

Color Video Camera

VISCA Command List
Software Version 1.20

SRG-XP1
SRG-XB25

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Use of control software based upon this command list may cause malfunction or damage to hardware and software. We are not liable for any such damage.

VISCA (SRG-XB25 only)

VISCA¹⁾ is a protocol developed by Sony for controlling a consumer's camcorder.

Overview of VISCA

In VISCA, the device outputting commands, such as a computer, is called the controller, and the device receiving the command, such as the SRG-XB25²⁾, is called a peripheral device. In VISCA, up to seven peripheral devices including this unit can be connected to a single controller using communication conforming to the RS-232 standard. The parameters of RS-232 are as follows.

- Communication speed: 9600 bps/38400 bps
- Data bits: 8
- Start bit: 1
- Stop bit: 1
- Non parity

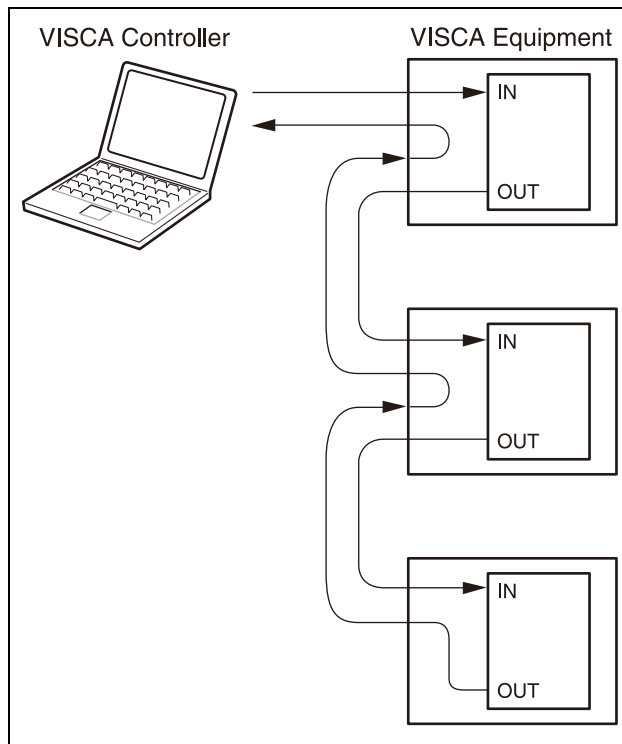
Flow control using XON/XOFF and RTS/CTS, etc., is not supported.

Peripheral devices are connected in a daisy chain. As shown in Fig. 1, the actual internal connection is a one-direction ring, so that messages return to the controller via the peripheral devices. The devices on the network are assigned addresses. The address of the controller is fixed at 0. The peripheral devices are assigned to the addresses, 1, 2, 3... in the connected order, starting from the one connected nearest to the controller. These addresses are set when the controller sends address commands during initialization of the network.

Note

Each VISCA equipment has VISCA IN and VISCA OUT connectors. Set the DTR input (the S output of the controller) of VISCA IN to H when controlling VISCA equipment from the controller.

Fig. 1 VISCA network configuration



1) "VISCA" is a trademark of Sony Corporation.

2) The product name of this unit, "SRG-XP1, SRG-XB25 Color Video Camera" is referred to as "the unit" or "color video camera" in this document.

VISCA Communication Specifications

VISCA packet structure

The basic unit of VISCA communication is called a packet (Fig. 2). The first byte of the packet is called the header and comprises the sender's and receiver's addresses. For example, the header of the packet sent to the unit (address 1) from the controller (address 0) is 81H in hexadecimal. Packet sent to the unit (address 2) is 82H.

In the command list, as the header is 8X, input the address of the unit to X. The header of the reply packet from the unit assigned to address 1 is 90H. The packet from the unit assigned to address 2 is A0H. Some of the setting commands can be sent to all devices at one time (broadcast).*

In the case of broadcast, the header should be 88H in hexadecimal.

When the terminator is FFH, it signifies the end of the packet.

* The broadcast function is not available for VISCA over IP.

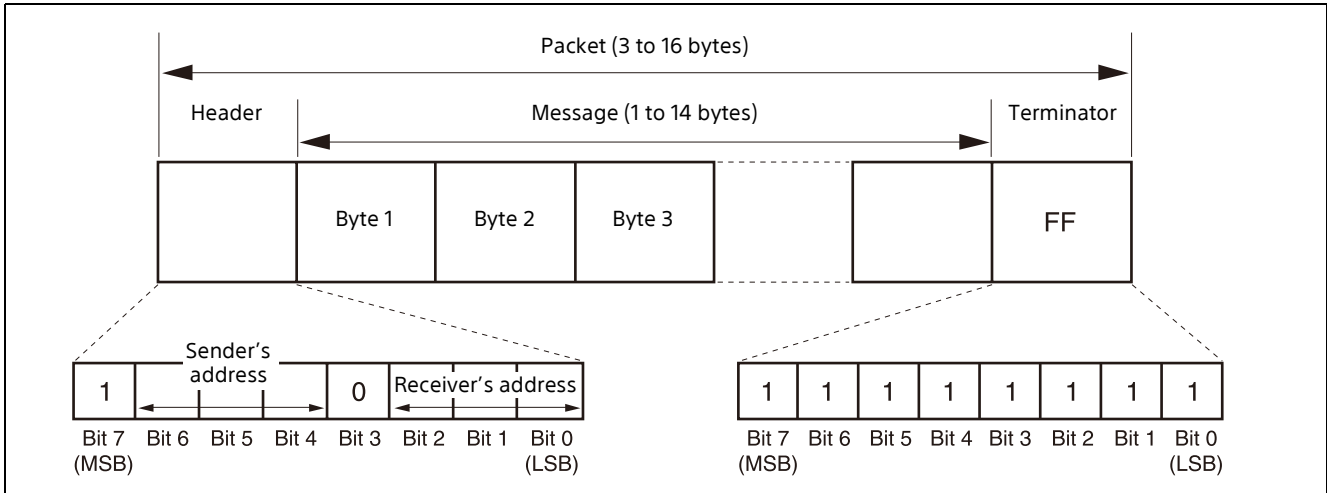


Fig. 2 Packet structure

Note

Fig. 2 shows the packet structure, while Fig. 3 shows the actual waveform. Data flow will take place with the LSB first.

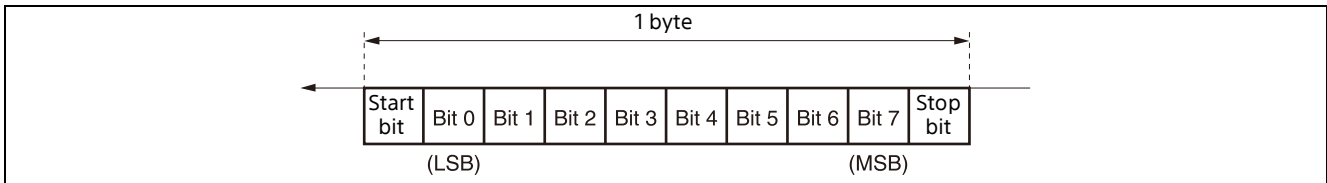


Fig. 3 Actual waveform for 1 byte

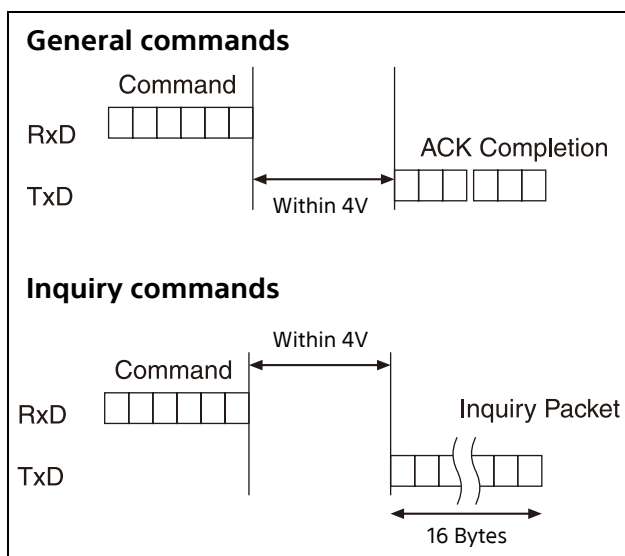
Timing chart

As VISCA command processing can only be carried out a maximum of one time in a Vertical (V) cycle, it takes maximum 4V-cycle time for an ACK/Completion to be returned.

If the Command and ACK/Completion communication time is shorter than 1V-cycle time, a command can be received at every 1V cycle.

From this point, if two or more commands are to be sent successively, wait for a reply command (an ACK or error message for a general command, and an inquiry packet for an inquiry command) of the previous command to be received before sending the next command.

1V= 16.7 msec (2160/59.94p, 1080/59.94p, 1080/59.94i, 720/59.94p, 480/59.94p, 360/59.94p),
 20 msec (2160/50p, 1080/50p, 1080/50i, 720/50p, 360/50p),
 33.4 msec (2160/29.97p, 1080/29.97p, 720/29.97p, 360/29.97p),
 40 msec (2160/25p, 1080/25p, 720/25p, 360/25p)



Command and inquiry

- **Command**
Sends operational commands to the unit.
- **Inquiry**
Used for inquiring about the current state of the unit.

