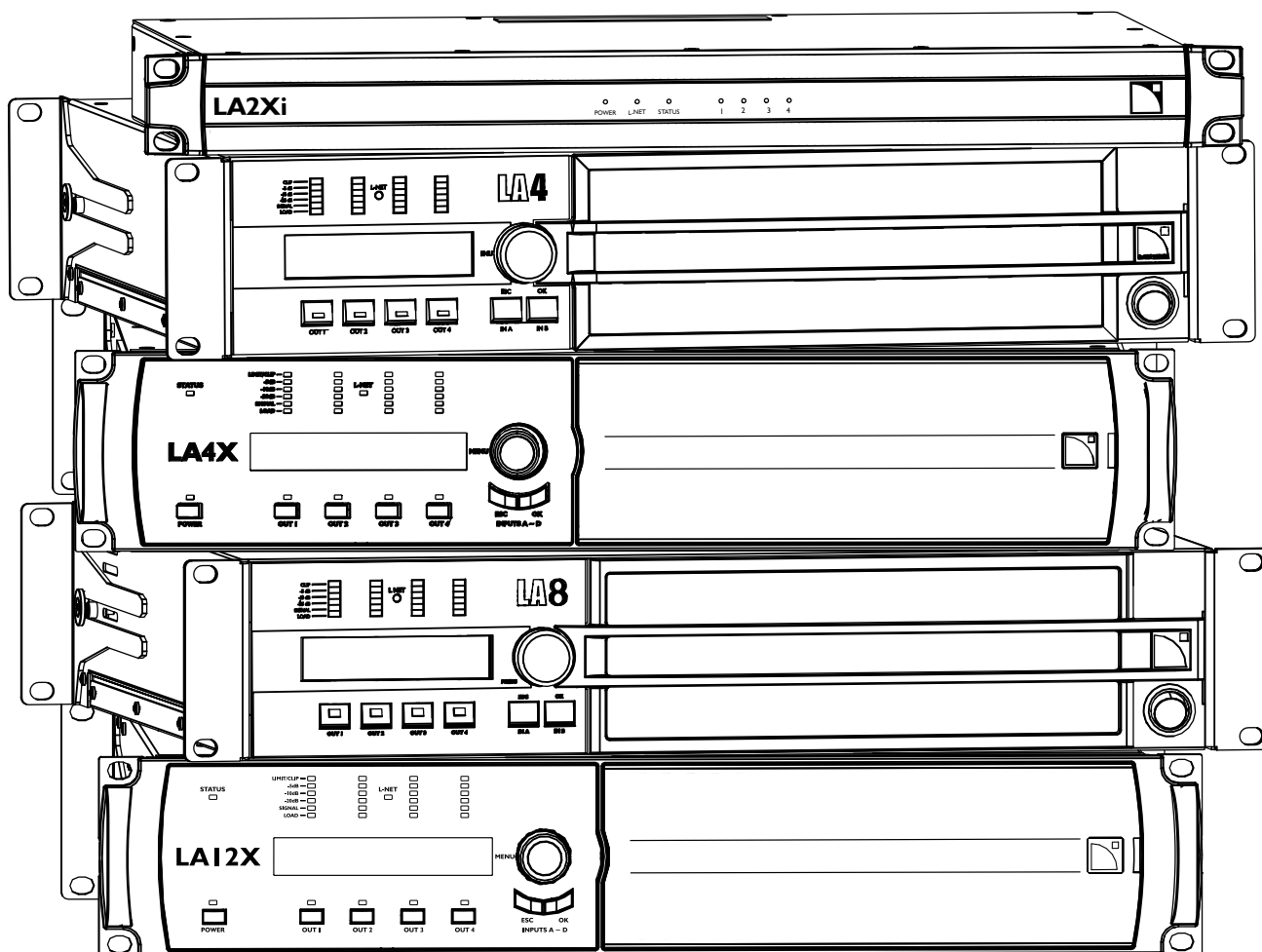


# Preset Guide



owner's manual (EN)



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## Introduction

The L-Acoustics amplified controllers are delivered with onboard firmware and preset library.

Presets of the onboard library can be loaded from the front panel of the amplified controller, or from the LA Network Manager software application, a management tool dedicated to the remote control and monitoring of a network of L-Acoustics amplified controllers.

LA Network Manager must be used for updating firmware on L-Acoustics amplified controllers. An up-to-date preset library is automatically installed with the firmware. Check the L-Acoustics website for the latest version of software, firmware and libraries.



### Operating L-Acoustics amplified controllers

Refer to the LA2Xi, LA4, LA4X, LA8, LA12X, LA-RAK, LA-RAK II, and LA-RAK II AVB owner's manuals.

### Installing LA Network Manager

Download the latest release pack from the L-Acoustics website and refer to the **LA NWM Installation** technical bulletin.

### Updating firmware on an L-Acoustics amplified controller

Refer to the LA Network Manager help, accessible from the Help menu of the software.

This version of the preset guide describes the LA2Xi, LA4, LA4X, LA8 and LA12X preset libraries version 6.8(.3).

## Symbols

The following symbols are used in this document:



This symbol indicates a potential risk of harm to an individual or damage to the product.

It can also notify the user about instructions that must be strictly followed to ensure safe installation or operation of the product.



This symbol notifies the user about instructions that must be strictly followed to ensure proper installation or operation of the product.



This symbol notifies the user about complementary information or optional instructions.



Do not open unless authorized.

This symbol indicates the presence of electrical shock hazards.

It also indicates that no maintenance performed by the end user requires access to internal components.

## Revision history

version number	publication date	modification
1.0	Mar. 2013	Initial version.
4.0	Dec. 2, 2013	<ul style="list-style-type: none"> <li>Added the K2 system.</li> <li>Added LA4X.</li> </ul>
4.0a	Dec. 9, 2013	<ul style="list-style-type: none"> <li>Updated information on K1 and K2 systems.</li> <li>Updated the enclosure drive capacity.</li> <li>Updated information on Kudo.</li> </ul>
4.0b	Feb. 2014	Updated information on K1 and K2 systems.
4.2	Jun. 2014	Updated LA8 enclosure drive capacity.
5.1	Jun. 2015	<ul style="list-style-type: none"> <li>Updated information on the LA4X embedded preset library.</li> <li>Updated information on the default output routing for subwoofers.</li> <li>Updated the LA4 and LA8 enclosure drive capacities.</li> </ul>

<b>version number</b>	<b>publication date</b>	<b>modification</b>
6.0	Oct. 2015	Added the X series.
7.0	Feb. 2016	<ul style="list-style-type: none"> <li>• Added KS28.</li> <li>• Added LA12X.</li> </ul>
7.1	May 2016	
8.0/8.1	Oct. 2016	<ul style="list-style-type: none"> <li>• Added the Kiva II system.</li> <li>• Added information on the adjusted output gain in SB15m presets for improved headroom.</li> </ul>
9.0	Jun. 2017	<ul style="list-style-type: none"> <li>• Added the Syva system.</li> <li>• Clarified information on LA8 enclosure drive capacity.</li> </ul>
9.1	Sep. 2017	Updated information on the Syva system.
10.0	Aug. 2018	<ul style="list-style-type: none"> <li>• Added information on [KARADOWNK2].</li> <li>• Added information on the adjusted output gain in subwoofer presets for improved headroom.</li> </ul>
10.1	Nov. 2018	
11.0	Feb. 2019	Added X4i.
12.0	Jun. 2019	Added the A15 Wide/Focus system.
13.0	Oct. 2019	<ul style="list-style-type: none"> <li>• Added the A15i Wide/Focus system.</li> <li>• Added the A10(i) Wide/Focus systems.</li> <li>• Added information on Cardioid eXtended presets.</li> </ul>
13.1	Dec. 2019	Moved the enclosure drive capacity of LA4 to a separate table.
14.0	Apr. 2020	<ul style="list-style-type: none"> <li>• Added the Kara II system.</li> <li>• Updated information on the default output routing for the X series.</li> </ul>
15.0	Oct. 2020	<ul style="list-style-type: none"> <li>• Added LA2Xi.</li> <li>• Added the K3 system.</li> </ul>
16.0	Mar. 2021	Added the Kara Ili system.
17.0	Jul. 2021	Added the K3i system.
18.0	Feb. 2022	<ul style="list-style-type: none"> <li>• Added pre-alignment delays for X series with subwoofers in cardioid configuration.</li> <li>• Added presets [A10_MO], [A15_MO], [5XT_MO], and [X4_MO].</li> <li>• Added SB10i.</li> <li>• Moved the enclosure drive capacity of LA8 to a separate table.</li> </ul>

# Preset design

## Gain structure

The gains of all L-Acoustics factory presets are calibrated with a reference pink noise signal, representative of most demanding musical programs. The reference input level is **0 dBu** (with analog audio source) or **-22 dBFS** (with digital audio source).

When feeding L-Acoustics amplified controllers at this input level, L-Acoustics loudspeaker enclosures provide the sound engineer with 8 dB of headroom, except for smaller formats calibrated for 4 dB of headroom (MTD108A, X4i, 5XT, X8, 8XT, Kiva, Kilo, and SB10i).

This gain structure helps managing power resources of L-Acoustics systems when using different enclosures of the same format. With default output gain settings (0 dB), all enclosures reach their limits for the same program level. Apply a gain adjustment of -4 dB for smaller format enclosures when used along with bigger format L-Acoustics enclosures.



### Headroom for SB15m

SB15m presets [SB15\_100] and [SB15\_100\_C] have 8 dB of headroom from preset library version 5.6(.5). [SB15\_100\_Cx] has 8 dB of headroom.

4 dB of headroom are provided when using presets from earlier versions and preset [KIVA\_SB15].

### Headroom for K1-SB, KS28, SB28, SB18, SB218 and SB118

To provide 8 dB of headroom, the output gain of some subwoofer presets is adjusted in preset library 6.0 compared to previous versions.

This update aligns the L-DRIVE activity between subwoofers and full range loudspeakers for the same reference pink noise signal.

When updating presets in Session files using older versions of the preset library, adjust gains as follows to keep the same gain chain:

[SB28\_60], [SB218\_60]: + 4 dB

[KS28\_60], [SB\_28\_100], [SB18\_60], [SB18\_100], [SB218\_100], [SB118\_60], [SB118\_100]: + 3 dB

[KS28\_100]: + 2 dB

[K1SB\_60]: + 1 dB

## Electro-acoustic coupling

Each recommended loudspeaker configuration provides a coherent sound source, by implementing a loudspeaker system in a specific deployment pattern and with defined factory presets.

L-Acoustics factory presets ensure the coupling between the different transducer sections, whether it is internal coupling as in active loudspeaker enclosures, or external coupling as when several loudspeaker enclosures are combined.

Users can adjust preset parameters on top of factory settings and for predefined channel sets.

Channel sets have been defined for the presets dedicated to active loudspeaker enclosures and to some specific loudspeaker configurations. A channel set maintains a coherent coupling by linking several output channels for the setting of routing, gain and delay parameters. For example, [LF HF] is a channel set for 2-way loudspeaker enclosure presets, and [SR SB SB SB] is a channel set for cardioid subwoofer presets.

The Preset Guide describes the recommended loudspeaker configurations for each system, with the corresponding factory presets and the main resulting acoustic properties.

When applicable, refer to the user documentation of the related system for the limit between coupled and separated subwoofers.

For some loudspeaker enclosure combinations, it is necessary to adjust the delay values for time-alignment. Refer to section [Pre-alignment delay values](#) (p.72).

## Frequency response contour

For the X Series coaxial loudspeaker enclosures, there are two distinct contours:

- the standard preset, for all applications except stage monitor applications
- the `_MO` preset, dedicated to stage monitor applications

For legacy coaxial loudspeaker enclosures (XT and MTD Series), there are three distinct contours:

- the `_FR` presets, for most of FOH applications
- the `_FI` presets, for spoken word, classical music, jazz, or fill systems
- the `_MO` presets, for half-space loading conditions, typically monitor applications

For the A Series WST loudspeaker enclosures, there are three distinct contours:

- the main preset, ensuring a reference FOH contour to the line source with usual deployment parameters
- the `_FI` preset, dedicated to loudspeaker enclosures used as a fill system
- the `_MO` preset, dedicated to stage monitor applications

For other current WST systems, there are one or two distinct contours:

- the main preset, ensuring a reference FOH contour to the line source with usual deployment parameters
- the `_FI` preset, dedicated to loudspeaker enclosures used as a fill system (for some systems only)

The oldest WST systems inherit from a legacy preset structure (`_HI` and `_LO` presets).

If necessary, users can adjust the sonic signature of L-Acoustics systems through the Contour EQ tools in LA Network Manager.

The Array Morphing tool provides two parameters, zoom factor and LF contour, that allow users to adjust the response of a WST system. At any reference listening distance and with any line source length, the engineer can obtain the sonic signature of a bigger, smaller, closer or further system, and can unify the sonic signature of multiple sources. Refer to the LA Network Manager Help and Array Morphing white paper for detailed information.



## Onboard preset libraries

Each onboard preset library includes the L-Acoustics loudspeaker enclosures of which power requirements match the delivering capability of the corresponding amplified controller.

### amplified controllers maximum output power

Type	16 $\Omega$ load	8 $\Omega$ load	4 $\Omega$ load	2.7 $\Omega$ load
<b>LA12X</b>	—	4 x 1400 W	4 x 2600 W	4 x 3300 W
<b>LA8</b>	—	4 x 1100 W	4 x 1800 W	
<b>LA4X</b>	—	4 x 1000 W		—
<b>LA4</b>	—	4 x 800 W	4 x 1000 W	—
<b>LA2Xi</b>	4 x 190 W	4 x 360 W	4 x 640 W	—
	—	2 x 1260 W	—	
	—	—	1 x 2550 W	

CEA-2006/490A 1 kHz test method, all channels driven.

### LA2Xi preset library

The LA2Xi onboard preset library is stored in the factory memory locations 011 to 073 of the controller (the memory locations 001 to 010 are dedicated to the storage of presets modified by the user). Each preset family is described in the tables below, including the presets memory location number, name, and description.

