" in the top right corner.

To change the contents of the Palette press the item and then select another Palette (not a Soft Palette) from the Execute Window. The Soft Palette will be updated with the values from the other Palette for all the currently selected heads.

If the Soft Palette is set as part of a Region which has a Group and Palettes in it then it is not needed to press the Soft Palette - the individual Palettes can be selected directly to alter the Soft Palette. Note that in this case the Palettes in that Region only perform this function - they can not be used in the normal way.

20.12   Execute Window sequencing

It is now possible to set items within the Execute Window to automatically sequence through the items according to defined time. Sequencing is possible for Positions, Colours, Beams, FX, Cue Stacks, Cues, Macros, and Groups. The sequence can be in sequential order or random. One item of each type will be activated at a time with all other items of that type released.

In the Execute Window select ASSIGN SPECIAL and select Sequence. Then choose between Sequence and Random. Then enter a sequence time - this is the time between execute items automatically being activated/deactivated.

If the Sequence item is within a Region then it will only affect items within that region. If it is not in a region then it will affect all items within the Execute grid. All item types are affected and are sequenced independently - for example if you have both Colour items and Cue Stacks items in the grid then MagicQ will sequence the colours at the same time as the Cue Stacks. Using the random sequence would cause a different colour and different Cue Stack to be activated after each sequence time has expired.

MagicQ will apply any fade times from timing items within the Region/Grid that the sequence item is in.

Only one sequence item can be active at any one time within a Region. Only one sequence items outside a Region can be active at a time.

20.13   Button appearance

The appearance of the boxes can be set using Soft button B "Appearance". The options are "Images", "Boxes" or "Coloured" for the appearance of the buttons, faders and encoders. "Images" uses inbuilt images whilst "Coloured" colours the buttons according to function. When that function is active the button appears brighter.

The Execute Window supports custom images for the buttons, faders and encoders. The images should be stored in the bitmaps folder and named according to:

Button up image	xxxxup.bmp
Button down image	xxxxdn.bmp
Fader track image	xxxxtrck.bmp
Fader knob image	xxxxknob.bmp
Encoder back image	xxxxbase.bmp
Encoder dial image	xxxxdial.bmp

Where xxxx is any name. The images can be bmp, jpeg or png. The bitmaps can be selected for each item in the Execute Window, View Design by pressing the BUTTON BITMAP soft button and selecting the required image file.

When selecting the file, choose the "up", "trck" or "base" file. MagicQ will automatically substitute the "dn" file when the button is active.

Use SHIFT + CLEAR BITMAP to remove the bitmap.

Use SHIFT or CTRL and the cursor keys to cursor select multiple items to set the image for multiple items in one go.

20.14   Speed Encoders

The Execute Window supports encoders for speed control of Cue Stacks. Use Insert Special, and select Encoder to insert an encoder below a recorded Cue Stack. The Encoder will only be active when the Cue Stack directly above is active.
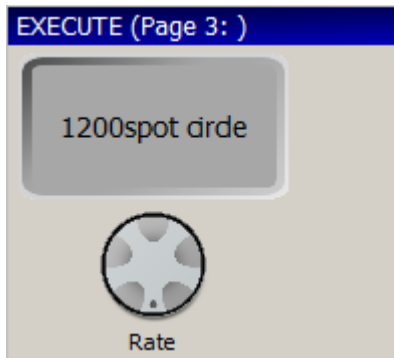
20.15   Attribute Encoders

The attribute encoder acts like the encoders in the Intensity, Position, Colour, Beam windows, affecting the currently selected heads.

20.16   Preload

The Preload function allows execute window items to be selected before the change is applied. Press the PRELOAD soft button to start selecting/deselecting items. MagicQ will show the items selected/deselected but will not apply them until the PRELOAD GO soft button is pressed. The Busking Rate Master can be used in conjunction with this feature to allow all the items to fade at the same time.

20.17   Wallpaper

It is possible to set a background wallpaper using the GRID OPTIONS soft button and selecting Set Wallpaper.

The wallpaper should be a bmp or jpeg of the size set by the WIN SIZE button.

Use GRID OPTIONS soft button and and Clear Wallpaper to remove the wallpaper.

20.17.1   Assigning Execute Pages to Users

Execute Pages can be assigned to a specific user - enabling some pages to be hidden from some users.

Press the GRID OPTIONS soft button and select Set User. The User for the page is shown in the title bar of the Execute Window.

Once an Execute Page is assigned to a user then only that user can access the Execute Page - other users will just see a blank page. MagicQ hides the Execute Page change select items for Execute pages that the user does not have access to.

Super Users can always access all Execute pages.

To remove the assignment press GRID OPTIONS, select Set User and select Default.

20.18   Special Options

There are a number of special options that can be assigned as buttons using the ASSIGN SPECIAL soft button. These include:

Exec Page, Exec Page Up, Exec Page Dn	Buttons to change Execute Grid
Blind, Close, Clear, Locate	Useful buttons in Execute Grids
Timing	Set timing including split direction for Palettes
Rate Params	Set rate of Chase / FX
FX	Add FX to selected heads
All Busking	Adds all Timing, FX and Rate items
Simple Busking	Adds basic Timing, FX and Rate items
TC and Clock	Timecode and clock items
Enable Zone, Disable Zone, Set Hot Zone, Clear Hot Zone	Management of multiple universe zones
Global Tap	Global Tap to Time button
Powerdown	Immediate shut down of the PC
Lamp On, Lamp Off, Reset	Affects selected heads
Lamp On All, Lamp Of All	Lamp On/Off whole lighting rig
Preload	Enter/leave preload mode
Setup Option	Change a Setup option
Encoder	Add a rate or attribute encoder
Keylock	Lock the Execute Window so users cannot change / shut down
User	Change the user

20.18.1 Changing Execute Page

It is possible to build up multiple execute grids and to change between them using the Exec Page, Exec Page Up and Exec Page Down special options.

For example you could use Grid 1 as an "Home" grid with only buttons to change to other pages. Then each of the other pages could have a Exec Page button to change back to the "Home" grid.

Exec Page items for specific Execute Pages are hidden for users that do not have access those Execute Pages.

20.18.2 Automating Setup options

Setup options can be changed from the Execute Window without having to write keyboard macros. In the Execute Window – press ASSIGN SPECIAL and select Setup Option in order to assign the changing of a Setup Option to a single button.

20.18.3 Timecode And Timings

It is now possible to add the TC simulator and supporting buttons to the Execute Window. This enables, for example a large display of current timecode value.

There is also a 12 hour and 24 hour clock - so the Execute Window can be used to show the current time.

There are also items to show the next Scheduled Event and the time remaining to the next Scheduled Event from the Scheduled Events in the Autom Window. This could be used to list the running order of bands playing at a Festival.

The TC display and the Clock displays auto expand to take up to three times the normal item size if the surrounding items in the grid are empty.

20.18.4 User

This allows the User to be changed from the Execute Window. If passwords are configured for the users then MagicQ prompts for the password before changing user.

20.18.5 Execute Window Playback / Cue Stack information

MagicQ supports special items in the Execute Window that indicate the current Cue name, Cue comment or Cue time remaining of a Playback or Cue Stack. This could be used, for example, to display special comments from a Cue Stack in the Execute Window.

In the Execute Window press ASSIGN SPECIAL and then select Timecode and Clock. Then choose the required Playback/Cue Stack feature. MagicQ will prompt for the Playback number or Cue Stack ID.

The Cue time remaining is the remaining fade time whilst a Cue is fading. For a timecode code once the current cue has completed the fade, then the remaining timecode to the next Cue is shown.

20.19 Execute Window on ioS/Android remote

Execute windows are automatically available on the iOS/Android remote apps.

Each iOS/Android device can access different Execute Pages on the MagicQ system. We recommend using the Execute Page Up, Execute Page Down, Change to Exec Page special functions to enable page selection on remote devices.

The ioS/Android device downloads any custom images used in the Execute Window from the MagicQ system.

20.20 Execute Buttons on console/wing Playback Go/Pause buttons

From v1.6.7.0 its possible to enable 20 Execute buttons on the GO and Pause buttons for Playbacks 1 to 10. These can be set to to use the Execute Grid 1 functions instead of the Cue Stack Go and Pause functions. When this function is in use then Execute Grid should be set to size 10/2 giving a total of 20 items.

In Setup, View Settings, Playbacks if the option "Playback Go/Pause use Execute Grid 1" is set to "yes", then this makes all 20 Execute buttons follow the items in Execute Grid 1. Setting this option automatically sets Execute Grid 1 to 10/2 if it was not previously used. It is also possible to set individual items in Cue Stacks, Options, Buttons by setting the options Go uses Exec Grid 1 or Pause uses Exec Grid 1.

Note that if a button is set to an Execute and there is no corresponding item in Exec Grid 1 then the button operates as the normal Go/Pause for the Cue Stack.

When a button is set to Execute then the function of the button is shown in the display together with its activation state.

Exec Grid items can be set to Cue Stacks, Cues, Groups, Positions, Colours, Beams, Macros and other functions - all off these functions are available through the 20 Execute buttons. By default items in the Execute Grid toggle on/off - the LED on the Go/Pause button shows the state. Alternatively the Button function can be changed in the Exec Grid to be "Button Flash" or even "Button Solo".

Note only a 10/2 grid can be mapped to the main 10 MagicQ playbacks, this function is not supported on Extra wings, playback wings or Execute wings.

20.21 Multiple Execute windows

It is possible to have up to three execute windows open at any one time on MagicQ systems. To open a second or third Execute window, type either 2 or 3 before pressing the EXEC window button.

Chapter 21

Automation

21.1 MagicQ Automation Window

MagicQ supports an automation system to enable it to automatically respond to both external, internal and timed events. MagicQ can trigger on external events such as MIDI notes, DMX input, serial input, timecode, and the remote contact input. MagicQ can also trigger on internal events such as system startup, system shutdown and system powerfail. In addition MagicQ can trigger on timed (scheduled) events.

VIEW MACROS	VIEW DATA	VIEW AUTOM			INSERT AUTOM					

MACRO							X
Type	P1	P2	P3	Function	F1	F2	F3
MIDI note	Note on	Note 45 (A2)	Chan 1	PB activate	PB1		
MIDI note	Note off	Note 45 (A2)	Chan 1	PB release	PB1		
Scheduled	00/00/20	0/0/30		Change page	P5 Intro	Act None	

MagicQ supports an Automation Window for managing all of the automated events. The Automation Window supports multiple events with each event being subject to specified parameters.

Each event then triggers a particular MagicQ function – this can be a function on a Playback, a Cue Stack, a Cue, a Page, a Macro or a Layout.

MagicQ can take a parameter from the event trigger and pass it to the function – for example, it could take the velocity from a MIDI note event and tigger a Playback level using that velocity.

Automation is only supported on MagicQ PC/Mac when connected to a MagicQ USB Wing, MagicQ USB Interface or SnakeSys product.

21.1.1 Autom Events

Each event can have up to 3 parameters (P1,P2,P3) to filter the event further.

Event	P1	P2	P3
Scheduled	Time	Date mask	
MIDI note	Mode - on, off or both	Note	Channel – 0 for all
MIDI sysex			
Timecode	Start timecode range	End timecode range	
Remote	Mode - on, off or both		
DMX	Level	Channel	
Serial port	number of characters to match	P2 is character string	P3 is the character to pass to the function

Event	P1	P2	P3
Startup			
Shutdown			
Power fail			
Scene Setter Button	Button number 1 to 16		

21.1.2 Autom Functions

Each Function can have up to 3 function parameters F1, F2, F3. For Playback (PB) functions, F1 is the Playback number. For Stack functions, F1 is the Stack number. For Cue functions F1 is the Cue number.

For Macros F1 is the keyboard macro Id. 0 means stop all playing keyboard macros.

For Page functions F1 is the Page Number and F2 specifies a Playback to be activated on the Page Change (0 = none) and a Cue Id to jump to on PB go and PB jump.

- PB a,r,level

- PB level

- PB activate

- PB release

- PB act FULL

- PB go

- PB back

- PB ffwd

- PB fbck

- PB jump

- Stack toggle

- Stack activate

- Stack release

- Stack level

- Stack random

- Cue toggle

- Cue activate

- Cue release

- Cue level

- Exec toggle

- Exec activate

- Exec release

- Exec level

- Run macro

- Change layout

- Display message

- Change page

- Change page release main

- Change page release all

MagicQ PC supports control of the first 10 playbacks (PB1 to PB10). MagicQ consoles support control of all 202 playbacks.

Stack random enables the activation of one Cue Stack in the Cue Stack range F1 to F2. Each time the automation triggers all Cue Stacks in the range are deactivated, and one Cue Stack in the range is selected by random and activated.

21.1.3 MIDI events

If you add MIDI events then these override the miditable.txt file – the file is completely ignored.

21.1.4 Serial Port events

If you add serial port events then these override the normal ChamSys serial remote protocol functions. The serial port settings in Setup, View Settings, Ports must be set up with Serial Remote Protocol set to ChamSys RX.

MagicQ matches the serial data received to the string you specify in the P2 field using the same format as in the Cue Stack Macros but without the X. So if you set the P2 field in the Autom to

1,2,3 it will match the serial data received 1,2,3

Note that the string entered in the P2 field must be encased with "". For example "1,2,3" MagicQ will display " as an '. You must use " when encasing the string.

P1 is the number of characters to match and P3 determines which character is passed onto the Autom function.

So if you want to set up MagicQ to respond to serial commands to set the level of Playback 1 using the serial commands "L1" to "L100" you would set up the Autom as:

Type Serial Port

P1 1 // Match 1 character

P2 "L" // Character to match

P3 2 // 2nd character of received string

Function PB Level

F1 1

21.2 Scheduled Events

MagicQ supports timed events for trigger Cues at specific times of the day or days of the week. Any Cue in a Cue Stack can be set to trigger based on a scheduled event rather than following on from the previous Cue. This enables time of day and date based events to be run automatically.

Scheduled events are supported on MagicQ consoles and on MagicQ PC when connected to a MagicQ Wing.

19/30/5 for 19 hours 30 minutes and 5 seconds

or

*/10/0 to have the event occur every hour at 10 minutes past the hour

or

//0 for every minute

21.2.1 Dates and days of the week

It is also possible to set dates in P2. For example to have an event on the 24 December 2005 enter:

24/12/2005

You can also specify particular days of the week using the characters A to G where A is Monday, B is Tuesday, C is Wednesday etc. . .

So for an event every Monday and Tuesday enter:

AB

For an event on the first day of every month enter

1

21.2.2 Sunrise + Sunset (astronomical)

MagicQ has the capability to trigger events based on the sunrise and sunset at the particular location.

In order for sunrise and sunset events to occur correctly MagicQ must be configured with the correct longitude, latitude and time zones. These parameters are configured in Setup, View Settings, Mode. The sunrise and sunset times for the current location can be checked in Setup, View System, View Status.

To set a scheduled event based on sunrise or sunset first set the time starting with R for sunrise or S for sunset.

It is possible to set offsets on the sunrise and sunset times so the event is triggered a certain time before or after the sunrise or sunset.

For example to trigger 20 minutes after sunrise enter

R+0/20/0

To trigger 30 minutes before sunset enter

S-0/30/0

21.3 Automated Start of Playbacks / Executes

MagicQ includes several options for automated start of Playbacks and Executes. These options are available on MagicQ consoles and on MagicQ PC systems when connected to a MagicQ USB Wing or Interface. See Setup, View Settings, Playback, Activate Playbacks On Start.

21.4 Keyboard macros

Keyboard macros enable you to record sequences of key presses and to replay the sequence at the press of a single button. Keyboard macros can be assigned to any button on the console (including to a SHIFT+button and CTRL+button) or to buttons on an external keyboard. The first 10 keyboard macros are available on the Quick Macro Tool Bar.

Macros can be inhibited from the Setup Window using the "Inhibit Macros" option.

21.4.1 Recording keyboard macros

To record a keyboard macro, go to the Macro Window, press RECORD and select a macro to record. Alternatively moe the cursor to a free item in the window and press the START MACRO soft button.

The console then records all of the following key sequences until you press the Macro Window button and the END MACRO soft button.

The title bar shows "Recording" whilst recording is in progress. MagicQ automatically removes the MACRO and END MACRO soft button press from the end of the recording.

In software prior to v1.7.1.3 MagicQ stored raw key presses. From v1.7.1.3 MagicQ supports several different formats for storing the keys - by default it now uses the internal MQ keys. The internal MQ keys have the advantage that they are the same across all MagicQ consoles - therefore a keyboard macro that is recorded on a MQ80 will always run correctly on a Pro 2014 and vice versa.

Choose the Record Options by pressing soft button A in the Macro window. The options are "Keys", "MQ Keys" and "Functions".

21.4.2   Playing keyboard macros

Macros can be played by simply pressing the item in the Macro Window.

To stop a macro that is playing open the Macro Window, View Macros, put the cursor on the macro and press the STOP MACRO soft button. To stop all macros that are playing press SHIFT + STOP ALL MACROS.

Keyboard macros can be triggered from Cue Stacks using the Cue Stack Macro B, e.g. B1 plays macro B1. B0 stops all macros.

21.4.3   Keyboard macro timing

Playback of keyboard macros can use the times that the macro was recorded with or using external time code sources. By default macros are played back using "Immediate" timing. Use the SET TIMING soft button to change the timing to "Real time" or "Time code".

The timing type can be changed after the macro has been recorded – however if external time code timing is required then this should be selected before the macro is recorded. This enables the console to record the key and button presses according to the received time code signal.

21.4.4   Editing keyboard macros

Times can be modified in the View Data view of the Macro Window using the keypad and Encoder E. Multiple items in the macro can be changed at one time using SHIFT and the cursor keys to select the items.

When using time code timing, the + and – operators can be used to offset the timing of a sequence of items.

Macro steps can be deleted using the REMOVE key. Note when a button is pressed there is a "press" and a "release" – both should be removed – otherwise the button state will become confused.

It is possible to move steps in the Macro, View Data view – press MOVE and then select the source followed by the destination. Multiple steps can be moved using SHIFT and the cursor keys.

The RETIME soft button can be used to change the times for steps that are out of sequence - any times that are not in order are changed to a new time that is within order. The sequence that the keys are played back in is maintained.

The REORDER soft button changes the sequence of keys to match the timing. Note that this will affect the result of playing the macro.

21.4.5   Assigning keyboard macros

To assign a macro to a button, press the ASSIGN MACRO soft button and press a key to assign it to (e.g. one of the 6 spare keys). Keyboard macros can also be assigned to a combination of keys – for example if you hold one key and press another key. Keyboard macros are saved into show files and also when you Save Settings, so it is possible to personalise your console.

If you accidentally assign a keyboard macro to the wrong button then you can easily change the assignment. Open the Macro Window, move the cursor to the macro you want to change the assignment for and press the ASSIGN MACRO soft button. Now press the button that you really wanted to assign it to.

A macro assignment can be removed using the DEASSIGN MACRO soft button.

21.4.6   Quick Macro Toolbar

The Quick Macro Tool Bar is accessed by pressing the screen in the Status Display (the area of the screen above Playbacks PB1 to PB5 with the Clock). The Macro Tool Bar can be closed by pressing in the Status Display again.

The Macro Tool Bar shows the Key Macros 1 to 10.

21.4.7   Recording Playback faders

Macros support fader moves and encoder changes as well as button presses. This enables complete recording and playback of macro segments. Macro timing and playback uses a high resolution internal clock enabling accurate playback of recorded sequences.

MagicQ optimises fader moves to remove redundant steps.

21.4.8   In built Macros

MagicQ supports a number of in-built macros which carry out common programming key sequences including quite a few that would normally require multiple key presses or simulataneous pressing of more than one key. The In-built Macros can be useful on touch systems where it is not possible to touch 2 keys at one time.

Press the In built Macro soft button and choose the macro to assign to the current item in the Macro Window.

21.4.9   Scheduled events in Cue Stacks

Cue Stacks can be used to program a list of scheduled events. To use this feature, set the Halt field of each of the Cues in the Cue Stack Window to "Sched". Double click to change the field. Then enter the time in the Wait field. The times can have wildcards and sunrise/sunset times as per Autom events.

If dates are required then they are entered into the macro field starting with Z and ending with Z. For example to have an event on the

24 December 2005 enter:

Z24/12/2005Z

You can also specify particular days of the week using the characters A to G where A is Monday, B is Tuesday, C is Wednesday etc. . .

So for an event every Monday and Tuesday enter:

ZABZ

For an event on the first day of every month enter

Z1Z

Chapter 22

LED & Pixel Mapping

MagicQ utilises a powerful Cue engine, which enables it to easily handle large numbers of LED heads in the form of panels, battens and moving lights. MagicQ's ability to handle large numbers of heads independently ensures that Lighting Designers get to make the most of their LED arrays without being limited by the console. With MagicQ you can generate complete rainbow washes across all LED fixtures at the touch of a button with immediate live control during playback through encoders and buttons.
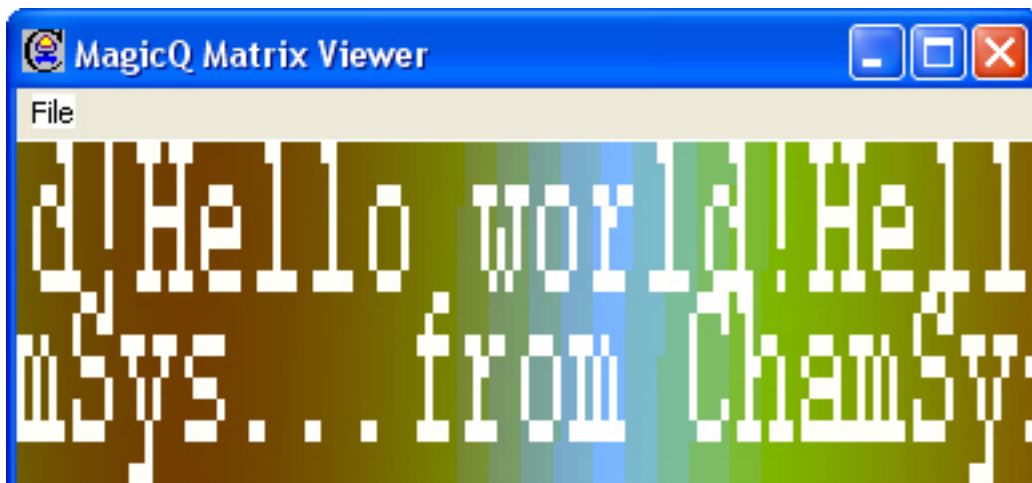
MagicQ includes a powerful Pixel Mapper designed for use with arrays of LED fixtures. You can design a grid structure based on the layout of the fixtures on the stage and then play back movies, bitmaps and text messages on that grid. The grid can have spaces in it allowing the fixtures to be spread over the grid as they appear on the stage.

MagicQ enables LED fixtures to be used in their "high resolution" mode enabling individual control of each LED pixel rather than the restricted modes where Lighting Designers are reliant on the same old in built effects that everyone has seen many times.
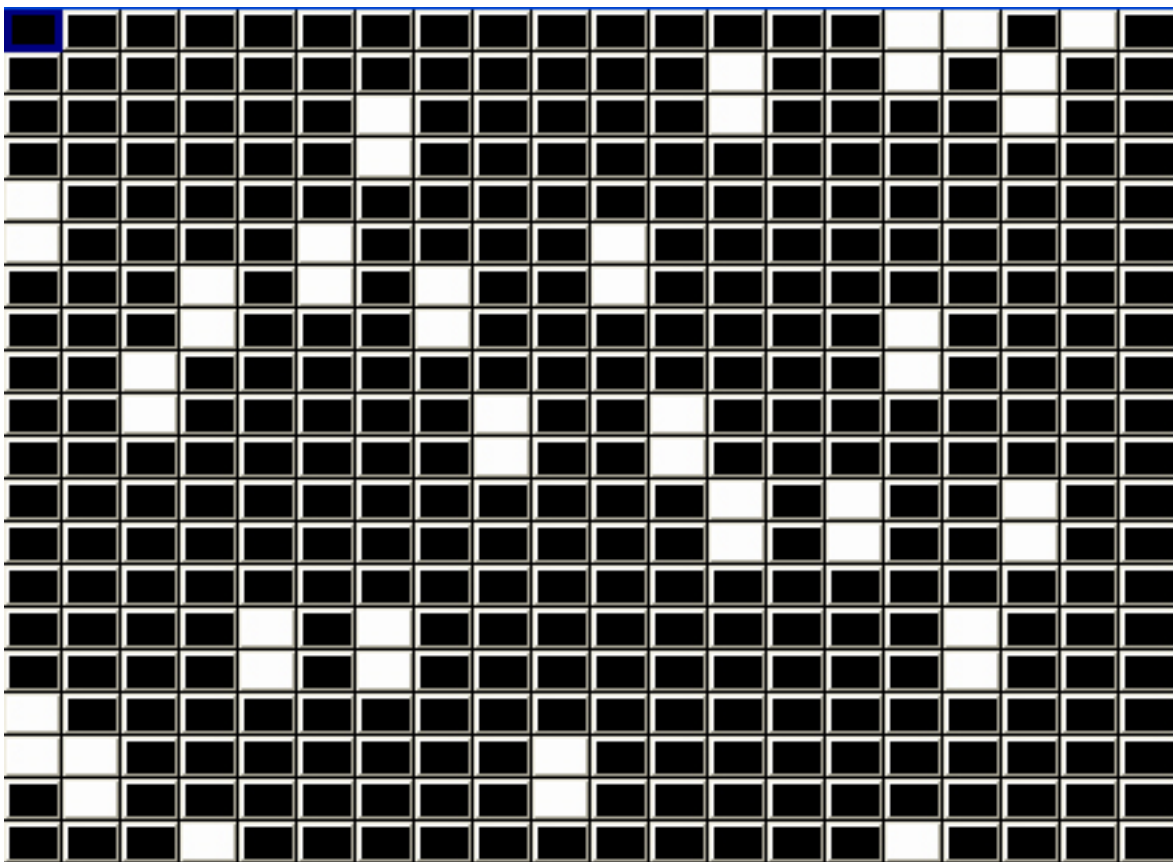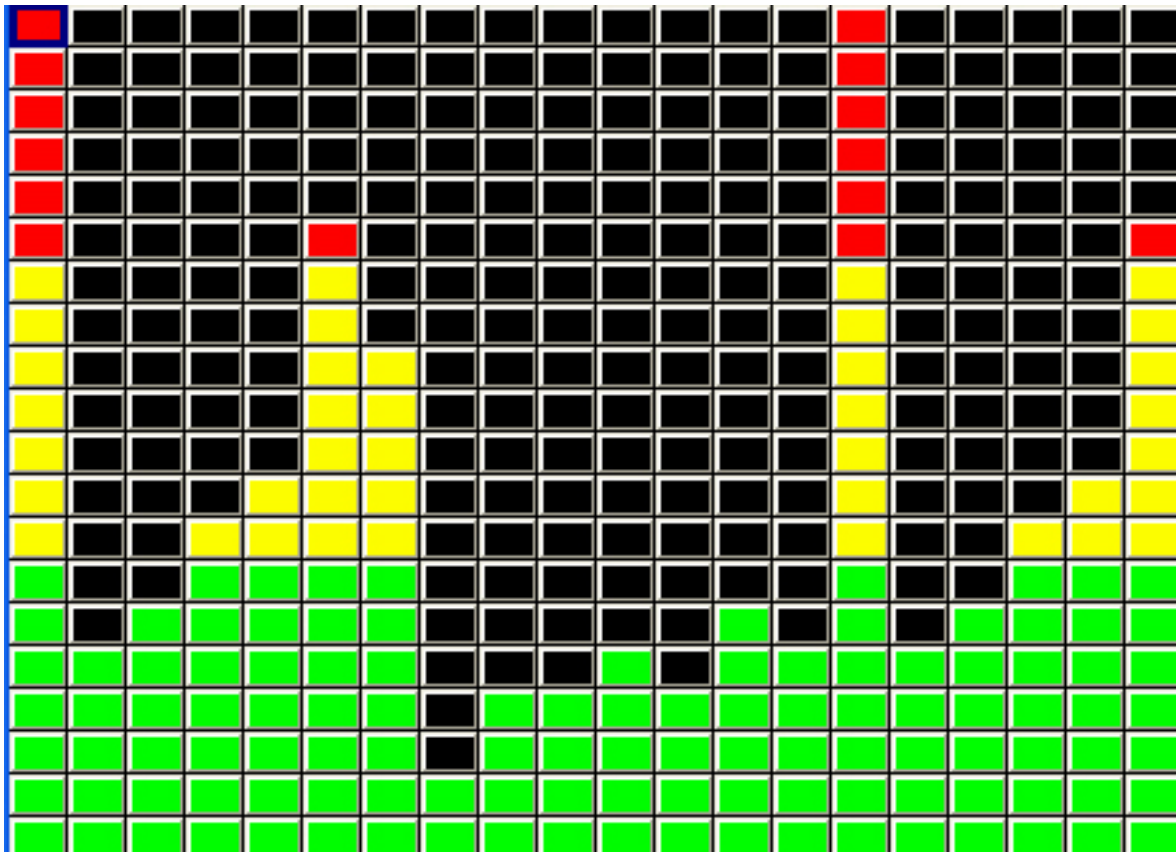
22.1 Patching LED on MagicQ

We recommend that you patch LED fixtures in their highest resolution mode (maximum number of controllable RGB elements) and chose a mode without extra inbuilt FX channels if possible.

The generic led3chan and generic led4chan can be used with most LED fixtures. If MagicQ does not have the required personality in its library then you can easily build your own personality using the in-built Head Editor.

For LED heads without dimmers we recommend you patch the RGB channels as HTP. For LED fixtures with an inbuilt dimmer channel the RGB channels should be LTP.

After patching your LED heads you should set up the head numbers for each fixture in the Patch Window. By default MagicQ numbers heads in the order they are patched starting at 0. Simply edit the head number field in the Patch Window to change the head numbers. Use SHIFT and the cursors keys to set multiple head numbers.

22.2 Using the Grid view in the Outputs Window

To make the most of your LED head you can create a grid containing the LED head and then each head becomes a "pixel" in the grid. The MagicQ Pixel Mapper can then be used to play back movies, bitmaps, text and FX on the grid.

In the example above, we patched a 20 by 20 matrix of RGB pixels (total 400 pixels) on Universes 4.5 and 6.

In the Outputs Window select View Plan.

The View Grid soft button is used to show and edit the grid.

The data shown in each grid cell can be changed by pressing View Type. Choose between Head Names, Head Nos, Head Nos + Int, Cols and Cues. When Cues is selected the grid shows data from the currently selected playback rather than from the Output.

Set up the grid size, by pressing the GRID SIZE soft button. Enter the horizontal size followed by the vertical size separated by a forward slash – e.g. 20/20.

Use Encoder E to zoom the grid.

22.2.1 Inserting heads into the grid using head numbers

You can enter the head numbers in the grid according to the layout of the LED fixtures within the matrix / stage. Put the cursor on the desired item and enter a head number on the keypad. To insert multiple head numbers in one go use SHIFT or CTRL and the cursor keys to set multiple head numbers in one go before entering the starting head number.

To set multiple items in a particular orientation then put the cursor on the starting item then move in the direction you wish them to number - for example to number from bottom right to top left going horizontally first, then put the cursor on the bottom right, press SHIFT and move left to the left corner and then up to the top left corner.

| VIEW HEADS | VIEW CHANS | VIEW PLAN | VIEW HD NAMES | VIEW COLOURS | VIEW HD NOS | VIEW GRID | AUTO GROUP | DESELECT ALL | SET GRID SIZE | INSERT HEADS H | PATCH BITMAP |

Grid 1

OUTPUTS

1	21	41	61	81	101	121	141	161	181	201	221	241	261	281	301	321	341	361	381
2	22	42	62	82	102	122	142	162	182	202	222	242	262	282	302	322	342	362	382
3	23	43	63	83	103	123	143	163	183	203	223	243	263	283	303	323	343	363	383
4	24	44	64	84	104	124	144	164	184	204	224	244	264	284	304	324	344	364	384
5	25	45	65	85	105	125	145	165	185	205	225	245	265	285	305	325	345	365	385
6	26	46	66	86	106	126	146	166	186	206	226	246	266	286	306	326	346	366	386
7	27	47	67	87	107	127	147	167	187	207	227	247	267	287	307	327	347	367	387
8	28	48	68	88	108	128	148	168	188	208	228	248	268	288	308	328	348	368	388
9	29	49	69	89	109	129	149	169	189	209	229	249	269	289	309	329	349	369	389
10	30	50	70	90	110	130	150	170	190	210	230	250	270	290	310	330	350	370	390
11	31	51	71	91	111	131	151	171	191	211	231	251	271	291	311	331	351	371	391
12	32	52	72	92	112	132	152	172	192	212	232	252	272	292	312	332	352	372	392
13	33	53	73	93	113	133	153	173	193	213	233	253	273	293	313	333	353	373	393
14	34	54	74	94	114	134	154	174	194	214	234	254	274	294	314	334	354	374	394
15	35	55	75	95	115	135	155	175	195	215	235	255	275	295	315	335	355	375	395
16	36	56	76	96	116	136	156	176	196	216	236	256	276	296	316	336	356	376	396
17	37	57	77	97	117	137	157	177	197	217	237	257	277	297	317	337	357	377	397
18	38	58	78	98	118	138	158	178	198	218	238	258	278	298	318	338	358	378	398
19	39	59	79	99	119	139	159	179	199	219	239	259	279	299	319	339	359	379	399
20	40	60	80	100	120	140	160	180	200	220	240	260	280	300	320	340	360	380	400

No selected Heads

WiggleLapXP Tue May 20 16:04:29 2008 Ver 1.3.6.0
Page 2 : Add

100-50-0%%

Note that it is not necessary to allocate a head number to every position in the grid – so if your LED fixtures are placed at weird angles you can make a grid with the LED placed as you would see it. Multiple grids can contain the same head numbers – so it is possible to have one grid with the LED tightly packed and anther representing how they are really spaced out.

22.2.2   Inserting using INSERT HEADS

To insert the currently selected heads into the grid use the INSERT HEADS soft button. If no heads are currently selected then all patched heads will be inserted.

The Insert Heads soft button has 5 options - Horiz, Vert, 3D, Dup Ele and Col Web.

Horiz, Vert insert into the Grid in the horizontal or vertical direction. Multi element heads will be inserted into separate grid cells according to the width and height specifiers in the personality. Duplicate element heads will be inserted as a single cell.

3D is used for inserting for 3D pixel mapping in the 3rd dimension - only multi element heads can be inserted in 3D.

Dup Ele is to insert all the elements of a Duplicated Element head into the grid as separate cells.

Col Web is for inserted Col Web only.

22.2.3   Inserting using the spare heads below the grid

From 1.7.6.4 the Output, View Grid view shows spare heads that have not yet been inserted in the grid in a space below the grid.

For group based grids the spare heads will include any heads from the Grid group that have not been inserted in the grid.

For normal grids it shows any currently selected heads that have not been inserted into the grid. This enables easy inserting of heads into a grid - first select the group in the Group Window and then they will appear below the grid in the Grid View.

For grids that are set to Grid Type = Groups, then the space below the grid will show any programmed groups from the Group Window that have not been inserted into the grid.

Move heads into the grid by moving in the normal way (press MOVE, source, destination). Alternatively press the DRAG MOVE soft button to drag and drop.

22.2.4   Using the Grid

Once the grid is configured you can then see the Output by pressing the View Colours soft button and the View Grid soft button. For instance, below you can see the Output when all 400 heads were selected from the Group window (using the All LED3chan group) and then a RGB FX was played back on them.

You can test the head selected in the grid using the test mode to the Grid selected via soft button C. In test mode the head under the cursor is tested (located). This enables the grid layout to be easily checked.

22.3   Pixel Mapper

MagicQ software contains an in-built Pixel Mapper that appears as a media server just like an external media server. The Pixel Mapper can be used to play back images, movies, text and FX on a grid of LED, dimmers or moving lights.

If the heads in the grid have colour mixing then the pixel mapping will operate on the RGB (or CMY). If they have no colour mix then the pixel mapping will operate on the Colour Wheel or if there is no colour wheel, then on the intensity. The pixel mapping can be set to always operate on the intensity regardless of head type.

When the Pixel Mapper is patched for a grid then MagicQ sets up the media settings automatically so that the Pixel Mapper appears in the Media Window.

Once a grid has been designed in the Plan View of the Outputs Window, then pressing the PATCH PIXMAP soft button automatically patches the internal pixel mapper (personality generic bitmapfx2).

MagicQ asks the user to specify the number of layers required and will patch that number of layers (generic bitmapfx2 heads). The layers will be named according to the grid that is selected in the Outputs Window. MagicQ uses head numbers above the other patched fixtures

When operating on a layer within the pixel mapper it will default to operating on the grid that was selected when it was patched. MagicQ overrides the default value for Grid Number specified in the Head Editor for generic bitmapfx2.

MagicQ automatically adds the settings for the Pixel Mapper to the Media View of the Setup Window. This enables the Pixel Mapper to be accessed immediately from the Media Window without further set up.

MagicQ supports a total of 20 pixel map layers per show. This could be a single pixel map of 20 layers, or any mix of multiple pixel maps. For example 5 seperate pixel maps all with 4 layers each.

22.3.1   Using Bitmaps, Movies, Text and FX on Grids

The bitmaps and text are controlled using bitmap layers – each layer is controlled like a normal moving light – i.e. it is patched as a virtual personality - generic bitmapfx2.hed. The personality has channels to select the bitmap or text, channels for X, Y position and size, rotate and master levels for red, green and blue. Multiple layers can be used to mix between the layers using add, subtract, min, max or invert colour mix modes.

Each bitmap layer uses 40 channels from the output channels. When you patch the Pixel Mapper from the Grid View, MagicQ chooses free channels for the layers. These channels are then reserved for the pixel mapper layers and can not be used for controlling real lights. It is best to patch generic bitmap layers to unused universes or to set them as unpatched.

The Bitmapfx2 is patched to the encoders as follows

- Intensity Page Intensity

- Position Page: Position, size, rotation of the Bitmap/Text/FX.

- Colour Page: Colour, mixing between layers of the Bitmap/Text/FX

- Media Page (Beam 1): Control of Movies, Bitmaps - internal, user and gobo icon library, Live Feeds

- Text Page (Beam 2): Control of Text – 2 separate text engines, real time editing of text string

- FX Page (Beam 3): Control of FX - lines, spots, snakes, rainbows, audio triggers, circles, squares

22.3.2   Media Priority

FX, Text and Media interact according to the following priorities, with FX having the highest priority and Media the lowest.

FX Page If FX Type is greater than 0 then FX has highest Priority

Text Page If Text 1 is greater than 0 or Text 2 is greater than 0 then Text has priority over media

Media Page Media has the lowest priority

In the Media Window the Media Page (encoder Y) is used to select the media that is played on the grid. The Media pages are as follows

INBUILT Inbuilt patterns and colours

- Pics 1 User bitmaps (bmp or jpeg)

- Pics 2 User bitmaps (bmp or jpeg)

- Pics 3 User bitmaps (bmp or jpeg)

- Pics 4 User bitmaps (bmp or jpeg)

- Movies 1 User movies (cmv – use Tools > CMV convertor from the menu bar)

- Movies 2 User movies (cmv – use Tools > CMV convertor from the menu bar)

- Movies 3 User movies (cmv – use Tools > CMV convertor from the menu bar)

- Movies 4 User movies (cmv – use Tools > CMV convertor from the menu bar)

- Gifs 1 User gif animations

- Gifs 2 User gif animations

- Gifs 3 User gif animations

- Gifs 4 User gif animations

- Timers Date, Time, Up counters, Down counters, end of year counters

- Live Feed Live capture from a PC screen

- Gobos Access to all the gobo, colours and image libraries

22.3.3   Inbuilt Bitmaps

The Pixel Mapper contains a library of standard bitmap patterns on Bitmap Page 0. These patterns are automatically sized to the size of your grid.

Select the Pixel Mapper, Layer 1 and press LOCATE to set the layer to its defaults.
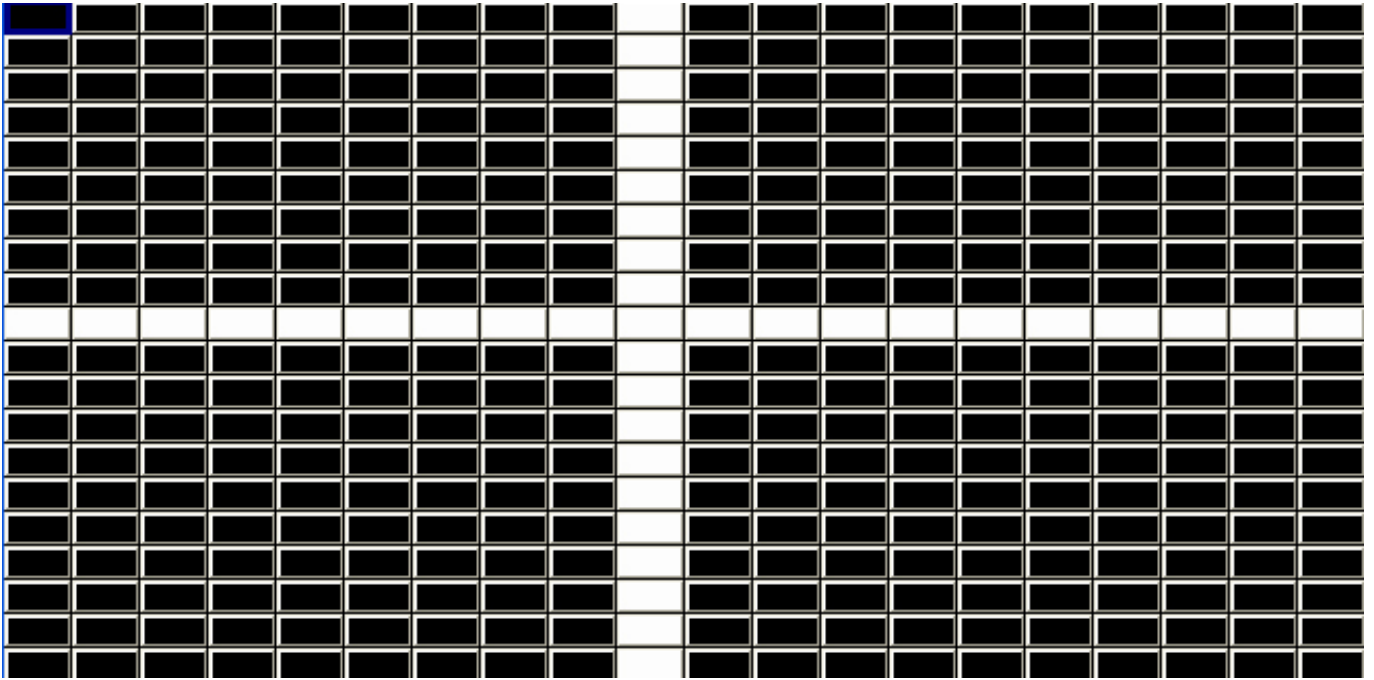
After a Locate the Media parameters will default to the white cross. Use the touch screen or encoders to select different Bitmaps.

22.3.4 User Picture Support

MagicQ supports picture files in .bmp or .jpeg format and can be loaded using the LOAD PICTURE soft button.

In addition the user can add their own bitmaps in .bmp or .png format manually into the Pics Pages 1 to 4. Copy the bitmaps into the bitmaps folder underneath the show folder. The bitmaps should be named bitmap001-001.bmp, bitmap001-002.png etc. . . The first 3 digits are the bitmap page and the second 3 digits the bitmap within the page. Bitmap page 0 is reserved for standard, internally generated bitmap patterns.

It is best to make user bitmaps the same size as the output grid. By default User bitmaps and icons from the internal library are applied to the grid using their normal size. It is possible to make MagicQ scale the user bitmaps and internal icons to the size of the grid - use the Apply Type "Scale to Grid" to resize a bitmap to the full grid size.

22.3.5 Gobo / Colour Libraries

Media pages 128 to 255 select the icons from the gobo / colour library. The icons are all based on 32 by 32 pixels – but they can be sized in the Position Window to fill the required grid size.

22.3.6 Movie support

MagicQ supports playback of movies as well as bitmaps. MagicQ supports up to 1024 different movie files.

Movies are accessed through the Media Page – there are 4 ranges on the "Media Page" encoder – Movie 1,Movie 2,Movie 3, Movie 4. These ranges are after the Inbuilt Page and Pics Pages.

User pictures and movies can be loaded into the internal pixel mapper directly from the Media Window using the LOAD PIC / LOAD MOVIE soft button available when the Pixel Mapper server is selected.

Movies are stored in the movies folder (show\movies) in a similar way that bitmaps are stored in the bitmaps folders. Movie files are stored in a special ChamSys movie format which compresses the data to the required grid resolution. The files are named movie001-001.cmv, movie001-002.cmv, etc. . .

ChamSys movie files can be created in MagicQ on PC/Mac using Tools, CMV Converter.

When converting movie files we recommend you choose the same movie resolution as your grid size on MagicQ. Click the auto install feature to automatically install the converted media file into the movies folder naming it with the next free movie ID.

The speed of movie playback can be controlled by the movie speed encoder.

22.3.7   Gif animations

The Pixel Mapper has been enhanced to support playback of gif files. There are four folders under Media Page, Gif 1, Gif 2, Gif 3 and Gif4.

You can load gifs either:

a) by manually copying them to the *show/movies/* folder and naming them gif001-001.gif and so on

b) using MagicQ File Manager to select a gif.

c) in Media Window, pressing the LOAD GIF soft button.

Playback of the gif occurs when the intensity of the media layer is greater than 0. When the Media Page or Media Id is changed, or when the intensity is dropped to 0 then the gif will reset to the beginning.

The movie speed encoder affects the speed including. It is possible to pause playback of the gif by taking the movie speed to 0.

22.3.8   Live feed support

The MagicQ Pixel Mapper includes a "Live feed" option for capturing live feed video signals from Media Servers and external live feed sources. MagicQ supports live feeds from all 50 connected Media Servers (including the inbuilt MagicHD) or CITP feed sources.

To use the output of a Media Server in the Pixel Mapper set the Media Folder to Live Feed and choose the Media File Server 1 to Server 50 to choose a feed from the appropriate media server as configured in Setup, View System, View Media. Feeds from the inbuilt MagicHD are used directly, whilst feeds from external media servers use the live preview capabilities. Live feed is only available from external Media Servers that support live preview over CITP MSEX.

22.3.8.1   MagicCap

The MagicCap application is bundled with the MagicQ installation. This enables capture of multiple windows on a PC/Mac and output over CITP/MSEX on the network at a chosen resolution and refresh rate.

The application will start streaming as soon as it is run. Click on *Add* to add a new stream, and *Remove. . .* to delete the current stream. To edit the parameters of a stream click on it in the top window then enter new values in the main edit window. If the *FPS* value turns red then the PC is not able to capture the window fast enough. If the output *Width* or *Height* parameters turn red then the output resolution is too big.

MagicCap should be run on a separate PC to the MagicQ application. Running MagicCap on a PC/Mac together with MagicQ or MagicHD will not work.

To view the feed in MagicQ setup a media server with type *CITP Live Feed*. Set the IP Address to the IP address of the PC running MagicCap and enable *Thumb Con* and *Live Prev*. To view more feeds create more media servers with the same IP address and the same type.

22.3.9   Using text strings

Two text strings can be played back on each layer. The text strings can be positioned at the top, middle or bottom of the grid and can be made to scroll in either horizontal or vertical directions. Text strings can be edited live for real time message applications.

Control text strings from the Text Page (Beam Page 2). Each of the two text strings has a Text Page, a Text, a Text speed and a Text mode.

Using the Text Page and Text encoders select a string that has not been programmed – e.g. Text Page 1, Text 0. Type in new text on the keyboard, press SET and press the soft button associated with the Text attribute. The Input Display will report "text stored".
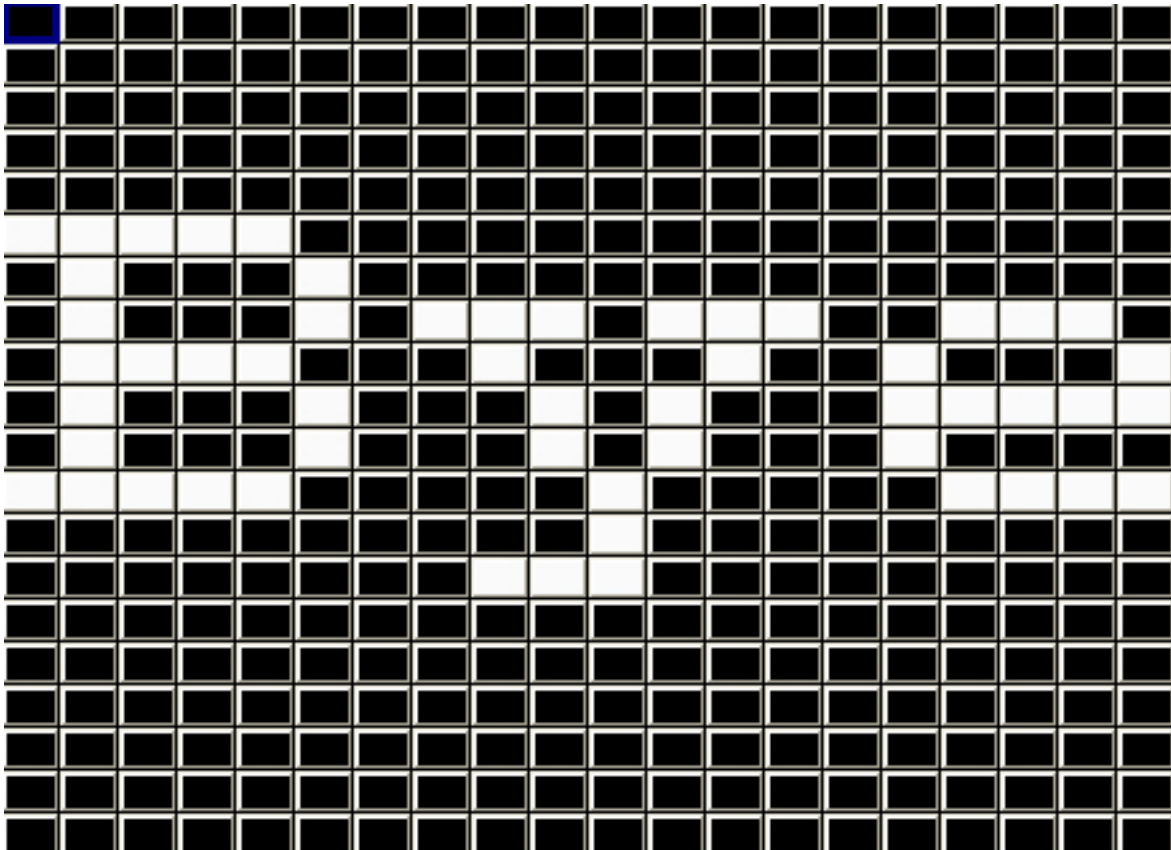
The Text mode determines how the text is displayed; horizontally, vertically, top, bottom or middle. The Text speed determines the speed that the text scrolls across the screen.

Note that Text mode values less than 128 cause the text to be scrolled across the screen with no gap between the start and end of the text. Text mode values greater than 128 cause the text to be scrolled with a gap between the end of the text and the starting of the text again. Two different fonts can be selected using the text mode values.

The two sets of text controls enable one text string to be scrolled in one direction and another text string to be scrolled in the opposite direction.

22.3.10   Text display modes

It is also possible to use the single modes to display a single character, a single word or a single phrase from the text string at a time on the screen.

By using the position and size parameters in the Position Window, the character can be placed anywhere in the grid or made to fill the entire grid.
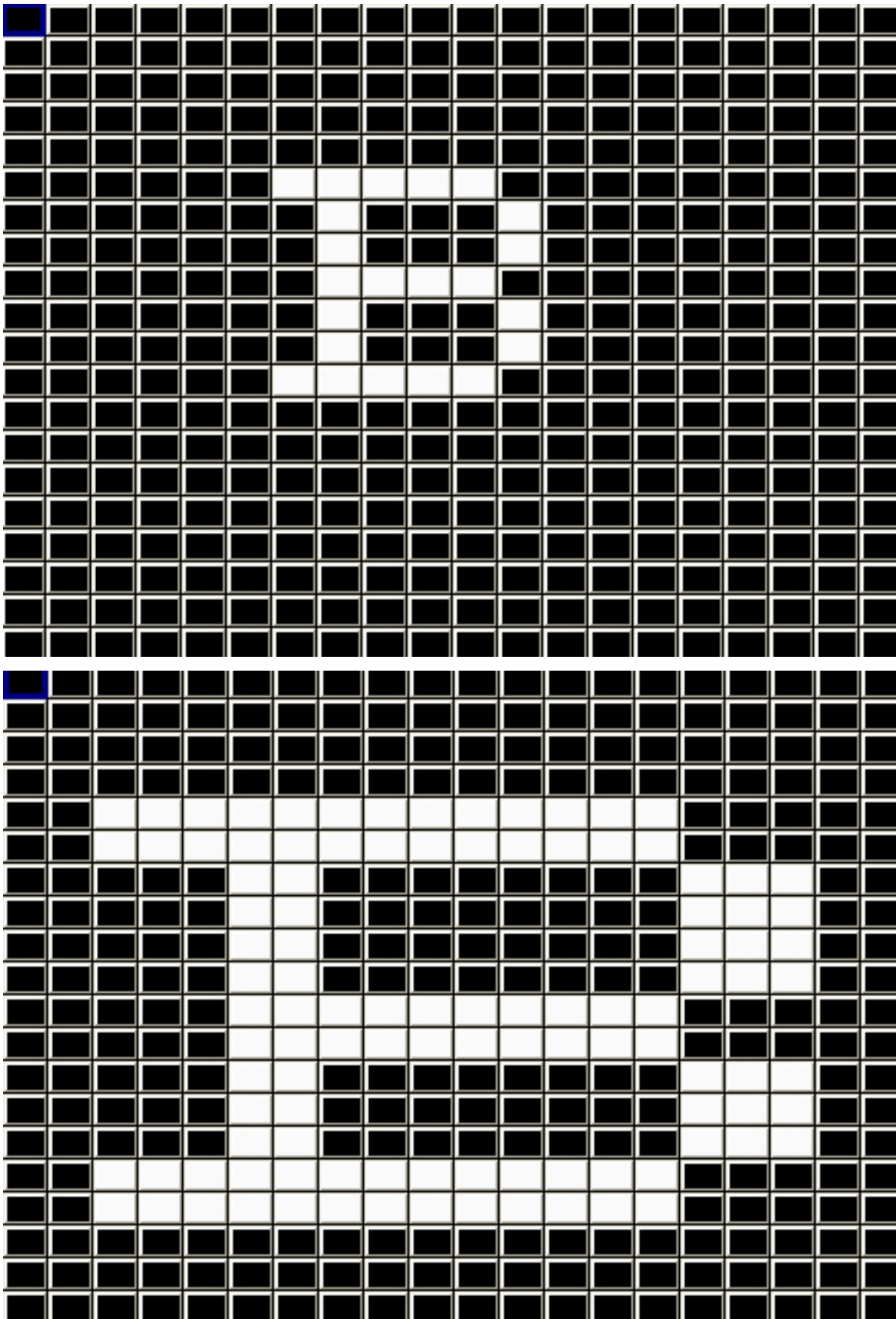
When the mode is set to single words then MagicQ displays each word in turn. Each word must be separated by a single space in the text string.

When the mode is set to chunks single chunks then MagicQ displays each chunk in turn. Each chunk must be separated by a single underscore (_) character in the text string. Space characters are displayed normally.

22.3.11   Manipulating bitmaps and text

Use the Position attributes of the bitmap layer to make changes to the position of the bitmap / text – set the X or Y position, the X or Y size and the rotation.

You can play back standard FX on the bitmap layer attributes just like you would on a moving head. For example, to scroll a bitmap form left to right, first set the X position to centre (X pos is 128) and then add a Ramp Up to the X pos.

Use the Colour attributes to determine the layers of red, green and blue in the bitmap / text. For LED matrix you may find it is better to use only one colour at a time – for instance, set Red to 255 and Blue and Green to 0.

An iris and a strobe function are also included under the Beam attributes.

It is also possible to use playbacks set as LTP faders in order to control individual parameters of the bitmap from faders.

22.3.12   Pixel Map FX

The FX channels enable FX to be applied to the grid. The FX type selects the FX that is applied. Some of the FX are stand-alone, e.g. lines and rainbows. Others like move and audio FX are applied on top of the selected bitmap or text.

The FX parameters depend upon the FX type selected – but generally FX parameter 1 is the speed, FX parameter 2 is the offset between row or column items in the grid, and FX parameter 3 selects the mode – forward, reverse, bounce or twin.

The currently supported FX are:

Vert lines, Horiz lines – enables lines to be moved across the grid. Modify the mode to change thickness of the lines. Change offset to make patterns rather than lines.

The first image below shows vertical lines with parameter 2 and parameter 3 set to 0. Adjusting parameter 2 gives an offset on the line as shown in the second image. Adjusting parameter 3 changes the width of the line and changes the mode to bounce instead of normal in the third image.
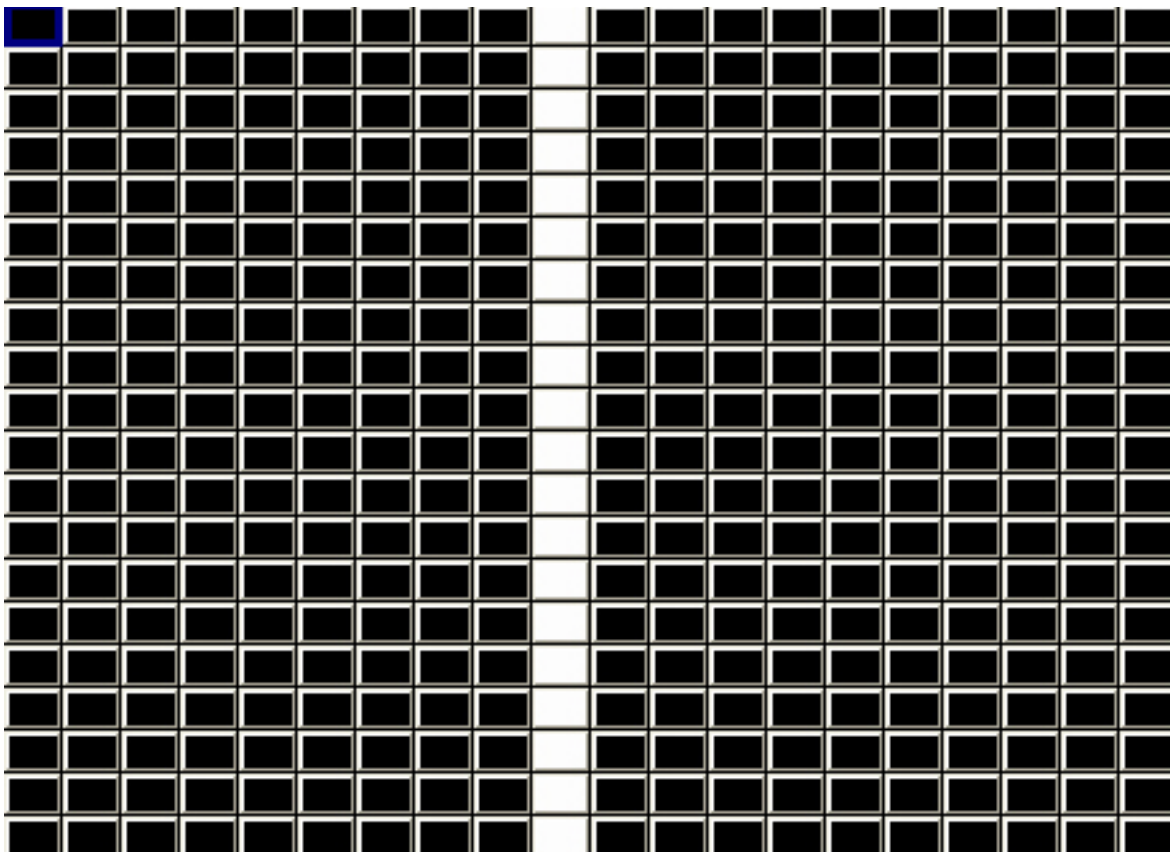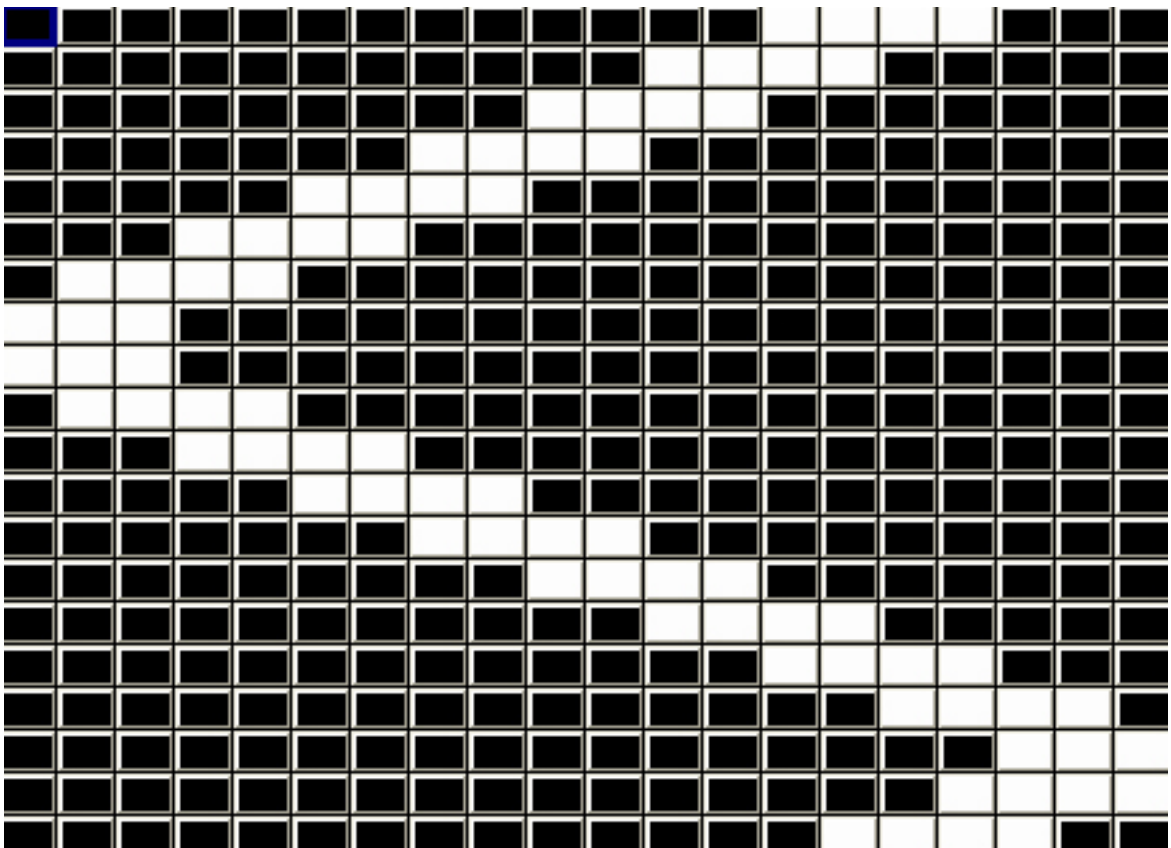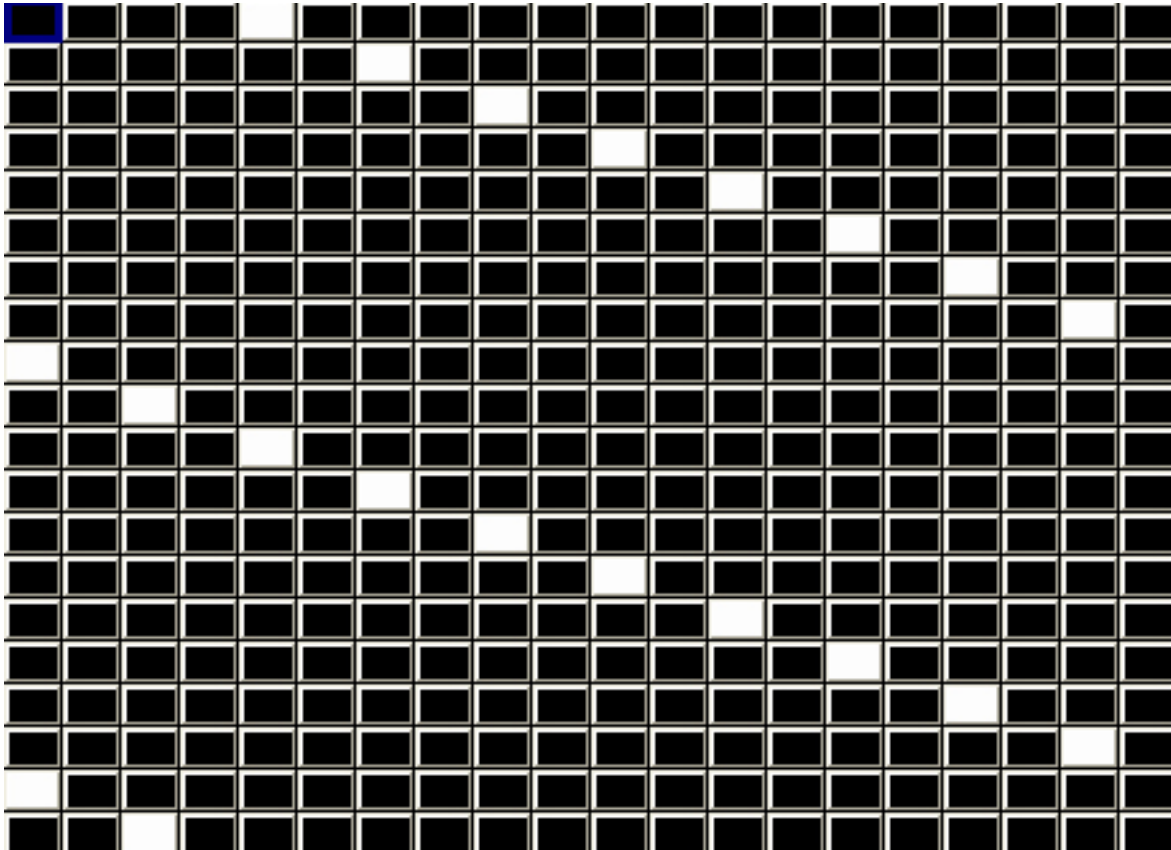
Vert random, Horiz random – enable random movement of elements across the grid. Modify the mode to change thickness of the elements and offset to change the frequency. With this FX it is possible to generate snow and rain type FX.

Spot random – enable random spots on the grid. Modify mode to determine whether the defaults is white spots on black background or black spots on white background.