Command/Inquiry Packet

8X QQ RR ... FF

QQ: Command/Inquiry (01=Command, 09=Inquiry)

RR: Category Code (00=Interface, 04=camera, 06=Pan/Tilter)

X = 1 to 7: Address of the unit (Locked to "X = 1" for VISCA over IP)

For actual values to be sent, see Command Lists or Inquiry Command Lists.

Responses for commands and inquiries

• ACK message

Returned by the unit when it receives a command. No ACK message is returned for an inquiry.

• Completion message

Returned by the unit when execution of commands or inquiries is completed. In the case of inquiry commands, reply data for the inquiry is contained after the 3rd byte of the packet. In the case of commands or inquiries that do not use sockets, the socket number will contain 0.

	Reply Packet
ACK	Y0 4Z FF
Completion (commands)	Y0 5Z FF
Completion (Inquiries)	Y0 5Z ...FF
Y = 9 to F: Address of the unit + 8 (Locked to "Y = 9" for VISCA over IP)	
Z = socket number	

• Error message

When a command or inquiry command could not be executed or failed, an error message is returned instead of a completion message.

	Error Packet
Message length error	Y0 6Z 01 FF
Syntax Error	Y0 6Z 02 FF
Command buffer full	Y0 6Z 03 FF
Command canceled	Y0 6Z 04 FF
No socket (to be canceled)	Y0 6Z 05 FF
Command not executable	Y0 6Z 41 FF
Y = 9 to F: Address of the unit + 8 (Locked to "Y = 9" for VISCA over IP)	
Z = socket number	

Socket number

When command messages are sent to the unit, it is normal to send the next command message after receiving the completion message or error message. However, to deal with advanced uses, the unit has two sets of buffers (memories) for commands, so that up to two commands including the commands currently being executed can be received. (There is a wait longer than a 1V cycle between commands.) However, depending on the command, it may be necessary to wait until the first command is completed due to system reasons. When the unit receives commands, it notifies which command buffer was used using the socket number of ACK message. As the completion message or error message also has a socket number, it indicates which command has ended. Even when two command buffers are being used, the unit management command and inquiry messages can be executed.

The ACK message is not returned for these commands and inquiries, and only the completion message of socket number 0 is returned.

Command execution cancel

To cancel a command which has already been sent, send a Cancel command as the next command. To cancel one of two commands which have been sent, use the cancel message.

Cancel Packet

Cancel 8X 2Z FF
 X = 1 to 7: Address of the unit (Locked to "X = 1" for VISCA over IP)
 Z = socket number

Error message "Command Canceled" will be returned for this command, but this is not a fault. It indicates that the command has been canceled.

VISCA Device Setting Command

Before starting control of the unit, make sure to send the Address Set command and IF_Clear command using the broadcast.

For VISCA network administration

• Address Set*

Sets an address of a peripheral device. Use when initializing the network, and receiving the following network change message.

* Not available for VISCA over IP.

• Network Change*

Sent from the peripheral device to the controller when a device is removed from or added to the network. The address must be re-set when this message is received.

* Not available for VISCA over IP.

Packet

Address Set 88 30 01 FF
 Network Change Y0 38 FF
 Y = 9 to F: Address of the unit + 8

VISCA interface command

• IF_Clear

Clears the command buffer in the unit. When cleared, the operation currently being executed is not guaranteed.

Command Packet Reply Packet

IF_Clear 8X 01 00 01 FF Y0 50 FF
 IF_Clear (broadcast)* 88 01 00 01 FF 88 01 00 01 FF
 X = 1 to 7: Address of the unit (Locked to "X = 1" for VISCA over IP)
 Y = 9 to F: Address of the unit + 8 (Locked to "Y = 9" for VISCA over IP)

* Not available for VISCA over IP.

VISCA interface and inquiry

• CAM_VersionInq

Returns information on the VISCA interface.

Inquiry Packet Reply Packet

CAM_VersionInq 8X 09 00 02 FF Y0 50 GG GG HH HH JJ JJ KK FF
 X = 1 to 7: Address of the unit (Locked to "X = 1" for VISCA over IP)
 Y = 9 to F: Address of the unit + 8 (Locked to "Y = 9" for VISCA over IP)
 GGGG = Vendor ID
 0001: Sony
 HHHH = Model ID
 061D: SRG-XP1 (supports VISCA over IP only)
 061E: SRG-XB25
 JJJJ = ROM revision
 KK = Maximum socket # (02)

VISCA Command/ACK Protocol

Command	Command Message	Reply Message	Comments
General Command	81 01 04 38 02 FF (Example)	90 4z FF (ACK), 90 5z FF (Completion) (z: Socket No.)	Returns ACK when a command has been accepted, or Completion when a command has been executed.
	81 01 04 38 FF (Example)	90 60 02 FF (Syntax Error)	Accepted a command which is not supported or a command lacking parameters.
	81 01 04 38 02 FF (Example)	90 60 03 FF (Command Buffer Full)	Could not accept the command as there are two commands currently being executed.
	81 01 04 08 02 FF (Example)	90 6z 41 FF (Command Not Executable) (z: Socket No.)	Could not execute the command in the current mode.
Inquiry Command	81 09 04 38 FF (Example)	90 50 02 FF (Completion)	Does not return ACK for the Inquiry Command.
	81 09 05 38 FF (Example)	90 60 02 FF (Syntax Error)	Accepted an incompatible command.
Address Set*	88 30 01 FF	88 30 02 FF	Broadcast only. The device address number plus 1 is returned.
IF_Clear (Broadcast)*	88 01 00 01 FF	88 01 00 01 FF	The same command is returned.
IF_Clear (For x)	8x 01 00 01 FF	y0 50 FF (Completion)	ACK is not returned for this command.
Command Cancel	8x 2z FF (z: Socket No.)	y0 6z 04 FF (Command Canceled)	Returned when the command of the specified socket is canceled. Completion for the command canceled is not returned.
		y0 6z 05 FF (No Socket)	Returned when the command of the specified socket has already been completed or when the specified socket number is wrong.

* Not available for VISCA over IP.

Do not transmit the command (except Address Set, IF_Clear, Command Cancel and POWER (page 14)) when any menu is displayed on the screen. If displayed, clear the menu first using MENU (page 18) command, and then proceed.

VISCA Camera-Issued Messages

ACK/Completion Messages

Command	Command Message	Comments
ACK	y0 4z FF (z: Socket No.)	Returned when the command is accepted.
Completion	y0 5z FF (z: Socket No.)	Returned when the command has been executed.

y = Device address + 8 (Locked to "y = 9" for VISCA over IP.)

Error Messages

Command	Command Message	Comments
Syntax Error	y0 60 02 FF	Returned when the command format is different or when a command with illegal command parameters is received.
Command Buffer Full	y0 60 03 FF	Could not accept a command that is received while two commands are currently being executed (two sockets have been used).
Command Canceled	y0 6z 04 FF (z: Socket No.)	Returned when a command which is being executed in a socket specified by the cancel command is canceled. The completion message for the command is not returned.
No Socket	y0 6z 05 FF (z: Socket No.)	Returned when no command is executed in a socket specified by the cancel command, or when an invalid socket number is specified.
Command Not Executable	y0 6z 41 FF (z: Socket No.)	Returned when a command cannot be executed due to current conditions. For example, when a command for controlling the manual focus is received during the auto focus mode.

y = Device address + 8 (Locked to "y = 9" for VISCA over IP.)

Network Change Message

Command	Command Message	Comments
Network Change*	y0 38 FF	Issued when power is supplied to the camera.

* Not available for VISCA over IP.

y = Device address + 8

VISCA over IP

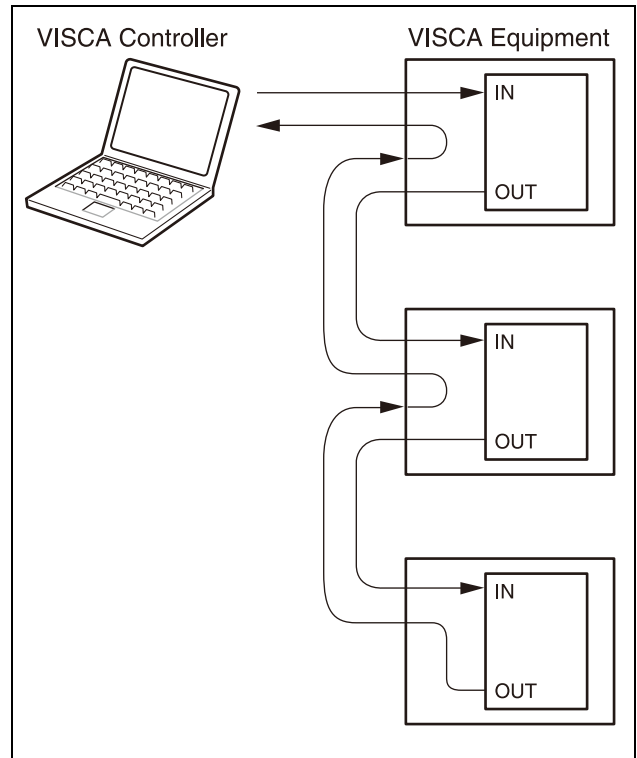
Overview of VISCA over IP

With VISCA over IP function, you can control the camera using VISCA on a controller equipped with IP communication capabilities via LAN. You can connect up to 5 controllers simultaneously on the network.