#### LA2Xi Preset Library 6.8

##### KARA\_II

011	[KARA II 70]	Kara II, full range, 70° adjustable fins settings
012	[KARA II 90]	Kara II, full range, 90° adjustable fins settings
013	[KARA II 110]	Kara II, full range, 110° adjustable fins settings
014	[KARA II_FI]	Kara II, HPF=100 Hz, fill
015	[KARAIIIDOWNK3]	Kara II, optimized delay for K3 downfill

##### KARA

016	[KARA]	Kara, full range, FOH
017	[KARA_FI]	Kara, HPF=100 Hz, fill
018	[KARADOWNK3]	Kara, HPF=100 Hz, optimized delay for K3 downfill

##### KIVA\_II

019	[KIVA II]	Kiva II, full range, FOH
020	[KIVA II_FI]	Kiva II, full range, fill

##### A15

021	[A15]	A15 Wide or A15 Focus, full range
022	[A15_FI]	A15 Wide or A15 Focus, full range, fill
023	[A15_MO]	A15 Wide or A15 Focus, full range, monitor, low latency

**A10**

024	[A10]	A10 Wide or A10 Focus, full range
025	[A10_FI]	A10 Wide or A10 Focus, full range, fill
026	[A10_MO]	A10 Wide or A10 Focus, full range, monitor, low latency

**ARCS\_WF**

027	[ARCS_WIFO]	ARCS Wide or ARCS Focus, full range, FOH
028	[ARCS_WIFO_FI]	ARCS Wide or ARCS Focus, full range, fill

**KS28**

029	[KS28_60]	KS28, LPF=60 Hz
030	[KS28_100]	KS28, LPF=100 Hz
031	[KS28_60_C]	KS28, LPF=60 Hz, cardioid pattern
032	[KS28_100_C]	KS28, LPF=100 Hz, cardioid pattern
033	[KS28_60_Cx]	KS28, LPF=60 Hz, extended cardioid pattern
034	[KS28_100_Cx]	KS28, LPF=100 Hz, extended cardioid pattern

**SB28**

035	[SB28_60]	SB28, LPF=60 Hz
036	[SB28_100]	SB28, LPF=100 Hz
037	[SB28_60_C]	SB28, LPF=60 Hz, cardioid pattern
038	[SB28_100_C]	SB28, LPF=100 Hz, cardioid pattern
039	[SB28_60_Cx]	SB28, LPF=60 Hz, extended cardioid pattern
040	[SB28_100_Cx]	SB28, LPF=100 Hz, extended cardioid pattern

**KS21**

041	[KS21_60]	KS21, LPF=60 Hz
042	[KS21_100]	KS21, LPF=100 Hz
043	[KS21_60_C]	KS21, LPF=60 Hz, cardioid pattern
044	[KS21_100_C]	KS21, LPF=100 Hz, cardioid pattern
045	[KS21_60_Cx]	KS21, LPF=60 Hz, extended cardioid pattern
046	[KS21_100_Cx]	KS21, LPF=100 Hz, extended cardioid pattern

**SB18**

047	[SB18_60]	SB18, LPF=60 Hz
048	[SB18_100]	SB18, LPF=100 Hz
049	[SB18_60_C]	SB18, LPF=60 Hz, cardioid pattern
050	[SB18_100_C]	SB18, LPF=100 Hz, cardioid pattern
051	[SB18_60_Cx]	SB18, LPF=60 Hz, extended cardioid pattern
052	[SB18_100_Cx]	SB18, LPF=100 Hz, extended cardioid pattern

**SB15**

053	[SB15_100]	SB15m, LPF=100 Hz
054	[SB15_100_C]	SB15m, LPF=100 Hz, cardioid pattern
055	[SB15_100_Cx]	SB15m, LPF=100 Hz, extended cardioid pattern

**SB10**

056	[SB10_100]	SB10i, LPF=100 Hz
057	[SB10_200]	SB10i, LPF=200 Hz

**SYVA**

058	[SYVA]	Syva, full range
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**SYVA\_LOW**

059	[SYVA_LOW_100]	Syva Low (separated), LPF=100 Hz
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**SYVA+LOW**

060	[SYVA_LOW SYVA]	Syva & Syva Low (coupled)
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**SYVA\_SUB**

061	[SYVA_SUB_100]	Syva Sub, LPF=100 Hz
062	[SYVA_SUB_200]	Syva Sub, LPF=200 Hz, optimized for [X4] preset

**X15HiQ**

063	[X15]	X15 HiQ, full range
064	[X15_MO]	X15 HiQ, full range, monitor, low latency

**X12**

065	[X12]	X12, full range
066	[X12_MO]	X12, full range, monitor, low latency

**X8**

067	[X8]	X8, full range
068	[X8_MO]	X8, full range, monitor, low latency

**5XT**

069	[5XT]	5XT, full range
070	[5XT_MO]	5XT, full range, monitor, low latency

**X4**

071	[X4]	X4i, full range
072	[X4_MO]	X4i, full range, monitor, low latency

**FLAT**

073	[FLAT_LA2X]	Flat EQ, protection minimizing clipping risks
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## LA4 preset library

The LA4 onboard preset library is stored in the factory memory locations 011 to 096 of the controller (the memory locations 001 to 010 are dedicated to the storage of presets modified by the user). Each preset family is described in the tables below, including the presets memory location number, name, and description.

### LA4 Preset Library 6.8

#### KIVA

011	[KIVA]	Kiva, full range, FOH
012	[KIVA_FI]	Kiva, full range, fill

#### SB15KIVA

013	[KIVA_SB15]	Kiva & SB15m, X-OVER=100 Hz, full range, FOH
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#### KILOKIVA

014	[KIVA_KILO]	Kiva & Kilo, full range, X-OVER=100 Hz, FOH
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#### ARCS

015	[ARCS_LO]	ARCS, full range, LO contour
016	[ARCS_LO_60]	ARCS, HPF=60 Hz, LO contour
017	[ARCS_LO_100]	ARCS, HPF=100 Hz, LO contour
018	[ARCS_HI]	ARCS, full range, HI contour
019	[ARCS_HI_60]	ARCS, HPF=60 Hz, HI contour
020	[ARCS_HI_100]	ARCS, HPF=100 Hz, HI contour

#### ARCS\_WF

021	[ARCS_WIFO]	ARCS Wide or ARCS Focus, full range, FOH
022	[ARCS_WIFO_FI]	ARCS Wide or ARCS Focus, full range, fill

#### SB18

023	[SB18_60]	SB18, LPF=60 Hz
024	[SB18_100]	SB18, LPF=100 Hz
025	[SB18_60_C]	SB18, LPF=60 Hz, cardioid pattern
026	[SB18_100_C]	SB18, LPF=100 Hz, cardioid pattern
027	[SB18_60_Cx]	SB18, LPF=60 Hz, extended cardioid pattern
028	[SB18_100_Cx]	SB18, LPF=100 Hz, extended cardioid pattern

#### SB118

029	[SB118_60]	SB118, LPF=60 Hz
030	[SB118_100]	SB118, LPF=100 Hz
031	[SB118_60_C]	SB118, LPF=60 Hz, cardioid pattern
032	[SB118_100_C]	SB118, LPF=100 Hz, cardioid pattern

**SB15**

033	[SB15_100]	SB15m, LPF=100 Hz
034	[SB15_100_C]	SB15m, LPF=100 Hz, cardioid pattern
035	[SB15_100_Cx]	SB15m, LPF=100 Hz, extended cardioid pattern

**KILO**

036	[KILO]	Kilo, LPF=100 Hz
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**SYVA\_SUB**

037	[SYVA SUB_200]	Syva Sub, LPF=200 Hz, optimized for [X4] preset
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**12XTA**

038	[12XTA_FI]	12XT active, full range, fill
039	[12XTA_FI_100]	12XT active, HPF=100 Hz, fill
040	[12XTA_FR]	12XT active, full range, FOH
041	[12XTA_FR_100]	12XT active, HPF=100 Hz, FOH
042	[12XTA_MO]	12XT active, full range, monitor
043	[12XTA_MO_100]	12XT active, HPF=100 Hz, monitor

**12XTP**

044	[12XTP_FI]	12XT passive, full range, fill
045	[12XTP_FI_100]	12XT passive, HPF=100 Hz, fill
046	[12XTP_FR]	12XT passive, full range, FOH
047	[12XTP_FR_100]	12XT passive, HPF=100 Hz, FOH
048	[12XTP_MO]	12XT passive, full range, monitor
049	[12XTP_MO_100]	12XT passive, HPF=100 Hz, monitor

**8XT**

050	[8XT_FI]	8XT, full range, fill
051	[8XT_FI_100]	8XT, HPF=100 Hz, fill
052	[8XT_FR]	8XT, full range, FOH
053	[8XT_FR_100]	8XT, HPF=100 Hz, FOH
054	[8XT_MO]	8XT, full range, monitor
055	[8XT_MO_100]	8XT, HPF=100 Hz, monitor

**5XT**

056	[5XT]	5XT, full range
057	[5XT_MO]	5XT, full range, monitor, low latency

**X4**

058	[X4]	X4i, full range
059	[X4_MO]	X4i, full range, monitor, low latency

**115XT**

060	[115XT_FI]	115XT, full range, fill
061	[115XT_FI_100]	115XT, HPF=100 Hz, fill
062	[115XT_FR]	115XT, full range, FOH
063	[115XT_FR_100]	115XT, HPF=100 Hz, FOH
064	[115XT_MO]	115XT, full range, monitor
065	[115XT_MO_100]	115XT, HPF=100 Hz, monitor

**MTD115bA**

066	[115bA_FI]	MTD115b active, full range, fill
067	[115bA_FI_100]	MTD115b active, HPF=100 Hz, fill
068	[115bA_FR]	MTD115b active, full range, FOH
069	[115bA_FR_100]	MTD115b active, HPF=100 Hz, FOH
070	[115bA_MO]	MTD115b active, full range, monitor
071	[115bA_MO_100]	MTD115b active, HPF=100 Hz, monitor

**MTD115bP**

072	[115bP_FI]	MTD115b passive, full range, fill
073	[115bP_FI_100]	MTD115b passive, HPF=100 Hz, fill
074	[115bP_FR]	MTD115b passive, full range, FOH
075	[115bP_FR_100]	MTD115b passive, HPF=100 Hz, FOH
076	[115bP_MO]	MTD115b passive, full range, monitor
077	[115bP_MO_100]	MTD115b passive, HPF=100 Hz, monitor

**112XT**

078	[112XT_FI]	112XT, full range, fill
079	[112XT_FI_100]	112XT, HPF=100 Hz, fill
080	[112XT_FR]	112XT, full range, FOH
081	[112XT_FR_100]	112XT, HPF=100 Hz, FOH
082	[112XT_MO]	112XT, full range, monitor
083	[112XT_MO_100]	112XT, HPF=100 Hz, monitor

**MTD112b**

084	[112b_FI]	MTD112b, full range, fill
085	[112b_FI_100]	MTD112b, HPF=100 Hz, fill
086	[112b_FR]	MTD112b, full range, FOH
087	[112b_FR_100]	MTD112b, HPF=100 Hz, FOH
088	[112b_MO]	MTD112b, full range, monitor
089	[112b_MO_100]	MTD112b, HPF=100 Hz, monitor

**MTD108a**

090	[108a_FI]	MTD108a, full range, fill
091	[108a_FI_100]	MTD108a, HPF=100 Hz, fill
092	[108a_FR]	MTD108a, full range, FOH
093	[108a_FR_100]	MTD108a, HPF=100 Hz, FOH
094	[108a_MO]	MTD108a, full range, monitor
095	[108a_MO_100]	MTD108a, HPF=100 Hz, monitor

**FLAT**

096	[FLAT_LA4]	Flat EQ, protection minimizing clipping risks
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## LA4X preset library

The LA4X onboard preset library is stored in the factory memory locations 011 to 110 of the controller (the memory locations 001 to 010 are dedicated to the storage of presets modified by the user). Each preset family is described in the tables below, including the presets memory location number, name, and description.

### LA4X Preset Library 6.8

#### K2

011	[K2 70]	K2, full range, 70° adjustable fins settings
012	[K2 90]	K2, full range, 90° adjustable fins settings
013	[K2 110]	K2, full range, 110° adjustable fins settings

#### K3

014	[K3 70]	K3, full range, 70° adjustable fins settings
015	[K3 90]	K3, full range, 90° adjustable fins settings
016	[K3 110]	K3, full range, 110° adjustable fins settings

#### KUDO

017	[KUDO50_25]	Kudo, HPF=25 Hz, 50° K-Louver settings
018	[KUDO50_40]	Kudo, HPF=40 Hz, 50° K-Louver settings
019	[KUDO50_60]	Kudo, HPF=60 Hz, 50° K-Louver settings
020	[KUDO80_25]	Kudo, HPF=25 Hz, 80° K-Louver settings
021	[KUDO80_40]	Kudo, HPF=40 Hz, 80° K-Louver settings
022	[KUDO80_60]	Kudo, HPF=60 Hz, 80° K-Louver settings
023	[KUDO110_25]	Kudo, HPF=25 Hz, 110° K-Louver settings
024	[KUDO110_40]	Kudo, HPF=40 Hz, 110° K-Louver settings
025	[KUDO110_60]	Kudo, HPF=60 Hz, 110° K-Louver settings

#### KARA\_II

026	[KARA II 70]	Kara II, full range, 70° adjustable fins settings
027	[KARA II 90]	Kara II, full range, 90° adjustable fins settings
028	[KARA II 110]	Kara II, full range, 110° adjustable fins settings
029	[KARA II_FI]	Kara II, HPF=100 Hz, fill
030	[KARAII_DOWNNK1]	Kara II, optimized delay for K1 downfill
031	[KARAII_DOWNNK2]	Kara II, optimized delay for K2 downfill
032	[KARAII_DOWNNK3]	Kara II, optimized delay for K3 downfill

**KARA**

033	[KARA]	Kara, full range, FOH
034	[KARA_FI]	Kara, HPF=100 Hz, fill
035	[KARADOWNK1]	Kara, HPF=100 Hz, optimized delay for K1 downfill
036	[KARADOWNK2]	Kara, HPF=100 Hz, optimized delay for K2 downfill
037	[KARADOWNK3]	Kara, HPF=100 Hz, optimized delay for K3 downfill

**KIVA\_II**

038	[KIVA_II]	Kiva II, full range, FOH
039	[KIVA_II_FI]	Kiva II, full range, fill

**KIVA**

040	[KIVA]	Kiva, full range, FOH
041	[KIVA_FI]	Kiva, full range, fill

**SB15KIVA**

042	[KIVA_SB15]	Kiva & SB15m, X-OVER=100 Hz, full range, FOH
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**KILOKIVA**

043	[KIVA_KILO]	Kiva & Kilo, full range, X-OVER=100 Hz, FOH
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**ARCS\_II**

044	[ARCS_II]	ARCS II, full range
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**A15**

045	[A15]	A15 Wide or A15 Focus, full range
046	[A15_FI]	A15 Wide or A15 Focus, full range, fill
047	[A15_MO]	A15 Wide or A15 Focus, full range, monitor, low latency

**A10**

048	[A10]	A10 Wide or A10 Focus, full range
049	[A10_FI]	A10 Wide or A10 Focus, full range, fill
050	[A10_MO]	A10 Wide or A10 Focus, full range, monitor, low latency

**ARCS\_WF**

051	[ARCS_WIFO]	ARCS Wide or ARCS Focus, full range, FOH
052	[ARCS_WIFO_FI]	ARCS Wide or ARCS Focus, full range, fill

**KS21**

053	[KS21_60]	KS21, LPF=60 Hz
054	[KS21_100]	KS21, LPF=100 Hz
055	[KS21_60_C]	KS21, LPF=60 Hz, cardioid pattern
056	[KS21_100_C]	KS21, LPF=100 Hz, cardioid pattern
057	[KS21_60_Cx]	KS21, LPF=60 Hz, extended cardioid pattern
058	[KS21_100_Cx]	KS21, LPF=100 Hz, extended cardioid pattern

**SB18**

059	[SB18_60]	SB18, LPF=60 Hz
060	[SB18_100]	SB18, LPF=100 Hz
061	[SB18_60_C]	SB18, LPF=60 Hz, cardioid pattern
062	[SB18_100_C]	SB18, LPF=100 Hz, cardioid pattern
063	[SB18_60_Cx]	SB18, LPF=60 Hz, extended cardioid pattern
064	[SB18_100_Cx]	SB18, LPF=100 Hz, extended cardioid pattern

**SB15**

065	[SB15_100]	SB15m, LPF=100 Hz
066	[SB15_100_C]	SB15m, LPF=100 Hz, cardioid pattern
067	[SB15_100_Cx]	SB15m, LPF=100 Hz, extended cardioid pattern

**SB10**

068	[SB10_100]	SB10i, LPF=100 Hz
069	[SB10_200]	SB10i, LPF=200 Hz

**KILO**

070	[KILO]	Kilo, LPF=100 Hz
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**SYVA**

071	[SYVA]	Syva, full range
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**SYVA\_LOW**

072	[SYVA_LOW_100]	Syva Low (separated), LPF=100 Hz
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**SYVA+LOW**

073	[SYVA_LOW SYVA]	Syva & Syva Low (coupled)
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**SYVA\_SUB**