Vert Rainbow, Horiz Rainbow – enable rainbow patterns across the grid. Modify offset to multiply the rainbow across the grid.
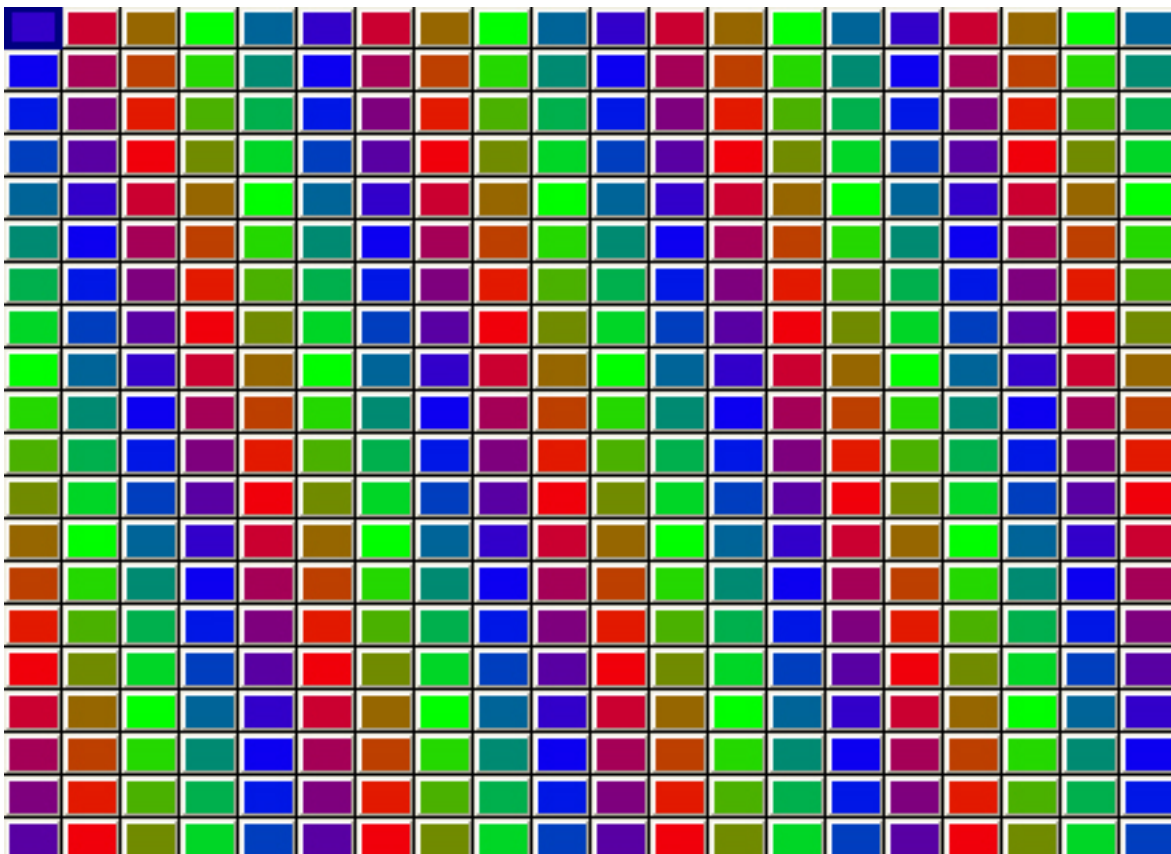
Snakes – enable snaking patterns on the grid. Modify the mode to determine the number of snakes, the randomness of the movement and whether they are white or coloured.
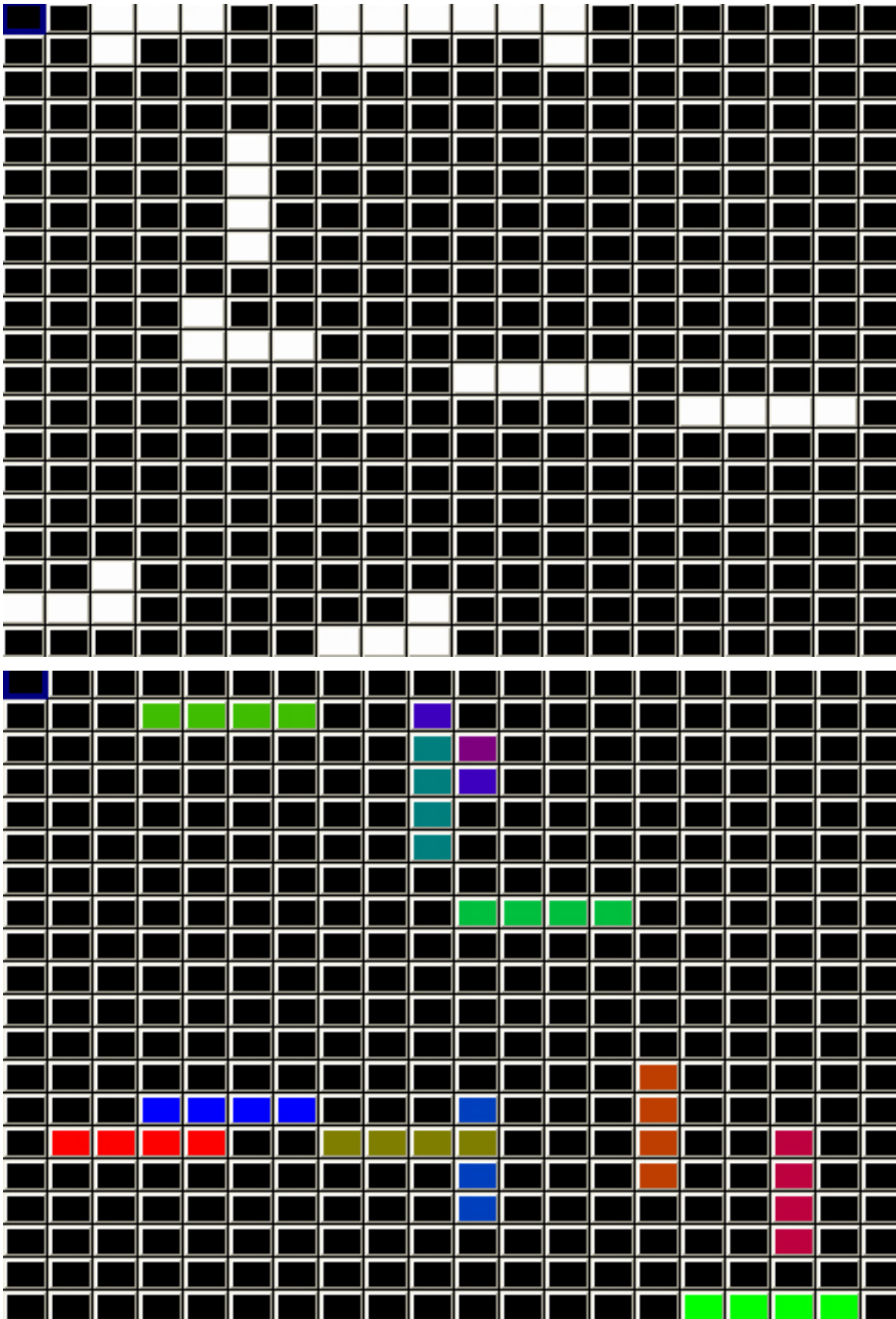
Bat'n'Ball – enables simple bat and ball game on the grid. The bats are controlled by FX Parameters 2 and 3. The game starts when one of the bats is moved. Other bitmap layers can be combined with this to make a background for the playing field.
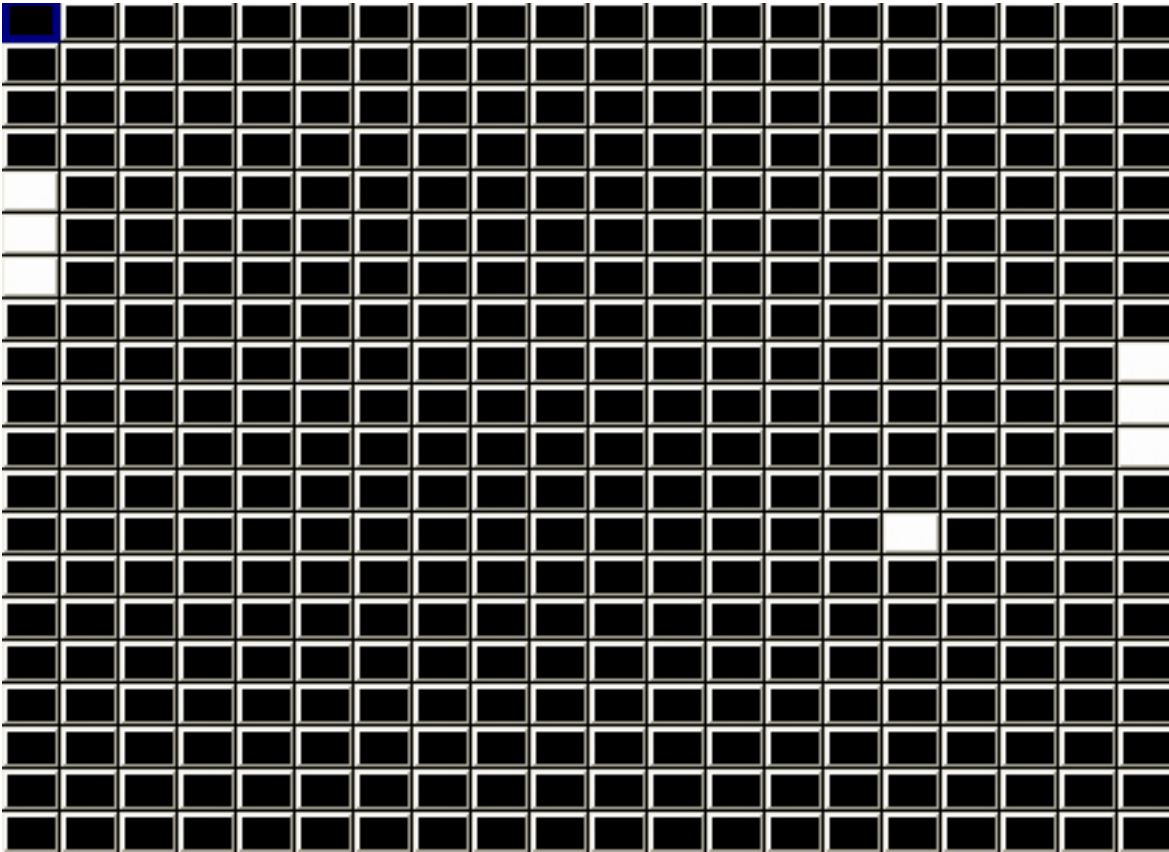
Vert Move, Horiz Move, Move – moves the selected bitmap or text around the grid. The bitmap will wrap around the edges, thus allowing a texture to be moved across the entire surface of the grid.

Ramp Horiz and Ramp Vert – these perform a ramp across the entire grid in the horizontal or vertical directions. FX P1 parameter controls the speed, FX P2 controls the crossfade and FX P3 controls the width.

Wipe Horiz and Wipe Vert – these perform a wipe of a colour across the entire grid in the horizontal or vertical directions. The colour wiped across the grid is determined by the red, green, blue colour attributes of the Pixel Map layer. It is possible to wipe multiple colours across a grid simultaneously by choosing different colours in sequence. When these FX are in use the red, green, blue attributes do not affect the overall colour of the layer as they would normally.

22.3.13 Pixel Map Audio FX

The Pixel Mapper supports Audio FX – it uncovers part of the selected bitmap, text or movie dependent on the level of the audio input.
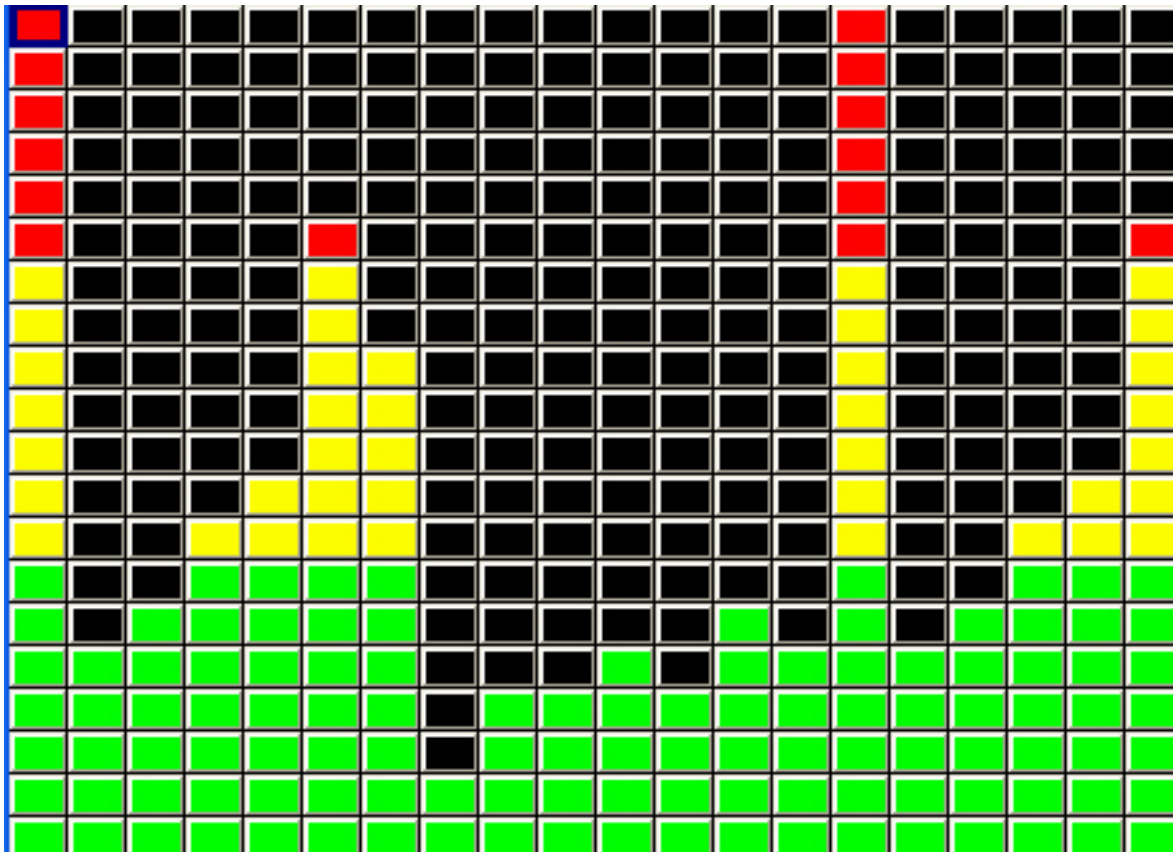
Parameter 2 select the channels to respond to. When set to 0, it uses all 14 audio input channels. From 1 to 14 it selects one channel to respond to. Value 15 selects the left channels, value 16 the right channels.

The mode determines from which grid edge the audio takes effect. The image below shows an audio effect on the internal green, yellow, red bitmap.

The possible modes are:

0	Graph top	Graphic equalizer down	FX P2 specifies channels
1	Level top	Columns left to right	FX P2 specifies channels
2	Level bottom	Columns right to left	FX P2 specifies channels
3	Level left	Rows top to bottom	FX P2 specifies channels
4	Level right	Rows bottom to top	FX P2 specifies channels
5	BMT1	Split into 3 - Mid,Base,Treble	
6	BMT2	Split into 3 - Base,Mid,Treble	
7	BMT3	Split into 3 - Base,Treble,Mid	
8	BMT4	Split into 3 - Treble,Base,Mid	
9	BMT5	Split into 3 - Treble,Mid,Base	
10	BMT6	Split into 3 - Mid,Treble,Base	
64	Graph bottom	Graphic equalizer up	FX P2 specifies channels
128	Graph bottom/top	Graphic equalizer up/down	FX P2 specifies channels
192	Graph top/bottom	Graphic equalizer down/up	FX P2 specifies channels

In Setup, View Settings, Ports, Audio Input select the audio interface. The Audio Max Level defaults to 0 which indicates a full

audio range signal is expected. To boost the audio signal, set the Audio Max Level to the maximum value expected between 1 and 255. If there is a lot of noise then set the Audio Min Level to eliminate the noise.

22.3.14   Mixing between Pixel Mapping layers

The interaction of the different pixel mapping layers can be controlled using the Col Mix attribute in the colour page. The types are

- Add

- Subtract

- Max

- Min

- Exclusive Or (EOR)

- Priority (higher layer numbers have priority)

- Priority > 0 (priority if level greater than 0)

- Masking

- Mask invert

- Blue key

- Green key

- Multiply

- No base

- Max with base

When a layer is set to "green key" then any green pixels in that layer pass through the media from the lower layers. Non-green pixels play back the media on that layer. The mask must be pure green.

When a layer is set to "blue key" then any blue pixels in that layer pass through the media from the lower layers. Non-blue pixels play back the media on that layer. The mask must be pure blue.

When any active Pixel Map layer is active (dimmer above 0%) then setting "no base" on that layer will make the Pixel Map effect ignore any base level for the controlled channels instead of adding to the base level.

When any active Pixel Map layer is active (dimmer above 0%) then setting "max with base" on that layer will make MagicQ perform a maximum of the Pixel Map effect and any base level for the controlled channels instead of adding to the base level.

22.3.15   Colour Mixing

The Colour Page of attributes allows the levels of the red, green and blue attributes to be set independently. The default values are 128, 128, 128. Each colour can be boosted or cut.

The Colour Type attribute allows the overall colour to be adjusted including inverts, mapping of colours, black and white and other colour effects.

22.3.16   Apply Type

Added new apply type to the Pixel Mapper of "use int" and "fit use int". When these apply types are used the Pixel Mapper applies to the intensity channel of the fixtures in the grid instead of to the RGB channels. If the fixtures in the grid have no intensity channel then no pixel mapping is applied to the fixture. This is useful for example to use the pixelmapper on the intensity channel of moving lights or on strobes.

22.4   3D Pixel Mapping

22.4.1   Configuration

MagicQ supports 3D Pixel Mapping, enabling easy control of LED ceilings, chandeliers and other 3D LED objects. MagicQ supports 3D grids and multiple fixtures can be inserted into the 3D grid in one go making it easy to create the grid mapping.

In the Output Window, View Plan a grid can be made into a 3D grid by pressing SHIFT and SET GRID DEPTH. This makes the current grid into the starting grid and allocates the following grids to make up the depth. The following grids must be empty (0/0 size) before they can be allocated to a 3D grid. For example, to make a 10x10x20 grid - go to grid 1, set the grid size to 10x10. Then set the grid depth to 20. Grid 1 then becomes a 3D grid using grids 1 to 20. The Grid is shown on Encoder A as grid 1-1 (20) to 1-20 (20). MagicQ no longer shows grids 2 to 20.

Fixtures can be now be inserted into the grid in 3D direction as well as the normal way - horizontally or vertically. Pressing INSERT HEADS gives a list of options. When inserting in 3D direction the starting position in 3D is determined by the Grid number. For example if you have Grid 1 as a 10x10x20 grid then inserting a 5 element multi head fixture into Grid 1-1 using 3D Direction will insert it into grids 1-1 to 1-5. If you do the same operation into Grid 1-10 then it will insert into grids 1-10 to 1-15.

The MagicQ Pixel Mapper personality (Generic_Bitmap_With FX 2.hed) has been extended to add extra channels for controlling 3D FX (Generic_Bitmap_With FX 3.hed). In the Outputs Window, View Plan pressing PATCH PIXMAP will now patch the 3D personality (FX3).

22.4.2   Effects

3D Pixel mapping effects are selected using the "3D FX Type" parameter under the "3D FX" page in the Media window. For each 3D FX there are a number of parameters (X,A1,A2,A3,B1,B2,B3).

3d FX Types such as Slide, Particle and Particle Bounce generate a 3D effect on a single Pixel Map layer.

There are a number of 3D effects available in MagicQ which can be modulated using up to two other Pixel Map layers as modulation layers - these extra layers modulate the 3D FX according to the intensity of each pixel in the 2D layer. 2D FX can be played on the modulation layers which then affect the 3D layer.

The order of these layers is processed from left to right in the Media Window, with the modulate layers being a lower numbered layer than the 3D effect layer. Typically for these modulate effects, layer 1 will be set to 3D FX Type = Mod Layer 1, layer 2 will be set to 3D FX Type = Mod Layer 2 and layer 3 will be used to select the specific 3D FX such as Height Map, Full Up, Fill Down.

22.4.2.1   Slide

The slide effect slides the 2D frame and slides it either back or forward in the Z axis over time.

3D FX A1 determines the speed and direction of the movement. 0 to 127 being slide up from fast to slow, and 128 to 255 being slide down from fast to slow

22.4.2.2   Particles

The particle FX applies a simple particle system to the 3D grid. The particles take their colour from the Hue/Sat/Brightness colour values in the Col section of the Media window.

3D FX A1 determines the direction, axis and speed upon which the 3D particles travel.

3D FX X determines the spawn probability of a particle if one isn't currently alive in the column

3D FX B1 applies a random hue to the particles
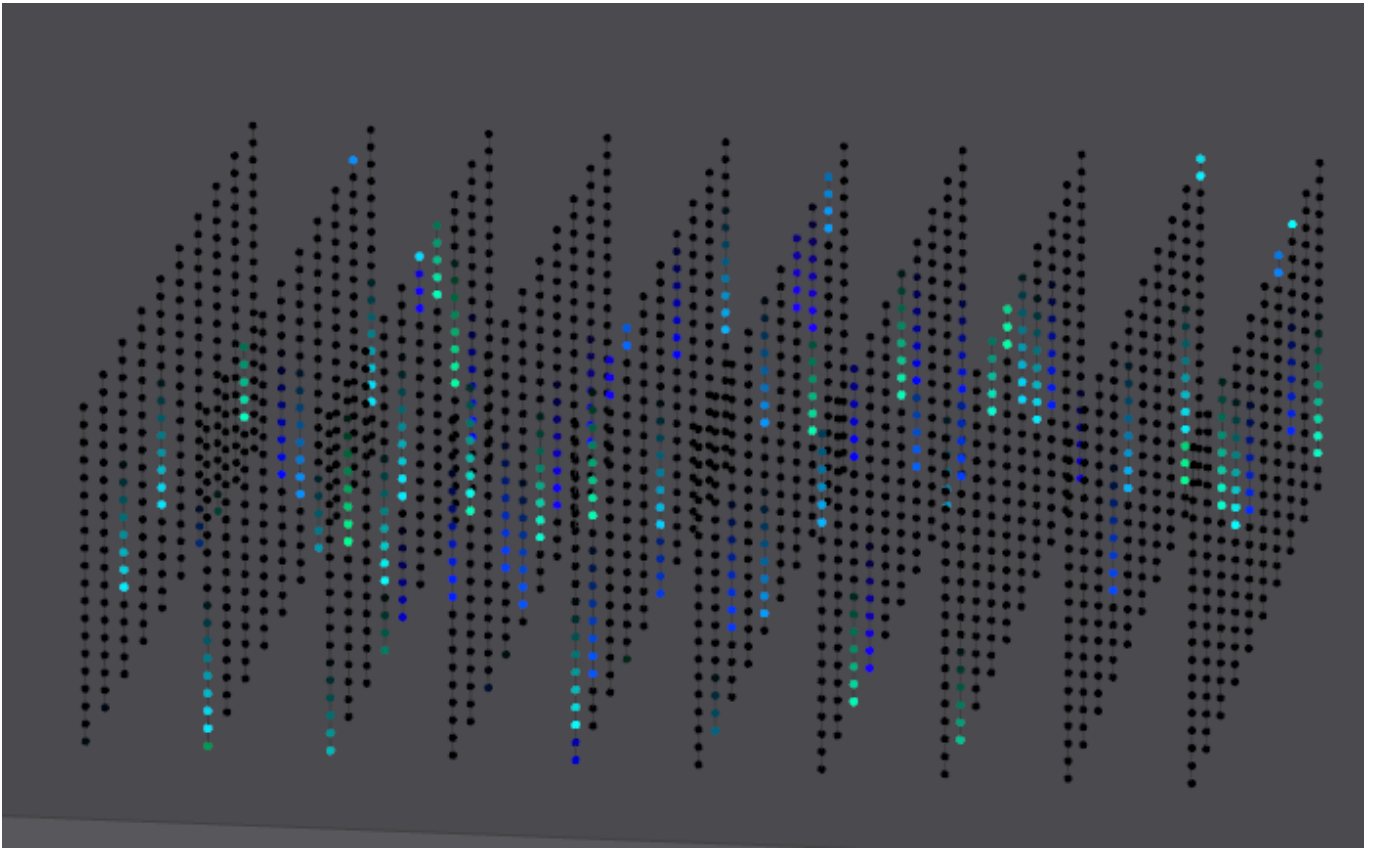
3D FX A2 applies a "trail" to the particle as it moves.
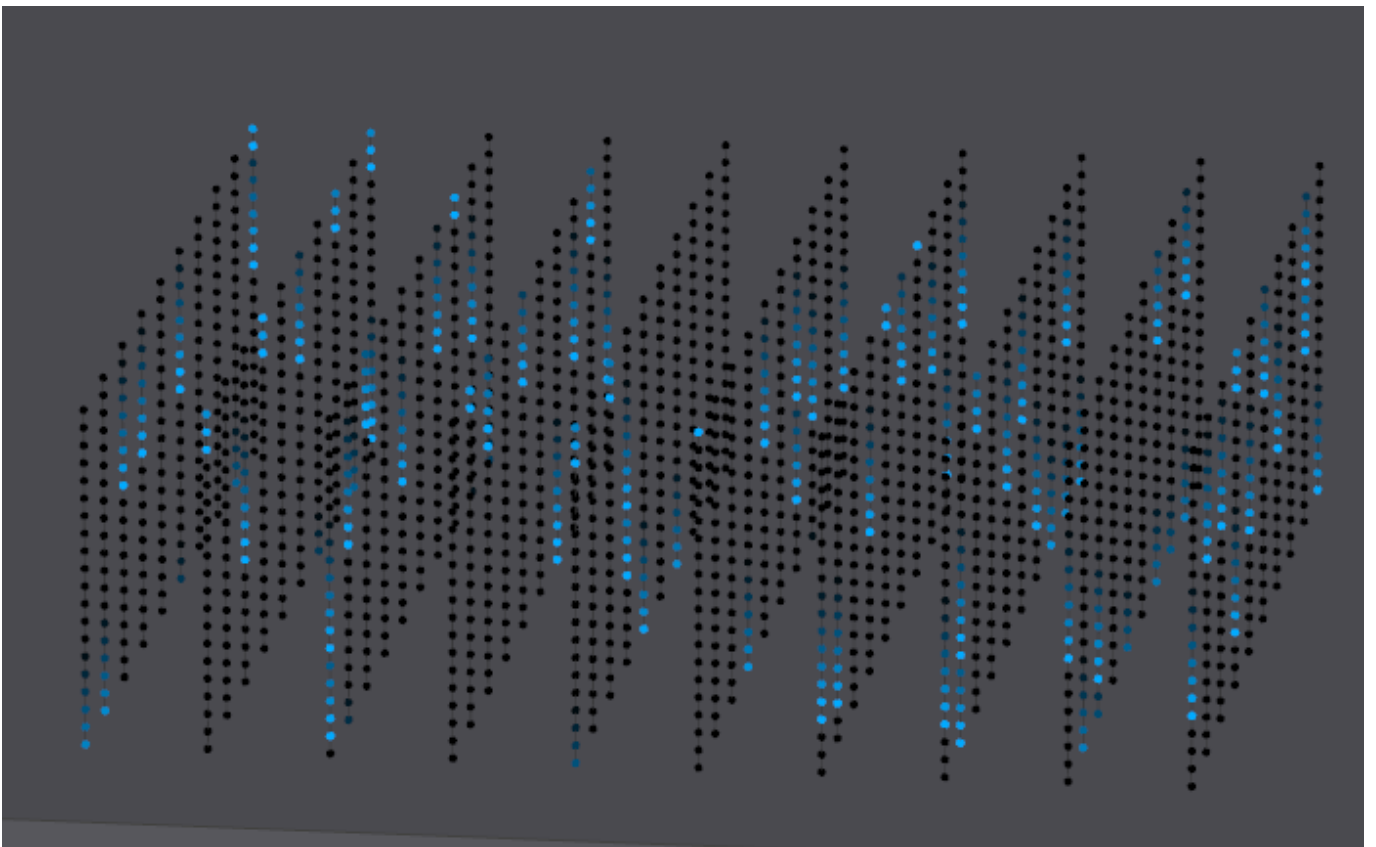
22.4.2.3   Col Offset

The col offset uses the colour of the pixels in the 2D frame to determine the offset in 3D.

3D FX A1 allows different colour types to be selected - e.g. using the offset based on red, green, blue or on combinations of colours such as red and blue.

3D FX A2 allows the width to be modified - by default it is set to 50% of the grid depth.

22.4.2.4   Heightmap
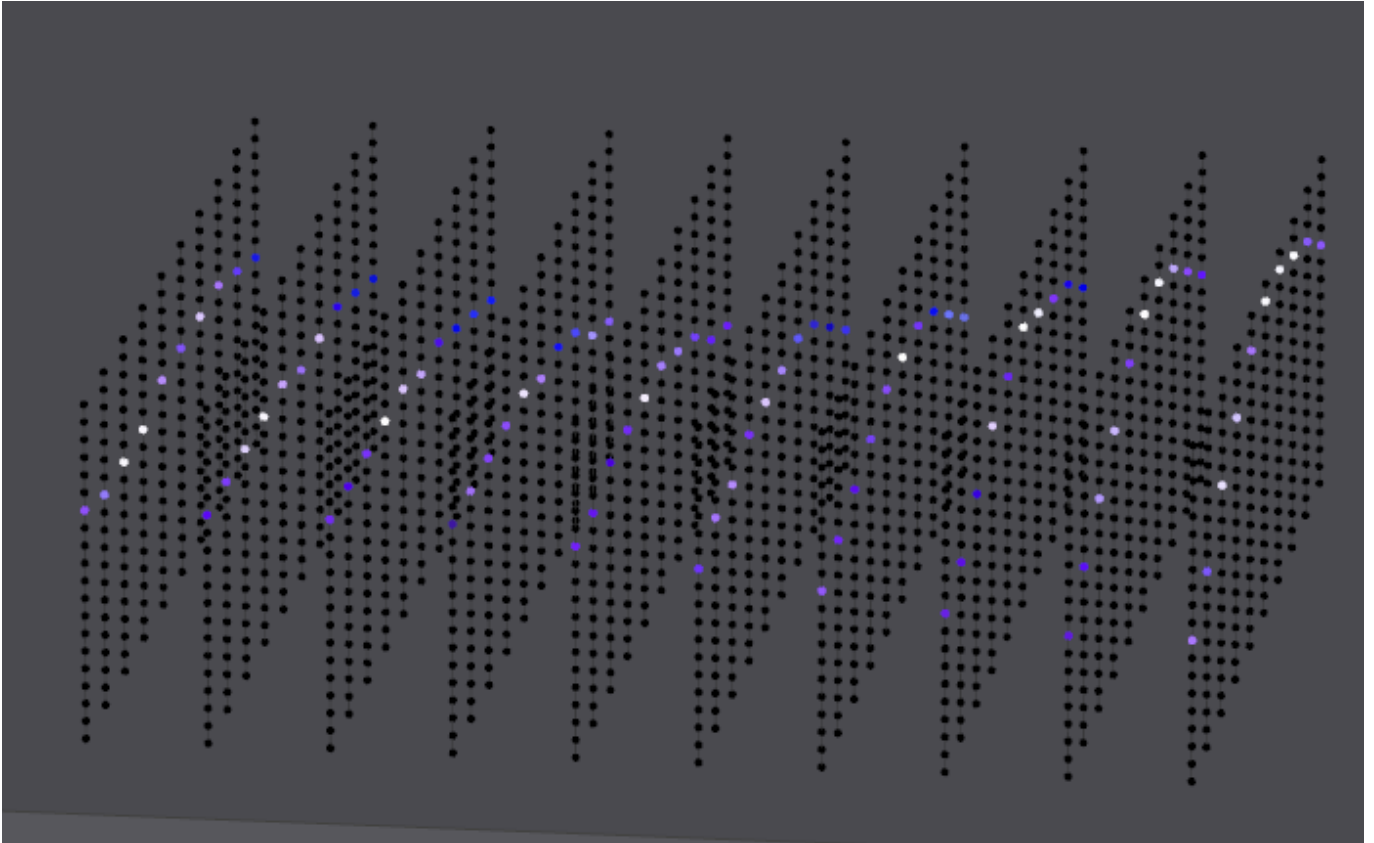
This effect takes the input media from it's own layer, and uses Modulate Layer 1 to offset the vertical position of the layer in 3D space and the Modulate Layer 2 to change the amount of blur. The vertical position and blur are calculated per column, so wave effects can be applied by using the "Organic" 2D FX on the Modulate 1 layer.

3D FX A1 applies a constant height offset to the entire grid on top of the Modulate Layer 1 amount. 3D FX B1 applies a constant blur amount to the entire grid on top of the Modulate Layer 2 amount.
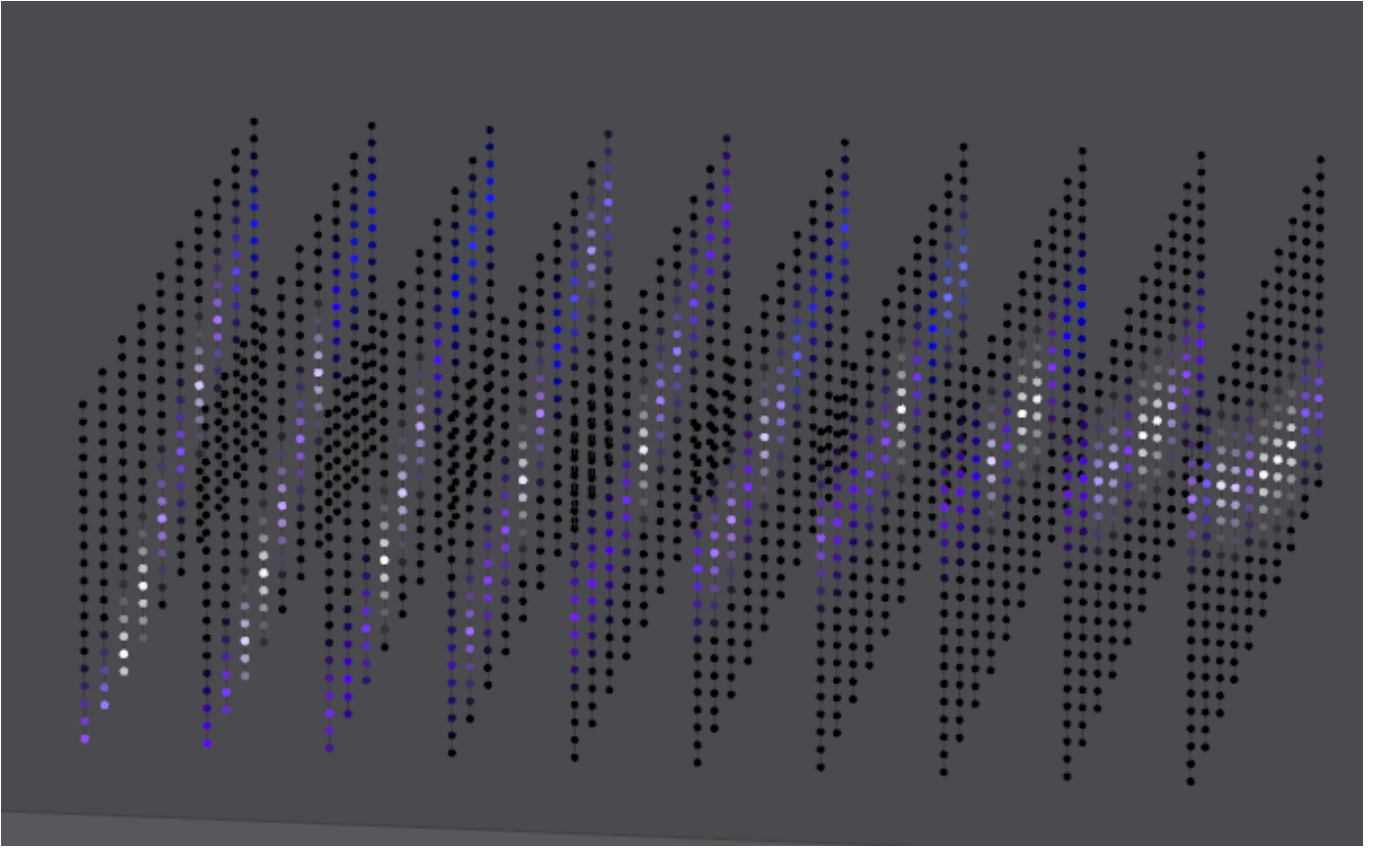
22.4.3 Full Up and Fill Down

The "Fill up" and "Fill down" modes fill the rest of the 3D space either above or below the media layer with the same pixel value.
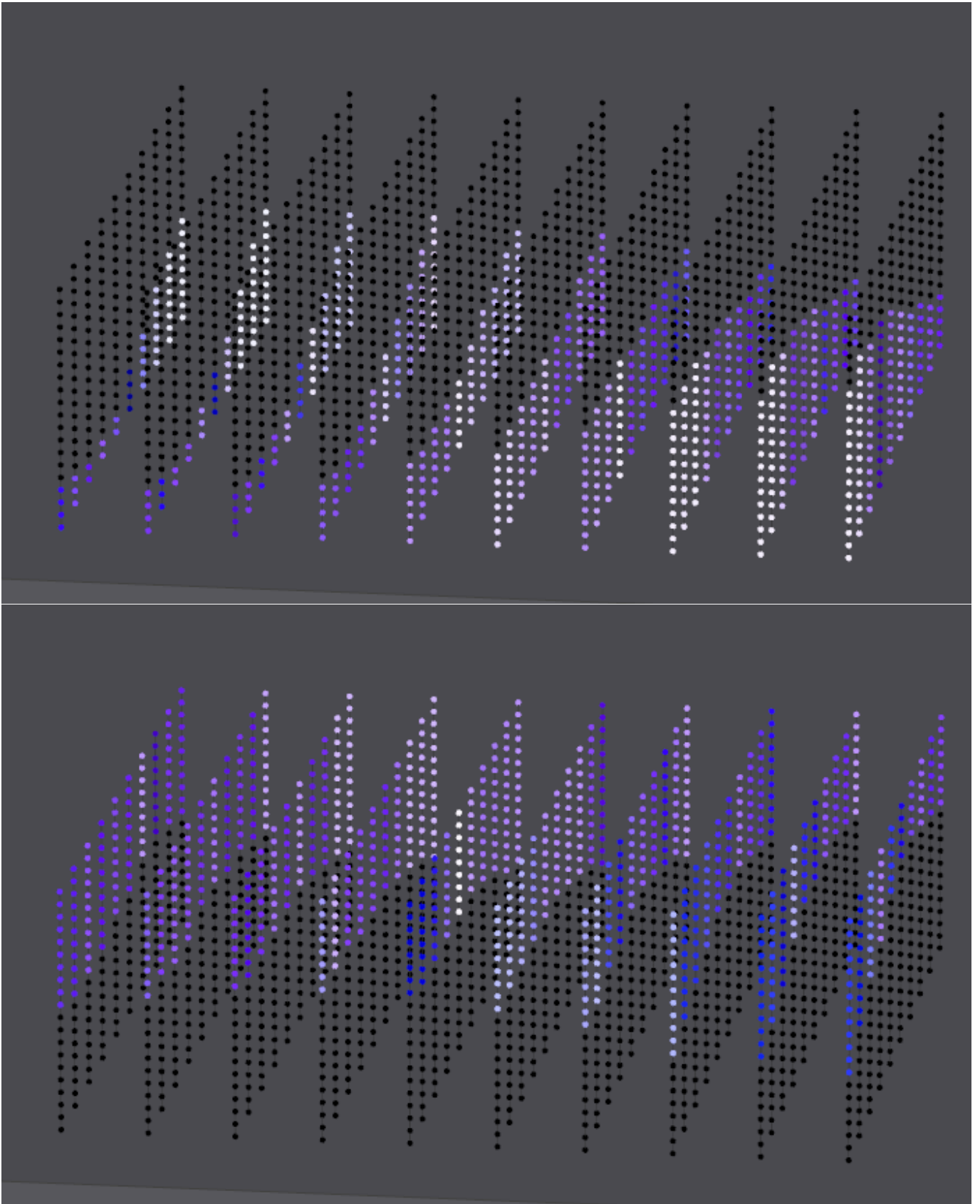
22.4.3.1   Particle bounce

The particle bounce effect can be likened to a grid of balls, where changes to the Modulate Layer 1 values are used as a "kick" to the ball upwards.

Using this method, you can use a flash button to flash on the Modulate Layer 1, and the particles will flick up, and then fall back down again under a simulated gravity. Alternatively using the Audio Input to MagicQ, use a bass beat to bump the particles in the grid.

Only when a particle is stationary will it receive a "kick". If the particle is still in mid air, it will continue to fall under the effects of the simulated gravity.

A larger change in value to the input will result in a larger velocity.

22.5   Multi Element Heads

From v1.5.1.0 it is possible to play back patterns specifically on multi element heads such as Chromlech Jarags (5x5 dimmers) or other LED tile squares. If the Pos FX is set to "Mult head" then any media, text or FX on that layer will apply to the individual multi element heads rather than across the entire grid. The same "image" will be placed on all the multi head elements. For best results the grid should be made of same size fixtures with equal spacing.

22.6   Making Grids of Groups

Sometimes it is useful to make a grid of groups rather than a grid of individual heads – for example you may have a large amount of LED broken down into panels which you have then programmed as groups.

Grids of groups enable multiple heads to be allocated to one box in the grid. When Bitmaps, Text or internal FX are played back on the grid, then all heads in a group will take the colour/level associated with a particular box in the grid.

Use Soft Button B "Grid Type" to select "Groups" instead of "Heads".

22.6.1   Auto Groups

The auto groups function in the Outputs Window, Plan View has an option to generate groups for each of the multi head fixtures in the chosen grid.

These groups can then be use in a grid of groups to perform intensity and colour chases across all the multi heads. By using the first layer for the grid of heads, and the second layer for a grid of groups with colour mode set to multiply the FX on the individual multi heads and the FX on the complete heads can be mixed together.

22.7   Programming LED using standard FX

To program LED fixtures using standard FX rather then the bitmap layers, just select the fixtures and program them like moving lights.

Select the group of LED fixtures, e.g. "All Pixeline", set the master intensities using the encoders or by pressing the DIM @ FULL soft button in the group window.

You can select standard in-built FX for LED fixtures in the Beam window.

To program colour chases across all patched RGB pixels select all the RGB heads and then in the Colour Window select your base colour, e.g. Red at 128, Green at 128, Blue at 128. Then play back an FX on the head such as rgb, cmy or pulse4steps. Speed and size are controlled as normal.

22.7.1 Using groups auto generated from the grid

Press the Auto Group button to automatically generate groups based on the grid size. This generates groups using the entire grid but with different orders of selection, e.g. from centre to outside, from the edges, and vice versa. This makes it easy to quickly generate different FX.

Using the auto groups, it is then possible to use standard FX such as RGB, sine waves, pulses to generate FX on your grid.
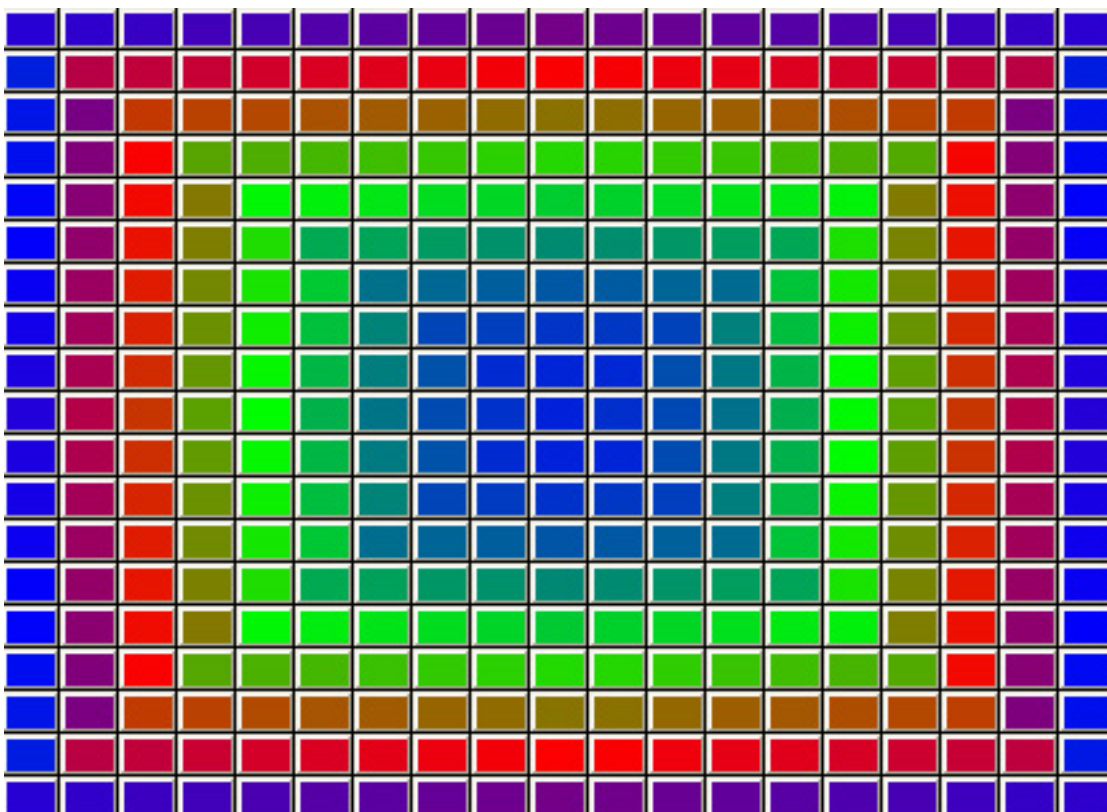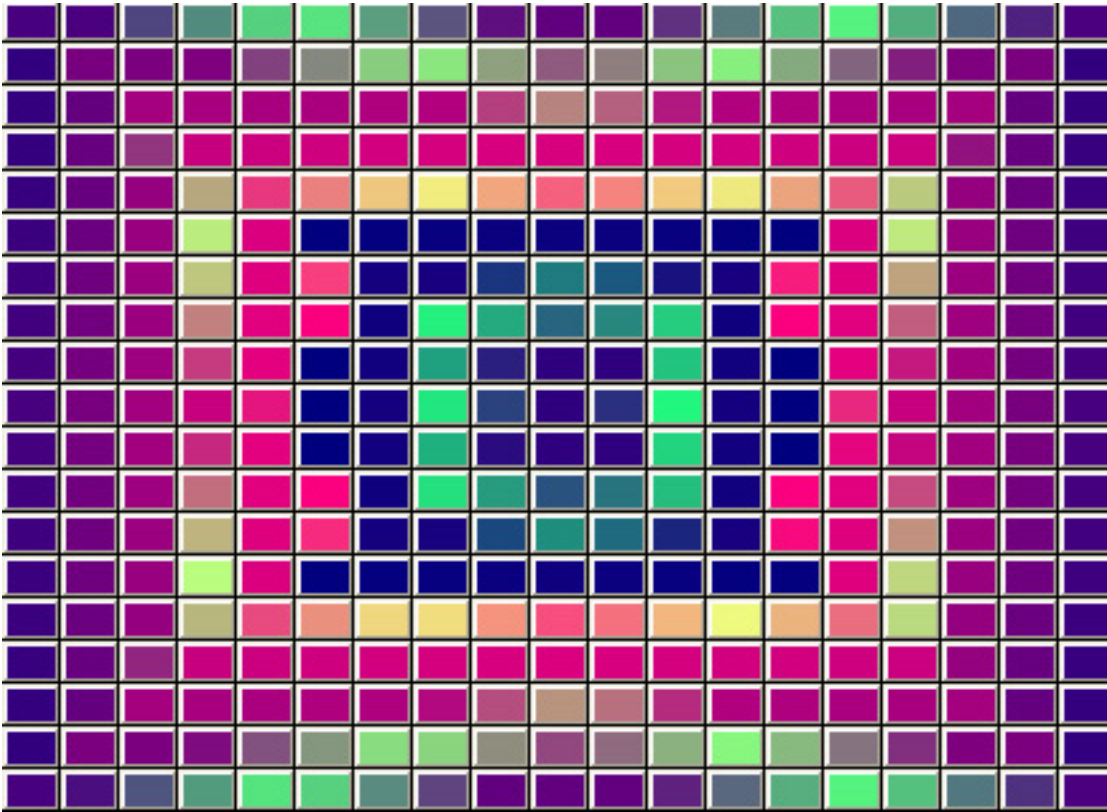
It is possible to make a group out of the currently selected items within the Grid. For example, use CTRL + select a few items and then press SHIFT + MAKE GROUP to make a group i nthe Group Window for all those items.

22.8   Making groups out of LED pixels

To get the best out of a large array of pixel heads it is best to make groups. Select all the RGB pixels for a particular fixture and record it as a group. The order in which you select the heads determines the order that FX are played back on them. You can reverse the selection of an entire group by pressing the top right soft button in the Group Window.

If you have set up a Grid in the Plan View then you can easily select the pixel heads from this View before recording the group in the Group Window. Use Auto Groups to generate groups in different directions on the group and from the centre outwards.

In the Plan View use SHIFT + MAKE GROUP to make a group from the currently selected heads. If no text is entered before pressing MAKE GROUP the group is automatically named based on the first and last head numbers in the group.

To get a colour rainbow to roll seamlessly across a line of led battens you may need to reverse the selection of the individual groups - it depends which way you numbered your LED fixtures.

22.9   Making new LED personalities on MagicQ

MagicQ has an in-built personality editor, so it is easy to create new personalities. New personalities can be based on other personalities or created from a blank personality.

For simple LED fixtures you may be able to use one of the generic LED personalities - either generic LED 3 chan or generic LED 4 chan.

When creating a personality allocate the red, green and blue channels to the cyan, magenta and yellow attributes.

Chapter 23

Controlling Media Servers

MagicQ is ideally suited to controlling media servers through its dedicated Media window - the eight encoder wheels enable quick and easy access to a large numbers of control parameters.

MagicQ has extremely powerful support for media servers. It is possible to connect to up to 50 different media servers or intelligent media yokes each with different media content. MagicQ downloads thumbnail previews for the media content from each media server independently.

MagicQ supports a special window, solely for controlling media servers, the Media Window. This window makes it much easier to control media servers. You can select media server, media layer, attributes and media content all from the same window. You can also see what content is selected on each of the layers of the selected media server. Open the Media Window pressing the Media button.

In addition, there is a Live Preview window, which shows the output of the media server, or the output of each of the layers. This is transferred is real time from the media server – so that you can see exactly what the media server is playing. This is particularly useful in situations with many media servers, or media servers that are remote from the control position.

Media Servers are normally connected via network rather than DMX - this enables MagicQ to communicate with the media server to retrieve thumbnails and to show live previews. MagicQ uses a network protocol such as Art-Net, Pathport or ACN to control the Media Server - this is set up in Setup, View DMX I/O. In addition MagicQ uses a network protocol such as CITP MSEX or HMAP to communicate with the Media Server to retrieev thumbnails and live previews.

MagicQ supports many different types of Media Server including MagicHD - a free Media Player inbuilt into the MagicQ software.

23.1 Patching Media Servers on MagicQ

Media servers generally consist of a number of layers of one or more types. Each type of layer has a different personality. Each layer is treated as a different head on MagicQ with a different head number. To patch a media server each of the layers must be patched in turn on asscending DMX addresses.

On MagicQ it is possible to patch the media server in one go by using the Choose DIM/MEDIA soft button. This gives a choice of the media servers in their most common configurations. Patching using this method patches all the required layers of different types and configures the media server settings for one media server all in one action.

If your media server is not in the list of media servers then you will need to patch the layers individually as you would for a moving light. MagicQ includes demo show files for most common media servers – try loading these demo shows to see examples of the patch required.

Each media server should have unique head numbers. The layers in the media server should have asscending head numbers.

23.2 Connecting via network

Connect the Media Server to MagicQ using a network cable.

Ensure that the Media server and the MagicQ system are using IP addresses in the same network range - for example if using Art-Net then the media servers and MagicQ should all be on the 2.x.x.x or the 10.x.x.x network range.

To check the IP settings you can try and "ping" from MagicQ to the Media Server. On MagicQ keyboard type three dots followed by the IP address to ping.

. . . a.b.c.d

where a.b.c.d is the IP address of the Media Server

The ping should show a "Reply from 2.x.x.x". If you do not get a reply then check the physical connection, check the configuration of the network port on the media server and check there is no firewall software on the media server.

23.2.1 Setting up control of the Media Server

In Setup, View DMX I/O configure the MagicQ universe where the Media Server is patched. Set up the Output type to be the appropriate protocol - e.g. Art-Net, Pathport or ACN.

Ensure that the Output Universe is set up to the same as the Media Server - e.g. if the Media Server is using Art-Net 0-4 then set up the Output Universe on MagicQ to Art-Net and 4.

Enable the universe. The Media Server should now respond to commands from MagicQ.

23.3 Configuring the Media Window

23.3.1 Simple Media Setup

In the Media Window press the Media Server you wish to configure. If the Media Server has not been configured at all then MagicQ will give a menu of options to choose from. If the Media Server has been previously configured then press the SERVER SETUP soft button to open the menu of options.

If you select "Advanced" then MagicQ will take you to the Setup Window, Media View to configure the media server parameters. Note that the Advanced view is not available on the MQ40 - only simple plug'n'play configuration of MagicHD or Pixel Mapping.

23.3.2 Advanced Media Setup

If you have patched using the Choose Media Server method above then the parameters should mostly be set up correctly for you. It is only necessary to enter the IP address of the media server.

Set the IP address of the media server. This will be used to locate the media server on the network and to retrieve thumbnails and live previews. Move to the IP address field and set the IP address. If you have only one media server active on the network then pressing enter should detect its IP address automatically. Note that the media server will respond to commands over Art-Net, Pathport or ACN regardless of whether the IP address of the Media Server is set up correctly in MagicQ.
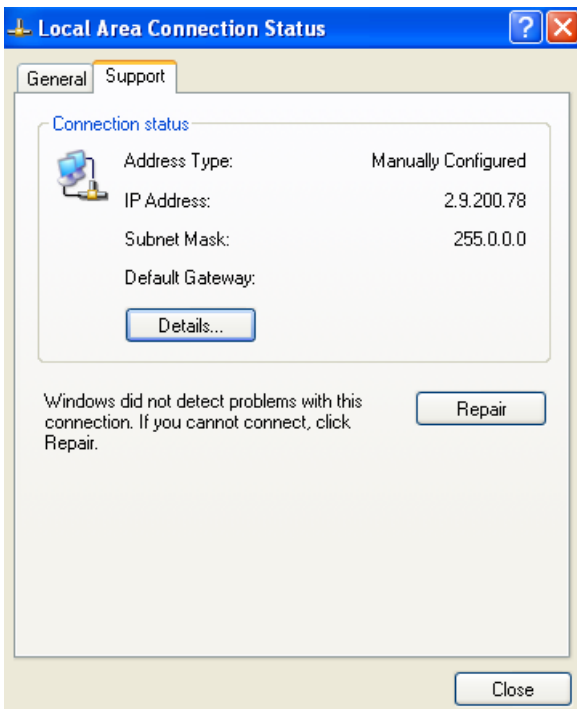
To determine the IP address of media server on Windows XP machines, load the Control Panel, and open the Network Connections screen. Double click on the network connection, choose the support tab, and the IP Address is displayed.
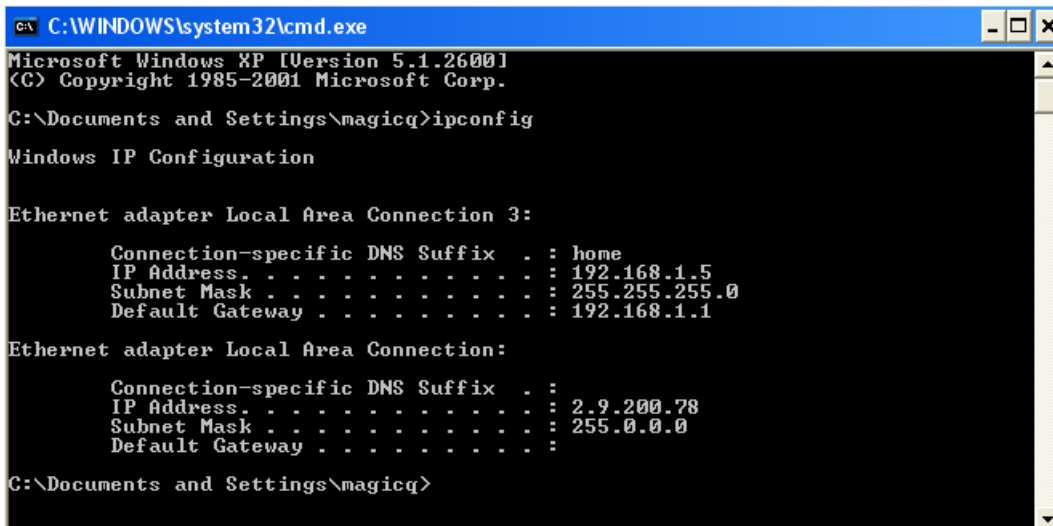
Select the type of media server and the version:

Set the number of layers you have patched – this is the number of media layers, and does not include master layers, soft edge or camera layers.

Set the head number of the first media layer. This tells MagicQ which patched layer is the first media layer on the media server. MagicQ expects layers to be sequential head numbers, e.g. set you head numbers for your layers to 1 to 8.

23.3.3 MagicHD

MagicHD is fully integrated with MagicQ. Set the Media Server type to MagicHD. Set the version number to 0.

If MagicHD is being run from within MagicQ then set the Media Server IP address to 0 - this will appear as "Local". MagicHD will use the thumbnails for the media from the PC/Mac that it is running on.

If you wish to connect to a MagicHD system on another PC, Mac or a MagicHD Box then set the Media Server IP address to the IP address of the external MagicHD system.

23.3.4 Arkaos

For Arkaos 3.6 and above and Media Master choose MSEX (Arkaos). For Arkaos 3.5 select Arkaos. Set the version number to 0. Arkaos supports 8 layers.

Arkaos uses MSEX protocol for retrieval of thumbnails, part of CITP protocol stack.

MagicQ includes the mediamasterdemo.shw in the demos folder.

23.3.5 Catalyst

Select Catalyst and set the version number to 0. Thumbnails are retrieved from Catalyst using html to the inbuilt Mac web server. Catalyst does not support live preivews.

23.3.6 Coolux

Select Coolux and set the version number to 0. The number of layers should be set to the total number of layers patched.

Arkaos uses MSEX protocol for retrieval of thumbnails, part of CITP protocol stack. In Setup, View Media, the Coolux option is the same as the MSEX option.

23.3.7 Hippotizer

Hippotizers now support MSEX - this is the recommended protocol to use.

For older Hippotizer choose either Hippo Stage or Hippo Express depending on which type you are using. For Hippo HD use Hippos Stage. Set the version field according to the version, 2 for Hippo v2, 3 for Hippo v3.

23.3.8 Maxedia

For Maxedia choose MSEX and set the version number to 0.

23.3.9 Mbox

For Mbox choose Mbox and set the version number to 0.

Note that the head numbers for the text and object layers are allocated lower numbers than the ancillary layers such as the ambient, spots, camera, shutter and keystone. This ensures that the text and object layers appear before the ancillary layers in the Media Window.

There is a pre-patched show mboxdemo.shw containing 5 layers and several cues to demonstrate the Mbox EXtreme in the demos folder.

23.3.10 Other Media Servers

MagicQ supports the MSEX (Media Server Exchange) protocol which enables it to communicate with any media servers that support this protocol. Select MSEX (Arkaos) and set the version number to 0.

MagicQ also supports a generic protocol based on accessing the media folder of a media server and a generic csv index file to determine the mapping of thumbnails files to DMX values. Select "Generic" and set the version number to 0.

23.4 Thumbnail view

MagicQ retrieves thumbnails from the media server and shows them on the screen for easy selection of media banks and media images. The media server must be enabled in the Setup Window, Media View for it to retrieve thumbnails. MagicQ can handle different media on each media server thus making it easy to program larger configurations of media servers.

Thumbnail support is available when using Arkaos, Coolux Pandoras Box, Catalyst, Hippotizer, Mbox, Maxcedia and any other media servers that support the MSEX or generic protocols.

To retrieve thumnails press the GET THUMBS soft button in Setup, View System, View Media. This grabs all the thumbnails for the media server which the cursor is on.

To force a reload of all the media from the media server, move the cursor to the required media server in the Media View of the Setup Window and press the ERASE CACHE soft button. Then press the GET THUMBS soft button to retrieve the new thumbs.

Individual pages of thumbs can be reloaded in the Media Window using the RELOAD THUMBS soft button. Press SHIFT and RELOAD ALL THUMBS to reload all pages.

23.5 Live Previews

MagicQ can connect to a media server to retrieve a live preview of the master output or of the individual layers. This is very useful where the media server is remote to the console, or in a multiple media server configuration.

Live Preview support is available when using MagicHD, Arkaos and Hippotizer and any other media server that supports the live preview part of the MSEX protocol specification.

Enable the Live Preview option in the Media View of the Setup Window.

The live preview is shown in the large window on the left of the Media Window. Choose using the top soft buttons whether the preview shows the output, or the currently selected layer.

When connected to media servers that do not yet support live previews, the preview window will show the image thumbnail from the 1st layer that has its intensity channel above zero.

23.6   Media Window View

It is possible to configure the View in the Media Window – View Servers (defaults), View Groups, View Libraries and View Outputs. View Groups is useful when using a large number of media servers and controlling using groups of media servers rather than individual servers.

View Outputs shows a summary of the Output of all the configured Media Servers.

MagicQ automatically expands the Media Window to show the maximum number of layers that are in use by the configured Media Servers.

23.7   Using MagicQ and Media Server software on the same PC

23.7.1   Using MagicHD

MagicQ supports the inbuilt Media Player MagicHD. This is fully integrated with MagicQ and can be used to play back media to a 2nd monitor attached to your MagicQ PC/Mac.

From the toolbar select Media Player, View Media Output and a MagicHD window will be opened.

23.7.2   Using the loopback IP address

It is possible to use MagicQ and 3rd party Media Server software (e.g. ArKaos) on the same PC by altering some of the settings given above. In the Media View of the Setup Window, set the IP address of the media server to 127.0.0.1. This is the local loopback IP address and will allow the PC to talk to itself to retrieve thumbnails and live previews.

In the Settings View of the Setup Window, scroll down to Interface Settings. Set the option for Send to Applications on this PC to YES.

With the loopback IP and Send to Applications set correctly, you should be able to control your media server and use the live previews and thumbnails.

23.8   CITP (MSEX) live feeds and MagicCap

MagicQ supports live feeds over CITP (MSEX) for use in the MagicQ Pixel Mapper and for user display on MagicQ. Live feeds do not have to come from a Media Server, they can come from any CITP (MSEX) source such as PixelBeetle or MSexLord. Multiple different live feeds from multiple different source PC/Macs is supported. MagicCap can screen capture from any PC or Mac and send the output to MagicQ using MSEX.

To patch an MSEX server, including MagicCap, go to SETUP - VIEW SYSTEM - VIEW MEDIA, find an unused server and change the type to "CITP Live Feed". The Media Server IP address should be set to the IP address of the PC/Mac providing the feed and "Thumbs" and "Live Previews" should be enabled.

To set up multiple live feeds from one PC/Mac then set up multiple identical Media Server entries - each with the IP of the live feed source and "thumbs" and "Live Previews" enabled. The entries do not have to be adjacent media servers in the list. MagicQ will only make one MSEX connection to the PC/Mac but will grab the previews for the multiple sources through this connection.

Live Feeds can be used in the Pixel Mapper by selecting Media Page as "Live Feed" (encoder Y) and selecting Media as the "Serv 1" (encoder X) depending on the number of the MSEX server.

The received Live Feeds can be viewed in the Media Window by selecting View Outputs instead of View Servers on the left most soft button.

Note that a 2nd Media Window can be opened by pressing CTRL and Media or by pressing 2 then Media. This enables the 2nd Media Window to be used for displaying live feeds whilst the first is used for controlling media servers.

23.9 Troubleshooting

If you do not have control of the Media Server check:

- MagicQ is connected to Media server via network

- There are no firewalls on - this will restrict access between the Media Server and MagicQ

- MagicQ is enabled to output either Art-Net, Pathport or ACN (Setup, View DMX I/O)

- The media server is configured to the correct DMX universe and address

- MagicQ is patched with the correct personalities at the correct addresses

Chapter 24

Head Editor

The Head Editor is accessed from the Edit Head soft button in the Patch Window. Making changes modifies the head files stored on the MaqicQ hard drive and used for all new shows.

The Head Editor consists of 5 views for modifying data:

- General

- Channels

- Ranges

- Palettes

- Macros

In each of the views new values can be entered using the keypad or keyboard. New entries can be added to the lists by pressing the Insert soft button. The top right encoder wheel can be used to modify the item where the cursor is placed.

The Head Editor will start up with the chosen head - i.e. the last head you chose for patching. If you have not yet chosen a head then the Head Editor will be empty.

You can choose the head to edit from within the Head Editor by pressing the Choose Head button. This has the same effect as the Choose Head button in the Patch Window - i.e. you are presented with a list of heads to choose from.

Once you have made modifications to the head you can save the changes to disc by pressing the SAVE HEAD soft button.

If you wish to create a new head from scratch you can press the New Head soft button, whilst if you wish to copy an existing head you can use the Save As soft button.

At any time you can choose a new head - however if you have made changes, which you have not saved to disc, then you will be prompted whether you really wish to continue. Continuing will mean that the changes will be lost unless you already have patched heads of that type - in which case the patched heads in the show will keep the changes. In either case, the head file on the disc will not keep the changes.

Press the Patch button to leave the Head Editor and return to the Patch Window.

24.1   How Heads are stored in MagicQ

MagicQ stores heads in the show/heads folder. When you choose a head to use in a show it loads the head from the disc and stores it in memory. When you save your show, MagicQ writes a copy of the head into the show file, ensuring that your show will work even if it is loaded onto a console which does not have the head files for your chosen heads installed.

If you load an old show into MagicQ then the heads in use on the show will be the ones recorded into the show file, not the heads in the show/heads folder on the MagicQ console. From the Patch Window, if you choose the head again, edit the head, or patch new heads of the same head type it will always use the head stored in the show file – this ensures consistency.

You can update a head stored in a show file with the one stored in show/heads using the "Reload Head" soft button. In the Head Editor press the "Reload Head" soft button. The head will be reloaded from disc and all the patched heads in the show will use the updated head. Note that it is not possible to reload a head where the number of channels in the head has been changed.

24.2 Loading new heads into MagicQ

To update MagicQ with all the latest heads, download the latest heads files (heads.all) from the ChamSys web site www.chamsys.co.uk. Copy the heads.all file into the show/heads folder. Then restart MagicQ (SHIFT + RESET in Setup Window).

To load a single head into MagicQ consoles, simply copy the head file (myhead.hed) onto a USB drive, connect to the MagicQ console and select the file via the console file manager (Setup > View Settings > File Manager) MagicQ will then automatically load the head file and recreate the head index.

To load a single head file into MagicQ PC systems use the *tools* menu at the top of the MagicQ window and select the *Install Head File(s))* option. Once you have selected your head file MagicQ will automatically load the head file(s) into MagicQ.

To force the index file to be regenerated, go to File Manager and press SHIFT + RECREATE INDEX. New heads should then appear in Patch.

24.3 Copying head files created on PC/Macs to MagicQ consoles

- Copy the .hed file to a USB drive.

- If you made the file on a Windows PC the head file will be under: System C, Program Files (x86), ChamSys Ltd, MagicQ PC, Show, Heads. If you have User Account Control enabled then Windows stores the files under the Virtual Store - System C, Users, UserName, AppData, Local, VirtualStore, ChamSys Ltd, MagicQ PC, Show, Heads.

- If you made it on a Mac it will be under Applications, MagicQ, Show, Heads.

- Insert the USB drive into your console, then go to: Setup, File Manager, USB Drive.

- Click on the file on the USB drive, the console will ask if you want to load the head onto the console.

- Head should then be loaded onto the console ready for use.

Alternatively, you can patch the fixture into a show file, save the show to USB, Load the show on the console, then go to Patch, select the fixture, hold SHIFT and press the EDIT CUR HEAD soft button and then press SAVE HEAD to save it to the console.

24.4 Modifying existing heads

Existing heads can be modified by simply making changes and pressing SAVE. Note however that these changes will be lost if you change software version as this loads the latest head libraries. If there are genuine errors in the head then please let us know so that we can update our libraries.

The heads in the ChamSys library are protected to avoid accidental changes to them – MagicQ prompts the user before allowing changes to the heads. In the Head Editor, original ChamSys heads are indicated by an "LO" in the tile bar. If the head has been edited it will only show "L".

If you wish to modify an existing head then you should save it as a new type or new mode.

The easiest way to make a new head is to use SAVE AS to save as a new name. The new name used will automatically update the Manufacturer Name, Short Name and Mode fields.

So, for example to make a modification to the Martin Mac500 Mode 1 head choose the head then press SAVE AS and enter the new name.

Martin_Mac500_mymode

24.5   Removing old heads

It is possible to remove all old heads (and all user created heads) by pressing SHIFT and REMOVE HEADS in the File Manager. This removes all old heads and extracts the heads again from heads.all. Make sure all your user created heads are backed up to USB or to another system before removing all old heads.

24.6   General View

The General View contains a fixed number of parameters. Note that as these parameters fundamentally affect the programming of the head they can not be modified once a head of the type has been patched.
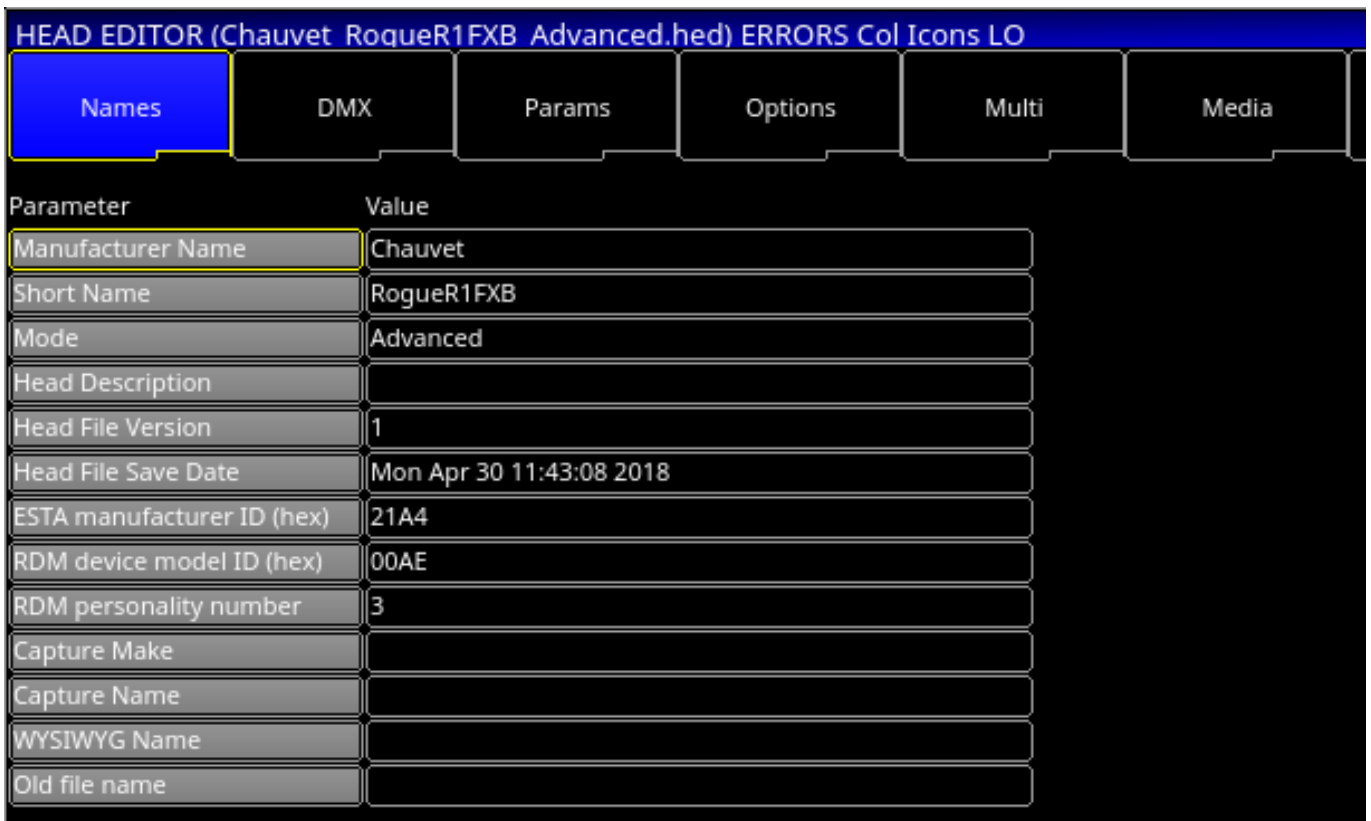
24.6.1   Names

The Manufacturer Name, Short Name and Mode are used to identify the head to the system. These fields should be unique to the moving light. If you make a new head for a fixture based on one of the standard ones then you should make sure you change the mode to a name of your choice.

The Short Name and Mode are used in display windows where there is not much space. You should ensure that these names are as short as possible and do not contain any spaces - preferably less than 8 characters.

The Longer Name is used as an alias to the Short Name - the Short Name will always be used in naming of personality files, but the Longer Name will be used to display the name in the Patch Window when choosing Head. The Longer Name should be exactly as the fixture is named on the web site of the fixture manufacturer.

The Head Description contains details of the type of head – and is used for informational purposes.

The ESTA manufacturer ID, RDM device model ID and RDM personality number are used to match the head file to RDM-enabled fixtures. See the Remove Device Management chapter for more information.

The WYSIWYG and Capture patch information names indicate the names of this fixture in WYSIWYG and Capture to enable patch transfer from these visualisers.

24.6.2   DMX

Num Of Chans sets the number of channels for the head.

DMX Min, DMX Max and DMX Offset specify constraints on where the Head can be patched within the 512 DMX channels. Changing the Num of Chans will automatically change DMX Max.

24.6.3   Params

Pan Range and Tilt Range are used in visualisation and by the FLIP function.

Pan Invert and Tilt Invert. These are used by the visualiser to specify which direction the yoke/beam moves.

Pan Speed, Tilt Speed

Zoom Narrow and Zoom Wide are used by the visualiser to specify the angle of the beam. For heads without a zoom set both Zoom Narrow and Zoom Wide to the angle of the beam.

Slowest Strobe, Fastest Strobe, Slowest Rot Speed, Fastest Rotate Speed are used by the visualiser.

24.6.4   Options

Moving Head can be Mirror or Yoke - press ENTER to swap.

Colour Mix controls the colour mixing channels – the options are CMY, RGB, HSI, RGBA and RGBAW.

The default configuration is for heads with CMY colour mixing – i.e. the when the Cyan channel is at 100% and the Magenta and Yellow channels are at 0% you get Cyan. If your head uses RGB colour mixing – i.e. the above combination gives Red – then set the CMY Invert option.

HSI is not used at the moment.

For RGBW fixtures use RGBA.

Virtual Chans. Some heads such as the Generic Scroller2chan are set up as a "Virtual" head – i.e. the channels in the head can be patched to any location on MagicQ – unlike normal heads where the channels are sequential from the DMX start address. In the View DMX view, the DMX address fields are used to specify the addresses for each channel in the virtual head – up to a maximum of 5 channels. (For normal heads these fields are used to specify multiple fixtures patched to one head.) Virtual heads could be used for other irregular fixtures such as water jet controls.

Virtual Dim. Used for heads with no Dimmer channel to force a virtual dimmer to be patched for each head.

Dimmer curve specifies the dimmer curve to be used for Intensity channels.

Framing type is used to specify the framing (shuttering) type.

MQTrack is specific to MagicQ tracking systems and is only used by MagicQ inbuilt head files.

24.6.5   Multi

The Multiple Heads Type and subsequent fields refer to Heads with multiple elements – see the section Heads With Multiple Elements below.

24.6.6   Media

This section is used to automatically set media server options when a media server layer is patched. When a heady with these settings is patched, MagicQ adds a new entry in Setup, View System, View Media based on these parameters.

24.7 Channels View

This view allows the different channels of the head to be specified. Note that once a head of the type has been patched it is not possible to change the number of channels of the head.