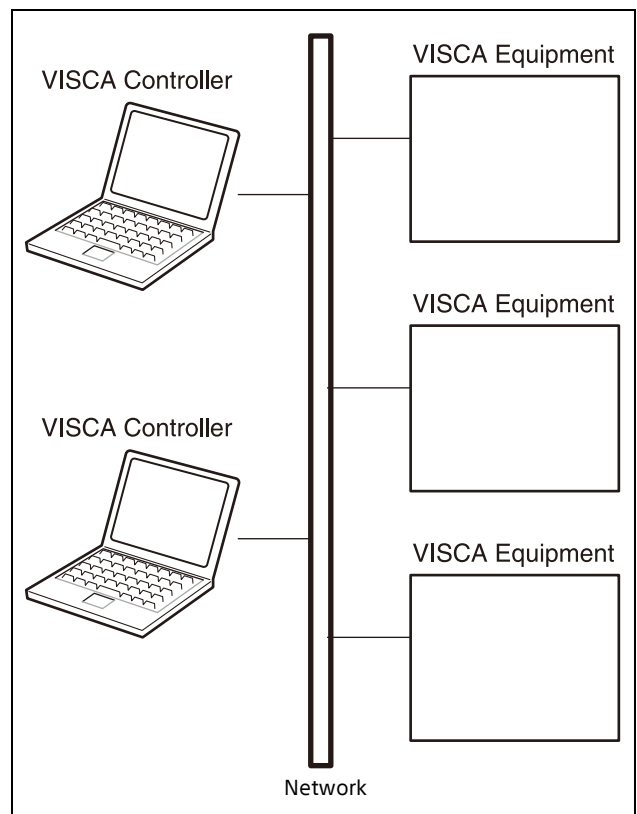
The communication specifications of VISCA over IP are as follows:

- **Interface**
RJ-45 10BASE-T/100BASE-TX/1000BASE-T (auto sensing)
- **Internet protocol**
IPv4
- **Transport protocol**
UDP
- **IP address**
Set by the IP setting command (page 28)
- **Port address**
52381
- **Delivery confirmation/Retransmission control**
Depends on the application

In these instructions, the device outputting commands, such as a computer, is called the controller, and the device receiving the command, such as an SRG series camera, is called a peripheral device. The controllers and peripheral devices are connected to a one-direction ring conforming to RS-232 standards. On the IP communication connection, the controllers and peripheral devices are connected by bus through a LAN.



RS422 connection



IP communication connection

While the IP communication connection, the address of each device cannot be set in the VISCA message as it is because the controllers and peripheral devices that are connected simultaneously are increased. In this case, addresses of the controllers and peripheral devices that are set in the VISCA message are locked to 0 (for the controller) or 1 (for the peripheral device).

Due to the nature of the IP communication, the use of some VISCA functions are limited. For details, "Limitations" (page 13).

For how to set an IP address of the camera, see "Camera IP Setting Commands" (page 28).

Communication Method of VISCA over IP

Communication method

VISCA over IP can process the VISCA communication between the controllers and peripheral devices using the messages that can be identified on the LAN, and sends/receives them. Because of this, VISCA over IP is not concerned about the contents of the communication between the controllers and peripheral devices. However, the VISCA communication sequence is different, depending on the types, as follows.

VISCA command

This is a command from the controller to the peripheral device.

When the peripheral device receives this command, ACK is returned. After completing command processing, a completion notice is returned. This command uses the socket of VISCA. The order of completion notices may be changed if the multiple commands are sent to the same peripheral device.

VISCA inquiry

This is an inquiry from the controller to the peripheral device.

When the peripheral device receives this type of command, the reply for the inquiry is returned. This command does not use the socket of VISCA. The order of the replies is not changed if a multiple commands are sent.

VISCA reply

This is an ACK, completion notice, reply, or error reply from the peripheral device to the controller. The classification for sending messages from the peripheral device to the controller is common.

VISCA device setting command

This is the device setting command from the controller to the peripheral device as follows. When the peripheral device receives this type of command, the command is activated.

- **Address Set**

Sets the address of the peripheral device, and does not return a reply to the controller. While using VISCA over IP, the Address Set command is not sent from the controller because a Network Change command from the peripheral

device that triggers sending command is not issued.

- **IF_Clear**

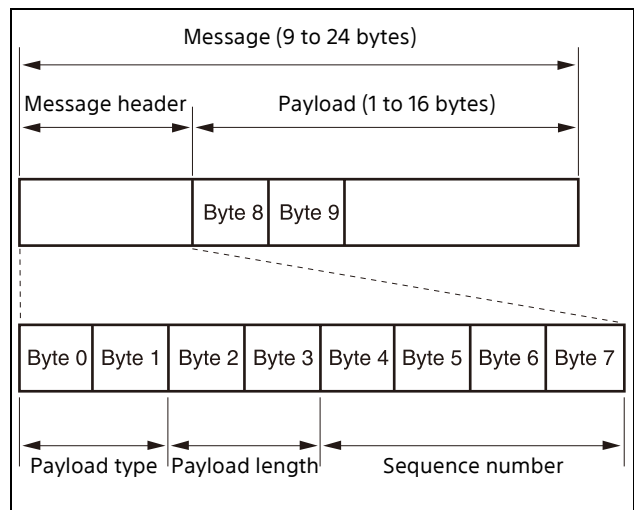
Sends the reply message to the controller after clearing, without using VISCA socket.

- **CAM_VersionInq**

Sends the reply message to the controller, without using VISCA socket.

Format

These are the specifications of the message header (8 bytes) and payload (1 to 16 bytes).



Message structure

Note

The actual LAN out method is big-endian, LSB first.

Payload type

Stores the value (Byte 0 and Byte 1) of the following table on the payload division.

Name	Value (Byte 0)	Value (Byte 1)	Description
VISCA command	0x01	0x00	Stores the VISCA command.
VISCA inquiry	0x01	0x10	Stores the VISCA inquiry.
VISCA reply	0x01	0x11	Stores the reply for the VISCA command and VISCA inquiry, or VISCA device setting command.
VISCA device setting command	0x01	0x20	Stores the VISCA device setting command.
Control command	0x02	0x00	Stores the control command.
Control reply	0x02	0x01	Stores the reply for the control command.

Payload length

Stores the number of bytes (1 to 16) of data that is stored on the payload.

Example: When the payload length is 16 bytes.

Byte 2: 0x00

Byte 3: 0x10

Sequence number

The controller stores the sequence number that is added every time a message is sent. If the sequence number reaches the limit, next value will be 0. The peripheral device saves the sequence number in the message from the controller, and stores the sequence number of the received message corresponding to the message sent to the controller.

Payload

Depending on the payload type, the following are stored.

- **VISCA command**
Stores the packet of the VISCA command.
- **VISCA inquiry**
Stores the packet of VISCA message.
- **VISCA reply**
Stores the reply for the command or inquiry (ACK message, completion message, or error message).
- **VISCA device setting command**
Stores the packet of the VISCA device setting command.
- **Control command**
The following are stored on the payload division of the control command.

Name	Value	Description
RESET	0x01	Resets the sequence number to 0. The value that was set as the sequence number is ignored.
ERROR	0x0Fpp	pp=01: Abnormality in the sequence number.
		pp=02: Abnormality in the message (message type).

- **Control reply**

The following are stored on the payload division of the reply for the control command.

Message	Value	Description
ACK	0x01	Reply for RESET.

Delivery confirmation

VISCA over IP uses UDP as a communications protocol of the transport layer. Delivery of messages is not guaranteed for the UDP communication. Delivery confirmation and retransmission should be performed on the application.

Normally, when the controller sends a message to the peripheral device, the controller sends the new message after receiving the reply for the last message. You can confirm delivery of messages by managing the time-out waiting for a reply message sent.

If time out occurs on the controller, loss of one of the following messages is considered:

- Command
- ACK message
- Completion message for the command
- Inquiry
- Reply message for the inquiry
- Error message
- Inquiry of the VISCA device setting command
- Reply message of the VISCA device setting command

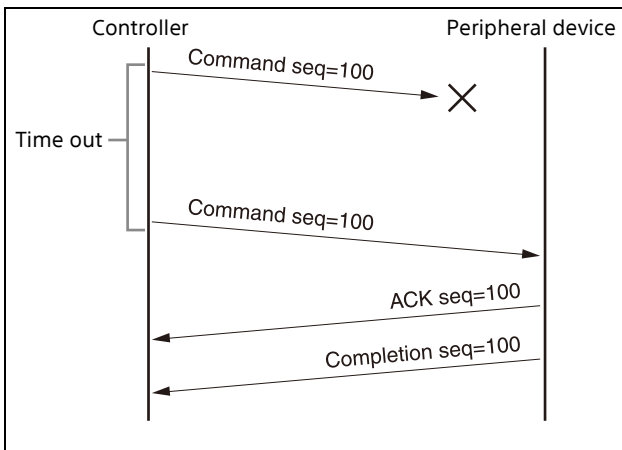
If time out occurs on the controller, you can infer the lost message and state of the peripheral device by retransmitting the message using the same sequence number. The following table shows the received message and status by retransmission of the lost message, and the reference of correspondence after retransmission for each case.

(Except for the case that a time out occurs for reasons other than loss of message.)