074	[SYVA_SUB_100]	Syva Sub, LPF=100 Hz
075	[SYVA_SUB_200]	Syva Sub, LPF=200 Hz, optimized for [X4] preset

**X15HiQ**

076	[X15]	X15 HiQ, full range
077	[X15_MO]	X15 HiQ, full range, monitor, low latency

**X12**

078	[X12]	X12, full range
079	[X12_MO]	X12, full range, monitor, low latency

**X8**

080	[X8]	X8, full range
081	[X8_MO]	X8, full range, monitor, low latency

**115XTHiQ**

082	[HiQ_FI]	115XT HiQ, full range, fill
083	[HiQ_FI_100]	115XT HiQ, HPF=100 Hz, fill
084	[HiQ_FR]	115XT HiQ, full range, FOH
085	[HiQ_FR_100]	115XT HiQ, HPF=100 Hz, FOH
086	[HiQ_MO]	115XT HiQ, full range, monitor
087	[HiQ_MO_100]	115XT HiQ, HPF=100 Hz, monitor

**12XTA**

088	[12XTA_FI]	12XT active, full range, fill
089	[12XTA_FI_100]	12XT active, HPF=100 Hz, fill
090	[12XTA_FR]	12XT active, full range, FOH
091	[12XTA_FR_100]	12XT active, HPF=100 Hz, FOH
092	[12XTA_MO]	12XT active, full range, monitor
093	[12XTA_MO_100]	12XT active, HPF=100 Hz, monitor

**12XTP**

094	[12XTP_FI]	12XT passive, full range, fill
095	[12XTP_FI_100]	12XT passive, HPF=100 Hz, fill
096	[12XTP_FR]	12XT passive, full range, FOH
097	[12XTP_FR_100]	12XT passive, HPF=100 Hz, FOH
098	[12XTP_MO]	12XT passive, full range, monitor
099	[12XTP_MO_100]	12XT passive, HPF=100 Hz, monitor

**8XT**

100	[8XT_FI]	8XT, full range, fill
101	[8XT_FI_100]	8XT, HPF=100 Hz, fill
102	[8XT_FR]	8XT, full range, FOH
103	[8XT_FR_100]	8XT, HPF=100 Hz, FOH
104	[8XT_MO]	8XT, full range, monitor
105	[8XT_MO_100]	8XT, HPF=100 Hz, monitor

**5XT**

106	[5XT]	5XT, full range
107	[5XT_MO]	5XT, full range, monitor, low latency

**X4**

108	[X4]	X4i, full range
109	[X4_MO]	X4i, full range, monitor, low latency

**FLAT**

110	[FLAT_LA4X]	Flat EQ, protection minimizing clipping risks
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## LA8 preset library

The LA8 onboard preset library is stored in the factory memory locations 011 to 188 of the controller (the memory locations 001 to 010 are dedicated to the storage of presets modified by the user). Each preset family is described in the tables below, including the presets memory location number, name, and description.

### LA8 Preset Library 6.8

#### K1

011	[K1]	K1, full range
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#### K2

012	[K2 70]	K2, full range, 70° adjustable fins settings
013	[K2 90]	K2, full range, 90° adjustable fins settings
014	[K2 110]	K2, full range, 110° adjustable fins settings

#### K3

015	[K3 70]	K3, full range, 70° adjustable fins settings
016	[K3 90]	K3, full range, 90° adjustable fins settings
017	[K3 110]	K3, full range, 110° adjustable fins settings

#### K1-SB

018	[K1SB_60]	K1-SB, LPF=60 Hz, optimized for CONTOUR configuration
019	[K1SB_X]	K1-SB, LPF=200 Hz, optimized for THROW configuration with K1
020	[K1SB_X K2]	K1-SB, LPF=200 Hz, optimized for THROW configuration with K2

#### V-DOSC

021	[V-DOSC_LO]	V-DOSC, full range, LO contour
022	[V-DOSC_LO_60]	V-DOSC, HPF=60 Hz, LO contour
023	[V-DOSC_LO_X]	V-DOSC, full range, LO contour, optimized for [SB218_X] & [dV-S_X] presets
024	[V-DOSC_HI]	V-DOSC, full range, HI contour
025	[V-DOSC_HI_60]	V-DOSC, HPF=60 Hz, HI contour
026	[V-DOSC_HI_X]	V-DOSC, full range, HI contour, optimized for [SB218_X] & [dV-S_X] presets

#### KUDO

027	[KUDO50_25]	Kudo, HPF=25 Hz, 50° K-Louver settings
028	[KUDO50_40]	Kudo, HPF=40 Hz, 50° K-Louver settings
029	[KUDO50_60]	Kudo, HPF=60 Hz, 50° K-Louver settings
030	[KUDO80_25]	Kudo, HPF=25 Hz, 80° K-Louver settings
031	[KUDO80_40]	Kudo, HPF=40 Hz, 80° K-Louver settings
032	[KUDO80_60]	Kudo, HPF=60 Hz, 80° K-Louver settings
033	[KUDO110_25]	Kudo, HPF=25 Hz, 110° K-Louver settings
034	[KUDO110_40]	Kudo, HPF=40 Hz, 110° K-Louver settings
035	[KUDO110_60]	Kudo, HPF=60 Hz, 110° K-Louver settings

**KARA\_II**

036	[KARA II 70]	Kara II, full range, 70° adjustable fins settings
037	[KARA II 90]	Kara II, full range, 90° adjustable fins settings
038	[KARA II 110]	Kara II, full range, 110° adjustable fins settings
039	[KARA II_FI]	Kara II, HPF=100 Hz, fill
040	[KARAIIIDOWNK1]	Kara II, optimized delay for K1 downfill
041	[KARAIIIDOWNK2]	Kara II, optimized delay for K2 downfill
042	[KARAIIIDOWNK3]	Kara II, optimized delay for K3 downfill

**KARA**

043	[KARA]	Kara, full range, FOH
044	[KARA_FI]	Kara, HPF=100 Hz, fill
045	[KARADOWNK1]	Kara, HPF=100 Hz, optimized delay for K1 downfill
046	[KARADOWNK2]	Kara, HPF=100 Hz, optimized delay for K2 downfill
047	[KARADOWNK3]	Kara, HPF=100 Hz, optimized delay for K3 downfill

**dV-DOSC**

048	[dV_FI]	dV-DOSC, HPF=100 Hz, fill
049	[dV_LO]	dV-DOSC, full range, LO contour
050	[dV_LO_100]	dV-DOSC, HPF=100 Hz, LO contour
051	[dV_HI]	dV-DOSC, full range, HI contour
052	[dV_HI_100]	dV-DOSC, HPF=100 Hz, HI contour

**dV-D\_dVS**

053	[dV_dV-S_LO]	dV-DOSC & dV-SUB, X-OVER=100 Hz, LO contour
054	[dV_dV-S_HI]	dV-DOSC & dV-SUB, X-OVER=100 Hz, HI contour
055	[dV_dV-S_LO60]	dV-DOSC & dV-SUB, HPF=60 Hz, X-OVER=100 Hz, LO contour
056	[dV_dV-S_HI60]	dV-DOSC & dV-SUB, HPF=60 Hz, X-OVER=100 Hz, HI contour

**dV-SUB**

057	[dV-S_60_100]	dV-SUB, HPF=60 Hz, LPF=100 Hz
058	[dV-S_100]	dV-SUB, LPF=100 Hz
059	[dV-S_60_X]	dV-SUB, HPF=60 Hz, LPF=200 Hz, optimized for [V-DOSC_xx_60] presets
060	[dV-S_X]	dV-SUB, LPF=200 Hz, optimized for [V-DOSC_xx_X] presets

**ARCS\_II**

061	[ARCS II]	ARCS II, full range
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**ARCS**

062	[ARCS_LO]	ARCS, full range, LO contour
063	[ARCS_LO_60]	ARCS, HPF=60 Hz, LO contour
064	[ARCS_LO_100]	ARCS, HPF=100 Hz, LO contour
065	[ARCS_HI]	ARCS, full range, HI contour
066	[ARCS_HI_60]	ARCS, HPF=60 Hz, HI contour
067	[ARCS_HI_100]	ARCS, HPF=100 Hz, HI contour

**A15**

068	[A15]	A15 Wide or A15 Focus, full range
069	[A15_FI]	A15 Wide or A15 Focus, full range, fill
070	[A15_MO]	A15 Wide or A15 Focus, full range, monitor, low latency

**A10**

071	[A10]	A10 Wide or A10 Focus, full range
072	[A10_FI]	A10 Wide or A10 Focus, full range, fill
073	[A10_MO]	A10 Wide or A10 Focus, full range, monitor, low latency

**ARCS\_WF**

074	[ARCS_WIFO]	ARCS Wide or ARCS Focus, full range, FOH
075	[ARCS_WIFO_FI]	ARCS Wide or ARCS Focus, full range, fill

**SB28**

076	[SB28_60]	SB28, LPF=60 Hz
077	[SB28_100]	SB28, LPF=100 Hz
078	[SB28_60_C]	SB28, LPF=60 Hz, cardioid pattern
079	[SB28_100_C]	SB28, LPF=100 Hz, cardioid pattern
080	[SB28_60_Cx]	SB28, LPF=60 Hz, extended cardioid pattern
081	[SB28_100_Cx]	SB28, LPF=100 Hz, extended cardioid pattern

**KS21**

082	[KS21_60]	KS21, LPF=60 Hz
083	[KS21_100]	KS21, LPF=100 Hz
084	[KS21_60_C]	KS21, LPF=60 Hz, cardioid pattern
085	[KS21_100_C]	KS21, LPF=100 Hz, cardioid pattern
086	[KS21_60_Cx]	KS21, LPF=60 Hz, extended cardioid pattern
087	[KS21_100_Cx]	KS21, LPF=100 Hz, extended cardioid pattern



**SB218**

088	[SB218_60]	SB218, LPF=60 Hz
089	[SB218_100]	SB218, LPF=100 Hz
090	[SB218_X]	SB218, LPF=200 Hz, optimized for [V-DOSC_xx_X] presets

**SB18**

091	[SB18_60]	SB18, LPF=60 Hz
092	[SB18_100]	SB18, LPF=100 Hz
093	[SB18_60_C]	SB18, LPF=60 Hz, cardioid pattern
094	[SB18_100_C]	SB18, LPF=100 Hz, cardioid pattern
095	[SB18_60_Cx]	SB18, LPF=60 Hz, extended cardioid pattern
096	[SB18_100_Cx]	SB18, LPF=100 Hz, extended cardioid pattern

**SB118**

097	[SB118_60]	SB118, LPF=60 Hz
098	[SB118_100]	SB118, LPF=100 Hz
099	[SB118_60_C]	SB118, LPF=60 Hz, cardioid pattern
100	[SB118_100_C]	SB118, LPF=100 Hz, cardioid pattern

**SB15**

101	[SB15_100]	SB15m, LPF=100 Hz
102	[SB15_100_C]	SB15m, LPF=100 Hz, cardioid pattern
103	[SB15_100_Cx]	SB15m, LPF=100 Hz, extended cardioid pattern

**SB10**

104	[SB10_100]	SB10i, LPF=100 Hz
105	[SB10_200]	SB10i, LPF=200 Hz

**KILO**

106	[KILO]	Kilo, LPF=100 Hz
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**KIVA\_II**

107	[KIVA II]	Kiva II, full range, FOH
108	[KIVA II_FI]	Kiva II, full range, fill

**KIVA**

109	[KIVA]	Kiva, full range, FOH
110	[KIVA_FI]	Kiva, full range, fill

**SB15KIVA**

111	[KIVA_SB15]	Kiva & SB15m, X-OVER=100 Hz, full range, FOH
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**KILOKIVA**

112	[KIVA_KILO]	Kiva & Kilo, full range, X-OVER=100 Hz, FOH
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**SYVA**

113	[SYVA]	Syva, full range
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**SYVA\_LOW**

114	[SYVA_LOW_100]	Syva Low (separated), LPF=100 Hz
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**SYVA+LOW**

115	[SYVA_LOW_SYVA]	Syva & Syva Low (coupled)
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**SYVA\_SUB**

116	[SYVA_SUB_100]	Syva Sub, LPF=100 Hz
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117	[SYVA_SUB_200]	Syva Sub, LPF=200 Hz, optimized for [X4] preset
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**X15HiQ**

118	[X15]	X15 HiQ, full range
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119	[X15_MO]	X15 HiQ, full range, monitor, low latency
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**X12**

120	[X12]	X12, full range
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121	[X12_MO]	X12, full range, monitor, low latency
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**X8**

122	[X8]	X8, full range
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123	[X8_MO]	X8, full range, monitor, low latency
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**115XTHiQ**

124	[HiQ_FI]	115XT HiQ, full range, fill
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125	[HiQ_FI_100]	115XT HiQ, HPF=100 Hz, fill
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126	[HiQ_FR]	115XT HiQ, full range, FOH
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127	[HiQ_FR_100]	115XT HiQ, HPF=100 Hz, FOH
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128	[HiQ_MO]	115XT HiQ, full range, monitor
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129	[HiQ_MO_100]	115XT HiQ, HPF=100 Hz, monitor
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**12XTA**

130	[12XTA_FI]	12XT active, full range, fill
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131	[12XTA_FI_100]	12XT active, HPF=100 Hz, fill
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132	[12XTA_FR]	12XT active, full range, FOH
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133	[12XTA_FR_100]	12XT active, HPF=100 Hz, FOH
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134	[12XTA_MO]	12XT active, full range, monitor
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135	[12XTA_MO_100]	12XT active, HPF=100 Hz, monitor
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**12XTP**

136	[12XTP_FI]	12XT passive, full range, fill
137	[12XTP_FI_100]	12XT passive, HPF=100 Hz, fill
138	[12XTP_FR]	12XT passive, full range, FOH
139	[12XTP_FR_100]	12XT passive, HPF=100 Hz, FOH
140	[12XTP_MO]	12XT passive, full range, monitor
141	[12XTP_MO_100]	12XT passive, HPF=100 Hz, monitor

**8XT**

142	[8XT_FI]	8XT, full range, fill
143	[8XT_FI_100]	8XT, HPF=100 Hz, fill
144	[8XT_FR]	8XT, full range, FOH
145	[8XT_FR_100]	8XT, HPF=100 Hz, FOH
146	[8XT_MO]	8XT, full range, monitor
147	[8XT_MO_100]	8XT, HPF=100 Hz, monitor

**5XT**

148	[5XT]	5XT, full range
149	[5XT_MO]	5XT, full range, monitor, low latency

**X4**

150	[X4]	X4i, full range
151	[X4_MO]	X4i, full range, monitor, low latency

**115XT**

152	[115XT_FI]	115XT, full range, fill
153	[115XT_FI_100]	115XT, HPF=100 Hz, fill
154	[115XT_FR]	115XT, full range, FOH
155	[115XT_FR_100]	115XT, HPF=100 Hz, FOH
156	[115XT_MO]	115XT, full range, monitor
157	[115XT_MO_100]	115XT, HPF=100 Hz, monitor

**MTD115bA**

158	[115bA_FI]	MTD115b active, full range, fill
159	[115bA_FI_100]	MTD115b active, HPF=100 Hz, fill
160	[115bA_FR]	MTD115b active, full range, FOH
161	[115bA_FR_100]	MTD115b active, HPF=100 Hz, FOH
162	[115bA_MO]	MTD115b active, full range, monitor
163	[115bA_MO_100]	MTD115b active, HPF=100 Hz, monitor

**MTD115bP**

164	[115bP_FI]	MTD115b passive, full range, fill
165	[115bP_FI_100]	MTD115b passive, HPF=100 Hz, fill
166	[115bP_FR]	MTD115b passive, full range, FOH
167	[115bP_FR_100]	MTD115b passive, HPF=100 Hz, FOH
168	[115bP_MO]	MTD115b passive, full range, monitor
169	[115bP_MO_100]	MTD115b passive, HPF=100 Hz, monitor

**112XT**

170	[112XT_FI]	112XT, full range, fill
171	[112XT_FI_100]	112XT, HPF=100 Hz, fill
172	[112XT_FR]	112XT, full range, FOH
173	[112XT_FR_100]	112XT, HPF=100 Hz, FOH
174	[112XT_MO]	112XT, full range, monitor
175	[112XT_MO_100]	112XT, HPF=100 Hz, monitor

**MTD112b**

176	[112b_FI]	MTD112b, full range, fill
177	[112b_FI_100]	MTD112b, HPF=100 Hz, fill
178	[112b_FR]	MTD112b, full range, FOH
179	[112b_FR_100]	MTD112b, HPF=100 Hz, FOH
180	[112b_MO]	MTD112b, full range, monitor
181	[112b_MO_100]	MTD112b, HPF=100 Hz, monitor

**MTD108a**

182	[108a_FI]	MTD108a, full range, fill
183	[108a_FI_100]	MTD108a, HPF=100 Hz, fill
184	[108a_FR]	MTD108a, full range, FOH
185	[108a_FR_100]	MTD108a, HPF=100 Hz, FOH
186	[108a_MO]	MTD108a, full range, monitor
187	[108a_MO_100]	MTD108a, HPF=100 Hz, monitor

**FLAT**

188	[FLAT_LA8]	Flat EQ, protection minimizing clipping risks
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## LA12X preset library

The LA12X onboard preset library is stored in the factory memory locations 011 to 115 of the controller (the memory locations 001 to 010 are dedicated to the storage of presets modified by the user). Each preset family is described in the tables below, including the presets memory location number, name, and description.