Chan	Name	Type	Attrib no	Enc	Size	Instant	Slow enc	Invert	Locate	Default	Highlight
001	Pan	LTP	Pan (4)	P1X	16 bit hi	no	no	no	128	128	no level
002	Pan F	LTP	Pan (4)	P1X	16 bit lo	no	no	no	000	000	no level
003	Tilt	LTP	Tilt (5)	P1Y	16 bit hi	no	no	no	128	128	no level
004	Tilt F	LTP	Tilt (5)	P1Y	16 bit lo	no	no	no	000	000	no level
005	P/T Speed	LTP	Pos6-Speed (51)	P1F	8 bit	no	no	no	000	000	000
006	Control	LTP	Cont1 (20)	B4A	8 bit	yes	no	no	000	000	000
007	Col	LTP	Col1 (6)	C1X	8 bit	no	no	no	000	000	000
008	Cyan	LTP	Cyan (16)	C1A	8 bit	no	no	no	000	000	000
009	Magenta	LTP	Magenta (17)	C1B	8 bit	no	no	no	000	000	000
010	Yellow	LTP	Yellow (18)	C1C	8 bit	no	no	no	000	000	000
011	CTC	LTP	Col mix (19)	C1D	8 bit	no	no	no	000	000	000
012	FX Speed	LTP	FX7 (38)	B3F	8 bit	no	no	no	000	000	000
013	Gobo 1	LTP	Gobo1 (8)	B1X	8 bit	no	no	no	000	000	000
014	Gobo 1 Rot	LTP	Rotate1 (10)	B1F	8 bit	no	no	no	000	000	000
015	Gobo 2	LTP	Gobo2 (9)	B1Y	8 bit	no	no	no	000	000	000
016	Gobo 2 Rot	LTP	Rotate2 (11)	B1E	8 bit	no	no	no	000	000	000

Channels can be added using the Insert soft button and deleted using the Remove Button (press twice to Remove).

The Name field can be used to name the individual channel. If no name is specified then MagicQ will use the name of the attribute that it is assigned to.

The Type field is used to indicate whether the channel is Highest Takes Precedence (HTP) or Latest Takes Precedence (LTP). Generally only Intensity is set to HTP - all other channels are LTP. Note that if a head has combined Dimmer and Strobe channel then this should be set as Dimmer attribute with type of HTP.

The Attrib No field is used to identify the function of the channel to MagicQ. This is the most important field in the channel list.

Table 24.1: Attrib No field

Attribute	Attib No	Default Encoder	Function
Dimmer	0	I1X	Intensity
Dim Mode	1	I1Y	Intensity mode
Pan	4	P1X	Pan
Tilt	5	P1Y	Tilt
Pos1	46	P1A	
Pos2	47	P1B	
Pos3	48	P1C	
Pos4	49	P1D	
Pos5	50	P1E	
Pos6 Speed	51	P1F	Position (Vector) Speed
Col1	6	C1X	Col Wheel 1
Col2	7	C1Y	Col Wheel 2
Col3 Speed	26	C1B	Colour (Vector) Speed
Col4	27	C1E	Colour/White
Cyan	16	C1A	Cyan/Red
Magenta	17	C1B	Magenta/Green
Yellow	18	C1C	Yellow/Blue

Table 24.1: (continued)

Attribute	Attib No	Default Encoder	Function
Col Mix	19	C1D	Col Mix/Amber
Shutter	2	B1A	Shutter/Strobe
Iris	3	B1B	Iris
Focus	12	B1C	Focus
Zoom	13	B1D	Zoom
Frost1	32	B2A	First Frost attribute
Frost2	33	B2B	Second Frost attribute
Gobo1	8	B1X	Gobo wheel 1
Gobo2	9	B1Y	Gobo wheel 2
Gobo3	28	B2X	Gobo wheel 3
Gobo4	29	B2Y	Gobo wheel 4
Rotate1	10	B1F	Gobo rotate 1
Rotate2	11	B1E	Gobo rotate 2
Rotate3	30	B2F	Gobo rotate 3
Prism Rot	31	B2E	Prism rotate
FX1 Prism	14	B2C	Prism
FX2	15	B2D	
FX3	34	B3C	
FX4	35	B3D	
FX5	36	B3X	
FX6	37	B3Y	
FX7	38	B3F	
FX8	39	B3E	
Macro	22	B3A	
Macro2	33	B3B	
Cont1	20	B4A	Lamp on/off
Cont2	21	B4B	Reset
Cont3 (Bm Speed)	40	B4C	Beam (Vector) Speed
Cont4	41	B4D	
Cont5	42	B4X	
Cont6	43	B4Y	
Cont7	44	B4F	
Cont8	45	B4E	
Frame	52	B5A	Top left
Frame	53	B5B	Top left
Frame 3	54	B5C	Bottom left
Frame 4	55	B5D	Bottom left
Frame 5	56	B5E	Top Right
Frame 6	57	B5F	Top Right
Frame 7	58	B5Y	Bottom Right
Frame 8	59	B5X	Bottom Right

The Enc field specifies which encoder position in the Intensity, Colour, Position, Beam windows the attribute appears on. The Enc field is defaulted based on the choice of Attrib No - this provides a common interface across all heads. In some circumstances users may wish to modify the allocated encoder in order to bring similar attributes onto the same page.

The encoders are positioned as follows:

Encoder A	Encoder E
Encoder B	Encoder F
Encoder C	Encoder Y
Encoder D	Encoder X

There is one page each for Intensity, Position and Colour and five pages for Beam.

24.7.1   Size, Instant and Slow Encoder

The Size field is used to specify the size of the attribute. For channels that are only 8 bit the Size field is set to 8 Bit. For 16bit channels the coarse channel is set to 16 bit Hi and the fine channel to 16 bit Lo. For channels with 24 bit resolution set the lower two channels as for 16 bit and the highest channel to 24 Bit Hi.

The Instant field specifies whether a channel by default snaps immediately to new values rather than fading – this is useful for colour wheels and gobo wheels where you want immediate changes.

The Slow Encoder field makes the encoder works more slowly than normal. This is good for attributes where every possible DMX value represents a different function and therefore only very small turns of the encoder are required to change function.

24.7.2   Default and Locate

The Default field defines what value the channel is set to by default on start-up. When the Setup, Programming option "Unused chans return to default" is set then channels also return to these values when they are no longer controlled by Playbacks or the Programmer.

The Locate field defines what value the channel is set to when a Locate is performed on the head – it is also used as the default value for a channel if no default values is specified.

The Default and Locate should specify the normal defaults for the fixture – the exact values used in a particular show can be overriden by making a Default Cue or Locate Cue in the Cue Store.

24.7.3   Highlight / Lowlight

The Highlight and Lowlight values are used when the Setup, Programming option Highlight mode is set to Advanced. This enables the user to configure custom highlight/lowlight settings for each type of head.

The Highlight and Lowlight fields can be set to "No level" by pressing ENTER to determine which attributes are affected by the Highlight and Lowlight functions.

Note that setting the Highlight and Lowlight values for Intensity attributes to "No Level" may not have the desired effect. In Highlight/Lowlight mode, MagicQ will always try to perform a highlight/lowlight so that the heads in the current selection which are not sub selected appear differently to the sub selected heads. This ensures that a highlight/lowlight is performed correctly even if the personality has not been written correctly.

If you do not wish to have any lowlighting then in Setup, View Settings, Programmer set the Highlight Mode to "Advanced - highlight only (no lowlight)". In this mode only the sub selected heads will be highlighted. Heads that are selected but not sub selected will remain at their playback state.

24.7.4   Element

The Element field is used for Duplicated personalities - these personalities have more than one instance of an attribute type within the personality - for example a LED moving yoke with three LED rings.

Heads are set as Duplicated Heads in the Multiple Heads Type field in the Head Editor. Duplicated elements always start from Element 1. All elements that are not duplicated are set to 0 (Main Element). For heads that have both a main element and a repeated element - e.g. a master RGB and then repeated RGB for each element then the master RGB is element 0 and the repeated RGBs start from 1.

The Element field shows elements that are independent from Element 1 as Ind 2, Ind 3 etc. . . , whilst heads that are not marked as Indepenent are shown as Dup 2, Dup 3, etc. . .

24.7.5 Independent

Elements 2 and above of Duplicated Heads can be set as Independent.

When set to "Ind" all elements act independently and are made active in the programmer and programmed into Cues.

When set to "Dup" elements 2 and above are duplicated from element 1 when they are not explicitly in the programmer or active on a playback.

This field is hidden for element 0 and element 1 and they are automatically independent from each other.

When set to "Ind" then the "Select" field also becomes active and defaults to "yes".

24.7.6 Select

Some fixtures have multiple elements that operate completely separately to each other - for example centre RGB cells, and then an outside eye candy RGB ring. For these fixtures it is possible to make it so that the the additional, less important elements are not selected by default and therefore are only programmed when explicitly requested.

The Select field for channels for these additional elements should be set to "no". The channels will not be selected (and hence programmed) unless explicitly selected using the dot (.) syntax.

24.8 Ranges View

Chan	Type	Name	Min	Max	Auto Pal	Icon	Dep Chan	Dep Val
013 (Gobo 1)	Fixed	Open Gobo	000	009	1			
013 (Gobo 1)	Index	Gobo 1-1	010	013	1			
013 (Gobo 1)	Index	Gobo 1-2	014	017	1			
013 (Gobo 1)	Index	Gobo 1-3	018	021	1			
013 (Gobo 1)	Index	Gobo 1-4	022	025	1			
013 (Gobo 1)	Index	Gobo 1-5	026	029	1			
013 (Gobo 1)	Index	Gobo 1-6	030	033	1			
013 (Gobo 1)	Rotate	Gobo 1-1 R	034	037	1			
013 (Gobo 1)	Rotate	Gobo 1-2 R	038	041	1			
013 (Gobo 1)	Rotate	Gobo 1-3 R	042	045	1			
013 (Gobo 1)	Rotate	Gobo 1-4 R	046	049	1			
013 (Gobo 1)	Rotate	Gobo 1-5 R	050	053	1			
013 (Gobo 1)	Rotate	Gobo 1-6 R	054	057	1			
013 (Gobo 1)	Shake	Gobo 1 Shake	058	069	0			
013 (Gobo 1)	Shake	Gobo 2 Shake	070	081	0			
013 (Gobo 1)	Shake	Gobo 3 Shake	082	093	0			

This view defines the ranges for channels that use specific values to access functions such as colour and gobo wheels, shutter channels and control channels. Ranges can be set up at any time regardless of whether heads of the type have been patched. The range data becomes immediately available. If the head has been patched then you can capture the minimum and maximum value fields from the programmer.

Ranges can be added using the Insert soft button and deleted using the Remove Button (press twice to Remove).

For each range you specify the channel number (starting at 1), the range type, the range name and the minimum and maximum DMX values for the range. The minimum and maximum values can be the same value if required.

The range type field is used to specify the function of this range so that MagicQ and MagicVis can recognise the features of the head. The range types are particularly used in visualisation.

The Auto Palette field indicates whether the range can be used to build Palettes. When a Head has no Palettes specified for a particular channel then it can try and generate them from the range information. Up to 20 Auto Palettes are supported per channel. Set this value to 1 for a specific channel function such as a Cone Gobo on a gobo wheel or a larger value for a graded parameter such as the rotate speed on a Gobo Rotate channel. The sum of all the Auto Palette fields for a particular channel should not exceed 20.

The Icon field is the icon displayed in the relevant Windows and soft buttons. Double click to select an icon from the large MagicQ icon library. The icons selected in the ranges are used by MagicVis for visualising gobos. For prisms select from icon category 50.

The Dep Chan and Dep Val fields enable ranges to depend on other ranges. This enables ranges to be defined for heads with attributes that change their function depending on the value of another attribute – such as FX parameters that depend on the particular FX chosen. The range is only valid when the dependent channel (Dep Chan) is set to the range specified in the dependent value (Dep val).

24.8.1   Importing Ranges

Ranges can be imported from a .csv format file using the Import Ranges button. The data should be organised in the .csv file in the same column order as the fields in MagicQ.

<chan>,<name>,<min>,<max>,<auto pal>,<icon>,<dep chan>,<dep val>

24.8.2   Capturing Ranges

To capture the minimum and maximum values from the programmer you must first insert a new range and select the channel number you are interested in. Then using the Group, Position, Colour, Beam, windows in the usual way set the minimum value for the attribute. Back in the Ranges View, move the cursor to the minimum field and then press the Capture Range soft button. In a similar way, set up the maximum value in the programmer, move to the maximum field in the Ranges View, and then press the Capture Range soft button.

24.8.3   Attribute Test

The "Attr test" mode enables the range to be tested on any patched heads of this type. In this mode moving up/down outputs the Range to all patched heads of this type. The value output is the middle point between the minimum and maximum – except when the cursor is placed in the minimum or maximum fields – in which case the actual minimum or maximum value is output.

24.9   Palettes View

This view defines the default palettes that are loaded when the head is patched. Palettes can be set up at any time regardless of whether heads of the type have been patched. The palette data is immediately available for patching new heads. When you have changed Palettes in the Head Editor you can regenerate palettes for heads that are already patched by using the "Regen Palettes" soft button.

For each Palettes you specify the type (press Enter to swap between the types), the name and the number of channels that make up the Palette. Then for each channel you specify the channel number and the level for that channel.

Palettes can be added using the Insert soft button and deleted using the Remove Button (press twice to Remove).

The Icon field is the icon displayed in the relevant Windows and soft buttons.

24.9.1 Importing Palettes

Palettes can be imported from a .csv format file using the Import Ranges button. The data should be organised in the .csv file in the same column order as the fields in MagicQ.

<palette type>,<name>,<num of chans>,<icon>,<chan 1>,<val 1>,<chan 2>,<val2>,...

The icon field is normally a decimal number but MagicQ will accept icons numbers in hexadecimal if they have0h or 0x at the start of the number.

24.9.2 Capturing Palettes

To capture the palette value fields from the programmer you must first insert a new palette and configure the channel numbers you are interested in. Then using the Group, Focus, Colour, Beam windows in the usual way set up the palette values. Back in the Palettes View press the Capture Palette soft button.

24.9.3 Attribute Test

The "Attr test" mode enables the palette to be tested on any patched heads of this type. In this mode moving up/down outputs the Palette to all patched heads of this type.

24.10 Macros View

This view defines the macros that are available to control special features of the head such as turning the lamp on and off and resetting motor channels. Every head should have a macro named "Lamp On", "Reset" and "Lamp Off". MagicQ uses these macros in short cut keys for these functions.

Name	Chans	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	Steps	D1	D2	D3	D4	D5	D6	D7	D8
Lamp On	1	006										2	3.0s	133	0.0s	000				
Lamp Off	1	006										2	5.0s	235	0.0s	000				
Reset	1	006										2	3.0s	133	0.0s	000				
Fan Max	1	006										1	0.0s	000						
Fan Min	1	006										1	0.0s	127						
End																				

Each macro has a name and a number of channels. Up to 10 channels can be controlled by each macro.

The macro data consists of fields to specify which channels are used (C1 to C10) and then the macro step data. The macro step data consists of the number of steps followed by data fields.

The number of steps indicates how many steps are required in the macro – normally there are just two steps – the initial step to set the correct levels and hold them for a time (e.g. 5 seconds) and then a step that returns the channels to their default values.

The step data is specified in the fields D1. . . Dx. For each step there is a time for the step, followed by the values for each of the channels used for the step.

24.11   User Icons

It is possible to load user icons from bitmap and jpeg files. In File Manager click on the .png or.bmp files you wish to make into icons. The icons will appear under the "User icons" icon class.

User icons are not stored in the show file, so when changing MagicQ systems it will be necessary to load the user icons onto each MagicQ console / MagicQ PC system. We would be pleased to add any user icons to the main icon library – please send them to support@chamsys.co.uk.

24.12   Heads with multiple elements

MagicQ includes support for heads with multiple elements (e.g. RGB pixels), so that they can be patched in one action rather than patching the individual elements separately. When these fixtures are patched they continue to be controlled as separate heads with all the associated benefits. The head simply contains a count of the number of elements.

Heads that consist of a single general element in addition to a repeated element are also supported. In these cases two different heads are required – one for the general element and one for the repeated element. The head for the general element is used for

patching, and it references the repeated element to enable it to be patched automatically. It is possible to set the Multiple Heads Type field to specify whether the repeated elements are patched before or after the general element.

In the Patch Window, View Heads only the head general element is shown – however testing, moving, copying and setting the head no, affects all the elements in the head. The View Chans view continues to show the individual channels.

Heads with multiple elements can be inserted into the grid in one go. The Width, Height and Order fields in the head specify how the repeated elements are arranged – for example the picture below shows Color Web 125 inserted into a grid. Color Web 125 has a strange DMX order with individual elements having a "L" shape rather than a square or rectangular shape.

```
OUTPUTS
1   2   3   4   5    163 162 161  321 322 323  324 325  483 482 481  641 642 643  644 645  803 802 801
10  9   8   7   6    164 165 166  330 329 328  327 326  484 485 486  650 649 648  647 646  804 805 806
11  12  13  14  15   169 168 167  331 332 333  334 335  489 488 487  651 652 653  654 655  809 808 807
20  19  18  17  16   170 171 172  340 339 338  337 336  490 491 492  660 659 658  657 656  810 811 812
21  22  23  177 176  175 174 173  341 342 343  497 496  495 494 493  661 662 663  817 816  815 814 813
26  25  24  178 179  180 181 182  346 345 344  498 499  500 501 502  666 665 664  818 819  820 821 822
27  28  29  187 186  185 184 183  347 348 349  507 506  505 504 503  667 668 669  827 826  825 824 823
32  31  30  188 189  190 191 192  352 351 350  508 509  510 511 512  672 671 670  828 829  830 831 832
33  34  35  36  37   195 194 193  353 354 355  356 357  515 514 513  673 674 675  676 677  835 834 833
42  41  40  39  38   196 197 198  362 361 360  359 358  516 517 518  682 681 680  679 678  836 837 838
43  44  45  46  47   201 200 199  363 364 365  366 367  521 520 519  683 684 685  686 687  841 840 839
52  51  50  49  48   202 203 204  372 371 370  369 368  522 523 524  692 691 690  689 688  842 843 844
53  54  55  209 208  207 206 205  373 374 375  529 528  527 526 525  693 694 695  849 848  847 846 845
58  57  56  210 211  212 213 214  378 377 376  530 531  532 533 534  698 697 696  850 851  852 853 854
59  60  61  219 218  217 216 215  379 380 381  539 538  537 536 535  699 700 701  859 858  857 856 855
64  63  62  220 221  222 223 224  384 383 382  540 541  542 543 544  704 703 702  860 861  862 863 864
65  66  67  68  69   227 226 225  385 386 387  388 389  547 546 545  705 706 707  708 709  867 866 865
74  73  72  71  70   228 229 230  394 393 392  391 390  548 549 550  714 713 712  711 710  868 869 870
75  76  77  78  79   233 232 231  395 396 397  398 399  553 552 551  715 716 717  718 719  873 872 871
84  83  82  81  80   234 235 236  404 403 402  401 400  554 555 556  724 723 722  721 720  874 875 876
85  86  87  241 240  239 238 237  405 406 407  561 560  559 558 557  725 726 727  881 880  879 878 877
90  89  88  242 243  244 245 246  410 409 408  562 563  564 565 566  730 729 728  882 883  884 885 886
91  92  93  251 250  249 248 247  411 412 413  571 570  569 568 567  731 732 733  891 890  889 888 887
96  95  94  252 253  254 255 256  416 415 414  572 573  574 575 576  736 735 734  892 893  894 895 896
```

It is possible to swap the repeated elements of a multiple element head around using the Swap field in the View Heads view. This is very useful, if for instance a LED batten has been rigged upside down.

When a head containing multiple elements is patched, a different head number will be allocated to each element. This enables each individual element to be controlled from the keypad and from the grid views. For heads that consist of a general element and repeated elements the general element will be allocated the base head number and the repeated elements will have increasing head numbers from the base element.

The Head Editor now shows the full channel list in View Chans including the repeated channels.

24.12.1   Patching Heads with Duplicated attributes

From versions 1.6.6.2 MagicQ has improved support for Heads with more than one element of an attribute - for example a LED Wash light with 5 RGB elements or a club light with 2 tilt channels. Heads set as "Duplicated" now allow access to the individual elements and allow FX to be run over the individual elements.

By default the duplicated elements are treated as one element - so the 2nd, 3rd and 4th elements just copy the programming from the 1st element. This ensures that the Head is simple to use and appears to act as if it only had a single element.

When locating, selecting palettes and using soft buttons or encoders on attribute parameters only the first element is made active in the programmer and therefore only the first element is recorded into Cues. When the Cues are played back then MagicQ copies the calculated values from the 1st element to the other elements.

Individual elements can be selected using the dot (.) operator. For example to select the 1st element only, enter .1 NEXT HEAD or .1 @@. This sub selects only the 1st element. Pressing returns the selection to all elements. When a sub selection is active on a Duplicated Head then the specific elements will be made active in the Programmer and subsequently recorded into Cues.

When the Cues are played back MagicQ uses the programming from the Cue for elements that have been recorded in to the Cue, only copying for elements that have not been recorded.

All elements can be selected if you wish to apply split times across all elements or to include all elements in a FX. Select all elements using the syntax .> @@

Palettes values are by default created for the first element. When a sub selection is in operation MagicQ will use the value in the Palette for the first element if there is no specific palette entry for the element selected - this avoids the need for creating separate palette information for each element. When a Palette is updated it will update Cues that use that Palette from the sub element if it exists in the Palette - otherwise it will use the data from the 1st element - ensuring that the Cue gets updated as expected.

When selecting FX for channels on a Duplicated Head that have multiple elements MagicQ prompts three options for applying the FX:

- Dup Elements

- Include Elements

- Use Elements

Dup Elements treats the elements as duplicated - i.e. all elements in the head do exactly the same thing. This is the default operation which treats all the elements in a head as one. In software prior to v1.6.5.8 this was the only supported mdoe of FX for Duplicated Heads.

Include Elements includes all the elements in the FX enabling separate control of each of the elements as if they were separate heads. For example if you apply a FX to 4 heads each with 3 elements then the FX would be spread over the 12 elements.

Use Elements runs the FX within the Heads, with all Heads performing the same FX synchronously across their elements. This is the same as Include Elements except that MagicQ automatically sets Parts to the number of elements within the heads causing all Heads to have the same offset.

Heads are set as Duplicated Heads in the Multiple Heads Type field in the Head Editor. In the Head Editor, View Chans the element field (cursor right) is used to indicate the different elements. Duplicated elements always start from Element 1. All elements that are not duplicated are set to 0 (Main Element). For heads that have both a main element and a repeated element - e.g. a master RGB and then repeated RGB for each element then the master RGB is element 0 and the repeated RGBs start from 1.

24.12.2   Choosing Multi elements or Duplicated elements

In order to simplify the personality libraries, in early 2018 ChamSys converted all multi element heads to Duplicated elements. We recommend that all new personalities that have multiple elements use Duplicated elements.

In the Head Editor it is possible to convert between Multi elements and Duplicated elements.

For multi element heads, in Edit Head, View Chans press SHIFT and the soft button CONV TO DUP.

For duplicated heads, in Edit Head, View Chans press SHIFT and the soft button CONV TO MULTI.

Note that these conversion functions can not be used if heads of the type are already patched in the show file - save as a different mode before attempting the conversion. If you then wish to convert patched heads then perform a morph operation.

24.12.3   Creating Duplicated Heads

The core of the fixture should be created in the same way as a fixture with only single elements.

Then in the Head Editor, View General, Multi set the option "Multiple Heads Type" to "Duplicate."

Set the width and height appropriately ignoring the main element - so for example if an LED bar has a main element and 5 multi elements, set the Width to 5 and the Height to 1.

In Head Editor, View Chans set the element number for each channel. For attributes that are only used once in the fixture the element should be left at "Main". Attributes that are used more than once should be set to element 1,2,3 etc. . .

Elements 2 and above can also have the Independent and Select fields set.

For moving heads normally the Independent field should be set to "No" - this allows the head to operate with a single RGB control without having to program all the elements into all Cues.

For fixed LED bars the Independent field may be set to "Yes" - this means all the duplicated elements will operate independently.

For elements that should not be selected by default (e.g. eye candy LED rings) set Select field to "No".

24.13   Custom gel libraries

MagicQ supports user custom gel libraries. User libraries are named usergels1.csv to usergels5.csv and must be stored in the show/heads folder. The files consist of four parameters separated by commas

<short name>,<long name>,<gel number>,<gel BGR value in hexadecimal>

The gel number is a number between 1 and 999.

For example, Lee 106 is represented as

L106 Primary Red,Strong red effect cycloramas,106,3200F0

When MagicQ starts it loads the standard gel libraries and then looks for the five user gel libraries and if present loads them. Changes to the library files will not take place until restarted. The gel libraries are not stored in the show file so will need to be copied onto all MagicQ systems including remote PCs.

Chapter 25

Curve Editor

MagicQ includes a curve editor to allow users to create their own dimmer fade curves and effects curves. Curves are not specific to any head, they can be used on any head.

Note the Curve editor is not available on Compact consoles or Pro2010 consoles. User curves can be used on these consoles, but not edited.
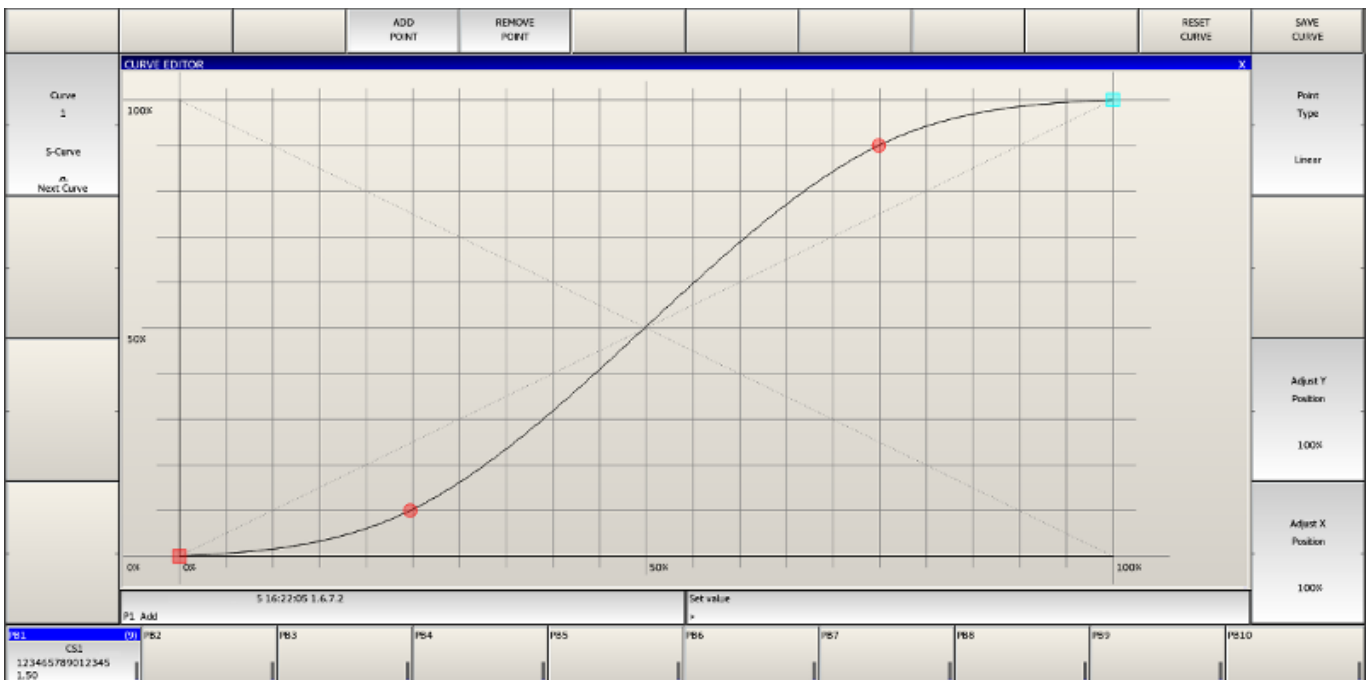
User Curves 1 to 10 correspond to the user dimmer curves that were supported in previous versions of MagicQ. These will still be automatically loaded from the user dimmer csv files (e.g. show\heads\dimmercurveuser1.csv) if they exist.

User Curves 1 to 20 can also be used in the FX Editor (FX Window, Edit FX) as part of FX steps. Select View Chans and set the Curve filed. This allows completely custom FX waveforms to be generated.

User Curves are saved within the show file and can be imported from other show files using Setup, Import Show, Advanced, and by deselecting all options except for "Import Settings". This will import show settings including macros and automations from the show file.

25.1   Creating a curve

In the Curve Editor Window (FX Window, Curve Editor) use wheel A to find an empty curve, then press ADD POINT to add new points to the curve, at least 2 points will be required. The first 2 points are automatically placed at the start and the end of

the curve. Additional points will be placed in between.

Curves can be saved into the show by pressing SAVE CURVE. RESET CURVE will return the curve to how it was last saved. Once the curve has been saved it will take effect.

Note the Curve editor is not available on Compact consoles or Pro2010 consoles. User curves can be used on these consoles, but not edited.

25.2   Editing a curve

Points can be moved around by either clicking on them and dragging them, or by clicking on them then using encoder wheel X and Y to move them around. By clicking and dragging it is possible to select more then one point at a time and move it around.

Pressing the Y encoder button will cycle the point between 100%, 0% and a position midway between the first and last points. To specify an exact position type the required percentage then press Set and the X or Y encoder button.

To remove a point first select it by clicking on it then press REMOVE POINT. If more than one point is selected they will all be removed.

Points can either be *Linear* or *Spline*. Spline points create a curved join between 2 lines while linear points create a sharp join between 2 lines. Select a point then press encoder E to change the type of a point.

To name a curve first type type the required name then press Set, then encoder A.

25.3   Setting a dimmer curve

To use a curve as a dimmer curve got to the Patch Channels Window (Patch Window, View Chans). There is a column in the table called *Curve*. Select the Curve column for the fixtures and press Set. The first user created curve will be called *User 1* or the name provided.

Chapter 26

FX Editor

MagicQ includes a FX editor added to enable users to create their own waveform FX and to edit existing waveform FX. The FX editor edits the core MagicQ waveform FX stored on the console – distinct from the combination FX stored in the FX Window. Waveform FX are not specific to a particular personality type – they can be used on any Head with the required attributes.

VIEW GENERAL	VIEW CHANS			REMOVE FX	EXTRACT USER FX		CHOOSE FX	NEW FX	SAVE FX	SAVE AS

FX EDITOR	X
Parameter	Value
Number of attribs	2
Number of heads	1
Number of steps	4
Add mode	Normal
Random	No
Apply to any attribute	No
Default size	50%
Default speed	2.40s
Default xfade	Fade
Default spread	100% (even)
Default width	0%
Icon	
Use Palettes	None
Use FX Palettes	No
Use Width	No
Use Col Base	No
One Shot	No
Auto invert RGB	No

cpkultra 20 Jul 2014 17:33:51 1.6.5.4   Loaded FX
P1 Add   >

Changes made in the FX editor have immediate effect on all Cues that use the FX – for example changing the standard circle FX will affect all cues with circle. It also affects the FX stored on the console, so all changes will affect new shows made on the console.

MagicQ will not allow you to directly edit the inbuilt FX – you must SAVE AS to create a new FX before you make any changes in the FX Editor.

From v1.4.0.3 MagicQ FX supports any number of attributes in a Waveform FX –previous versions supported a maximum of 3 different attributes. Note that shows that use Waveform FX with more than 3 attributes will not run correctly on software prior to v1.4.0.3.

A MagicQ FX can store data for more than 1 head – so that for instance, you can make a FX with some heads perform circles in whilst others perform squares.

In the FX Editor Window (FX Window, Edit FX) it is now possible to extract the user FX from a show file to the console. Press the EXTRACT USER FX soft button.

It is possible to remove all user Waveform FX from a console. Press SHIFT + REMOVE USER FX.

26.1   View General

In View General you can configure properties for the FX. For FX that only use 1 attribute setting the "Apply to any attribute" enables the FX to be used on any attribute rather than being tied to a specific attribute such as dimmer.

Defaults can be set up for speed, size, spread and contrast. Setting contrast to snap forces the contrast for the FX to default to 0 – i.e. snap rather than fade. The contrast of a FX can be changed at any time during programming or playback.

The add mode determines the default for how the FX is added to the base values – the choices are NORMAL, PLUS, MINUS or ABS. When set to ABS, playbacks will ignore any base values for the channels and treat the FX values as absolute values – this is useful for generating FX based on absolute positions or on specific colours on a colour wheel.

26.2   View Chans

Each step in the FX consists of a value between 0 and 255 and a curve. The curve specifies how the level changes from one step to the next. The valid curves are:

0 – proportional fade 1 – sine fade 2 – cosine fade 3 – snap

The waveform for the complete FX is shown at the top. Moving up and down with the cursor to a different attribute or head shows the waveform for that attribute / head.
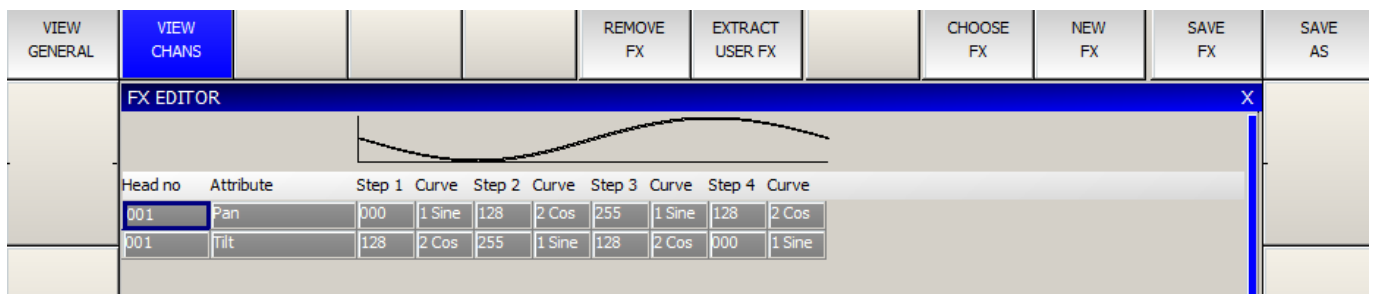
FX that have been recorded in a show, but that have not been stored onto the console can be extracted from the show by including the Cue that uses the FX. This will bring the FX into the FX Editor, and it can then be saved on the console.

26.3   Palette FX

In the FX Editor in View General, set up "Use Palettes" to be either "Pos", "Col" or "Beam". Then in View Chans, the values become Palette entries rather than absolute values.

Each step in the Waveform FX can use any of the first 256 Palettes.
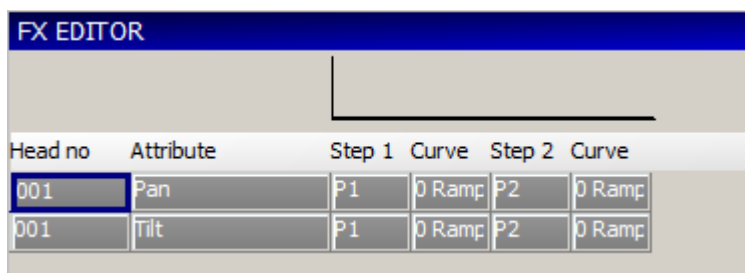
When applying a Palette FX if a Palette does not contain the specified attribute for a selected head then it will use the attribute from the first head in the Palette with that attribute. If that attribute is not contained in the palette at all then the default value for that attribute will be used.

It is possible to set a FX to ignore attributes that are not in any of the specified palettes by setting the "Ignore Unused Palettes" to "yes". This, for example, enables a 2 Col FX which contains all colour attributes to be applied to a fixture without the FX affecting the colour wheels. When running Palette based FX any attributes that are used by the FX but that do not have values in the Palette will have a zero FX applied. When this option is not set then behaviour is as in previous software - the FX uses values from similar fixtures within the FX, or if none uses the attribute default value.

Chapter 27

Network Manager (SnakeSys)

MagicQ supports a Window for managing SnakeSys network products including the SnakeSys B4, SnakeSys R4, SnakeSys T2 and SnakeSys R8.

The Network Manager (Setup, View DMX I/O, Net Manager) can be used for monitoring and configuring SnakeSys products.

SnakeSys products can be configured in two different ways – in normal mode the product is configured from the front panel switches and buttons on the SnakeSys product. In ChamNet mode the switches and buttons are ignored and the product is configured from MagicQ.

27.1 Normal (non ChamNet mode)

If the SnakeSys product is set in a mode other than ChamNet Mode (such as Art-Net , ACN or buffer) then it is not possible to configure the interface from Net Manager. However, the device will still appear in Net Manager and it is possible to view its configuration.

27.2 ChamNet Mode (MQ Net)

In ChamNet mode each SnakeSys product on the network is considered to be a different interface with a different ID in the range 0 to 99. All interfaces should have different IDs.

The ID is set on the SnakeSys product using either the control panel or rotary switches.

The SnakeSys product can be configured using the CONFIG DEVICE soft button and selecting an appropriate profile.
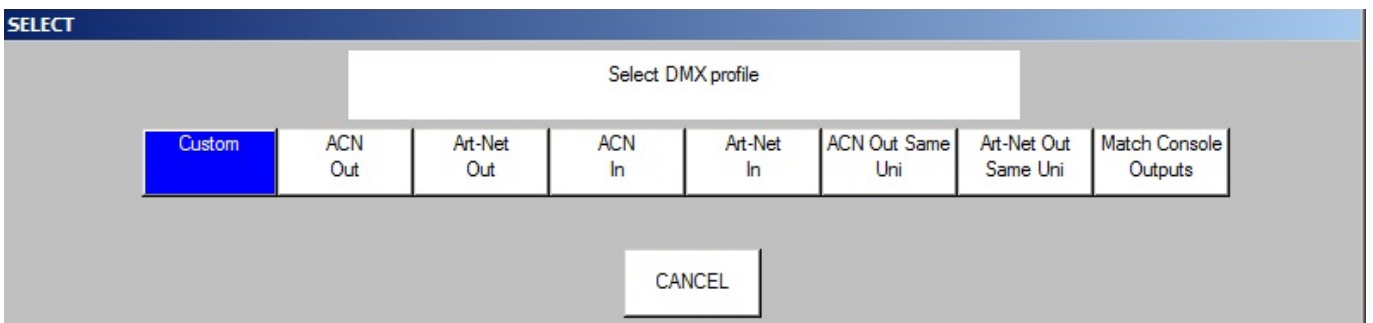
The profiles act as a starting point – once a starting profile has been chosen, the detailed configuration can all be set individually for each port by changing to the VIEW PORTS view.

VIEW DEVICES	VIEW PORTS			CLOSE WINDOW			INSERT DEVICE		CONFIG DEVICE						

NET MANAGER

ID	Dev Name	Port	Port Name	Cons Uni	Config	Protocol	Uni	Length	Rate	Frame	MAB	Break	Status
CH 0	Box1	1		U1 Out	Out	Art-Net	Art 0-0	512	33Hz	56us	12us	176us	Up 0:04:00
		2		U2 Out	Out	Art-Net	Art 0-1	512	33Hz	56us	12us	176us	Up 0:04:00
		3		U3 Out	Out	Art-Net	Art 0-2	512	33Hz	56us	12us	176us	Up 0:04:00
		4		U4 Out	Out	Art-Net	Art 0-3	512	33Hz	56us	12us	176us	Up 0:04:00
		5			None	None		512					–

The rate, frame, MAB and Break timing can be set for each interface – the timings affect all ports on the interface.

When configured as Outputs the ports can be configured to output the same or different Art-Net / ACN universes.

The Cons Uni field shows the console universe on MagicQ that is outputting the data that the port is trying to read. If no console universe is set to output on that port then the field is blank.

At any time you can revert back to a standard profile by pressing the CONFIG DEVICE soft button – this will show the list of DMX profiles.

27.3   Upgrading SnakeSys firmware

SnakeSys product firmware can be firmware upgraded from MagicQ software - the latest MagicQ software contains the latest firmware for all SnakeSys products - this can be found in the firmware folder under on the installation.

ChamSys recommend not attempting a firmware update on SnakeSys products in a critical show environment.

Download the latest MagicQ software from the ChamSys download site. In order to upgrade the full range of SnakeSys devices MagicQ must be running software version 1.6.0.5 or higher.

http://chamsys.co.uk/download

- Connect the SnakeSys device to either a MagicQ Console or MagicQ PC/Mac System via a direct network cable. It is advisable to remove all other equipment from the network.

- SnakeSys devices ship with a default IP address in the 2.X.X.X range, in order to update the firmware on your device MagicQ must also be set to an IP address within this range.

- Set the SnakeSys device to be in ChamNet/MagicQ mode

- In Net Manager, put the cursor on the device to be upgraded and press UPGRADE DEVICE.

- Choose the required firmware version. In older versions of MagicQ you need to specify the version number of the firmware.

- Do not power off the interface whilst the firmware is being upgraded. When MagicQ reports "Device restarted successfully" the upgrade is complete.

VIEW DEVICES	VIEW PORTS		CLOSE WINDOW			CONFIG DEVICE			INSERT B4 MK1		UPGRADE DEVICE

NET MANAGER   X

ID	Name	Status	Type	Config	Uni	IP Address	Subnet Mask
CH 99	SnakeSys R4	Detected	Box B4 ChamNet	Custom	Art 0-0	2.9.200.6	255.0.0.0

If you are sent a newer firmware file by ChamSys support then copy the file into the firmware folder in the MagicQ installation. To install it onto a MagicQ console put the file onto a USB stick, then in MagicQ go to Setup, File Manager. Select USB DRIVE. Press COPY and select the file as the soruce to copy. Then select the destination, by selecting HARD DRIVE, UP DIR, and select the firmare folder. Press the "." item to copy to. Then follow the procedure above.

The firmware has the filename firmware_XXXX_YYYY where the XXXX is the product code and YYYY is the firmware version number. The product codes are:

- SnakeSys B4 334A

- SnakeSys R4 342A

- SnakeSys T2 419B

- SnakeSys R8 330A

27.4   Older ChamSys 4 Port Ethernet interfaces

Older Chamys 4 Port Ethernet Interfaces and the SnakeSys B4 interfaces manufactured prior to 2013 (serial numbers with last 4 digits less than 0268) have no storage for configuration data and so when in ChamNet mode they always get their configuration from MagicQ every time they are powered up.

When the interface starts up it will recognise that it is in MQ Mode and then will search on the network to find a MagicQ system that can give it a configuration. The interface will not output or input DMX data until it has received configuration from a MagicQ system.

The MagicQ system stores the configuration information for all these older interfaces as console settings. In View Ports, press the INSERT B4MK1 button to add a new interface. MagicQ will present a list of default profiles for configuring the interface.

An interface can be removed by putting the cursor on the line of the interface and pressing REMOVE.

If there are multiple MagicQ consoles on the network, then only the master one (as per Hot Takeover) will provide configuration information to the interfaces.

Newer SnakeSys B4s and all other SnakeSys products will appear automatically in the list and do not need to be inserted or removed.

27.5   Output Setup

In order to use a SnakeSys product with a MagicQ system the MagicQ system must be set up in Setup, View DMX I/O to output or input universes over the network

When outputing from the SnakeSys product set up MagicQ universes with Output type of Art-Net or ACN with the Out Uni set to the Art-Net or ACN universes that the SnakeSys device is set to decode.

For inputting DMX from the SnakeSys product set up MagicQ unvierses with Input type of Art-Net or ACN with the In Uni set to the Art-Net or ACN universes that the SnakeSys device is set to generate.

Chapter 28

Remote Device Management (RDM)

28.1   Introduction

Remote Device Management (RDM) is an extention to the DMX512 protocol that allows a lighting console to detect all the RDM-enabled lighting fixtures plugged into a DMX line, and remotely change their settings (e.g. DMX address and mode). It is designed to be "faster than the ladder"; providing a quicker and safer way of changing fixture settings without having to physically use the menu on the fixture.

RDM-enabled fixtures can co-exist with older non-RDM fixtures. RDM uses the same pair of wires in the DMX cable as regular DMX, avoiding the need to replace any cabling. If you are using DMX splitters this will stop RDM from working unless the splitters are RDM aware.

> **Important**
> Currently only the ChamSys MQ50 (2019, MQ70 (2019) and MQ80 consoles support RDM via direct DMX ports. ; All other MagicQ consoles support RDM via a 3rd party RDM network node which supports RDM over Art-Net, and a minimum MagicQ version of 1.7.9.4.

> **Warning**
> When doing any of the RDM operations described in this chapter, e.g. discovering devices and changing settings, the DMX output rate will reduce to allow for the RDM data. Addtitionally, some fixtures which do not properly comply with the DMX specification may flicker. MagicQ does not send out RDM data in the background, only when you are using the *VIEW RDM* window.

28.2   Discovering and configuring devices

This will find a list of all RDM-enabled fixtures that are plugged into RDM-enabled Art-Net nodes on the network.

1. Go to *SETUP → VIEW DMX I/O → NET MANAGER → VIEW RDM*

2. Click on *DISCOVER ALL*

3. After a few seconds you should see devices appear

4. You may only see the UID of the device; it can take a bit longer to see the rest of the information. If MagicQ fails to fetch all the information (you see empty boxes), click on *GET INFO* to force this.

If you do not see anything, check that your RDM-enabled Art-Net node appears in the *VIEW ART-NET* window.

VIEW ART-NET	VIEW SACN	VIEW RDM		DISCOVER ALL	GET INFO	AUTO ADDRESS	CREATE HEAD	PATCH RDM HEAD

NET MANAGER (2 devs)
Temperature=33degC

Uni	Type	RDM Uni	Addr	Chans	Per	Tot	Manufacturer	Model	Mode	UID	Device Model ID
1		0	1	47	3	5	CHAUVET PROFESSIONAL	ROGUE R1 FX-B	MODE 3 - 47CH	21A4-A30810F6	00AE
1		0	48	47	3	5	CHAUVET PROFESSIONAL	ROGUE R1 FX-B	MODE 3 - 47CH	21A4-A308116C	00AE

Some of the columns are editable using the built-in keypad (e.g. DMX address and mode).

COLUMNS

Uni
MagicQ universe number. (Read only)

Type
Shows if this is running over Art-Net or ACN. (Read only)

RDM Uni
If this is running over Art-Net, this shows the Art-Net universe. (Read only)

Addr
DMX address (1 - 512). (Editable)

Chans
Number of DMX channels this fixture uses in its current mode. (Read only)

Per
Mode/personality of the fixture (1+). This is editable; double click to show a list of different supported modes.

Tot
Number of modes/personalities supported by this fixture. (Read only)

Manufacturer
Manufacturer of the fixture. (Read only)

Model
Model of the fixture. (Read only)

Mode
Name of the currently selected mode/personality. (Read only)

UID
This is a 12 digit hexadecimal number that is unique to this device. It acts in a similar way to a MAC address or IP address, allowing the RDM protocol to ensure messages can be sent to specific devices. The first four digits of the UID is also known as the "ESTA Manufacturer ID" assigned to that manufacturer. (Read only)

Device Model ID
A four digit hexadecimal number which uniquely identifies the model of the fixture for that manufacturer. (Read only)

28.2.1   Configuring devices

DMX Address
You can press the *AUTO ADDRESS* soft button to automatically address all the fixtures in the list, starting at 1 and incrementing based on the channel count of each fixture.
Alternatively, you can manually change the *Addr* column using the keypad to an address in the range 1 - 512.

Mode/personality
Modes are numbered continuously from 1 upwards. The number of modes is shown in the *Tot* column. Use the *SET* key or double click an entry in the *Per* column to show a list of modes and their names to select from.
Alternatively, you can use the keypad to type in the mode number.
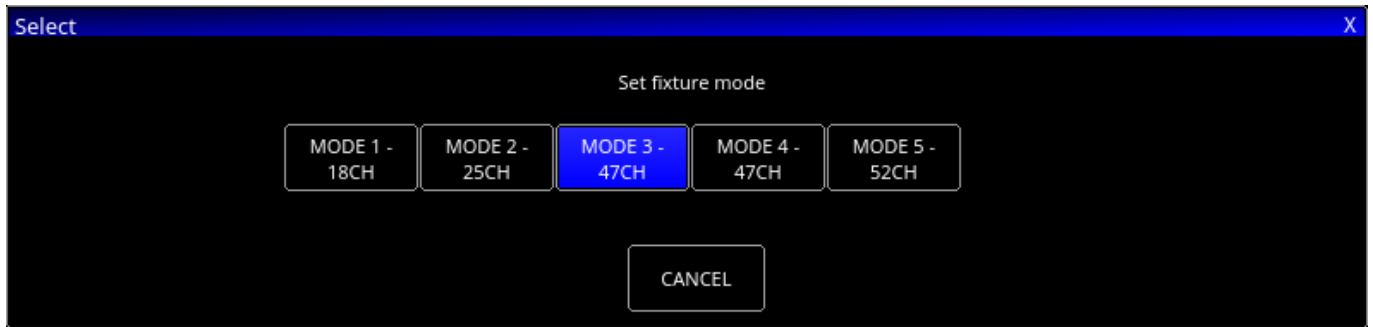
28.2.2 Identifying devices

The RDM identify command forces a fixture to output light. This is usually a flashing white light or continuous pan, tilt and colour scroll. This allows you to match up the devices you are seeing in the *VIEW RDM* window with physical devices on the lighting rig, similar to the *Head Test* feature in the *PATCH* window.

In the *VIEW RDM* window, click on encoder C (*RDM Test*), and use the arrow keys to scroll down the list the devices. The currently selected device will be sent the RDM identify message and highlighted red to show it is in test mode.

28.2.3 Sensors

Some RDM fixtures support sending sensor information back to the console, for example LED temperature and power consumption. If the currently selected device has any sensors they will be displayed at the top of the window.

28.3 Auto patching

Pressing the *PATCH RDM HEAD* soft button will patch the currently selected fixture into the show, using its current DMX address and mode. Holding shift and pressing *PATCH ALL RDM* soft button will patch everything in the list.

This tries to find a matching head file using the ESTA Manufacturer ID, Device Model ID and mode. If this fails it tries to match the manufacturer and model descriptions and channel count.

To improve the accuracy of the auto patching feature, you can add in the RDM information into the head file using the head editor. Three new fields have been added to the general view:

ESTA manufacturer ID (hex)
   This is a four digit hexadecimal number which uniquely identifies the manufacturer of the fixture. This can be found by taking the first four digits of the UID (e.g. in the *VIEW RDM* window image above, the UID of the first fixture is 21A4-A30810F6 so the ESTA ID is 21A4, which will be the same for all Chauvet fixtures). A complete list can be found on the ESTA website.

RDM device model ID (hex)
   This is a four digit hexadecimal number which uniquely identifies the model for this manufacturer. It can be found in the *Device Model ID* column or in the manual. In this example, device model ID 00AE will be the same for all Chauvet Rogue R1 FX-B fixtures.

RDM personality number
   This is a decimal number which represents the mode/personality reported by RDM. This can be found in the *Per* column and must be 1 or higher.

The ESTA Manufacturer ID, Device Model ID and Personality number are all reported by the fixture over RDM and together can be used to match a specific head file. You should not have more than one head file with all three of these fields the same.

HEAD EDITOR (Chauvet_RogueR1FXB_Advanced.hed) ERRORS Col Icons LO

Names	DMX	Params	Options	Multi	Media

Parameter	Value
Manufacturer Name	Chauvet
Short Name	RogueR1FXB
Mode	Advanced
Head Description	
Head File Version	1
Head File Save Date	Mon Apr 30 11:43:08 2018
ESTA manufacturer ID (hex)	21A4
RDM device model ID (hex)	00AE
RDM personality number	3
Capture Make	
Capture Name	
WYSIWYG Name	
Old file name	

Chapter 29

Networking of MagicQ systems

It is possible to have many different MagicQ consoles on a single network – either to allow control of many different fixtures, remote control or to provide master/slave configurations. For the purposes of networking a MagicQ PC/Mac system connected to a MagicQ Wing can perform exactly the same function as a MagicQ console.

MagicQ supports synchronisation (tracking) of playback between consoles to enable one or more consoles to follow the playback state of the master console.

MagicQ supports synchronising of show file data between consoles so that one console on the network acts as a master console with the master show file whilst slave consoles synchronise to that show data. Programming changes can be made on any of the consoles with the show file on the master being updated and then all other systems synchronised to the master.

MagicQ enables multiple consoles to be used on a network and shows on the separate consoles to be merged together and split up again. Zoning of universes enables consoles to be working on different universes all within the same network. MagicQ supports programming of a single show file from multiple consoles. MagicQ does not currently support programming by multiple users on a single console.

MagicQ supports automated copying of shows between consoles – for example to automatically keep a slave console updated with the same show that is running on the master console. This function can also be used as an "archiving system" to enable a PC to automatically grab the shows from the consoles on the network for back-up purposes.

29.1   Network addresses and host names

Each MagicQ console and MagicQ PC system should be configured with a different IP address and a different host name. On MagicQ consoles the IP address and host-name are set up in the Setup Window – on MagicQ PC systems the IP address and host-name are set up in Windows.

For example, a typical MagicQ network might look like this:
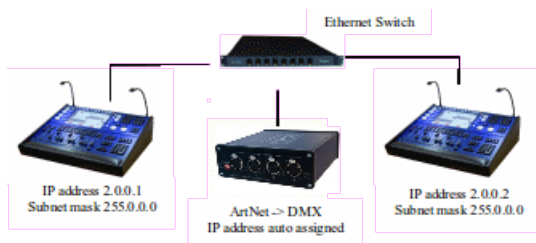
29.1.1   Setting IP addresses on a PC

In Windows the way you set the IP address of your network connection depends on the variant of Windows. On newer systems click Startm Control Panel, Netwrok and Sharing, Change Adapter Settings. On older systems click Start, Control Panel, Network Connections.
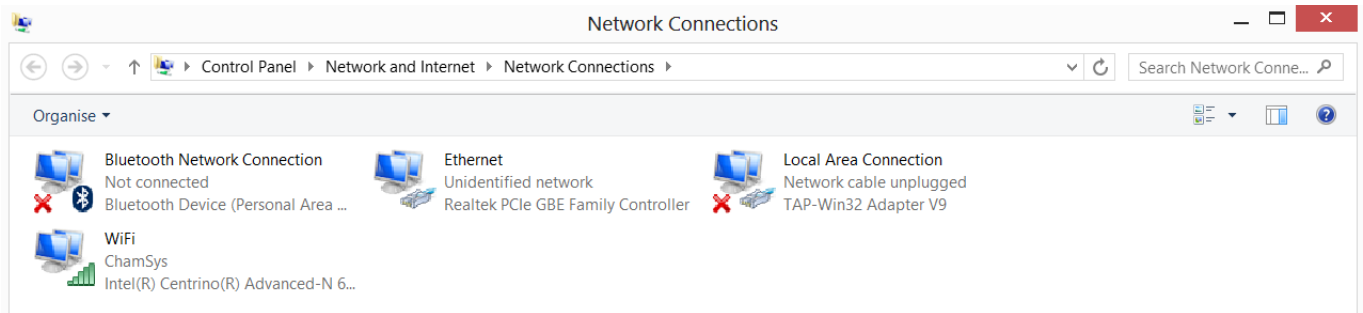
This should show a list of network ports including any fixed network ports and wireless ports. Right click the required network connection and select Properties. Choose Internet Protocol (TCP/IP).
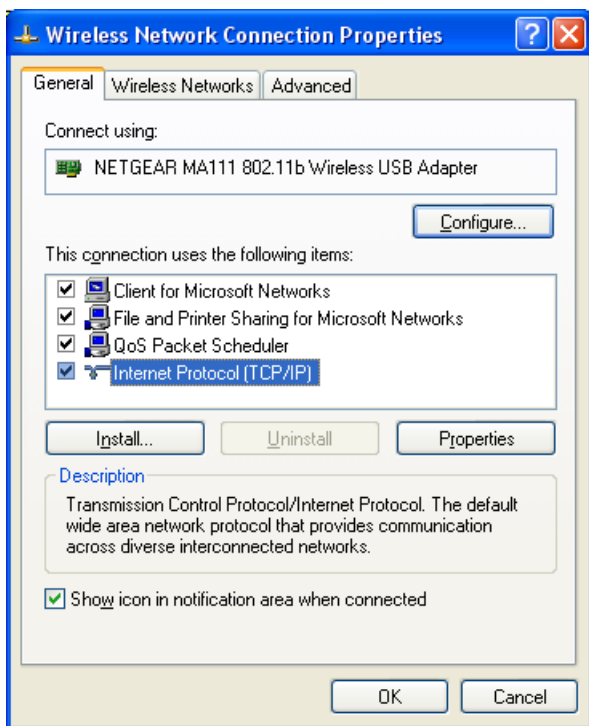
A dialog box should appear with the title Internet Protocol (TCP/IP) properties.
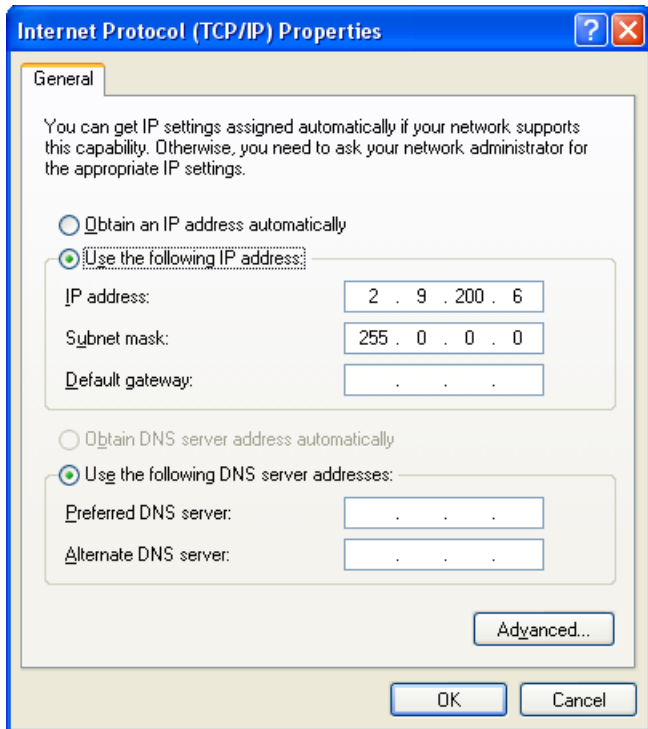
Choose "Use the following IP address". Enter the IP address (e.g. 2.0.0.10) and the subnet mask (e.g. 255.0.0.0). The default gateway address can generally be left blank. Click ok.

29.2   Checking IP addresses - Ping Test

MagicQ includes a ping test for resolving network problems. At the command line type ping followed by the IP address, e.g. to test network connection to IP address 2.0.0.3

ping 2.0.0.3

There is a short cut for use on the console keypad - enter three dots and then the IP address (no space)

. . . 2.0.0.3

Entering just . . . will ping the last tried IP address.

29.3   Checking consoles on the network

It is possible to check which MagicQ consoles are on the network by going to Setup, View System, View Status and selecting the Network tab.
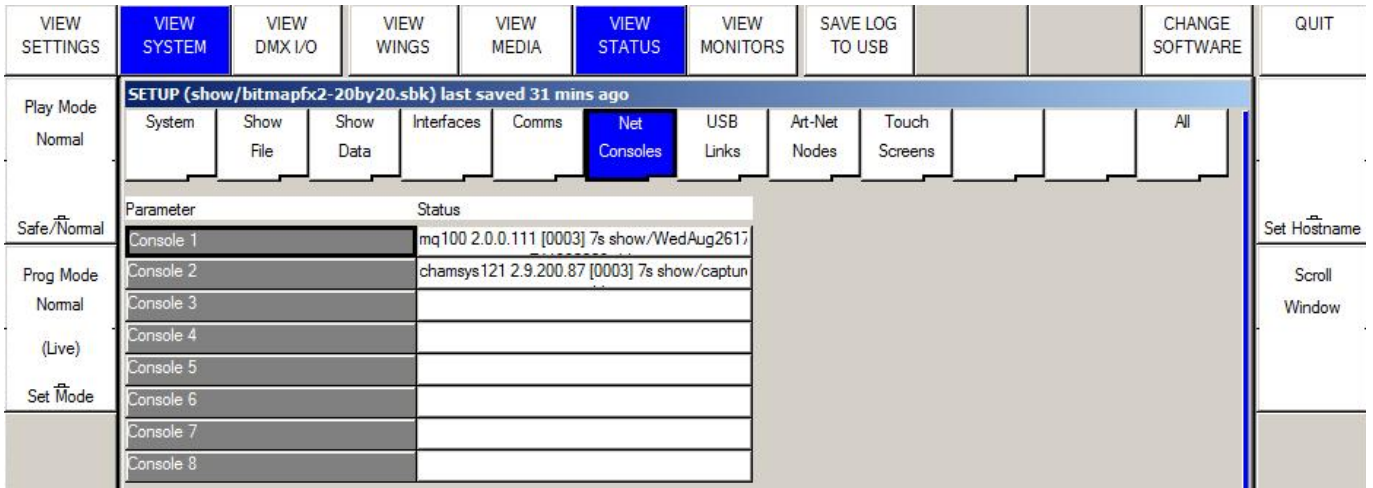
29.4 Grabbing shows from other consoles

It is possible to grab a show that is running on another console onto the current console. Press the Grab Show soft button in the View DMX I/O view of the Setup Window. Choose which console you wish to grab a show from. The show is copied from the other console to the show folder on this console, and the show is loaded into memory.

Grabbing shows from other consoles requires "Enable remote access" in the Setup, View Settings, Network Settings to be enabled on the consoles you are grabbing the show from.

29.5 Zoning

MagicQ supports Zones for controlling multiple rooms / areas in a venue. In Setup, View DMX/IO each Universe can be allocated to a Zone, and then all the Universes in a Zone can be controlled together – e.g. for enabling / disabling of a Zone.

Special items in the Execute Window to enable easy control of zones, including enabling and disabling zones and setting and clearing hot takeover in a zone. This allows complete control of a multi-room system directly from the Execute Window without users needing to access the Setup Window.

29.6 Setting up Network Sessions

Network Sessions allows easy configuration of multiple MagicQ consoles in a network:

- A MagicQ console is made part of a network session by simply setting the Net Session Mode and choosing a Net Session ID (0 is the default session).

- Within a network session only one MagicQ console is the Master, all others are Slaves to the Master console. Only the Master console outputs universes (ArtNet/ACN/Pathport) on the network. All universes that have patched heads and are set to an Output type of ArtNet, ACN or Pathport are controlled.

- It is possible at any time to change which console is the Master console by using the Take Control feature from the Slave console.

- The Net Session Mode can be set to "Sync Auto Takeover" or "Sync Manual Takeover" – when set to "Sync Auto Takeover" if the Master console fails then a Slave will automatically take over. In "Sync Manual Takeover" the user must manually use Take Control.

Within a network session

- All Slaves are automatically synchronised to the show file from the Master console.

- All Slaves can take control of part of the output via the selective channel control feature.

- All Slaves can edit show data including Palettes, Cues and Cue Stacks on the Master console.

- All Slaves are automatically synchronised to the playback state of the Master console. Each Slave can choose to Inhibit PB Sync, for example whilst programming.

It is possible to inhibit all network output from the consoles in the network session using the Inhibit All feature. All consoles outputs within the network session are disabled. It is still possible to change Master but the outputs remain disabled.

When the Network Session Mode is enabled (set to Manual Takeover or Automatic Takeover) then it is not necessary to set up any other settings relating to Hot Takeover, Playback Sync Type, Playback Sync IP, Playback Sync Port, Show Data Sync Type or Show Data Sync – MagicQ sets this automatically within the network session.

Just set Net Session Mode and Net Session ID for all the consoles you wish to be part of the session.

29.6.1   Manual Takeover
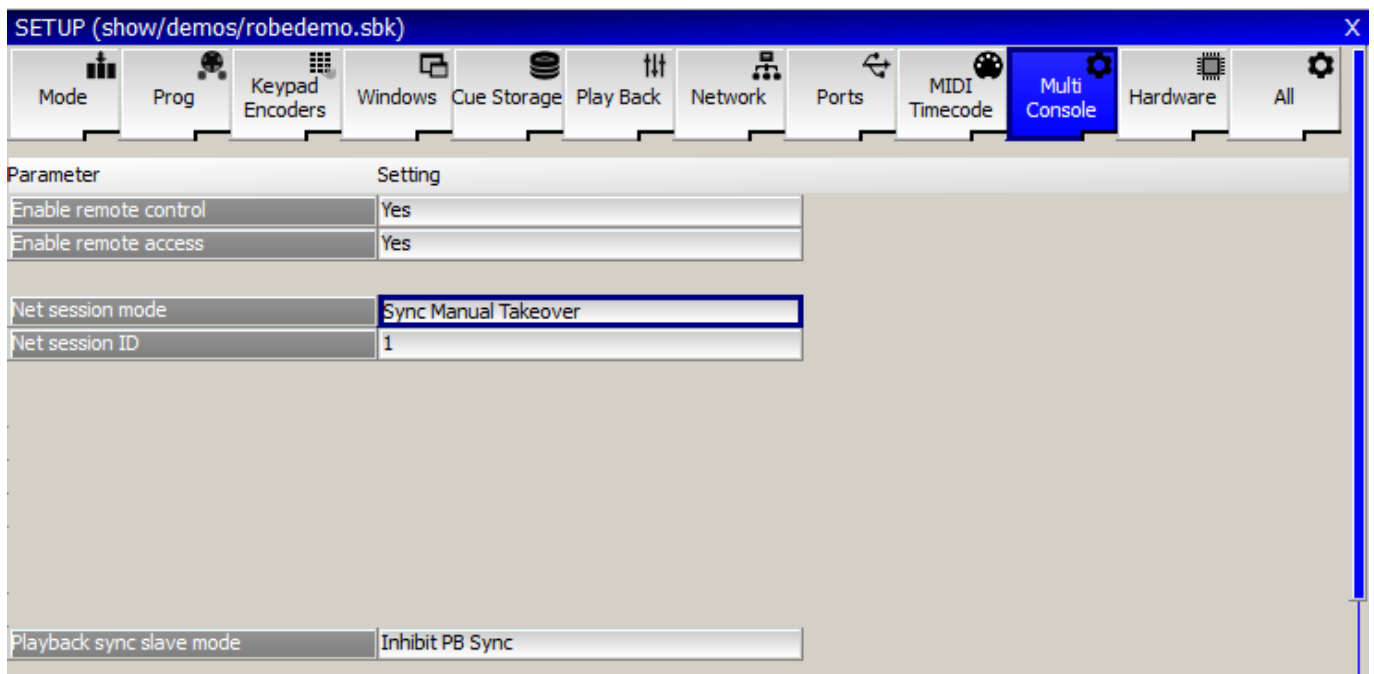
The first console to start becomes the Master. In Setup, View DMX I/O, Take Control and Release Control can be used to swap which console is the Master at any time. If you use Release Control, then you will need to also press Take Control on the other console.

29.6.2 Auto Takeover
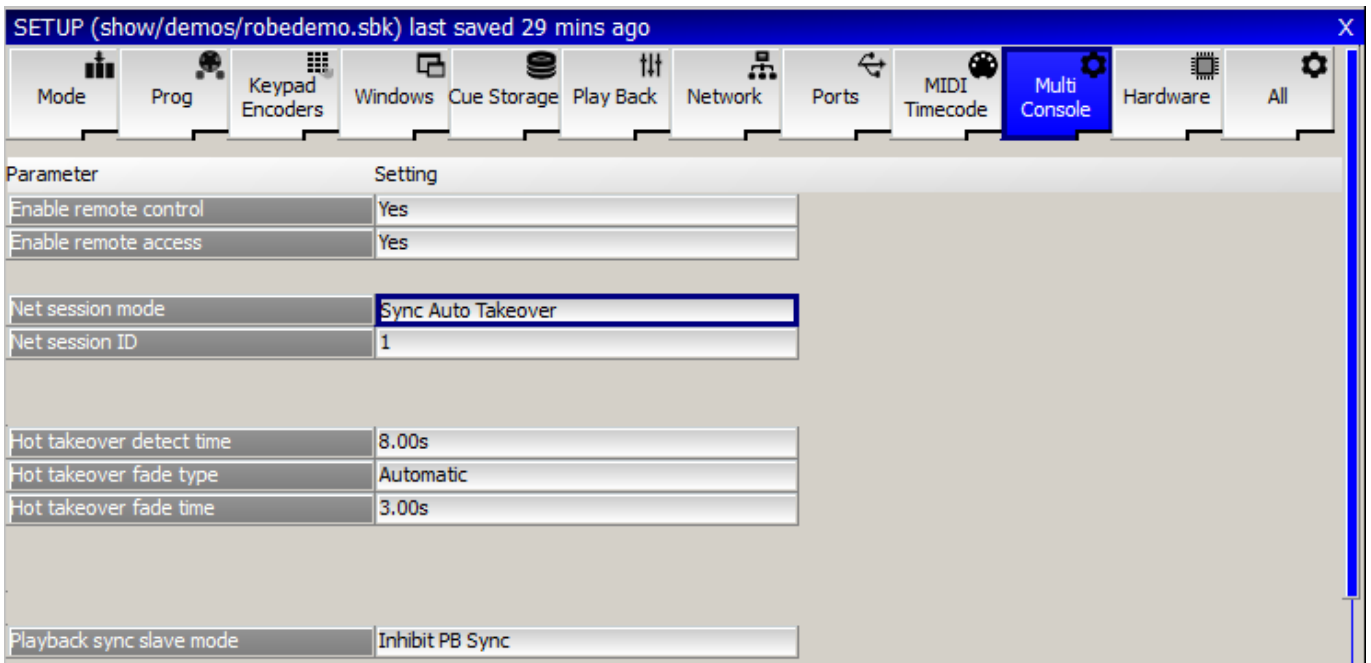
The first console to start becomes the Master. In Setup, View DMX I/O, Take Control and Release Control can be used to swap which console is the Master at any time.

If the Master console stops for any reason then one of the Slave consoles will take over.

The Hot Takeover Fade Type can be set to Manual or Automatic. When set to Manual the operator has output is frozen until the operator decides what new look to change to.

When set to Automatic, a gradual fade is made to the look set on the Playbacks – in this mode an operator will often put up a "safe" state on the standby console which can be used if the main console has a problem.

With manual fade type when MagicQ determines that it should take over a universe it will load a snapshot of the last data from that universe into its Programmer. The universe will be completely controlled from within the Programmer and not from the Playbacks. The operator can then set up the playbacks as they wish and then clear the programmer to change to this new look. Clearing the programmer with time enables the operator to specify a fade time to the new look.

With automatic fade type, MagicQ loads the snapshot of the last data from that universe into the Programmer and then automatically clears the programmer using the hot-takeover fade time.

Since both options use the programmer, it is recommended that the programmer is kept clear on the standby console.

29.6.3 Inhibit Outputs

It is possible to inhibit all the outputs within the network session so that none of the consoles within the network session output onto the network – for example if a "guest" console is in use.

In Setup, View DMX I/O press the INHIBIT OUTPUTS soft button. Outputs will continue to be inhibited even if the Master console changes. When UNINHIBIT OUTPUTS soft button is pressed the Master Console within the network session will resume outputiing.

29.7 Multi Console Programming

Within a network session MagicQ supports programming of one show from multiple MagicQ consoles / MagicQ PC systems on the network.
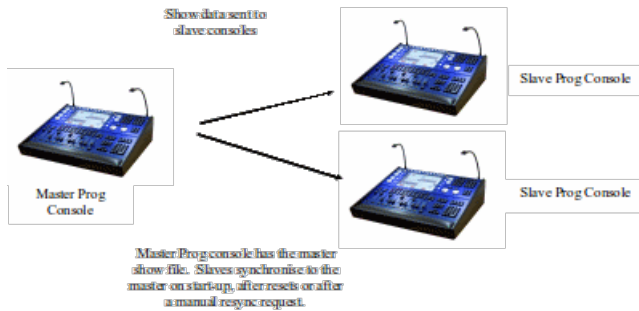
Multi programming enables multiple consoles to access one show file held on the master console with all consoles being able to make changes to that show file. MagicQ ensures that the slave consoles are synchronised to the master console show data. Updates from any console are synchronised across the network.