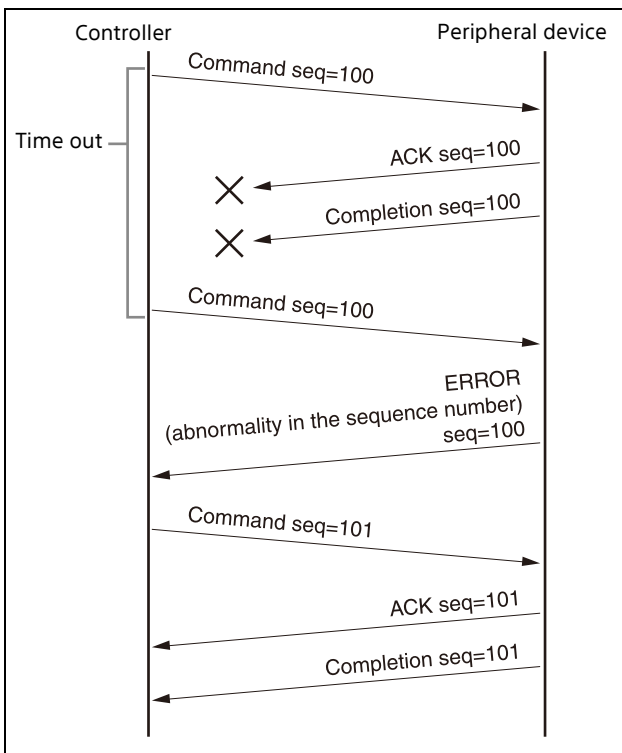
Lost message	Received message for retransmission	Status after retransmission	Correspondence after retransmission (Reference)
Command	ACK message	Command is performed by retransmission.	Continue processing.
ACK message	ERROR (Abnormality in the sequence number.)	Command has been performed. If only the ACK message is lost, the completion message returns.	If the result by the completion message is needed, retransmit by updating the sequence number.
Completion message for the command	ERROR (Abnormality in the sequence number.)	Command has been performed.	If the result by the completion message is needed, retransmit by updating the sequence number.
Inquiry	Reply message	Inquiry is performed by retransmission.	Continue processing.
Reply message for the inquiry	ERROR (Abnormality in the sequence number.)	Inquiry has been performed.	If the result by the reply message is needed, retransmit by updating the sequence number.
Error message	Error message	Command is not performed. If the error cause eliminates, normal reply returns (ACK, reply message).	Eliminate the error cause. If normal reply returns, continue processing.
Inquiry of the VISCA device setting command	Reply message of the VISCA device setting command	Inquiry is performed by retransmission.	Continue processing.
Reply message of the VISCA device setting command	ERROR (Abnormality in the sequence number.)	Inquiry has been performed.	If the result by the reply message is needed, retransmit by updating the sequence number.

The SRG series cameras have 2 buffers (memories) for the command to deal with advanced uses. When using VISCA over IP, up to 2 commands (including the current command) can be received. Depending on the message from the controller to the peripheral device, there are some messages that do not need to guarantee delivery. However, the peripheral device receives commands from multiple controllers while connected to VISCA over IP. If the multiple commands are send without waiting for the reply, the possibility of non-execution of the command and errors due to buffer overflow become high, because of limitations of order to receive commands or execution interval of command. It may cause efficiency to be reduced substantially.

Timing chart



Timing chart (loss of command)



Timing chart (loss of ACK or completion message)

Limitations

The following are limitations for VISCA over IP as compared with the VISCA specifications.

Locking the peripheral device's address of the VISCA message to 1

VISCA over IP cannot reflect each address to the address of the VISCA message because up to 112 peripheral devices and 5 controllers are connected. Because of this, the peripheral device's address of VISCA command is locked to 1 when using VISCA over IP. If the peripheral device's address is set to other than 1 for the VISCA command, the peripheral device works without hindrance since the peripheral device recognizes that its address is set to 1.

Locking the controller's address of the VISCA message to 0.

For the same reason as the peripheral device's address, the controller's address of VISCA command is locked to 0. If the controller's address is set to other than 0, the peripheral device works without hindrance, and the reply address from the peripheral device is always set to 0.

Prohibition of specifying the broadcast address for the VISCA message

Do not use the broadcast address because it requires the serial communication. Operations under the broadcast address is set to the command are not guaranteed.

Prohibition of the Address Set for VISCA device setting command

Do not use this command because it requires the serial communication. Operations under the Address Set command is sent are not guaranteed.

VISCA Network Change command is not supported

This cannot be issued because it requires the serial communication.

Commands

Command List (1/6)

Number in () is MENU display value.

Command Set	Command		Command Packet	Comments
POWER	ON/STANDBY	–	8x 01 04 00 0p FF	p: 2=On, 3=Standby
ZOOM	STOP	–	8x 01 04 07 00 FF	
	TELE	Standard speed	8x 01 04 07 02 FF	
	WIDE	Standard speed	8x 01 04 07 03 FF	
	TELE	Variable	8x 01 04 07 2p FF	p: 0 (Low) to 7 (High)
	WIDE	Variable	8x 01 04 07 3p FF	p: 0 (Low) to 7 (High)
	DIRECT	Standard speed	8x 01 04 47 0p 0q 0r 0s FF	pqrs: Refer to “Zoom position and zoom ratio (reference)” in the “VISCA Command Setting Values” section.
	DIRECT	Variable	8x 01 04 47 0p 0q 0r 0s 0t FF	pqrs: Refer to “Zoom Position and Zoom Ratio (reference)” in the “VISCA Command Setting Values” section. t: 0 (Low) to 7 (High)
DZOOM	ZOOM MEMORY MODE	–	8x 01 04 47 00 0p FF	p: 2=On, 3=Off
	ON	–	8x 01 04 06 02 FF	Digital Zoom On
	OFF*	–	8x 01 04 06 03 FF	Digital Zoom Off
	PIXEL ZOOM	–	8x 01 04 06 04 FF	Pixel Zoom
FOCUS*	STOP	–	8x 01 04 08 00 FF	
	FAR	Standard speed	8x 01 04 08 02 FF	
	NEAR	Standard speed	8x 01 04 08 03 FF	
	FAR	Step	8x 01 04 08 04 FF	
	NEAR	Step	8x 01 04 08 05 FF	
	FAR	Variable	8x 01 04 08 2p FF	p: 0 (Low) to 7 (High)
	NEAR	Variable	8x 01 04 08 3p FF	p: 0 (Low) to 7 (High)
	DIRECT	–	8x 01 04 48 0p 0q 0r 0s FF	pqrs: Refer to “Focus ratio and focus distance (reference)” in the “VISCA Command Setting Values” section.
	MODE	Auto/Manual	8x 01 04 38 pp FF	pp: 02=Auto Focus, 03=Manual Focus, 10=Toggle
	ONE PUSH TRIGGER	–	8x 01 04 18 01 FF	One Push AF Trigger (Enabled during Manual Focus mode)
	NEAR LIMIT	–	8x 01 04 28 0p 0q 0r 0s FF	pqrs: Refer to “Focus Ratio and Focus Distance (reference)” in the “VISCA Command Setting Values” section.
CAM_CURVE*	CURVE TRACKING	–	8x 01 7E 07 0C 02 FF	Curve tracking ON/OFF
	ZOOM TRACKING	–	8x 01 7E 07 0C 03 FF	
AF SENSITIVITY*	–	–	8x 01 04 58 0p FF	p: 1=High, 2=Middle, 3=Low
AF FRAME*	–	–	8x 01 7E 07 00 pp FF	pp: 01=Auto, 02=Full Frame, 03=Center, 10=Toggle
CAM_INITIALIZE*	–	–	8x 01 04 19 01 FF	Lens Initialization Start

* Only available for SRG-XB25.

Command List (2/6)

Number in () is MENU display value.

Command Set	Command		Command Packet	Comments
RESOLUTION SETTING	-	-	8x 01 7E 04 32 0p 0q FF	pq: 0x07: QFHD 4K(3840×2160) - 59.94p
	-	-		0x17: QFHD 4K(3840×2160) - 50p
	-	-		0x06: QFHD 4K(3840×2160) - 29.97p
	-	-		0x16: QFHD 4K(3840×2160) - 25p
	-	-		0x03: FHD 1080i(1920×1080) - 59.94i
	-	-		0x04: FHD 1080P(1920×1080) - 59.94p
	-	-		0x13: FHD 1080i(1920×1080) - 50i
	-	-		0x14: FHD 1080P(1920×1080) - 50p
	-	-		0x02: FHD 1080P(1920×1080) - 29.97p
	-	-		0x12: FHD 1080P(1920×1080) - 25p
	-	-		0x01: HD 720P(1280×720) - 59.94p
	-	-		0x11: HD 720P(1280×720) - 50p
	-	-		0x00: 480P(720×480) - 59.94p
	HDMI FORMAT	RGB		-
YUV420		-	8x 01 7E 01 03 00 02 FF	
YUV422		-	8x 01 7E 01 03 00 03 FF	
HDMI OUTPUT RANGE	16 to 235	-	8x 01 7E 07 01 01 FF	HDMI Output Range: 16 to 235 / 1 to 254
	1 to 254	-	8x 01 7E 07 01 02 FF	
CAM_WB	AUTO1	-	8x 01 04 35 00 FF	Auto1
	INDOOR	-	8x 01 04 35 01 FF	Indoor mode
	OUTDOOR	-	8x 01 04 35 02 FF	Outdoor mode
	ONE PUSH WB	-	8x 01 04 35 03 FF	One Push WB mode
	AUTO2	-	8x 01 04 35 04 FF	Auto2
	MANUAL	-	8x 01 04 35 05 FF	Manual mode
	SODIUM LAMP	-	8x 01 04 35 08 FF	Sodium lamp source fixed mode
	ONE PUSH TRIGGER	-	8x 01 04 10 05 FF	One Push WB Trigger
CAM_WB_RGAIN	RESET	-	8x 01 04 03 00 FF	Return to 64 (80) value
	UP	-	8x 01 04 03 02 FF	
	DOWN	-	8x 01 04 03 03 FF	
	DIRECT	-	8x 01 04 43 00 00 0p 0q FF	pq: 00(0) to 80(128)
CAM_WB_BGAIN	RESET	-	8x 01 04 04 00 FF	Return to 64 (80) value
	UP	-	8x 01 04 04 02 FF	
	DOWN	-	8x 01 04 04 03 FF	
	DIRECT	-	8x 01 04 44 00 00 0p 0q FF	pq: 00(0) to 80(128)
CAM_AE	FULL AUTO	-	8x 01 04 39 00 FF	Automatic Exposure mode
	MANUAL	-	8x 01 04 39 03 FF	Manual Control mode
	SHUTTER PRIORITY	-	8x 01 04 39 0A FF	Shutter Priority Mode
	IRIS PRIORITY*	-	8x 01 04 39 0B FF	Iris Priority Mode

* Only available for SRG-XB25.