### LA12X Preset Library 6.8

#### K1

011	[K1]	K1, full range
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#### K2

012	[K2 70]	K2, full range, 70° adjustable fins settings
013	[K2 90]	K2, full range, 90° adjustable fins settings
014	[K2 110]	K2, full range, 110° adjustable fins settings

#### K3

015	[K3 70]	K3, full range, 70° adjustable fins settings
016	[K3 90]	K3, full range, 90° adjustable fins settings
017	[K3 110]	K3, full range, 110° adjustable fins settings

#### K1-SB

018	[K1SB_60]	K1-SB, LPF=60 Hz, optimized for CONTOUR configuration
019	[K1SB_X]	K1-SB, LPF=200 Hz, optimized for THROW configuration with K1
020	[K1SB_X K2]	K1-SB, LPF=200 Hz, optimized for THROW configuration with K2

#### KARA\_II

021	[KARA II 70]	Kara II, full range, 70° adjustable fins settings
022	[KARA II 90]	Kara II, full range, 90° adjustable fins settings
023	[KARA II 110]	Kara II, full range, 110° adjustable fins settings
024	[KARA II_FI]	Kara II, HPF=100 Hz, fill
025	[KARAII DOWNK1]	Kara II, optimized delay for K1 downfill
026	[KARAII DOWNK2]	Kara II, optimized delay for K2 downfill
027	[KARAII DOWNK3]	Kara II, optimized delay for K3 downfill

#### KARA

028	[KARA]	Kara, full range, FOH
029	[KARA_FI]	Kara, HPF=100 Hz, fill
030	[KARADOWNK1]	Kara, HPF=100 Hz, optimized delay for K1 downfill
031	[KARADOWNK2]	Kara, HPF=100 Hz, optimized delay for K2 downfill
032	[KARADOWNK3]	Kara, HPF=100 Hz, optimized delay for K3 downfill

#### ARCS\_II

033	[ARCS II]	ARCS II, full range
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**A15**

034	[A15]	A15 Wide or A15 Focus, full range
035	[A15_FI]	A15 Wide or A15 Focus, full range, fill
036	[A15_MO]	A15 Wide or A15 Focus, full range, monitor, low latency

**A10**

037	[A10]	A10 Wide or A10 Focus, full range
038	[A10_FI]	A10 Wide or A10 Focus, full range, fill
039	[A10_MO]	A10 Wide or A10 Focus, full range, monitor, low latency

**ARCS\_WF**

040	[ARCS_WIFO]	ARCS Wide or ARCS Focus, full range, FOH
041	[ARCS_WIFO_FI]	ARCS Wide or ARCS Focus, full range, fill

**KS28**

042	[KS28_60]	KS28, LPF=60 Hz
043	[KS28_100]	KS28, LPF=100 Hz
044	[KS28_60_C]	KS28, LPF=60 Hz, cardioid pattern
045	[KS28_100_C]	KS28, LPF=100 Hz, cardioid pattern
046	[KS28_60_Cx]	KS28, LPF=60 Hz, extended cardioid pattern
047	[KS28_100_Cx]	KS28, LPF=100 Hz, extended cardioid pattern

**SB28**

048	[SB28_60]	SB28, LPF=60 Hz
049	[SB28_100]	SB28, LPF=100 Hz
050	[SB28_60_C]	SB28, LPF=60 Hz, cardioid pattern
051	[SB28_100_C]	SB28, LPF=100 Hz, cardioid pattern
052	[SB28_60_Cx]	SB28, LPF=60 Hz, extended cardioid pattern
053	[SB28_100_Cx]	SB28, LPF=100 Hz, extended cardioid pattern

**KS21**

054	[KS21_60]	KS21, LPF=60 Hz
055	[KS21_100]	KS21, LPF=100 Hz
056	[KS21_60_C]	KS21, LPF=60 Hz, cardioid pattern
057	[KS21_100_C]	KS21, LPF=100 Hz, cardioid pattern
058	[KS21_60_Cx]	KS21, LPF=60 Hz, extended cardioid pattern
059	[KS21_100_Cx]	KS21, LPF=100 Hz, extended cardioid pattern

**SB18**

060	[SB18_60]	SB18, LPF=60 Hz
061	[SB18_100]	SB18, LPF=100 Hz
062	[SB18_60_C]	SB18, LPF=60 Hz, cardioid pattern
063	[SB18_100_C]	SB18, LPF=100 Hz, cardioid pattern
064	[SB18_60_Cx]	SB18, LPF=60 Hz, extended cardioid pattern
065	[SB18_100_Cx]	SB18, LPF=100 Hz, extended cardioid pattern

**SB15**

066	[SB15_100]	SB15m, LPF=100 Hz
067	[SB15_100_C]	SB15m, LPF=100 Hz, cardioid pattern
068	[SB15_100_Cx]	SB15m, LPF=100 Hz, extended cardioid pattern

**SB10**

069	[SB10_100]	SB10i, LPF=100 Hz
070	[SB10_200]	SB10i, LPF=200 Hz

**KIVA\_II**

071	[KIVA II]	Kiva II, full range, FOH
072	[KIVA II_FI]	Kiva II, full range, fill

**KIVA**

073	[KIVA]	Kiva, full range, FOH
074	[KIVA_FI]	Kiva, full range, fill

**SB15KIVA**

075	[KIVA_SB15]	Kiva & SB15m, X-OVER=100 Hz, full range, FOH
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**SYVA**

076	[SYVA]	Syva, full range
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**SYVA\_LOW**

077	[SYVA_LOW_100]	Syva Low (separated), LPF=100 Hz
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**SYVA+LOW**

078	[SYVA_LOW SYVA]	Syva & Syva Low (coupled)
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**SYVA\_SUB**

079	[SYVA_SUB_100]	Syva Sub, LPF=100 Hz
080	[SYVA_SUB_200]	Syva Sub, LPF=200 Hz, optimized for [X4] preset

**X15HiQ**

081	[X15]	X15 HiQ, full range
082	[X15_MO]	X15 HiQ, full range, monitor, low latency

**X12**

083	[X12]	X12, full range
084	[X12_MO]	X12, full range, monitor, low latency

**X8**

085	[X8]	X8, full range
086	[X8_MO]	X8, full range, monitor, low latency

**115XTHiQ**

087	[HiQ_FI]	115XT HiQ, full range, fill
088	[HiQ_FI_100]	115XT HiQ, HPF=100 Hz, fill
089	[HiQ_FR]	115XT HiQ, full range, FOH
090	[HiQ_FR_100]	115XT HiQ, HPF=100 Hz, FOH
091	[HiQ_MO]	115XT HiQ, full range, monitor
092	[HiQ_MO_100]	115XT HiQ, HPF=100 Hz, monitor

**12XTA**

093	[12XTA_FI]	12XT active, full range, fill
094	[12XTA_FI_100]	12XT active, HPF=100 Hz, fill
095	[12XTA_FR]	12XT active, full range, FOH
096	[12XTA_FR_100]	12XT active, HPF=100 Hz, FOH
097	[12XTA_MO]	12XT active, full range, monitor
098	[12XTA_MO_100]	12XT active, HPF=100 Hz, monitor

**12XTP**

099	[12XTP_FI]	12XT passive, full range, fill
100	[12XTP_FI_100]	12XT passive, HPF=100 Hz, fill
101	[12XTP_FR]	12XT passive, full range, FOH
102	[12XTP_FR_100]	12XT passive, HPF=100 Hz, FOH
103	[12XTP_MO]	12XT passive, full range, monitor
104	[12XTP_MO_100]	12XT passive, HPF=100 Hz, monitor



**8XT**

105	[8XT_FI]	8XT, full range, fill
106	[8XT_FI_100]	8XT, HPF=100 Hz, fill
107	[8XT_FR]	8XT, full range, FOH
108	[8XT_FR_100]	8XT, HPF=100 Hz, FOH
109	[8XT_MO]	8XT, full range, monitor
110	[8XT_MO_100]	8XT, HPF=100 Hz, monitor

**5XT**

111	[5XT]	5XT, full range
112	[5XT_MO]	5XT, full range, monitor, low latency

**X4**

113	[X4]	X4i, full range
114	[X4_MO]	X4i, full range, monitor, low latency

**FLAT**

115	[FLAT_LA12X]	Flat EQ, protection minimizing clipping risks
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## FLAT presets

**!** **The transducer connected to an output channel of a FLAT preset is not protected by L-DRIVE.**

The only active limitation allows minimizing clipping risks to protect the amplifier.

Therefore, when driving a third party loudspeaker enclosure, it is recommended to connect an external DSP device using a preset specifically designed for this model before the amplified controller.

With a FLAT preset, an input signal is amplified and directly routed to output without any modification of the frequency response. All the output parameters are accessible (Mute, Gain, Delay, Polarity, and Routing).

- Using the [FLAT\_LA2X] preset with LA2Xi in SE mode provides 0 dB of headroom.
- Using the [FLAT\_xxxx] preset with LA2Xi in BTL/PBTL modes, LA4, or LA4X provides 6 dB of headroom.
- Using the [FLAT\_LA8] preset with LA8 provides 8 dB of headroom.
- Using the [FLAT\_LA12X] preset with LA12X provides 9.5 dB of headroom.

### [FLAT\_xxxx]

outputs	channels	routing	gain	delay	polarity	mute
OUT 1	PA	IN A	0 dB	0 ms	+	ON
OUT 2	PA	IN A	0 dB	0 ms	+	ON
OUT 3	PA	IN B	0 dB	0 ms	+	ON
OUT 4	PA	IN B	0 dB	0 ms	+	ON



Routing, gain, delay, polarity and mute parameters can be modified by the user.

## Variable Curvature WST systems presets

The factory presets dedicated to variable curvature WST line sources are optimized for long throw applications. In the following sections, tables describe the loudspeaker configurations and the factory presets for each system. Discriminant acoustic properties of each loudspeaker configuration are given, such as -10 dB bandwidth or LF limit, frequency response contour, or directivity specificity.

### K1

#### Compatibility issues

[K1], [KARADOWNK1] and [K2 xxx] presets from versions 4.x and later of the preset library are not compatible with [K1] and [KARADOWNK1] from versions of the preset library prior to 4.0.

Compatibility issues may occur when working from a Session file with units using older presets. Use the same version of the preset library for all units within a single line source.

loudspeaker configuration	preset(s)			acoustic properties
	K1	K1-SB	KS28 or SB28*	
K1 line source	[K1]	—	—	35 Hz - 20 kHz
K1 / K1-SB line source (K1-SB on top)	[K1]	[K1SB_X]	—	enhanced LF throw
K1 line source + coupled K1-SB subwoofers (beside or behind)	[K1]	[K1SB_60]	—	down to 30 Hz reinforced LF contour LF rejection (side polarized or rear cardioid)
K1 line source + subwoofers	[K1]	—	[xx28_60]	down to 25 Hz reinforced LF contour

\* with subwoofers as a cardioid array, use [xx28\_60\_C] or [xx28\_60\_Cx]


#### Downfill options for additional vertical coverage

K2 enclosures driven by [K2 110].

Kara enclosures driven by [KARADOWNK1] or Kara II enclosures driven by [KARAIIDOWNK1].

#### [K1] and [K2 xxx]

loudspeaker elements	outputs	channels	routing	gain	delay	polarity	mute
left LF	OUT 1	LF					ON
right LF	OUT 2	LF	IN A	0 dB	0 ms	+	ON
MF	OUT 3	MF					ON
HF	OUT 4	HF					ON

 left/right when looking at the front face of the enclosure

**[K1SB\_X] and [K1SB\_60]**

outputs	channels	routing	gain	delay	polarity	mute
OUT 1	SB	IN A	0 dB	0 ms	+	ON
OUT 2	SB	IN A	0 dB	0 ms	+	ON
OUT 3	SB	IN A	0 dB	0 ms	+	ON
OUT 4	SB	IN A	0 dB	0 ms	+	ON

**[KARADOWNK1] / [KARAIIDOWNK1]**

loudspeaker elements	outputs	channels	routing	gain	delay	polarity	mute
LF	OUT 1	LF	IN A	0 dB	0 ms	+	ON
HF	OUT 2	HF					ON
LF	OUT 3	LF	IN A	0 dB	0 ms	+	ON
HF	OUT 4	HF					ON



The [KARAIIDOWNK1] preset is optimized for a **110°** fins setting on Kara II.



The factory parameters already include optimal delay value for the coupling of a K1 line source with Kara or Kara II as a downfill.



Routing, gain, delay, polarity and mute parameters can be modified by the user.

**K2**

loudspeaker configuration	preset(s)			acoustic properties
	K2	K1-SB	KS28 or SB28 *	
K2 line source	[K2 xxx]	—	—	35 Hz - 20 kHz adjustable horizontal directivity
K2 / K1-SB line source (K1-SB on top)	[K2 xxx]	[K1SB_X K2]	—	enhanced LF throw
K2 line source + coupled K1-SB subwoofers (on top, beside or behind)	[K2 xxx]	[K1SB_60]	—	down to 30 Hz reinforced LF contour LF rejection (side polarized or rear cardioid)
K2 line source + subwoofers	[K2 xxx]	—	[xx28_60]	down to 25 Hz reinforced LF contour

\* with subwoofers as a cardioid array, use [xx28\_60\_C] or [xx28\_60\_Cx]

### **K2 adjustable fins and presets**

Always ensure that the K2 adjustable fins are set in accordance with the selected preset:

[K2 70]: 70°, [K2 90]: 90°, [K2 110]: 110°


Refer to the K2 owner's manual for details.

### **Downfill options for additional vertical coverage**

Kara enclosures driven by [KARADOWNK2] or Kara II enclosures driven by [KARAIIDOWNK2].