When synchronised the consoles have the same show data, however they still operate as separate consoles with a separate programmer.

Recording and updating of Groups, Palettes, FX, Cues, Cue Stacks, Macros, and Grids will be synchronised between the consoles. Note however that changes to the Patch must be made on the master console and they will clear any programmer information on the slave consoles.

29.7.1 Checking Slave synchronisation

The status of the slave synchronisation is shown in the status bar. Initially the status window will show "NoCon".

Once the Slave has a connection to the Master over the network (but not yet synchronised) it will show "NoSync".

Once synchronised it will show "Sync":

It is possible to force a show slave to resynchronise by holding the left and right cursor keys and pressing SET. It is also possible to resync by restarting or soft resetting the show slave console.

29.8 Selective Channel Control

Selective channel control enables Slave consoles to select and control different channels on the master consoles outputs. This allows any console on the network to take control of a set of channels in the lighting rig.

With selective channel control the slave consoles send their output data to the show master and then the show master merges the data from all the slaves onto its outputs.
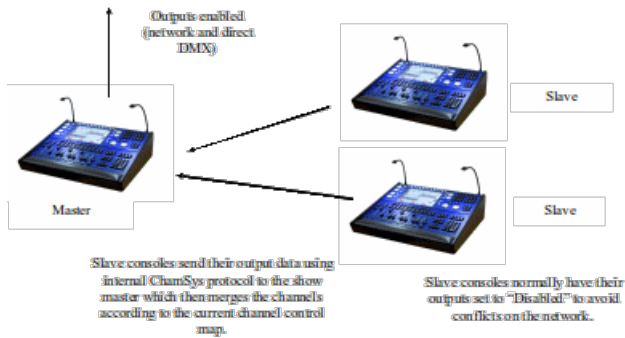
29.8.1   Selecting which console controls which channels

MagicQ enables several different ways of selecting which channels are controlled from which console on the network – selected channels, active channels, groups of channels, universes and zones. MagicQ defaults to the show master having control of all the channels.

Slaves request control of channels using the Setup, View DMX I/O, Multi Prog Select soft button.
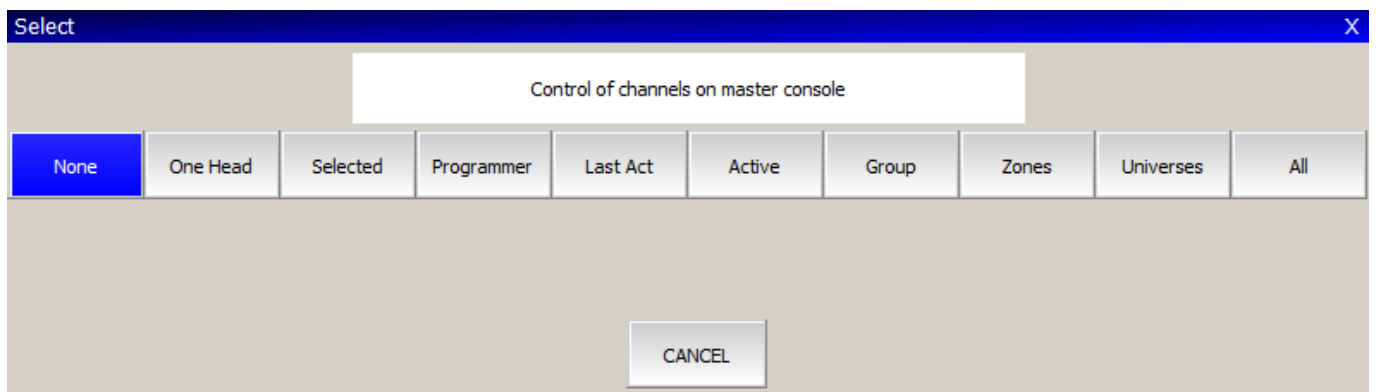
None	The Slave does not control any channels.
One Head	The Slave controls the first selected head only. If Next Head is used to sub select heads then the first sub selected head is controlled.
Selected	The Slave controls the currently selected heads. When no heads are selected, none are controlled.
Programmer	The Slave controls all channels that are active in the programmer.
Active	The Slave controls all channels that are active in the programmer or on its playbacks.
Last Active	Each console controls the channels that it was the last console to change in the programmer, or it last executed on playbacks.
User	The Slave controls all the channels allowed as the current User
Group	The Slave controls the group that was selected when this option was chosen.
Zones	The Slave controls selected zones (as set up in DMX I/O)
Universes	The Slave controls selected universes
All	The Slave controls all channels

When multiple slaves are in use then different slaves can control different channels on the lighting rig. If the same channel is requested by multiple slaves then the latest selection will take precedence. The show slave shows the multiple control method in

the status bar – e.g. for selected heads it shows "CC-Sel".

Chris-PC Sun Oct 18 14:25:06 2009 Ver 1.4.3.7 Build 129
Page 8 : EVERY ME   Add Sync CC-Sel

When the slave has no channels under control it shows "CC-None".

Chris-PC Sun Oct 18 14:26:07 2009 Ver 1.4.3.7 Build 129
Page 8 : EVERY ME   Add Sync CC-None

At any time the Master can take control of all channels using the Setup, View DMX I/O, Multi Prog Select soft button. When the Master is controlling all channels then it shows "MCC" in the status bar. When some channels are under control by a slave console then it shows "SCC".

Chris-PC Sun Oct 18 14:28:54 2009 Ver 1.4.3.7 Build 129
Page 8 : EVERY ME   Add MCC

29.9   Playback Sync modes

There are four Playback Sync Slave options which control whether the playback state of the Slave is synchronised with the Master.

In Setup, View Settings, Multi Console the options for "Playback Sync Slave mode" are "PB sync", "Inbibit, sync on swap", "Inhibit PB sync" and "PB Sync, multi control".

In "PB sync" mode the Slave playback state is always synced to the Master. It is not possible to change playback state (such as page, activation/release state, level of Playbacks) on the Slave.

In "PB sync, multi control" mode the Slave playback state is always synced to the Master. The playback state (such as page, activation/release state, level of Playbacks) can be changed from Master or Slave consoles.

In "Inhibit PB sync" mode the Slave playback state is never synced to the Master. If the Slave becomes Master then the playback state will not be changed - this allows for example a safe state to be set on the Slave console which is not synced to the Master playback state.

In "Inhibit, sync on swap" mode the Slave playback state is not synced to the Master whilst it is a Slave. If it gets promoted to be the Master then it will sets its playback state to the last received state from the original Master.

29.9.1   Net Sessions Master clash

If there is a Master clash on the network then MagicQ keeps the Master that has been running the longest demotes all other Masters to Slaves.

If Net Sessions is set to "Manual Takeover" then Masters are demoted to "Disabled" instead of "Slave". A flashing warning is shown in the Status Window. In the "Disabled" mode the console does not output on the network and does not try to sync the show to a Master. The user can then decide whether to "Take Control" or "Release Control" on that console.

When a Master is demoted to Slave or Disabled, MagicQ saves a copy of the show file that was running on the Master using the existing show file name but with the "_swap" appended to the end before the file extension .shw - for example "myshow_swap.shw". If the Master show file gets lost then the original show file can be recovered by reloading the "_swap" file from the original Master and saving as a new file name. In order to prevent MagicQ repeatedly overwriting the "_swap" file with invalid data from the Slave, it only saves the file if it is at least 60 seconds since it was last demoted to Slave.

29.10   Inter Console Messaging

It is possible to trigger message boxes from Cues in a Cue Stack. Simply add a comment field to the Cue in the Cue Stack starting with a !. When this Cue executes the message box will be shown.

In Setup, View Settings, View Windows there is a new option, Message Window. This specifies where the message box is shown (main screen, external screen 1, external screen 2) and whether a network message is sent to other consoles.

Setting "Net Only" results in messages only being sent over the network, not shown on the console where the Cue executed.

By default the message box shows immediately for 5 seconds and then closes. The delay before the message box shows and the time it stays visible can be set using parameters inbetween the !.

!<delay>,<show length>!

!10!Hello World // Delay for 10 seconds before showing message

!10,20!Hello World // Delay for 10 seconds and show message box for 20 seconds

!0,0!Hello World // Show message and do not close message box

If the comment starts with a !! instead of a ! then the console does an alert as well as showing the message. The alert flashes the main screen intensity and the console lamps to try to get the operators attention.

Messages can be sent directly from the keyboard by entering text starting with a ! or a !!.

Chapter 30

Manual configuration of Multi Console operation

From software version 1.5.9.4 we recommend you use network sessions to control hot take-over, show synchronisation and playback synchronisation. However it can be configured manually as below.

30.1   Manual configuration of Hot take-over

Hot take-over allows the use of multiple consoles in case a console stops working. Hot take-over can be used in two ways - depending on what you wish to happen when the main console becomes available again.

In "Preferred mode" only one of the consoles (or MagicQ PCs) on the network is designated as a back up. All the universes on the console are set to "Hot take-over". Whenever there is no ArtNet traffic on the network for a particular universe, the back-up console starts sending data for that universe. As soon as data reappears, the back-up console stops sending data.
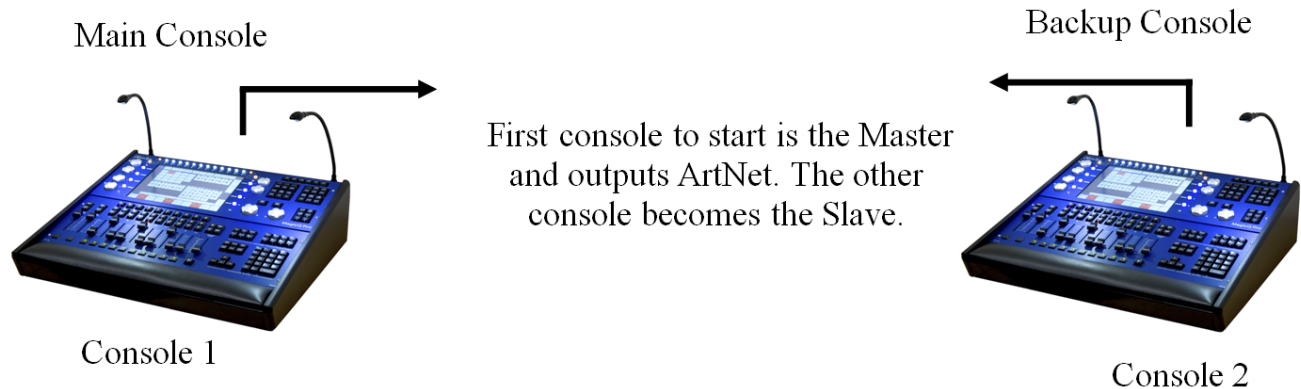
In "Equal mode" all consoles on the network are set to "Hot take-over". At any one time, one of the consoles will run as the master, with all universes enabled. If that console fails, one of the others will take over. It is recommended that you set the "Hot take-over detect time" to different values on each of the consoles to avoid conflict conditions.

The first console to start is the Master and outputs ArtNet. The other console becomes the Slave.

30.1.1   Hot Takeover Mode

Hot Takeover Mode is set in Setup, View Settings, Multi Console. The options are:

• Pref Master Console will always be Master

• Pref Slave Console will only be Master if another console is not detected

- Equal Both consoles have same priority

- Split Universes controlled independently. (default)

For all modes it is still necessary to set up Setup, View DMX I/O so that all universes that you wish to use as Hot Takeover have their Output and Input universes and type set correctly.

Uni	Name	Status	Out Type	Out Uni	In Type	In Uni	Test	Copy	Visualiser	Hot takeover	Unicast
1		HT En	Art-Net	Art 0	Art-Net	Art 0	No	No	MagicVis	Yes	Broadcast
2		HT En	Art-Net	Art 1	Art-Net	Art 1	No	No	MagicVis	Yes	Broadcast
3		HT En	Art-Net	Art 2	Art-Net	Art 2	No	No	MagicVis	Yes	Broadcast
4		Disabled	Art-Net	Art 3	Art-Net	Art 3	No	No	MagicVis	No	Broadcast
5		Disabled	Art-Net	Art 4	Art-Net	Art 4	No	No	MagicVis	No	Broadcast
6		Disabled	Art-Net	Art 5	Art-Net	Art 5	No	No	MagicVis	No	Broadcast
7		Disabled	Art-Net	Art 6	Art-Net	Art 6	No	No	MagicVis	No	Broadcast

SETUP (show/demos/robedemo.shw) last saved 146 mins ago

When you set a universe to "Hot Takeover" you must ensure that Input is enabled on that Universe and that it is set to the correct type and universe number – generally the Input should be set up the same as the Output.

When using "Hot take-over" on MagicQ PC, ensure that the IP address of MagicQ PC (set up in Setup Window, View Settings) is set to the valid IP address of the network you are using. If this setting is incorrect then Hot Takeover will not work correctly.

Preferred Mode

Setting one console to Preferred Master and the other to Preferred Slave operates a Master/Slave mode whereby one console will always be the Master, with the other console only taking control when that Preferred Master console is not available (shutdown, reset, disconnected from the network). As soon as the Preferred Master restarts or is connected back on the network then it will take control and the Preferred Slave will stop outputting.

All required universes on both consoles should be set to Hot Takeover.

Equal Mode

Setting both consoles to Equal operates a Master/Slave mode whereby both Consoles have the same precedence. The first console to start becomes the Master. Take Control and Release Control can be used to swap which console is the Master.

All Universes are treated the same – enabling / disabling together. For systems which require hot takeover to operate independently on different Universes the Split mode should be used.

If the network cable between the consoles is broken then neither console will see the other console and both will become Master. If one of the consoles is still connected to the lighting rig then it will have control – both consoles will not be connected to the lighting rig – otherwise the consoles would see each other.

When the network between the consoles is reconnected then both consoles will detect the other consoles at the same instance. The console with the lower IP address will become the Master.

All required universes on both consoles should be set to Hot Takeover.

Split Mode

This mode makes the consoles operate as in previous version of software. Set Hot Takeover in Setup, View DMX I/O for the required Universes.

To make a single system a backup for another system set the universes to Hot Takeover only on the slave console. For a Master/Slave system with equal precedence, set the universes to Hot Takeover on both systems.

30.1.2   Hot take-over type

Uni	Name	Status	Out Type	Out Uni	In Type	In Uni	Test	Copy	Visualiser	Hot takeover	Unicast
1		HT En	Art-Net	Art 0	Art-Net	Art 0	No	No	MagicVis	Yes	Broadcast
2		HT En	Art-Net	Art 1	Art-Net	Art 1	No	No	MagicVis	Yes	Broadcast
3		HT En	Art-Net	Art 2	Art-Net	Art 2	No	No	MagicVis	Yes	Broadcast
4		Disabled	Art-Net	Art 3	Art-Net	Art 3	No	No	MagicVis	No	Broadcast
5		Disabled	Art-Net	Art 4	Art-Net	Art 4	No	No	MagicVis	No	Broadcast
6		Disabled	Art-Net	Art 5	Art-Net	Art 5	No	No	MagicVis	No	Broadcast
7		Disabled	Art-Net	Art 6	Art-Net	Art 6	No	No	MagicVis	No	Broadcast

SETUP (show/demos/robedemo.shw) last saved 146 mins ago

The hot take-over type can be set to manual or automatic. When set to manual the output is frozen until the operator decides what new look to change to. In automatic, a gradual fade is made to the look set on the Playbacks – in this mode an operator will often put up a "safe" state on the standby console which can be used if the main console has a problem.

In manual mode, when MagicQ determines that it should take over a universe it will load a snapshot of the last data from that universe into its Programmer. The universe will be completely controlled from within the Programmer and not from the Playbacks. The operator can then set up the playbacks as they wish and then clear the programmer to change to this new look. Clearing the programmer with time enables the operator to specify a fade time to the new look.

In automatic mode, MagicQ loads the snapshot of the last data from that universe into the Programmer and then automatically clears the programmer using the hot-takeover fade time.

Since both options use the programmer, it is recommended that the programmer is kept clear on the standby console.

30.1.3   Swapping control between multiple consoles

In Equal Mode, a console that is set to "Hot take-over" can be forced to control all universes using the "TAKE CONTROL" soft button. This will force an immediate change of control from one console to the other.

Similarly, control can be given to another console using the "RELEASE CONTROL" soft button. This will force the other console to take control, and depending on the hot take-over options will enable a controlled fade to the new console outputs.

Note that the "TAKE CONTROL" and "RELEASE CONTROL" are only active when one or more universes are set to "Hot take-over".

When universes on MagicQ consoles are set to hot-takeover then the current Master / Slave status is shown in the Status Display underneath the date and time.

Note that a MagicQ console is considered a Master if any of the universes that are configured as a hot takeover universe are currently enabled and hence outputting to the network. A MagicQ console is considered a Slave if all universes that are configured as hot takeover universes are currently disabled – the console is not outputting to the network on these universes.

30.2   Manual configuration of Playback synchronisation

It is possible to carry out basic synchronisation of two or more consoles during playback by using the ChamSys Remote protocol – either via serial or Ethernet. Synchronisation can be set for individual playbacks, or for all 10 main playbacks. When the playbacks faders are raised, playbacks Go, Back or Jump are pressed, the master console sends ChamSys Remote Protocol commands to the slave consoles.

Synchronisation on MagicQ PC is only available when connected to a MagicQ Wing or MagicQ Interface.

30.2.1   Configuration

On all units that will be master units set the "Playback Sync type" option.

The Setup option "Playback Sync Type" has the options:

- None: No synchronisation information is sent

- Swap DBO Swap, DBO info only

- Page Page changes only

- Enhanced Playback Enhanced sync protocol (recommended)

- Slave Slave (receive sync only)

- Wings Wing data only (no data is sent for PB1 to PB10)

- Obsolete (was Pb) Obsolete Playback info only mode

- Obsolete (was PB,Swap,DBO) Obsolete Playback, Swap, DBO mode

We strongly recommend you use Enhanced as this is more reliable on heavily loaded networks.

Therefore MaicQ systems can be set to track the playback exactly or just to honour DBO and Swap status. This means that, for example, when using two consoles, one for generic lights and one intelligent lights – pressing a Swap button on one console will affect both consoles.

It is possible to synchronise with other (non MagicQ) consoles or external computers that support ChamSys Remote Ethernet Protocol.

30.2.2   Configuring which consoles Playback sync to which consoles

When there are multiple consoles on a network, it may be that consoles are controlling different network universes and therefore there may be more than one master console sending synchronisation information on the network.

It is possible to set a MagicQ console to only accept synchronisation information from a particular console. In Multi Console Settings, "Playback Sync IP" enter the IP address of the console to accept synchronisation from. A value of 0.0.0.0 indicates that it will accept synchronisation from any console on the network.

30.3   Manual configuration of Show Data Synchronisation

From software version 1.5.9.4 we recommend you use network sessions – all consoles in the network session are automatically configured for multi console programming. No further configuration is needed.

MagicQ supports show file synchronisation in a network. One console is designated as the "Master Prog" console which will keep the master show file.

The synchronisation of show data is separate to synchronisation of show playback state and hot takeover. Regardless of which console is actually controlling the universes the Master Prog console will remain in control of the master show file.

When a Slave Prog console starts or is reset it makes a connection to the Master Prog console and tries to synchronise to the show master data. This consists of automatically grabbing the show data file from the show master and loading that show data file into the show slave. Users can also request a resynchronise at any time.
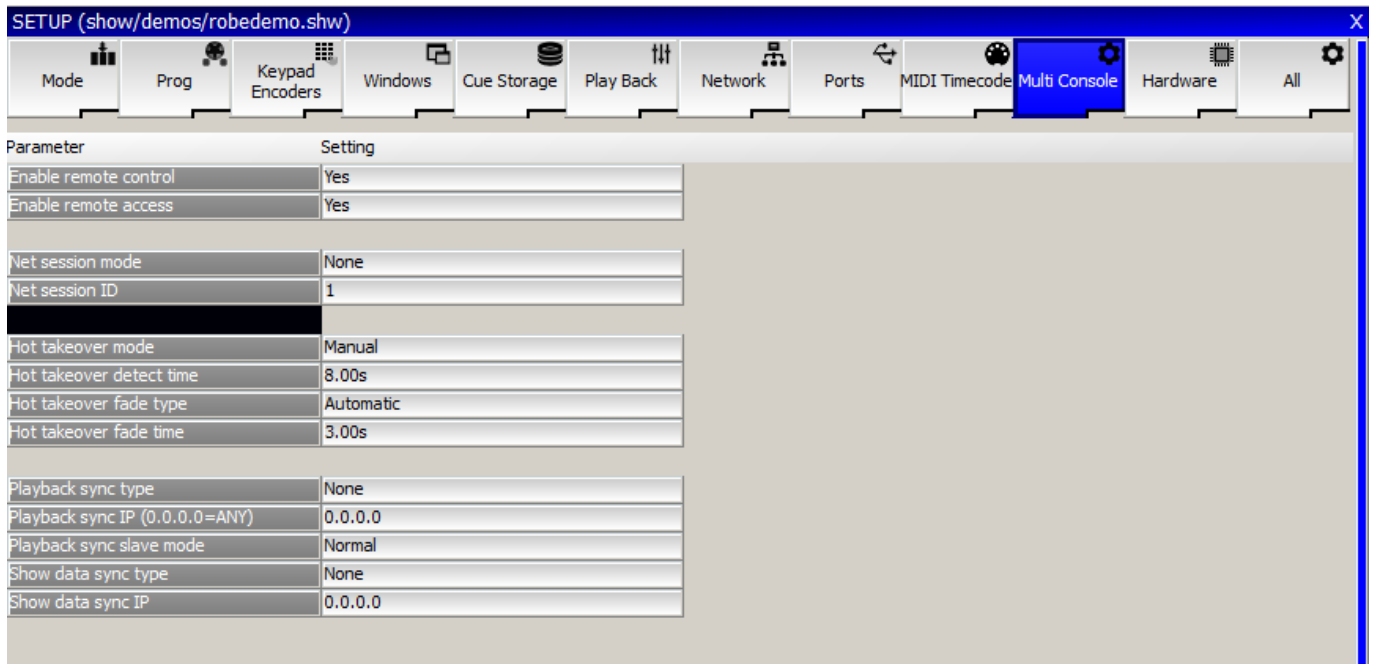
Configure the master console by setting the multi console setting "Show data sync type" to "Master Prog".

On each of the slave consoles set the "Show data sync type" option to "Slave Prog" and set the "Show data sync IP" to the IP address of the master show console.

There are hot keys on the slave consoles to enable and disable the show sync (as set up in Setup, View Settings, Multi Console). Hold the left and right cursor keys and press '+' to enable the show sync and hold left and right cursor keys and press '-' to disable the show sync.

To turn off show synchronisation on the master console simply set the Show Data Sync Type to None.

30.4   Manual configuration of Selective Channel Control

From software version 1.5.9.4 we recommend you use network sessions to configure selective channel control. In a network session all slave consoles can access channels from the master console by View DMX I/O, Multi Prog Select described in the next section.

If consoles are manually set up for multi programming by setting Show data sync to Master Prog and Slave Prog then selective channel control is automatically enabled.

Selective channel control can also be used without multi programming. This gives slave consoles access to control part of a lighting rig (e.g. for a technician to test some lights) but does not give them the ability to change any of the stored show data. To configure this mode, set Show data sync type on the master to "Master Control" and on the slaves to "Slave Control."

Note that when network sessions are not in use, each console operates as a separate console in terms of the DMX I/O settings – so for example if you were to enable the universes on each of the consoles then there would be a "fight" between the consoles. Universes must be enabled / disabled manually on each console or set to hot takeover.

30.5   Automatic backing up of shows from other consoles

It is possible to set a MagicQ console or a MagicQ PC to automatically back up show files from one or more other consoles on the network. Optionally, this console can be made to automatically run one of the shows.

Warning - if this option is configured incorrectly then your show files could get accidentally overwritten. Always back up your show files to external media / computer systems.

In the Setup Window, View Settings, Multi Console configure the "Show sync type" option to "Archive".

When set to "Archive", MagicQ periodically checks for other consoles on the network and grabs the show files that are running on those consoles. The show files are stored in the normal show folder.

When this feature is used to back-up multiple consoles, it is important that different show file names are used on each of the other consoles – otherwise files from different consoles will overwrite each other on the back-up console.

Note that files will only be copied from consoles that have the "auto backup" option set to "yes" or "on changes". Files will not be copied from consoles that do not have this set (e.g. when the playback mode is set to "Safe"). This avoids any performance impact from copying of files from live consoles.

When set to "Show Sync" MagicQ copies the files as above. It will then load one of the shows that it has copied. If there are multiple consoles on the network then it will always run the show file from the same console.

This feature can be used to back up show files from PCs running MagicQ PC as well as from consoles – these PCs must have the drive where MagicQ is installed shared on the network (e.g. share C: as C).

Chapter 31

Remote control of MagicQ

MagicQ supports the remote control of other MagicQ consoles and PC/Mac systems. Any MagicQ console or any MagicQ PC system can be controlled from any other MagicQ console or MagicQ PC system on the network. This enables complete remote management of any system from any other system. The remote system appears exactly as if it were running on the local system.

Remote Control must be enabled on the console that is to be controlled – by default it is disabled. It can be enabled in Setup, View Settings, Multi Console settings, Enable Remote Control.

31.1   Remote mode (PC/Mac)

When you install MagicQ on PC or Mac there is a MagicQ Remote option under the ChamSys menu that enable MagicQ to run in remote mode.

In remote mode MagicQ acts only as a remote control system; it does not transmit any network traffic (e.g. Art-Net, ACN, Pathport etc. . .) except for the control of the remote MagicQ system.

When you start up MagicQ in remote mode it will scan for MagicQ consoles on the network and give a list of the available consoles to select from.

To stop remote control of a MagicQ console click on "Quit". Select "yes" to quit from MagicQ or "no" to return to the list of MagicQ consoles to control another console.

31.2   Remote control from MagicQ

The remote control function can be accessed from MagicQ in Setup, View System, View Monitors. To control another MagicQ press the Remote Control soft button. MagicQ then presents a list of all the other MagicQ consoles / MagicQ PC systems it can find on the network and you can choose which one you wish to control.
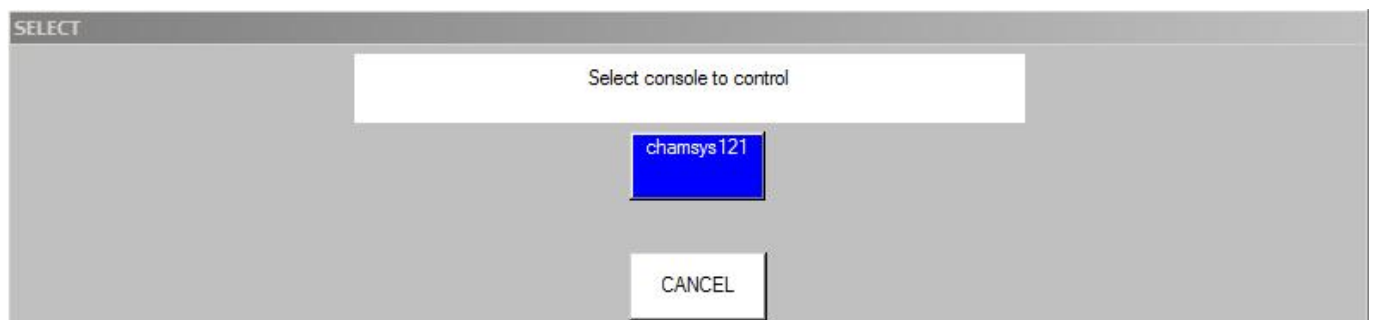
You can tell which system you are controlling by looking at the system name in the Status Display (above PB1 to PB5). When MagicQ is remote controlling another console it indicates "REM" at the start of this status line.

To end remote control of another system press CTRL 1 on the keyboard of the controlling system. Alternatively press QUIT or CTRL CLOSE on the controlling system. The status line will change back to be the normal line without "REM".

When a remote system is under remote control it is still possible to control the system locally – the normal system interface is still fully operational. We recommend that you only use one interface at a time – having two operators will cause confusion!

This function is only enabled when the target system (i.e. the one you wish to control) is a MagicQ console, or it is a MagicQ PC system with a MagicQ PC Wing or MagicQ USB interface attached. There are no restrictions on the MagicQ system that you use to control the remote system – for example, this can be MagicQ PC running on a wireless tablet.

31.3   iOS / Android Remote

MagicQ systems can be used together with an Apple iPhone, iPad, iPod Touch or Android smart phones for remote control.

All MagicQ consoles support remote control. On MagicQ PC systems remote control support is only unlocked when connected to a MagicQ Wing or MagicQ Interfaces (not MagicDMX).

In order to use the remote with a MagicQ console connect an external wireless access point to the console via network cable.

The MagicQ Remote application can be downloaded free of charge from the Apple App Store. For Android it can be downloaded free of charge from the Google Play Store.

To enable support for the remote application, set Setup, View Settings, Multi Console, Remote Control to "Enabled".

31.3.1 Setting up an access point

In order to use a wireless access point with MagicQ you must configure the access point with a SSID, IP address, subnet mask and if required encryption.

Most access points have an inbuilt web server that enables configuration from a PC or Mac using a web browser. The web server generally has a username and password – you will need to consult the instruction manual for your particular access point.

Access points usually default to a standard IP addess such as 192.168.1.1 and subnet mask of 255.255.255.0. Most acess points have DHCP support – i.e. the access point will attempt to give out IP addresses to other computers on the network. DHCP may be enable or disabled by default depending on the type of access point. Consult the manual for your access point to determine how to configure it.

In order for the wireless access point to work correctly with MagicQ, the access point should be in the same IP address range as the MagicQ console / MagicQ PC/Mac.

For example, if the console is set to IP address 2.0.0.5 then the access point should have an IP address on the 2.0.0.x network – e.g. 2.0.0.1. Note that many access points only support subnet masks of 255.255.255.0 instead of the normal ArtNet subnet mask 255.0.0.0. This can be overcome by simply making sure that all your devices are on the same subnet – i.e. all devices have a 2.0.0.x address.

The remote device (iOS/Android) should also have an IP address on the same same network.

The access point can be set up with DHCP to provide a range of IP addresses to wireless devices – this removes the need to set the IP address manually on the remote device. For example, you could set up your wireless access point to give out IP addresses in the range 2.0.0.100 to 2.0.0.150.

Security settings should be set up on your access point to avoid unauthorised control of the console.

When using a wireless acess point the wireless settings in MagicQ are not used – these are only used when using a USB Wireless device directly connected to a MagicQ console USB port. Ensure that Setup, View Settings, Network, Wireless Mode is set to Disabled.

31.3.2   MagicQ Pro 2010 Console with USB to Wireless interface

It is possible to use a USB to wireless interface directly from a MagicQ Pro 2010 console. The currently supported interface is the Edimax EW-7711UAn. Please note these interfaces are not supported on Pro2014 or Compact consoles (MQ40N, MQ60, MQ70 and MQ80) We recommend using a wireless router connected via network with these consoles.

On MagicQ the Console Wireless settings should be set to Ad-hoc with an IP address of 169.254.1.20 and a subnet mask of 255.255.0.0
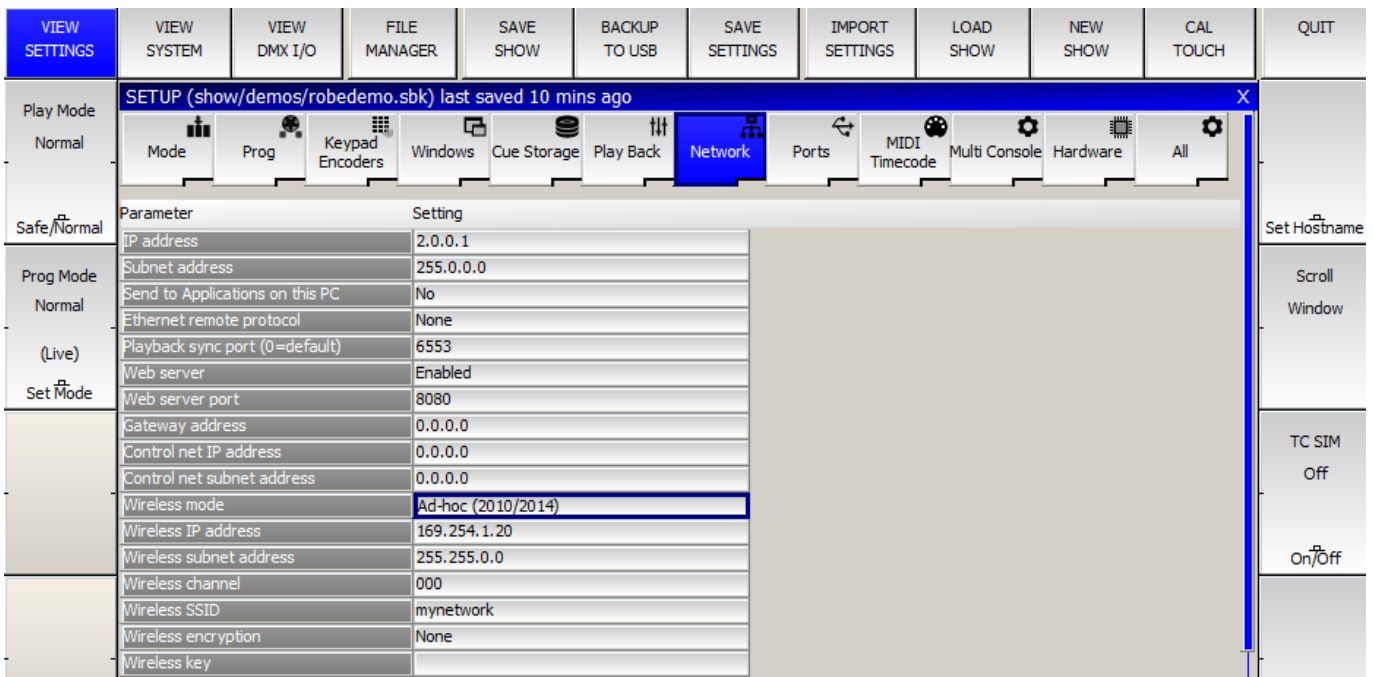
The Wireless channel defaults to 0 indicating that the Edimax device will automatically pick a channel. If you wish to force use of a particular channel enter a number between 1 and 11.

Enter a name for the Wireless SSID – this will be the how the WIFI appears on the remote device – on iPhone go to Settings, Wi-Fi to select connection to the network.

The iPhone should be set to an IP address on the same same network – e.g. 169.254.1.1. Some iPhones/iPods use 169.254.1.1 automatically as their default address.

On iPhone 4 and iPad 2 it is often necessary to set up a static IP address on the iPhone/iPad. In addition on the iPhone/iPad set up the router IP to the IP address of the console.

So for example, if the MagicQ console is set with

Wireless IP address: 169.254.1.20

Wireless subnet mask: 255.255.0.0

Try the following settings on your iPod/iPhone/iPad

IP address: 169.254.1.30

Subnet mask: 255.255.0.0

Router IP: 169.254.1.20

On iOS it is often necessary to set the Router IP to be the address of the MagicQ console.

Choose the encryption type. For secure encryption use WPA or WEP and set the passphrase in the Wireless Encrpytion field. When you try to connect to the network, the remote device will request a passphrase.

The MQ encryption keeps the wireless open (so anyone can connect to the wireless device) but puts a password on the iOS/Android application so only people who know the password can control the console. The MagicQ console will be hidden (no connection shown) until the correct password is entered on the iOS/Android device.

Note that MagicQ versions 1.5.4.0 to 1.5.6.0 had problems with the Edimx interface. 1.5.6.2 supports it ok, but it is necessary to upgrade the kernel first to kernel version 3.9.2.0. Note that before updating the kernel you must set the Wireless mode to None.

31.3.2.1 Making a connection to MagicQ

- Turn on your remote device and select the required wireless network to connect to – the network name (SSID) of your access point or of your Edimax USB interface.

- Check the WiFi settings for the remote device to ensure that it has automatically received a correct IP address. If it has not automatically received an IP address then enter a static IP address manually – see above sections for how to configure the IP address, Subnet Mask and Router IP.

- On the iPhone/iPad click on Settings, select WiFi and then click the > to the right of the required network.

- Once you have a wireless connection with correct IP address, start the MagicQ remote application.

- In the remote application, go to the connection tab. You should see a list of all the available MagicQ consoles. Select the required console so that it has a tick by it.

- If you have enabled password protection (by setting Setup, View Settings, Network, Wireless Encyption = MQ) then you will need to set the password in the Con tab on the remote device. The MagicQ consoles will not show until the password is correct. If you have not set encryption (Setup, View Settings, Network, Wireless Encyption = None) then the password should be blank (no characters).

- You should now have control. Change to the Key tab (iPhone) or Focus tab (iPad) and try selecting a Group (e.g. GROUP 1 ENTER).

31.3.2.2 Modifying palettes with the remote app

It is easy to modify palettes with the remote application.

In the Focus tab (Key tab on iPad), select your heads (e.g. GROUP 1 ENTER) then select the position palette (e.g. POS 5 ENTER). If you cannot remember the numbers then change to the Windows tab and select the Pos, Colour or Beam Windows.

In the Focus tab use the enoder wheels to modify the look on stage. On the iPhone use the Bank button to change the attributes controlled by the wheel. On the iPad you can press the Pos, Colour, Beam buttons.

When you are happy with you look then record over the palette (e.g. REC POS 5 ENTER). MagicQ will ask for a confirmation. Press 1 to confirm yes. Press 0 to cancel.

31.3.2.3 Using the Execute Window

We recommend you use the Execute Window on the remote app for shortcuts, group selections, focus test, etc. . . Items from the Group, Position, Colour, Beam, Cue Stack Store, Cue Store, Playback and Macro windows can all be copied into the Execute Window for immediate access from the remote device.

On the MagicQ console press the Execute Window and then press SET GRID SIZE to create grid 1. We recommend a grid size 5/5 for the iPhone/Android phones. For iPad 10/10 or 12/12 is good.

Copy items from the Group, Pos, Colour Beam windows into the Execute Window. You can copy multiple items in one go, by using SHIFT and the cursor keys in the source window to select multiple items. Press COPY. If it says "select source" then press COPY again. When it says "select destination" change to the Execute Window and select the place in the grid to copy to.

This latest version allows the Execute Window images to be shown on your iPhone or iPad as images instead of boxes. Custom button images will be automatically downloaded to the iOS app from MagicQ.

31.3.2.4 Idiot user mode

The apps now supports an "Idiot user mode" which forces the app always to run in full Execute Window. This is set up in the MagicQ app settings in the iOS / Android settings menu. A particular console IP address can also be specified to ensure the app always connects to the correct console.

31.4 Remote control via web server

MagicQ includes an in-built web server for enabling access to MagicQ from web browsers on external computers, pocket PCs and mobile phones with web browsers. The web server includes web pages for monitoring of the status of the MagicQ, remote control, and access to the MagicQ windows such as the Patch window for downloading complete patch lists / cue sheets.

By default the web server is disabled – enable it in Setup, Network Settings. The default port is 8080 although this can be changed in the Network Settings.

To browse to the console enter the console name followed by the port number, e.g. for chamsys176, enter the URL in your browser. Note that by default most browsers use port 80 – so you must explicitly specify port 8080 in the URL or it will not work.

chamsys176:8080

or you can use the IP address of the MagicQ (e.g. 2.0.0..5)

2.0.0.5:8080

This URL will get you to the home page on the MagicQ console - a general system overview and a main menu of items, including Remote, Execute, Windows and Network.

On some browsers / PDAs you may need to enter the full http line:

http://chamsys176:8080/index.html

or

http://2.9.200.5:8080/index.html
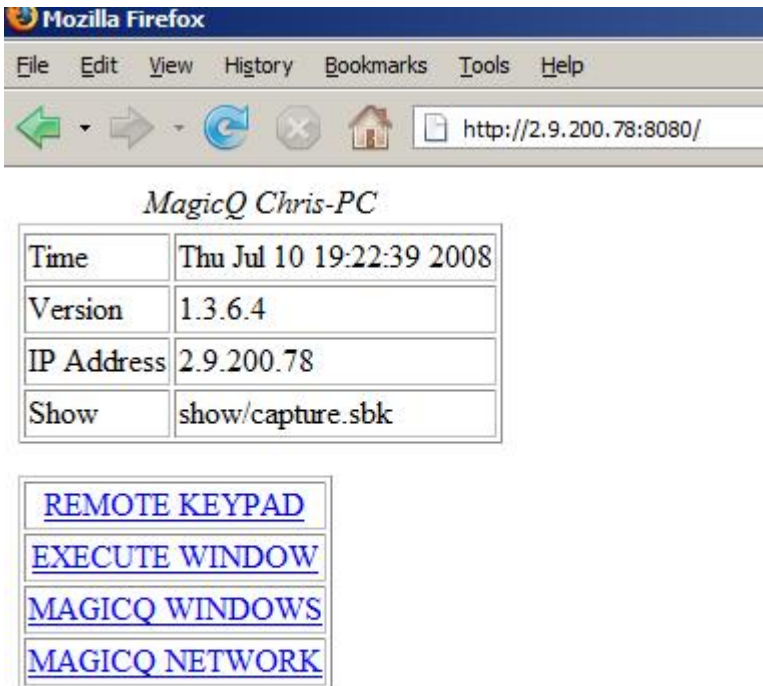
The Remote page is a simple remote focus for setting channel levels. It can also be accessed by adding "/remote" to the URL. This is useful for Pocket PC and mobile phones to go directly to the remote control page.

chamsys176:8080/remote
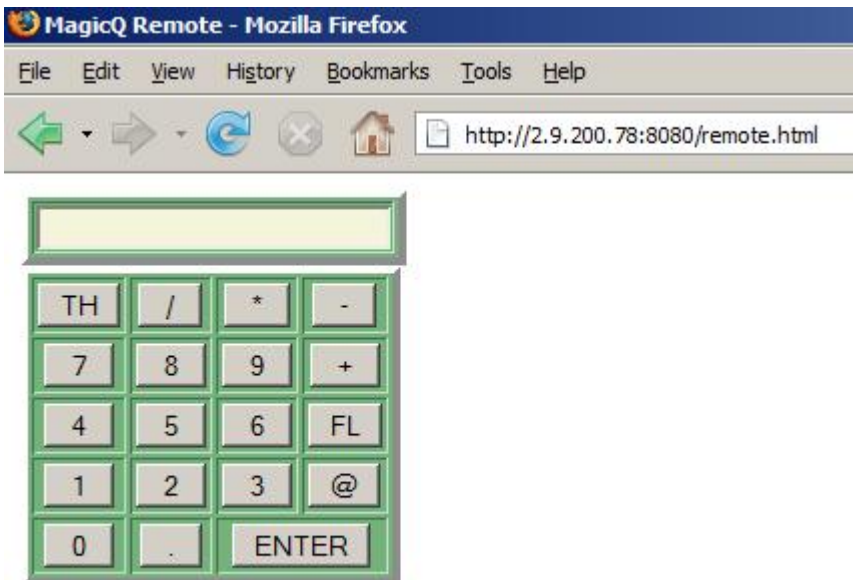
In order to set up a PC, Pocket PC or mobile phone to connect to MagicQ you must ensure that there is a physical connection to MagicQ – either directly via network cable, or via a wireless router. The IP address of the PC, Pocket PC, or mobile phone must be set to be on the same network as the MagicQ – this is generally the ArtNet IP addressing scheme – so the device must have an IP address starting with 2 (e.g. 2.0.0.2) and a subnet mask of 255.0.0.0.

The Execute page is very similar to the Execute Windows on the console but accessible through any PC with a browser on the network – it enables users to remote manage the console via the Execute window.

The Windows pages enable users to view all the windows on the console remotely within a browser. This is useful for checking the status of a remote console or for easy printing of console show data.

The Network page shows all the MagicQ consoles and PC systems on the networks and enables easy selection of particular consoles for remote control.

The Remote and Execute functions are only enabled when connected to a MagicQ console or a MagicQ PC System that is itself connected to a MagicQ wing or MagicQ interface.

31.4.1 Custom Web Server pages

There is now support for user HTML pages. These pages should be stored in the web folder and their name should start with "user" e.g. user1.html, user2.html. The MagicQ remote commands can be sent from the HTML using the button/input types to submit.

```
<html>

<head><META NAME="HandheldFriendly" content="True"><META
NAME="MobileOptimized" CONTENT="240">

<title>MagicQ User HTML Page</title>
```

```
</head>

<body>

<!-- User forms must start with the name user - e.g. user1, user2 -->
<!-- Remote commands can be found in the MagicQ manual -->

<FORM ACTION="user.html" name="user" METHOD=GET>

<!-- Remote commands are sent using input types -->
<!-- Place the command in the value and set the name to "cmd" -->

<input type="submit" value="1T" name="cmd">
<input type="submit" value="1U" name="cmd">
<p>
<!-- Or as button types -->
<!-- Note for Internet Explorer to work the value
feature below is not used and you must put the remote
command in the name after "cmd" -->

<button type="submit" name="cmd1T" value="1T">PB1 act</button>
<button type="submit" name="cmd1U" value="1U">PB1 rel</button>
```

31.5 Remote control using Magic Wand simulator

MagicQ supports a Magic Wand simulator which acts like the MagicQ Playback Wand.

To use the Magic Wand simulator start MagicQ with the command line argument "wand". MagicQ will run just a simulation of the Magic Wand controlling the first 4 playbacks from the first Wing.

If you wish to restrict the Wand simulation to only connect to a specific IP address then include the required IP address as the second command line argument of the IP address.

The MagicQ Wand simulator must be run on a separate system to the one running MagicQ.

Chapter 32

ChamSys Remote Protocol Commands

ChamSys remote protocol consists of simple commands consisting of a list parameter values separated by commas ',' and ending in a character A to Z (or a to z). Commands can contain spaces, tabs, and carriage returns; they are all ignored.

The remote protocol is split into remote playback commands and remote programming commands.

32.1 Remote Playback Commands

The commands are:

<playback number> A	Activate playback
<playback number> R	Release playback
<playback number> T	Test playback (activate with level 100%)
<playback number> U	Un-test playback (release with level 0%)
<playback number> G	Go on playback
<playback number> S	Stop (go back) on playback
<playback number> B	Fast back on playback (no fade)
<playback number> F	Fast forward on playback (no fade)
<playback number> , <level> L	Set playback fader level
<playback number> , <cue id> , <cue id dec>J	Jump to Cue Id on playback
<page number> P	Change page
<channel number> , <level> I	Set intensity channel to level
<program command number> H	Remote programming command

The following parameter values are supported

<playback number>	a number between 1 and 10 (202 on MagicQ consoles)
<level>	an integer between 0 and 100.
<page number>	an integer between 0 and 100
<channel number>	an integer between 1 and 32769 DMX channel number
<cue id>	an integer between 1 and 65536
<cue id dec>	an integer between 0 and 99. Note that for Cue ID 1.5 use 50

So for example, to set dimmer channel 4 to 50% you would use:

4,50I

To jump to Cue id 2.5 on playback 8 you would use:

8,2,50J

Commands can be sent back to back – e.g.

1A2A1S2G3,4I

MagicQ on PC and Mac only supports control of the first 10 playbacks (PB1 to PB10). On MagicQ consoles all 202 playbacks can be controlled.

32.2 Remote programming commands

Remote programming commands enable simple programming actions to be carried out from a remote terminal. Remote programming commands consist of the program command number followed by parameters and completed with an "H".

The commands are:

\<01> , <start head> , [<end head>] H	Select one or more heads
\<02> , <start head> , [<end head>] H	Deselect one or more heads
\<03> H	Deselect all heads
\<04> , <group number> H	Select group
\<05> , <level> , [<time>] H	Set intensity of selected heads
\<06> , <attribute number> , <value> , [<time>] H	Set attribute value of selected heads
\<07> , <attribute number> , <value> , [<16bit>] H	Increase attribute of selected heads
\<08> , <attribute number> , <value> , [<16bit>] H	Decrease attribute of selected heads
\<09> H	Clear programmer
\<10> , <palette id> H	Include position palette
\<11> , <palette id> H	Include colour palette
\<12> , <palette id> H	Include beam palette
\<13> , <cue id> H	Include cue
\<19> H	Update
\<20>, <palette id> H	Record position palette
\<21> , <palette id> H	Record colour palette
\<22> , <palette id> H	Record beam palette
\<23> , <cue id> H	Record cue
\<30> H	Next head
\<31> H	Previous head
\<32> H	All heads
\<40> H	Locate
\<41> H	Lamp on
\<42> H	Lamp off
\<43> H	Reset
\<71>, <state> H	Remote trigger
\<80> , <cue id> H	Test Cue
\<81> , <cue id> H	Untest Cue
\<82> , <cue stack id> H	Test Cue Stack
\<83> , <cue stack id> H	Untest Cue Stack
\<90> , <showfile id> H	Save show showXXXX.shw
\<91> , <showfile id> H	Load show showXXXX.shw
\<92> , <importfile id> H	Load show importXXXX.csv

[] indicates an optional parameter

The parameter values are:

<level>	an integer between 0 and 100
<palette id>	an integer between 1 and 1024
<cue id>	an integer between 1 and 5000

<16 bit>	0 for change in 8 bit resolution, 1 for change in 16 bit resolution
<time>	an integer time in seconds
<group number>	is an integer between 1 and 200
<start head> and <end head>	integers between 1 and 6145
<showfile id>	four digit decimal number between 0000 and 9999.
<state>	is 0 or 1 to set state on/off, or 2 is toggle current state.

32.2.1 Attribute numbers

Intensity (0) Intensity Mode (1)

Pan (4) Tilt (5) Pos1 (46) Pos2 (47) Pos3 (48) Pos4 (49) Pos5 (50) Pos6 (51)

Cyan (16) Magenta (17) Yellow (18) Col mix (19) Col1 (6) Col3 (26) Col2 (7) Col4 (27)

Shutter (2) Iris (3) Gobo1 (8) Gobo2 (9) Gobo3 (28) Gobo4 (29) Rotate1 (10) Rotate2 (11) Rotate3 (30) Rotate4 (31) Focus (12) Zoom (13) Frost1 (32) Frost2 (33) FX1 (14) FX2 (15) FX3 (34) FX4 (35) FX5 (36) FX6 (37) FX7 (38) FX8 (39) Macro1 (22) Macro2 (23) Cont1 (20) Cont2 (21) Cont3 (40) Cont4 (41) Cont5 (42) Cont6 (43) Cont7 (44) Cont8 (45)

Chapter 33

Controlling MagicQ using TCP/IP

MagicQ consoles and MagicQ PC/Mac software supports the use of an network protocol for controlling external devices, such as media servers, video or automation computers.

The protocol can also be used to remote control MagicQ consoles or MagicQ software via a simple set of text commands.

Note that the use of the ChamSys Remote Ethernet Protocol on MagicQ PC/Mac is only enabled when it is connected to a MagicQ Wing or Interface (not MagicDMX).

On MagicQ commands are placed in the Macro field of the Cue Stack and are transmitted when the Cue starts to execute. In addition MagicQ will accept commands received according to a pre-defined protocol.

ChamSys Remote Ethernet Protocol is not supported when net session mode is in use.

33.1   ChamSys Remote Ethernet Protocol

Enable ChamSys Remote Ethernet Protocol in the View Settings view of the Setup Window.

ChamSys Remote Ethernet Protocol is an open protocol – i.e. you do not need permission to use it for your own purposes. It is a UDP/IP based protocol using port 6553 in broadcast mode.

The port number can be changed in setup, View Settings, Network, Playback Sync Port.

The structure of the UDP/IP packets are a ChamSys CREP header followed by the remote commands:

```
long32 chamsys;
word16 version;
byte seq_fwd;
byte seq_bkwd;
word16 length;
byte data;
```

where long32 is 4 bytes, word16 is 2 bytes and byte is 1 byte.

ChamSys is 4 characters C R E P. Note that on MagicQ this is stored as little-endian, so that on the network it will appear as P E R C.

The version is initially 0 and allows for future expansion of the protocol.

The fwd sequence number is an incrementing sequence number. It enables the receiving end to determine if packets are missed. In addition the receiving end should sends back the last sequence number it received in the backward sequence number.

Length is the length of the data field. It does not include the length of the ChamSys header.

From v1.6.6.0 support is added for ChamSys Remote Ethernet Protocol Messages without the ChamSys CREP header - this allows easier integration with external systems but reduces the amount of checking of messages performed. In Setup, View Settings, Network, set Ethernet remote protocol to "ChamSys Rem (rx no header)", "ChamSys Rem (tx no header), or "ChamSys Rem (tx + rx no header)".

33.2   Writing to the network port

Commands are transmitted from the network port using the Y macro in the Macro field of the Cue Stack window (use Page Right to find the Macro field). In the View Settings view of the Setup Window, set the Ethernet Remote Protocol to "ChamSys Rem tx".

The format of Ethernet commands is Y followed by the data. To send Ethernet data, the Y command must be the only macro command in the macro field. The Y command is followed by ASCII data contained within " " or ' ' or by decimal values separated by commas. For example to send Hello World followed by a carriage return:

Y"Hello World",10,13

To send the hexadecimal data stream 00 01 02 03 04

Y0,1,2,3,4

To send text only:

Y"abcedf"

To send several lines of text:

Y"Hello",10,13,"World",10,13

On the Ethernet the data above is encapsulated in the data field of ChamSys Ethernet Remote Protocol in the UDP packet.

Note that commas ',' are not allowed within the ASCII data inside " " or ' ' . If you wish to send ',' then you must send it as its hexadecimal ASCII code.

33.3   Reading from the network

By default data received on the network is ignored. This can be changed to make MagicQ accept remote commands received on the network port. In Setup, View Settings, set the Ethernet Remote Protocol to "ChamSys Rem rx".

ChamSys Remote Protocol consists of simple commands consisting of a list parameter values separated by commas ',' and ending in a character A to Z (or a to z). Commands can contain spaces, tabs, and carriage returns; they are all ignored. See the section on ChamSys Remote Protocol for further details.

33.4   Sample code fragments

The code fragments below show you could connect to MagicQ using simple C programming.

```
#define REMOTE_ETHER_PORT 0x1999
#define MAX_CREP_MSG 1000

typedef struct \{
long32 chamsys;
word16 version;
byte seq_fwd;
byte seq_bkwd;
word16 length;
byte data;
} remote_ether_message_t;



int remote_ether_sock = 0;
word16 remote_ether_fwd = 0;
word16 remote_ether_bkwd = 0;



int remote_ether_init(void)
```

```
\{
struct sockaddr_in name;
char opts[100];
socklen_t optlen = 100;
int flags;
int i;
// For Windows OS we need to start winsocket
#ifndef LINUX
\{
WSAData ws;
int code;
code = WSAStartup(MAKEWORD(1,1),&ws);
}
#endif
if (remote_ether_sock)
\{
return (TRUE);
}
remote_ether_sock = socket (PF_INET, SOCK_DGRAM, 0);
getsockopt (remote_ether_sock,SOL_SOCKET,SO_REUSEADDR, opts, &optlen);
opts[0] = 1;
setsockopt (remote_ether_sock,SOL_SOCKET,SO_REUSEADDR, opts, optlen);
/* Give the socket a name. */
name.sin_family = AF_INET;
name.sin_port = htons (REMOTE_ETHER_PORT);
name.sin_addr.s_addr = htonl (INADDR_ANY);
if (bind (remote_ether_sock, (struct sockaddr *) &name, sizeof (name)) <
)
\{
closesocket(remote_ether_sock);
return (FALSE);
}
getsockopt (remote_ether_sock,SOL_SOCKET,SO_BROADCAST, opts, &optlen);
opts[0] = 1;
setsockopt (remote_ether_sock,SOL_SOCKET,SO_BROADCAST, opts, optlen);
\{
u_long block;
block = 1;
ioctlsocket(remote_ether_sock,FIONBIO,&block);
}
return TRUE;
}

int remote_ether_rx(char *data, word16 size)
\{
char message[MAX_CREP_MSG];
int nbytes;
remote_ether_message_t *rem = (remote_ether_message_t *) message;
struct sockaddr_in name;
int name_len = sizeof(name);
if (!remote_ether_sock) return (0);
nbytes = recvfrom (remote_ether_sock,
                   message,
                   MAX_CREP_MSG,
                   0,
                   (struct sockaddr *) &name,
                   &name_len);

if (nbytes > 0)

\{
```

```
if (rem->chamsys == (('C'<<24)|('R'<<16)|('E'<<8)|('P')))

\{

int len = wswap(rem->length);

remote_ether_bkwd = rem->seq_fwd;

if (len<(MAX_CREP_MSG-(sizeof(remote_ether_message_t)+1)))

\{

if (len>size) len = size;

memcpy(data,&(rem->data),len);

return (len);

}

}

}

return (0);

}

char remote_ether_tx(char *data, word16 size)

\{

// Format the message

byte message[MAX_CREP_MSG];

remote_ether_message_t *rem = (remote_ether_message_t *) message;

int nbytes;

struct sockaddr_in name;

if (!remote_ether_sock) return (FALSE);

if (size>(MAX_CREP_MSG-sizeof(remote_ether_message_t)+1))

\{

size = MAX_CREP_MSG-sizeof(remote_ether_message_t)+1;

}

rem->chamsys = (('C'<<24)|('R'<<16)|('E'<<8)|('P'));

rem->version = wswap(0);

rem->seq_fwd = remote_ether_fwd;

rem->seq_bkwd = remote_ether_bkwd;

rem->length = wswap(size);
```

```
memcpy(&(rem->data),data,size);

my_broadcast_address.s_addr = ip_address | ~subnet_address;

name.sin_family = AF_INET;

name.sin_port = htons (REMOTE_ETHER_PORT);

name.sin_addr.s_addr = dwswap (my_broadcast_address.s_addr);

nbytes = sendto (remote_ether_sock,
                 message,
                 size(sizeof(remote_ether_message_t)-1),
                 0,
                 (struct sockaddr *) & name, sizeof(name)
                );

if (nbytes>0) remote_ether_fwd++;

return (TRUE);

}
```

Chapter 34

Controlling MagicQ using serial port

MagicQ consoles and MagicQ software support the use of a serial port for controlling external devices, such as CD or DVD players, video or automation computers.

The serial port can also be used to remote control the MagicQ console or MagicQ software via a simple set of text commands.

A standard male 9 pin D type connector is provided on MagicQ consoles. On MagicQ PC the availability of a serial port will depend on the PC. Many modern laptops do not have a serial port – however, USB to serial converters are readily available.

MagicQ supports standard baud rates, stop bits and parity options for serial communication.

Note that the use of the serial port on MagicQ PC is only enabled when it is connected to a MagicQ Wing or Interface.

Note also that this is not supported on the MQ40N console.

34.1   Enabling the serial port

Enable the serial port in the View Settings view of the Setup Window. Page down to the Port Settings. Select the COM port that you wish to use (on the console always select COM1). Set the baud rate, parity, data bits and stop bits.
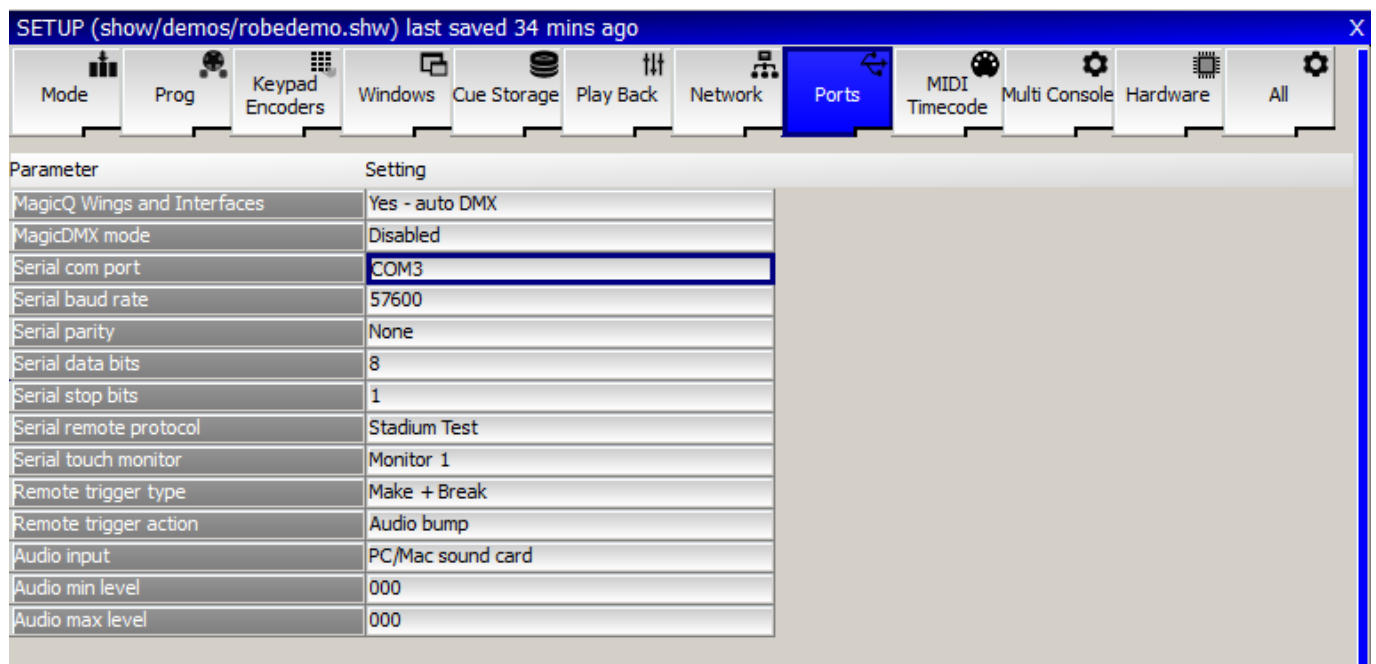
34.2 Writing to the serial port

Commands are transmitted from the serial port by placing the command in the Macro field of the Cue Stack window.

The format of serial commands is X followed by the data. To send serial data, the X command must be the only macro command in the macro field. The X command is followed by ASCII data contained within " " or ' ' or by decimal values separated by commas. For example to send Hello World followed by a carriage return:

X"Hello World",10,13

To send the binary data stream 00 01 02 03 04

X0,1,2,3,4

To send text only:

X"abcedf"

To send several lines of text:

X"Hello",10,13,"World",10,13

34.3 Reading from the serial port

By default data received on the serial port is ignored. This can be changed to make MagicQ accept remote commands received on the serial port. In the View Settings view of the Setup Window, set the serial input type to "ChamSys Serial Remote".

ChamSys Serial Remote protocol consists of a list of parameter values separated by commas ',' and ending in a character A to Z (or a to z). Commands can contain spaces, tabs, and carriage returns; they are all ignored. See the section on ChamSys Remote Protocol for further details.

34.4 Testing receiving serial commands

It is possible to test the behaviour when MagicQ receives serial commands without an external serial connection. Set the Serial COM Port to "None" and then type "testser" followed by the command - for example to activate playback 1 enter:

testser 1a

Remember to enable the serial COM Port again when you have finished.

Chapter 35

Audio

35.1   Audio Input

Audio input can be used in many ways on MagicQ - to bump a Cue Stack from step to step, to set a Cue Stack tempo, to set the virtual level of the playback fader and as part of the MagicQ Pixelmapper.

Audio bump functions can also triggered from the remote input port.

35.1.1   Audio input ports

Audio input can be achieved on both MagicQ consoles and MagicQ PC via PC Sound card. Note on PC Systems a ChamSys Wing or Interface (not MagicDMX) is required to enable Audio input on PC.

Audio input is also supported directly on MQ40, MQ60, MQ70, MQ80, Pro 2014 and MQ500 consoles and Compact PC Wings via dedicated audio ports. In Setup, View Settings, Ports set Audio Input to Console Inbuilt Port.

MagicQ Pro 2014 consoles require the latest Pro 2014 kernel (dated 4th June 2014) downloadable from the ChamSys download site, Docs page.

https://secure.chamsys.co.uk/bugtracker/proj_doc_page.php

From v1.6.0.9 MagicQ PC / Mac supports audio input through the PC / Mac sound card when the PC/Mac is connected to a MagicQ Wing or Interface (not MagicDMX). In Setup, View Settings, Ports set Audio Input to PC/Mac sound card.

35.1.2   Audio options

The audio signal is analysed into 7 different frequency bands – consisting of 63Hz, 160Hz, 400Hz, 1KHz, 2.5KHz, 6.2KHz, 16KHz, 63KHz. The levels for each channel can be used on MagicQ to set the level of Playbacks, to step through cue stacks and to set the speed of chases.

When connected, a graphic equaliser display is shown in the Status Display showing the current levels of the inputs. Audio trigger level should be set to 0.

35.1.3   Global audio settings

In order to use audio input on MagicQ set the setting Setup, View Settings, Ports, Audio, Audio Input. The options are

• None

• Energy only ChamSys audio

• ChamSys audio interface

- ChamSys audio left only

- Console inbuilt port"

- PC/Mac sound card".

On MagicQ PC / Mac systems select "Pc/Mac sound card". Audio input is only supported when the PC/Mac is connected to a MagicQ Wing orInterface (not MagicDMX). This function was added in v1.6.0.9 software.

On MQ40, MQ60, MQ70, MQ80 and Pro 2014 consoles and PC Wing Compacts the audio is received via dedicated audio ports - choose the option "Console Inbuilt Port". MagicQ Pro 2014 consoles require the latest Pro 2014 kernel whilst MQ40, MQ60 and MQ70 require the latest firmware.

When using an external MagicQ USB Audio Interface then choose "ChamSys audio interface", "ChamSys audio left only" or "Energy only ChamSys audio". When set to "ChamSys audio left only", any signals received on the left channel are automatically duplicated onto the right channel. This is useful in situations where only a mono audio feed is available. When set to "Energy only ChamSys audio" all 14 received channels are averaged into one level and all MagicQ audio options will use this one level.

MagicQ supports global minimum and maximum audio levels to enable the levels to be matched to the received audio. Both the Minium Audio Level and the Maximum Audio Level default to 0 indicating they have no effect.

The minimum is used to adjust for noise whilst the maximum can be set if the audio signal is particularly weak. When set to non zero values any levels below the minimum or above the maximum are ignored and the levels are scaled appropriately.

35.1.4 Cue Stack audio options

In the Cue Stack options there are 4 possible audio modes – Audio Controls fader level, Audio bumps go, Audio sets BPM, Audio jumps Cue Stack. Audio modes are not active until the Cue Stack is activated by raising the fader or pressing the GO button.

Double click on the Audio channel to select the channel to respond to. Audio level, audio parameter 1, and audio parameter 2 should be set to 0.

"Audio Controls fader level" enables the level of the fader to be controlled by the received audio level on the chosen channel. In this way you can control all sorts of different functions depending on how you set the Fader options - HTP, LTP, FX Size, FX Speed etc... For example, you could control the iris opening of a moving light by also setting the Fader controls LTP (IPCB) chans option, or you could control a Master Intensity fader. When using this mode, then Audio P1 and Audio P2 can be set to control the response:

Audio P1 = 0 Normal (direct trigger from level)

Audio P1 = 1 Decayed (decays by Audio P2 each sample)

Audio P1 = 2 Pulse (triggers at Audio Level, Audio P2 is duration of pulse)

Audio P1 = 3 Pulse decay (triggers at Audio Level, decays by Audio P2 each sample)

Audio P1 = 4 Switch (triggers to on/off at Audio Level)

Audio P1 = 5 Slow (increases/decreases by Audio P2 each sample)

"Audio bumps go" causes the Cue Stack to bump to the next step every time a peak in the audio is detected on the specified channel. This enables a Cue Stack to follow the beat of the music. This is best used with the Cue Stack set to Cue Timing instead of Chase Timing. Audio parameter 1 is used as a divider – set it between 2 and 16 to divide the received beat frequency by a value between 2 and 16 times.

"Audio sets BPM" causes a Cue Stack set as a chase to automatically set the chase speed to the timing of the peaks on the specified channel. The Cue Stack should be set to Chase Timing.

"Audio jumps Cue Stack" enables the level of the specified channel to determine which step in the Cue Stack is executed – for example if you have a Cue Stack with 10 steps, then a level of 0% will execute step 1, 10% will execute step 2 whilst a level of 100% will execute step 10. This is very useful if you wish to program different Cues onto LED or media servers.

35.1.5   Pixel Mapper and Audio

The Pixel Mapper Audio FX support comprehensive Pixel Mapping using audio triggering.

35.2   Audio play

MagicQ supports playback of audio files triggered from Cues within Cue Stacks for playing back sound effects in theatre shows and for playing back Cues timed to audio.

Audio output is available direct from the ports on the rear of the MagicQ Pro 2014, on the jack port front left side of MQ500 consoles and from the audio port when using MagicQ PC on Windows, Mac and Linux. MagicQ Compact consoles/Pro2010 consoles do not have audio output ports.

First place the audio files in the show\audio folder. They can then be selected directly from the Audio field in the Cue Stack.

Each playback supports play of one audio file at a time. If a Cue executes with audio then any audio playing from a previous Cue in the CueSatck will be stopped. Multiple playbacks can be used to play multiple sounds simultaneously.

The audio field can also take some special commands as well as specifying new audio files to play. The following commands are supported:

filename.wav	Plays filename.wav (also supports other file types)
stop	Stops playing the file
close	Stops playing the file and closes the audio port
jump	Jumps within the current audio file to the calculated position (timecode only)
dev	Changes to use output device d
param 1,g	*Changes gain level (volume) where g is value 0 to 100*

In the Cue Stack use Encoder A to select View Mode to Media to choose and view the audio clip for each Cue step.

When using WAV, only 8 and 16 bit formats are supported.

35.3   Control of Winamp

MagicQ supports control of a Winamp instance on the same PC by patching a Winamp personality. The Winamp personality can control track number, play mode, track position, volume, and audio pan.

The PC must have a MagicQ Wing or MagicQ Interface connected to enable Winamp control.

Simply patch one Winamp head anywhere in the patch - MagicQ treats the heads as a special head and ignores the DMX address.

Winamp does not need to be configured - MagicQ automatically connects to it.

Chapter 36

MIDI

MagicQ MQ60, MQ70, MQ80 MQ100 Pro 2014 and MQ500 consoles have inbuilt support for MIDI. To use MIDI on any other MagicQ systems you need an external MagicQ MIDI/Timecode interface.

The MQ70, MQ80 and MQ500 support both MIDI notes, MIDI timecode and MIDI Show Control. The MQ60 only supports MIDI notes, not MIDI timecode or MIDI Show Control.

Note
If MagicQ PC is connected to a wing or interface, MIDI timecode and beat clock can be received from a USB or virtual device. Receiving MIDI notes and show control this way is not supported, unless you have a rack mount dongle or MagicQ timecode interface connected.