Command List (3/6)

Number in () is MENU display value.

Command Set	Command		Command Packet	Comments
FLICKER CANCEL	ON/OFF	-	8x 01 04 32 0p FF	p: 2=On, 3=Off
	50HZ	-	8x 01 7E 01 74 00 FF	
	60HZ	-	8x 01 7E 01 74 01 FF	
SHUTTER	RESET	-	8x 01 04 0A 00 FF	Return to the default value depending on the frame rate of video output
	UP	-	8x 01 04 0A 02 FF	Fast
	DOWN	-	8x 01 04 0A 03 FF	Slow
	DIRECT	-	8x 01 04 4A 00 00 0p 0q FF	pq: Refer to "Exposure control" (Shutter Speed) in the "VISCA Command Setting Values" section.
MAX SHUTTER	LIMIT	-	8x 01 05 2A 00 0p 0q FF	pq: Refer to "Exposure control" (Max Shutter Speed) in the "VISCA Command Setting Values" section.
MIN SHUTTER	LIMIT	-	8x 01 05 2A 01 0p 0q FF	pq: Refer to "Exposure control" (Min Shutter Speed) in the "VISCA Command Setting Values" section.
IRIS*	RESET	-	8x 01 04 0B 00 FF	Return to initial value
	UP	-	8x 01 04 0B 02 FF	Open
	DOWN	-	8x 01 04 0B 03 FF	Close
	DIRECT	-	8x 01 04 4B 00 00 0p 0q FF	pq: Refer to "Exposure control" (Iris) in the "VISCA Command Setting Values" section.
	IRIS LIMIT (MIN.)	-	8x 01 7E 07 02 01 00 0p FF	p: 4(F11) to B(F3.2) (Disabled when AE MODE is set to Manual or Iris Priority)
	IRIS LIMIT (MAX.)	-	8x 01 7E 07 02 00 00 0p FF	p: 4(F11) to B(F3.2) (Disabled when AE MODE is set to Manual or Iris Priority)
GAIN	RESET	-	8x 01 04 0C 00 FF	Return to initial value
	UP	-	8x 01 04 0C 02 FF	
	DOWN	-	8x 01 04 0C 03 FF	
	DIRECT	-	8x 01 04 4C 00 00 0p 0q FF	pq: 00(0dB) to 0F(+45dB)
	GAIN LIMIT	-	8x 01 04 2C 0p FF	p: 3(+9dB) to F(+45dB)
BRIGHT	RESET	-	8x 01 7E 07 0D 00 FF	Return to initial value
	UP	-	8x 01 7E 07 0D 02 FF	
	DOWN	-	8x 01 7E 07 0D 03 FF	
	DIRECT	-	8x 01 7E 07 0E 00 00 0p 0q FF	pq: 00 to 0F
EXPOSURE COMPENSATION	ON	-	8x 01 04 3E 02 FF	Exposure Compensation ON/OFF
	OFF	-	8x 01 04 3E 03 FF	
	RESET	-	8x 01 04 0E 00 FF	Return to initial value
	UP	-	8x 01 04 0E 02 FF	
	DOWN	-	8x 01 04 0E 03 FF	
	DIRECT	-	8x 01 04 4E 00 00 0p 0q FF	pq: 00 to 0A
BACKLIGHT COMPENSATION	ON	-	8x 01 04 33 02 FF	Back Light Compensation ON/OFF
	OFF	-	8x 01 04 33 03 FF	

* Only available for SRG-XB25.

Command List (4/6)

Number in () is MENU display value.

Command Set	Command		Command Packet	Comments
SPOT AE	ON	-	8x 01 04 59 02 FF	Spot AE ON/OFF
	OFF	-	8x 01 04 59 03 FF	
VISIBILITY ENHANCER	SET PARAMETER	-	8x 01 7E 04 00 0p FF	p: 0=Off, 1 to 3=Effect
APERTURE	RESET	-	8x 01 04 02 00 FF	Return to initial value
	UP	-	8x 01 04 02 02 FF	
	DOWN	-	8x 01 04 02 03 FF	
	DIRECT	-	8x 01 04 42 00 00 0p 0q FF	pq: 00 to 0E
NOISE REDUCTION	2D 3D NR	-	8x 01 05 53 0p 0q FF	p: 2D NR Level Setting, p: 0 to 3 q: 3D NR Level Setting, p: 0 to 3
LENS DISTORTION CORRECT* ¹	ON	-	8x 01 7E 07 04 02 FF	Lens distortion correction ON/OFF Lens distortion is disabled in the following cases. • When both RESOLUTION SETTING is QFHD 4K (3840×2160) - 59.94p or QFHD 4K (3840×2160) - 50p and OUTPUT MODE is HDMI+IP • When DZOOM MODE is on
	OFF	-	8x 01 7E 07 04 03 FF	
GAMMA	GAMMA SETTING	-	8x 01 04 5B 0p FF	p: 0 to 3
PICTURE EFFECT	OFF	-	8x 01 04 63 00 FF	Picture Effect Setting
	NEG.ART	-	8x 01 04 63 02 FF	
	B&W	-	8x 01 04 63 04 FF	
PICTURE FLIP	ON	-	8x 01 7E 07 0F 02 FF	Picture flip ON/OFF
	OFF	-	8x 01 7E 07 0F 03 FF	
ROTATION	ON	-	8x 01 04 66 02 FF	Picture Mirror + Flip ON/OFF
	OFF	-	8x 01 04 66 03 FF	
ICR* ²	NIGHT	-	8x 01 04 01 02 FF	
	DAY	-	8x 01 04 01 03 FF	
AUTO ICR* ²	ON	-	8x 01 04 51 02 FF	Auto ICR ON/OFF
	OFF	-	8x 01 04 51 03 FF	
AUTO ICR THRESHOLD* ²	-	-	8x 01 04 21 00 00 0p 0q FF	pq: 00 to FF
PRESET	RESET	-	8x 01 04 3F 00 pp FF	pp: 00(0) to 7F(127) (Preset address: 1 to 128)
	SET	-	8x 01 04 3F 01 pp FF	
	RECALL	-	8x 01 04 3F 02 pp FF	
	RESET	-	8x 01 04 3F 10 pp FF	pp: 00(128) to 7F(255) (Preset address: 129 to 256)
	SET	-	8x 01 04 3F 11 pp FF	
	RECALL	-	8x 01 04 3F 12 pp FF	
COLOR GAIN	DIRECT	-	8x 01 04 49 00 00 0p 0q FF	pq: 00 to 0F
IR RECEIVE* ¹	ON	-	8x 01 06 08 02 FF	IR remote control Receive
	OFF	-	8x 01 06 08 03 FF	
	ON/OFF	-	8x 01 06 08 10 FF	
E-PT	ON	-	8x 01 7E 06 00 02 FF	
	OFF	-	8x 01 7E 06 00 03 FF	

*¹ Only available for SRG-XP1.

*² Only available for SRG-XB25.

Command List (5/6)

Number in () is MENU display value.

Command Set	Command		Command Packet	Comments
PAN TILT DRIVE*	UP	-	8x 01 06 01 VV WW 03 01 FF	VV: Pan speed 0x01 (low speed) to 0x18 (high speed) WW: Tilt speed 0x01 (low speed) to 0x18 (high speed)
	DOWN	-	8x 01 06 01 VV WW 03 02 FF	
	LEFT	-	8x 01 06 01 VV WW 01 03 FF	
	RIGHT	-	8x 01 06 01 VV WW 02 03 FF	
	UPLEFT	-	8x 01 06 01 VV WW 01 01 FF	
	UPRIGHT	-	8x 01 06 01 VV WW 02 01 FF	
	DOWNLEFT	-	8x 01 06 01 VV WW 01 02 FF	
	DOWNRIGHT	-	8x 01 06 01 VV WW 02 02 FF	
	STOP	-	8x 01 06 01 00 00 03 03 FF	
	ABSOLUTEPOSITION	-	8x 01 06 02 00 00 0Y 0Y 0Y 0Z 0Z 0Z 0Z FF	
	HOME	-	8x 01 06 04 FF	
	RESET	-	8x 01 06 05 FF	
FACTORYDEFAULT	SYSTEM FACTORY DEFAULT	-	8x 01 7E 07 05 01 FF	Factory Default
	SYSTEM FACTORY DEFAULT - RETAIN NETWORK	-	8x 01 7E 07 05 03 FF	
COLOR HUE	DIRECT	-	8x 01 04 4F 00 00 0p 0q FF	pq: 00 to 0F
MENU	ON	-	8x 01 06 06 02 FF	turn on the menu screen
	OFF	-	8x 01 06 06 03 FF	turn off the menu screen
	ON/OFF	-	8x 01 06 06 10 FF	turn on/off the menu screen
	ENTER	-	8x 01 7E 01 02 00 01 FF	menu enter
	UP	-	8x 01 06 01 01 01 03 01 FF	menu up
	DOWN	-	8x 01 06 01 01 01 03 02 FF	menu down
	LEFT	-	8x 01 06 01 01 01 01 03 FF	menu left
	RIGHT	-	8x 01 06 01 01 01 02 03 FF	menu right
TALLY MODE	SET TALLY MODE	-	8x 01 7E 01 0A 01 0p FF	p: 0=OFF, 4=Low, 5=High

* Only available for SRG-XP1.