**[K2 xxx]**

loudspeaker elements	outputs	channels	routing	gain	delay	polarity	mute
left LF	OUT 1	LF					ON
right LF	OUT 2	LF	IN A	0 dB	0 ms	+	ON
MF	OUT 3	MF					ON
HF	OUT 4	HF					ON

 left/right when looking at the front face of the enclosure




**[K1SB\_X K2] and [K1SB\_60]**

outputs	channels	routing	gain	delay	polarity	mute
OUT 1	SB	IN A	0 dB	0 ms	+	ON
OUT 2	SB	IN A	0 dB	0 ms	+	ON
OUT 3	SB	IN A	0 dB	0 ms	+	ON
OUT 4	SB	IN A	0 dB	0 ms	+	ON

 [K1SB\_X K2] provides 10 dB of headroom.

**[KARADOWNK2] / [KARAIIDOWNK2]**

<b>loudspeaker elements</b>	<b>outputs</b>	<b>channels</b>	<b>routing</b>	<b>gain</b>	<b>delay</b>	<b>polarity</b>	<b>mute</b>
LF	OUT 1	LF	IN A	0 dB	0 ms	+	ON
HF	OUT 2	HF					ON
LF	OUT 3	LF	IN A	0 dB	0 ms	+	ON
HF	OUT 4	HF					ON

-  The [KARAIIDOWNK2] preset is optimized for a **110°** fins setting on Kara II.
-  The factory parameters already include optimal delay value for the coupling of a K2 line source with Kara or Kara II as a downfill.  
[KARADOWNK2] / [KARAIIDOWNK2] provide 11 dB of headroom.
-  Routing, gain, delay, polarity and mute parameters can be modified by the user.

**K3**

**i** K3 and K3i are different versions of the same enclosure. They share the same factory presets and recommended loudspeaker configurations.

KS21 and KS21i are different versions of the same enclosure. They share the same factory presets and recommended loudspeaker configurations.

loudspeaker configuration	preset(s)		acoustic properties
	K3	KS28 or KS21 *	
K3 line source	[K3 xxx]	—	42 Hz - 20 kHz adjustable horizontal directivity
K3 line source + subwoofers	[K3 xxx]	[xxxx_60]	down to 29 Hz (KS21) or 25 Hz (KS28) reinforced LF contour

\* with subwoofers as a cardioid array, use [xxxx\_xx\_C] or [xxxx\_xx\_Cx]

**!** **K3 adjustable fins and presets**

Always ensure that the K3 adjustable fins are set in accordance with the selected preset:

[K3 70]: 70°, [K3 90]: 90°, [K3 110]: 110°

Refer to the K3 owner's manual for details.

**i** **Downfill options for additional vertical coverage**

Kara enclosures driven by [KARADOWNK3] or Kara II enclosures driven by [KARAIIDOWNK3].

**[K3 xxx]**

loudspeaker elements	outputs	channels	routing	gain	delay	polarity	mute
LF	OUT 1	LF	IN A	0 dB	0 ms	+	ON
HF	OUT 2	HF	IN A	0 dB	0 ms	+	ON
LF	OUT 3	LF	IN A	0 dB	0 ms	+	ON
HF	OUT 4	HF	IN A	0 dB	0 ms	+	ON

**[KARADOWNK3] / [KARAIIDOWNK3]**

loudspeaker elements	outputs	channels	routing	gain	delay	polarity	mute
LF	OUT 1	LF	IN A	0 dB	0 ms	+	ON
HF	OUT 2	HF	IN A	0 dB	0 ms	+	ON
LF	OUT 3	LF	IN A	0 dB	0 ms	+	ON
HF	OUT 4	HF	IN A	0 dB	0 ms	+	ON

**!** The [KARAIIDOWNK3] preset is optimized for a **110°** fins setting on Kara II.

**i** The factory parameters already include optimal delay value for the coupling of a K3 line source with Kara or Kara II as a downfill.

[KARADOWNK3] / [KARAIIDOWNK3] provide 15 dB of headroom.

**i** Routing, gain, delay, polarity and mute parameters can be modified by the user.

## Kara II

**i** Kara II and Kara Ili are different versions of the same enclosure. They share the same factory presets and recommended loudspeaker configurations.

SB18 and SB18 Ili are different versions of the same enclosure. They share the same factory presets and recommended loudspeaker configurations.

KS21 and KS21i are different versions of the same enclosure. They share the same factory presets and recommended loudspeaker configurations.

loudspeaker configuration	preset(s)			acoustic properties
	Kara II	SB18 or KS21*	KS28 or SB28 *	
line source	[KARA II xxx]	—	—	55 Hz - 20 kHz
line source + coupled subwoofers	[KARA II xxx]	[xxxx_100]	—	down to 32 Hz (SB18), 31 Hz (KS21) or 25 Hz (KS28 or SB28) reinforced LF contour
line source + separated subwoofers	[KARA II xxx]	[xxxx_60]	—	
line source + coupled subwoofers + KS28 or SB28	[KARA II xxx]	[xxxx_100]	[xxxx_60]	
single or pair of enclosures	[KARA II_FI]	—	—	

\* with subwoofers as a cardioid array, use [xxxx\_xx\_C] or [xxxx\_xx\_Cx].

### **! Kara II(i) adjustable fins and presets**

Always ensure that the Kara II(i) adjustable fins are set in accordance with the selected preset:

[KARA II 70]: 70°, [KARA II 90]: 90°, [KARA II 110]: 110°

Refer to the Kara II(i) owner's manual for details.

### **i Avoid using Kara and Kara II in the same line source**

The acoustic coupling between Kara and Kara II is not optimal.

### [KARA II 70] / [KARA II 90] / [KARA II 110]

loudspeaker elements	outputs	channels	routing	gain	delay	polarity	mute
LF	OUT 1	LF	IN A	0 dB	0 ms	+	ON
HF	OUT 2	HF					
LF	OUT 3	LF	IN A	0 dB	0 ms	+	ON
HF	OUT 4	HF					

### [KARA II\_FI]

loudspeaker elements	outputs	channels	routing	gain	delay	polarity	mute
LF	OUT 1	LF	IN A	0 dB	0 ms	+	ON
HF	OUT 2	HF					
LF	OUT 3	LF	IN B	0 dB	0 ms	+	ON
HF	OUT 4	HF					

**!** The [KARA II\_FI] preset is optimized for a **110°** fins setting on Kara II.





Routing, gain, delay, polarity and mute parameters can be modified by the user.

## Kara



Kara and Karai are different versions of the same enclosure. They share the same factory presets and recommended loudspeaker configurations.

loudspeaker configuration	preset(s)		acoustic properties
	Kara	KS28, SB28, SB18 or KS21*	
line source	[KARA]	—	55 Hz - 20 kHz
line source + coupled subwoofer	[KARA]	[xxxx_100]	down to 32 Hz (SB18), 31 Hz (KS21) or 25 Hz (KS28 or SB28) reinforced LF contour
line source + separated subwoofer	[KARA]	[xxxx_60]	
single or pair of enclosures	[KARA_FI]	—	high-pass at 100 Hz flat response

\* with subwoofers as a cardioid array, use [xxxx\_xx\_C] or [xxxx\_xx\_Cx]

### [KARA]

loudspeaker elements	outputs	channels	routing	gain	delay	polarity	mute
LF	OUT 1	LF	IN A	0 dB	0 ms	+	ON
HF	OUT 2	HF					ON
LF	OUT 3	LF	IN A	0 dB	0 ms	+	ON
HF	OUT 4	HF					ON

### [KARA\_FI]

loudspeaker elements	outputs	channels	routing	gain	delay	polarity	mute
LF	OUT 1	LF	IN A	0 dB	0 ms	+	ON
HF	OUT 2	HF					ON
LF	OUT 3	LF	IN B	0 dB	0 ms	+	ON
HF	OUT 4	HF					ON



Routing, gain, delay, polarity and mute parameters can be modified by the user.

## Kiva II

loudspeaker configuration	preset(s)			acoustic properties
	Kiva II	SB15m*	SB18*	
line source	[KIVA II]	—		70 Hz - 20 kHz
line source + coupled subwoofer	[KIVA II]	[SB15_100]	[SB18_60]	down to 32 Hz (SB18) / 40 Hz(SB15m) reinforced LF contour
up to three enclosures	[KIVA II_FI]	—		70 Hz - 20 kHz flat response
up to three enclosures + coupled subwoofer	[KIVA II_FI]	[SB15_100]	—	down to 40 Hz reinforced LF contour

\* with subwoofers as a cardioid array, use [SB1x\_xx\_C] or [SB1x\_xx\_Cx]

### [KIVA II]

outputs	channels	routing	gain	delay	polarity	mute
OUT 1	PA	IN A	0 dB	0 ms	+	ON
OUT 2	PA	IN A	0 dB	0 ms	+	ON
OUT 3	PA	IN A	0 dB	0 ms	+	ON
OUT 4	PA	IN A	0 dB	0 ms	+	ON

### [KIVA II\_FI]

outputs	channels	routing	gain	delay	polarity	mute
OUT 1	PA	IN A	0 dB	0 ms	+	ON
OUT 2	PA	IN A	0 dB	0 ms	+	ON
OUT 3	PA	IN B	0 dB	0 ms	+	ON
OUT 4	PA	IN B	0 dB	0 ms	+	ON



Routing, gain, delay, polarity and mute parameters can be modified by the user.

## Kiva SB15m

loudspeaker configuration	preset(s)		acoustic properties
	Kiva	SB15m*	
line source	[KIVA]	—	80 Hz - 20 kHz
line source + coupled subwoofer	[KIVA_SB15]		down to 40 Hz reinforced LF contour
	[KIVA]	[SB15_100]	
single or pair of enclosures	[KIVA_FI]	—	80 Hz - 20 kHz flat response
pair of enclosures + coupled subwoofer	[KIVA_FI]	[SB15_100]	down to 40 Hz reinforced LF contour

\* with subwoofers as a cardioid array, use [SB15\_100\_C] or [SB15\_100\_Cx]

### [KIVA]

outputs	channels	routing	gain	delay	polarity	mute
OUT 1	PA	IN A	0 dB	0 ms	+	ON
OUT 2	PA	IN A	0 dB	0 ms	+	ON
OUT 3	PA	IN A	0 dB	0 ms	+	ON
OUT 4	PA	IN A	0 dB	0 ms	+	ON

### [KIVA\_FI]

outputs	channels	routing	gain	delay	polarity	mute
OUT 1	PA	IN A	0 dB	0 ms	+	ON
OUT 2	PA	IN A	0 dB	0 ms	+	ON
OUT 3	PA	IN B	0 dB	0 ms	+	ON
OUT 4	PA	IN B	0 dB	0 ms	+	ON

### [KIVA\_SB15]

loudspeaker elements	outputs	channels	routing	gain	delay	polarity	mute
SB15m	OUT 1	LF					ON
KIVA	OUT 2	PA					ON
KIVA	OUT 3	PA	IN A	0 dB	0 ms	+	ON
KIVA	OUT 4	PA					ON



Hybrid preset combining [KIVA] with [SB15\_100], pre-alignment delay included.



Routing, gain, delay, polarity and mute parameters can be modified by the user.

## Kiva Kilo

loudspeaker configuration	preset(s)			acoustic properties
	Kiva	Kilo	SB18*	
line source	[KIVA]	—		80 Hz - 20 kHz
line source + coupled Kilo	[KIVA_KILO]		—	down to 50 Hz
line source + coupled Kilo + SB18	[KIVA_KILO]		[SB18_100]	down to 32 Hz reinforced LF contour
single or pair of enclosures	[KIVA_FI]	—		80 Hz - 20 kHz flat response

\* with subwoofers as a cardioid array, use [SB18\_100\_C] or [SB18\_100\_Cx]

### [KIVA]

outputs	channels	routing	gain	delay	polarity	mute
OUT 1	PA	IN A	0 dB	0 ms	+	ON
OUT 2	PA	IN A	0 dB	0 ms	+	ON
OUT 3	PA	IN A	0 dB	0 ms	+	ON
OUT 4	PA	IN A	0 dB	0 ms	+	ON

### [KIVA\_FI]

outputs	channels	routing	gain	delay	polarity	mute
OUT 1	PA	IN A	0 dB	0 ms	+	ON
OUT 2	PA	IN A	0 dB	0 ms	+	ON
OUT 3	PA	IN B	0 dB	0 ms	+	ON
OUT 4	PA	IN B	0 dB	0 ms	+	ON

### [KIVA\_KILO]

loudspeaker elements	outputs	channels	routing	gain	delay	polarity	mute
KILO	OUT 1	LF					ON
KIVA	OUT 2	PA	IN A	0 dB	0 ms	+	ON
KIVA	OUT 3	PA					ON
KIVA	OUT 4	PA					ON



Hybrid preset combining [KIVA] with [KILO], pre-alignment delay included.

**[KILO]**

<b>outputs</b>	<b>channels</b>	<b>routing</b>	<b>gain</b>	<b>delay</b>	<b>polarity</b>	<b>mute</b>
OUT 1	SB	IN A	0 dB	0 ms	+	ON
OUT 2	SB	IN A	0 dB	0 ms	+	ON
OUT 3	SB	IN A	0 dB	0 ms	+	ON
OUT 4	SB	IN A	0 dB	0 ms	+	ON



Routing, gain, delay, polarity and mute parameters can be modified by the user.

## Kudo

loudspeaker configuration	preset(s)		acoustic properties
	Kudo	KS28 or SB28 or SB18 *	
line source	[KUDOxx_25]	—	35 Hz - 20 kHz
	[KUDOxx_40]		40 Hz - 20 kHz
	[KUDOxx_60]		60 Hz - 20 kHz
line source + subwoofer	[KUDOxx_40]	[xxx8_60]	down to 25 Hz (KS28 and SB28) or 32 Hz (SB18) reinforced LF contour

\* with subwoofers as a cardioid array, use [xxx8\_60\_C] or [xxx8\_60\_Cx]



### K-LOUVER and presets

Always ensure that the K-LOUVER panels are set in accordance with the selected preset:

[KUDO50\_xx]: 50°, [KUDO80\_xx]: 80°, [KUDO110\_xx]: 110°

Refer to the Kudo user manual for details.

### [KUDOxx\_xx]

loudspeaker elements	outputs	channels	routing	gain	delay	polarity	mute
left LF	OUT 1	LF					ON
right LF	OUT 2	LF					ON
MF	OUT 3	MF	IN A	0 dB	0 ms	+	ON
HF	OUT 4	HF					ON



left/right when looking at the front face of the enclosure



Routing, gain, delay, polarity and mute parameters can be modified by the user.

## V-DOSC

loudspeaker configuration	preset(s)			acoustic properties
	V-DOSC*	dV-SUB	KS28 / SB28 / SB218 **	
line source	[V-DOSC_LO] or [V-DOSC_HI]	—	—	40 Hz - 20 kHz
line source + coupled dV-SUB	[V-DOSC_xx_X]	[dV-S_X]	—	down to 35 Hz reinforced LF contour
line source + KS28 / SB28	[V-DOSC_xx_60]	—	[xx28_60]	down to 25 Hz reinforced LF contour
line source + coupled SB218	[V-DOSC_xx_X]	—	[SB218_X]	
line source + coupled dV-SUB + KS28 / SB28	[V-DOSC_xx_60]	[dV-S_60_X]	[xx28_60]	down to 25 Hz reinforced LF contour additional LF resources

\* standard HF contour with [xx\_LO] or increased HF contour with [xx\_HI]


\*\* with subwoofers as a cardioid array, use [xxxx\_xx\_C], or [xx28\_xx\_Cx] (KS28 / SB28)

### Downfill options for additional vertical coverage

dV-DOSC enclosures driven by [dV\_xx\_100].