MagicQ can generate and receive MIDI notes commands and can also receive MIDI show control and MIDI beat clock. MIDI is configured in the Setup Window, View Settings view, MIDI/Timecode tab.
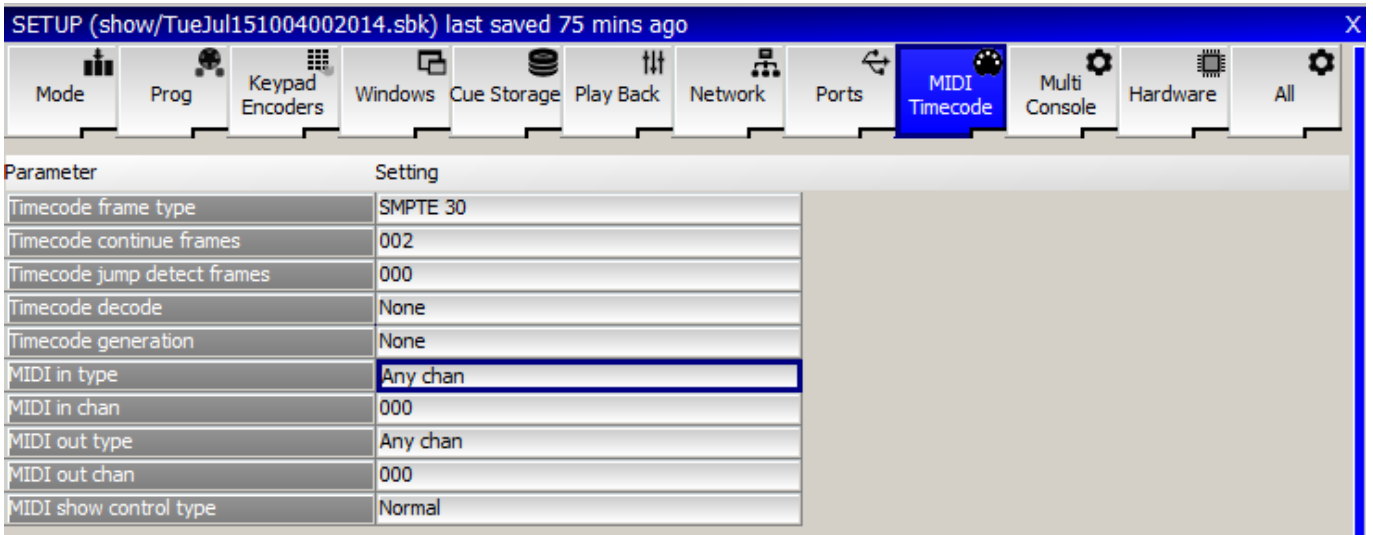
36.1 MIDI Notes Receive

To receive MIDI notes, first set the MIDI In Type in the Setup Window. You can choose between "None", "Any chan" and "Requested Chan". When set to "Requested Chan" the requested channel is configured in the MIDI IN Chan field.

When using the MagicQ MIDI/SMPTE interface for MIDI only the Timecode options can be set to none and then the last received MIDI command will be shown in the Status Display.
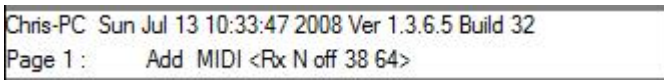
36.1.1 MIDI Autom events

MagicQ supports triggering of automated events via MIDI in the Macro Window, View Autom.

Autom events can be set to trigger Playbacks, Cue Stacks, Cues and other events when MIDI notes are received.

36.1.2 MIDI mapping file

MagicQ supports a custom MIDI mapping file for use instead of the Autom events - this enables greater flexibility and control. If any Autom events are set to respond to MIDI then the MIDI mapping file is ignored.

MagicQ uses the text mapping file miditable.txt stored in the MagicQ folder to convert from MIDI commands to MagicQ serial commands.

An example file miditable.txt is included which maps midi notes to the playbacks PB1 to PB34. Each line in the file specifies a received MIDI command and then the mapping to the serial command in inverted comments "".

For example, the first to lines in the default file are:

144,36"1t"

128,36"1u"

MagicQ checks the received MIDI note byes to see whether they match the values. So if the MIDI message matches 144 36 then it executes the remote command 1t (Test Playback 1). Similarly if it matches 128 36 then executes the remote command 1u (UnTest Playback 1).

Note that Test and Untest are like Activate and Release except they force the Playback level to be 100% and 0% respectively.

Note that for security reasons MagicQ limits the number of playbacks that can be controlled using MIDI and the remote protocols. On MagicQ consoles PB1 to PB34 can be controlled. On MagicQ PC, playbacks PB1 to PB10 can be controlled.

Users may use their own MIDI conversion file "usermidimap.txt" rather than the in-built "miditable.txt". This avoids user midi tables being overwritten when new software versions are loaded, since only the "miditable.txt" is updated on software updates.

36.1.3 Advanced MIDI mapping

It is possible to match all 3 MIDI message bytes including the velocity. So for example:

144,36,100"1t"

144,36,101"1u"

This would execute the Test Playback 1 when Note On for note 36 at velocity 100 was received and Untest Playback 1 when Note On for note 36 at velocity 101 was received.

To jump within a Cue Stack instead of testing / untesting a Playback just change the remote command in the inverted comments.

144,36"1,10j" // Jump to Cue Id 10 on Playback 1

It is also possible to map the note or velocity directly into the remote command using the %01 for the note and %02 for the velocity.

So the following command would look for Note On, Note 36 and then use the Velocity to jump to a specific step on the Playback.

144,36"1,%02j"

144,36"82,%02H"

The %02 is replaced with the velocity received, so that if MagicQ receives

144 36 50

then it will execute the remote command

1,50j

Which jumps to Cue Id 50 on Playback 1

For the latest list of remote commands check the section on ChamSys Remote Protocol Commands.

36.1.4 Default miditable.txt file

```
144,36"1t"
128,36"1u"
144,38"2t"
128,38"2u"
144,40"3t"
128,40"3u"
144,41"4t"
128,41"4u"
144,43"5t"
128,43"5u"
144,45"6t"
128,45"6u"
```

```
144,47"7t"
128,47"7u"
144,48"8t"
128,48"8u"
144,50"9t"
128,50"9u"
144,52"10t"
128,52"10u"
144,53"11t"
128,53"11u"
144,54"12t"
128,54"12u"
144,55"13t"
128,55"13u"
144,56"14"
128,56"14u"
144,57"15t"
128,57"15u"
144,58"16t"
128,58"16u"
144,59"17t"
128,59"17u"
144,60"18t"
128,60"18u"
144,61"19t"
128,61"19u"
144,62"20t"
128,62"20u"
144,63"21t"
128,63"21u"
144,64"22t"
128,64"22u"
144,65"23t"
128,65"23u"
144,66"24t"
128,66"24u"
144,67"25t"
128,67"25u"
144,68"26t"
128,68"26u"
144,69"27t"
128,69"27u"
144,70"28t"
128,70"28u"
144,71"29t"
128,71"29u"
144,72"30t"
128,72"30u"
144,73"31t"
128,73"31u"
144,74"32t"
128,74"32u"
144,75"33t"
128,75"33u"
144,76"34t"
128,76"34u"
```

It is possible to test how MagicQ responds to Midi commands by typing in the Midi message on the keyboard. This is only supported when connected to a MagicQ Wing or Interface. For example to test the command

144,36,127 Note On, note 36, velocity 127

Type testmidi followed by the message on the keyboard with no spaces between the MIDI values.

testmidi 144,36,127

36.2   MIDI Notes Transmit

Midi notes transmit is supported on MagicQ consoles with in built midi interfaces only. Midi notes transmit is not supported on MagicQ PC System's via 3rd party or virtual interfaces.

To transmit a MIDI Note command, first set the MIDI Out Type in the Setup Window. You can choose between "None", "Any chan" and "Requested Chan". When set to "Requested Chan" the requested channel is configured in the MIDI Out Chan field.

When set to "Any chan" MagicQ will send out any MIDI commands specified in the Cue Stack macro field regardless of the channel specified. When set to "Requested Chan" MagicQ will always change the MIDI commands before transmission to be sent on the requested MIDI channel

MIDI commands are entered in decimal in the Macro field of the Cue Stack Window (page right) using the 'N' macro command. It is possible to over-ride the channel specified in the MIDI commands using the MIDI Out Channel in the Setup Window.

CUE STACK (CS1: Midi loop test)					
Track	Zero old HTP	Zero old FX	Rel old chans	Macro	Comment
L	Yes	Yes	No	n144,38,127	
L	Yes	Yes	No	n128,38,0	

MIDI note commands are 3 bytes long, consisting of the command (note on / note off) byte, followed by the note and then the velocity

<note on/off> <note> <velocity>

For example, to send a note for middle C set the macro field to the following:

N144,60,127 // Note 60 on velocity 127

N128,60,0 // Note 60 off

MagicQ accepts both 'N' and 'n' to specify MIDI commands.

36.2.1   Patching MIDI channels

Since MagicQ 1.7.2.6, a special MIDI head can be patched that transmits MIDI data whenever the value of its channels change.

You can find the personality the PATCH - CHOOSE HEAD window under *Generic - mqmidi*. MIDI heads contain three channels: Status, Data 1, Data 2, allowing you to send any MIDI command. These channels can be found on encoders A B C on page 5 of the beam window.

The value of the status channel determines which data channels are sent.

No data will be sent if the status channel is lower than 128 or the data channels are larger than 127, in accordance with the MIDI specification. For more information on the values you can transmit, see https://www.midi.org/specifications/item/table-1-summary-of-midi-message

MIDI will only be sent when the channels *change*, therefore setting the status to 0 and back can be done for retransmission. Alternatively you can record a playback with the status channel set to 0 and keep it activated permenantly.

If you need to send multiple messages in one cue, you can patch multiple *mqmidi* heads; heads with lower head numbers will always be processed first. This way, for example, you can set one to a Note On command and another to a Note Off command.

Note
Sending MIDI messages with more than 2 data bytes is not supported via this method. Consider using the cue stack macro column.

36.3   MIDI problems

The MagicQ MIDI/Timecode interface can be easily tested using the test show midilooptest.show. This show simply runs a 2 step chase on Playback 1 which sends out MIDI commands corresponding to activation and release of Playback 2.

- Connect the MIDI interface to MagicQ

- Connect a MIDI cable from the Out to the In on the Interface

- Set MIDI In Type to "Any chan"

- Set MIDI Out Type to "Any chan"

- Load the midilooptest.shw

- Raise Playback 1

- If MIDI is working then Playback 2 should activate and release every 1 second.

If the loopback test works but connection to external equipment is failing, then try to insert active splitters or IN/THRU links into the system.

Note that we have experienced some problems with the signal level transmitted from low cost PC MIDI dongles operating at 3.3V. From July 08 our interfaces have been improved to boost the signal received from these devices.

36.4   MIDI Show Control

MagicQ supports MIDI show control when connected to a ChamSys 2010 MIDI/Timecode Interface.

MagicQ responds to the GO, STOP, RESUME and TIMED GO commands.

The effect of the MIDI show control commands is determined by the MIDI show control type. This is configured in Setup Window, View Settings, MIDI/Timecode, Show Control Type. The options are Normal, Cue Stack 1 and Playback 1. This is useful for integration with (e.g.) Strand consoles which only have 1 Cue Stack and which do not allow the show Control commands to be configured.

When set to Normal then MIDI show control commands trigger Cues in the Cue Store or Cue Stacks in the Cue Stack Store. MSC commands with two parameters (Q number, Q list) will trigger Cue Stacks in the Cue Stack Store. MSC commands with one parameter (Q number) will trigger Cues in the Cue Store.

When set to Cue Stack 1 or Playback 1 then the commands will affect Cue Stack 1 or the Cue Stack stored on Playback 1 respectively.

MagicQ ignores the times in the TIMED GO command and uses the programmed times. GO and RESUME have the same effect.

MagicQ MIDI/Timecode interfaces manufactured prior to October 2009 must be upgraded to latest firmware by ChamSys to support MIDI show control messages. Please contact your dealer/distributor for more info.

36.4.1 MIDI Show Control Command Format

For more details on MIDI Show Control protocols see http://en.wikipedia.org/wiki/MIDI_Show_Control

MIDI Show Control Commands are of the format

F0 7F <device_ID> 02 <command_format> <command> <data> F7

<device_ID> is 7F for "all call" ID for system wide broadcasts

<command_format> is 01 for "Lighting"

MagicQ supports the following commands in the <command>

- 01 GO

- 02 STOP

- 03 RESUME

- 04 TIMED_GO

For example:

F0 7F 7F 02 01 01 31 F7 // Go Cue 1 in the Cue Store

F0 7F 7F 02 01 01 32 30 F7 // Go Cue 20 in the Cue Store

F0 7F 7F 02 01 02 31 F7 // Stop Cue 1 in the Cue Store

F0 7F 7F 02 01 01 00 31 30 F7 // Go Cue Stack 10 in the Stack Store

F0 7F 7F 02 01 01 32 00 31 30 F7 // Go Cue 2 on Cue Stack 10 in the Stack Store

It is possible to test how MagicQ responds to Midi Show Control messages by typing in the Midi message on the keyboard. This is only supported when connected to a MagicQ Wing or Interface. For example to test the command

F0 7F 7F 02 01 01 31 F7

Type testsysex followed by the message on the keyboard without the initial F0 and with no spaces between the MIDI values

testsysex 7F7F02010137F7

36.5 MIDI Beat Clock

MIDI Beat Clock support requires a MIDI/SMPTE interface with version 4 firmware. Pro 2014s, MQ60s, MQ70s, MQ80s and MQ500s have inbuilt MIDI Beat Clock support.

When MagicQ receives a MIDI Beat Clock message it toggles the remote trigger input as if the remote trigger input had been pressed or released.

Set Remote Trigger Type to "MIDI Beat" to get a remote trigger every MIDI beat or "MIDI Beat Half" or "MIDI Beat Qtr" to get triggers for half and quarter notes.

Remote input can be used in multiple ways by setting Setup, View Settings, Ports, Remote Trigger Action including "Audio Bump" and "Tap to Time Sel PB".

36.6 MagicQ MIDI/Timecode firmware versions

3	Fixed SMPTE drop frames
4	Added MIDI beat clock support
5	Fixed incorrect timecode config
6	Fixed MIDI notes input channel filtering
7	Fixed MIDI timecode generate flags
8	Fixed LTC decode after LTC generate

Chapter 37

Timecode Support

MagicQ supports both time code decode and time code generation.

MagicQ MQ70, MQ80, MQ100 Pro 2014 and MQ500 consoles have inbuilt support for Timecode. MagicQ consoles do not support timecode via 3rd USB party MIDI interfaces or through the console phono (rca) interfaces. For MQ80, MQ100 and MQ500 we recommend balanced input. For MQ70 it can be balanced or unbalanced.

On MagicQ PC / Mac systems MIDI and timecode can be received using an external MagicQ MIDI/Timecode interface or a 3rd party USB/Virtual MIDI interface. Timecode and MIDI beat clock are only supported on 3rd party USB/Virtual MIDI when a MagicQ Wing or Interface is connected. MIDI notes is only supported on 3rd party USB interfaces when a ChamSys rack mount dongle is attached. For timecode we recommend the Adrem solutions TC1 time code reader (http://www.adrem-solutions.com).

Cue Stacks can be set up to run Cues according to timecode signals received from external sources via LTC or MIDI timecode. They can also be set up to use an Internal timecode source which is activated from 0:0:0 when the Cue Stack is activated.

See Timecode Cue Stacks.

Automation events can be triggered by timecode.

37.1   Timecode Decode

MagicQ supports decode of both linear time code (LTC) and MIDI time code.
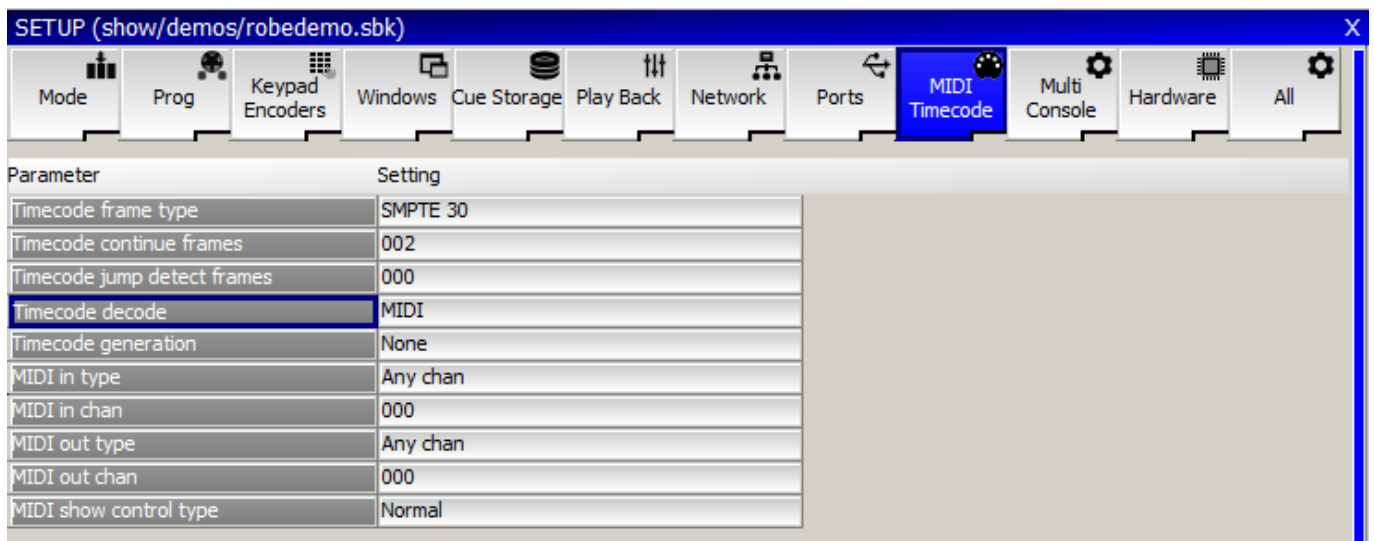
Set the Timecode Decode to LTC or MIDI. Timecode Generation must be set to None.

The timecode type can be set to EBU-25, SMPTE30, NTSC30 and Film 24. When a MagicQ MIDI/Timecode module is fitted the Status Display will show the current timecode being received.

```
Chris-PC  Sun Jul 13 11:28:54 2008 Ver 1.3.6.5 Build 32
Page 3 :       Add  TC <0/00/11.12>
```

The timecode continue frames is the number of frames to continue internal regeneration of the timecode signal when it is lost. After this time the timecode will be frozen until a signal is received again.
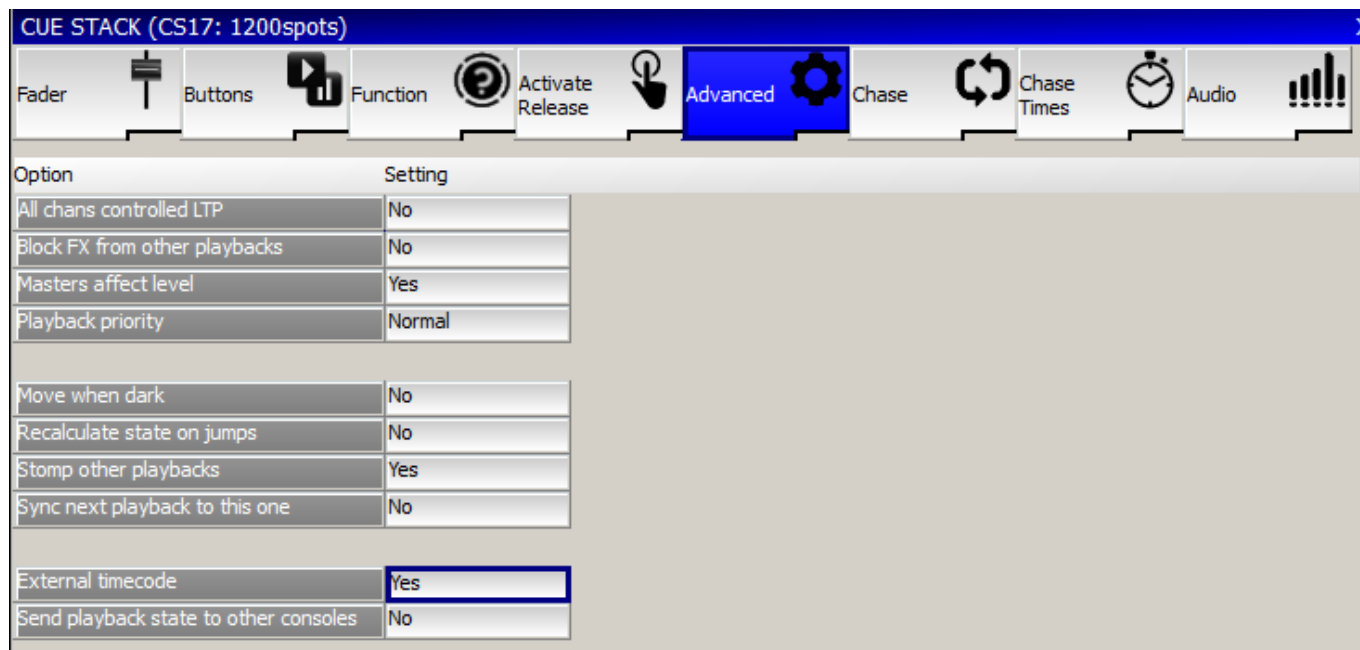
Time code can be triggered from an external timecode source using the MagicQ MIDI/Timecode module, or it can run from the internal time code source. To control a Cue Stack using external timecode set the "External timecode" option in the Cue Stack options.

37.2   Timecode from Winamp

On a PC, timecode can be received from Winamp instead of from a MagicQ MIDI/SMPTE interface.

The PC must have a MagicQ Wing or MagicQ Interface connected, or be connected to a network with a MagicQ console. If connected via network then check in Setup, View System, View Status, Net Consoles that the MagicQ PC can see the MagicQ console in the network. It should report status 03c3. If it can not see the console check that MagicQ (mqqt.exe) is not being blocked by a firewall such as Windows Defender.

Patch a Winamp personality in MagicQ (winamp_winamp.hed). If there is no Winamp personality in the show file then MagicQ will not connect to Winamp.

When MagicQ has a Winamp personality patched, MagicQ detects the instance of Winamp running and connects to it automatically. There is no need to configure anything in Winamp.

Set Timecode Decode to Winamp - the received timecode will be shown in the status display prefixed by "WTC".

When a file is played in Winamp the timecode will start running. Winamp typically starts the first track at 1/0/0 instead of 0/0/0 - but this will depend on how you set up the tracks in Winamp.

37.3   Timecode Simulator

MagicQ includes a powerful timecode simulator for simulating external timecode when an external timecode source is not available. In the Setup Window, the simulator is turned on using soft button Y. When the simulator is on, then any received external timecode is ignored.

The timecode start value can be set by entering a timecode value and pressing the X soft button. The X soft button is also used to start and stop the timecode running.

Entering a new timecode value whilst the timecode simulator is running will jump directly to the new value and continue running.

Typing * before pressing the X button will restart from the last entered timecode.

From v1.7.1.3 the Timecode Simulator is also available in the Cue Stack window.

37.4   Timecode Generation

MagicQ can also master time code. Timecode Generation takes priority over Timecode Decode, so only enable Timecode Generation if it is required.

Set Timecode Generation to LTC or MIDI. Timecode Decode should be set to None.

There are special macro field commands to enable time code mastering and to set the time code value.

W <enable> Enable / disable time code generation (1 for enable, 0 for disable)

Q <time code> Set current time code (also enables time code generation)

For example to set timecode to 0/01/00.00

Enter Q100 at the cue stack macro.

37.5   Timecode Re-transmit

The LTC or MIDI timecode decoded from a MagicQ MIDI/Timecode interface or from Winamp can be retransmitted over the network as Art-Net timecode.

This can then be received by any MagicQ console on the network even if it does not have a MIDI/SMPTE interface - just set the timecode input type to ArtNet.

For MagicQ PC/Mac systems the receiving system must have a MagicQ Wing or MagicQ Interface connected to enable the decoding of the ArtNet timecode - but this does not have to be a MagicQ MIDI/SMPTE interface.

PC/Mac systems with Winamp must have a MagicQ Wing or MagicQ Interface connected to enable the timecode to be received from Winamp.

Chapter 38

Remote Input port

The MagicQ PC Wing, MagicQ MaxiWing and MagicQ consoles support a remote input port on the rear panel, which can be used to trigger functions in MagicQ from an external control device or switch.

The remote trigger can be used to trigger Cues in Cues Stacks, to flash playbacks, as a master GO button, or as a ADD/SWAP selector.

38.1   Connection (MagicQ Consoles, MagicQ PC Wing Compact and MagicQ Maxi- Wing)

The remote input is provided on a standard 4 pin mini DIN connector.

The connections are (in the sequence they appear physically on the connector)

2	0V and equipment ground
4	Opto isolated input negative
3	Opto isolated input positive
1	Power supply positive (5 Volt, current limited)

The remote input can be used to receive an external signal on the opto isolated inputs, or it can be wired to an external switch. To receive an external signal wire the signal + to pin 3 and the signal – to pin 4. When used as external optically isolated input the maximum continuous voltage rating is 24V DC.

When wiring to an external switch links pins 2 and 4. Then connect the external switch between pins 3 and 1.

38.2   Connection (Original PC Wing)

On the original PC Wing the remote input is provided on a standard 5 pin 180 degree DIN connector.

The connections are (in the sequence they appear physically on the connector)

3	0V and equipment ground
5	Opto isolated input positive
2	Power supply positive (5 Volt, current limited)
4	Opto isolated input negative
1	0V and equipment ground (same as pin 3)

The remote input can be used to receive an external signal on the opto isolated inputs, or it can be wired to an external switch. To receive an external signal wire the signal + to pin 5 and the signal – to pin 4. When used as external optically isolated input the maximum continuous voltage rating is 24V DC.

When wiring to an external switch links pins 4 and 1. Then connect the external switch between pins 2 and 5.

38.3   Enabling the remote input in MagicQ

In the View Settings view in the Setup Window page down to the Port Settings. Set up the remote trigger type and remote trigger action.

The remote trigger type can be set to NONE, MAKE, or BREAK, depending on whether your external switch is a push to make or a push to break switch. When using an external signal, setting the type to make will cause a trigger when the voltage differential is positive.

The remote trigger action, determines what action is taken by MagicQ when the remote input signal is detected. The options are:

- NONE

- CURRENT PLAYBACK GO

- CURRENT PLAYBACK FLASH

- ADD/SWAP

- SWAP

- DBO

- WING1 PB1 GO

- WING1 PB1 FLASH

- WING1 PB12 GO

- WING1 PB12 FLASH

- PB10 GO

- PB10 FLASH

- AUDIO BUMP

- TAP TO TIME

When set to NONE there is no special action associated with pressing the remote input. However, the remote input can still be used in Cue Stacks to trigger specific cues by setting the Halt Field in the Cue Stack to REMOTE. The Cue will then wait till the remote trigger is detected before starting to execute the Cue.

When set to SWAP, playbacks are set to SWAP mode whenever the remote signal is detected – this can therefore be used with a foot-switch to temporarily engage SWAP mode.

WING1 PB1 GO and WING1 PB1 FLASH are provided as an alternative to the current playback GO and FLASH. This allows, for example, a smoke machine to be set up on WING1 PB1 trigger by the remote input.

AUDIO BUMP allows the remote trigger to be used in the same way as when triggering from receiving audio. Any Cue Stack set with "Audio Bumps Go" set will bump one step every time the remote input is triggered.

TAP TO TIME changes the speed of the currently selected playback.

In Setup, View System, View Status there is a counter of the number of times the remote input has been switched since the system was started. This enables MagicQ to be used to count the number of times an event has occurred – e.g. customers pressing a button or starting a presentation sequence.

Chapter 39

Scene Setter

The MagicQ Scene Setter enables control of MagicQ from a remote location using a fixed network connection. The Scene Setter has 4 playback faders and 12 playback buttons, and can be mapped to the wing playbacks on a MagicQ system. An LCD screen shows the legends for the playbacks.

The Scene Setter can be powered from the SnakeSys R4 which features a 3 port POE Switch, thus avoiding the need to run separate power cables. The scene setter can also be powered from any 48v PoE capable network switch that provides power on the unused Cat 5 pairs. If not used with a PoE switch, a Power over Ethernet injector will be required to power the unit.

Multiple Scene Setters can be used in a system - each with a separate ID, allowing each to control 4 different playbacks on the MagicQ system.

On MagicQ PC/Mac the system needs a MagicQ Wing or Interface, Rack Mount Dongle or SnakeSys network device connected to enable the Scene Setter functions.

39.1 Powering the Scene Setter

The Scene Setter can be powered from the SnakeSys R4 which features a 3 port POE Switch, thus avoiding the need to run separate power cables. The Scene Setter can also be powered from any 48v PoE capable network switch that provides power on the unused Cat 5 pairs. If not used with a PoE switch, a Power over Ethernet injector will be required to power the unit.

POE is required on the unused data pairs (4,5 DC+ and 7,8 DC-). Any suitable power injector that supplies 48V at up to 1Amp on the unused pairs is acceptable. Note that you need to check the specification of your network switch or power injector as many common brand names only supply power on the used pairs, not the unused pairs.

The Scene Setters can be used with MagicQ consoles and also MagicQ PC systems. The Scene Setters are only supported on MagicQ PC systems when connected to a MagicQ USB device (not a MagicDMX interface), Rack mount dongle or SnakeSys network device.

The Scene Setters fit into a 6/8 Gang back box.

39.2   Configuration

To enable the Scene Setter in MagicQ software, set one of the Wings in Setup, View System, View Wings to "Remote Panels".

A "D" in the Status Window shows that the panel is detected. It will then control four Playbacks on that Wing. Playbacks can be programmed on MagicQ from the Playback Window.

MagicQ Scene setters come with an IP address in the 2.9.200.XX range, note your MagicQ Console or MagicQ PC must be set to have an IP address in this range, with a subnet mask of 255.0.0.0.

39.3   Using the Scene Setter

The four playbacks control the playbacks just as if they were fader and buttons on a MagicQ Playback Wing. The top buttons are the S buttons, the next ones down the GO buttons, then the BACK buttons and the bottom buttons are FLASH buttons.

Alternatively the buttons can be assigned to Scene Setter autom events. When a button is assigned to one or more Autom events then the normal function of the button (e.g. S, Go, Back, Flash) is overridden. The button assignment affects all scene setters in the system.

Added support for Autom event to toggle Cue / Cue Stack on/off - this is useful when using Scene Setter buttons.

39.4   Changing the IP Address

The Scene Setters come set with an IP address in the 2.X.X.X network range. This can be found using the Digi utility program.

To change the IP settings of the Scene Setter, you must first connect to the Utility for changing the IP address and that can be found on the URL provided below: www.digi.com

For Windows 7:

http://ftp1.digi.com/support/utilities/40002319_p.exe

When you have connected your Scene Setter to your the PC and the Digi Utiltly has loaded up, it will automatically look for the Scene Setter over your network. Once set up you can change the IP Address.

Advanced Scene Setter Configuration

The Scene setter can be remotely configured using a web browser.

Type the IP Address of the device into a web browser. You should see a login box. The username and password are as below.

Login: root Password: dbps

Once you are logged in then you can configure all the settings of the network module in the Scene Setter. Note that if you change the IP address of the Scene Setter then it will be necessary to use the new address in your browser address bar.

39.5   Setting up the Serial Port

The serial port on the scene setter is set up at ChamSys so it should not be nececsary to change these settings. If the configuration is lost for any reason then from the web browser connected to the Scene Setter:

- Change Profile

- UDP Sockets

- Enable UDP port using port 6554.

- Then set it to "Automatically Send Data" on to 2.255.255.255 port 6554.

- Send when data is present on the line and match "mahC".

- Untick "Send after following number of idle milliseconds"

Then Apply these settings.

Also set the Basic Serial Port settings to 9600, 8 bits, 1 stop bit, no parity, and no flow control.

Chapter 40

Open Sound Control (OSC)

MagicQ version 1.7.2.6 and onwards supports sending and receiving of Open Sound Control (OSC) messages.

OSC is a network protocol commonly used to send messages between audio visual programs, such as show control, sound effect and tablet applications. The protocol is free to implement which makes it increasingly popular; the specification can be found at http://opensoundcontrol.org/introduction-osc

OSC is supported on MagicQ consoles (Except MQ40 and MQ40N consoles) and PCs with a MagicQ wing or interface attached.

MagicQ can interact with OSC in the following ways:

- Receive messages controlling the first 10 playbacks

- Receive messages controlling buttons, faders and encoders in the Execute Window

- Convert messages to ChamSys Remote Ethernet Protocol commands and midi messages

- Respond to message by using the Autom Window

- Send messages using the macro field of cue stacks

- Patch a special OSC head that sends messages when the value of the channel changes

An OSC message consists of two parts:

- **Address**: a forward slash followed by the name of the message. Can be separated by slashes, similar to file paths. e.g. `/myosc/method/address` or `/triggercue`

- **Arguments**: zero or more values, each with a specific type. Common types are:

  - *integer*
  - *float*: number with a decimal place
  - *string*: line of text
  - *midi*: MIDI message

40.1 Setup

To enable OSC on MagicQ you need to set the mode, and the transmit and/or receive port numbers in Setup, View Settings, Network. Setting a port to 0 disables transmitting/receiving of OSC. Optionally, a transmit IP address can be specified or set to 0.0.0.0 to broadcast to all computers on the network.

Note
Port number need to be higher than 1024 on most systems. A good default is 9000 transmit and 8000 receive.

40.2   Receiving messages

40.2.1   MagicQ OSC addresses

The following table lists the built-in OSC messages that MagicQ will respond to. Only the first 10 playbacks and first 10 execute grids can be controlled with the built-in addresses.

You can use the AUTOM window to extend control to other parts of the MagicQ system.

Table 40.1: OSC Addresses

Address	Arguments	Behaviour
/pb/*<playback>*	float between 0.0 and 1.0 *or* int between 0 and 100	Set playback fader level
/pb/*<playback>*/go	(optional) non-zero value	Go on playback
/pb/*<playback>*/flash	0 sets to 0% non-zero sets to 100%	Set playback level to 100%
/pb/*<playback>*/pause	(optional) non-zero value	Pause playback
/pb/*<playback>*/release	(optional) non-zero value	Release playback
/pb/*<playback>*/*<cue>*	(optional) non-zero value	Jump to cue
/dbo	0 turns on non-zero turns off	Blackout
/swap	0 = add non-zero = swap	Set swap mode
/exec/<page>/<item> /exec/<item>	(optional) one of following *no arguments* = activate button/fader *0* = relase button/fader; lower encoder *1* = activate button/fader; raise encoder *float between 0.0 and 1.0* = set fader level *int between 0 and 100* = set fader level	Control button, fader or encoder in execute window
/rpc	string with commands	Send remote ethernet command
/rpc/<commands>	None	
/midi	MIDI bytes	Send MIDI message - processed as if recieved from MagicQ or USB MIDI device (timecode messages are ignored)
/feedback/off	None	Turns feedback off
/feedback/pb /feedback/exec /feedback/pb+exec	None	Turns feedback on and transmits state of playbacks and executes (see TouchOSC)

If unspecified, as an argument either a float or an int is accepted.

<playback> := number between 1 and 10

<cue> := number with optional decimal, e.g. 2.5

<page> := number between 1 and 10 for execute grid, or name of execute grid

<item> := number of box in execute grid, or grid reference e.g. 4x3 for row 4 col 4, or name of execute item

40.2.2 Automation

MagicQ can respond to user-defined OSC messages by adding rows to the MACRO - VIEW AUTOM window. After seting the type to *OSC Message*, set the OSC address in the *P1* column.

Depending on the trigger type, an argument may be expected, e.g to set a fader level. This can either be an integer between 0 and 100 or float between 0.0 and 1.0.

VIEW DATA	VIEW AUTOM			INSERT AUTOM

MACRO

Type	P1	P2	P3	Function	F1
OSC Message	/tap			PB tap to time	PB1
OSC Message	/song1			PB go	W1-1
OSC Message	/song2			PB go	W1-2
OSC Message	/haze			PB level	W1-24

40.3 Sending messages

40.3.1 Cue stack macros

OSC messages can be sent by using the macro field of a cues inside the CUE STACK window.

OSC addresses should be entered into the macro field, preceeded by the letter K. This macro cannot be combined with other macros.

The address can be followed by an optional comma separated list of arguments.

Cue		Next cue	Timing	Track	Block FX	Cue Only	Macro
Q13		Next	Cue	HLF	No	No	
Q10		Next	Cue	L	No	No	
Q11		Next	Cue	L	No	No	K/play/video,1
Q16		Next	Cue	L	No	No	
Q17		Next	Cue	L	No	No	
Q18		0.10	Cue	L	No	No	K/stop/video,1

Note
Specifying commas and backslashes in string arguments should be escaped with a backslash, e.g. \,, and \\.

40.3.2 Patching OSC heads

A generic 1-channel personality can be patched that will send OSC messages whenever the value of the channel changes. This personality can be found in the CHOOSE HEAD window under *Generic - mqosc*. You can choose between three modes depending on the type of argument you want sent in the OSC message.

The channel value can be set using encoder Y in the INTENSITY window.

You will need to change the name of the head to the address of the OSC message, followed by an optional comma separated list of arguments that will be added before the value being transmitted (see Cue stack macros above).

40.4 TouchOSC

TouchOSC is a free iOS and Android application that can be used to create custom layouts of buttons, faders and encoders, and attach these controls to OSC messages.

There is an example TouchOSC file and show file in the MagicQ show folder called *magicqdemo.touchosc* and *MQTouchOSCDemo.shw*. You can load the TouchOSC file onto the app and edit the layout with the editor tool provided at http://hexler.net/software/-touchosc#downloads

In the demo, the *Load vals* button sends a */feedback/pb+exec* message which transmits the current state of playbacks and execute controls to the TouchOSC app. This also enables automatic sending of any changes to playbacks and executes to keep the TouchOSC controls in sync with MagicQ.

The *Load vals* button can be used to reload the state of MagicQ if the app gets closed or after network loss.

40.5 Troubleshooting

40.5.1 Transmit or receive not working

Make sure transmit and receive ports are set opposite to the device you are communicating with.

If there are multiple networks cards on the PC, make sure the IP address in MagicQ setup is set to the IP address of the interface you want OSC to transmit on.

Make sure the OSC address starts with a forward slash.

Make sure the address does not contain any characters that are disallowed in the OSC specification.

If specifying arguments after the address in a cue stack macro or patched head, ensure the address is followed by a commma, and that there are no unusual characters. Backslashes in string arguments can also cause issues, only use a double backslash \ \ or to escape a comma \ ,

Ensure MagicQ is out of demo mode.

Check transmit and receive port numbers are set to values larger than 1024.

Check for any firewalls (e.g. Windows firewall) that may stop messages from being recieved.

40.5.2 Messages getting lost

Be careful not to flood the network with large amounts of OSC traffic, particularly if using OSC heads.

Large amount of broadcast Art-Net universes may case delayed or lost OSC messages.

40.6 Notes

MagicQ only supports OSC over UDP. Receiving OSC bundles is supported, although MagicQ does not currently transmit bundles.

OSC patched head names are restricted to 15 characters.

In the Execute Window, select an item, type / / and press ENTER to display the OSC address that is associated with the button. This is also the address that gets sent when feedback is enabled.

Chapter 41

MagicQ Visualiser

41.1   MagicVis

MagicQ includes a visualiser called MagicVis available for Windows, Mac and Linux.

MagicVis is available in two versions:

- A standalone application called MagicVis that can connect to a MagicQ console or receive ArtNet or ACN data from other brands of console over a network.

- Part of the MagicQ PC application. This allows the editing and visualisation of a show on one PC.

The MagicVis application enables Lighting Designers to add visualisation to their MagicQ console simply by connecting a network cable and starting the MagicVis application. The graphics and processor intensive visualisation is performed on the attached computer, thus ensuring that the MagicQ console continues to run at full performance.

In order to render the beams MagicVis uses the graphics card in your PC / Mac - the better the performance of your graphics card then the better performance of the visualiser. PCs and Macs with shared graphics memory will perform slowly and will only be able to render small lighting rigs. A Nvidia or ATI/Radeon graphics card costing £100/£120€/160$ will make all the difference to your system.

41.1.1   Using the Separate MagicVis Application

The separate MagicVis application can connect to a console or a separate PC running MagicQ software. The show will be automatically loaded from the console over the network.

Configure the IP addresses of the both the console and the laptop to be within the same IP address range, e.g. set the console to IP address 2.0.0.1 netmask 255.0.0.0 and the laptop to 2.0.0.2 netmask 255.0.0.0. On the console

setup → VIEW SETTINGS → Multi Console

and ensure that **Enable Remote Control** and **Enable Remote Access** are set to **yes**.

Connect the console and the PC/Mac with an inverted network cable, then start MagicVis. It should find the console automatically and connect. If the name of the console appears in red then make sure that **Enable Remote Control** and **Enable Remote Access** are set to **yes** on the console. If the IP address is red then it is on the wrong subnet.

If MagicVis fails to connect to the console click on *File → Settings...* to bring up the *Settings* dialog. Click on the *Network* tab then choose the network adaptor/IP address of the network port that connects to the MagicQ console. Then select the console from the list. If the console does not appear on the list then check the connecting cable.
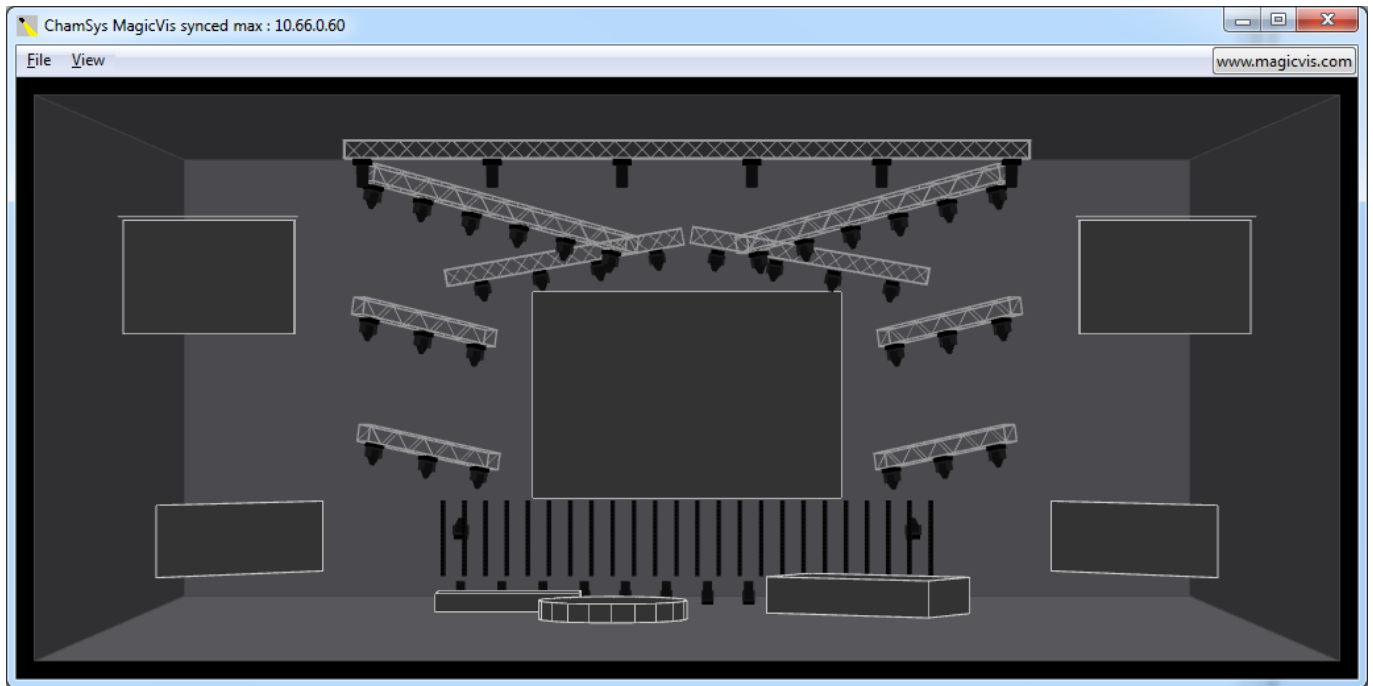
Initially the title bar in MagicVis will show **searching for consoles**, then **trying to connect** once it has found a console. Once a connection has been made with the console then it will change to say **waiting sync**. Once the show data has been transferred over the connection from the console to the MagicQ vis application then it will change to say **synced**.

If the system continues to say **trying to connect** then check firewalls are disabled. In some systems you may need to disable other network adaptors such as the wireless adaptor. Windows often classifies lighting networks as *public* networks and applies different firewall rules.

Once MagicVis is synced then whenever you load a new show on the console or change the visualiser patch then the changes will automatically appear in the visualiser.

When MagicVis starts it assumes that it will receive DMX data on ArtNet starting from ArtNet Universe 0-0. As soon as MagicVis has a connection with a console it then starts using the DMX protocols and universes in use on that console for each of the patched universes. If the universes are not enabled on the console then the console will send the DMX data directly to the MagicVis using its own MagicVis protocol. This enables MagicVis to be used on a system where the outputs are not enabled.

Note that even when MagicVis is not synced it will visualise according to received ArtNet. ArtNet is sent separately to the connection for show data transfer.

41.1.2   Using MagicVis with other consoles

MagicVis can be used with third-party consoles other than MagicQ. The visualisation show must first be created in MagicQ and then loaded into MagicVis for use with the other console.

Load a MagicQ show file directly into MagicVis by clicking on *File → Load Show*. In this mode there is no sync, MagicVis just looks at the incoming ArtNet data for rendering the beams but does not sync the patch.

Tip
Once a show has been loaded using *Load Show* MagicVis will not try to sync with a console.

41.1.3   Using the Visualiser in MagicQ

Run the MagicQ software then go to the *Visualiser* menu in the menu bar and click on *Show Visualiser*. The window can be sized and moved to the required position.

As the Visualiser is integrated with the MagicQ app it is not necessary to set up IP addresses or enable/configure universes.

41.2   Using MagicVis

MagicVis provides five views – Perspective, Top, Side, Front, and Free. The view can be changed either from the *View* menu in the MagicVis window or in MagicQ in the *Patch* window, using Soft Button E. The Top, Side, Front and Free views are orthographic projections. If the camera is moved while in an orthographic view then the view automatically becomes Free.

You can rotate the camera around by pointing the mouse at the visualiser window, clicking and holding then moving the mouse around. Move the camera back and forth with the scroll wheel, or by pressing CTRL and right-clicking. Hold down SHIFT, click and move the mouse to translate the camera and hold SHIFT and move the scroll wheel to zoom in and out.

The lighting level of the room can be changed by clicking on *View → Dark*.

Tip
The demo show files have visualiser rooms set up. The *ExhibitionDemo* file uses MagicVis extensively and includes MagicHD integration. Use these to see examples of how to create your own MagicVis visualisations.

41.2.1   Patching Fixtures in the Visualiser

When you patch the first head in your show, MagicQ will prompt you whether you wish to auto insert heads into the visualiser.
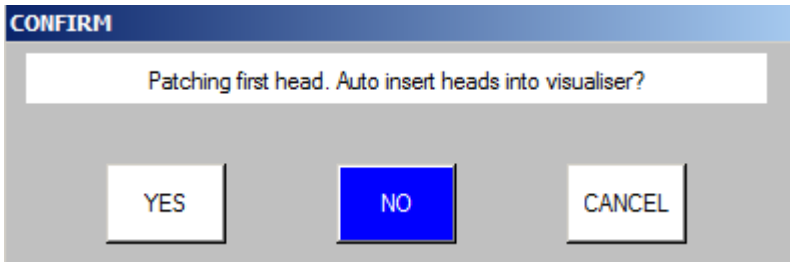
Once a head has been patched into your show MagicQ will not prompt you again. If you wish to change the setting then you can enable or disable auto insertion in

setup → VIEW SETTINGS → Mode → Visualiser.

When you patch heads in VIEW HEADS, MagicQ patches the head in the VIEW HEADS view but also generates a visualiser object in VIEW VIS.

Visualiser heads are separate from MagicQ heads – for instance you can have multiple visualiser heads associated with one patched head. You might want to do this if you had two par cans on a single dimmer channel – you would have one Generic Dimmer patched in MagicQ and two visualiser heads.

By default when you patch heads MagicQ creates one visualiser head per MagicQ head. You can add extra visualiser objects for a head using INSERT.

41.2.2   View Vis View

Patch → VIEW VIS

The VIEW VIS view manages the data for the visualiser. There are several different tabs including Selected Heads, Vis Heads, and Attach Objects.

In *Selected Heads*, all the visualiser heads for the currently selected heads will be shown in the list. Heads are selected as usual using groups or direct from the keypad. In this view the encoders and soft buttons will apply changes to all the visualiser heads for the selected heads.

In Vis Heads, all the visualiser heads are shown. In this view the encoders and soft buttons will apply changes to the visualiser head under the cursor. Use SHIFT/CTRL and the cursor keys to apply changes to multiple heads.

In Attach Objects, all the other (non fixture) objects are shown in a list. In this view the encoders and soft buttons will apply changes to the object under the cursor. Use SHIFT/CTRL and the cursor keys to apply changes to multiple objects.

41.2.3   Positioning the Heads in the Visualisation

When you patch heads they automatically become selected so that in

Patch → VIEW VIS → Selected Heads

you will have direct control of the positioning and orientation of the head using the encoder wheels and soft buttons.

Encoders X, Y and F are used for X,Y and Z positioning.

Pressing the soft buttons X, Y and F increases the position by 1 metre on that axis. Pressing SHIFT + the soft button decreases the position by 1 metre on that axis.

Use fan to spread the position apart on the X,Y, or Z position wheels.

Encoders B, C and D are used for rotation around the X, Y and Z axis.

Pressing the soft buttons B, C and D rotates the heads by 90 degrees around that axis. Pressing SHIFT + the soft button rotates the heads by – 90 degrees around that axis.

You can also enter values directly into the spreadsheet view of the VIEW VIS window.

You can change multiple values at a time by using SHIFT/CTRL and the cursor keys. Use THRU to enter a spread of values e.g. -5 THRU 5 to spread the X position between -5 and 5 metres.

41.2.4   Objects

In View Attach you can insert many different types of objects, including trusses, pipes, people, simple shapes and commonly found furniture. You can also import custom model files in many different formats.

To create an Object press the INSERT soft button, then select what kind of object is to be created. The object is then created and added to the list. To add a sphere or a cylinder create a *Form* object then go to the *model* column, press Set and select the desired shape.

Enter values in the window for length, width and height. Adding a ' after the number enters the dimension in feet rather than metres – so for 10 feet enter 10'.

Position the truss or pipe as required. Enter a name in the window for the truss or pipe.

After you insert a truss or pipe, then subsequent heads that are patched will be attached to that truss or pipe object. If for example you patch 6 spots after inserting a truss object, then they will be spread out along the length of the truss.

When you create reports, then as well as overall plots, a plot is created for each attach object – enabling the lighting rig to be broken down into separate pipes and trusses.

A texture can be applied to a Form object by entering the name of the texture in the Texture field. The texture should be stored in the bitmaps folder, for example ChamSys.png.

Tip

Create a truss and set the model to **Invisible** to group lights together and create useful plots for them.
For example in the *ExhibitionDemo* show the PixelLine fixtures may be rigged on individual vertical pipes but in MagicVis they are all rigged on one invisible truss which is rotated so that when the paperwork is created there is a plot with all the PixelLines on it rotated so that it is obvious how they are laid out.

41.2.5 Drapes

To add a drape to the scene press the INSERT soft button, then select *Drape*. The drape will then be added to the scene. The width, height and depth of the folds can be adjusted as usual, as can the position and rotation. The extra params columns at the end of the table allow fine control over how the drape is rendered. Param 1 controls the size of the wave. This defaults to 0.3m.

Param 2 controls how flat the folds are at the top of the drape. A value of 0 will show them entirely flat at the top, while a value of 1.0 will show the folds at the same depth as they are at the bottom, as though the drape were hung from a track system.

Param 3 sets the randomness of the folds. Real drapes do not hang evenly so the folds are often different sizes. Setting the Param to 0 will make all the folds the same, increasing it will make them vary. The default value is 0.4.

41.2.6 Custom Models

To add a custom model, press the INSERT button, then select *Model*. A model object will be added to the scene; this will be invisible at first, until a model file is chosen for it.

To choose a model file, select the "texture" field; a menu will appear, allowing the selection of any previously imported model, along with an option to import a new model.

To import a new model, select the "Import Model. . . " button on this dialog. The file manager will appear, prompting for a model file to import. Only supported formats will be shown. Once a file is selected, another dialog will appear prompting for the import settings: whether to use the Y or Z axis for vertical, and what length units are used in the model.

To properly determine these settings, you should ask the person who created the model. As a rough rule of thumb, if the model was created by an artist, the Y axis may be vertical; if it was created by an engineer, the Z axis is more likely. If the wrong value is selected, the model will appear flipped front-to-back and rotated 90 degrees, lying on it's front.

Model objects have a slightly different scaling behaviour than other objects. Their default length, width and height is zero; this means that the object will use it's "native size", using the units specified using the process above.

If only one of length, width, and height is specified, and all other values are set to zero, then the model will be scaled such that that axis takes on the given value in metres; all other axes will be scaled proportionally, preserving the model's shape.

If all three axes are given (none are zero), then all three axes will be scaled independently, to the given values in metres. This will distort the shape of the model if proportional values are not given.

Only specifying two axes (leaving one at zero) is unsupported, and will produce unspecified behaviour.

Tip

It is not reccomended to use models with a very high polygon count (also specifed as triangle or vertex count); this can lead to a degredation in performance, especially on older hardware, when many lights are active in the scene, or when shadows are enabled.
To avoid this issue, try searching for or requesting "low-poly" models for use in MagicVis. As a rough guide, try to avoid using more than 1000 polygons per model.

41.2.7   Attaching Heads to Objects

Heads can be attached to trusses or pipes at any time. Select the fixtures you wish to attach using groups or the keypad. Change to VIEW VIS → Selected Heads tab and press the FIT TO OBJECT soft button.

Alternatively in the Vis Heads tab, double click on the Attach field. MagicQ will prompt you with a list of all the attach objects to choose from.

Heads that are attached to an object move with that object – so repositioning that object in the Attach Objects tab will move the object and all the attached heads.

MagicVis supports Hang Types so that Heads can be fitted to Attach Objects in specific orientations. This information is also available in the MagicVis reports. Hang type options are Normal, Bottom rear, Bottom front, Top rear, Top front face up, Top front face forwards, Top boom, and Bottom Boom.

41.2.8   Modifying Beam Angle and Fixture Shape

In Patch, View Heads it is possible to set specific shapes and beam angles for generic heads. When set these fields override the defaults from the chosen personality. The shape is also shown in the Fixture Patch report.

If you wish to change the beam angle for fixtures other than generic heads then you must change the Zoom Narrow and Wide in the Params tab of the Head Editor for the chosen personality.

41.2.9   Visualising Media Servers

MagicVis can preview the output from media servers, including MagicHD. First of all make sure that the Media window on the console is displaying a live preview of the media server output. Then, in the *Attach Objects* window add a *Form*. Set the *Model* to *Sheet* and set the *Texture* to *mp* and the number of the media server. The Media Server number can be found in the *Setup*, *View System*, *View Media* window.

For example if the media server was the first in the *View Media* window then the *Texture* would be *mp1*. If MagicVis is unable to connect to the media server then the sheet will display "Media Server 1". If there is still no connection after 1 minute then the text will disappear. The preview is done via CITP so is quite low resolution.

41.2.10   Moving Trusses

To make an attach object movable via DMX patch a Generic Movement head into MagicQ. Then in Patch, View Vis set the attach object for the Generic Movement to be the Attach object to move. Any fixtures hung from the truss will move along with the truss.

The Generic Movement head has X, Y, Z position and X, Y, Z rotation attributes enabling complete control of the object from within MagicQ. The Generic movement head is a virtual head so it can be unpatched in the MagicQ Patch.

Note

In the *ExhibitionDemo* showfile there are 2 moving pipes. Each pipe has a form attached to it on which the MagicHD image is rendered. This provides a nice simulation of moving LED walls.

41.2.11   Coloured objects

In MagicVis it is possible to set a Head item to colour an attach object, for truss warmers or for coloured scenic pieces.

In Patch, View Vis on the Selected Heads or Vis Heads tab page right to get to the Col Apply column and set it to Yes. If there are more than one heads attached to an object with the Col Apply set then it will use the last one in the list.

For RGB Heads the RGB colour will be applied to the object. If the Head only has intensity then the colour of the object will be scaled according to the intensity.

41.2.12   DMX Controlled Camera

The Generic Camera head enables the Visualiser view to be modified from within MagicQ programming. When a Generic Camera is patched in MagicQ and the Mode Attribute is non zero then the Visualiser view comes under the control of the Camera. The Generic Camera head is a virtual head so it can be unpatched in the MagicQ Patch.

To use the Generic Camera select it then press Locate. This will put the camera into perspective mode and place it in the default position. Select the Position window then use the encoders to move it around and rotate the view. To return control to the Visualiser window use Encoder Wheel A to set the mode to Disabled.

The Generic Camera also controls the brightness of the room and of the beams. These attributes can be found in the Beam window.

Tip
FX can be applied to the position and rotation attributes to make the Camera fly around the visualiser and give a dynamic view of your design.

41.2.13   Removing Visualiser Heads and Objects

To remove a visualiser head go to VIEW VIS → Vis Heads and put the cursor on the item. Press REMOVE. Use SHIFT/CTRL and the cursor keys to cursor select multiple visualiser heads for removal. To remove an attach object go to VIEW VIS → Attach Objects and follow the same procedure.

When heads are removed from the visualiser they are not removed from MagicQ patch. Removing heads from the MagicQ patch will remove any associated visualiser heads.

41.2.14   Changing the Size of the Room

It is possible to change the size of the room by adding a Room Object. By default MagicQ uses a room 20 x 20 x 20 metres. If you add a room object then MagicVis will use the dimensions of the room object instead. The datum is always on the floor in the centre of the room.

In View Attach, press INSERT. Select the object type **Room** and enter the length, width, and height.

41.2.15   Paperwork

You can use MagicVis to create plots and patch sheets. In the MagicVis window click on *File → Paperwork*. This will bring up the Reports window.
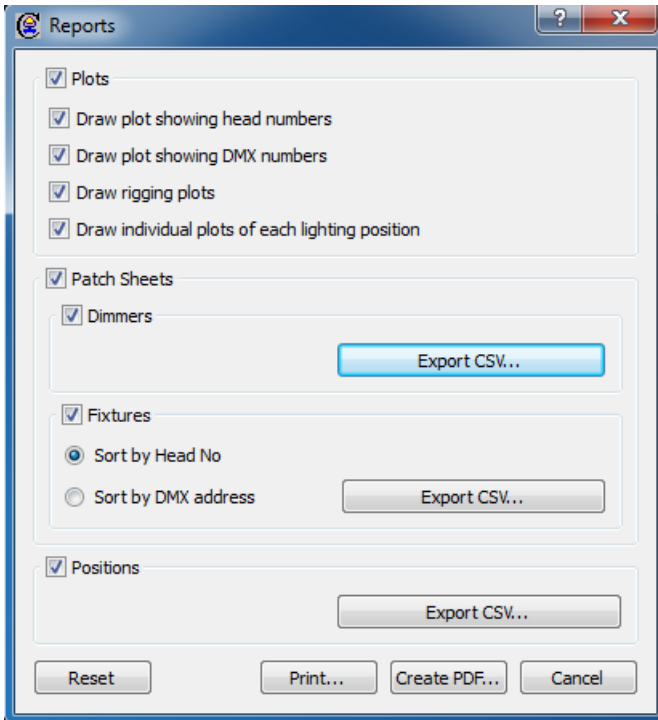
You can select what you would like to include and either print it out or create a PDF document. You can also export patch lists into a spreadsheet such as Numbers, LibreOffice Calc or Excel. To do this click on one of the *Export CSV...* buttons, then load the csv file into a spreadsheet. You can then add extra columns or lay out the tables however you like.
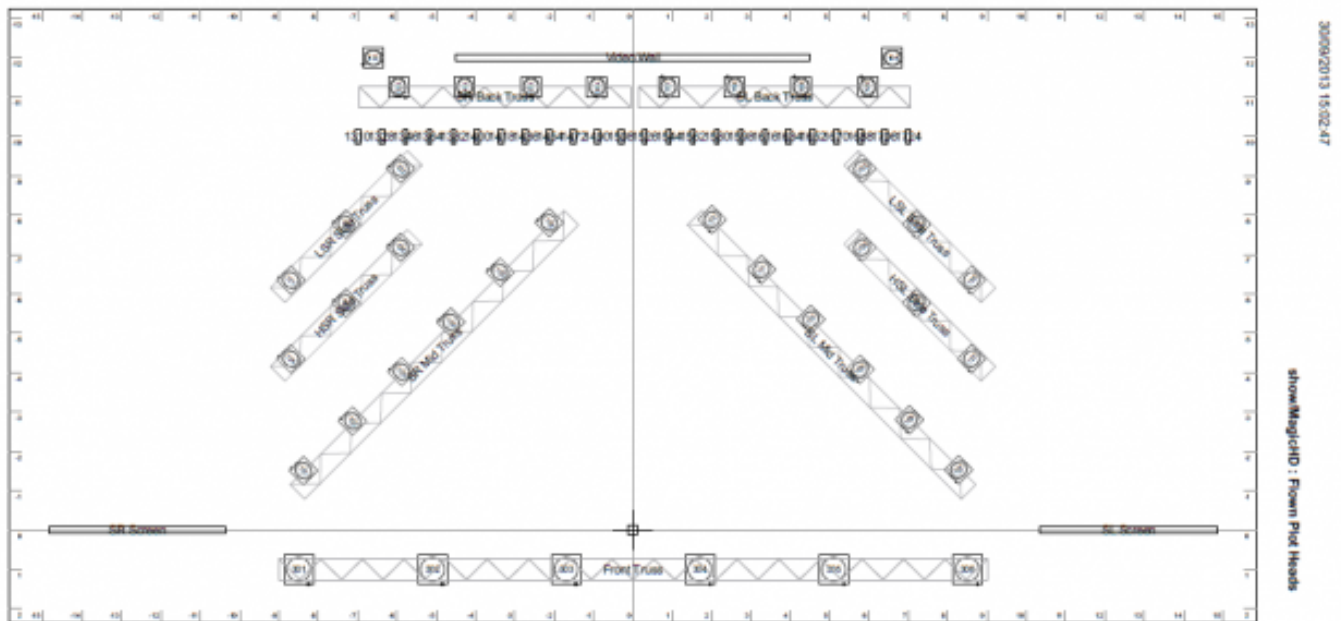
The Patch Sheets contain all the heads in the patch, whether or not they are in the Visualiser. Therefore you can create a patch sheet without having to load fixtures into Visualiser.

The Positions table is a list of all the trusses and pipes with trim heights, DMX universes and approximate weights. The given weight is the total weight of the fixtures and does not include the weight of the cabling, truss or rigging. It is intended to be a tool for estimating total weights and should not be used for rigging calculations.

41.2.16   Converting an Existing MagicQ Show File

Old MagicQ show files can be loaded into MagicQ, but they will not have any visualiser heads defined. It is easy to take heads from an existing show file and create a visualisation.

Select the heads using groups or the keypad. Then go to

Patch → VIEW VIS → Selected Heads

and press the INSERT SELECTED soft button. This creates a visualiser head for each of the selected heads.

If you wish, you can attach the heads to an object using the FIT TO OBJECT soft button.

It is also possible to insert all the patched heads in your show file into the visualiser in one step. Make sure no heads are selected, then go to

Patch → VIEW VIS → Vis Heads

and press the INSERT PATCHED soft. This creates a visualiser head for each head in the patch. The heads will be positioned in a grid format.

41.2.17   Converting a MagicQ Grid Into a Visualisation

It is possible to convert a grid from the MagicQ Plan View into a visualisation. In the Output Window, View Plan press SHIFT + ARRANGE VIS. MagicQ will prompt you for the positioning within the visualisation.
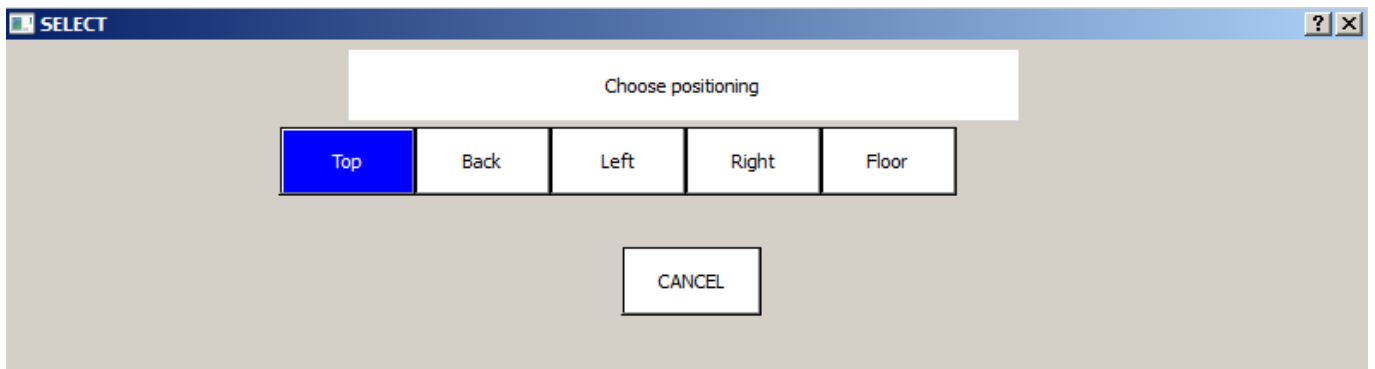
For each of the heads in the grid a visualiser head will be will be inserted into the visualiser. The positioning will be set according to the position in the grid.

For example if you select Top, then MagicQ will treat the grid as if it is a top view and all the visualiser heads will be positioned at the top of the room at the same height.

41.2.18   Visualiser Settings

MagicVis includes settings for how the visualisation looks.
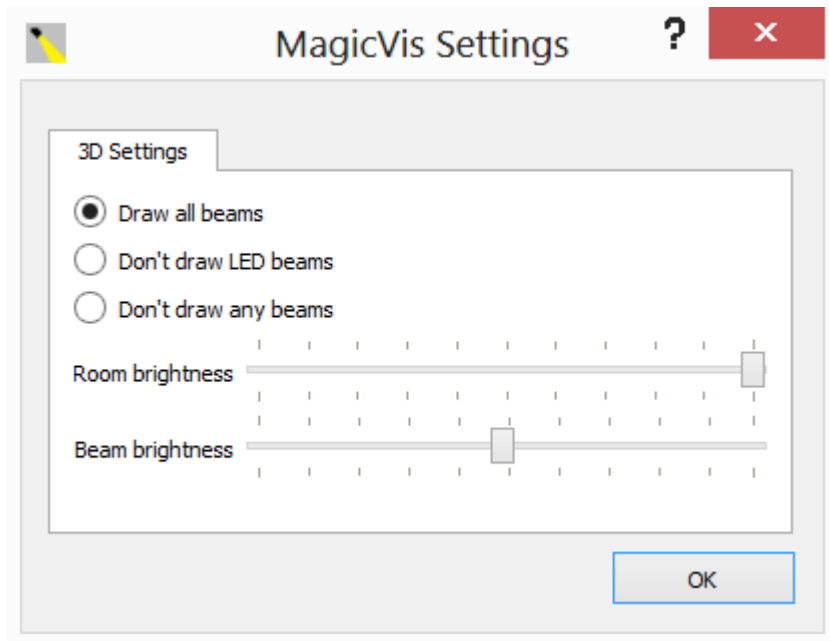
On systems with lower power graphics cards which are using a lot of LED fixtures we recommend to turn off drawing of LED Beams.

MagicVis incorporates a new higher quality renderer with improved beams and shadows. To enable the higher quality renderer open MagicVis and go to File, Settings and select "New renderer" from the OpenGL options.

If for any reason the new renderer does not work, then you can revert to the old renderer by opening MagicQ and from the toolbar select Visualiser, Use old renderer.

41.3   Plot Window

MagicQ now incorporates a Plot Window displaying the position and orientation of fixtures within the lighting rig. The Plot Window can show Front, Overhead and Side elevations, restricted to either Flown or Floor fixtures and the view can be moved and zoomed. The view can be restricted to only selected fixtures or to all fixtures. Fixtures can be selected from the plot window either by clicking (touching) individual items or by multi selecting multiple items. The positional information is taken from MagicVis and can be edited in the Patch Window.

The Plot Window is available on MagicQ PC for Windows, Mac and Linux, and the MQ80, MQ500 and Pro2014 consoles. It is not available on Compact consoles.

41.3.1   Focus Functions

It is possible to set the pan and tilt of selected fixtures from the Plot window so that the fixtures are focused on a point on the stage. To quickly focus the lights on a point press the FOCUS ON TARGET soft button then click on a point on the plot. The selected fixtures should all move around to focus on that point. Click on FOCUS HOLD if you want to move the point around after clicking. On a touch screen you can move your finger around the plot window and the fixtures should follow it. Click on FOCUS HOLD again to stop focusing.