Command List (6/6)

Number in () is MENU display value.

Command Set	Command		Command Packet	Comments
TALLY LAMP	ON	-	8x 01 7E 01 0A 00 02 FF	Tally Lamp ON/OFF
	OFF	-	8x 01 7E 01 0A 00 03 FF	
OUTPUT MODE	HDMI	-	8x 01 7E 07 06 00 FF	
	HDMI + STREAM	-	8x 01 7E 07 06 01 FF	
	STREAM	-	8x 01 7E 07 06 02 FF	
	HDMI + USB ^{*1}	-	8x 01 7E 07 06 03 FF	
OSD CROSS LINE	ON	-	8x 01 04 7C 04 FF	OSD Cross Line ON/OFF
	OFF	-	8x 01 04 7C 03 FF	
DHCP	ON	-	8x 01 7C 01 02 FF	Set DHCP ON/OFF
	OFF	-	8x 01 7C 01 03 FF	
IP ADDRESS	SET IP ADDRESS	-	8x 01 7C 02 0p 0q 0r 0s 0t 0u 0v 0x FF	address: pq.rs.tu.vx (HEX), pq = 0 to 255, rs = 0 to 255, tu = 0 to 255, vx = 0 to 255, e.g. 192.168.100.150 => 81 01 7C 02 0C 00 0A 08 06 04 09 06 FF
IP NETMASK	SET NETMASK	-	8x 01 7C 03 0p 0q 0r 0s 0t 0u 0v 0x FF	address: pq.rs.tu.vx (HEX), pq = 0 to 255, rs = 0 to 255, tu = 0 to 255, vx = 0 to 255, e.g. 255.255.255.0 => 81 01 7C 03 0F 0F 0F 0F 0F 0F 00 00 FF
IP GATEWAY	SET GATEWAY	-	8x 01 7C 04 0p 0q 0r 0s 0t 0u 0v 0x FF	address: pq.rs.tu.vx (HEX), pq = 0 to 255, rs = 0 to 255, tu = 0 to 255, vx = 0 to 255, e.g. 192.168.100.254 => 81 01 7C 04 0C 00 0A 08 06 04 0F 0E FF
IP DNS	SET DNS	-	8x 01 7C 05 0p 0q 0r 0s 0t 0u 0v 0x FF	address: pq.rs.tu.vx (HEX), pq = 0 to 255, rs = 0 to 255, tu = 0 to 255, vx = 0 to 255, e.g. 8.8.8.8 => 81 01 7C 05 00 08 00 08 00 08 00 08 FF
AUDIO	ON	-	8x 01 7E 07 07 02 FF	Audio ON/OFF
	OFF	-	8x 01 7E 07 07 03 FF	
AUDIO CODEC	-	-	8x 01 7E 07 08 02 FF	AAC (128kbps)
	-	-	8x 01 7E 07 08 03 FF	AAC (256kbps)
AUDIO IN TYPE	LINE IN	-	8x 01 7E 07 09 00 FF	Audio In Type
	MIC IN	-	8x 01 7E 07 09 01 FF	
AUDIO VOLUME	VOLUME	-	8x 01 7E 07 0A 0p FF	p: 0 to A
AUDIO SAMPLING RATE	-	-	8x 01 7E 07 0B 0p FF	p: 0=48KHz, 1=44.1KHz
VISCA BAUD RATE ^{*2}	9600	-	8x 01 04 24 00 00 00 FF	VISCA Baud rate
	38400	-	8x 01 04 24 00 00 02 FF	

*1 Only available for SRG-XP1.

*2 Only available for SRG-XB25.

Inquiry Command List (1/4)

Number in () is MENU display value.

Inquiry Command	Command Packet	Inquiry Packet	Comments
POWER	8x 09 04 00 FF	y0 50 02 FF	On
		y0 50 03 FF	Standby
SYSTEM STATUS	8x 09 04 00 01 FF	y0 50 00 FF	Ready
		y0 50 01 FF	Processing
ZOOM POSITION	8x 09 04 47 FF	y0 50 0p 0q 0r 0s FF	pqrs: Refer to "Zoom position and zoom ratio (reference)" in the "VISCA Command Setting Values" section.
ZOOM MEMORY MODE	8x 09 04 47 00 FF	y0 50 02 FF	On
		y0 50 03 FF	Off
DZOOM MODE	8x 09 04 06 FF	y0 50 02 FF	D-Zoom On
		y0 50 03 FF	D-Zoom Off
		y0 50 04 FF	Pixel Zoom
FOCUS MODE*	8x 09 04 38 FF	y0 50 02 FF	Auto Focus
		y0 50 03 FF	Manual Focus
FOCUS POSITION*	8x 09 04 48 FF	y0 50 0p 0q 0r 0s FF	pqrs: Refer to "Focus ratio and focus distance (reference)" in the "VISCA Command Setting Values" section.
CURVE MODE*	8x 09 7E 07 0C FF	y0 50 02 FF	Curve tracking
		y0 50 03 FF	Zoom tracking
FOCUS POSITION NEAR LIMIT	8x 09 04 28 FF	y0 50 0p 0q 0r 0s FF	pqrs: Refer to "Focus ratio and focus distance (reference)" in the "VISCA Command Setting Values" section.
AF SENSITIVITY*	8x 09 04 58 FF	y0 50 01 FF	High
		y0 50 02 FF	Middle
		y0 50 03 FF	Low
AF FRAME*	8x 09 7E 07 00 FF	y0 50 01 FF	Auto
		y0 50 02 FF	Full Frame
		y0 50 03 FF	Center
RESOLUTION SETTING	8x 09 7E 04 33 FF	y0 50 0p 0q FF	pq: 0x07: QFHD 4K(3840×2160) - 59.94p
			0x17: QFHD 4K(3840×2160) - 50p
			0x06: QFHD 4K(3840×2160) - 29.97p
			0x16: QFHD 4K(3840×2160) - 25p
			0x03: FHD 1080i(1920×1080) - 59.94i
			0x04: FHD 1080P(1920×1080) - 59.94p
			0x13: FHD 1080i(1920×1080) - 50i
			0x14: FHD 1080P(1920×1080) - 50p
			0x02: FHD 1080P(1920×1080) - 29.97p
			0x12: FHD 1080P(1920×1080) - 25p
			0x01: HD 720P(1280×720) - 59.94p
			0x11: HD 720P(1280×720) - 50p
			0x00: 480P(720×480) - 59.94p
HDMI FORMAT	8x 09 7E 01 03 FF	y0 50 01 FF	RGB
		y0 50 02 FF	YUV420 (Enabled only for QFHD 4K(3840×2160) - 59.94p and QFHD 4K(3840×2160) - 50p)
		y0 50 03 FF	YUV422

* Only available for SRG-XB25.

Inquiry Command List (2/4)

Number in () is MENU display value.