### [V-DOSC\_LO], [V-DOSC\_HI], [V-DOSC\_xx\_60] and [V-DOSC\_xx\_X]

loudspeaker elements	outputs	channels	routing	gain	delay	polarity	mute
left LF	OUT 1	LF					ON
right LF	OUT 2	LF	IN A	0 dB	0 ms	+	ON
MF	OUT 3	MF					ON
HF	OUT 4	HF					ON

 left/right when looking at the front face of the enclosure

### [dV-S\_X], [dV-S\_60\_X] and [SB218\_X]

outputs	channels	routing	gain	delay	polarity	mute
OUT 1	SB	IN A	0 dB	0 ms	+	ON
OUT 2	SB	IN A	0 dB	0 ms	+	ON
OUT 3	SB	IN A	0 dB	0 ms	+	ON
OUT 4	SB	IN A	0 dB	0 ms	+	ON



**[dV\_xx\_100]**

<b>loudspeaker elements</b>	<b>outputs</b>	<b>channels</b>	<b>routing</b>	<b>gain</b>	<b>delay</b>	<b>polarity</b>	<b>mute</b>
LF	OUT 1	LF	IN A	0 dB	0 ms	+	ON
HF	OUT 2	HF					ON
LF	OUT 3	LF	IN A	0 dB	0 ms	+	ON
HF	OUT 4	HF					ON



Routing, gain, delay, polarity and mute parameters can be modified by the user.

**dV-DOSC**

loudspeaker configuration	preset(s)			acoustic properties
	dV-DOSC*	dV-SUB	KS28, SB218, SB28, SB18 or SB118**	
line source	[dV_LO] or [dV_HI]	—	—	65 Hz - 20 kHz
line source + coupled dV-SUB	[dV_dV-S_xx]		—	down to 35 Hz reinforced LF contour
	[dV_xx_100]	[dV-S_100]		
line source + coupled subwoofer	[dV_xx_100]	—	[xxxx_100]	down to 32 Hz (SB18/SB118) or
line source + coupled dV-SUB + coupled subwoofer	[dV_dV-S_xx60]		[xxxx_60]	25 Hz (KS28 / SB28 / SB218)
	[dV_xx_100]	[dV-S_60_100]		
single or pair of enclosures	[dV_FI]	—	—	high-pass at 100 Hz flat response

\* standard HF contour with [xx\_LO] or increased HF contour with [xx\_HI]

\*\* with subwoofers as a cardioid array, use [xxxx\_xx\_C], or [xxxx\_xx\_Cx] (KS28 / SB28 / SB18)

**[dV\_LO], [dV\_HI], [dV\_xx\_60] and [dV\_xx\_100]**

loudspeaker elements	outputs	channels	routing	gain	delay	polarity	mute
LF	OUT 1	LF	IN A	0 dB	0 ms	+	ON
HF	OUT 2	HF					
LF	OUT 3	LF	IN A	0 dB	0 ms	+	ON
HF	OUT 4	HF					

**[dV\_FI]**

loudspeaker elements	outputs	channels	routing	gain	delay	polarity	mute
LF	OUT 1	LF	IN A	0 dB	0 ms	+	ON
HF	OUT 2	HF					
LF	OUT 3	LF	IN B	0 dB	0 ms	+	ON
HF	OUT 4	HF					

**[dV-S\_100] and [dV-S\_60\_100]**

outputs	channels	routing	gain	delay	polarity	mute
OUT 1	SB	IN A	0 dB	0 ms	+	ON
OUT 2	SB	IN A	0 dB	0 ms	+	ON
OUT 3	SB	IN A	0 dB	0 ms	+	ON
OUT 4	SB	IN A	0 dB	0 ms	+	ON

**[dV\_dV-S\_HI], [dV\_dV-S\_HI60], [dV\_dV-S\_LO] and [dV\_dV-S\_LO60]**

<b>loudspeaker elements</b>	<b>outputs</b>	<b>channels</b>	<b>routing</b>	<b>gain</b>	<b>delay</b>	<b>polarity</b>	<b>mute</b>
dV-SUB	OUT 1	SB	IN A	0 dB	0 ms	+	ON
dV-SUB	OUT 2	SB					ON
dV-DOSC LF	OUT 3	LF	IN B	0 dB	0 ms	+	ON
dV-DOSC HF	OUT 4	HF					ON

**i** [dV\_dV-S\_xx] are hybrid presets combining [dV\_LO\_100] or [dV\_HI\_100] with [dV-S\_100], pre-alignment delay included.

[dV\_dV-S\_xx60] are hybrid presets combining [dV\_LO\_100] or [dV\_HI\_100] with [dV-S\_60\_100], pre-alignment delay included.

**i** Routing, gain, delay, polarity and mute parameters can be modified by the user.

## Constant Curvature WST systems presets

The factory presets dedicated to constant curvature WST line sources are optimized for medium throw applications. In the following sections, tables describe the loudspeaker configurations and the factory presets for each system.

Discriminant acoustic properties of each loudspeaker configuration are given, such as -10 dB bandwidth or LF limit, or frequency response contour.

### ARCS Wide / ARCS Focus

loudspeaker configuration	preset(s)		acoustic properties
	ARCS Wide / ARCS Focus	SB18*	
line source	[ARCS_WIFO]	—	55 Hz - 20 kHz
line source + SB18	[ARCS_WIFO]	[SB18_60]	down to 32 Hz reinforced LF contour
single enclosure	[ARCS_WIFO_FI]	—	55 Hz - 20 kHz flat response
single enclosure + SB18m	[ARCS_WIFO_FI]	[SB18_60]	down to 32 Hz reinforced LF contour

\* with subwoofers as a cardioid array, use [SB18\_60\_C] or [SB18\_60\_Cx]

#### [ARCS\_WIFO]

outputs	channels	routing	gain	delay	polarity	mute
OUT 1	PA	IN A	0 dB	0 ms	+	ON
OUT 2	PA	IN A	0 dB	0 ms	+	ON
OUT 3	PA	IN A	0 dB	0 ms	+	ON
OUT 4	PA	IN A	0 dB	0 ms	+	ON

#### [ARCS\_WIFO\_FI]

outputs	channels	routing	gain	delay	polarity	mute
OUT 1	PA	IN A	0 dB	0 ms	+	ON
OUT 2	PA	IN A	0 dB	0 ms	+	ON
OUT 3	PA	IN B	0 dB	0 ms	+	ON
OUT 4	PA	IN B	0 dB	0 ms	+	ON



Routing, gain, delay, polarity and mute parameters can be modified by the user.

## A10 Wide/Focus

**i** A10 Wide/Focus and A10i Wide/Focus are different versions of the same enclosures. They share the same factory presets and recommended loudspeaker configurations.

KS21 and KS21i are different versions of the same enclosure. They share the same factory presets and recommended loudspeaker configurations.

loudspeaker configuration	preset(s)		acoustic properties
	A10 Wide/Focus	KS21*	
line source	[A10]	—	67 Hz - 20 kHz
line source + KS21	[A10]	[KS21_100]	down to 31 Hz reinforced LF contour
single enclosure	[A10_FI]	—	67 Hz - 20 kHz flat response
	[A10_MO]	—	67 Hz - 20 kHz flat response low latency
single enclosure + KS21	[A10_FI]	[KS21_100]	down to 31 Hz reinforced LF contour
	[A10_MO]	[KS21_100]	down to 31 Hz reinforced LF contour low latency

\* with subwoofers as a cardioid array, use [KS21\_100\_C] or [KS21\_100\_Cx]

**!** [xx\_MO] presets for the X series and A series use the amplified controller low latency operating mode. When used along with subwoofers, it is recommended to use the subwoofers in low latency operating mode. To achieve this, create custom presets combining low latency channel sets and subwoofer channel sets.

If the subwoofers are driven from a dedicated amplified controller using a subwoofer factory preset, they are operated in normal latency mode. Therefore, an additional delay should be set to the [xx\_MO] low latency channels to align them: 2.66 ms on LA4 and LA8 or 3.00 ms on LA2Xi, LA4X, and LA12X.

### [A10]

outputs	channels	routing	gain	delay	polarity	mute
OUT 1	PA	IN A	0 dB	0 ms	+	ON
OUT 2	PA	IN A	0 dB	0 ms	+	ON
OUT 3	PA	IN A	0 dB	0 ms	+	ON
OUT 4	PA	IN A	0 dB	0 ms	+	ON

### [A10\_FI] and [A10\_MO]

outputs	channels	routing	gain	delay	polarity	mute
OUT 1	PA	IN A	0 dB	0 ms	+	ON
OUT 2	PA	IN A	0 dB	0 ms	+	ON
OUT 3	PA	IN B	0 dB	0 ms	+	ON
OUT 4	PA	IN B	0 dB	0 ms	+	ON



Routing, gain, delay, polarity and mute parameters can be modified by the user.

## A15 Wide/Focus

**i** A15 Wide/Focus and A15i Wide/Focus are different versions of the same enclosures. They share the same factory presets and recommended loudspeaker configurations.

KS21 and KS21i are different versions of the same enclosure. They share the same factory presets and recommended loudspeaker configurations.

loudspeaker configuration	preset(s)		acoustic properties
	A15 Wide/Focus	KS21*	
line source	[A15]	—	41 Hz - 20 kHz
line source + KS21	[A15]	[KS21_60]	down to 29 Hz reinforced LF contour
single enclosure	[A15_FI]	—	42 Hz - 20 kHz flat response
	[A15_MO]	—	42 Hz - 20 kHz flat response low latency
single enclosure + KS21	[A15_FI]	[KS21_60]	down to 29 Hz reinforced LF contour
	[A15_MO]	[KS21_60]	down to 29 Hz reinforced LF contour low latency

\* with subwoofers as a cardioid array, use [KS21\_60\_C] or [KS21\_60\_Cx]

**!** [xx\_MO] presets for the X series and A series use the amplified controller low latency operating mode. When used along with subwoofers, it is recommended to use the subwoofers in low latency operating mode. To achieve this, create custom presets combining low latency channel sets and subwoofer channel sets.

If the subwoofers are driven from a dedicated amplified controller using a subwoofer factory preset, they are operated in normal latency mode. Therefore, an additional delay should be set to the [xx\_MO] low latency channels to align them: 2.66 ms on LA4 and LA8 or 3.00 ms on LA2Xi, LA4X, and LA12X.

### [A15]

outputs	channels	routing	gain	delay	polarity	mute
OUT 1	PA	IN A	0 dB	0 ms	+	ON
OUT 2	PA	IN A	0 dB	0 ms	+	ON
OUT 3	PA	IN A	0 dB	0 ms	+	ON
OUT 4	PA	IN A	0 dB	0 ms	+	ON

### [A15\_FI] and [A15\_MO]

outputs	channels	routing	gain	delay	polarity	mute
OUT 1	PA	IN A	0 dB	0 ms	+	ON
OUT 2	PA	IN A	0 dB	0 ms	+	ON
OUT 3	PA	IN B	0 dB	0 ms	+	ON
OUT 4	PA	IN B	0 dB	0 ms	+	ON



Routing, gain, delay, polarity and mute parameters can be modified by the user.



## ARCS II

loudspeaker configuration	preset(s)		acoustic properties
	ARCS II	KS28 or SB28*	
line source	[ARCS II]	—	50 Hz - 20 kHz
line source + subwoofer	[ARCS II]	[xx28_60]	down to 25 Hz reinforced LF contour

\* with subwoofers as a cardioid array, use [xx28\_60\_C] or [xx28\_60\_Cx]

### [ARCS II]

loudspeaker elements	outputs	channels	routing	gain	delay	polarity	mute
LF	OUT 1	LF	IN A	0 dB	0 ms	+	ON
HF	OUT 2	HF	IN A	0 dB	0 ms	+	ON
LF	OUT 3	LF	IN A	0 dB	0 ms	+	ON
HF	OUT 4	HF	IN A	0 dB	0 ms	+	ON



Routing, gain, delay, polarity and mute parameters can be modified by the user.

**ARCS**

loudspeaker configuration	preset(s)		acoustic properties
	ARCS*	SB18/SB118 or KS28/SB28/SB218**	
line source	[ARCS_LO] or [ARCS_HI]	—	50 Hz - 20 kHz
line source + subwoofer	[ARCS_xx_60]	[xxxx_60]	down to 32 Hz (SB18/SB118) or 25 Hz (KS28 / SB28 / SB218)
line source + coupled subwoofer	[ARCS_xx_100]	[xxxx_100]	reinforced LF contour

\* standard HF contour with [xx\_LO] or increased HF contour with [xx\_HI]

\*\* with subwoofers as a cardioid array, use [xxxx\_xx\_C], or [xxxx\_xx\_Cx] (SB18/KS28/SB28)

**[ARCS\_LO], [ARCS\_HI], [ARCS\_xx\_60] and [ARCS\_xx\_100]**

loudspeaker elements	outputs	channels	routing	gain	delay	polarity	mute
LF	OUT 1	LF	IN A	0 dB	0 ms	+	ON
HF	OUT 2	HF					ON
LF	OUT 3	LF	IN A	0 dB	0 ms	+	ON
HF	OUT 4	HF					ON



Routing, gain, delay, polarity and mute parameters can be modified by the user.

## Colinear systems presets

The factory presets dedicated to colinear sources are optimized for medium throw applications.

In the following sections, tables describe the loudspeaker configurations and the factory presets for each system.

Discriminant acoustic properties of each loudspeaker configuration are given, such as -10 dB bandwidth or LF limit, or frequency response contour.

### Syva

loudspeaker configuration	preset(s)			acoustic properties
	Syva	Syva Low	Syva Sub	
colinear source	[SYVA]	—	—	87 Hz - 20 kHz
colinear source + coupled Syva Low	[SYVA LOW SYVA]		—	down to 40 Hz reinforced LF contour
colinear source + separated Syva Low	[SYVA]	[SYVA LOW_100]	—	
colinear source + coupled Syva Low + Syva Sub	[SYVA LOW SYVA]		[SYVA SUB_100]	down to 27 Hz reinforced LF contour
colinear source + separated Syva Low + Syva Sub	[SYVA]	[SYVA LOW_100]	[SYVA SUB_100]	



No pre-alignment delay values are required for the Syva system.

#### [SYVA]

outputs	channels	routing	gain	delay	polarity	mute
OUT 1	PA	IN A	0 dB	0 ms	+	ON
OUT 2	PA	IN A	0 dB	0 ms	+	ON
OUT 3	PA	IN A	0 dB	0 ms	+	ON
OUT 4	PA	IN A	0 dB	0 ms	+	ON

#### [SYVA LOW SYVA]

loudspeaker elements	outputs	channels	routing	gain	delay	polarity	mute
Syva Low	OUT 1	LF	IN A	0 dB	0 ms	+	ON
Syva	OUT 2	PA	IN A	0 dB	0 ms	+	ON
Syva Low	OUT 3	LF	IN B	0 dB	0 ms	+	ON
Syva	OUT 4	PA	IN B	0 dB	0 ms	+	ON



#### Hybrid preset combining Syva and Syva Low.

Use only with AutoConnect or when Syva and Syva Low are within 60 cm (24 in) from each other, that is, acoustically coupled.

When Syva and Syva Low are more than 60 cm (24 in) apart, create a custom preset in LA Network Manager combining [SYVA] and [SYVA LOW\_100].



**[SYVA SUB\_100] polarity is reversed to optimize Syva Sub acoustic summation with Syva/Syva Low.**



**Do not use [SYVA SUB\_200] with Syva.**

[SYVA SUB\_200] is optimized for use with the [X4] preset.

Refer to [X4i](#) (p.61).



Routing, gain, delay, polarity and mute parameters can be modified by the user.

## Coaxial loudspeaker enclosures presets

The factory presets dedicated to coaxial enclosures are optimized for short throw applications. In the following sections, tables describe the loudspeaker configurations and the factory presets for each system. Discriminant acoustic properties of each loudspeaker configuration are given, such as -10 dB bandwidth or LF limit, or frequency response contour.