More complicated looks can be created with the FOCUS LINE feature. After selecting some fixtures and clicking on FOCUS LINE a yellow line will appear on the plot. The fixtures will be focused along the line. The line will also appear in the 3D visualiser. The line can be moved around either by clicking on the points on the plot window or by using the encoder wheels. The line is initially at stage level but can be raised up using the Y encoder.
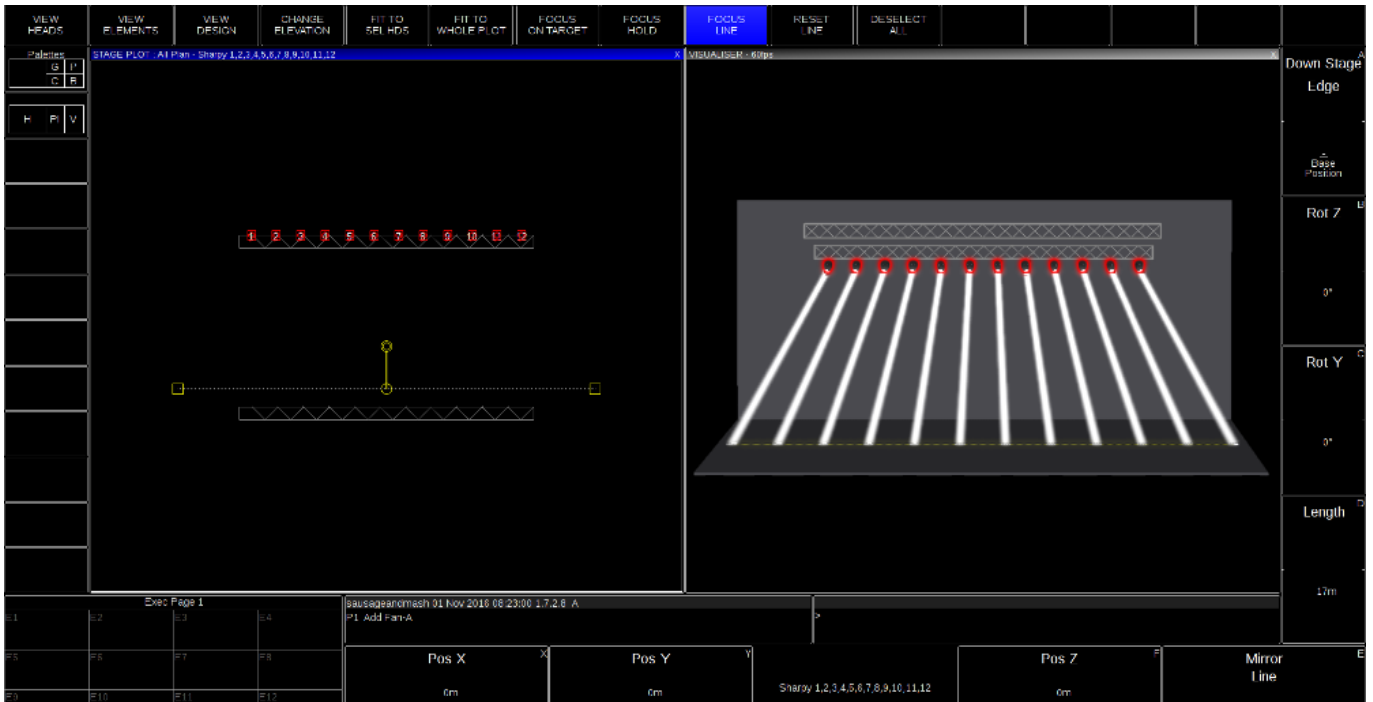
FOCUS LINE allows easy creation of even stage washes but it can also be used to create gobo washes on walls and scenery or ACL style beam focuses. Use the Fan menu to change how the beams are distributed along the line. To create a symmetrical ACL style look first focus one side of fixtures, then select the other side, select FOCUS LINE again and press Encoder E, *Mirror Line*. This will mirror the line over the centre line of the stage so the look is symmetrical.
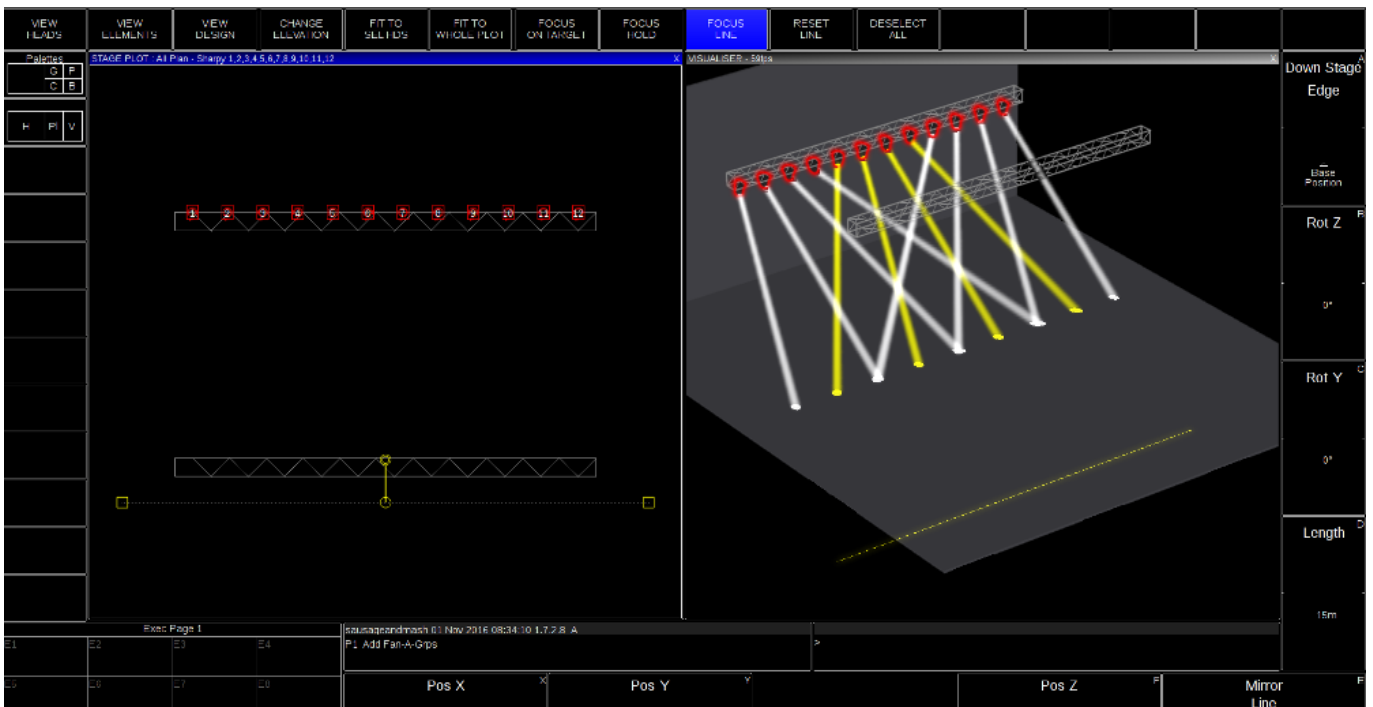
The *Base Position* is the starting position for the fixtures before they are panned around to focus on the point. If the fixture has to pan more than 90° from the base position then it will *flip* the head over. The default base position is directly downstage. If the lights flip while they are moving between positions then a different base position may be required.

To change base positions record a palette with the desired base positions then press and hold encoder button A and select the palette. For example if you have two trusses either side of a catwalk you may want a base position where everything is focused directly onto the catwalk.

Another Base Position option is *Current Position*. This option will allow the fixtures to spin right round and only flip when they reach the end of their pan. This could be useful for creating specific movements between positions.

41.3.2 Converting the Plot View into a MagicQ Grid

It is possible to convert a plot into a grid using the CREATE GRID soft button in the Plot Window. MagicQ takes the heads from the current view and current filter in the Plot View and creates a new Grid in the Output Window.

MagicQ will only create a grid if it can fit all the heads shown in the current Plot View into a grid of maximum size 100x100.

We recommend to filter using groups or selected heads to only include the required heads in the new Grid. If the Plot involves a large number of fixtures close to each other or overlaid over each other then the conversion will not work.

Chapter 42

Blind Visualisation

MagicQ supports Blind Visualisation and Preview Visualisation when used together with MagicVis, Capture or WYSIWYG. This enables a Visualiser to show the contents of the Programmer during BLIND mode or to preview a Playback that is not active on the real outputs.

In Patch, View Vis press the VIS SOURCE Soft button to choose between visualising the console Output, the BLIND programmer, the Programmer Only, the selected Playback, or the next step on the selected Playback.

When set to "Blind Programmer" MagicQ will add the contents of the Programmer to the Output visualisation even when the programmer is in BLIND mode.

When set to "Prog Only" MagicQ will show the contents of the programmer without the current playback state regardless of the Blind state.

When set to "Playback" MagicQ will show in the visualiser the contents of the selected Playback as if the Playback fader was at 100%. Only data from the selected Playback is shown.

When set to "Next GO" MagicQ will show in the visualiser the output of the console as it would appear if GO was pressed on the selected Playback. When the selected Playback has multiple steps then MagicQ always shows the next step in the Visualiser. If the selected Playback is not active then MagicQ will show what would occur if the Playback was activated.

When set to "Output" MagicQ will the console live output.

Blind Visualisation and Preview Visualisation do not affect the normal network outputs such as ArtNet, ACN, or Pathport. Only the DMX stream sent directly to the Visualiser is affected.

When using Capture visualisation, Capture must be connected via CITP universes rather than ArtNet – otherwise Capture will just show the console output.

42.1 Split Visualisation in MagicVis

MagicVis now supports split visualisation where it is possible to show simultaneously both the Live Output and the Blind Visualisation.

In MagicVis select View, Split Screen.

The upper window will always show the Live Output.

The lower window will show the normal MagicQ visualisation - which will depend on the Vis Source option above. When set to "Output" it will show the same as the upper window.

Note that when using stand alone MagicVis, for both the Output and the Blind Preview to work then the console Output must be set to output over the network using a network protocol such as ArtNet, ACN or Pathport - otherwise the Output will not be shown when Blind Preview is in operation.

42.2   Automatic Source Selection

In Setup, View Settings, Mode set the Visualiser option to "Auto insert, auto Previs" for automatic pre visualisation.

When MagicVis is running with the 3D view with Output as the source and BLIND is pressed on the console, then MagicVis automatically changes to split Output/Blind Preview mode so that both the output and Blind programmer can be monitored. When BLIND mode is exited then MagicVis returns to the single 3D view.

When MagicVis is running with the 3D view with Output as the source, and a S button is held on the console then MagicVis will change temporarily to show the contents of the Playback rather than the Output. On releasing the S button MagicVis reverts to showing the Output.

Chapter 43

Using MagicQ with other Visualisers

In addition to its own free MagicVis visualiser, MagicQ supports connection with other Visualisers via network protocols. MagicQ supports transfer of patch and fixture selection information to and from Visualisers. The protocol used to communicate between MagicQ and the Visualiser depends on the particular Visualiser.

The simplest way to connect is using the Art-Net protocol in the same way as you would connect to Art-Net to DMX interfaces – most Visualisers now support it. Art-Net does not support transfer of patch or fixture selection information, so for this you will need to use a Visualiser specific protocol.

It is possible to run MagicQ PC/Mac on the same system that is running the Visualiser, however for best performance we suggest that you run them on separate PCs linked via Ethernet.

43.1   Connecting to a Visualiser

To run both MagicQ PC and Visualiser on one PC set the option Setup, View Settings, Network, Send to Applications on this PC to Yes.

To run MagicQ PC and a Visualiser on two different systems then you need to ensure that both systems have their IP address and Subnet Address set up to be on the same network range - e.g. set one to 2.0.0.1 subnet 255.0.0.0 and the other to 2.0.0.2 subnet 255.0.0.0.

43.2   Capture

MagicQ supports connections to Capture visualiser (www.capturesweden.com).

There are two protocols for communication between MagicQ and Capture – ArtNet and CITP. ArtNet is a standard protocol used to carry DMX over Ethernet and enables control of the lighting.

CITP is an open protocol specific to Capture which enables both control of lighting and the transfer of the show patch between MagicQ and Capture. ChamSys provides executable files for both protocols.

To communicate using ArtNet simply set the required universes to Output Type of ArtNet in Setup, View DMX I/O and enable the universes. To use CITP simply set the Visualiser field for all required universes to Capture.

43.2.1   Receiving Patch Data from Capture

It is possible for patch data to be transmitted from Capture to MagicQ when connected via CITP protocol. Start a new show on MagicQ and then in the Patch Window press the Visualiser Patch soft button. This will download the Patch information from Capture to MagicQ. MagicQ uses a fields in the personality to specify the Capture manufacturer name (Make) and Capture moving light name).

Note that when receiving patch data from Capture along with fixtures having DMX addresses set in Capture, the channel number must also be set in Capture. Capture channel numbers = head numbers in MagicQ

43.3   WYSIWYG

MagicQ interfaces to the WYSIWYG visualiser using a special Wysiwyg driver file. Download the MagicQ WYSIWYG driver file from ChamSys download site and install it on the WYSIWYG PC.

https://secure.chamsys.co.uk/bugtracker/download_file.php?file_id=36&type=doc

43.3.1   Enabling MagicQ to output WYSIWYG data

Now you need to configure the outputs. Go to the Setup, View DMX I/O window. You will see a list of the 64 universes and their current configuration.

Move to the Visualiser row and select WYSIWYG for the universes you wish to use. There is no need to change the Status column to enabled - WYSIWYG is automatically enabled when you select WYSIWYG as the visualiser.

Uni	Name	Status	Out Type	Out Uni	In Type	In Uni	Test	Copy	Visualiser	Hot takeover	Unica
1		Disabled	Art-Net	Art 0	Art-Net	Art 0	No	No	Wysiwyg (rem)	No	Broa
2		Disabled	Art-Net	Art 1	Art-Net	Art 1	No	No	Wysiwyg (rem)	No	Broa
3		Disabled	Art-Net	Art 2	Art-Net	Art 2	No	No	Wysiwyg (rem)	No	Broa
4		Disabled	Art-Net	Art 3	Art-Net	Art 3	No	No	MagicVis	No	Broa
5		Disabled	Art-Net	Art 4	Art-Net	Art 4	No	No	MagicVis	No	Broa

If you are using WYWISYG on the same PC as MagicQ then set the Visualiser to WYSIWYG (same PC) – otherwise, set it to WYSIWYG (remote). When connecting to WYSIWYG using a MagicQ console, always use WYSIWYG (remote).

When using WYSIWYG and MagicQ on different PCs it is important to ensure that MagicQ PC knows the IP address to use to communicate with WYSIWYG.

In Setup, View Settings, Network set the IP Address and Subnet Mask to be the same as the IP address of your network port in use on your PC.

43.3.2   Running WYSIWYG

Start up WYSIWYG.

In order to get WYSIWYG to respond to data received you need to set up the ports in Device Manager. Select ChamSys MagicQ and then Connect.

Make sure you have installed the MagicQ WYSIWYG driver on the WYSIWYG PC. MagicQ will not connect to WYSIWYG without it.
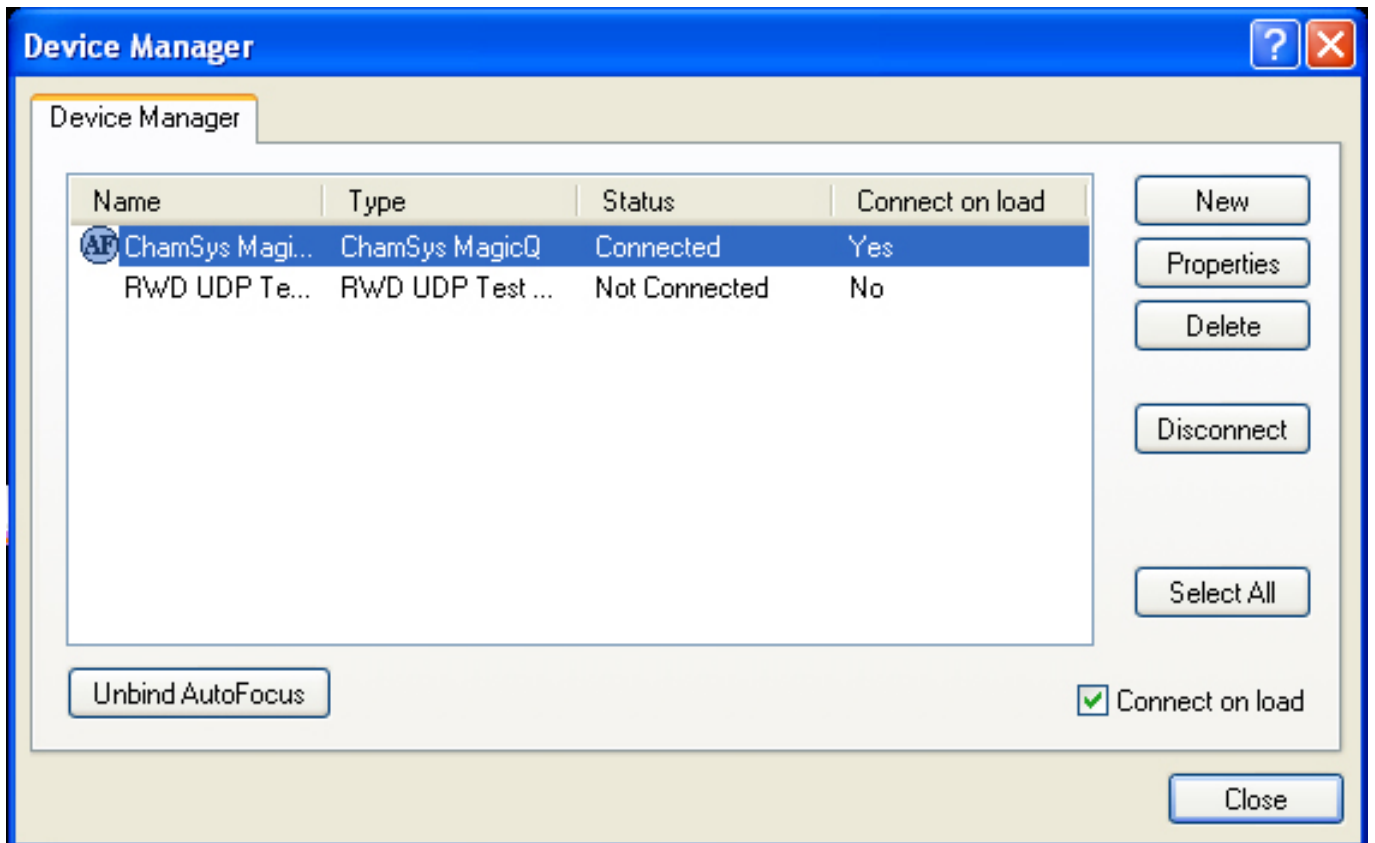
The universes in WYSIWYG must be bound to the ChamSys MagicQ device in order for communication to occur with MagicQ.
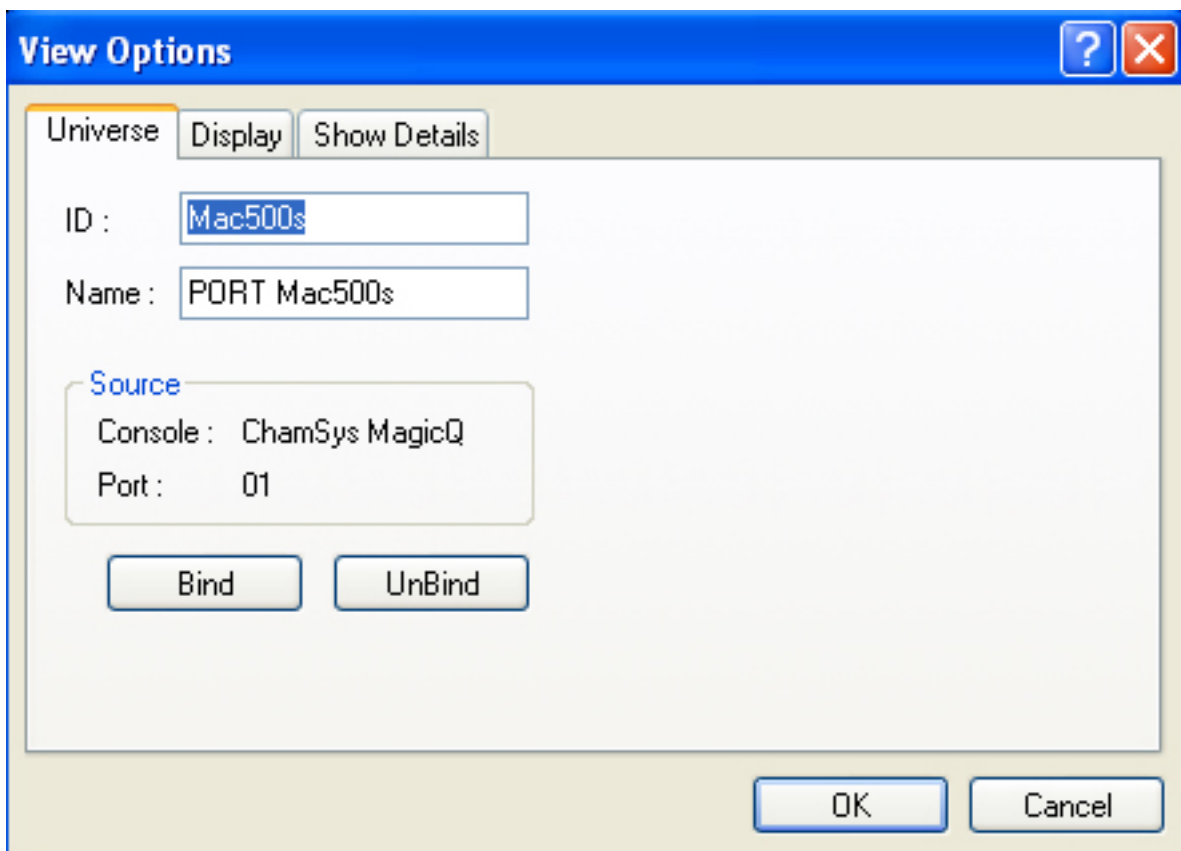
43.3.3 Auto Patch

MagicQ supports the WYSIWYG Auto Patch protocol. Selecting Auto Patch on WYSIWYG transfers the patch to MagicQ. To transfer a new show to MagicQ first erase the show in MagicQ and then select Auto Patch, Send Patch in WYSIWYG.

Make sure that you have defined a Spot Number to each of your heads in WYSIWYG, otherwise WYSIWYG will not send the head over Auto Patch.

MagicQ identifies the fixtures in WYSIWYG and maps the names to the MagicQ fixtures using a mapping table and a matching algorithm. If MagicQ can not identify a fixture it may patch the wrong fixture or not patch it at all.

In the MagicQ personality it is possible to specify the WYSIWYG Auto Patch name that it should map to this MagicQ personality.

When performing an Auto Patch, MagicQ will report any fixtures that it can not match. To fix a personality, edit the head in the Head Editor, setting the correct WYSIWYG name. If the WYSIWYG name is empty then pressing ENTER will fill in with the name received from WYSIWYG for the last mismatch.

When using WYSIWYG with a separate MagicQ console make sure that on the console, Setup, View Settings, Multi Console, Enable Remote Access = Yes. This ensures the patch can be transferred correctly to the console.

43.3.4 Auto Focus

MagicQ supports the WYSIWYG Auto Focus protocol. If you turn Auto Focus on for the ChamSys port in the Device Manager on WYSIWYG then changes made in WYSIWYG design mode will be relayed to the programmer in the console.

43.3.5 Troubleshooting

Problem: WYSIWYG does not receive any data.

Solution: Check that you have installed the MagicQ WYSIWYG driver on the WYSIWYG PC. Check that the connection is connected in WYSIWYG device manager. Check that you have configured the correct MagicQ universes to use WYSIWYG as their Vsualiser.

Problem: WYSIWYG will not connect on the same PC as MagicQ.

Solution: Check that you have configured the Visualiser to be WYSIWYG (same PC) in the Setup Window.

Problem: WYSIWYG will not connect between two separate PCs.

Solution: Check that the network ports on the two PCs are configured to the same IP subnet, that they are enabled, and that you have configured MagicQ to use the correct network port (Setup, View Settings, IP address).

Problem: WYSIWYG connects but no control of the lamps

Solution: Check the MagicQ Universe in WYSIWYG is bound to the MagicQ device.

43.4 ESP Vision

ESP vision supports ArtNet control. Simply set the required universes to Out Type of ArtNet and enable them. The Visualiser field should be set to "None".

Chapter 44

Settings

MagicQ supports a large number of settings that the user is free to change. These settings are divided into two categories – show settings and console settings. Show settings are settings that the user may wish to change on a show by show basis, whereas console settings are associated with the specific console and its connectivity to external devices.

SHOW SETTINGS

- Mode Settings (not Product & Country)

- Keypad & Encoder Settings

- Windows Settings

- Programming Settings

- Playback Settings

- Cue Stack Settings

- Cue Storage Settings

- Media Server Settings

CONSOLE SETTINGS

- DMX I/O Settings

- Wing Settings

- Monitor Settings

- Mode Settings (Product and Country)

- Network Settings

- MIDI/SMPTE Settings

- Port Settings

- Multi Console Settings

- Hardware Settings

Both show settings and console settings are stored in MagicQ show files, but by default only show settings are loaded when a MagicQ show is loaded. To force consoles settings to be loaded as well use SHIFT and LOAD SHOW+CON.

In MagicQ, console settings are marked with a red tag in the bottom right corner of the text box describing the setting.

44.1 Programming Mode

The MagicQ console allows the programming mode to be configured in the Setup Window. The modes control several of the different settings of the console. All of the settings can be configured individually – however, the modes make it easy to change between the most frequently used settings.

The programming mode determines how the console is programmed. The options are Normal, Theatre non-track, Theatre tracking and Hog II Warp. Most users will choose Normal.

Changing mode during programming does not change Cue Stacks that have already been programmed – it only affects the programming of new Cue Stacks.

The setting affected by changing mode are:

Table 44.1: Setup, Prog Settings

Setting	Normal(live)	Theatre non track	Theatre Track	Hog II warp
Programmer Tracking	No	No	Yes	Yes
Unused Chans return to defaults	No	Yes	Yes	Yes
Programmer overrides FX	No	No	No	Yes
Highlight mode	Normal	Advanced	Advanced	Advanced
Fan mode	Normal	Normal	Normal	No toggle
Select multiple groups	No	Multiple	Multiple	Multiple
Recording to Palettes	Selected	Selected	Selected	All heads

Table 44.2: Setup, Keypad/Encoders

Setting	Normal(live)	Theatre non track	Theatre Track	Hog II warp
Select heads on keypad intensity set	Yes	Yes	Yes	Yes
Select heads and palettes from keypad	No	Yes	Yes	Yes
Keypad always selects heads	No	No	No	Yes
Maintain encoders as Pos, Col, Beam	No	No	No	Yes
Keypad Syntax – Theatre Patch	No	Yes	Yes	No

Table 44.3: Setup, Windows

Setting	Normal(live)	Theatre non track	Theatre Track	Hog II warp
Always Show Record Options	No	No	No	Yes

Table 44.4: Setup, Cue Stack Defaults, Fader

Setting	Normal(live)	Theatre non track	Theatre Track	Hog II warp
Fader activates	Yes	No	No	No
Fader releases	Yes	No	No	No

Table 44.5: Setup, Cue Stack Defaults, Flash

Setting	Normal(live)	Theatre non track	Theatre Track	Hog II warp
Flash activates	Yes	No	No	No
Flash releases	Yes	No	No	No

Table 44.6: Setup, Cue Stack Defaults, Step

Setting	Normal(live)	Theatre non track	Theatre Track	Hog II warp
Multi Cue, Controlled as chase	Yes	No	No	No
Multi Cue, Step halts before executing	No	Yes	Yes	Yes
Multi Cue, Zero Old HTP	Yes	Yes	No	No
Multi Cue, Zero Old FX	Yes	Yes	No	No
Track	L	L	HLF	HLF

Table 44.7: Setup, Cue Stack Defaults, Step Times

Setting	Normal(live)	Theatre non track	Theatre Track	Hog II warp
HTP in, HTP out, Pos times	0s	3s	3s	3s

For changing between tracking and non-tracking mode simply change the "Programmer Tracking" setting in the Setup Window, "Prog" tab. This automatically sets the Default Cue Stack options (Recalculate state on jumps, Zero old HTP, Zero old FX) correctly.

44.2 Playback Mode

The playback mode determines how the console plays back cues. The options are Normal and Safe. In Normal mode the user can make changes during playback just like when they were programming the show. In Safe mode, making changes is not allowed and backups are turned off to any possible interference with the running of the show.

44.3 Advanced Settings Option

The MQ40/MQ40N user interface has a reduced number of options to ensure that it is easy to use for users unfamiliar with lighting programs. More advanced users can access the advanced settings by setting the Advanced Settings = "Enabled" in Setup, View Settings, Mode.

When "Advanced Settings" is "Disabled" then the Patch Window shows a simplified view with one only one tab and simple buttons to CHOOSE HEAD and PATCH IT. Items can be moved around in the Visualiser using the X, Y, Z encoders. For more advanced features of MagicVis, and for patch features like Clone and Morph use Advanced Settings.

From 1.8.0.2 on all MagicQ consoles the Advanced Setting option is saved and will appear on start up and reset as it was before the start up or reset. On older versions of software whenever the MQ40N or MQ40 was first started or reset then it defaulted back to the simple settings - this was intentional to ensure that basic users saw the simple settings on start up and were not confused by all the advanced features.

44.4 Output Settings

The console universes can be configured to use different protocols. Outputs must be configured and enabled before the console will output data. To set up outputs, open the Setup Window and select the VIEW DMX I/O view.

MagicQ software supports 64 universes but older versions of MagicQ support less universes. To change the number of universes in operation please see Configuring number of universes.

44.4.1 Configuring Output Universes

For each of the universes, the output and input protocol can be selected in the Out Type and In Type fields respectively. Press ENTER or double click to change to the next protocol type.

The possible protocols are

Table 44.8: DMX I/O Out Protocols

None	No protocol
Art-Net	Art-Net, Art-Net II and Art-Net III protocols (over Ethernet)
Pathport	Pathport protocol (over Ethernet)
Show Net	Show net protocol (over Ethernet)
ACN	ACN Streaming DMX (over Ethernet)
MQ Direct Direct	DMX outputs from MagicQ Pro and Expert consoles
MQ Wing	DMX outputs on MagicQ PC wing, Mini Wing or Maxi Wing
MQ Dual DMX	MagicQ Dual DMX interfaces

Table 44.8: (continued)

MagicDMX	ChamSys MagicDMX USB interface
Enttec Pro/Lumen Radio	Enttec Pro dongle/Lumen Radio Nova wireless
Dig Enlight	Digital Enlightenment dongles
Peperoni	Peperoni dongles and devices
DMX4ALL	DMX4ALL devices
USBDMX	USBDMX devices
Velleman	Velleman K8062
Nicholaudie	Nicholaudie / Sunlight devices

MagicQ Dual DMX modules, MagicDMX interfaces and SnakeSys Ethernet to DMX Interfaces use their own internal processor to ensure correct DMX framing at high DMX refresh rates.

For network protocols such as Art-Net and Pathport it is necessary to set up the Out Uni and In Uni fields - these determine which the ID of the Universe when carried over Ethernet. These need to be set up to match the Ids configured on the Ethernet Interface boxes.

Where large numbers of universes are being carried over Ethernet it may also be necessary to configure the Art-Net subnet ids. Enter subnet ids using the syntax 1-0 for subnet 1 universe 0. The subnet ids default to 0.

A ! by a Universe indicates a clash whereby more than one Universe is being output on the same network Universes.

44.4.2 Using Art-Net II

To use Art-Net II simply configure the Output Universe type to Art-Net and then set the following options:

Each Universe on MagicQ can be set to Unicast to a specific IP address rather than broadcast as in Art-Net I. The IP addresses of Art-Net compliant devices on the network can be viewed in Setup Window, View System, View Status, Art-Net nodes.

Two Unicast addresses are provided - this allows for redundancy. Note that using both Unicast addresses doubles the amount of network traffic.

When a Unicast address is set up got a Universe set to Output ArtNet, MagicQ sends data for that universe direct to the unicast address rather than broadcasting that universe. Note that MagicQ will still broadcast that universe once per second - this allows all other consoles on the network to determine that there is a console outputting ArtnNet for this universe. This additional broadcast can be inhibited by setting Setup, View Settings, Hardware, Reduced Rate DMX to "M+C no broadcast".

44.4.3 Using ACN Streaming DMX

ACN Streaming DMX uses multicast to output DMX data onto the network. When using many universes this often provides a much better solution that using ArtNet in broadcast mode. In ACN Streaming DMX nodes only decode the universes they are interested in rather than having to decode all the universes broadcast on the network.

From v1.7.1.1 MagicQ supports unicast of ACN Streaming DMX - set the Unicast addresses in Setup, View DMX I/O. When a Unicast address is set for a universe, MagicQ no longer sends that universe to the Multicast address.

From v1.7.3.9 MagicQ supports use of the priority field in ACN universes. Versions of MagicQ prior to this transmit ACN with priority 100 and ignore priority when recieving ACN.

The output priority can be set in SETUP → Network. This should be between 1 - 200 and defaults to 100. When receiving ACN, if there are multiple sources for a particular universe, MagicQ will only listen to the highest priority. The behaviour of MagicQ is undefined when there are more than 5 ACN sources for a particular universe or multiple sources with the same (highest) priority; this is not reccomended.

44.4.4 SnakeSys T2/B4/R4/R8/ChamSys Ethernet Interface

The SnakeSys B4 and SnakeSys R4 support four DMX output universes. The SnakeSys T2 supports two DMX output universes whilst the R8 supports eight DMX output universes. original ChamSys Ethernet Interface supported three DMX output universes,

To use a SnakeSys interface that is set for ArtNet on ArtNet Universe 0-0 (both rotary switches set to 0) set the first 4 universes in Setup, DMX I/O to Out Type of Art-Net, and In Type of Art-Net and enable them. For the simplest operation, set the Out Uni and the In Uni for Universe 1 to 0, for Universe 2 to 1 and Universe 3 to 2, and Universe 4 to 3.

44.4.5 MagicQ Consoles Direct Outputs

All current MagicQ consoles have four direct DMX outputs on the rear panel.

By default MagicQ consoles are set to output the first 4 console universes on the direct console outputs.

If the setting "Setup, View Settings, Ports, MagicQ Wings & Interfaces" is set to "Yes (auto DMX)" then the first 4 universes will output regardless of whether they are enabled in Setup, View DMX I/O.

If you wish to patch the direct outputs to other than the first four universes, then set the required universes to "MQ Direct" and set Port 1, Port 2, Port 3 or Port 4. As soon as any of the universes are set to "MQ Direct" or "Cham USB" then this overrides the default settings.

Note that MagicQ consoles support DMX input via ArtNet, Pathport or sACN. The direct DMX ports on MagicQ consoles and MagicQ Wings do not support DMX Input. In order to receive DMX into a MagicQ console we recommend to use a SnakeSys interface to convert from DMX to ArtNet or sACN.

44.4.6 MagicQ Stadium Wing

MagicQ Stadium Wing has four DMX outputs. When connected to a MQ500 or MQ80 console the DMX outputs are by default set to output console universe 5 to 8. If you wish to patch the direct outputs to other than universes 5 to 8, then you will need to set all required universes to "MQ Direct".

When connected to a PC, by default the DMX outputs will output the first 4 console universes. If you wish to patch the direct outputs to other than universes 1 to 4, then you will need to set all required universes to "ChamSys USB".

44.4.7 MagicQ Mini/PC/Maxi Wing

MagicQ Mini Wing has one DMX output, MagicQ PC Wing and PC Wing Compact have two DMX outputs and the MagicQ MaxiWing has four DMX outputs.

By default MagicQ is set to output the first universes on the system to the DMX outputs on the MagicQ Mini, PC and Maxi Wing. For MagicQ Mini Wing Universe 1 will be output from the DMX port, for PC Wing and PC Wing Compact universes 1 and 2 will be output, and on MaxiWing universes 1 to 4 will be output.

If Setup, View Settings, Ports, MagicQ USB Wings & Interfaces is set to "Yes – auto DMX" then MagicQ will automatically output DMX on the Wings starting from Universe 1 – provided that none of the Universes have been explicitly set to "MQ Wing".

To use different universes, set the required universes to MQ Wing and enable them. The universes set to MQ Wing will be output to the ports in order.

Note that in an emergency it is also possible to use the MagicQ Mini Wing, PC Wing or Maxi Wing direct DMX outputs with a MagicQ console – simply connect the MagicQ Wing to the MagicQ console using a USB cable and set the outputs as above.

44.4.8 MagicQ Dual DMX Interfaces

For MagicQ Dual DMX Interfaces select MQ Dual DMX. In older software this was ChamSys USB. Then select the module and port in the Out Uni field. For example, select Mod 1 Port 1 and Mod 1 Port 2 for the two outputs. Any of the universes can be output to MagicQ Dual DMX interfaces.

When connected to MagicQ consoles and some laptops the MagicQ Dual DMX Interface may need external power from a 12V power supply. Check Setup, View System, View Status, DMX Interfaces, DMX Modules.

When connected to MQ60, MQ70 or MQ100 then then the module should be configured as Mod 2 Port 1 and Mod 2 Port 1 since the console internal DMX module is considered to be module 1.

44.4.9 MagicDMX Interfaces

MagicDMX Interfaces automatically output on universe 1 when Setup, View Settings, Ports, MagicDMX mode is set to DMX Out.

It is possible to set the Out type for Universe 1 to be MagicDMX – this automatically sets the Setup setting MagicQDMX mode to DMX Out.

It is not necessary to set the Out type for Universe 1 – only the MagicDMX mode setting.

MagicDMX devices do not need any additional drivers – they use different HID drivers within the operating system.

Note that the MagicDMX Basic version is limited to 5 hours of continuous use. When the time is close to expiring warnings will be shown. On expiry the MagicDMX will send out DMX levels of 0. The MagicDMX Basic interface must then be unplugged and MagicQ software restarted to use the device again.

The MagicDMX Basic version only supports DMX Out. The MagicDMX Full Interface supports both DMX Out and DMX In.

The MagicDMX interfaces do not remove the automation and remote restrictions when used with MagicQ Software – this requires a MagicQ Wing, or MagicQ Dual DMX Interface.

44.4.10 Support for Lumen Radio Nova

MagicQ now supports the Lumen Radio CRMX Nova TX USB dongle for controlling one universe of DMX via Lumen Radio. This allows fixtures from many manufacturers including Robe and Ayrton to be controlled over wireless direct from the console.

In MagicQ simply set the Output Type in Setup, View DMX I/O for Universe 1 to Enttec Pro / Lumen Radio and enable the universe. When connected the interface should be shown under Setup, View System, View Status, Interfaces, Port Type as "En". The Enttec Pro / Lumen Radio can only be configured on Universe 1. To output a different universe to the device set the copy field on Universe 1 to copy from the required universe.

The Lumen Radio device is supported on all MagicQ consoles except MQ40 and MQ40N.

Only one Lumen Radio device is supported per console.

44.4.11 3rd party DMX dongles

MagicQ software had some support for 3rd party DMX dongles but we cannot guarantee their performance - we recommend the use of our low cost MagicDMX interfaces. 3rd party DMX dongle are supported on Universe 1 only. Note that some of these devices rely on the PC to do the DMX framing and therefore results may be unpredictable on some systems. Many of these devices are unable to transmit full DMX frames at the full DMX refresh rate.

Note that if you are using the Enttec Pro on Windows you must use the MagicQ wing drivers from Program files, ChamSys Ltd, MagicQ Wing Drivers, FTDI. Be aware that Windows may change the drivers when it auto updates - you will need to reinstall the MagicQ Drivers.

Note

Enttec Pro 1 may need to be flashed with the `rdm_203.bin` firmware using the Enttec Pro Utility; the `dmx_144.bin` firmware may have reliability issues on Windows.

44.4.12 Testing Output Universes

MagicQ supports some simple options for testing complete output universes, including sending all '0's, sending all '255's, and several additional test patterns. Tests can be performed on individual universes using by selecting the test in the Test field of the Setup Window, DMX I/O view.

Selecting "Input" automatically routes all 512 input channels received on the universe to the 512 output channels. This is useful for loopback and network protocol conversion.

Selecting "Merge" automatically merges the received 512 input channels with the consoles 512 output channels. All 512 channels are HTP merged - i.e. the output is the largest of the input value and the console calculated value.

When any of the universes are in test mode a warning flashes in the Status Display.

44.4.13 Copying Output Universes

MagicQ supports copying of entire universes to multiple outputs – this may be useful where you wish to duplicate an output universe onto different outputs of an Art-Net box, or you want to set MagicQ wing outputs to be the same as Ethernet outputs. Select the universe you wish to copy in the Copy field of the Setup Window, DMX I/O View.

Select the Universe to copy – e.g. Uni 1 for the first Universe. You can enter the universe number. Enter 0 to turn off copying.

44.4.14 Hot take-over

MagicQ supports hot take-over to enable a second console (or MagicQ PC) to take-over running the show if the first console has a problem.

When using Net Sessions, then all Hot Takeover fields in DMX I/O should be set to No.

For how to use hot take-over see Using Multiple Consoles.

44.4.15 Input universes

MagicQ supports the same number of input universes as output universes. Input universes can be used for grabbing DMX data from other consoles, remote triggering via DMX, and merging with MagicQ calculated data. The Input universes can also be used to monitor lighting data on the network.

By default the Input universes are configured the same as the Output universes. If you wish to receive data from other consoles then you must use different universes for input from the ones you are using for output. For example if you have universe 1 to 16 set to output on ArtNet 0-0 to 0-15 then you must not uses these ArtNet universes for Input. We recommend using much higher universes for input - e.g. ArtNet 4-0.

From v1.7.1.3 if data is received on the input from another console then MagicQ will detect a conflict and change the status field to show "En Cflct" and "Dis Cflct" dependent on whether the universe is "Enabled" or "Disabled".

Data being received on Input Universes can be viewed in the Output Window, View Chans, View DMX by selecting DMX Inputs. Make sure to change back to View Outputs after you have finished viewing the Outputs otherwise it may cause confusion later.

Data received on input universes can be merged into <_testing_output_universes,complete universes> or merged in the <_merging_with_dmx_input,Patch>, or to <_using_an_external_dmx_console_for_extra_playbacks,trigger playbacks> (Setup, View System, View Wings) or used to trigger <_automation,Automations>. It can also be used to <_grabbing_palettes_from_dmx_input,grab palettes from DMX>.

The DMX I/O window shows the status of the Input universes (page right) including:

In last rx	Time since last received input
In last change	Time since DMX data last changed
In last byte	The value of the 1st byte in the last DMX data received
In max gap	The maximum gap between DMX packets received
In last period	The period that this universe was last receiving data for
In IP	The IP address that data was last received from
In conflicts	The number of conflicts - where data transmitted/received from 2 or more sources

The maximum gap only starts counting once a valid DMX data is received on that universe. It is set back to 0 when changes are made in DMX I/O.

The period that the universe was last receiving data counts up whilst data is being received. If there is a gap of greater than 60 seconds then it is reset to 0.

The IP address shows the IP address of data received over the network and does not include data transmitted from this console.

The number of conflicts is increased if data for a particular universe is received from 2 or more consoles within 5 seconds. It is also increased if MagicQ transmits on a universe where data has been received from another console within the last 5 seconds. Note that MagicQ will not count conflicts when master/slave hot swaps are in progress.

44.5   Wing Settings

ChamSys manufacture the following wings that connect to PCs, Macs and consoles via USB

Table 44.9: Wings

Product	No of Playbacks	Playback nos.	No of DMX	No of wings supported per PC / console
Mini Wing	10	Main (1-10)	1	1
PC Wing	10	Main (1-10)	2	1
Maxi Wing	10	Main (1-10)	4	1
Extra Wing	24	1 * Wing Playbacks	None	8
Playback Wing	24	1 * Wing Playbacks	None	8
Execute Wing	48	2 * Wing Playbacks	None	4

Note that the Mini Wing, PC Wing and Maxi Wing can be connected to a MagicQ console to enable extra DMX outputs from the console. Note that they duplicate the Main Playbacks (1-10) – they do not enable extra Playbacks.

44.5.1   Connecting a Mini Wing, PC Wing or Maxi Wing

Before you can use the MagicQ PC Wing the driver must be installed.

To enable the wing ensure that Setup, View Settings, Ports, MagicQ Wings & Interfaces is set to "Yes (auto DMX)".

The following short-cuts make programming on MagicQ PC Wing easier. The short cuts also work on MagicQ console.

Table 44.10: Programing Wing Shortcuts

Hold ALL and press a playback Select	Selects groups 1 to 10
Hold POS and press a playback Select	Selects position palette entry
Hold COL and press a playback Select	Selects colour palette entry
Hold BEAM and press a playback Select	Selects beam page or beam palette entry
Hold ALL and press Next Head	Selects next group
Hold ALL and press Prev Head	Selects previous group
Hold POS, COL, or BEAM and press Next Head	Selects next range for last encoder changed
Hold POS, COL or BEAM and press Prev Head	Selects previous range for last encoder changed

To connect a Mini, PC or Maxi Wing to a console simply enable the MagicQ Wings and Interfaces option.

44.5.2 Connecting Playback Wings and Extra Wings

To configure Playback Wings and Extra Wings open the Setup Window and choose View System, View Wings view.

In the Type field, choose "Playback / Extra Wing". When the console has detected the Playback wing it will show as "Fitted" in the status field. If you wish to connect more than one Playback or Extra Wing then enable the required number of Wings.

Make sure you enable enough or the same number of wings as you connect to MagicQ. Connecting more Wings to MagicQ than you enable will cause unpredictable results.

Playback Wings and Extra Wings with Blue LCDs can have a Wing ID set for systems with more than one Playback or Extra wing. Hold down the lower NEXT PAGE and PREV PAGE buttons when powering on the Wing to get into the Wing config mode. From the menus you can then set a Wing ID.

In MagicQ, Setup, View System, View Wings you can configure which Wing IDs are expected.

44.5.3 Connecting an Execute Wing

The Execute Wing has 48 playbacks arranged as 12 fader playbacks and 36 button only playbacks. The Execute Wing can be configured simply to control Playbacks, or it can be set in a mode whereby the 36 button only playbacks become a 72 button matrix for use selecting heads, palettes, groups, media and execute buttons.

To configure the MagicQ Execute Wing it must be set up as two consecutive wings in Setup, View System, View Wings. The first wing must be configured as "Execute" and the second wing as "Execute Top". This corresponds to the 48 playbacks whereas with standard Playback Wings there are only 24 playbacks.

The Execute Wing has a mode button called MENU. When this is pressed and held then the 2nd row of buttons becomes a mode selection page. The mode button affects the top 3 rows of playbacks – it does not affect the bottom row of 12 playbacks – they are always configured as normal Playbacks.

The mode options are:

Playbacks	3 rows of 12 playbacks each with separate GO/PAUSE (default)
Exec	Access to the Execute Window, enabling complete user configuration of the buttons. Use PG UP and PG DN to select the Exec Page.
Heads	Selecting heads. Use PG UP / PG DN to scroll pages of heads.
Palet	The buttons are automatically split into 24 Groups, 16 position palettes, 16 colour palettes and 16 beam palettes.
Media	Access to the Media Window. Shows media page options, servers, layers and images as in the Media Window. Use the 2nd down PG UP/PG DN buttons to change the Media Bank. Use the 3rd down PG UP/PG DN buttons to change the Media Image.
Cues	Testing of Cues. Use PG UP / PG DN to scroll pages of cues.
Cue Stack	Testing of Cue Stacks. Use PG UP / PG DN to scroll pages of Cue Stacks.
DMX Test	Tests individual DMX channels. Use PG UP / PG DN to scroll pages of channels.
Head Test	Tests (locates) individual heads. Use PG UP / PG DN to scroll pages of heads.

When selecting the mode, you can choose to press the SELECT button or the FLASH button associated with the mode. In some of the modes this will alter the behaviour. For example, in the Heads Test, DMX Test, Cues and Cues Stack modes, this determines whether the test is latching or momentary.

In Playback mode the upper 3 rows of playbacks control playbacks in the usual way. Note that as they do not have a fader,

the value the attributes that would normally be controlled by the fader (generally Intensity values) will automatically default to 100%. The Playbacks can still have times in the normal way, so that Intensity values can be faded in and out.**

44.5.4   Using a MQ60/MQ70 as a network wing

MagicQ MQ60 and MQ70 consoles can now be used as network wings when connected to a PC or Mac running MagicQ thus enabling a full 64 universe show to be run from the PC/Mac but with physical control from the MQ60/70. This overcomes the 12 universe limit on the MQ60/70.

Net wing mode is activated by connecting the MQ60/70 to the PC/Mac via network and then on the MQ60/70 going to Setup, View System, View Monitors and pressing SHIFT and Remote Net Wing. The MQ60/70 will give a list of possible MagicQ systems to connect to. This is similar to remote control, except that the DMX ports on the MQ60/70 automatically are set to output the first four universes from the PC/Mac.

It is possible to configure the MQ60/70 to always start up in Net Wing mode - set Setup, View Settings, Window, Start Mode to Net Wing.

When in Net Wing mode the status bar shows NETW.

Press CTRL CLOSE to exit Net Wing Mode.

44.5.5   Connecting MagicQ consoles together

It is possible to connect multiple MagicQ consoles together in order to control a larger number of Universes. The master MagicQ console then outputs some channels which act like playbacks for the slave consoles.

On the slave consoles, one of the wings is configured as "DMX In" and select a range of channels for it to respond to. Note that the universe that contains these channels must have input enabled in the "View DMX I/O" view. This causes the playbacks on the wing to be controlled by up to 24 DMX channels received into the console. The level of the playback is determined from the received channel.

44.5.6   Using an external DMX console for extra playbacks

It is possible to use an external DMX console to gain extra playback controls when using MagicQ consoles. This is not a replacement for a MagicQ Playback wing with its electronic legending and Cue Stack controls.

On MagicQ PC this option is only available to control Playbacks PB1 to PB10 and is only enabled when a MagicQ Wing or MagicQ USB Interface is connected. This feature allows synchronisation of MagicQ with other consoles.

Configure an unused wing to be "DMX In" and select a range of channels for it to respond to. Note that the universe that contains these channels must have input enabled in the "View DMX I/O" view.

In order to allow use of FLASH buttons on the external DMX console, MagicQ uses the top 5% of the channel range as an indication that a FLASH button has been pressed. On the external console the playback master fader should be configured at a maximum of 95% with the flash master set to 100%. If it is not possible to set the master levels independently on the external DMX console then set the grand maser on it to 95%.

44.6   Monitor Settings

44.6.1   MQ500 Operating System

On the MQ500 one external touch screen is supported up to 1920x1080 resolution. The MQ500 has a DVI-D connector which supports connection to an external DVI Digital monitor via DVI. The DVI-D connector does not support the use of DVI-VGA apapters.

In Setup, View System, View Monitors set Monitor 1 to the required resolution in the Resolution column, and enable it. You will be asked to restart - confirm No and set up the Type field.

44.6.2   Pro 2010 and Pro 2014 Operating System

On MagicQ consoles running the Pro 2010 operating system there is support for 2 external monitors with resolution up to 1440x900. On MagicQ consoles running the Pro 2014 operating system there is support for 1 external monitor with resolution up to 1920x1080. Monitors can be touch screens.

Note that from September 2014 new Pro 2014 consoles only support one external monitor.

In Setup, View System, View Monitors set the required resolution in the Resolution column and enable it. Monitor 3 and Monitor 4 are not used.

When using USB touch screens, go to Setup, View System, View Status, Touchscreens to determine which touch screen is Touch 1 and which is Touch 2.

Choose the touch type as appropriate - generally Normal or Egalix. Use Board Test Mode (SHIFT + SHIFT) to prove that touch information is being received correctly by MagicQ.

44.6.3   Pro (pre Pro 2010) Operating System

On the Pro Operating System Monitor output 1 is a duplicate of the on board screen. This enables the console to continue to be used should there be a problem with the on board screen. Monitor output 1 always duplicates the on-board screen.

From software version 1.5.9.4 there is no longer support for output 2 on Pro consoles since the graphics card is not capable of supporting resolutions for modern monitors. Full external monitor support is available through upgrade to Pro 2014.

44.6.4   MQ80 Operating System

On the MQ80 one external touch screen is supported up to 1920x1080 resolution. The MQ80 has a DVI connector which supports connection to an external monitor via either DVI or VGA cable - unlike other MagicQ consoles you must configure which cable you are using.

In Setup, View System, View Monitors set Monitor 1 to the required resolution in the Resolution column, and enable it. You will be asked to restart - confirm No and set up the Type field.

Set the Type field to VGA or DVI depending on which input socket you are using on your monitor - VGA or DVI.

After configuring View Systems, View Monitor, the external monitor may still be showing as a clone of the internal monitor. Power the console off and on for the changes to take effect.

44.6.5   Compact (MQ40N/MQ60/MQ70) Operating System

On MQ40N consoles one external monitor (not touch screen) is supported. The monitor is always fully enabled on the MQ40N, there are no settings to be set for this functionality.

On the MQ60 and MQ70 one external touch screen is supported. We recommend using a 1024x768 resolution monitor for best performance.

Touch screens are supported but note that the Linux operating system on use on these consoles does not currently support multi touch touch screens.

44.6.6   Monitor settings on MagicQ PC / Mac

When using multiple monitors on a PC first enable the monitors in Windows by putting the Windows desktop onto all the monitors. Then start MagicQ PC and in Setup, View System, View Monitors enable the required monitors.

The first monitor is the main MagicQ Window and must always be enabled. Enable all the monitors that you wish to use for Multi Windows.

From the Toolbar select View, External or press the EXT button to move a Window between the different monitors.

Sizing of Windows on the other monitors occurs just like in the Main Window – you can select full windows, half windows and quarter windows. The entire space on the other monitors is used for MagicQ Windows. When a Window is moved to another monitor the size is kept the same – for example, if it was a quarter window on the Main MagicQ Window it will be a quarter window on the other Window.

You can change the size on the other windows, just like on the Main MagicQ Window from the View menu on the Toolbar or by using the SIZE button.

44.6.7 Moving Windows to the External Monitor

Press EXT to move a Window to the External Monitor. The window that is currently in focus is transferred to the external monitor. Press EXT to return the window to the main monitor.

Press SHIFT + EXT to bring all windows to the internal monitor. On Compact consoles type 0 and press ALT MEDIA (EXT).

MagicQ includes an option to force a single window to the external monitor output. The Window will remain on the external monitor except when a SHIFT CLOSE is performed. This option is set in the Setup Window, View Settings, Windows, Force Window on External Monitor 2.

44.6.8 Additional Cue Stack, Output, Programmer, Media and Execute Windows

MagicQ supports additional windows - accessed by pressing CTRL and the Window button or by typing 2 and the Window button.

Up to four Output Windows are supported by pressing 2 OUT, 3 OUT and 4 OUT. Up to 3 Execute Windows are supported by pressing 2 EXEC and 3 EXEC.

For instance by using both the Outputs and the Outputs Info windows you can view both the plan view and the data values simultaneously.

Similarly, the Cue Stack Info window is designed as a master window to keep track of the Cue Stack on the currently selected playback. The columns have been rearranged so that the comment field is shown as one of the first columns. This is ideal for theatre playback where the operator wishes to see notes about the Cues during playback – you could for instance put a comment on a Cue "Call spots when actor enters stage right".

44.6.9 Additional external screens (MultiWindows) on consoles

The MagicQ Compact, Pro 2010 and Pro 2014 consoles support an external monitor directly from the rear panel.

It is possible to connect more monitors (up to a total of 4) using the MagicQ Multi Window application running on a PC. The MagicQ MultiWindow application comes as part of the MagicQ PC installation. This can be used to display windows from remote MagicQ systems. These additional monitors can be touch screens if the PC supports them.

In order to enable Multi Windows connection on MagicQ enable the net monitor on the console in Setup, View System, View Monitors.

Connect the MagicQ console to the PC/Mac using a network cable and ensure that both PC/Mac and MagicQ console are on the same network IP address range (e.g. 2.x.x.x subnet 255.0.0.0).

On the PC or Mac, run the Multi Window Client application; it should automatically detect the console.

Note this function is not supported on the MQ40N console, and that the plot, curve editor, MagicVis, and MagicHD windows are not supported. (However, MagicVis and MagicHD both have their own networking capability in standalone mode).

44.7 Touch Screen Settings

On PC / Mac systems touch monitors are set up under the operating system not under MagicQ.

MagicQ consoles support many different touch protocols - however we are reliant on the drivers available in Linux, so not all touch screens will be supported. We strongly recommend you check the protocol is supported and test a sample with a MagicQ console before purchasing a touch screen. We can not guarantee that any touch screen will work with MagicQ - the list below is for guidance only.

We generally recommend iiyama, Protouch and ELO AccuTouch and ELO IntelliTouch touch screens. Note that ELO Acoustic Pulse Recognition (APR) touch screens are NOT supported. Note that we currently do not support touch screens with multi touch support on the MQ60 and MQ70 Compact consoles.

For MQ500, MQ80 and Pro 2014 we have tested and recommend the iiyama Prolite T2336MSC, Hanns G HT225HPB, Asus VT207N and Dell S2240T & P2418HT Touch screens. Note these are not supported on MQ60/70 or Pro 2010.

For MQ60/70 we recommend iiyama Prolite T1531SR-B1 or Iiyama Prolite T1561SR-B3 connected via RS232 serial port for the touch - note that this monitor is not supported via USB on MQ60/70 We also recommend the ELO1919L model no E176026 and viewsonic TD2210 single touch resistive touchscreen - these touch monitors are supported connected via USB to the MQ60/70.

44.7.1 Serial protocols

MagicQ Compact, Expert, Pro, and Pro 2014 consoles support the following serial protocols

- Ideal

- ProTouch

- A1

- ELO

44.7.2 USB protocols

MagicQ consoles have support for the following USB communication protocols

- Elo 15 * *E271-2210* 10-byte protocol

- Elo legacy *E281A-4002* 6-byte protocol

- Elo 16 * legacy *E271-140* 4-byte protocol

- Elo legacy *E261-280* 3-byte protocol

- eGalax Touchkit

- eTurboTouch CT-410/510/700

- 3M/Microtouch EX II series

- ITM

- PanJit TouchSet

- eTurboTouch

- Gunze AHL61

- DMC TSC-10/25

- IRTOUCHSYSTEMS/UNITOP

- IdealTEK URTC1000

- General Touch

- GoTop Super_Q2/GogoPen/PenPower tablets

- JASTEC USB touch controller/DigiTech DTR-02U

- Zytronic capacitive touchscreen

- NEXIO/iNexio

We generally recommend iiyama, Protouch and ELO AccuTouch and ELO IntelliTouch touch screens. Note that ELO Acoustic Pulse Recognition (APR) touch screens are NOT supported. For MQ80 and Pro 2014 we have tested and recommend the iiyama Prolite T2336MSC, Hanns G HT225HPB, Asus VT207N and Dell S2240T Touch screens. Note these are not supported on MQ60/70 or Pro 2010.

For MQ60/70 we recommend iiyama Prolite T1531SR-B1 connected via RS232 serial port for the touch - note that this monitor is not supported via USB on MQ60/70 We also recommend the ELO1919L model no E176026 - this touch monitor is supported connected via USB to the MQ60/70.

MagicQ Pro2010, MQ60 and MQ70 consoles do not support multi touch touch screens.

MagicQ will show any detected touch screens in Setup, View System, View Monitors.

44.7.3   Configuring an external Touch Screen

To configure an external serial touch screen:

- In Setup, View Settings, Ports set Serial Remote Protocol to one of Ideal Touch, Pro Touch, A1 Touch, Elo Touch.

- In Setup, View Settings, Ports set Serial baud rate, parity, data bits, stops buts. If in doubt set baud rate to 9600, data to 8 bits, stop bits to 1 and no parity.

- Select the Serial Touch Monitor to the monitor the serial touch is associated with.

- Press ALT + CNTRL + SHIFT together to enter board test mode. Moving a finger around the edge of the screen should report increasing/decreasing X,Y values in the Status Window.

- Exit board test mode (ALT + CNTRL + SHIFT).

- Go to Setup, View Settings and select Calibrate Touch. Press 1 to confirm.

- Now press the X on the external touch screen in the four different positions as requested. Do not press on any other monitors except the one being calibrated.

To configure an external USB touch screen:

- Set up the Touch Type in Setup, View Settings, Monitors. Start with Normal or eGalax.

- If a touch screen is detected then it will show up in the Touch Status field.

- Press ALT + CNTRL + SHIFT together to enter board test mode. Moving a finger around the edge of the screen should report increasing/decreasing X,Y values in the Status Window.

- Exit board test mode (ALT + CNTRL + SHIFT).

- Go to Setup, View Settings and select Calibrate Touch. Press 1 to confirm.

- Now press the X on the external touch screen in the four different positions as requested. Do not press on any other monitors except the one being calibrated.

If the Touch Screen shows a status but does not give consistent values in Board Test then try a different Touch Type.

If the Touch Screen shows consistent values in Board Test but does not respond correctly then recalibrate the touch screen.

44.8   Mode & Security Settings

The Settings View of the Setup Window uses tabs to group similar settings together.
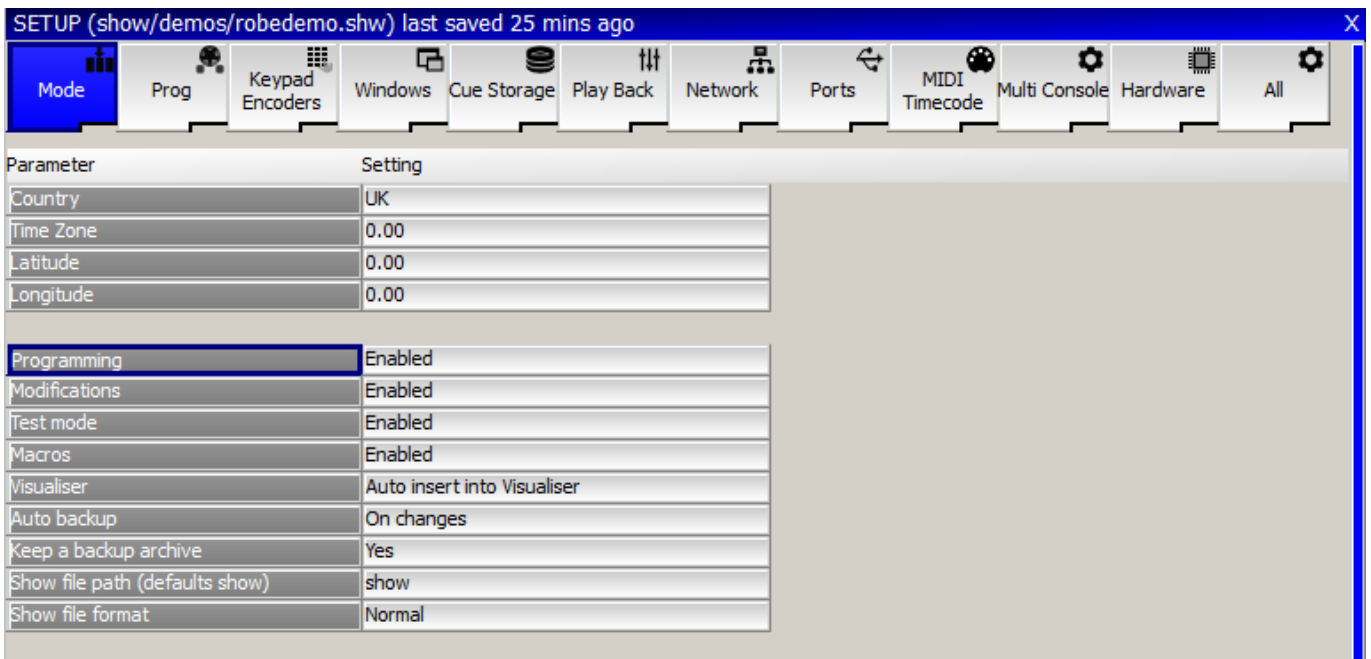
44.8.1   Country

The country setting determines the Country. Currently the country setting has the options UK, US, F (French), D (German), E (Spanish), P (Portugese), I (Italian), NL (Dutch). The country setting changes the menu items into the appropriate language. MagicQ restricts some options including multi console programming on the US version.

44.8.2   Time Zone

This is used for astronomical scheduled events. Enter the time zone from -23 to +23.

44.8.3   Latitude

This is used for astronomical scheduled events. Enter the latitude in degrees.

44.8.4   Longitude

This is used for astronomical scheduled events. Enter the longitude in degrees.

44.8.5   Console Mode

The options are Normal, Simple and MQ500 as MQ100.

When set to Simple, advanced settings are hidden to simplify the user interface.

Note that whenever the MQ40N or MQ40 is first started or reset then it will default back to the simple settings - this is intentional to ensure that basic users see the simple settings on start up and do not get confused by all the advanced features. On all other consoles the console mode is saved and will appear on start up and after a reset as it was before the start up or reset.

MQ500 as MQ100 provides a compatibility mode for MQ500 users that wish to use a show on a MQ500 + Playback Wing similar to the way it was used on a MQ100 + Playback Wing - i.e. with 10 main playbacks and additional playbacks on the Playback Wing.

This setting was previously named Advanced Settings.

44.8.6 Programming

This setting allows recording of show data to be disabled. This prevents show data from being recorded, moved, copied or updated. Use this option to prevent show data being changed.

When this setting is set to disabled, recording is disabled. Parameters of Cue Stacks and Cues such as Chase Speed, Shape Size and times may still be modified. To prevent all modification set Modifications to Disabled.

Programming defaults to enabled.

44.8.7 Modifications

This setting prevents Cue Stack and Cue data from being modified. Use this setting to ensure that programmed Cues and Cue Stacks are played back exactly as they were programmed.

Modifications defaults to enabled.

44.8.8 Test Mode

This setting allows Test mode to be disabled. This prevents the user from testing Cues, Cue Stack, Playbacks and Patched Heads from the respective Windows. Use this setting to avoid accidental operation of these features.

Test Mode defaults to enabled.

44.8.9 Macros

This setting allows Macros to be disabled. This is useful in cases where macros have been erroneously assigned to keys.

Macros defaults to enabled.

44.8.10 Visualiser

This setting enables MagicQ to auto insert heads into the Visualiser when they are patched. When the first head in a show is patched MagicQ prompts the user whether they wish to insert into the Visualiser and sets this setting accordingly. The options are:

Disabled	Heads are not auto inserted
Auto Insert Into Visualiser	Heads are inserted into the Visualiser
Auto Insert,Auto previs	Heads inserted and Cue previs enabled by holding S buttons
Auto Insert,No Patch Offsets	Heads inserted but no patch offsets aded to Visualiser output

44.8.11 Auto Backup

This setting enables automatic back ups. It can be set to No, Yes, and On Changes. By default it is set to On Changes.

For playback of shows you may wish to turn back ups off, especially if you have a very large show as the back-up process may occasionally affect the response of the console. We recommend you keep them on (On Changes) for programming.

44.8.12 Keep a backup archive

With this setting enabled the MagicQ console keeps an archive of back-ups. It will only archive back-ups created using Auto Backup above – therefore if you turn auto backup off then you will not have an archive.

44.8.13 Show file path

The path where all show files will be stored. This path defaults to "show". It is possible to change this path, for example in an education environment where it is necessary to have different accounts for different users.

We recommend keeping this path set to "show" whenever possible.

44.8.14 Show file format

This provides options for saving shows using different formats.

"Normal" is the original show format. "High Res FX" is an improved format - from v1.8.4.7 this is the default. higher resolution timing.

"Reduced size - testing only" is a compacted format for larger show files.

44.9 Programming Settings

Programming settings are automatically changed when you select the mode – Normal, Theatre non-tracking, Theatre Tracking or Hog II Warp.

44.9.1 Activate Chans / Heads

This setting determines how channels are activated in the Programmer. If set to Chans then when an attribute of a head is modified only that channel is affected. If set to Heads then when an attribute of a head is modified all the channels of that head are activated in the programmer. The channels are activated using the value that they were at before they were last cleared from the programmer.

Selecting Activate Heads ensures that all the channels of a head are always present when recording a Cue. Note that if you plan to over-ride attributes of head during playback then you are likely to require Activate Chans – otherwise all attributes of the head will be overridden.

MagicQ also supports "IPCB", "IPC" and "Col". These group similar parameters together, so for example if you touch a colour attribute or the colour attributes are loaded into the programmer. "IPCB" means all Intensity, Position, Colour and Beam attributes work in this way, whereas "IPC" only works on Intensity, Position and Colour attributes , not Beam attributes.

44.9.2 Programmer Tracking

This setting turns programmer tracking on and off. This affects new Cues that are recorded to Cue Stacks. It does not modify Cues or Cue Stacks that have been previously recorded.

Users should be aware that playback of Cue Stacks also depends on the Track settings on each Cue in the Cue Stack – there are the three options Track HTP, Track FX and Track LTP.

These options correspond to the the three options named Zero old HTP, Zero old FX, Rel unused chans which are the inverse of the above options.

The defaults for these options can be changed in the Cue Stack, View Defaults, Step window.

44.9.3   Unused Chans return to defaults

This setting determines what happens to LTP channels that are not controlled by any playbacks or the programmer.

The options are "No", "Yes, all heads" and "Heads without Intensity only". This option only affects LTP channels - HTP channels automatically go to 0 when released.

"Heads without Intensity only" is the default which ensures that for heads without intensity the colour channels are returned to their default (zero value) when the head is not in use, thus ensuring there is no light output from the head.

The default value used is the value from the personality, unless a specific Default Cue containing the channel has been set up in the Cue Store.

Channels only return to their defaults once they have no level or FX controlled by a playback or the programmer. When a channel has both a level and a FX, releasing the level have no affect until the FX is also released.

44.9.4   Programmer overrides HTP

This setting determines whether the programmer overrides HTP values on playbacks.

The options are "No", "All Playbacks", "Playbacks except highest priority" and "All Playbacks except HTP base". The default is "All Playbacks".

When set, any HTP channels in the programmer are no longer affected by the levels of those channels on playbacks. When not set, the highest value of the channel from the Playbacks and the Programmer is output.

The option "All Playbacks except HTP base" causes any channels that have a base level in the programmer to overide playbacks. This allows channels in the programmer with FX only to add to the base level from playbacks.

44.9.5   Programmer overrides FX

This setting determines whether the programmer overrides FX on active playbacks. When set to Yes, any channels that have base levels in the programmer ignore FX for those channels from any active playbacks. Cues are automatically recorded with the Cue Option, "Block FX" – this ensures that when the Cues are played back other FX from other Playbacks are blocked.

When set to No, FX active on playbacks add to the base levels in the Programmer.

44.9.6   Highlight mode

This setting determines the highlight mode. The options are "Normal", "Advanced (highlights/lowlight)", "Advanced Highlight only" and "Advanced, no reset".

In "Normal" mode, the intensities of the selected heads are reduced except for the one (or ones in Odd/Even mode) that are being controlled. Highlighting of the controlled head(s) makes programming of positions much easier.

In "Advanced (highlight/lowlight)" mode, the selected heads are highlighted using the highlight values from the personality. If heads from the current selection are sub selected (e.g. through Single or Odd/Even) then the sub selected heads are highlighted and the remaining heads in the selection are lowlighted.

"Advanced Highlight Only" is the same as above, but no lowlighting occurs. If heads from the current selection are sub selected (e.g. through Single or Odd/Even) then only the sub selected heads are highlighted - all other heads remain at their playback state.

"Advanced no reset" is the same as "Advanced (highlight/lowlight)" but is not cleared when you press CLEAR. Press Highlight again to reset it.

44.9.7   Fan Mode

This setting determines the fan mode. The options are "Normal", "No Toggle" and "Pan Only - no Tilt".

When set to "Normal" fan mode can be entered and exited by pressing the FAN button. With "No toggle" fan mode is only entered when the FAN button is held down.

With "Pan Only - no Tilt" MagicQ avoids fanning of tilt attributes. All other attributes can be fanned.

44.9.8   Select Multiple Groups

This setting enables multiple to be selected without pressing SHIFT. To deselect all groups press the DESELECT ALL soft button in the Group Window.

The options are "No", "Multiple in one Go" and "Multiple always".

Whens set to "No" only one Group can be selected at one time – selecting a second group releases the first group. Pressing SHIFT and multiple groups allows multiple groups to be selected.

"Multiple in one Go" allows multiple groups to be selected until a head attribute is changed – then it starts with a new selection of groups.

44.9.9   Recording to Palettes

The options are "Only selected heads" and "All heads in Programmer". By default only the selected heads are stored into Palettes when a Palette is recorded.

44.9.10   Record merge overrides times

By default when the Programmer is merged into a Cue using Record Merge, the times in the Cue are overwritten with the times in the Programmer. This setting enables this to be changed so that the times in the Cure are not overwritten.

44.9.11   Update Clears Programmer

By default the Programmer is not cleared when the Update button is pressed.

44.9.12   Undo mode

MagicQ has two levels of undo - programmer changes and actions. Programmer changes are modifications to the data in the programmer, for example by selecting palettes, and adjusting encoders. Actions are changes to the show data such as recording, moving, copying, removing and naming.

When set to "Undo Programmer" only programmer actions can be undone. When set to "Undo Actions" both programmer and action can be undone. When set to "Undo Programmer, Actions via Ctrl Undo" pressing UNDO will only undo programmer changes - press CTRL UNDO to undo the actions.

44.10   Keypad / Encoder Settings

44.10.1   Auto enter on keypad intensity set

This setting determines whether when entering keypad intensity settings an ENTER is required. If set then an auto enter is processed when 2 digits have been keyed in after @ or immediately after FULL.

1 THRU 4 @ 50

or

1 THRU 4 @ FULL

44.10.2 Select heads on keypad intensity set

This setting determines whether the current head selection is modified when you set intensities using the keypad. When set to "No" the intensities are set without modifying the head selection. When set "yes" the intensities are set and then the head selection is modified, for example:

1 THRU 4 @ 50 ENTER

sets heads 1 to 4 at 50% intensity and selects heads 1 to 4.

+5 @ FULL

sets head 5 to 100% intensity and adds head 5 to the current selection

44.10.3 Select Heads and Palettes from keypad

This setting was renamed from "Select Heads in Col, Beam, Pos"

This setting enables you to select Heads and Palettes from the keypad and various other advanced keypad functions. Select heads by typing the head selection and then pressing the appropriate Colour, Beam or Position Window button.

1 THRU 4 COL

selects heads 1 through 4 and opens the Colour Window.

1 THRU 4 COL 5

selects heads 1 through 4 and selects Colour Palette 5.

It also enables selecting on Color, Beam and Position palettes direct from the keypad and copying of head data.

44.10.4 Select heads on include

This setting determines whether when you include Cues and Palette entries into the programmer the console automatically selects the heads.

If set to Yes, the console selects all heads that have levels in the Cue or Palette entry.