Inquiry Command	Command Packet	Inquiry Packet	Comments
HDMI OUTPUT RANGE	8x 09 7E 07 01 FF	y0 50 01 FF	16 to 235
		y0 50 02 FF	1 to 254
WHITE BALANCE MODE	8x 09 04 35 FF	y0 50 00 FF	Auto 1
		y0 50 01 FF	Indoor
		y0 50 02 FF	Outdoor
		y0 50 03 FF	One Push WB
		y0 50 04 FF	Auto 2
		y0 50 05 FF	Manual
		y0 50 08 FF	Sodium Lamp
R GAIN	8x 09 04 43 FF	y0 50 00 00 0p 0q FF	pq: 00 to 80
B GAIN	8x 09 04 44 FF	y0 50 00 00 0p 0q FF	pq: 00 to 80
AE MODE	8x 09 04 39 FF	y0 50 00 FF	Full Auto
		y0 50 03 FF	Manual
		y0 50 0A FF	Shutter Priority
		y0 50 0B FF	Iris Priority*
FLICKER CANCEL	8x 09 04 32 FF	y0 50 0p FF	p: 2 On p: 3 Off
		8x 09 7E 01 74 FF	y0 50 00 FF
		y0 50 01 FF	60Hz
SHUTTER SPEED POSITION	8x 09 04 4A FF	y0 50 00 00 0p 0q FF	pq: 00 to 15
MAX SHUTTER SPEED POSTION	8x 09 05 2A 00 FF	y0 50 0p 0q FF	pq: High-speed shutter limit
MIN SHUTTER SPEED POSTION	8x 09 05 2A 01 FF	y0 50 0p 0q FF	pq: Low-speed shutter limit
IRIS POSITION*	8x 09 04 4B FF	y0 50 00 00 0p 0q FF	pq: 00 to 0F
GAIN POSITION	8x 09 04 4C FF	y0 50 00 00 0p 0q FF	pq: 00 to 0F
MIN IRIS LIMIT*	8x 09 7E 07 02 01 FF	y0 50 0p 0p FF	pp: 04 to 0B
MAX IRIS LIMIT*	8x 09 7E 07 02 00 FF	y0 50 0p 0p FF	pp: 04 to 0B
GAIN LIMIT	8x 09 04 2C FF	y0 50 0q FF	p: 3 to F
BRIGHT POSITION	8x 09 7E 07 0E FF	y0 50 00 00 0p 0q FF	pq: 00 to 0F
EXPOSURE COMPENSATION MODE	8x 09 04 3E FF	y0 50 02 FF	On
		y0 50 03 FF	Off
EXPOSURE COMPENSATION POSITION	8x 09 04 4E FF	y0 50 00 00 0p 0q FF	pq: 00 to 0A
BACKLIGHT COMPENSATION MODE	8x 09 04 33 FF	y0 50 02 FF	On
		y0 50 03 FF	Off
SPOT AE MODE	8x 09 04 59 FF	y0 50 02 FF	On
		y0 50 03 FF	Off
VISIBILITY ENHANCER	8x 09 7E 04 00 FF	y0 50 0p FF	p: 0=Off, 1 to 3=Effect
APERTURE	8x 09 04 42 FF	y0 50 00 00 0p 0q FF	pq: 00 to 0E

* Only available for SRG-XB25.

Inquiry Command List (3/4)

Number in () is MENU display value.

Inquiry Command	Command Packet	Inquiry Packet	Comments
NOISE REDUCTION 2D 3D NR	8x 09 05 53 FF	y0 50 0p 0q FF	p: 2D NR Level Setting, p: 0 to 3 q: 3D NR Level Setting, p: 0 to 3
LENS DISTORTION CORRECT* ¹	8x 09 7E 07 04 FF	y0 50 02 FF	On
		y0 50 03 FF	Off
GAMMA	8x 09 04 5B FF	y0 50 0p FF	p: 0 to 3
PICTURE EFFECT MODE	8x 09 04 63 FF	y0 50 00 FF	Off
		y0 50 02 FF	Neg.Art
		y0 50 04 FF	B&W
PICTURE FLIP MODE	8x 09 7E 07 0F FF	y0 50 02 FF	On
		y0 50 03 FF	Off
PICTURE ROTATION MODE	8x 09 04 66 FF	y0 50 02 FF	On
		y0 50 03 FF	Off
ICR* ²	8x 09 04 01 FF	y0 50 02 FF	Night
		y0 50 03 FF	Day
AUTO ICR MODE* ²	8x 09 04 51 FF	y0 50 02 FF	On
		y0 50 03 FF	Off
AUTO ICR THRESHOLD* ²	8x 09 04 21 FF	y0 50 00 00 0p 0q FF	pq: Threshold level
VERSION	8x 09 00 02 FF	y0 50 pp qq rr ss jj kk FF	ppqq: Vendor ID(0001) rrss: Model ID(SRG-XP1: 061D, SRG-XB25: 061E) jjjj: Rom revision kk: Maximum socket
SYSTEM MENU MODE	8x 09 06 06 FF	y0 50 02 FF	On
		y0 50 03 FF	Off
IR RECEIVE* ¹	8x 09 06 08 FF	y0 50 02 FF	On
		y0 50 03 FF	Off
E-PT* ¹	8x 09 7E 06 00 FF	y0 50 0p FF	p: 2=On, p: 3=Off
E-PT POSITION* ¹	8x 09 06 12 FF	y0 50 0w 0w 0w 0w 0z 0z 0z 0z FF	www: Pan Position 0x0000 to 0x0064 & 0xFF9C to 0xFFFF (center 0000) zzz: Tilt Position 0x0000 to 0x0064 & 0xFF9C to 0xFFFF (center 0000)
SERIAL NO	8x 09 02 18 FF	y0 50 aa bb cc dd ee ff gg hh ii FF	aa bb cc dd ee ff gg hh ii: Serial Number (ASCII)
MAC_ADDRESS	8x 09 04 78 FF	y0 50 0a 0b 0c 0d 0e 0f 0g 0h 0i 0j 0k 0l FF	MAC Address = ab: cd: ef: gh: ij: kl
TALLY MODE	8x 09 7E 01 0A 01 FF	y0 50 0p FF	p: 0=OFF, 4=Low, 5=High
TALLY LAMP	8x 09 7E 01 0A 00 FF	y0 50 0p FF	p: 2=Enable, 3=Disable
OUTPUT MODE	8x 09 7E 07 06 FF	y0 50 00 FF	HDMI
		y0 50 01 FF	HDMI + IP
		y0 50 02 FF	Stream
		y0 50 03 FF	HDMI + USB* ¹
COLOR GAIN	8x 09 04 49 FF	y0 50 00 00 0p 0q FF	pq: 00 to 0F
COLOR HUE	8x 09 04 4F FF	y0 50 00 00 0p 0q FF	pq: 00 to 0F

*¹ Only available for SRG-XP1.

*² Only available for SRG-XB25.

Inquiry Command List (4/4)

Number in () is MENU display value.

Inquiry Command	Command Packet	Inquiry Packet	Comments
ERROR CODE ROM	8x 09 00 02 02 00 FF	y0 50 aa bb cc dd ee ff gg hh ii kk FF	aa to kk: error code count → 1 to 10
	8x 09 00 02 02 01 FF	y0 50 aa bb cc dd ee ff gg hh ii kk FF	aa to kk: error code count → 11 to 20
	8x 09 00 02 02 02 FF	y0 50 aa bb cc dd ee ff gg hh ii kk FF	aa to kk: error code count → 21 to 30
	8x 09 00 02 02 03 FF	y0 50 aa bb cc dd ee ff gg hh ii kk FF	aa to kk: error code count → 31 to 40
	8x 09 00 02 02 04 FF	y0 50 aa bb cc dd ee ff gg hh ii kk FF	aa to kk: error code count → 41 to 50
ERROR CODE CURRENT	8x 09 00 02 03 00 FF	y0 50 aa bb cc dd ee ff gg hh ii kk FF	aa to kk: error code count → 1 to 10
	8x 09 00 02 03 01 FF	y0 50 aa bb cc dd ee ff gg hh ii kk FF	aa to kk: error code count → 11 to 20
	8x 09 00 02 03 02 FF	y0 50 aa bb cc dd ee ff gg hh ii kk FF	aa to kk: error code count → 21 to 30
	8x 09 00 02 03 03 FF	y0 50 aa bb cc dd ee ff gg hh ii kk FF	aa to kk: error code count → 31 to 40
	8x 09 00 02 03 04 FF	y0 50 aa bb cc dd ee ff gg hh ii kk FF	aa to kk: error code count → 41 to 50
DHCP	8x 09 7C 01 FF	y0 50 0p FF	p: 2=On, 3=Off
IP ADDRESS	8x 09 7C 02 FF	y0 50 0p 0q 0r 0s 0t 0u 0v 0x FF	address: pq.rs.tu.vx (HEX)
IP NETMASK	8x 09 7C 03 FF	y0 50 0p 0q 0r 0s 0t 0u 0v 0x FF	address: pq.rs.tu.vx (HEX)
IP GATEWAY	8x 09 7C 04 FF	y0 50 0p 0q 0r 0s 0t 0u 0v 0x FF	address: pq.rs.tu.vx (HEX)
IP DNS	8x 09 7C 05 FF	y0 50 0p 0q 0r 0s 0t 0u 0v 0x FF	address: pq.rs.tu.vx (HEX)
AUDIO	8x 09 7E 07 07 FF	y0 50 02 FF	On
		y0 50 03 FF	Off
AUDIO CODEC	8x 09 7E 07 08 FF	y0 50 02 FF	AAC (128kbps)
		y0 50 03 FF	AAC (256kbps)
AUDIO IN TYPE	8x 09 7E 07 09 FF	y0 50 00 FF	Line In
		y0 50 01 FF	Mic In
AUDIO VOLUME	8x 09 7E 07 0A FF	y0 50 0p FF	p: 0 to A
AUDIO SAMPLING RATE	8x 09 7E 07 0B FF	y0 50 00 FF	48KHz (AAC)
		y0 50 01 FF	44.1KHz (AAC)
VISCA BAUD RATE*	8x 09 04 24 00 FF	y0 50 00 00 FF	9600 bps
		y0 50 00 02 FF	38400 bps

* Only available for SRG-XB25.

VISCA Command Setting Values

Parameter uses hexadecimal digits.