### X4i

X4i is a passive coaxial loudspeaker enclosure.

loudspeaker configuration	preset(s)		acoustic properties
	X4i	Syva Sub / SB10i	
single enclosure	[X4]	—	120 Hz - 20 kHz
	[X4_MO]	—	120 Hz - 20 kHz low latency
single enclosure + subwoofer	[X4]	[xxxx_200]	down to 29 Hz reinforced LF contour
	[X4_MO]		down to 29 Hz reinforced LF contour low latency

**!** [xx\_MO] presets for the X series and A series use the amplified controller low latency operating mode. When used along with subwoofers, it is recommended to use the subwoofers in low latency operating mode. To achieve this, create custom presets combining low latency channel sets and subwoofer channel sets.

If the subwoofers are driven from a dedicated amplified controller using a subwoofer factory preset, they are operated in normal latency mode. Therefore, an additional delay should be set to the [xx\_MO] low latency channels to align them: 2.66 ms on LA4 and LA8 or 3.00 ms on LA2Xi, LA4X, and LA12X.

### [X4] and [X4\_MO]

outputs	channels	routing	gain	delay	polarity	mute
OUT 1	PA	IN A	0 dB	0 ms	+	ON
OUT 2	PA	IN A	0 dB	0 ms	+	ON
OUT 3	PA	IN B	0 dB	0 ms	+	ON
OUT 4	PA	IN B	0 dB	0 ms	+	ON


**i** Routing, gain, delay, polarity and mute parameters can be modified by the user.

## 5XT

5XT is a passive coaxial loudspeaker enclosure.

loudspeaker configuration	preset(s)		acoustic properties
	5XT	SB15m* / SB10i	
single enclosure	[5XT]	—	95 Hz - 20 kHz
	[5XT_MO]	—	95 Hz - 20 kHz low latency
single enclosure + subwoofer	[5XT]	[xxxx_100]	down to 40 Hz (SB15m) or 27 Hz (SB10i) reinforced LF contour
	[5XT_MO]		down to 40 Hz (SB15m) or 27 Hz (SB10i) reinforced LF contour low latency


\* with subwoofers as a cardioid array, use [SB15\_100\_C] or [SB15\_100\_Cx]

 [xx\_MO] presets for the X series and A series use the amplified controller low latency operating mode. When used along with subwoofers, it is recommended to use the subwoofers in low latency operating mode. To achieve this, create custom presets combining low latency channel sets and subwoofer channel sets.

If the subwoofers are driven from a dedicated amplified controller using a subwoofer factory preset, they are operated in normal latency mode. Therefore, an additional delay should be set to the [xx\_MO] low latency channels to align them: 2.66 ms on LA4 and LA8 or 3.00 ms on LA2Xi, LA4X, and LA12X.

### [5XT] and [5XT\_MO]

outputs	channels	routing	gain	delay	polarity	mute
OUT 1	PA	IN A	0 dB	0 ms	+	ON
OUT 2	PA	IN A	0 dB	0 ms	+	ON
OUT 3	PA	IN B	0 dB	0 ms	+	ON
OUT 4	PA	IN B	0 dB	0 ms	+	ON


 Routing, gain, delay, polarity and mute parameters can be modified by the user.

## X8

X8 is a passive coaxial loudspeaker enclosure.

loudspeaker configuration	preset(s)		acoustic properties
	X8	SB15m*	
single enclosure	[X8]	—	60 Hz - 20 kHz
	[X8_MO]	—	55 Hz - 20 kHz low latency
single enclosure + SB15m	[X8]	[SB15_100]	down to 40 Hz reinforced LF contour
	[X8_MO]		down to 40 Hz reinforced LF contour low latency


\* with subwoofers as a cardioid array, use [SB15\_100\_C] or [SB15\_100\_Cx]

 [xx\_MO] presets for the X series and A series use the amplified controller low latency operating mode. When used along with subwoofers, it is recommended to use the subwoofers in low latency operating mode. To achieve this, create custom presets combining low latency channel sets and subwoofer channel sets.

If the subwoofers are driven from a dedicated amplified controller using a subwoofer factory preset, they are operated in normal latency mode. Therefore, an additional delay should be set to the [xx\_MO] low latency channels to align them: 2.66 ms on LA4 and LA8 or 3.00 ms on LA2Xi, LA4X, and LA12X.

### [X8] and [X8\_MO]

outputs	channels	routing	gain	delay	polarity	mute
OUT 1	PA	IN A	0 dB	0 ms	+	ON
OUT 2	PA	IN A	0 dB	0 ms	+	ON
OUT 3	PA	IN B	0 dB	0 ms	+	ON
OUT 4	PA	IN B	0 dB	0 ms	+	ON


 Routing, gain, delay, polarity and mute parameters can be modified by the user.

## X12

X12 is a passive coaxial loudspeaker enclosure.

loudspeaker configuration	preset(s)		acoustic properties
	X12	SB15m/SB18/KS21*	
single enclosure	[X12]	—	59 Hz - 20 kHz
	[X12_MO]	—	57 Hz - 20 kHz low latency
single enclosure + subwoofer	[X12]	[xxxx_100]	down to 40 Hz (SB15m) or 32 Hz (SB18) reinforced LF contour
	[X12_MO]		down to 40 Hz (SB15m) or 32 Hz (SB18) reinforced LF contour low latency


\* with subwoofers as a cardioid array, use [xxxx\_100\_C] or [xxxx\_100\_Cx]

 [xx\_MO] presets for the X series and A series use the amplified controller low latency operating mode. When used along with subwoofers, it is recommended to use the subwoofers in low latency operating mode. To achieve this, create custom presets combining low latency channel sets and subwoofer channel sets.

If the subwoofers are driven from a dedicated amplified controller using a subwoofer factory preset, they are operated in normal latency mode. Therefore, an additional delay should be set to the [xx\_MO] low latency channels to align them: 2.66 ms on LA4 and LA8 or 3.00 ms on LA2Xi, LA4X, and LA12X.

### [X12] and [X12\_MO]

outputs	channels	routing	gain	delay	polarity	mute
OUT 1	PA	IN A	0 dB	0 ms	+	ON
OUT 2	PA	IN A	0 dB	0 ms	+	ON
OUT 3	PA	IN B	0 dB	0 ms	+	ON
OUT 4	PA	IN B	0 dB	0 ms	+	ON

 Routing, gain, delay, polarity and mute parameters can be modified by the user.




## X15 HiQ

X15 HiQ is an active coaxial loudspeaker enclosure.

loudspeaker configuration	preset(s)		acoustic properties
	X15 HiQ	SB18/KS21*	
single enclosure	[X15]	—	55 Hz - 20 kHz
	[X15_MO]	—	52 Hz - 20 kHz low latency
single enclosure + subwoofer	[X15]	[xxxx_100]	down to 32 Hz reinforced LF contour
	[X15_MO]		down to 32 Hz reinforced LF contour low latency


\* with subwoofers as a cardioid array, use [xxxx\_100\_C] or [xxxx\_100\_Cx]

 [xx\_MO] presets for the X series and A series use the amplified controller low latency operating mode. When used along with subwoofers, it is recommended to use the subwoofers in low latency operating mode. To achieve this, create custom presets combining low latency channel sets and subwoofer channel sets.

If the subwoofers are driven from a dedicated amplified controller using a subwoofer factory preset, they are operated in normal latency mode. Therefore, an additional delay should be set to the [xx\_MO] low latency channels to align them: 2.66 ms on LA4 and LA8 or 3.00 ms on LA2Xi, LA4X, and LA12X.

### [X15] and [X15\_MO]

loudspeaker elements	outputs	channels	routing	gain	delay	polarity	mute
LF	OUT 1	LF	IN A	0 dB	0 ms	+	ON
HF	OUT 2	HF					
LF	OUT 3	LF	IN B	0 dB	0 ms	+	ON
HF	OUT 4	HF					

 Routing, gain, delay, polarity and mute parameters can be modified by the user.

## 8XT, 12XTP, MTD108a, MTD112b and MTD115bP

8XT, 12XTP, MTD108a, MTD112b and MTD115bP are passive coaxial loudspeaker enclosures.

### Preset names

passive coaxial loudspeaker enclosure	preset
8XT	[8XT_xx]
12XTP (in passive mode)	[12XTP_xx]
MTD108a	[108a_xx]
MTD112b	[112b_xx]
MTD115b (in passive mode)	[115bP_xx]

loudspeaker configuration	preset(s)		acoustic properties	
	passive xxx	SB15m, SB18 or SB118*		
coaxial	[xxx_FR], [xxx_FI] or [xxx_MO]	—	nominal bandwidth	choice between 3 contours**
coaxial + coupled subwoofer	[xxx_xx_100]	[SBxx_100]	down to 40 Hz (SB15m) or 32 Hz (SB18/SB118) reinforced LF contour	

\* with subwoofers as a cardioid array, use [SBxx\_xx\_C] or [SBxx\_xx\_Cx]

\*\* [xxx\_FR] for FOH application, [xxx\_FI] for speech, classical music or fill, [xxx\_MO] flat in half-space loading conditions (floor, wall or ceiling)

### [xxx\_FR], [xxx\_FI], [xxx\_MO] and [xxx\_xx\_100]

outputs	channels	routing	gain	delay	polarity	mute
OUT 1	PA	IN A	0 dB	0 ms	+	ON
OUT 2	PA	IN A	0 dB	0 ms	+	ON
OUT 3	PA	IN B	0 dB	0 ms	+	ON
OUT 4	PA	IN B	0 dB	0 ms	+	ON



Routing, gain, delay, polarity and mute parameters can be modified by the user.

## 12XTA, 115XT, 115XT HiQ and MTD115bA

12XTA, 115XT, 115XT HiQ and MTD115bA are active coaxial loudspeaker enclosures.

### Preset names

active coaxial loudspeaker enclosure	preset
12XT (in active mode)	[12XTA_xx]
115XT HiQ	[HiQ_xx]
MTD115b (in active mode)	[115bA_xx]
115XT	[115XT_xx]

loudspeaker configuration	preset(s)		acoustic properties	
	active xxx	SB18 or SB118*		
coaxial	[xxx_FR], [xxx_FI] or [xxx_MO]	—	nominal bandwidth	choice between 3 contours**
coaxial + coupled subwoofer	[xxx_xx_100]	[SBxx_100]	down to 32 Hz reinforced LF contour	

\* with subwoofers as a cardioid array, use [SBxx\_xx\_C], or [SB18\_100\_Cx]

\*\* [xxx\_FR] for FOH application, [xxx\_FI] for speech, classical music or fill, [xxx\_MO] flat in half-space loading conditions (floor, wall or ceiling)

### [xxx\_FR], [xxx\_FI], [xxx\_MO] and [xxx\_xx\_100]

loudspeaker elements	outputs	channels	routing	gain	delay	polarity	mute
LF	OUT 1	LF	IN A	0 dB	0 ms	+	ON
HF	OUT 2	HF					
LF	OUT 3	LF	IN B	0 dB	0 ms	+	ON
HF	OUT 4	HF					



Routing, gain, delay, polarity and mute parameters can be modified by the user.

## Subwoofer loudspeaker enclosures presets

In this section, tables describe the loudspeaker configurations for L-Acoustics versatile subwoofers, and the corresponding factory presets. Discriminant acoustic properties of each loudspeaker configuration are given, such as -10 dB bandwidth or LF limit, or directivity specificity.



### Headroom for SB15m

SB15m presets [SB15\_100] and [SB15\_100\_C] have 8 dB of headroom from preset library version 5.6(.5). [SB15\_100\_Cx] has 8 dB of headroom.

4 dB of headroom are provided when using presets from earlier versions and preset [KIVA\_SB15].

### Headroom for K1-SB, KS28, SB28, SB18, SB218 and SB118

To provide 8 dB of headroom, the output gain of some subwoofer presets is adjusted in preset library 6.0 compared to previous versions.

This update aligns the L-DRIVE activity between subwoofers and full range loudspeakers for the same reference pink noise signal.

When updating presets in Session files using older versions of the preset library, adjust gains as follows to keep the same gain chain:

[SB28\_60], [SB218\_60]: + 4 dB

[KS28\_60], [SB\_28\_100], [SB18\_60], [SB18\_100], [SB218\_100], [SB118\_60], [SB118\_100]: + 3 dB

[KS28\_100]: + 2 dB

[K1SB\_60]: + 1 dB

### Optimal subwoofer compatibilities

subwoofer	presets	optimal compatibility
<b>KS28</b>	[KS28_60],[KS28_60_C], or [KS28_60_Cx]	K1, K2, K3(i), V-DOSC, Kudo, dV-DOSC/dV-SUB, Kara/SB18, Kara II(i), ARCS, ARCS II
	[KS28_100], [KS28_100_C], or [KS28_100_Cx]	dV-DOSC, Kara, coupled ARCS
<b>SB28</b>	[SB28_60],[SB28_60_C], or [SB28_60_Cx]	K1, K2, V-DOSC, Kudo, dV-DOSC/dV-SUB, Kara/SB18, Kara II(i), ARCS, ARCS II
	[SB28_100], [SB28_100_C], or [SB28_100_Cx]	dV-DOSC, Kara, coupled ARCS
<b>KS21(i)</b>	[KS21_60],[KS21_60_C], or [KS21_60_Cx]	A15(i) Wide/Focus, Kara(i), Kara II(i), K3(i)
	[KS21_100], [KS21_100_C], or [KS21_100_Cx]	A10(i) Wide/Focus, X15 HiQ, X12, XT, Kara(i), Kara II(i)
<b>SB18(i/m)</b> <b>SB18 Ili</b>	[SB18_60],[SB18_60_C], or [SB18_60_Cx]	Kudo, Kara, Kara II(i), Kiva/Kilo, ARCS, ARCS Wide, ARCS Focus
	[SB18_100],[SB18_100_C], or [SB18_100_Cx]	Kara, Kara II(i), ARCS, XT, X series, Kiva II
<b>SB218</b>	[SB218_60]	V-DOSC, Kudo, dV-DOSC/dV-SUB, ARCS
	[SB218_100]	dV-DOSC, coupled ARCS
<b>SB118</b>	[SB118_60] or [SB118_60_C]	Kudo, dV-DOSC/dV-SUB, Kiva/Kilo, ARCS
	[SB118_100] or [SB118_100_C]	dV-DOSC, ARCS, XT, coupled MTD
<b>SB15m</b>	[SB15_100],[SB15_100_C], or [SB15_100_Cx]	Coupled Kiva, coupled Kiva II, XT, X12, X8
<b>SB10i</b>	[SB10_100]	5XT
	[SB10_200]	X4i

subwoofer	presets	optimal compatibility
<b>Syva Low</b>	[SYVA LOW SYVA]	coupled Syva, coupled Syva + Syva Sub
	[SYVA LOW_100]	Syva, Syva + Syva Sub
<b>Syva Sub</b>	[SYVA SUB_100]	Syva/Syva Low, coupled Syva/Syva Low
	[SYVA SUB_200]	X4i

### Standard, Cardioid C, and Cardioid Cx configurations

A standard configuration exhibits a quasi-omnidirectional pattern. It is obtained within a cluster with all subwoofers facing forward and using the associated standard preset ([xxxx\_60]). This configuration maximizes SPL in front and ensures best temporal integrity. It should be used in applications where rear cancelation is not required, and front response is most important.

A Cardioid C configuration exhibits a cardioid pattern. It is obtained by reversing one enclosure per group of three or four subwoofers and using the associated cardioid preset ([xxxx\_60\_C]). This configuration offers rear SPL cancelation centered around the most critical frequencies with little to no compromises on front SPL and temporal integrity. It should be used in applications where rear cancelation and front response are equally important.