44.10.5 Keypad always selects heads

When this setting is set to Yes, entering head numbers on the keypad followed by the ENTER key always selects the heads. When set to Yes, some of the advanced features of MagicQ are not available directly from the keypad. When editing numeric fields in the spreadsheet style windows in this mode, the operator must use the SET button rather than editing the field directly.

This setting has a "Strict" option. In this mode it is not possible to toggle or choose items simply using the ENTER key. You must use SET first. This should help keypad fanatics to avoid setting options in Windows accidentally.

44.10.6 Keypad Syntax (Theatre Patch)

This setting swaps around the syntax used for patching Heads. The normal syntax for patching (Theatre Path is se to No) is

<number of heads> @ <dmx address>

When set to Yes, the syntax for patching is:

<head number> @ <dmx address>

Thatre Patch supports patching multiple multiple DMX addresses to one head when using Theatre Patch syntax. For example to patch Head no 10 at DMX addresses 1, 2 and 3 enter

10 @ 1 + 2 + 3

As with the Patch, View DMX there is a maximum of 6 DMX addresses per Head.

In Theatre Patch it is possible to repatch dimmer channels. If the head is already unpatched then just enter the new address – e.g. to repatch head number 20 to DMX channel 25.

20 @ 25

It is possible to repatch to multiple DMX addreses – e.g. to repatch head number 20 to DMX channel 25 and 26.

20 @ 25 + 26

If the head number is already patched then MagicQ will request confirmation whether to Repatch the exiting Head with the specified Head No or to patch another Head with the same number.

44.10.7 Encoder Mode

By default MagicQ sets the encoder wheels according to the currently active Window – so for example when you change to Colour Window, the encoder wheels control colour and when you change to Group, the encoder wheels control Group settings.

When encoder mode is set to Maintain Pos, Col, Beam, the Position, Colour and Beam buttons will act like "Hard Buttons" – so that the encoders will be maintained on Position, Colour or Beam even when the Group or Output Windows are opened. At any time the encoders can be forced to their default settings for the Window by using SHIFT and the Window button – e.g. SHIFT + GROUP.

In addition the "Intensity" attribute will also appear on Encoder F in the Pos window if that encoder is not already used for position attributes.

When encoder mode is set to Intensity on X, then when setting an intensity level from the keypad, MagicQ will open the Intensity Window and the X encoder will control intensity.

When encoder mode is set to "Pos, Col, Beam, Int X" then MagicQ performs both the above options.

When encoder mode is set to Intensity always on X, then once the Group Window or Intensity Window is opened then Encoder X will remain as Intensity until a Window is opened using SHIFT and the window button, forcing the normal encoder assignment.

When encoder mode is set to "Keep as Window" then MagicQ will maintain the current window when functions like next/prev head are used, rather than jumping into the position window.

44.10.8 Swap pan and tilt encoders

This setting swaps over the pan and tilt encoders. By default the left encoder is pan and the right encoder is tilt.

44.10.9 Swap Encoder direction

The following options are supported:

- Normal

- Swap all encoders

- Swap both pan and tilt encoders

- Swap pan encoder only

44.10.10 Swap Palette and Cursor Page Buttons

Enables the Cursor Page buttons (Page Left, Home, Page Up, Page Right, End, Page Down) to be used as Palette buttons (Group, Int, Fx, Pos, Col, Beam). This makes it easier to select Palettes using the keypad.

When this mode is enabled the Palette Buttons become the Cursor Page buttons.

It is strongly recommended that you do not change the physical key caps of these buttons since this may cause irreparable damage to the front panel board.

44.10.11   MagicQ keyboard mode

This mode sets the function of the keyboard.

Normal	the keyboard is used for naming items and selecting heads
Programming shortcuts	the keyboard is set up for shortcuts to programming keys
Playback shortcuts	the keyboard is set up for shortcuts for playback keys

Programming shortcuts

Windows are opened using CTRL and the alphanumeric keys

CTRL A CTRL D CTRL E Execute CTRL F Fx CTRL G Group CTRL H Help CTRL I Intensity CTRL J Beam CTRL K Colour CTRL L Cue Stack CTRL M Media CTRL N Macro CTRL O Outputs CTRL P Position CTRL Q Cue CTRL R Programmer CTRL S Setup CTRL T Patch CTRL U Page CTRL V Playback CTRL W Cue Stack Store CTRL X Cue Store CTRL Y CTRL Z

Playback shortcuts

1 to 0	Select playbacks 1 to 10
Q to P	GO button playbacks 1 to 10
A to ;	STOP button playbacks 1 to 10
\ to	Toggle test playback on at 100%. In Swap mode releases all others tested playbacks
`	Add / Swap mode
SPACE	Manual GO
#	Manual STOP
[	Next page
]	Prev page
-	Release

	SELECT PB1	SELECT PB2	SELECT PB3	SELECT PB4	SELECT PB5	SELECT PB6	SELECT PB7	SELECT PB8	SELECT PB9	SELECT PB10	REL		
	PB1 GO	PB2 GO	PB3 GO	PB4 GO	PB5 GO	PB6 GO	PB7 GO	PB8 GO	PB9 GO	PB10 GO	NEXT PAGE	PREV PAGE	
	PB1 STOP	PB2 STOP	PB3 STOP	PB4 STOP	PB5 STOP	PB6 STOP	PB7 STOP	PB8 STOP	PB9 STOP	PB10 STOP		MAN STOP	
	PB1 SWAP	PB2 SWAP	PB3 SWAP	PB4 SWAP	PB5 SWAP	PB6 SWAP	PB7 SWAP	PB8 SWAP	PB9 SWAP	PB10 SWAP			
			MANUAL GO									

Note that in playback shortcuts mode many programming options will not work as expected because the keyboard keys are used for busking.

44.10.12 Map Keys to THRU, @, FULL

This setting allows the THRU, @ and FULL keys to be mapped to different keys on the keyboard. This is useful in some countries where the normal mappings (>, @ and #) are not easy to select. To set this setting, simply press the 3 keys you wish for the functions followed by ENTER.

44.10.13 Enable Mouse to control pan/tilt

This setting enables a mouse or track ball to control pan and tilt. See mouse controls pan/tilt.

The sensitivity can be selected by choosing the Enabled Div 2 through Enabled Div 9 options.

Mouse control of pan/tilt is only supported on MagicQ consoles, and on MagicQ PC systems with a MagicQ PC Wing or MaxiWing connected.

44.10.14 Intensity Wheel

Allows the Inensity Wheel on the MQ500 to be enabled or disabled, or to require it to only be active when ALT is pressed.

44.11   Windows Settings

44.11.1   Colour Scheme

There are options for the default colour scheme (Grey), high contrast or Grey (black text) colour scheme. The Grey (black text) is useful on some TFT/LCD screens.

44.11.2   Big Text Mode

This setting shows all text in CAPITALS regardless of how it is programmed in the show. There is also an option to capitalise only the first letter of names.

44.11.3   Icon Size

This setting sets the size of icons – small take up only a part of Window items – large takes up the whole item.

44.11.4   Col Tags

Allows col tags to be displayed to identify different heads. Options of None, Fixture Types, Attach Objects, Groups, Multi Console Control, Parked, Patch, Zones, Universes and Users.

44.11.5   Playback Col Tags

Allows col tags to be displayed on the RGB LEDs on MQ500 and Stadium Playback Wings. The options are None, Default and Cue Stack.

When set to default, MagicQ uses default colours for the different types of Cue Stack. The default is BLUE, with LTP faders, size and speed masters beiong allocated different colours.

44.11.6   Speed Display

Choose how speed is displayed for chases and FX - seconds, BPM, or frames.

44.11.7   Attribute Display

This determines how attributes values are displayed for Encoders – normal, 16bit, %, or pan and tilt in %.

44.11.8   Column Sizing

When set to Auto Size MagicQ automatically sizes columns and hides any that are unused. When set to No sizing/hiding the columns are fixed width and always present. When set to Hiding only, the columns are auto sized but not hidden.

44.11.9   Units of measurement

By default MagicQ uses metric units. Support for display and input of lengths in Imperial units – feet and inches and weights in pounds. Set to Imperial and to accept input in Imperial.

When set to metric it is still possible to input measurements in feet using the ' or / separator – e.g. enter 12/ or 12' for 12 foot and 12/4 or 12'4 for 12 foot 4 inches.

44.11.10   Auto Row Ordering

When set to Yes, MagicQ automatically orders the rows in the Outputs Windows, Programmer Windows and Cue Windows. The currently selected heads appear at the top of the window.

When set to No, the rows are ordered according to the Sort option specified in the Patch Window.

44.11.11   Screen 1 fixed number of boxes

Specifies the number of boxes across the total width of the main window. In earlier versions of MagicQ the number of boxes across the width was fixed at 10 - this meant 5 wide when split - for example in the default Layout 1 with Group, Pos, Colour, Beam windows.

Options are Default (determined by console type), 10, 12, 14,16, 18 and 20.

44.11.12   Screen 2 fixed number of boxes

Specifies the number of boxes across the total width of the second window - on a MQ500 the right screen, on other consoles the external screen. In earlier versions of MagicQ the number of boxes across the width was fixed at 10 - this meant 5 wide when split - for example in the default Layout 1 with Group, Pos, Colour, Beam windows.

Options are Default (determined by console type), 10, 12, 14,16, 18 and 20.

44.11.13   Confirmation requests

This setting sets the default for confirm boxes. It can be set to "Confirm (default no)", "Confirm (default yes)", "Confirm critical only" and "Never confirm". The "Confirm (default no)" is the default option. Use the "Never confirm option" with great care!

44.11.14   Scroll bars

This setting allows a choice of scroll bars, from none, normal, wide and extra wide.

44.11.15   Layout buttons always active

This setting splits the function of the top soft buttons above the screen. The physical buttons are changed so that they always select layouts. The menu buttons associated with each window are then available using the touch screen. This option is useful on larger shows when you need to often switch between layout views.

44.11.16   Start mode

This option selects how MagicQ starts – whether it shows a splash screen, whether it prompts to open demo shows, or whether it opens the Visualiser.

44.11.17   Always show Record Options

When this setting is set to Yes, MagicQ always shows a Record Options toolbar when the Record button is pressed. An Include Options toolbar is shown when Include is pressed.

44.11.18   Force Window on External Monitor

This setting determines how windows are shown on the External Monitor.

It is possible to force a particular Window to be displayed on the External Monitor regardless of other Windows moved onto the Monitor. Options are "None", "Outputs Info", "Programmer Info", "Cue Stack Info","Group" and "Exec".

There are also options to set the sizing (number of columns) on the external monitors to be the same as on the internal touch screen. You can choose the additional options "Normal same res" and "Normal 10 cols". "Normal same res" makes the external monitor use the same number of rows and columns as when the window is on the internal monitor. "Normal 10 cols" through "Normal 20 cols" options allows the number of columns on the external monitor to be fixed regardless of the resolution of the external monitor.

44.11.19   Plan Intensity type

Setting for how the Plan View in the Outputs Window shows intensities – either using glass fill or colour grading.

44.11.20   Message Window

This specifies where the message box is shown (main screen, external screen 1, external screen 2) and whether a network message is sent to other consoles.

Setting "Net Only" results in messages only being sent over the network, not shown on the console where the Cue executed.

Setting "Net Session" restrict console messages to the net session that the consoles is operating in.

44.12   Cue Storage Settings

44.12.1   Delete Cues when delete Cue Stacks

With this setting you can force Cues to be deleted when the Cue Stack that uses them is deleted. Cues are only deleted if they are not used in other Cue Stacks. This option defaults to No.

44.12.2   Delete Cue Stacks on remove Playbacks

With this setting you can force Cue Stacks to be deleted when the Playback is deleted. Cue Stacks are only deleted if they are not used in other Playbacks. This option defaults to No.

44.12.3   Use first free Cues, Stacks, Palettes

By default MagicQ uses the lowest free Cue when recording new Cues. It also uses the lowest free Cue Stack when recording new Cue Stacks and lowest free Palette when automatically recording Palettes.

Setting this setting to No, forces MagicQ to record items after the place the last items were recorded – enabling the user to control where new items are recorded.

44.12.4   Copy mode (linked/unlinked)

By default when you copy a Cue Stack, MagicQ creates a new Cue Stack but retains links to the old Cues – i.e. no new Cues are made. Using SHIFT COPY and selecting Unlinked you can specify an unlinked copy whereby new Cues are made.

This setting allows the default Copy behaviour to be changed so that the copy is always unlinked unless SHIFT + COPY is pressed and Unlinked is deselected.

The options are "linked", "unlinked" and "unlinked, no state".

The "unlinked, no state" option specifies that when Cues are copied within a Cue Stack only the "delta" values are copied not the state of the Cue at that step.

44.12.5   Derive settings from previous Cue

This setting specifies how MagicQ sets the Cue settings for new Cues recorded on a Cue Stack.

When this setting is set to No, MagicQ uses the default Cue settings specified in the Step and Step Times tabs in the Cue Stack, View Defaults view.

When this setting is set to Yes, MagicQ attempts to derive the setting Cue settings from the previous Cue in the Cue Stack. If the Cue is the first in the Cue Stack then MagicQ uses the default Step and Step Times.

44.12.6   Hide Cue Store Ids (Qids)

MagicQ supports two different ids for Cues – the Cue Id of the Cue within the specific Cue Stack and the QId of the Cue within the Cue Store.

Many users record Cues directly to Cue Stacks on Playbacks and do not need to use the Cue Store. These users are only concerned with the Cue Id in the Cue Stack.

When this setting is set to Yes, MagicQ hides the QId from the Cue Store from the Cue Stack Windows and Cue Windows.

44.12.7   Hide Vdims

This setting hides Vdims from the Patch window. The virtual dimmers for fixtures are not shown as separate fixtures in separate rows. Fixtures with vdims are indicated in the head number view with a +v, e.g. if head 10 had a vdim it would show as 10+v.

44.12.8   Expand palettes to same head type

This setting allows palettes to be automatically expanded to heads of the same type. This enables palettes to be built up on a single head and then expanded to all of the patched heads of that type.

It is possible to choose just Colours and Beams to be expanded or all Palettes. Palettes are expanded when patching a new head and when recording palettes.

44.12.9   Heads moved aside are unpatched

This setting determines that heads are unpatched rather than moved aside when repatching and morphing.

When set to Yes, when repatching, any heads that need to be moved aside to make room for new heads are unpatched.

44.12.10   Default mark/move when dark time

Specifies the default value for Mark cues and Move when dark.

44.13   Playback Settings

44.13.1   Grand Master function

The Grand Master can be configured to control only the level of preset faders, as accessed through the Intensities Window Preset View. Alternatively, it may be configured to control only the level of programmer data, or it may control both. In each of these configurations it does not control playbacks or add/swap levels.

When set as a Grand Master it controls Playbacks and the Programmer.

When set as Cue Stack 1 it controls Cue Stack 1 from the Cue Stack Store.

44.13.2   Sub Master function.

The Sub Master can be configured to control either playback faders only, or add/swap buttons only, or both (the default).

It can also be set as a programmer master, a preset master or both.

When set as Cue Stack 2 it controls Cue Stack 2 from the Cue Stack Store.

44.13.3   Crossfade Master function

The Crossfade master can be configured in different ways as described below:

- Manual Crossfade (default) - The Manual Crossfade function enables you to advance Cues within a Cue Stack using the Crossfader. To start a manual crossfade, hold the SELECT button for the playback and move the crossfader. The display window will show "pickup" until the crossfader level matches the current position in the fade - it will then change to "manual". You can also start a manual crossfade on the currently selected playback by holding SHIFT and moving the crossfader. As the fader reaches the limits the Cue Stack moves to the next Cue.

- Busking Rate Master - In this mode the sub-master fader moves from 0 seconds to 10 seconds. This rate is shown in the bottom right of the Status Display. The time is applied to selection of palettes and intensities. When FAN mode is selected the change is applied in turn across each of the selected heads.

- Sub Master - Sub Master is useful on Compact Consoles which do not have a separate sub master fader. When set to sub master, the Sub Master function above determines its function.

- Cue Stack 3 - When set as Cue Stack 3 it controls Cue Stack 3 from the Cue Stack Store.

The Crossfade master also has a number of *rate master* configurations. Using these it is possible to set the function of manual crossfade fader to control the execution rate of the current playback, or the global execution rate of all playbacks. The Rate Master and Global Masters affect both the Cue Stack times, FX times and Pixel FX times, while the Cue Stack Rate Master and Cue Stack Global Rate Master control just the rate of the Cue Stack (not the FX in it).The rate is shown in the bottom right of the Status Display from 0% to infinity. The fader should be set to 50% for normal execution rate.

- Rate Master

- Global Rate Master

- Cue Stack Rate Master

- Cue Stack Global Rate Master

- Club Master

- Test Cue Stacks Rate Master - only tested Cue Stacks from the Execute Window or externally triggered are affected by rate changes.

See manual control, rate master for further details.

44.14   Crossfade button function

This option determines the function of the GO buttons in the crossfade master section.

When set to "Default" the function of the GO button is determined by the Crossfade Master function option - for "Global Rate" and "Club Master" the button is set to Global Tap, for "Rate" and "Busking Master" it is set to Tap to Time for the selected playback, for all other options it is set to normal "Go/Back" function.

When set to "Tap To Time Selected" the GO button affects the absolute rate of the currently selected Playback. When set to "Global Tap to Time" affects the absolute rate of all active playbacks.

Cue Stacks can be set to use a divisor of the tapped time - in Cue Stack Options, Audio set the rate of the Rate Divisor - by default it is set to "Normal" and takes the tapped time. Options include "Div by 2" to "Div by 8" and "Mult by 2". The divisor affects setting of the rate by tap to time either as the selected playback, as part of global tap to time, or as part of audio BPM rate setting.

Cue Stacks can also have the Rate Divisor can be set to "Inhibit" - in this case the rate of the Cue Stack is never affected by global tap to time options. This allows Global Tap to Time to be used without affecting particular Cue Stacks.

44.14.1 Split Crossfade

The options are

- No

- PB9 in, PB10 out

- PB9 out, PB10 in

- Stadium split

- PB2

- PB2 in, PB3 out

When set to any of the dual playback options, the two playbacks become Cross Masters for manual Fade In and Fade Out. Pressing the Pause button on either of the playbacks brings the current playback under manual. The faders can then be used to fade in each new Cue with separate control for fade in and fade out.

Pressing the Go button on either Playback returns the current playback to normal Cue execution.

When enabled, both playbacks can not be used as normal playbacks.

The "Stadium Split" option is used on MQ500 systems to set the two 100mm faders as split crossfaders - by default they are crossfader and sub master.

The PB2 option is designed for Theatre use with the main Cue Stack on PB1 and the crossfader on PB2.

44.14.2 Crossfade controls Playback

This setting enables the user to lock the manual playback section of MagicQ to Playback Fader 1, 2, 9, 10 or 15 regardless of the currently selected Playback. This is designed for theatrical use where one playback is the master Cue Stack. The default is "Selected Playback".

44.14.3 DBO function

This setting determines the function of the DBO button. The options are

- DBO Momentary (default and original behaviour)

- DBO toggle

- No FX Mometary (kills FX)

- No FX toggle

- Tap to time

- Flash taps when DBO held

- No function

When set to either of the NO FX options all FX are instantly set to zero size.

When set to Tap to time, the button acts like the Tap to time button on the MQ500 - setting the rate for the currently selected playback.

The Flash taps when DBO held option enables setting of speeds to playbacks by holding DBO and then pressing the flash button of the relevant playback.

44.14.4   Stomp Playbacks

When the Playback Stomping option is enabled, playbacks that have been fully overridden by other playbacks will be automatically released (stomped).

44.14.5   Intensity (HTP) FX can subtract

This setting determines whether one Playback intensity level can subtract from another Playback's level. When set to "yes" an FX on one Playback can subtract from the level on another Playback. When set to "no" MagicQ performs pure HTP – i.e. the highest level (including FX) from all the Playbacks is output.

44.14.6   Go reasserts channels

This setting determines which channels are reasserted when the Go button of a Playback is pressed. The options are "All inc tracked", "non tracked" and "All no fade".

When set to "All inc tracked", then pressing GO on the Playback will reassert channels that are tracking through the Cue Stack even if they were being controlled by another Playback. When set to "non tracked" only channels that are recorded as "hard values" in the current Cue will be reasserted.

"All no fade" forces an immediate change of the channel values controlled by the Playback.

44.14.7   Fader off zero reasserts channels

This setting is used to reassert channels using the fader. This setting is useful when using Cue Stacks with the "Fader Releases" set to No and "Flash releases" set to No.

When set to Yes, faders reassert the Playback when the level leaves zero. The setting "Go reasserts channels" specifies how the channels are reasserted.

44.14.8   Next Page changes to next used

This setting enables page changes using the Next Page and Prev Page buttons to only access programmed pages rather than changing through all pages. Any page can be accessed through the Page Window.

44.14.9   Current Playback follows last touched

This setting makes the Current Playback follow the last Playback fader to be raised. If set to No then the Current Playback is not changed when faders are raised - it is only changed when SELECT buttons are pressed.

44.14.10   Playbacks S + GO = PAUSE

This setting changes the function of S + GO on Playbacks. By default S + GO steps to the next step without time. This option enables S + GO to be changed to be a PAUSE function for either Wing Playbacks or all Playbacks. This is useful on Wing Playbacks or on Mini Wings that do not have physical PAUSE buttons.

44.14.11   Tap to Time buttons

Enables the GO, PAUSE buttons or the S buttons to be permanently set to Tap to Time. The options are

- GO buttons

- FLASH buttons

- S + GO buttons

- S + FLASH buttons

- S + buttons

44.14.12   Activate playbacks on start

This option enables one or more playbacks to be activated on start up. The options include:

- None

- PB1

- Last Active

- Wing 1 PB 1

- Cue Stack 1

- Macro 1

- Lamp On All

When set to "Activate Playback PB" then when MagicQ starts PB1 is activated. This can then be used to activate other playbacks and potentially run a complete show without user intervention.

When set to "Last active" then after a power up or a reset, MagicQ will reactivate Cue Stacks that were running when the console was powered down or reset. MagicQ will start the Cue Stacks from the step that they were previously on.

Note that all the options except for the PB1 option are only available on MagicQ consoles or on MagicQ PC systems with MagicQ Wings or Interfaces attached.

44.14.13   Run in Execute Window

This setting starts the console / MagicQ PC up in the Execute Window.

44.15   Network Settings

44.15.1   IP Address

The console stores the TCP/IP address and subnet mask for the network interface. The addresses are stored as part of the console configuration rather than as part of the show data. Thus erasing show data does not affect their configuration.

For communicating with Art-Net the TCP/IP address must be set to a number in the range 2.x.x.x (e.g. 2.0.0.10) and the Sub net address must be set to 255.0.0.0.

On MagicQ PC the TCP/IP address of the system must be configured through Windows, Control Panel. On Mac it must be configured through System Preferences. In addition the MagicQ software must also be told the TCP/IP address so that it knows which network interface to use. In Setup, View Settings, Network set the IP address to be the same as the network port of the PC / Mac you wish to use.

44.15.2 Subnet Mask

The sub net mask for the network interface.

For communicating with an Art-Net convertor the the Sub net address must be set to 255.0.0.0.

44.15.3 Send to applications on this PC

This setting is used to send Output data internally to other applications on the same PC. This can be used to connect to a 3rd party Visualiser or the MagicQ Media Centre on the same PC.

This setting is valid for PCs and Macs only – it is ignored on MagicQ consoles.

44.15.4 Ethernet remote protocol

Enables transmission and reception of ChamSys Remote Protocol for communication over Ethernet (UDP/IP) with external 3rd party systems. The options are:

• ChamSys Rem (rx)

• ChamSys Rem (tx & rx)

• ChamSys Rem (tx)

If set to None then any data received is ignored. When transmission is enabled, data can be transmitted from the Macro field of Cue steps in the Cue Stack.

When using network sessions or multi console operation this option should be set to None.

See ChamSys Remote Ehthernet Protocol and Multiple Consoles for more details.

44.15.5 Playback Sync Port

It is possible to configure the port used for synchronisation of playback between multiple MagicQ consoles. The default port is 6553. If this port interferes with other equipment for any reason then it is possible to change it.

Note that this port is also used for Net Sessions - so it must be the same on all systems using Net Sessions.

44.15.6 Web Server

This is used to enable the in-built Web server which enables remote access to the console functions from other equipment using web browsers. The option "Enabled CSS" uses improved CSS style sheet web pages.

44.15.7 Web Server Port

The default web server port is 8080.

44.15.8 Gateway address

For future use.

44.15.9 Control net IP address

For future use.

44.15.10   Control net subnet mask

For future use.

44.15.11   Wireless Mode

Choice of wireless mode when using a USB to Wireless interface with the MagicQ Pro 2010 or Pro 2014 console. Also when using the internal wireless support on a MQ70. The options are

- Disabled

- Managed (2010/2014)

- Ad-Hoc (2010/2014)

- Access Point (MQ70)

Note that this setting is not supported on MagicQ PC or Mac - for these systems use an external wireless access point.

When using an external wireless access point via fixed network this option should be set to Disabled.

44.15.12   Wireless IP address

IP address when using a USB to Wireless interface with the MagicQ Pro 2010 or Pro 2014 console. Also for MQ70.

For ad-hoc connection to an iPhone or iPod Touch use 192.168.1.20.

44.15.13   Wireless subnet mask

Sub net address when using a USB to Wireless interface with the MagicQ Pro 2010 or Pro 2014 console. Also for MQ70.

For ad-hoc connection to an iPhone or iPod Touch use 255.255.255.0.

44.15.14   Wireless channel

Wireless channel to use when using a USB to Wireless interface with the MagicQ Pro 2010 or Pro 2014 console. Also for MQ70.

For connection to an iPhone or iPod Touch try channel 5.

44.15.15   Wireless SSID

Wireless SSID (identifier of the Wireless network) to use when using a USB to Wireless interface with the MagicQ Pro 2010 or Pro 2014 console. Also for MQ70.

For connection to an iPhone or iPod Touch enter a name for your network – e.g. mynetwork.

44.15.16   Wireless encryption

Wireless encryption type when using a USB to Wireless interface with the MagicQ Pro 2010 or Pro 2014 console. Also for MQ70.

The options are None, WEP, WPA or MQ.

WEP and WPA are secure wireless encryption methods. Set the key in the Wireless Key field.

When set to MQ the wireless is kept open but the application requires users to enter a password to connect to the console. The password should be set in the Wireless Key field. When this option is selected the iPhone remote will be passworded regardless of whether the connection is made through a USB to Wireless interface or an access point external to the MagicQ system.

44.15.17   Wireless key

Wireless encryption type when using a USB to Wireless interface with the MagicQ Pro 2010 or Pro 2014 console. Used when Wireless encryption is set to WEP or WPA. Also for MQ70.

For WPA the key must be 8 or more characters.

When Wireless Encryption is set to MQ then the Wireless key is used to specify to a password that must be entered on the iPhone Application.

44.15.18   OSC Mode

The options are Disabled, Tx, Rx, Tx and Rx.

44.15.19   OSC Transmit Port

The UDP port used for messages transmitted from MagicQ to external systems. Defaults to 9000.

44.15.20   OSC Receive Port

The UDP port used for messages received from MagicQ to external systems. Defaults to 8000.

44.15.21   OSC IP address

The IP address to send OSC messages to. When set to 0 the OSC messages are broadcast on the network.

44.15.22   SACN Transmit Priority

Sets the sACN Transmit Priority. Defaults to 100.

44.15.23   Remote tracker protocol

Enables connection to a remote tracker system. Remote tracker protocols are only supported on MagicQ consoles and MagicQ PC systems connected to MagicQ wings and interfaces or Rack Mount Dongle.

The options are DMX Input, MQ Track, Spot and Simulator.

When set to DMX Input, MagicQ receives tracker data for each fixture directly on the DMX input corresponding to the output - for example if a fixture is patched to Universe 1 channel 1 with pan and tilt on channels 10 and 12 respectively, then it will take the tracker data input for pan and tilt from input channels 10 and 12.

When set to MQ Track, MagicQ receives tracker data over a simple UDP protocol on UDP port 6549. The format of the data received is:

<x>,<y>,<z>,<tracker id>,<tracker name>

For example, sending tracker 2 named "Bob" with position x of 2m, y of 3m and z of 3.5m the data in the UDP message would be

2,3,3.5,2,Bob

Each UDP message contains information for one tracker only

When set to Spot, MagicQ receives tracker data from Robert Juliat tracking system.

When set to Simulator, MagicQ generates a test pattern on the x and z positions of Trackers 1 and 2 in opposing directions for testing purposes. The simulator does not require MagicQ hardware.

The current value of received trackers can be seen in Setup, View System, View Status on the Trackers tab.

When tracker data is active MagicVis shows the tracker points as a green cross within the 3D space. If the tracker data is lost then the cross will turn red, and then after 2 seconds of not receiving any tracker data for that tracker the cross will disappear alltogether.

44.16 Port Settings

44.16.1 MagicQ Wings and Interfaces

This setting enables MagicQ Wings and ChamSys USB interfaces to be connected. The options are No, Yes, and Yes – auto DMX.

This option affects MagicQ Wings (Mini, PC, Maxi, Extra, Playback, Execute) and USB Interfaces (Twin DMX, Audio, SMPTE).

On MagicQ consoles, when set to Yes – auto DMX then MagicQ automatically outputs on the rear DMX ports starting from Universe 1 – provided that none of the Universes have been explicitly set to "MQ Direct".

On MagicQ PC/Mac when set to Yes – auto DMX then MagicQ automatically outputs DMX from a connected MagicQ Wing starting from Universe 1 – provided that none of the Universes have been explicitly set to "MQ Wing".

This option also enables MagicQ to search for SnakeSys products on the network to unlock demo mode on PCs and Macs.

44.16.2 MagicDMX mode

The options are None, DMX Out or DMX In. This option defaults to DMX Out.

Setting the Out Type of Universe 1 in Setup, DMX I/O to MagicDMX will automatically set this option to DMX Out.

Note that DMX In is not available on the MagicDMX Basic version.

44.16.3 Serial COM port

MagicQ supports one serial port for remote connections. On MagicQ consoles select COM1. On MagicQ PC select a COM port from COM1 to COM8 depending on which COM port you wish to use.

44.16.4 Serial baud rate

MagicQ consoles support baud rates from 300 to 57600. Baud rates supported on MagicQ PC will depend on the PC.

44.16.5 Serial parity

MagicQ PC supports None, Odd, Even, Mark and Space. MagicQ consoles only support None, Odd, Even.

44.16.6 Serial data bits

Data bit sizes of 4,5,6,7 and 8 are supported.

44.16.7 Serial stop bits

MagicQ PC Supports 1,1.5 or 2 stop bits. MagicQ consoles support 1 or 2 stop bits.

44.16.8 Serial remote protocol

Determines what protocol is used on the serial port. If set to "none" then any data received is ignored. Data can be transmitted from the Macro field of Cue steps in the Cue Stack.

The other protocols are:

• ChamSys Rem (rx)

- ChamSys Rem (tx & rx)

- ChamSys Rem (tx)

- Ideal Touch

- A1 Touch

- Elo Touch

The Touch protocols are for the use of external RS232 serial touch screens with the MQ50, MQ100, MQ200 and MQ300 consoles. Refer to the instruction manual of your touch screen for other serial settings.

See Controlling MagicQ Using Serial Port and Multiple Consoles for more details.

44.16.9 Serial touch monitor

Determines which monitor on the MagicQ system has a touch screen connected to the serial port.

44.16.10 Remote trigger type

This setting specifies how the remote input port on MagicQ consoles, MagicQ PC Wings and MagicQ Maxi Wings works.

It can be set to None, Make, Break or Make + Break.

It can also be set to MIDI Beat, MIDI Beat Half and MIDI Beat Qtr for triggering from the MIDI Beat Clock instead of from the remote input.

44.16.11 Remote trigger action

This setting specifies specific global actions to be taken on a remote trigger input. The options are:

The options are:

- NONE

- CURRENT PLAYBACK GO

- CURRENT PLAYBACK FLASH

- ADD/SWAP

- SWAP

- DBO

- WING1 PB1 GO

- WING1 PB1 FLASH

- WING1 PB12 GO

- WING1 PB12 FLASH

- PB10 GO

- PB10 FLASH

- AUDIO BUMP

The remote trigger can be used on a per Cue Stack basis by setting the Halt field of Cue step in the Cue Stack to "Remote". This is independent of any global action specified by the Remote trigger action setting.

Audio bump simulates audio received at full level. It is processed by MagicQ just as if the "bump" had been received from the audio port or the MagicQ Audio Interface, bumping any Cue Stacks set to Audio Bump.

44.16.12 Audio input

The type of audio input – the options are None, "Energy only ChamSys audio", "ChamSys audio interface" and "ChamSys audio left only", "Console inbuilt port" and "PC/Mac sound card".

See Audio for full details on audio input.

44.16.13 Audio Min / Max Level

The levels of the audio input level. The minimum is used to adjust for noise whilst the maximum can be set of the audio signal is particularly weak.

When set to non zero values any levels below the minimum or above the maximum are ignored and the levels are scaled appropriately.

See Audio for full details on audio input.

44.16.14 Parallel Port Address

For use with the Artistic License parallel port dongle.

44.16.15 Monitor Settings

The Monitor settings have been moved to Setup, View System, View Monitors.

44.17 MIDI / Timecode Settings

44.17.1 Timecode frame type

The timecode type can be set to EBU-25, SMPTE30, NTSC30 and Film 24. When a ChamSys MIDI/SMPTE module is fitted the Status Display will show the current time-code being received from the module.

44.17.2 Timecode continue frames

When MagicQ is set to external timecode and the external timecode source is termporarily lost MagicQ automatically continues to increment the timecode. This parameter specifies how long MagicQ continues generating for before it stops. After this time the time-code will be frozen until a signal is received again.

44.17.3 Timecode jump detect frames

The timecode jump detect parameter is the number of frames that MagicQ waits before performing a jump. This allows spurious timecode values to be ignored.

The MIDI Show Control type specifies how MagicQ treats MIDI show control commands,

44.17.4 Timecode decode

This option controls which external source is used for timecode input.

The options are None, LTC, MIDI, Art-Net, Winamp, USB MIDI, TCNet, and Internal MagicHD. When set to None timecode is not accepted from any source.

Please note that when this option is used, then timecode generation (below) should be set to either "None", or "Art-Net (retransmit)".

44.17.5   Timecode generation

The options are None, LTC, MIDI and Art-Net (retransmit).

Art-Net (retransmit) causes any LTC or MIDI timecode received from the ChamSys MIDI/SMPTE interface or from Winamp to be retransmitted on the network as Art-Net timecode.

When this option is set to LTC or MIDI, then timecode in type should be set to None.

Note that the MQ80 does not currently support LTC or MIDI timecode transmit.

44.17.6   Timecode backwards jumps

The options are Normal, Adv backward Jump, Backward Jumps > 1 second.

Normal is the original MagicQ backward jump handling. Advanced is the handling that was previously available on a debug option. Backward Jumps > 1 second ignores backward jumps unless they are greater than 1 second - this option may help with some systems which can send small backwards jumps when they stop.

44.17.7   MIDI In Type

The options are None, Any Channel or Requested Channel. When set to Any Channel MagicQ will process MIDI notes received on any MIDI channel. When set to Requested Channel then MagicQ will only process MIDI notes received on the MIDI In Channel that is set.

This option can be used at the same time as timecode in / timecode generation.

44.17.8   MIDI In Channel

The MIDI Channel that MagicQ will listen to. When set to 0 it accepts MIDI commands on any MIDI channel.

44.17.9   MIDI Out Type

The options are None, Any Channel or Requested Channel. When set to Any Channel MagicQ will send MIDI notes on the channel specified in the macro field in the Cue Stack. When set to Requested Channel then MagicQ will always send the MIDI notes on the MIDI Out Channel that is set regardless of the channel specified in the macro field in the Cue Stack.

This option can be used at the same time as timecode in / timecode generation.

44.17.10   Midi Out Channel

The MIDI channel that MagicQ will send out on. When set to 0 it outputs on the MIDI channel specified in the Cue Stack macro field. When set to non zero it overrides the MIDI channel.

44.17.11   MIDI Show Control Type

The options are Normal, Cue Stack 1, Playback 1. This determines which Cue Stack is triggered when MIDI Show Control (MSC) commands are received.

In normal mode, MSC commands with two parameters (Q number, Q list) will trigger Cue Stacks in the Cue Stack Store. MSC commands with one parameter (Q number) will trigger Cues in the Cue Store.

44.18 Multiple Console Settings

44.18.1 Enable remote access

Enables other MagicQ consoles to access files on this MagicQ system – for example when grabbing show files from other consoles or synchronising show data.

This option should be enabled when using Network Sessions, Show Sync or operating a MagicQ console with the stand alone MagicVis application.

44.18.2 Enable remote control

Enables other MagicQ consoles to remote control this console using the MagicQ remote control feature, the iOS/Android application, or the MagicWand.

44.18.3 Net Session Mode

Enables network sessions whereby multiple MagicQ consoles can be used on a network together. The options are "None", "Manual Takeover" and "Auto Takeover".

In Net session modes, by default the first console to be switched on will become the Master console.

See Multiple Consoles for full details on using multiple MagicQ consoles in a network.

44.18.4 Net Session ID

For use in Network Sessions to specify which session MagicQ consoles join. Note that in most situations all MagicQ consoles will be used in the same session, so the Network Session ID can be set to 0 on all MagicQ consoles.

44.18.5 Hot Takeover Mode

This option is now superceeded by the Network Session Mode. For manual configuration of this option see Manual Configuration of Multi Console.

44.18.6 Hot Takeover Detect Time

When Network Session Mode is set to "Auto Takeover" this specifies how long after a Slave detects that there is no Master on the network before it takes over control as Master.

44.18.7 Hot Takeover Fade Type

When Network Session Mode is set to "Auto Takeover" this specifies when a Slave becomes a Master whether the output state is held or whether an automatic fade is carried out to the output of the new Master.

44.18.8 Hot Takeover Fade Time

When Network Session Mode is set to "Auto Takeover" and Hot Takeover Fade Type is set to Automatic then this specifies how long it takes to fade the output when a Slave becomes a Master

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44.18.9 Playback Sync Type

This option is now superseded by the Network Session Mode. For manual configuration of this option see Manual Configuration of Multi Console.

44.18.10 Playback Sync IP

This option is now superseded by the Network Session Mode. For manual configuration of this option see Manual Configuration of Multi Console.

When set to 0 playback sync is accepted from any MagicQ console on the network.

44.18.11 Playback Sync Slave Mode

When Network Session Mode is set then this specifies whether the Slave synchronises its playbacks to the Master. When set to "Inhibit PB Sync" the Slave playbacks are not synchronised – this is useful for example when programming a show using multiple consoles.

For show playback the Slave playbacks are normally synchronised to the Master.

44.18.12 Show data Sync Type

This option is now superseded by the Network Session Mode. For manual configuration of this option see Manual Configuration of Multi Console.

44.18.13 Show data Sync IP

This option is now superseded by the Network Session Mode. For manual configuration of this option see Manual Configuration of Multi Console.

44.19 Hardware Settings

44.19.1 Level above 0 to activate LTP

In some circumstances Playbacks may get triggered erroneously even when the fader has not been raised above 0. In these circumstances setting this level to a level above 0 (e.g. 5) may remove the erroneous triggers.

44.19.2 Hysteresis on fader / encoder moves

In some circumstances faders or encoders may become faulty and generate excess noise – in these circumstances setting this level to a level above 0 (e.g. 5) may remove the effect of the fault.

44.19.3 Encoder Damping

Use this option on a MagicQ PC Wing to improve the performance of the encoder wheels. This option does not have any effect on MagicQ consoles.

44.19.4 Touch Screen

The touch screen can be disabled with this setting in case it has gone faulty and is causing problems.

44.19.5 Encoders

The encoders can be disabled in case they have gone faulty and are causing problems.

44.19.6 Faulty Faders Mask

The faders can be disabled in case they have gone faulty and are causing problems. This setting should normally be set to 0.

The following values can be used:

- Set to 1 to disable the main faders.

- Set to 2 to disable Wing 1 lower faders.

- Set to 4 to disable Wing 1 upper faders.

- Set to 8 to disable Wing 2 lower faders.

- Set to 10 to disable Wing 2 upper faders.

44.19.7 Power Fail Detection

This setting disables power fail detection for the current seesion in case the power fail detection circuitry has gone faulty and is continually reporting power fail.

This setting is not stored over a reset / power on.

44.19.8 Screen Save

This setting disables screen save for the current session.

This setting is not stored over a reset / power on.

44.19.9 Reduced rate output

By default MagicQ sets the reduced rate Output to "Mixed + Changes only". This reduces the amount of network/usb traffic when DMX values are not changing. It also interleaves the ArtNet frames so that ArtNet devices with small buffers will still be able to decode the correct ArtNet universes on heavily loaded networks.

Consoles and PC installations that have been programmed on older versions of MagicQ software will automatically have this option turned to "Mixed + Changes only" when the system is first started after the upgrade. Users can change the setting back to the previous setting if required. The previous setting "Normal" has been renamed "Continuous". We recommend using the "Mixed + Changes only" option as your normal setting particularly when using wireless networking.

Data packets sent to WWIWYG and Capture are sent only when the data changes – thus significantly reducing network traffic when data is not changing. The "reduced rate DMX" options do not affect the WYSIWYG or Capture data.

The DMX data sent to MagicQ Wings and Interfaces is only sent when the data changes – this reduces USB data traffic. When the data is constantly changing there will be no difference. The RX data LED on MagicQ Wings & Interfaces shows the level of DMX traffic – when DMX data is not changing this LED will flicker a few times a second instead of being on constantly.

Some older DMX equipment is not able to work at full DMX speed. Use this option to reduce the DMX refresh rate – note that this option reduces the rate of data MagicQ sends over the network or via USB to the interface. It may not affect the actual DMX rate as this may be under control of the interface itself.

Some Ethernet Interfaces and network hubs are unable to handle high levels of Ethernet traffic, for example all 64 MagicQ universes output simultaneously. On these devices set this option to "Mixed + Changes" – this sends the Ethernet data at the same rate, but in alternating order, thus ensuring that the Ethernet Interface can pick up the data.

Note that MagicQ will always send data on ArtNet and Visualiser at least once every second regardless of whether data has changed.

44.19.10 Movie Buffer frames (0=use default)

MagicQ uses buffering for Movie clips. By default (when this settting is set to 0) MagicQ uses a buffer size of 128 frames. MagicQ will always use a minimum of 128 frames regardless of this setting.

Note that on Pro 2010 and Pro 2014 consoles MagicQ uses a solid state disc so on these systems changing this parameter should not make significant difference.

44.19.11 Debug Mode (Must be 0)

For ChamSys internal debugging only. Must be set to 0.

44.19.12 Standard Logging

This option allows logging to be disabled. This option should always be enabled except when directed by ChamSys support.

44.19.13 Extended Logging

This option allows extended logging to be enabled. ChamSys support may request that Extended Logging is enabled in order to try to solve problems.

44.20 General Settings

44.20.1 Splash screen image

Users can now add their own splash screen by copying their splash image named usersplash.bmp into the MagicQ folder. This will be used in favour of the default splash.bmp.

44.21 Individual Playback Settings

Settings for individual Playbacks (Cue Stacks) are configured from the View Options and View Defaults views in the Cue Stacks Window. See Playbacks.

44.22 Calibrating the touch screen

If the touch screen does not respond accurately to the position that you are pressing on the screen then you may need to re-calibrate the touch screen. Don't be afraid, this is a painless exercise!

In the Setup Window press the Cal Touch button - use the physical button rather than the pressing the touch screen. This puts the screen into calibration mode. To calibrate the touch screen simply press the screen in the bottom left corner of the screen and then the top right corner of the screen. Press the screen on the corners where the displayed graphics starts/ends.

It does not matter which order you press the screen in. If you feel you have pressed the wrong bit of the screen just press the screen again in the correct position.

When you are satisfied you have pressed the correct position then press Cal Touch button to leave the calibration mode. Make sure you use the physical button rather than pressing the touch screen, as pressing the touch screen messes up the calibration.

You should now find that the touch screen is more accurate. If you continue to have problems then try pressing the screen with a small blunt object, but don't use a sharp object as it may damage the touch screen.

When calibrating external touch screens calibrate only 1 touch screen at a time. Pressing in more than one screen will cause unpredictable results.

44.23   Displays brightness and contrast

To modify the brightness of the main display, press CTRL and adjust the bottom right encoder. To modify the brightness of the LCD displays on the wing, press CTRL and adjust the next encoder up on the right. To turn all the displays off press CTRL and the button associated with the bottom right encoder.

To turn off the all the lights on the console (i.e. the displays, the console lights and the LEDs) press CTRL and the "All Lights" off button.

To modify the contrast of Playback wings use the Wing Contrast encoder. When multiple Playback wings are connected press CTRL and the Next Page button of the Wing you wish to change the contrast on.

44.24   Console lamp brightness

To modify the brightness of the console lamps press CTRL and adjust the top right encoder. To turn all console lamps on or off, press CTRL and the button associated with the top right encoder.

44.25   Button LED brightness

To modify the brightness of the LEDs on the buttons, press CTRL and adjust the bottom left encoder.

Note that the brightness of the LEDs can only be adjusted from full to dim - they can not be turned off completely. This ensures that there is always an indication that the console is powered.

44.26   Controlling console lamp from the programmed show

The console lamp brightness, display brightness and LED brightness can now be controlled as a fixture within the programming of the show. Patch one "Generic MQlamps" at any free address. The fixture can be unpatched to ensure that it does not affect any real channel outputs. The fixture has the following attributes:

- activate set to 255 to take control of the console brightness

- master master level for brightness

- white lamp brightness

- blue lamp brightness

- main display brightness of display – 0 is off

- wing display

- led brightness of the LEDs

Note that the screen saver will still blank the display.

44.27   Locking the console

The console supports a simple locking mode to avoid accidental button presses affecting the output or programmed data. Press CTRL and the button associated with the top left encoder to lock / unlock the console. The console will not accept any button presses while it is unlocked.

A more advanced password system will be included in future software releases.

44.28   Button test mode

The console supports a button test mode for checking suspect buttons and faders. To enter button test mode on MQ100/200/300 consoles press the two SHIFT buttons either side of the touch screen together (i.e. hold one down and press the other). To enter button test mode on Compact consoles MQ40/60/70, press CTRL + ALT + SHIFT together to enter and exit board test mode

In button test mode the buttons do not have their usual function - instead when pressed a message will be displayed in the status display indicating which button has been pressed. Faders and encoders also can be tested in a similar way.

In button test mode the Window shows a map of all the buttons, encoders and faders. When a button is pressed the map turns green to indicate that the button has been pressed and released o.k. For encoders it turns green when the encoder has been turned both ways. For faders it turns green when the fader has been lowered to 0 and raised to full.

To test LEDs, enter button test mode and then press CTRL 1 and CTRL 2 to test the different colour LEDs. Press CTRL 0 to go back to normal state of the LEDs.

Button test mode is exited in the same way that it is entered.

On MagicQ PC to enter button test mode type "test" on the keyboard then hold SHIFT and CONTROL. Hold SHIFT and press CONTROL to exit button test mode.

Chapter 45

System Management

45.1   Starting Up

On PC and Mac systems click on the MagicQ application icon. On MagicQ console systems hold the power button on for 1 second.

On first start up an introductory window is displayed on the screen. You are prompted to choose demo shows or to continue the last show. It is possible to turn this option off so that MagicQ automatically starts into the last show.

When MagicQ starts up it loads the last show file that was saved – either a file explicitly saved by you, or the last backup file it automatically saved.

45.2   Shutting Down

To shut MagicQ down, press the QUIT soft button in the Setup Window. When asked for confirmation, select yes. MagicQ consoles automatically power off when the shutdown sequence is complete.

| VIEW SETTINGS | VIEW SYSTEM | VIEW DMX I/O | FILE MANAGER | SAVE SHOW | BACKUP TO USB | SAVE SETTINGS | IMPORT SETTINGS | LOAD SHOW | NEW SHOW | CAL TOUCH | QUIT |

On MagicQ consoles the console must be shut down correctly to avoid damage to the heard disk. Removing power to the console when it is running may cause problems with the file system. Normally this will only result in a subsequent slow start-up whilst the system repairs the disk – however in certain circumstances the file system may become corrupted. If you always follow the instructions for shutting down you will have no problems.

CONSOLES THAT ARE NOT SHUTDOWN IN ACCORDANCE WITH THE ABOVE INSTRUCTIONS WILL INVALIDATE THEIR WARRANTY.

For situations where users regularly just disconnect the power from the console rather than shutting it down correctly it is possible to force a fast shut down on power fail. If the empty file "fast_power_fail.txt" is placed in the main MagicQ folder (up one from the show folder) then when power is lost the console will only wait 10 seconds for a user cancel before auto shutting down. This will help to avoid the battery going flat and the potential damage to the file system.

45.3   Saving Shows

When you are programming a show the show is stored in memory. In order to store your show on the disk you need to press the SAVE SHOW soft button in the Setup Window.

Whilst programming, you should regularly save your show, so that if the unexpected happens and the power fails your show data is not lost. You can chose any filename. The console will automatically set the file extension to .shw.

By default, MagicQ saves a backup of your show to disk shortly after you make changes – you will see it show "AutoS" in the Status Display. It uses the same show name but with the file extension .sbk.

It is a good idea to save your show to different file names so that you have various points you can back-track to if things go wrong. For example, save the show as myshow-patch.shw after you have patched and then as myshow-final.shw after you have finished programming.

When you shut down MagicQ through the QUIT soft button in the Setup Window, it automatically saves a backup copy of your show with a .sbk extension. When you subsequently restart MagicQ this file will be re-loaded. This ensures that MagicQ starts up as it was when the QUIT soft button was pressed.

The Setup Window indicates when the show has not been saved (or autosaved) for over 10 minutes.

MagicQ consoles have a large hard disk to enable storage of a virtually infinite number of shows.

45.3.1   Show file name auto increment

MagicQ supports auto incrementing show file names. To start an auto incrementing show file, save a show file with the last part of the name set as _001. When you next press SAVE SHOW, MagicQ will suggest saving to _002. Press ENTER to accept, or edit the name to save to a different name.

Note that in order to avoid accidentally saving to incrementing files, all 3 digits must be present - _1 or _10 is not supported. When the number _999 is reached MagicQ will not auto increment and will request a new name.

Please note that over use of the auto increment feature will lead to high disk usage. It is important to clear out old versions once the show is finished.

To delete all old revisions of the current show file, go to File Manager, and press SHIFT and REMOVE OLD REVS. This will remove all revisions of the current show file that have a lower revision number. It will not remove the current show file.

45.4   Backing up to an external system

It is a good idea to back up your show to an external system. This ensures that should the unexpected happen you can transfer your show to another console. In a touring environment where the console is being moved every day we recommend you back up your show to an external system before moving the console.

You can either backup by transferring files over network or via USB memory stick. To backup to USB memory stick, first insert a USB memory stick into the USB slot in the front or the back of the console then press the BACKUP TO USB soft button in the Setup Window.

The USB memory stick should be formatted for a standard Windows file system (VFAT) – they generally come like this. This enables the memory stick to be used in both the console and standard PCs running Windows.

45.5   Loading Shows

You can load a show that you have previously saved using the LOAD SHOW soft button in the Setup Window. If you load a new show it will erase any existing programming. The console will prompt you for confirmation.

Be careful to choose which type of show file you want to load – the .shw files are the ones you saved, whilst the .sbk ones are auto backups.

When MagicQ saves a show file it saves the show data, the show settings and the console settings. By default when a show is loaded, only the show data and settings are loaded – the console settings are not loaded – so the console settings are not affected.

To force loading of the console settings from a show file, hold SHIFT and press LOAD SHOW+CON. A list of Load Options is shown enabling the user to choose which console settings they wish to load.

CONSOLE SETTINGS

• Wing Settings

- Remote Settings

- Mode Settings

- Network Settings

- Media Server Settings

- MIDI SMPTE Settings

- Port Settings

- Multi Console Settings

- Hardware Settings

Selecting all the options loads the complete console settings and show settings – enabling the complete cloning of a console. Note that the console settings include the network settings and IP address – so if 2 cloned consoles are used on the same network then the IP address should be manually set to different addresses.

45.6 Erasing

To erase the entire show from memory, go to the Setup Window and press the NEW SHOW (was ERASE SHOW) soft button. You will be asked to confirm by selecting YES. You will then be asked for which initial mode you want the console to be set up for, Normal, Theatre Non Track, Theatre Tracking or Hog II Warp. If in doubt, select Normal.

Erasing a show clears all patching, all programming and all palettes. It does not clear console settings such as the configuration of the DMX outputs or the calibration of the touch screen.

45.7 Icon Snapshots / Extras file

Icon snapshots are stored on the MagicQ system/console rather than in the show file - this avoids the show file getting too large. In normal operation MagicQ will save the icon snapshots to the icon folder on the MagicQ system and retrieve them when needed for display.

In order to allow MagicQ shows with icon snapshots to be transferred onto other MagicQ systems, MagicQ now supports an additional "extras" show file with the file extension ".xhw". When a show contains extra data such as snapshots then when the show file is saved using SAVE SHOW or SAVE TO USB then the additional show file is saved at the same time. This "extras" show file contains only the extra icon snapshot data, it does not contain the main programming of your show. If you wish to use your show on a different system with the icon snapshots then you need to copy both the ".shw" and ".xhw" files to the new system. When loading a new show MagicQ automatically checks for the presence of a ".xhw" file and extracts the icon snapshots from that file into the icon folder on the MagicQ system.

The "extras" file is not saved during auto saves and is only loaded (extracted) when the user loads an existing show using LOAD SHOW.

45.8 Import and Export of Show Data and Show Merging

MagicQ supports advanced features for merging shows together, taking selections from particular shows and adding them to other shows.

A selection of Heads, Cues, Cue Stacks or Pages can be exported from a show file to a new file. Only the show data that uses those selected Heads, Cues, Cue Stacks or Pages is present in the new show file. The new show file can then be merged into other show files, with MagicQ repatching the data as required.

45.8.1   Exporting Shows

Press SHIFT and SAVE SHOW (EXPORT SHOW) to export part of the current show. Only the currently selected heads are exported. All groups, palettes, cues and cue stacks that contain one or more of the selected heads are exported – but only with the data from the selected heads.

If no heads are selected then MagicQ looks for items that are selected in the Page, Stack Store, and Cue Store windows. Use SHIFT + the cursor keys to select items in these windows. Therefore complete pages can be exported using the Page Window, complete Cue Stacks (including the Cues they use) from the Cue Stack Store or individual Cues from the Cue Store.

45.8.2   Merging / Importing Shows

Select SHIFT + IMPORT SHOW to merge or import a show. MagicQ gives you a simple menu of Entire Show, Palettes or Advanced.

Entire Show loads the entire show as separate fixtures, i.e. adding the show to the existing show.

Palettes allows just palettes to be loaded from the imported show file. There are further options for choosing just some head types and whether to load Positions, Colours and Beams.

45.8.3   Advanced Merging

Advanced provides the user with options include choosing whether Settings, Patch, Palettes, Cues, Cue Stacks, Playback assignments, Grids and Curves are loaded from the imported show file. Settings includes show settings, layouts, key macros and automations.

Additionally you can choose whether Palettes, Cues and Pages are merged together, or whether new Palettes, Cues and Pages are generated.

It is also possible to load the data for only selected head types from the imported show file.

If the Merge Heads option is selected then MagicQ merges programmed data from the new file into the heads that match in the original show.

If the Merge Heads is not selected then MagicQ adds the channels to the new show. Channels from the imported show keep their DMX address unless they clash with channels in the original show – in which case they are moved to the first free location.

If the Merge Pages option is selected then Playback assignments are kept on the same Page as they were in the imported show – but they may be moved onto higher Playbacks (e.g. Playback wings) on the same page. This allows, for examples two different shows created on a MQ100 to be merged onto a single MQ200.

45.8.4   Merging in part of another show file

If you wish to merge in only specific items, such as Cues, Cue Stacks or Palettes, or just selected heads then you can use Setup, SHIFT + IMPORT SHOW and select Advanced as above.

If you wish to merge in only some Cues, Cues Stacks or Pages then you must first create another show file with only these items before importing it into your current show file.

- Save your current show file to a name different to the import show file.

- Open the import show file and cursor select the items in the Page, Stack Store or Cue Store windows you wish to export.

- Press SHIFT + EXPORT SHOW to export the show to a new file name - e.g. partial.shw.

- Reload your original show file.

- Import the partial show file using SHIFT + IMPORT SHOW and selecting ENTIRE SHOW.

45.8.5   Merging different versions of the same show

To merge two versions of a show together select Advanced and then Merge Heads.

MagicQ will merge in Cues and Cue Stacks from the selected show file that are different to the Cues and Cue Stacks in the original show. Note that for this to work you should ensure that the Cues and Cue Stacks that are different in the two show files have different names.

The heads must be the same type in both versions - it is not possible to merge between different fixture types. If the two versions you wish to merge have different fixture types then you must first morph the fixtures in one of the versions to be the same as the other.

45.8.6   Importing Cues from a different version of the same show

To import a newer version of a Cue from another show file go to Cue Stack Window and press SHIFT IMPORT CUE or to the Cue Store Window and cursor select one or more Cues and press the IMPORT CUE soft button.

Import Cue gives options of choosing only selected heads and whether to merge into or replace the Cue in the exisitng show file.

Only the selected Cues will be imported from the new show file. The Cues must exist (at the same QId in the Cue Store) and have the same name in the import file.

Note that if you want to add new Cues that are not in the current show file then you must use Setup, Import Show and then select Import Cues only.

45.8.7   USITT ASCII file import

MagicQ supports import of dimmer patch, group, cue level and timing information from USITT ASCII files. In the Patch Window, View Chans, Import USITT.

MagicQ does not support import of non dimmer parameters or more complex fixtures as this is manufacturer specific and not specified in the USITT ASCII format. We will be happy to investigate whether we can add fixture import from the format of your console.

Note that when importing USITT files with both patch and cues, MagicQ expects the PATCH section of the USITT file to be before the CUE section. A few consoles write the PATCH section at the end of the USITT file - for these cases it is necessary to edit the USITT file before improting, to move all the PATCH commands before the CUE Commands.

45.9   Saving and Loading Settings

You can save your favourite show settings to a file. Settings include the options from the Setup Window, the defaults from the Cue Stack Window, the Layouts you have recorded and keyboard macros.

Once you have become familiar with the console, it is a good idea to save your preferred settings to a file so that then when you start a new show you can load your settings in.

45.10   File Manager

You can organise you show files using File Manager in the Setup Window. File Manager supports renaming, moving, copying and deleting of files.

All show files are located in the show directory. The show directory has sub directories for fx, heads and icons.

File manager can operate on both the internal hard disk and external USB memory sticks. To copy a file to the USB stick:

Select HARD DRIVE soft button.

Press COPY and then select the file you wish to copy.

Select USB DRIVE soft button

Select the "." entry.

Moving is done in a similar way using the MOVE action button. Renaming and deleting use the NAME and REMOVE action buttons respectively.

It is also possible to load shows, settings, icons and new software by clicking on items in the File Manager window.

45.11 Transferring files over network

The console supports remote file system access over the network. Files can be accessed whilst the console is running and outputting Art-Net thus allowing, for instance, users to set up automatic show back-ups to an external server.

Connect the console to the PC or Mac using a network cable.

Configure the IP addresses of the PC / Mac and the console so that they are all on the same IP sub-net. For instance if the console is set to IP address 2.9.200.5, subnet mask 255.0.0.0 then set the host system to IP address 2.9.200.6 subnet mask 255.0.0.0.

You can force Windows to find the console by using Search and searching for a computer – enter the IP address of the console.

On a Mac connect using Finder and selecting the console.

Log in as user magicq with password magicq.

On some Windows systems you may need to create a user account magicq with password magicq to enable Windows to connect to the console.

You can then transfer files between the host and the console. Show files, personality files, FX files and Patch files can all be transferred in this way.

If you have problems putting files onto the console then try pressing the Set Rem Access soft button in the File Manager window.

45.12 Storage of MagicQ user files on PC/Mac

MagicQ now has an option to change where the user data files are stored.

Older installations of MagicQ stored show, head, log and other user data files in the Application folder. Windows and OSX now make it difficult for users to access the Application folder - either forcing files into a Virtual Stores or preventing write access.

This data can now be stored in the User Documents folder which is fully accessible. It is possible to revert back to using the Application folder at any time.

From the top toolbar select Tools, Change Files Location.

45.13 Reports

MagicQ supports printing of the contents of any window to a printer or a pdf file. On PC/Mac select File, Print Window. For spreadsheet views, MagicQ defaults to selecting the most commonly used columns from the window in order that they fit easily on a printed page width. It is possible to modify the column selection as required.

45.14 Status Window

There is a status window in the Setup Window, View System. This shows data associated with the console and with the currently loaded show. This includes show size, data used, last saved times.

The status window also shows all the MagicQ consoles on the network, and all the Art-Net devices on the network.

45.15   Backup Archives

By default the console stores an archive of the show files for every quarter of an hour of the day, and for every day of the week. This enables the user to revert to a previous copy of their show.

Archive files are only made when the console auto saves. If auto saves are disabled then no archive files will be generated. If the console is set to "auto save on changes" then archive files will only be stored when changes are made. To revert to an archived file press SHIFT and LOAD SHOW in the Setup Window.

Archive files are stored in a special directory that should not be modified by the user. When the user re-loads an archived backup file, the backup file is restored into the standard show directory.

Archive files have the name "backup0530.sbk" to indicate the show file that was recorded just before 5.30am. Daily files are also stored – "backupfri.sbk" indicates the show file that was recorded at the start of Friday. Archive files are overwritten every 24 hours, except for the daily files which are overwritten every 7 days.

45.16   Using shows on different MagicQ products and show versions

In general MagicQ show files are backwards and forwards compatible so you can load any show into any version of software. Loading shows created and modified on newer software versions into older software versions may result in some features not being supported or not working exactly as expected.

In March 2006 new MagicQ consoles were changed from 6 universes to 12 universes. MagicQ software version v1.2.5.4 and above supported 12 universes. In December 2007 ChamSys launched the Pro range of consoles with software version v1.3.4.3 supporting 18 universes.

In May 2010 new MagicQ Pro 2010 consoles supported 32 universes. MagicQ Expert consoles supported 6. MagicQ PC / Mac and Linux software supported 32.

From March 2013 new MagicQ Pro 2014 consoles support 64 universes. MagicQ MQ60, MQ70 and MQ100 Expert consoles support 12 universes. MQ40 supports 4 universes.

New Compact consoles were added in September 2015. MQ80 supports 48 universes. MQ40N supports 4 universes.

In October 2019 the MQ70 was added with 24 universes expandable to 48 and the MQ50 was added with 6 universes.

MagicQ PC / Mac and Linux software supports 64 universes – this enables backup from a PC/Mac system.

45.16.1   Loading a show onto a smaller console

Note that the limit of number of universes/channels refers to both patched and unpatched channels - i.e. any fixtures that have programming within the console. Therefore unpatched fixtures in a show still take up channels from the total number of universes supported on the console - MagicQ just allocates them to unused addresses.

The number of universes used by a show is reported in Setup, View Systems, View Status, Show Data, Highest Universe.

If you try to load a show with more channels used than the MagicQ console supports then it will ignore any channels above the number of supported universes and will save the show using a default show name rather than the original show name to avoid the ignored fixtures being removed from the original show file.

We recommend that when loading a show into a console with less universes the show should first be reduced to the number of universes used by the smaller console. For example when transferring a show from a MQ100 Pro 2014 to a MQ60 the show should first be reduced to 12 universes. This show can be reduced on the Pro 2014 or using MagicQ on a PC or Mac.

Note that unpatched heads may affect the highest universe depending on which universe they were last used and how many heads you have in your show. Either remove unpatched heads or repatch them down to a universe below the total number of universes.

45.16.2   Configuring number of Universes

To enable 12, 18, 24, 32 or 64 universes, go to Setup Window and VIEW DMX I/O and select "SET NUM UNIVERSES" soft button. It is necessary to restart MagicQ before the changes take effect.

Show files are compatible – except that it is not possible to fully load a show using more universes than the console is set to. So, if a show has with channels patched to universes 13 is loaded in a 12 universe console then any heads on the 13th universe will not be loaded.

=Console	Number of Universes
=MQ40,MQ40N	4
=MQ60,MQ70	12
=MQ80	24
=MQ500	200 *licensed above 64
=MQ100 Pro-E	12
=MQ100 Pro 2010	32
=MQ100 Pro 2014	64
=MagicQ PC, Mac, Linux	64

ChamSys does not guarantee performance if consoles are set to support higher numbers of universes than the hardware supports.

45.17   MagicQ Profiles

MagicQ supports different profiles – a profile is the entire set-up of the console including the console specific settings (like IP address, media settings etc...) and the show file.

Profiles enables the console to be used to control different venues with easy swapping between venues.

It is possible to set the console to request profile selection on start-up. This is useful in a studio environment where MagicQ can control any one of several studios over Art-Net from a central control booth. When you start up the console you choose which studio to control.

Profiles have a similar effect to using LOAD SHOW + CONSOLE but with a simpler interface. We recommend to use LOAD SHOW + CONSOLE for general purpose moving between venues, and Profiles where multiple studios are controlled from one console.

Profiles are loaded and saved from the Setup Window – in View Settings, press SHIFT and LOAD PROFILE or SAVE PROFILE. Profiles are saved to .mpr files in the show folder – note that the profile does not contain the show data – it only references it – so if you are backing up you need to store both .shw files and .mpr files.

To enable profile selection on start up put an empty text file "selectprofile.txt" into the main MagicQ folder (MagicQ PC on MagicQ PC). On start-up the console will then request which profile you wish to use before it loads the show and enables the outputs.

45.18   User management

MagicQ supports user management. This enables users to be set up with restricted access. Users can be set up to have full access to all the console channels, or to a group of channels only, or to all channels except a group of channels. Users can be set so that they can only "Operate" or "Program" the console without options to change settings. Execute pages can be assigned to specific users.

Users can have passwords set for their accounts.

The current user is displayed and selected in Setup, Soft button C. Note that on MagicQ consoles the Set Time function previously on Soft button C has been moved to soft button D and Set Date to SHIFT and soft button D.

Users are managed in Setup, View System, View Users. When no users are configured the "Default" internal user is used and all MagicQ features are exactly as in previous versions.

Users are stored as show settings, not as console settings. One of the Users in the User List can be set to be the Start User - when the show is loaded then this User is set as the current user. This can be used to always start up into a restricted user. MagicQ provides a flashing warning "User" when a show is loaded with a User with restricted access.

Users apply to both Master and Slave consoles when using Net Sessions. On a Slave, selecting a User with reduced permissions will make that Slave only have access to the allowed channels. The Slave can control the output using Multi Prog Sel Chans, but is restricted to the allowed channels. There is a "User" option in the Multi Prog Sel Chans which sets the Slave to control the output of all the channels that it is allowed to.

If passwords have been set on a show file and then forgotten please contact ChamSys support.

45.18.1   User Types

When at least one "Super User" is created then the Default User is no longer accessible and user management is in full operation. Users with type "Super User" have full access to all console features and settings without restriction.

Users settings can only be edited when using the "Default" user or by a user with "Super User" permissions.

"Programmer" can record, remove and modify show data but can not change settings. "Operator" cannot record anyhting or modify setting.

45.18.2   User Settings

It is now possible to set users so that they automatically load user settings for that user when switching users. For each user in Setup, View System, View Wings, View Users, set the "Load Settings" field to "Yes". When changing user the settings for the old user are saved and the settings for the new user are loaded. Settings for each user are automatically stored in settings files named user_xxxxxx.set where user is the user name.

User settings are stored in exactly the same way as using SAVE SETTINGS and LOAD SETTINGS - i.e. including all show settings, layouts and keyboard macros.

45.18.3   Access to console channels

Users can be configured to have type of "Group Only". This allows access to only the channels in the specified Group.

Users can be configured to have type of "Exclude Group". This allows access to all channels except those in the specified Group.

Users with "Superuser" permissions have access to all channels. User with "Group Only" or "Exclude Groups" can only select heads from their allowed channels and can only record and edit Cues and Groups with their allowed channels. They can not record over, merge into or remove any Groups or Cues that contain disallowed channels.

If the option "Block Output" is set then Users with "Group Only" or "Exclude Groups" can not affect the output of heads outside of their allowed channels - these heads will remain at 0 intensity and default LTP values.

If a user is created as Include Group without a Group set then they will not have access to any channels - they must chose a new user (and enter a password if set) to get access to the channels.

Chapter 46

Software Upgrade

MagicQ software versions are fully compatible and show files can be created and loaded into any software version.

46.1 Changing MagicQ Console Software

MagicQ consoles store all versions of software that have been loaded onto the console allowing easy changing between different versions. To change software version go to Setup, View System, View Status, Change Software. It is also possible to enter the software utility by pressing ENTER during boot up when prompted to enter the software upgrade utility.

To upgrade to a new version of software, download the software file from ChamSys web site and store it onto a USB stick.

MQ40, MQ40N, MQ60, MQ70, MQ80, MQ500 Stadium, Pro 2014, Expert 2014	.cdc
Pro 2010	.cdx
pre Pro, Expert, rack mount	.cde (versions 1.5.6.0 and above not supported)

If you are downloading using a Mac then you need to be aware that OSX often creates additional files with an underscore "_" at the end when it attempts to copy files to USB drives. For example, if you are copying magicq_v1_6_7_0.cdc to a USB drive it may also make a file magicq_v1_6_7_0._cdc. At first glance this file looks the same, but it contains file information only and can not be loaded into a MagicQ console. It is easy to tell the files apart as the real MagicQ software file is around 100MB whereas the underscore file is only a few bytes. Make sure to use the file without the underscore at the end.

Ensure you have saved your current show file to a USB memory stick or to an external computer via network before you change software version. Also, ensure any personalities that you have customised have been saved to a different file name of your choice - the new software will install the latest version of the standard personalities. We recommend you only upgrade to new versions of software when you have plenty of time to recover the system - we don't recommend you change it two minutes before doors!

On the MagicQ console select Setup, File Manager and change to USB DRIVE. Click on the software version and it will automatically upgrade the console.

It is also possible to copy the software directly via networking to the magicq folder on the MagicQ console and then to click on the file in File Manager, HARD DRIVE.

In case of a problem where MagicQ can not be started or where it resets then the software upgrade utility can be entered on start up, by pressing a key when prompted on the screen.

46.1.1 Pro series (MQ100, MQ200, MQ300, MQ200 Execute, MQ300 Execute)

Table 46.1: Pro upgrades

Product name	Date	OS	S/W	Proc	O/S disc upgrade to 1.6.5.0?	Pro 2014 h/w upgrade possible?
MQ100 (pre Pro)	Oct 2004 to Oct 2007	Non-X	.cde	6310	Y	Y
MQ100 Pro	Oct 2007 to Nov 2008	Non-X	.cde	6310	Y	Y
MQ100 Pro	Nov 2008 to Oct 2009	Non-X	.cde	8310	Y	Y
MQ100 Pro 2010	Oct 2009 to Mar 2013	Pro2010	.cdx	8310	N	Y
MQ100 Pro 2014	Mar 2013 onwards	Pro2014	.cdc	A50	N	n/a

Table 46.2: Expert upgrades

Product name	Date	OS	S/W	Proc	O/S disc upgrade to 1.6.5.0?	Pro 2014 h/w upgrade possible?
MQ100 Expert	Oct 2007 to Nov 2008	Non-X	.cde	6310	Y	N
MQ100 Expert	Nov 2008 to Oct 2009	Non-X	.cde	8310	Y	N
MQ100 Expert	Oct 2009 to Mar 2013	Non-X	.cde	8310	Y	N
MQ100 Pro-E	Mar 2013 onwards	Pro2014	.cdc	A50	N	N

MQ200, MQ300, MQ200 Execute, MQ300 Execute as per MQ100

Note Pro 2014 h/w upgrades do not include illuminated soft buttons

Pro 2010 consoles continue to use the .cdx software, but this now includes the new graphical toolkit.