Exposure control

	Parameter	2160/59.94p, 2160/29.97p, 1080/59.94p, 1080/59.94i, 1080/29.97p, 720/59.94p, 720/29.97p, 480/59.94p, 360/59.94p, 360/29.97p	2160/50p, 2160/25p, 1080/50p, 1080/50i, 1080/25p, 720/50p, 720/ 25p, 360/50p, 360/25p
Shutter Speed	00	1/1	1/1
	01	1/2	1/2
	02	1/4	1/3
	03	1/8	1/6
	04	1/15	1/12
	05	1/30	1/25
	06	1/60	1/50
	07	1/90	1/75
	08	1/100	1/100
	09	1/120	1/120
	0A	1/180	1/150
	0B	1/250	1/215
	0C	1/350	1/300
	0D	1/500	1/425
	0E	1/725	1/600
	0F	1/1000	1/1000
	10	1/1500	1/1250
	11	1/2000	1/1750
	12	1/2500	1/2500
	13	1/3000	1/3000
	14	1/5000	1/5000
	15	1/10000	1/10000

	Parameter	2160/59.94p, 2160/29.97p, 1080/59.94p, 1080/59.94i, 1080/29.97p, 720/59.94p, 720/29.97p, 480/59.94p, 360/59.94p, 360/29.97p	2160/50p, 2160/25p, 1080/50p, 1080/50i, 1080/25p, 720/50p, 720/ 25p, 360/50p, 360/25p
Min Shutter Speed	05	1/30 (29.97p only)	1/25 (25p only)
	06	1/60	1/50
	07	1/90	1/75
	08	1/100	1/100
	09	1/120	1/120
	0A	1/180	1/150
	0B	1/250	1/215
	0C	1/350	1/300
	0D	1/500	1/425
	0E	1/725	1/600
	0F	1/1000	1/1000
		10	1/1500
	11	1/2000	1/1750

	Parameter	2160/59.94p, 2160/29.97p, 1080/59.94p, 1080/59.94i, 1080/29.97p, 720/59.94p, 720/29.97p, 480/59.94p, 360/59.94p, 360/29.97p	2160/50p, 2160/25p, 1080/50p, 1080/50i, 1080/25p, 720/50p, 720/ 25p, 360/50p, 360/25p
Max Shutter Speed	05	1/30	1/25
	06	1/60	1/50
	07	1/90	1/75
	08	1/100	1/100
	09	1/120	1/120
	0A	1/180	1/150
	0B	1/250	1/215
	0C	1/350	1/300
	0D	1/500	1/425
	0E	1/725	1/600
	0F	1/1000	1/1000
	10	1/1500	1/1250
	11	1/2000	1/1750
	12	1/2500	1/2500
	13	1/3000	1/3000
14	1/5000	1/5000	
15	1/10000	1/10000	

	Parameter	F value
Iris	0F	F1.6 (Open)
	0E	F2
	0D	F2.2
	0C	F2.7
	0B	F3.2
	0A	F3.8
	09	F4.5
	08	F5.4
	07	F6.3
	06	F7.8
	05	F9
	04	F11
	03	F13
	02	F16
	01	F18
	00	Close

	Parameter	Gain value
Gain	0F	+45 dB
	0E	+42 dB
	0D	+39 dB
	0C	+36 dB
	0B	+33 dB
	0A	+30 dB
	09	+27 dB
	08	+24 dB
	07	+21 dB
	06	+18 dB
	05	+15 dB
	04	+12 dB
	03	+9 dB
	02	+6 dB
	01	+3 dB
	00	0 dB

	Parameter	Step	Gain
Exposure Compensation	0A	5	+8.0 dB
	09	4	+6.4 dB
	08	3	+4.8 dB
	07	2	+3.2 dB
	06	1	+1.6 dB
	05	0	0 dB
	04	-1	-1.6 dB
	03	-2	-3.2 dB
	02	-3	-4.8 dB
	01	-4	-6.4 dB
	00	-5	-8.0 dB

Focus ratio and focus distance (reference) (SRG-XB25)

Parameter	Focus distance
1000	∞
2000	50 m
3000	20 m
4000	10 m
5000	5 m
6000	4 m
7000	3 m
8000	2 m
9000	1.5 m
A000	1.2 m
B000	1 m
C000	0.8 m
D000	0.6 m
E000	0.35 m
F000	0.1 m

Zoom position and zoom ratio (reference) (SRG-XB25)

Parameter	Zoom ratio
0000h	×1
167Fh	×2
20ACh	×3
26DAh	×4
2B28h	×5
2E5Ch	×6
30DFh	×7
32E8h	×8
3499h	×9
3603h	×10
373Dh	×11
384Bh	×12
393Bh	×13
3A0Eh	×14
3ACEh	×15
3B7Ch	×16
3C1Eh	×17
3CB2h	×18
3D3Bh	×19
3DC0h	×20
3E3Ah	×21
3EB0h	×22
3F23h	×23
3F92h	×24
4000h	×25
6000h	×50 (When both HDMI video output format is 1920×1080 and DZOOM MODE is Pixel Zoom) ×75 (When both HDMI video output format is 1280×720 and DZOOM MODE is Pixel Zoom)
7AC0h	×50 (When both HDMI video output format is 3840×2160 or 720×480 and DZOOM MODE is D-Zoom On) ×100 (When both HDMI video output format is 1920×1080 and DZOOM MODE is D-Zoom On) ×150 (When both HDMI video output format is 1280×720 and DZOOM MODE is D-Zoom On)

Zoom position and zoom ratio (reference) (SRG-XP1)

Parameter	Zoom ratio
4000h	×1
6000h	×2 (When both HDMI video output format is 1920×1080 and DZOOM MODE is Pixel Zoom) ×3 (When both HDMI video output format is 1280×720 and DZOOM MODE is Pixel Zoom)

Parameter	Zoom ratio
7AC0h	×2 (When both HDMI video output format is 3840×2160 or 720×480 and DZOOM MODE is D-Zoom On) ×4 (When both HDMI video output format is 1920×1080 and DZOOM MODE is D-Zoom On) ×6 (When both HDMI video output format is 1280×720 and DZOOM MODE is D-Zoom On)

Lens control

Zoom Position*	0000 to 4000 to 7AC0 Wide end Optical Digital Tele end Tele end	
Focus Position (SRG-XB25 only)	1000 to F000 Far end Near end	
Focus Near Limit (SRG-XB25 only)	1000: Inf	Use the distance shown as a guide value as it may vary depending on the temperature characteristics. * The lower 1 byte is fixed at 00.
	2000: 50 m	
	3000: 20 m	
	4000: 10 m	
	5000: 5 m	
	6000: 4 m	
	7000: 3 m	
	8000: 2 m	
	9000: 1.5 m (initial value)	
	A000: 1.2 m	
	B000: 1 m	
	C000: 0.8 m	
	D000: 0.6 m	
E000: 0.35 m		
F000: 0.1 m		

* On the SRG-XP1, 4000 to 7AC0 range.

Video output method (video format)

Parameter	Video output method (video format)
00	720×480/59.94p
01	1280×720/59.94p
02	1920×1080/29.97p
03	1920×1080/59.94i
04	1920×1080/59.94p
06	3840×2160/29.97p
07	3840×2160/59.94p
11	1280×720/50p
12	1920×1080/25p
13	1920×1080/50i
14	1920×1080/50p
16	3840×2160/25p
17	3840×2160/50p
71	1280×720/29.97p
72	1280×720/25p

Camera IP Setting Commands

The following commands are provided for setting an IP address and a camera name for SRG series cameras.

No.	Name	Description
1	Setting Protocol: Inquiry	The controller inquires the network setting for the camera.
2	Setting Protocol: Inquiry reply	The camera replies according to the inquiry from the controller.
3	Setting Protocol: Network setting	The controller sets the network setting of the camera.
4	Setting Protocol: Network setting reply	The camera replies according to the network setting of the controller.

The network setting of the camera is performed as communication sequence in the following. Connect the computer that configures the settings to the same segment as the camera.

1 Inquiry

The controller sends the inquiry packet to the broadcast address (255.255.255.255), specified port number (52380) of UDP. The camera replies as the inquiry reply packet.

2 Network setting

The controller sends the network setting packet to the broadcast address (255.255.255.255), specified port number (52380) of UDP. The camera sees the MAC address unit in the packet and returns ACK as the network setting reply if it is the request for the camera.

If the camera fails to set, it returns NACK as the network setting reply.

Command	Data
Inquiry UDP Broadcast address (255.255.255.255) Specified port number (52380)	02 ENQ:network *1 FF 03
Inquiry reply UDP Broadcast address (255.255.255.255) Specified port number (52380)	02 MAC:**_**_**_**_**_** *1 FF MODEL:IPCARD *1 FF SOFTVERSION:**_**_** *1 FF IPADR:**_**_**_**_** *1 FF MASK:**_**_**_**_** *1 FF GATEWAY:**_**_**_**_** *1 FF NAME:xxxxxxxx *1 FF WRITE:on *1 FF 03
Network setting UDP Broadcast address (255.255.255.255) Specified port number (52380)	02 MAC:**_**_**_**_**_** *1 FF IPADR:**_**_**_**_** *1 FF MASK:**_**_**_**_** *1 FF GATEWAY:**_**_**_**_** *1 FF NAME:xxxxxxxx *1 FF 03
Network setting reply UDP Broadcast address (255.255.255.255) Specified port number (52380)	02 ACK:**_**_**_**_**_** *2 "xxxx" *3 FF 03

*1 Uses the ASCII code.

*2 Uses the ASCII code. Returns as "NAK:**_**_**_**_**_**" for NAK.

*3 Uses the ASCII code. Returns by adding the detail message, if necessary.

Notes

- The camera name (NAME) is up to 8 characters of alphanumeric characters and blank.
- Settings cannot be changed when WRITE of Inquiry reply is set to off. WRITE can be set to off by the CGI command with this camera. Improper changes can be prevented by turning WRITE to off after setting the IP address of the camera.