Software 1.6.5.0 is not supported on older products such as MQ50, Architectural controller, rack mount PC.

46.2   Upgrading Console Kernel

The latest version of the Linux kernel available for Pro 2014 systems is currently 3.2.9+ (4th June)

This kernel update brings in a few updates for support of the Edimax USB wifi adapter. Installation

46.2.1   Kernel Install

Before installing the kernel, you must first disable the WiFi adapter from within MagicQ. Failure to do so could cause the system to not fully reboot

• In Setup, View Settings, Network, set Wireless Mode to "Disabled".

- Reboot the console fully with the WiFi disabled.

- Confirm that the WiFi adapter is still disabled by checking the Wireless Mode setting is still configured as Disabled

- Download the kernel update file from http://download.magicq.co.uk/download_file.php?type=doc&file_id=94

- Copy it to a USB stick keeping the same file name

- Insert the USB stick into the console

- In Setup open the File Manager and select View USB

- Locate the kernel installer file and press the COPY button, then click on the file. The command window should then say "Select Destination"

- Select View HDD softbutton, then click on the box with a single dot in it. This will copy the file to your hard drive.

- Once the file has copied, stay in the file manager window, and click on the installer file.

- A prompt will appear asking you if you want to upgrade the kernel. Select yes.

- MagicQ will then install the new kernel upgrade to the console then will load MagicQ up again.

- To complete the installation of the kernel, you will have to shut downa and restart the console.

- Once restarted, go to Setup, View Status, View System, System tab, and check the status of "Kernel Version" is the latest version

- Once the new version of the kernel has been installed, you can go back to the WiFi adpater settings and configure this as usual.

46.3   Kernel Recovery

If the console gets stuck at "Waiting for nfsd" when booting, then there was an issue with the network configuration script.

- Turn the power off on the console, and start up with an external keyboard attached to the system.

- If you have a USB keyboard, you may need to enable USB keyboard support in the BIOS. Press the delete key repeatedly when the system is starting up to enter the BIOS setup. Use the arrow keys and enter key to select Integrated Peripherals, Onboard. Select Device, USB Keyboard Support and set it to Enabled. Press F10 to save and exit

- As soon as you power the console on, press the ESC key on the keyboard repeatedly. Insteadof MagicQ booting, a new screen should show up saying GNU GRUB with a list of different kernel versions.

- Use the arrow keys to select the top option "MagicQ Recovery" and then press Enter.

- The console should then start to boot again, and ask a password. Contact ChamSys support to get the password for your system here.

- You should see some more console output on the screen and then stop with a message of "Give Root Password for maintenance" near the end of the output.

- Enter the second password given to you by ChamSys Support here, then you should then get a prompt which looks like:

Chamsys176:-#recovering network configuration

If the network configuration is invalid and is stopping the console from starting then you will need to edit the network interface configuration file. Type:

nano /etc/network/interfaces

You should see several lines at the bottom with things like "Help" "Writeout" "Read file" and a bar at the top starting with "GNU nano". This file is likely to be blank if the console isn't starting up correctly or will have some lines at the end which mention wireless configuration

If the file is blank, then you can just type in here now to enter the default configuration into the file. Copy the following lines into the file:

auto lo iface lo inet loopback auto eth0 iface eth0 inet static address 2.9.200.197 netmask 255.0.0.0

If the file already has the above text in it, but with wireless configuration at the bottom, use the arrow keys to goto the first line which says "auto wlan0", then press F9 on the keyboard to delete each line after and including that, so the content of the file should be left with just the lines above. Press control then X to close the program, then press Y to confirm you want to save the changes, and then hit enter to confirm the filename you want to write them to. To restart the console safely, and let it boot normally type:

init 6

46.3.1 Recovering "No more processes left in this runlevel"

If MagicQ fails to boot with the message "No More processes left in this runlevel" then it is likely that the upgrade has not completed correctly. The may occur if the power has been removed before the hard drive has had time to write all the data.

Connect an external keyboard to the console over USB or PS2.

Enter the recovery mode on the console by pressing the up arrow key repeatedly on the external keyboard, just after powering on the console.

After a while, you should see a blue screen with "GRUB" written at the top. If not, use the white button on the back to reset the console and try again. It sometimes takes a couple of times to get into this mode if you accidentally miss it the first time around. Once in this prompt, use the arrow keys to select the top item called "Recovery" and hit enter. It should continue to boot and then ask you for a password. Contact ChamSys support for the password.

Then enter the following commands (NOTE: spacing and capitalisation are very important here so double check every command before you run it!):

mount /dev/sda1 /mnt

mount /dev/sda7 /mnt/home

chroot /mnt

cd /opt/magicq/

/tigstartuprun This will then ask you to hit any key on the numerical keypad to enter the software update utility, and you can just press the enter key when this prompt comes up. This will allow you to manually reinstall reselect the software version. You have about a second gap in which to do this before it will time out.

Once the software has been reinstalled, press control + d, and then type "init 6" and hit enter. This should then restart the console into MagicQ.

46.4 Disc Repair

MagicQ consoles periodically carry out a disk check to check the integrity of the disc. Normally it will repair errors, but if it unable to repair errors then it may halt and request the root password. It will stop in the boot sequence with the black screen with white text and will say "run fsck manually" followed by a request to enter the root password.

MagicQ Expert and Pro consoles have 2 partitions - /dev/hda1 and /dev/hda3 - the problem may be with one or both of these partitions. MagicQ Pro 2010 and Pro 2014 consoles only have one partition /dev/hda1 for Pro2010 and /dev/sda1 for Pro2014. Note which partition is requested to check before entering the root password.

Contact support for the root password. After entering the password you will see the command prompt - this is the username of the console followed by :~#, e.g.

chamsys176:~#

The command prompt allows commands to be entered manually by typing the operating system command followed by the enter key. Enter one of the two commands below depending on which partition has errors

fsck /dev/hda1

or

fsck /dev/hda3

or

fsck /dev/sda1 - for Pro2014 consoles

The above commands start a disc check on the relevant partition. This may take a few minutes. When errors are found you will be prompted whether to to fix items. Enter "y" to all questions.

On completion, then enter

reboot

and the console will shut down and restart.

If for any reason the console does not restart, then hold the white reset button on the rear for 15 seconds until the console powers off completely.

On Expert and Pro consoles it may be necessary to follow the above procedure on both /dev/hda1 and /dev/hda3.

Contact your dealer to supply you with the password for your console and to guide you through fixing the disk.

First check whichAfter entering the password, you will need to check which partition was causing the problem (either /dev/hda1 or /dev/hda3) and enter the command:

fsck /dev/hda1

or

fsck /dev/hda3

When prompted to fix items enter "y".

On completion enter "halt" and the console will shut down. Press and hold the white reset button on the rear, and the console should restart normally. It may be necessary to follow the above procedure on both /dev/hda1 and /dev/hda3.

46.4.1   Console Command Entry

Occasionally ChamSys support may request you to use the console command entry to fix a problem. The procedure is different on Pro 2010 consoles from Pro/Expert consoles. Start by connecting a keyboard to the console.

On Pro/Expert consoles hold the CTRL key on start-up. You should be presented with a red box on a black screen with the title "LILO". On the keyboard type the text linux 2 followed by the ENTER key. Linux should start to run and after about 5 seconds it should ask you to enter a username and password. The username is root. ChamSys support will give you the password.

On Pro 2010 consoles hold the ESC key on start-up. You should be presented with a list of options, where the top option is "MagicQ Recovery". Select this option using the up/down cursor keys, and ENTER. It will ask you for a password after a few seconds; type misspacman, and hit ENTER. It will then try loading Linux and will ask you to enter a root password for maintenance. ChamSys support will give you the password.

46.5   Resetting a MagicQ console to factory defaults

The console software upgrade utility has two other functions - reset to factory defaults and erase console.

"Reset to factory defaults" changes settings back to factory settings but does not erase any user data. It is recommended that the current show is saved to a known file name before carrying out a factory reset. As a consequence of the reset to factory defaults, the console will reload the default show.

"Erase console" erases all user data and reloads the newest software on the system. All show data, custom personalities, and settings will be erased. Ensure all user data is saved before carrying out this action.

To carry out the above functions on MagicQ consoles enter the softare upgrade utility by going to: -Setup, View System, View Status, Change software. -Select yes to enter the software utility. -Once in the software utility follow on screen instructions for "Factory Reset" or "Erase All"

For "Factory reset" enter *999 followed by Enter For "Erase All" enter *777 followed by Enter and 1 followed by Enter to confirm. Note once the Erase all is carried out user data e.g. show files cannot by recovered later. You must back these up if needed before carrying out the "Erase all".

46.6 Upgrading MQ40/40N/60/70 firmware

To upgrade the MQ40/40N/60/70 front panel firmware you must first be running a software version higher then v1.5.9.9 MagicQ software on the console. Do NOT use versions v1.7.0.1 to v1.7.0.4. Upgrade software to v1.7.1.0 or higher first.

Some consoles have front panel firmware have a file version 2.0 in the firmware folder. Do NOT use this version. Only use version 1.0, 1.1 or 1.2.

Failure to update to a valid version before performing the firmware upgrade could result in the console needing to be returned to ChamSys for repair. The latest MQ40/40N/60/70 firmware is included with each release in the firmware folder under the name CH331_xxx.hex

To check the version of firmware in use go to Setup, View System, View Status and select the USB Links tab. The software version is shown as the 7th number in the list of parameters. The complete list of parameters is:

<link drops> <time link has been up> <tx packets> <rx packets> <tx errors> <tx retries> <sw version> <hw version> <build number>

CH331_V0	Original firmware
CH331_V1.0	Added audio support
CH331_V1.1	Added MIDI and LTC timecode support (MQ70 only - not for MQ40/60)
CH331_V1.2	Fixed RS232 serial port communications

Disconnect any Wings and network devices and remove any USB drives from the console.

Press Setup, View System, View Status and change to the USB Links tab. If more than one USB device is shown then disconnect all other MagicQ Wings and interfaces.
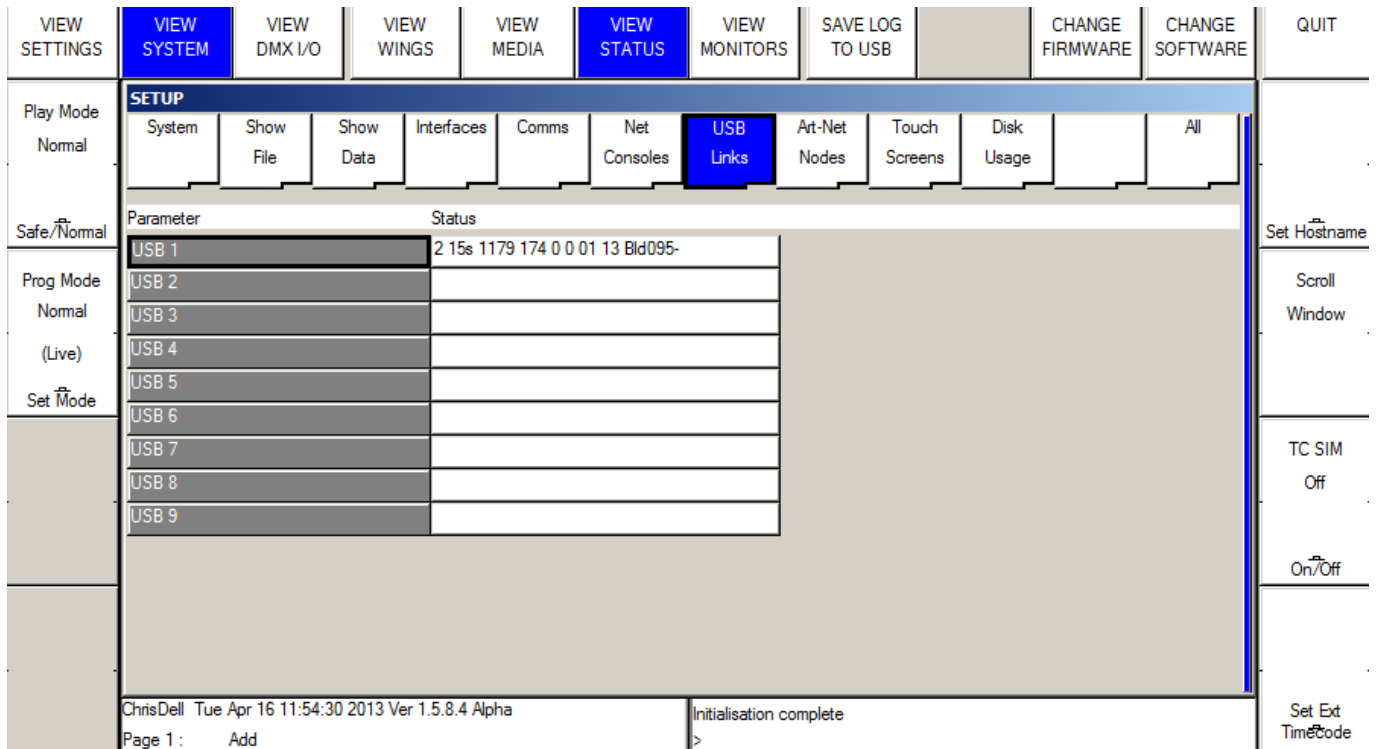
Put the cursor on the line for USB 1 as above. Press CHANGE FIRMWARE and select the new firmware file - e.g. CH331_V1.0.hex.

MagicQ should then say "Starting firmware upgrade" and then a few seconds later "Sent start upgrade".

Sent start upgrade
>

Do not touch anything or power off whilst the update is in progress – interrupting the upgrade will leave the Console in an unusable state and it will have to be returned to ChamSys for repair.

MagicQ will then wait between 5 and 10 seconds and then display messages "Sent firmware 1000", "Sent firmware 2000" and so on up to about "Sent firmware 76000".

Sent firmware 3000
>

It will then briefly say "Sent all firmware" and "Programmed Ok".

Programmed ok
>

If all is ok then it will say "Programmed OK" and you are ok to power off the Console and restart it. Note that the console front panel is sometimes unresponsive at this point, so you may need to shut down from the touch screen using Setup, View Settings, Quit. If there is no response at all then you will need to hold the reset button to power off the console.

If it gets stuck on "Fails to Load Firmware" and the console continues to loop in the Load firmware screen the console should be powered off and will need to be returned to ChamSys UK for re-programming.

46.7 Upgrading MQ80 and MQ70 (2019) firmware

We recommend to upgrade to MagicQ software v1.7.1.0 or higher before upgrading MQ80 front panel firmware and MagicQ software v1.8.4.8 or higher before upgrading MQ70 (2019) front panel firmware.

The latest MQ80/MQ70 firmware is included with each release in the firmware folder under the name CH346_xxx.hex

To check the version of firmware in use go to Setup, View System, View Status and select the USB Links tab. The software version is shown as the 7th number in the list of parameters. The complete list of parameters is:

<link drops> <time link has been up> <tx packets> <rx packets> <tx errors> <tx retries> <sw version> <hw version> <build number>

CH346_V0.25	Original Production firmware for MQ80
CH346_V0.32	Improvements to DMX, MIDI, LTC and faders. Upgrade to this version if you are seeing periodic DMX flicks with some fixtures such as SGM P5. Upgrade to this version if you wish to use MIDI or LTC inputs.
CH346_V0.33	Fix for display not recovering from screen save
CH346_V1.00	Support for RDM on the four DMX ports
CH346_V1.01	Fixes an RDM issue where the DMX port does not reset correctly after a RDM discovery collision.
CH346_V1.20	Initial Support of MQ70 (2019).
CH346_V1.22	Added Fader and Encoder brightness adjustment for the MQ70 (2019).
CH346_V1.23	Fixed DMX output stopping when MQ Direct is selected for less than 4 ports.

Note that versions equal to or above V1.20 can be installed on MQ80 and MQ70 (2019).

Disconnect any Wings and network devices and remove any USB drives from the console.

Press Setup, View System, View Status and change to the USB Links tab. If more than one USB device is shown then disconnect all other MagicQ Wings and interfaces.

Put the cursor on the line for USB 1. Press CHANGE FIRMWARE and select the new firmware file - e.g. CH346_V0.32.hex.

Some early MQ80s had pre-production firmware versions left in the firmware folder. These can be identified as versions prior to CH324_V0.25.hex or with a name such as CH342_V80.69. Do not select these versions - these were pre-production firmware versions and are not compatible with the MagicQ software. They should be deleted from the firmware folder.

MagicQ should then say "Starting firmware upgrade" and then a few seconds later "Sent start upgrade".

Do not touch anything or power off whilst the update is in progress – interrupting the upgrade could leave the Console in an unusable state and it will have to be returned to ChamSys for repair.

MagicQ will then wait between 5 and 10 seconds and then display messages "Sent firmware 1000", "Sent firmware 2000" and so on up to about "Sent firmware 78000".

It will then briefly say "Sent all firmware" and "Programmed Ok".

If all is ok then it will say "Programmed OK" and you are ok to power off the Console and restart it.

46.8   Upgrading MQ500 Stadium firmware

The MQ500 Stadium console has 3 Panels that firmware can be user updated. These are the Playback Panel (fader side of the front panels), Programming Panel and Display controller card. MQ500 Firmware files are named CH355X_date.hex where X will be either A, B or C. The Programming panel uses A firmware, Playback panel B firmware and display controller card C firmware.

E.g. CH355A_2017_05_23.hex would be firmware for the Programming panel.

To check the version of firmware in use go to Setup, View System, View Status and select the Hardware tab. The software version is shown as the 7th number in the list of parameters. The complete list of parameters is:

<link drops> <time link has been up> <tx packets> <rx packets> <tx errors> <tx retries> <sw version> <hw version> <build number>

Unless advised by ChamSys support firmware for any of the panels do not need to be updated.

To update firmware if advised by ChamSys support:

Disconnect any Wings and network devices and remove any USB drives from the console.

Press Setup, View System, View Status, and change to the Hardware tab. Move the cursor down to the device to be updated.

Press CHANGE FIRMWARE and select the new firmware file - e.g. CH355A_2017_05_23.hex

MagicQ should then say "Starting firmware upgrade" and then a few seconds later "Sent start upgrade".

Do not touch anything or power off whilst the update is in progress – interrupting the upgrade will leave the DMX card in an unusable state and it will have to be returned to ChamSys for repair.

MagicQ will then wait between 5 and 10 seconds and then display messages "Sent firmware 1000", "Sent firmware 2000" and so on up to about "Sent firmware 76000".

It will then briefly say "Sent all firmware" and "Programmed Ok".

If all is ok then it will say "Programmed OK" and you are ok to power off the Console and restart it.

46.9   Upgrading Pro 2014 DMX card firmware

To upgrade the Pro 2014 DMX card firmware you must first be running a software version higher then v1.5.9.9 MagicQ software on the console. Failure to update to this version before performing the firmware upgrade could result in the console needing to be returned to ChamSys for repair.

To check the version of firmware in use go to Setup, View System, View Status and select the USB Links tab. Note that a Pro 2014 has two USB links by default - the DMX card hw09 and the MIDI card hw41. The software version is shown as the 7th number in the list of parameters. The complete list of parameters is:

<link drops> <time link has been up> <tx packets> <rx packets> <tx errors> <tx retries> <sw version> <hw version> <build number>

| CH315C_V1.0 | Original firmware |
| CH315C_V2.0_24-03-2015.hex | Fix for maintaining DMX over power on/off. |

Disconnect any Wings and network devices and remove any USB drives from the console.

Press Setup, View System, View Status and change to the USB Links tab. Move the cursor down to the link with status of Hw09 device.

Press CHANGE FIRMWARE and select the new firmware file - e.g. CH315C_v2.0_24-03-2015.hex.

MagicQ should then say "Starting firmware upgrade" and then a few seconds later "Sent start upgrade".

Do not touch anything or power off whilst the update is in progress – interrupting the upgrade will leave the DMX card in an unusable state and it will have to be returned to ChamSys for repair.

MagicQ will then wait between 5 and 10 seconds and then display messages "Sent firmware 1000", "Sent firmware 2000" and so on up to about "Sent firmware 76000".

It will then briefly say "Sent all firmware" and "Programmed Ok".

If all is ok then it will say "Programmed OK" and you are ok to power off the Console and restart it.

If it gets stuck on "Fails to Load Firmware" and the console continues to loop in the Load firmware screen the console should be powered off and will need to be returned to ChamSys UK for re-programming.

Chapter 47

Handy Hints

- Use the "Lamp On All" and "Lamp Off All" soft buttons in the Macro Window to make turning on/off an entire lighting rig easier.

- Use a pan offset and/or tilt offset in Patch to adjust all the programming for some heads.

- Use SHIFT or CTRL and the cursor keys to carry out actions on multiple items in a Window.

- When recording items, type in a name for the item on the external keyboard before pressing the REC button.

- To force a minimum look on stage (e.g. during a changeover) whilst allowing full programming capability got to Intensity, View Preset and set up a minium look.

- When using encoders, to bump to the next range value (e.g. next colour), press the button associated with the encoder. To bump back, hold SHIFT and press the button.

- To modify a playback, press and hold the SELECT button associated with the playback and then use the encoders or key in new values.

- If your CMY colours are coming out inverted – i.e. red is cyan, green is purple, blue is yellow, then you need to set the CMY Invert option for that personality in the Head Editor.

- To restart the look in the programmer press BLIND twice.

- If you find yourself constantly changing Windows to perform an action, try sizing the required Windows and recording it as a Layout.

- After you have cleared the programmer you can reselect the heads that were selected when you pressed CLEAR by pressing the ALL button.

- To remove attributes from an entire Cue Stack (e.g. position information) activate those attributes in the programmer and use the RECORD REMOVE option.

- To add attributes into an entire Cue Stack (e.g. position information) activate those attributes in the programmer and use the RECORD MERGE option.

- To Record Merge the current contents of the programmer into the current Cue on a Cue Stack, press and hold the Select button of the playback and press RECORD.

- Copy palettes to Playbacks to make Cue Stacks of palettes.

Chapter 48

MagicQ Short Cuts

Table 48.1: Saving / Loading

New show	SETUP <View Settings> <New Show>
Save show	SETUP <View Settings> <Save Show>
Load show	SETUP <View Settings> <Load Show>
Save settings	SETUP <View Settings> <Save Setting>
Load settings	SETUP <View Settings> <Import Settings>
Save partial show	SETUP <View Settings> <SHIFT + Export Show>
Merge in show	SETUP <View Settings> <SHIFT + Import Show>
Load archived backup	SETUP <View Settings> <SHIFT + Load Backup>
Export patch list	PATCH <View Chans> <Export Patch>
Import patch list	PATCH <View Chans> <Import Head>
Import ASCII file	PATCH <View Chans> <Import USITT>
Reset console	SETUP, <SHIFT + QUIT>

Table 48.2: Patching

Select head for patching	PATCH <Choose Head>
Patch 1 head, next free address	1 <Patch It>
Patch 5 heads, next free address	5 <Patch It>
Patch 1 head, next free channel on universe 2	1@+2-1 <Patch It>
Patch 1 head at uni 1 address 1	1@1-1 <Patch It>
Patch 5 heads at uni 2 address 1	5@2-1 <Patch It>
Patch 5 heads at uni 2 address 1, head 100	5@2-1*100 <Patch It>
Patch 5 heads with offset 20	5/20 <Patch It>
Patch after uni 3 address 50	5@+3-50 <Patch It>
Reselect head Cursor to head	<SHIFT + Choose Head>
Edit patched head Cursor to head	<SHIFT + Edit Head>
Repatch selected heads without changing offset	3-1 / ENTER

Table 48.3: Select Heads

Select head 1	1 @@
Sub Select element 2	.2 NEXT HEAD
Select heads 1 to 4	1 THRU 4 @@

Table 48.3: (continued)

Select heads 1 to 10, not 5	1 THRU 10 – 5 @@
Deselect all heads	0 @@
Select all heads	NEXT HEAD + PREV HEAD
Reselect last heads after CLEAR	ALL
Select Group 1	1 * *
Select Groups 1 to 4	1 THRU 4 * *
Sub select 1st head	1 NEXT HEAD
Sub select 1st and 2nd head in selection	1 + 2 NEXT HEAD
Sub select 3rd, 4th and 5th head	3 THRU 5 NEXT HEAD
Sub select element 2	. 2 NEXT HEAD
Sub select pair	SHIFT + SINGLE
Sub select heads using palette above 0%	NEXT HEAD + Palette
Select all heads using palette	ALL + <Palette entry>
Select heads active in Playback	ALL + <S>
Select heads above 20% intensity	20 ALL + INT
Select all heads active in prog	CTRL + ALL
Reselect last heads after CLEAR	ALL
Change selection order	Press and hold ALL
Pair Selection	SHIFT + SINGLE
Invert current sub selection of heads	0 + NEXT HEAD

Table 48.4: Lamp On / Lamp Off / Reset

Lamp On entire rig	MACRO <Lamp on all>
Lamp Off entire rig	MACRO <Lamp off all>
Lamp On selected heads	SHIFT + LOCATE
Lamp Off selected heads	CTRL + SHIFT + LOCATE
Reset selected heads	CTRL + LOCATE
Lamp on selected heads	<select head> * + +
Lamp off selected heads	<select head> * - -
Reset selected heads	<select head> * / /

Table 48.5: Setting Intensities

Set head 1 to 100%	1 @ FULL (Also 1 FULL)
Set head 1 to 50%	1 @ 50 ENTER
Set heads 1 to 4 to 100%	1 THRU 4 @ FULL
Set head 1 +10%	1 @ + 10 ENTER
Set head 1 –1%	1 @ - 01 ENTER
Set head 1 at 50, all others at 0%	1 @ 50 - -
Set head 1 to 50% time 3 secs	1 @ 50 / 3 ENTER
Set 2nd element from head 1 to 50%	1 . 2 @ 50
Set 2nd element from head 1 to 10 to 50%	1 THRU 10 . 2 @ 50
Set element 2 and 3 from head 1 to 50%	1 . 2 THRU 3 @ 50
Heads 1 to 10, 100% split delays 4s to 1s, 1s fade	1 THRU 10 @ FULL / 4 THRU 0 / 1

PC Keyboard THRU = '>' FULL = '#'

Table 48.6: FX

Add FX	Select heads, FX <ADD FX>
Convert chase to FX	CUE STACK <SHIFT + Make FX>
Force Cue to have no FX	Select heads <Add FX 0 Size>

Table 48.7: Playback

Step through Cue Stack	>
Step back up Cue Stack	II or also SHIFT + >
Go to next step without time	>>
Go back a step without time	<<
Reassert Playback	S + FLASH button
Take manual control of Playback	S + move manual fader
Change chase / FX speed live	S + turn encoder X
Go to Cue ID 2	S 2 ENTER
Release Playback with 3 sec time	S 3 REL
Release all Playbacks	SHIFT + RELEASE
Release heldover Playbacks	ALT + RELEASE
Release all test Playbacks/Cues/Cue Stacks	CTRL + RELEASE
Enter/exit Blind with 3 sec time	3 BLIND
Make Cue Stack default all pages	Change to Page 1, PLAYBACK, <Default Cue Stack>
Transfer a Cue Stack to other playback	SHIFT + SEL select source > select target

Table 48.8: Loading Values into the Programmer

Default all attribs	Select heads, LOCATE
Default position attribs	Select heads <POS + LOCATE>
Default colour attribs	Select heads <COLOR + LOCATE>
Default beam attribs	Select heads <BEAM + LOCATE>
Default intensity attribs	Select heads <INT + LOCATE>
Make active all attribs	Select heads, <* + SET>
Make active pos attribs	Select heads, <POS + SET>
Make active colour attribs	Select heads, <COLOR + SET>
Make active beam attribs	Select heads, <BEAM + SET>
Make active int attribs	Select heads, <INT + SET>
Make hard all attribs	Select heads, <* + MOVE>
Make hard pos attribs	Select heads, <POS + MOVE>
Make hard colour attribs	Select heads, <COLOR + MOVE>
Make hard beam attribs	Select heads, <BEAM + MOVE>
Make hard int attribs	Select heads, <INT + MOVE>
Load Cue from Playback	INC <S>
Load Cue ID 2	2 INC <S>
Load Cue at 40%	@ 40 INC <S>
Load Cue at current level	@ INC <S>
Load entire state of Cue Stack	ALL + INCLUDE
Load selected heads from Cue	<* + INC> <S>
Load selected heads pos from Cue	<POS + INC> <S>
Load selected heads colour from Cue	<COLOR + INC> <S>
Load selected heads beam from Cue	<BEAM + INC> <S>
Load selected heads int from Cue	<INT + INC> <S>
Load from DMX	Select heads, <CTRL + INC> ENTER

Table 48.8: (continued)

Snapshot output cues	PROG, <Snapshot>
Snapshot active values	THRU RECORD
Snapshot selected heads	* + SET

Table 48.9: Removing Values from the Programmer

Clear all values	CLEAR
Clear with 3 sec time	3 CLEAR
Clear selected heads	Select heads, SHIFT + CLEAR
Clear to default vals	CTRL + CLEAR
Clear to 0 vals	SHIFT + CTRL + CLEAR
Remove attrib	<REM + turn encoder>
Remove attrib	<soft button + REM>
Remove position attribs	<POS + REM>
Remove colour attribs	<COLOR + REM>
Remove beam attribs	<BEAM + REM>
Remove intensity attribs	<INT + REM>
Remove all attribs	<* + REM>

Table 48.10: Recording Cues

Record Cue on Playback	REC S
Record Cue ID 2.5	2.5 REC S
Record Cue to current Playback	REC ENTER
Record to Playback 2	REC 2 ENTER
Record to Cue ID 2.5 Playback 2	REC 2 / 2.5 ENTER
Record sel heads only	<SHIFT + REC> <Sel Only> S
Record sel heads only	* + REC
Record sel attribs	<SHIFT + REC>, select attribs, S
Record entire state of programmer	ALL + REC
Record Cue Only	/ + REC
Record Snapshot	THRU + REC

Table 48.11: Record Merging / Removing

Record Merge	<+ + REC> S
Record Merge current Cue	S + REC
Record Merge current Cue	REC UPD
Record Merge selected head only	Hold * and + and press REC
Record Merge all Cue Stack	<SHIFT + REC> <Record Merge> S
Record Merge Cue Id 2 to 4	<+ + REC> 2 THRU 4 S
Record Remove	← + REC> S
Record Remove selected head only	Hold * and - and press REC
Record Remove all Cue Stack	<SHIFT + REC> <Record Remove> S
Record Remove Cue Id 2 to 4	← - REC> 2 THRU 4 S
Record Select Heads	* + REC
Record into current cue	REC 0 ENTER
Set Head 2 at 50% into current cue	S + <2 @ 50>

Table 48.11: (continued)

Set Head 2 at +10% into current cue	S + <2 @ + 10>
Set Head 2 at 50% all cues	S + <2 @ 50 THRU>
Set Head 2 at +10% all cues	S + <2 @ + 10>

Table 48.12: Editing Cues

Edit in Programmer	INC S, make change, UPDATE
Record merge current cue	Change vals in Prog, <S> + REC>
Record Merge all cues in Stack	<+ + REC><S>
Record Merge all cues in Stack	<SHIFT + REC> <Rec Merge> <S>
Remove Cue Stack	REM S
Remove Cue ID 2.5	REM 2.5 S
Remove Intensity from Cue	Hold S + Enter Level e.g <S> 1@20ENTER
Move Cues	Move <Cue ID> @ <Cue ID>
Copy Playback	COPY <source S> <dest S>
Copy Playback unlinked	<SHIFT + COPY> <Unlinked> <source S> <dest S>
Copy Cue to end of Cue Stack	Copy <Cue ID> @
Copy Multiple Cues	Copy <Cue ID> THRU <Cue ID> @ <Cue ID>
Copy Heads in Cues	Hold + and Copy or SHIFT COPY select COPY HEADS
Copy Heads	<from Head No> COPY <To Head No> ENTER

Table 48.13: Palettes

Record Palette	Select heads, REC, select item
Re-record Palette	Select heads, REC, select item
Name Palette	Type name, SET
Name Palette (no keyboard)	SET SET, type name, sel item
Edit Palette	Select heads, INC, select item, make changes, UPD
Play Palette with 3 secs	3 select item
Play Palette with 3 secs fanned	3 * select item
Play Palette with 3 secs reverse fan	3 * / select item
Play Palette with 3 secs into centre fan	3 * + select item
Play Palette with 3 secs centre out fan	3 * - select item
Play Palette with 3 secs Random fan	3 * . select item
Use last fan timing	*
Play Palette fan fade 0 to 3s	0 THRU 3 select item
Play fan delay 0 to 3s, 1s fade	0 THRU 3 / 1 select item
Copy Palettes to Playback	<SHIFT + cursor> to select Palettes, COPY S
Set icon for a palette	SHIFT + SET

Table 48.14: Information Windows

Additional Output Windows	2 OUT 3 OUT 4 OUT
Programmer Info Window	CTRL + PROG or 2 PROG
Cue Stack Info Window	CTRL + CUE STACK or 2 CUE STACK
Send text message	! delay , duration , ! message
Send text display 5 seconds	! 0 , 5 ! message
Send text stay visible	! message
Multiple exec windows	1 + Exec, 2 + Exec

Table 48.15: Net Session

Resync SLAVE console	Hold Cursor Left Right Down + SET

Table 48.16: Wing / Keypad short cuts

Select position palette	<POS + S>
Select colour palette <COLOR + S>	Select beam palette <BEAM + S>
Select position palette 4	POS 4 ENTER
Select colour palette 5	COLOR 5 ENTER
Select position 4 time 5 secs	POS 4 / 5 ENTER
Select position 4 time 5 secs fan	POS 4 / 5 * ENTER
Default intensity attribs	<ALL + LOCATE>
Make active intensity attribs	<ALL + SET>
Remove intensity attribs	<ALL + REMOVE>

Table 48.17: Console

Start up	Start button on rear
Shut down	SETUP, <QUIT>
Soft reset	SETUP, <SHIFT + QUIT>
Calibrate touch screen	SETUP, <View Settings> <Cal Touch> or CTRL + SET
Hard reset	Hold rear reset button 5 seconds
Hard power off MQ100 MQ40 MQ60 MQ70	Hold rear reset button 15 seconds
Hard power off MQ80	Unplug powercon + Hold reset button 10 seconds
Reset graphics	SHIFT + DBO
Shut down console	CTRL + DBO
Lock/unlock console	<CTRL + SOFT button Encoder A>
Console lights on/off	<CTRL + SOFT button Encoder B>
Console screen save, stealth mode	SHIFT + BLIND
Enter/exit test mode MQ100	SHIFT + SHIFT
Enter/exit test mode MQ40/60/70/80	ATL + CTRL + SHIFT
Enter/exit test mode PC/Mac	Type test and press CTRL + SHIFT
Home on Compact consoles	ALT + Lay 1
End on Compact consoles	ALT + Lay 3
Home on MQ500	ALT + HEAD
End on MQ500	ALT + TIME

Table 48.18: Cue Stack Macros

Activate Playback	A <Playback no>
Run Keyboard Macro	B <Macro no>
Release Playback	R <Playback no>
Release All Heldover Playbacks	R1000
Release Heldover Cue Stack on this Playback	R999
Activate Playback 100%	T <Playback no>
Release Playback 0%	U <Playback no>
Go Playback	G <playback number> / <cue id> / <preload flag> / <fade time>

Table 48.18: (continued)

Stop Playback	S <Playback no>
Choose Playback	C <Playback no>
Set level last Cue Stack activated	K <level> / <fade time>
Set level current Playback	L <level> / <fade time>
Set level of this Playback	M <level> / <fade time>
Jump to Cue id current Playback	J <Cue Id>
Activates Cue Stack (Stack Store)	E <Qid from Stack Store>
Releases Cue Stack (Stack Store)	F <Qid from Stack Store>
Change Page	P <Page no> (0 is next)
Open view (window layout)	V <View no>
Set decoded time code	O <Time code>
Enable/disable external time code gen	W <Enable> (1 enable, 0 dis)
Set current time code (gen only)	Q <Time code> e.g Q100
Set current time code (internal)	I <Time Code> e.g. I100
Activate Playback 18 on wing 1	A1-18
Go on Playbacks 3 to 5	G3THRU5
Set the level of Playback 6 to 60%	C6L60
Lamp on all heads	H1
Reset all heads	H2
Lamp off all heads	H3
Cancel screen save	H4
Enable Zone	H5<zone number>
Disable Zone	H6<zone number>

Table 48.19: Window Control

Cue window positioned on attribute	<S> + Pos Beam Col Int or FX button
Open Playback Cue Stack Window	Double click S button playback
Open Playback Cue Stack Options	Triple click S button playback
Open Cue Window current playback	SHIFT + Double click S button playback
Close all Windows	SHIFT + CLOSE
All Windows to internal screen	SHIFT + EXT

Table 48.20: MQ500 Shortcuts

Change Execute buttons function	SHIFT+NEXT/PREV Page
Toggle windows between monitors	ALT+SETUP
Resize windows using touch screen	ALT+Touch and Drag

Chapter 49

Troubleshooting

49.1   No outputs

Check whether MagicQ is operating correctly by opening the Outputs Window and looking at the data in View Heads. If the intensity or other attributes are not at their correct levels then check:

* Are the Grand Master and Playback Master faders up?

* Are Playback faders raised?

* Is there channel data recorded in the Cues on the playbacks?

* Is BLIND mode on?

* Heads and dimmers are patched to the correct universe?

If the Outputs Window shows correct values then check the Outputs are configured and enabled correctly in the View DMX I/O view of the Setup Window. If you are using an Ethernet convertor box check that it is receiving data correctly. Check:

* Outputs are configured correctly

* Outputs are enabled

* Is test mode active in DMX/IO?

* If using network outputs check the IP address and subnet address are configured correctly

Try putting a test pattern on the entire DMX output - in DMX I/O set the test field to Ramp. The Outputs, View Chans, View DMX shows exactly what is being output on each universe.

49.2   MagicQ not responding

Is the time changing in the Status Display? If so then MagicQ is running o.k. Check

* Master faders up

* Correct playback pages selected

* Playback has a Cue stored on it

* MagicQ is not locked (CTRL top left soft button)

* Is button test mode on (hold top left SHIFT button and press top right SHIFT button)

If the time is not changing then you will have to perform a hard reset on the console.

49.3   MagicQ responding slowly

Check memory usage in Setup, View System, View Status. Try

- Closing all windows (SHIFT + CLOSE)

- Ensure you have saved your show to hard disk not to a USB stick

- Remove any USB devices especially USB Sticks

- Disable network connections to media servers

49.4   Strange key presses, unexpected window changes

Enter board test mode to determine the cause of the fault (hold top left SHIFT button and press top right SHIFT button. On a Compact console press CTRL + ALT + SHIFT.)

- Check a button has not become stuck down

- Check nothing / no-one is leaning on the keyboard or other buttons

- Check a keyboard macro has not been accidentally recorded / played back

49.5   MagicQ console not booting

There are quite a few different reasons for the console not to boot - it could be a problem with the system operating system software or a hardware problem.

If the console is cycling the boot sequence continually or showing "kernel panic" then this normally indicates a hardware problem. Get a qualified service technician to remove the rear panel and reseat cables and processor daughter card (transition card).

On a Pro 2014 console if the console is showing "lynxfb" then get a qualified service technician to remove the rear panel and remove the graphics card from underneath the processor module.

Check out the Software Upgrade section for repair of the operating system.

49.6   MQ80 console blank screen and not booting

When the BIOS settings are lost on the MQ80 console the internal display will not function, this can also cause MagicQ to not start correctly. To reset BIOS settings on the MQ80 console an external DVI monitor connected to the DVI port on the rear of the console and a USB keyboard connected to the lower Neutrik USB port are required.

Once connected:

-Start up the console and Enter the BIOS using the 'Delete' key on the external keyboard. -Go to Advanced, Chipset Configuration -Select the primary output to be the LVDS output -Select the "1440x900 24bit 2ch LED" option for the resolution (should be one above the 1280x900 option near the middle. -Select the secondary output to be HDMI Press F10 to save and reboot the console

Note these settings are for the MQ80 console only and should not be used on ANY other MagicQ console.

49.7   MagicQ console blank screen

If the screen is blank then this may be because of the screen saver. Try pressing SHIFT.

If the screen remains blank even after pressing buttons then try holding CTRL and pressing the bottom right soft button (soft button closest to the large encoder wheels) twice. This attempts to restart the screen backlight.

The screen may have been turned off and locked by a user. Press CTRL and the second soft button down on the left (soft button B). If this does not help then press CTRL and the second soft button a second time.

If the screen still remains blank then try connecting an external monitor.

Avoid using the white reset button to shut down the console - hold down the three cursor keys (< V >) and press DBO to shut down the console.

49.8   MagicQ console white screen

MagicQ console white screen indicates that the display has power but no data signal. This could be because the main processor has halted or because the display signal cable is broken/disconnected.

Try pressing S buttons. If the blue LED follows the S button then the main processor is running correctly - check display cable. Get a qualified service technician to remove the rear panel and reseat the display cable.

If the S buttons are not responding then it is likely there is a bad connection in the rear panel. Get a qualified service technician to remove the rear panel and reseat the power and disc cables and ensure procesor daughter card (transition card) is firmly pressed onto the processor card.

Avoid using the white reset button to shut down the console - use the three cursor keys (< V >) and press DBO to shut down the console.

49.9   MagicQ console distorted screen

If the screen image is distorted, has multiple lines through it or has incorrect colours then this indicates that the graphics hardware has not started correctly.

Hold the three cursor keys (< V >) and press DBO to shut down the console.

49.10   MagicQ console internal touch screen not working

- Try to calibrate the touch screen (CTRL + SET)
- Check it is giving correct values in board test mode (SHIFT + SHIFT)
- Check there is no dirt around the edges of the screen
- Check that liquid has not been spilt into the touch screen
- Check the metalwork is not catching on the screen

49.11   All 10 S buttons flashing blue

If all 10 S buttons are flashing blue this indicates that the console front panel is not communicating with the console main processor.

This could be caused by a problem with the console main processor or the cable/connection between the console main processor and the console front panel. If the main processor is running and showing MagicQ on the screen then the problem is with the cable/connection.

It is possible to check whether the main processor is running:

- Is there any output on the main screen? Do you see the boot procedure?

- Connect an external monitor. Do you see anything on the external monitor during boot?

- Connect a keyboard. If you press CAPS LOCK does the LED on the CAPS LOCK key come on?

- Is the console fan running?

Note that on a MQ100/200/300 the touch screen is controlled through the front panel so the touch will not work in this situation. Connect an external mouse to click items on the screen.

To shut down the console use a mouse, or if there is no output on the screen using the reset button.

As the front panel is not communicating with the main processor it will not be able to shut down using buttons on the front panel.

49.12   Fader, Encoder or Button not working correctly

- Go into board test mode (SHIFT + SHIFT) to test the hardware.

If none of the buttons and faders are working then check that the front panel is running ok. If there are no LEDs lit on the front panel then it is possible that the front panel is not running correctly.

On MQ100/200/300 and Playback and Execute Wings there are 4 LEDs underneath the arm-rest. The red LED indicates power whilst the green LED should flash to indicate that the front panel CPU is running. The two yellow LEDS show messages from/to the front panel. One of them should turn on when you move faders, the other should flash periodically when it receives messages from the console main processor.

49.13   Unable to save shows or patch fixtures after performing a *777 erase all on the console

This is caused by using the *777 Erase all function on MagicQ console is versions prior to v1.5.9.2.

To fix:

Go to Setup, file manager and press the *up dir* soft button a number of times. This will then take you into the root folder (folders will appear on screen). Find the folder called *home* go into it Create a folder called *magicq*. Using the Create Dir soft button. Restart the console.

49.14   "MagicQ needs to write to the install folder..." message on Mac

If you get a message on Mac about incorrect permissions, please try the following steps:

1. Open the "Applications" folder in finder

2. Right click on the "MagicQ" folder and select "Get Info"

3. Click on the padlock in the bottom right corner and enter your password

4. If your username isn't in the list of permissions, add it with the + button

5. Set the permissions of your username to "Read & Write"

6. Click on the settings icon underneath the permissions list, select "Apply to enclosed items...", and accept the warning message

7. Restart the Mac

If you still see this error message, perform a clean install of MagicQ:

1. Open the "Applications" folder

2. Delete the "MagicQ" folder

3. Open Finder, choose "Go" > "Go to folder" from the toolbar

4. Type in "~/Library/Application Support/"

5. If a "MagicQ" folder exists, delete it

6. Restart the Mac

7. Download the latest version from https://secure.chamsys.co.uk/download

8. Open the .dmg file. Hold down shift, right click on the MagicQ package, select "Open" and click "Open".

9. Follow the installer steps

Chapter 50

Button Functions

Shift

The shift buttons are used to select alternative functions for buttons and faders. There are three shift buttons on the console – one at the top of each side of the touch-screen. The third is in the row of action buttons above the keypad.

The shift keys on external keyboards also have the same function.

Ctrl

The ctrl buttons are used to select alternative functions for buttons and faders. There are two shift buttons on the console – at the top corners of the touchscreen.

Alternative functions include selecting views and making adjustments to the display and console light brightness.

The ctrl keys on external keyboards also have the same function.

Alt

The alt button is used on MagicQ Compact consoles (MQ40/MQ60/MQ70) to access alternative functions which do not have dedicated physical buttons. The alternative function is outlined on the panel adjacent to the button in silver.

ALT +	PAGE LEFT
ALT +	PAGE RIGHT
ALT +	PAGE UP
ALT +	PAGE DOWN
ALT + PROG	MIN
ALT + OUT	MAX
ALT + PATCH	NEXT
ALT + MEDIA	EXT
ALT + EXEC	SIZE
ALT + PLAYBACK	TIMELINE
ALT + STACK STORE	MACRO
ALT + CUE STORE	HELP
ALT + SINGLE	PAIR
ALT + FAN	MIRROR
ALT + GROUP	HEAD
ALT + THRU	TIME

Min

Used to minimise a window. Windows appear in the windows section of the screen.

Max

Used to maximise a window. Windows appear in the windows section of the screen. A maximised window is sized to the complete main window area. The buttons around the edge of the screen and the status screen continue to be displayed.

Close

Used to close a window. Windows appear in the windows section of the screen. Pressing SHIFT and CLOSE causes all open windows to be closed.

When using remote control then CTRL + CLOSE disconnects from the remote console.

Next Win

This button allows the user to select the active window from the currently open windows. The order of window selection is fixed, so that windows appear in a memorable sequence regardless of the order the windows were opened. Each press of the Next Win button selects the next window in the open window list.

Windows appear in the windows section of the screen.

Ext

This button is used to move windows to/from external monitors. External monitors must first be configured in Setup, View System, View Monitors.

Size

This button is used to modify the size and position of the active window on the screen. Windows appear in the windows section of the screen. There are nine possible combinations of window size and position. The initial size is the maximised size – i.e. the window takes up the whole of the window display area.

There are four possible half screen positions and 4 possible quarter screen positions. Each press of the size button modifies the window to the next combination. After the final combination the window reverts to the first (maximised) size.

Prog

This is a Window select button. Pressing this button makes the Programmer Window the active window. If the window was not open, then the window is opened.

The Programmer Window is used to view and modify the contents of the programmer.

Pressing and holding the Programmer button causes the Programmer Window to be temporarily made the active window until the button is released.

Type the number 2 before pressing PROG to open an additional Prog window, the Prog Info Window.

Outputs

This is a Window select button. Pressing this button makes the Outputs Window the active window. If the window was not open, then the window is opened.

The Outputs Window enables the user to view the output channels in many different ways including level data, intensities, movement, plan and colour display. It also allows input channels to be viewed.

In View Heads, the outputs are viewed by head enabling the operator to easily see the levels of different parameters.

In View Chans, there are two further options, View Int and View DMX. View Int shows all the intensity levels of patched channels and their current level in percentage – i.e. a traditional theatre output screen.

View DMX shows the actual data being transmitted out / or received into the console. In View DMX, patched channels are coloured according to function - intensity is shown in red, colour in yellow, position in green, and beam in white. Use soft button A to change universe.

In View Plan, a plan of the lighting rig can be created and then used to easily identify the levels of different lamps according to their position in the lighting rig.

Pressing and holding the Outputs button causes the Outputs Window to be temporarily made the active window until the button is released.

Type the number 2 to 4 before pressing OUT to open additional Output Windows.

Setup

This is a Window select button. Pressing this button makes the Setup Window the active window. If the window was not open, then the window is opened.

The Setup Window is used to perform major operations on show data such as loading, saving and erasing shows. It is also used to configure console settings and preferences.

The Setup Window has three views, View Settings, View DMX I/O and View System.

Pressing and holding the Control button causes the Setup Window to be temporarily made the active window until the button is released.

Patch

This is a Window select button. Pressing this button makes the Patch Window the active window. If the window was not open, then the window is opened.

The Patch Window is used to patch dimmers and intelligent heads onto the console channels. It has four different views, HEADS for general patching, CHANS for examining individual DMX channels, DMX for configuring dimmers and VIS for visualiser items. See Patching for more details.

Pressing and holding the Patch button causes the Patch Window to be temporarily made the active window until the button is released.

Macro

This is a Window select button. Pressing this button makes the Macro Window the active window. If the window was not open, then the window is opened.

The Macro Window allows the user to record and playback keyboard macros thus enabling them to customise buttons to perform actions unique to their own style of operation.

The Autom view supports automation of MagicQ events. Pressing and holding the Macro button causes the Macro Window to be temporarily made the active window until the button is released.

Help

This is a Window select button. Pressing this button makes the Help Window the active window. If the window was not open, then the window is opened.

The Help Window enables the manual to be viewed on-line on the console. The Help Window supports hyperlinks, searching, and quick links.

Hyperlinks are shown underlined – press the text on the touch screen to jump to the hyperlink.

To find information on a particular button on the console, press and hold down the Help button and then press the button you wish to get help on. On MagicQ PC/Mac version, press the BUTTON HELP soft button and then press the required button.

Pressing and holding the Help button causes the Help Window to be temporarily made the active window until the button is released.

Page

This is a Window select button. Pressing this button makes the Page Window the active window. If the window was not open, then the window is opened.

The Page Window is used to select which page of Playbacks is currently in use. Selecting of Pages can also be done using the Page Select buttons. The Page Window also provides a means for naming Pages.

Pressing and holding the Page button causes the Page Window to be temporarily made the active window until the button is released.

Playbacks

This is a Window select button. Pressing this button makes the Playbacks Window the active window. If the window was not open, then the window is opened.

The Playbacks Window is used to manage the allocation of Cue Stacks to Playbacks. Cue Stacks can be recorded, named, removed, moved, and copied between Playbacks.

Pressing and holding the Playbacks button causes the Playbacks Window to be temporarily made the active window until the button is released.

Cue

This is a Window select button. Pressing this button makes the Cue Window the active window. If the window was not open, then the window is opened.

The Cue Window is used to view and modify the contents of a Cue.

Also see Recording a Cue.

Pressing and holding the Cue button causes the Cue Window to be temporarily made the active window until the button is released.

Cue Stack

This is a Window select button. Pressing this button makes the Cue Stack Window the active window. If the window was not open, then the window is opened.

The Cue Stack Window is used to manage the steps in a Cue Stack. Steps can be recorded, named and removed. Cue timings and settings can also be configured.

Also see recording of Cue Stacks.

Pressing and holding the Cue Stack button causes the Cue Stack Window to be temporarily made the active window until the button is released.

Stack Store

This is a Window select button. Pressing this button makes the Stack Store Window the active window. If the window was not open, then the window is opened.

The Stack Store Window is used to view all of the Cue Stacks stored on the console. Cue Stacks can be recorded, named, removed, moved and copied.

Pressing and holding the Stack Store button causes the Stack Store Window to be temporarily made the active window until the button is released.

Cue Store

This is a Window select button. Pressing this button makes the Cue Store Window the active window. If the window was not open, then the window is opened.

The Cue Store Window is used to view all of the Cues stored on the console. Cues can be recorded, named, removed, moved and copied.

Pressing and holding the Cue Store button causes the Cue Store Window to be temporarily made the active window until the button is released.

Group

This is a Window select button. Pressing this button makes the Group Window the active window. If the window was not open, then the window is opened.

The Group Window is used to select heads. Selected heads can then be modified in the Intensity, Position, Colour, and Beam Windows. The Window supports selecting of heads individually or by group.

Pressing and holding the Group button causes the Group Window to be temporarily made the active window until the button is released.

Head

This button is used to select one or more heads directly from the keypad. Selected heads can then be modified in the Intensity, Position, Colour, and Beam Windows.

This button is available on the MQ500. On Compact consoles (MQ40/MQ60/MQ70) press ALT + GROUP.

On any console heads can also be selected by typing the head number(s) followed by @@. The Head button simplifies this syntax.

Intensity

This is a Window select button. Pressing this button makes the Intensity Window the active window. If the window was not open, then the window is opened.

The Intensity Window is used to set the level of dimmer channels and the intensity attributes of intelligent heads. The Window supports two views, Programmer and Preset.

Pressing and holding the Intensity button causes the Intensity Window to be temporarily made the active window until the button is released.

FX

This is a Window select button. Pressing this button makes the FX window the active window. If the window was not open, then the window is opened.

The FX window enables users to store their favourite FX into a window for quick recall.

FX can also be applied directly from the Group window using the Add FX button. FX are applied to the currently selected heads. If no heads are currently selected then the Group Window is opened to enable selection of heads.

Pressing and holding the FX button causes the FX Window to be temporarily made the active window until the button is released.

Pos

This is a Window select button. Pressing this button makes the Pos Window the active window. If the window was not open, then the window is opened.

The Pos Window is used to set and modify the position attributes of intelligent heads. The Pos Window also displays and allows selection of Palette entries from the Position Palette.

It also supports the Flip function for moving heads.

Pressing and holding the Pos button causes the Pos Window to be temporarily made the active window until the button is released.

Colour

This is a Window select button. Pressing this button makes the Colour Window the active window. If the window was not open, then the window is opened.

The Colour Window is used to set and modify the colour attributes of intelligent heads. The Colour Window also displays and allows selection of Palette entries from the Colour Palette.

Pressing and holding the Colour button causes the Colour Window to be temporarily made the active window until the button is released.

Pressing the colour button repeatedly cycles through the different colour views.

Beam

This is a Window select button. Pressing this button makes the Beam Window the active window. If the window was not open, then the window is opened.

The Beam Window is used to set and modify the beam attributes of intelligent heads. The Beam Window also displays and allows selection of Palette entries from the Beam Palette.

Pressing and holding the Beam button causes the Beam Window to be temporarily made the active window until the button is released.

Pressing the beam button repeatedly cycles through the different beam pages.

Next Head

Used to select the next head from the currently selected heads. See selecting individual heads.

Prev Head

Used to select the previous head from the currently selected heads. See selecting individual heads.

Locate

Pressing LOCATE, locates all the selected heads.

Fan

Used to enter Fan Mode. Fan mode enables adjustments to a number of selected heads to be applied in a non-linear fashion.

Pressing and holding Fan enables Fan mode to be entered temporarily. Make your changes and then release the Fan button.

Highlight

Used to enter Highlight Mode. Highlight mode enables adjustments to individual heads from the currently selected heads. The individual head is highlighted whilst the others are made less bright.

Single

Used to enter Single Mode. Single mode enables adjustments to individual heads from the currently selected heads. Similar to Highlight Mode but the head under adjustment is not highlighted.

All

Used to return control to all selected heads. Pressing ALL in Single Mode, Highlight Mode or Odd/Even Mode exits the mode.

See All.

Odd / Even

Used to enter Odd/Even Mode. Odd/Even mode gives control to the odd or even heads from the currently selected heads.

Mirror

Mirror reverses the pan information of the head.

The MQ500 includes a dedicated Mirror button. On Compact consoles (MQ40, MQ60, MQ70) press ALT + FAN.

See Flip/Mirror

Pair

The MQ500 includes a dedicated Pair button. On Compact consoles (MQ40, MQ60, MQ70) press ALT + SINGLE.

See Pair

Select

Used to select a playback as the current playback. Provides a means of selecting playbacks when slaving other consoles to the MagicQ where the other console does not have separate flash and select buttons.

Also used to select playbacks that have been activated through the Playbacks Window as the current playback.

Release

The Release button is used to Release a playback – i.e. to make it inactive. By default Cue Stacks are configured so that they release automatically when the fader is brought back to zero. However Cue Stacks can be configured to require a manual release. See activating and releasing playbacks.

Blind

Used to enter Blind Mode. Blind mode stops the contents of the programmer from affecting the output channels of the console.

Clear

Used to clear the programmer.

Shift and Clear clears only the selected heads.

Ctrl and Clear clears all heads setting the values to 0.

Backspace

Used to remove the last character from the input.

If there is no input then it cancels any outstanding actions such as recording, naming. removing, moving or copying.

CTRL and backspace removes all input from the command line.

Set

An action button for setting show data.

Used to name playbacks and other items. Also used to set the values of items such as parameters.

Shift and Set is used for selecting icons.

Record

An action button for recording show data.

Used to record Cues onto playbacks and to record Groups, and to record Palettes

See also Recording a Cue.

Shift and Record is used to record but with additional record options.

Remove

An action button for removing show data.

Used to remove Cue Stacks from Playbacks, and to remove other items.

Undo

The Undo button allows the last few changes in the programmer to be undone. Press SHIFT and Undo to redo a change. The Undo functionality is enable in the Setup Window, Settings View.

In versions before v1.8.2.1 MagicQ Undo does not undo patch, record, set, move, copy or any other actions. If a major mistake is made then you can restore to a previous version of the show file using the <_backup_archives,Backup Archives>> feature.

From v1.8.2.1 MagicQ undo can now be set so that all actions can be undone except for a small number of file related functions such as loading a new show file. In Setup, View Settings, Prog tab set "Undo mode" to "Undo programmer and actions".

Initially when UNDO is pressed any actions in the programmer will be undone - such as changes to head selection, head attributes such as Int, Pos, Col, Beam. Pressing UNDO again will undo any programmer changes for a maximum of 4 undo steps. After this Undo will start undoing actions including Record, Set, Move, Copy, Remove and Patch operations.

It is possible to redo any actions using SHIFT + UNDO. When some changes are undone, then once a new action is performed (e.g. recording a new Cue) it is then not possible to Redo any of the actions that were previously undone. The new action, and previous ones that have not been undone (or which have been redone) can be undone.

Press CTRL and UNDO to open the Undo History window. In the Undo history window it is possible to jump backwards and forwards in the Undo history.

The Undo history is reset when loading a new show file, or restarting the console.

The toolbar now supports Undo, Redo and Undo History in the Edit Menu. Short cuts CTRL Z and CTRL Y are supported for undo and redo respectively.

Note that this function is "beta" and undoing actions could cause problems with the show file - we strongly recommend saving the show regularly to different named files and backing up to USB stick.

Include

An action button for including previously programmed show data back into the programmer.

Used to edit Cues. See Editing Cues.

Shift and Include is used to include but with a additional options.

Update

Used as part of the edit process to update a Cue that has been included into the programmer. See Editing Cues.

Copy

An action button for copying show data.

Used to copy Cue Stacks between Playbacks, and to copy other items.

Shift and Copy is used to perform linked/unlinked copies - the default depends upon the option Setup, View Settings, Copy Unlinked.

Move

An action button for moving show data.

Used to move Cue Stacks between Playbacks, and to move other items.

Go

Used to activate a playback. Also used to start the next step in a Cue Stack when the step has been programmed to halt, or after the user has pressed the Pause button.

See Playback Buttons.

Pause

Used to pause the execution of a Cue Stack.

See Playback Buttons.

S

Used to make the playback the current playback. This enables the Cue Stack on the Playback to be viewed in the Cue Stack Window and the current Cue in that Cue Stack to be viewed in the Cue Window.

Pressing and holding a S button causes the Cue Stack Window / Cue Window to be temporarily made active until the button is released. The Cue Stack / Cue Window shows data for the playback associated with the S button.

This enables easy modifications of Cue and Cue Stack parameters such as FX size and chase speed.

Also used when programming for determining which playback to record a Cue onto.

Pressing S two times quickly opens the Cue Stack window associated with the Playback.

Pressing S three times quickly opens the Cue Stack, Options window associated with the Playback.

Flash

Used to temporarily activate playbacks by adding or swapping in the Cue Stack from the playback to the outputs.

Grand Flash

A spare button that can be used for keyboard macros.

Sub Flash

A spare button that can be used for keyboard macros.

Next Page

Used to select the page of playbacks. See the page select overview for how pages work.

Prev Page

Used to select the page of playbacks. See the page select overview for how pages work.

Manual Go

This Go button is part of the manual control section and controls the current playback. It has the same functionality as the Go button associated with a playback. It provides Go functionality for playbacks that do not have Go buttons.

Manual Pause

This Pause button is part of the manual control section and controls the current playback. It has the same functionality as the Pause button associated with a playback. It provides Pause functionality for playbacks that do not have Pause buttons.

Big Go

This Go button is part of the manual control section and controls the current playback. It has the same functionality as the Go button associated with a playback.

It is designed to be use for theatre style operation where one big GO button is important for cueing a show.

Fast Forward

The Fast Forward button is part of the manual control section and controls the current playback. It is used to bump a Cue Stack to the next step immediately without fading. It is particularly useful when editing a Cue Stack to bump through Cues to find the one to edit.

Fast Back

The Fast Back button is part of the manual control section and controls the current playback. It is used to bump a Cue Stack to the previous step immediately without fading. It is particularly useful when editing a Cue Stack to bump through Cues to find the one to edit.

Add / Swap

The Add / Swap buttons controls the function of flash buttons. See also the Add / Swap overview.

See Playback Buttons.

[DBO

The Console Blackout Button, used for black-outs.

Numeric keys

Used for entering values for parameters. The console allows values to be entered before selecting the item to set on screen thus making configuration of parameters quick and easy,

Can also be used for selecting intensities and selecting groups.

Used for entering gel numbers. Numbers are assumed to be Lee gel numbers unless preceded by a dot in which case they are assumed to be rosco gel numbers.

Dot

Used for entering fractional numbers such as Cue Ids and times.

Also used for selecting elements from within multi element heads.

Divide

Used in Patching to specify an offset - the number fo channels between each head.

Also used as a separator when entering x / y coordinates and times and dates.

Mult

Used to select groups - e.g. 1** selects group 1.

Plus

The Plus key is used to select ranges of dimmers when selecting dimmers.

Minus

The Minus key is used to select ranges of dimmers when selecting dimmers.

Enter

The enter key is used for selecting items and to finish off an action – such as recording a window item, or editing a parameter value.

Thru

The Thru key is used to select ranges of dimmers when selecting dimmers.

@

The @ key is used to specify levels for dimmers.

Also used as a shortcut to select heads - e.g. 1@@ selects head 1.

Full

The full key is used to indicate 100% when setting levels for dimmers.

Time

This button is used to specify times for dimmers.

This button is available on the MQ500. On Compact consoles (MQ40/MQ60/MQ70) press ALT + THRU.

Page Left

This key scrolls the active Window to the left. See Cursor Control.

Page Right

This key scrolls the active Window to the right. See Cursor Control.

Cursor Keys

Used to move the cursor around the active Window. See Cursor Control.

Top Soft

The function of these buttons is soft – i.e. it changes according to the active Window and the current view in that window. The top soft buttons are generally used for menu items.

Side Soft

The function of these buttons is soft – i.e. it changes according to the active Window and the current view in that window.

The side soft buttons are closely associated with the encoders adjacent to them. For example, in the Beam Window on of the encoder controls the gobo attribute of intelligent heads. Pressing the soft button bumps the gobo wheel onto the next gobo. Pressing SHIFT and the soft button bumps the gobo wheel back to the previous gobo.

Chapter 51

Licensing

MagicQ consoles use the Debian and Ubuntu Operating Systems. Details and links to sources can be found at https://www.debian.org/- and https://www.ubuntu.com/. The following are distributed alongside the MagicQ application.

Versions prior to v1.5.6.0 of MagicQ the software also used the MicroWindows library, details can be found at http://www.microwindows. .

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51.1   Qt

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    interface-compatible with the version that the work was made with.

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# -----------------------------------------------------------------------------
```

5. Time Zone Database

  ICU uses the public domain data and code derived from Time Zone
Database for its time zone support. The ownership of the TZ database
is explained in BCP 175: Procedure for Maintaining the Time Zone
Database section 7.

```
# 7.  Database Ownership
#
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```

51.6 FFmpeg Binary

https://ffmpeg.org/

```
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51.7 FFmpeg Library

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    Library will not necessarily be able to recompile the application
    to use the modified definitions.)

    b) Use a suitable shared library mechanism for linking with the
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    rather than copying library functions into the executable, and (2)
    will operate properly with a modified version of the library, if
    the user installs one, as long as the modified version is
    interface-compatible with the version that the work was made with.

    c) Accompany the work with a written offer, valid for at
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    specified in Subsection 6a, above, for a charge no more
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That's all there is to it!

51.8 LibArchive

```
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```

51.9 Zlib

```
http://www.zlib.net/

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  jloup@gzip.org          madler@alumni.caltech.edu


  The data format used by the zlib library is described by RFCs (Request for
  Comments) 1950 to 1952 in the files http://tools.ietf.org/html/rfc1950
```

(zlib format), rfc1951 (deflate format) and rfc1952 (gzip format).

Chapter 52

Glossary

Active

Function of loading all parameters for selected heads into the programmer.

Art-Net

A protocol for transporting DMX over Ethernet LAN.

Attributes

Intelligent heads support a number of different functions that can be controlled via DMX – typically pan, tilt, colour, gobo etc. . . Each of these functions that can be controlled by a separate DMX channel is referred to as an attribute.

Attribute Type

Attributes of intelligent heads are categorised into one of four types - Intensity, Position, Colour, Beam.

Battery Back-up

The console supports battery back up, as an option. If fitted, this ensures that if there is a temporary interruption to the console power supply, the console continues to function. The battery will last for a specified time (usually 15 minutes) before the power should be restored or the console shut down.

Beam

An attribute type - attributes of an intelligent head that modify the make up of the beam are categorised as beam attributes. Examples are the shutter, iris, gobo wheels and prism wheels.

Calibration

A process of adjustment. Used on MagicQ to adjust the touch screen so that touching the screen in a particular position gives an accurate result.

Channel

The basic unit of control on the console. Each Universe has 512 channels.

Chase

A sequence of steps to modify channel values over time. On the MagicQ a chase is made up of a sequence of Cues in a Cue Stack.

Colour

An attribute type - attributes of an intelligent head that modify the colour of the beam are categorised as colour attributes. Examples are colour wheels and colour mixing attributes.

Contrast

The Contrast for the wing LCD screens enables the viewing angle of the screens to be modified.

Crossfade

Crossfade of a chase or an FX refers to how changes are made to the output channels when moving from step to step of a chase or FX.

Crossfade of 100% indicates a smooth fade from one value to the next. Crossfade of 0% indicates a snap from one value to the next.

Cue

The basic unit of storage on the console. A Cue stores level, timing and FX information for a single look.

Cue Stack

A sequence of Cues that can be played in order.

Cue Store

A list of all the Cues stored on the console.

Cue Stack Store

A list of all the Cues Stacks stored on the console.

DBO

Dead Black Out. The DBO button when pressed causes all HTP channels to be set to zero. On release all HTP channels are returned to their previous values.

Console Lamp

Low voltage lamp which connects into the rear panel. Used to light up the console surface. The console supports 2 or more console lamps depending on the number of attached wings.

DMX

DMX512 protocol.

Encoder

Rotary dial used for easy control of parameters.

Ethernet

A method of connecting data equipment together in the form of a Local Area Network (LAN).

Fan

Method of modifying parameters using encoders whereby different changes are applied to the selected heads such that the parameter is fanned across the heads.

File Manager

A Window used for organising show data stored on the MagicQ internal disc and on external USB sticks.

Flip

For moving heads with 360 degree pan movement there is more than one setting for the pan and tilt attributes for each physical position. Flip modifies the pan and tilt attributes to the alternate settings.

FX

FX is short for EFFECTS. The FX generator enables complex variations to be applied to parameters over time. For example a circle FX applied to the position attributes of a moving head causes it to move in a circle.

Gel

Coloured film that is placed in front of lights to modify the colour of the beam. The MagicQ stores a Gel colour for each dimmer, which makes identification and programming easy.

Generic

A generic dimmer channel. A head with a single channel which controls a dimmer from 0 to 100%.

Grand Master

The master fader which controls HTP levels for the entire console.

Gobo

A patterned object placed in front of a light source to modify the shape of the beam. Intelligent heads typically contain one or more wheels of gobos.

Head

An intelligent head

Include

Loading a Cue into the Programmer.

Intensity

An attribute type - the attribute of an intelligent head that controls the intensity of the mean. Often referred to as the dimmer.

Keyboard

The console includes an external keyboard, which connects into a socket on the back panel marked keyboard.

Keypad

The numerical keypad situation to the bottom left of the console. The layout of the keypad is similar to that found on standard PC keyboards with the addition of @, THRU and FULL buttons for quick control of lamp intensities.

LAN

Local Area Network

MagicQ PC

The PC version of the MagicQ console – enables editing and running of shows from PCs.

Mark Cue

A special Cue for preloading LTP values prior to the following Cue.

Master

The Playback Master can be configured to control the HTP level of the Playbacks or the HTP level of Add/Swap buttons.

Merge

A method of combining input and output channels. The console supports output of any input channels on any output channels.

Mouse

Pointing device used to select items on a screen. The MagicQ supports an optional mouse for users who do not wish to use the touch screen.

Move When Dark

A Cue Stack Option that enables automatic pre-loading of LTP values for following Cues when heads are at zero intensity.

Multi Windows

MagicQ allows any of the Windows to be moved onto a remote PC using the MagicQ Multi Window PC application.

Page

MagicQ supports multiple pages of Playbacks. The page can be selected through buttons or through the Page Window.

Parameter

A value of a function that can be changed. Typically used to describe the parameters of an FX - such as size and speed.

Patch

The way of setting up the console so that it knows what lights are connected to it. The MagicQ supports a complete Window, the Patch Window for controlling patching.

PathPort

A protocol for transporting DMX over Ethernet LAN.

Palette

The console supports Intensity, Position, Colour and Beam palettes. Entries in each palette can be used to quickly store and recall your favourite looks.

Playback

A fader or button which activates a Cue Stack. The console supports physical playbacks (faders and buttons) and also virtual playbacks through the Playbacks window.

Position

An attribute type - attributes of an intelligent head that modify the position of the beam are categorised as position attributes. Pan and Tilt are Pan Lo and Tilt Lo are normally the only attributes of this type.

Programmer

The functional area of the MagicQ where show data is set up before it is recorded into Cues.

Record

Record button is used to record items into memory.

Record Merge

A method of merging the Programmer contents into an existing Cue

Record Remove

A method of removing the Programmer contents into an existing Cue

Snapshot

Loading the current outputs into the Programmer.

Spread

Offset between heads in an FX.

Stack

Short for Cue Stack.

Stack Store

Short for Cue Stack Store.

Touch Screen

The display supports a touch screen enabling functions of the console to be accessed by simply pressing the screen in the appropriate place.

Universe

A collection of 512 DMX channels.

USB

Universal Serial Bus - a serial bus available on all new PCs and lap-tops since around 1996.

USB stick

A USB device for storing show data and for transferring data to or from PCs.

Views

The console support several views for each Window, selectable using the top left soft buttons.

In addition the console stores complete Window Layouts comprising the details of Window position and sizes. These can be recalled using CTRL and the top soft buttons.

Waveform FX

The core waveform FX contained on the console such as Circle, RGB, Sine, Pulse, etc... The waveform FX contains value information for up to 3 attributes and 1 or more heads.

Wing

MagicQ supports both programming (Mini, PC, Maxi) wings and playback (Playback, Execute, Extra) wings.