A Cardioid Cx configuration exhibits a cardioid pattern. It is obtained by reversing one enclosure per group of three or four subwoofers and using the associated eXtended cardioid preset ([xxxx\_60\_Cx]). This configuration offers broadband rear SPL cancelation with limited compromise on front SPL and temporal integrity. It should be used in applications where rear cancelation is most important.

Refer to the **Standard and cardioid subwoofer configurations** technical bulletin for more information on the sonic properties and physical deployment of these configurations.

**Acoustic properties of subwoofers**

<b>loudspeaker configuration<sup>1</sup></b>	<b>preset(s)<sup>2</sup></b>	<b>acoustic properties</b>
standard	[xxxx_60] or [xxxx_100]	down to: 25 Hz (KS28 / SB28 / SB218), 27 Hz (Syva Low+Syva Sub), 29 Hz (KS21), 32 Hz (SB18 / SB118), 40 Hz (SB15m, Syva Low)
cardioid C	[xxxx_60_C] or [xxxx_100_C]	down to: 25 Hz (KS28 / SB28), 29 Hz (KS21), 32 Hz (SB18 / SB118), 40 Hz (SB15m) cardioid directivity pattern
cardioid Cx	[xxxx_60_Cx], or [xxxx_100_Cx]	down to: 25 Hz (KS28 / SB28), 29 Hz (KS21), 32 Hz (SB18), 40 Hz (SB15m) extended cardioid directivity pattern

<sup>1</sup> Refer to the subwoofer manual for the recommended deployment patterns in each configuration.

<sup>2</sup> SB28 and SB218 are exclusively driven by LA8 and LA12X amplified controllers. KS28 is exclusively driven by LA12X amplified controllers.

**[xxxx\_60] or [xxxx\_100]**

outputs	channels	routing	gain	delay	polarity	mute
OUT 1	SB	IN A	0 dB	0 ms	+	ON
OUT 2	SB	IN A	0 dB	0 ms	+	ON
OUT 3	SB	IN A	0 dB	0 ms	+	ON
OUT 4	SB	IN A	0 dB	0 ms	+	ON

**[xxxx\_60\_C], [xxxx\_100\_C], [xxxx\_60\_Cx], or [xxxx\_100\_Cx]**

loudspeaker elements	outputs	channels	routing	gain	delay	polarity	mute
SR	OUT 1	SR					ON
SB	OUT 2	SB					ON
SB	OUT 3	SB	IN A	0 dB	0 ms	+	ON
SB	OUT 4	SB					ON



Routing, gain, delay, polarity and mute parameters can be modified by the user.

## Pre-alignment delay values

### ! Time alignment from geometric measurements

When combining several loudspeaker systems, it is important to adjust their delay values to optimize acoustic summation. If no acoustic measurement tool is available, it is possible to use the pre-alignment delay values given in the tables on this section.

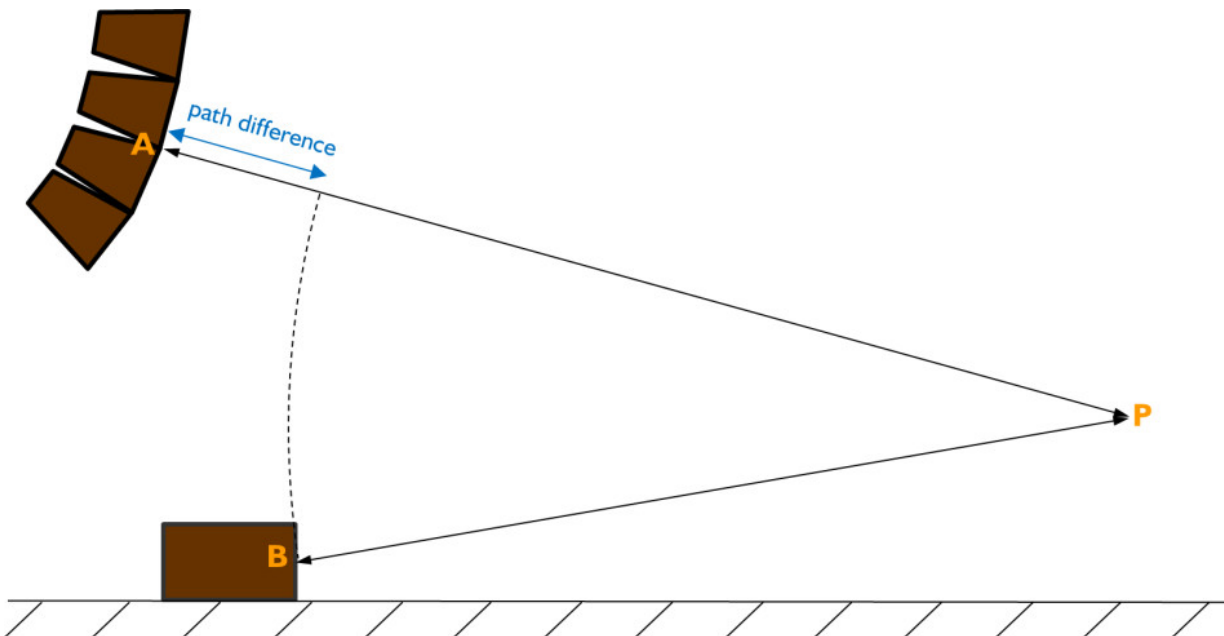
Pre-alignment delays have been measured with the enclosures at the same geometric location, front face on the same plane.

After adding these values to the factory presets, time-alignment is then obtained by adding the geometric delay to the closest system. The geometric delay is calculated from the path difference between a reference listening point and the center of each system.

### i Laser rangefinders

The L-Acoustics Tech Toolcase includes two laser devices that can be used for geometric measurements: TruPulse™ 200 (trademark of Laser Technology, Inc.) and Leica DISTO™ D3 (trademark Leica Geosystems).

### line source + separated subwoofer



### Procedure

1. Measure the path difference:  $PA - PB$ , with:
  - P: reference listening point
  - A: center of the further system, named system a
  - B: center of the closest system, named system b
2. Calculate the Geometric delay(s):  $\text{Path difference (m)} / \text{Sound velocity (m.s}^{-1}\text{)}$ , with:
  - sound velocity  $\approx 340 \text{ m.s}^{-1}$  at  $20^\circ\text{C}$  and in dry air
3. Refer to the tables of this section to find the **Pre-alignment delay a** and the **Pre-alignment delay b**, corresponding to the system a + system b combination.
4. Add the Alignment delay to the factory preset of each system. Being the closest to the reference listening point, the geometric delay must be added to the system b only:
  - a) alignment delay (ms) for system a = **Pre-alignment delay a** (ms)
  - b) alignment delay (ms) for system b = **Pre-alignment delay b** (ms) + Geometric delay (ms)
 Normalization: If  $\neq 0$ , subtract **Pre-alignment delay a** to both Alignment delay values.



## Variable curvature WST systems

### K1 + K1-SB

presets	pre-alignment delay values and polarity settings			
[K1] + [K1SB_X]	K1 = 0 ms	<input type="checkbox"/>	K1-SB = 0 ms	<input type="checkbox"/>
[K1] + [K1SB_60]	K1 = 6 ms	<input type="checkbox"/>	K1-SB = 0 ms	<input type="checkbox"/>

### K1 + SB28

presets	pre-alignment delay values and polarity settings			
[K1] + [SB28_60]	K1 = 0.5 ms	<input type="checkbox"/>	SB28 = 0 ms	<input type="checkbox"/>
[K1] + [SB28_60_C]	K1 = 6 ms	<input type="checkbox"/>	SB28 = 0 ms	<input type="checkbox"/>
[K1] + [SB28_60_Cx]	K1 = 4 ms	<input type="checkbox"/>	SB28 = 0 ms	<input type="checkbox"/>

### K1 + KS28

presets	pre-alignment delay values and polarity settings			
[K1] + [KS28_60]	K1 = 0.5 ms	<input type="checkbox"/>	KS28 = 0 ms	<input type="checkbox"/>
[K1] + [KS28_60_C]	K1 = 6 ms	<input type="checkbox"/>	KS28 = 0 ms	<input type="checkbox"/>
[K1] + [KS28_60_Cx]	K1 = 4 ms	<input type="checkbox"/>	KS28 = 0 ms	<input type="checkbox"/>

### K1 + K1-SB + SB28

presets	pre-alignment delay values and polarity settings					
[K1] + [K1SB_X] + [SB28_60]	K1 = 0 ms	<input type="checkbox"/>	K1-SB = 0 ms	<input type="checkbox"/>	SB28 = 0 ms	<input type="checkbox"/>
[K1] + [K1SB_X] + [SB28_60_C]	K1 = 5.5 ms	<input type="checkbox"/>	K1-SB = 5.5 ms	<input type="checkbox"/>	SB28 = 0 ms	<input type="checkbox"/>
[K1] + [K1SB_X] + [SB28_60_Cx]	K1 = 3.5 ms	<input type="checkbox"/>	K1-SB = 3.5 ms	<input type="checkbox"/>	SB28 = 0 ms	<input type="checkbox"/>
[K1] + [K1SB_60] + [SB28_60]	K1 = 6 ms	<input type="checkbox"/>	K1-SB = 0 ms	<input type="checkbox"/>	SB28 = 6 ms	<input type="checkbox"/>
[K1] + [K1SB_60] + [SB28_60_C]	K1 = 6 ms	<input type="checkbox"/>	K1-SB = 0 ms	<input type="checkbox"/>	SB28 = 0.5 ms	<input type="checkbox"/>
[K1] + [K1SB_60] + [SB28_60_Cx]	K1 = 6 ms	<input type="checkbox"/>	K1-SB = 0 ms	<input type="checkbox"/>	SB28 = 4 ms	<input type="checkbox"/>

**K1 + K1-SB + KS28**

presets	pre-alignment delay values and polarity settings		
[K1] + [K1SB_X] + [KS28_60]	K1 = 0 ms <input type="checkbox"/>	K1-SB = 0 ms <input type="checkbox"/>	KS28 = 0 ms <input type="checkbox"/>
[K1] + [K1SB_X] + [KS28_60_C]	K1 = 5.5 ms <input type="checkbox"/>	K1-SB = 5.5 ms <input type="checkbox"/>	KS28 = 0 ms <input type="checkbox"/>
[K1] + [K1SB_X] + [KS28_60_Cx]	K1 = 3.5 ms <input type="checkbox"/>	K1-SB = 3.5 ms <input type="checkbox"/>	KS28 = 0 ms <input type="checkbox"/>
[K1] + [K1SB_60] + [KS28_60]	K1 = 6 ms <input type="checkbox"/>	K1-SB = 0 ms <input type="checkbox"/>	KS28 = 6 ms <input type="checkbox"/>
[K1] + [K1SB_60] + [KS28_60_C]	K1 = 6 ms <input type="checkbox"/>	K1-SB = 0 ms <input type="checkbox"/>	KS28 = 0.5 ms <input type="checkbox"/>
[K1] + [K1SB_60] + [KS28_60_Cx]	K1 = 6 ms <input type="checkbox"/>	K1-SB = 0 ms <input type="checkbox"/>	KS28 = 4 ms <input type="checkbox"/>

**K2 + K1-SB**

presets	pre-alignment delay values and polarity settings	
[K2] + [K1SB_X K2]	K2 = 0 ms <input type="checkbox"/>	K1-SB = 0 ms <input type="checkbox"/>
[K2] + [K1SB_60]	K2 = 6 ms <input type="checkbox"/>	K1-SB = 0 ms <input type="checkbox"/>

**K2 + SB28**

presets	pre-alignment delay values and polarity settings	
[K2] + [SB28_60]	K2 = 0.5 ms <input type="checkbox"/>	SB28 = 0 ms <input type="checkbox"/>
[K2] + [SB28_60_C]	K2 = 6 ms <input type="checkbox"/>	SB28 = 0 ms <input type="checkbox"/>
[K2] + [SB28_60_Cx]	K2 = 4 ms <input type="checkbox"/>	SB28 = 0 ms <input type="checkbox"/>

**K2 + KS28**

presets	pre-alignment delay values and polarity settings	
[K2] + [KS28_60]	K2 = 0.5 ms <input type="checkbox"/>	KS28 = 0 ms <input type="checkbox"/>
[K2] + [KS28_60_C]	K2 = 6 ms <input type="checkbox"/>	KS28 = 0 ms <input type="checkbox"/>
[K2] + [KS28_60_Cx]	K2 = 4 ms <input type="checkbox"/>	KS28 = 0 ms <input type="checkbox"/>

**K2 + K1-SB + SB28**

presets	pre-alignment delay values and polarity settings					
[K2] + [K1SB_X K2] + [SB28_60]	K2 = 0 ms	<input type="checkbox"/>	K1-SB = 0 ms	<input type="checkbox"/>	SB28 = 0 ms	<input type="checkbox"/>
[K2] + [K1SB_X K2] + [SB28_60_C]	K2 = 5.5 ms	<input type="checkbox"/>	K1-SB = 5.5 ms	<input type="checkbox"/>	SB28 = 0 ms	<input type="checkbox"/>
[K2] + [K1SB_X K2] + [SB28_60_Cx]	K2 = 3.5 ms	<input type="checkbox"/>	K1-SB = 3.5 ms	<input type="checkbox"/>	SB28 = 0 ms	<input type="checkbox"/>
[K2] + [K1SB_60] + [SB28_60]	K2 = 6 ms	<input type="checkbox"/>	K1-SB = 0 ms	<input type="checkbox"/>	SB28 = 6 ms	<input type="checkbox"/>
[K2] + [K1SB_60] + [SB28_60_C]	K2 = 6 ms	<input type="checkbox"/>	K1-SB = 0 ms	<input type="checkbox"/>	SB28 = 0.5 ms	<input type="checkbox"/>
[K2] + [K1SB_60] + [SB28_60_Cx]	K2 = 6 ms	<input type="checkbox"/>	K1-SB = 0 ms	<input type="checkbox"/>	SB28 = 4 ms	<input type="checkbox"/>

**K2 + K1-SB + KS28**

presets	pre-alignment delay values and polarity settings					
[K2] + [K1SB_X K2] + [KS28_60]	K2 = 0 ms	<input type="checkbox"/>	K1-SB = 0 ms	<input type="checkbox"/>	KS28 = 0 ms	<input type="checkbox"/>
[K2] + [K1SB_X K2] + [KS28_60_C]	K2 = 5.5 ms	<input type="checkbox"/>	K1-SB = 5.5 ms	<input type="checkbox"/>	KS28 = 0 ms	<input type="checkbox"/>
[K2] + [K1SB_X K2] + [KS28_60_Cx]	K2 = 3.5 ms	<input type="checkbox"/>	K1-SB = 3.5 ms	<input type="checkbox"/>	KS28 = 0 ms	<input type="checkbox"/>
[K2] + [K1SB_60] + [KS28_60]	K2 = 6 ms	<input type="checkbox"/>	K1-SB = 0 ms	<input type="checkbox"/>	KS28 = 6 ms	<input type="checkbox"/>
[K2] + [K1SB_60] + [KS28_60_C]	K2 = 6 ms	<input type="checkbox"/>	K1-SB = 0 ms	<input type="checkbox"/>	KS28 = 0.5 ms	<input type="checkbox"/>
[K2] + [K1SB_60] + [KS28_60_Cx]	K2 = 6 ms	<input type="checkbox"/>	K1-SB = 0 ms	<input type="checkbox"/>	KS28 = 4 ms	<input type="checkbox"/>

**K3 + KS28**

presets	pre-alignment delay values and polarity settings			
[K3] + [KS28_60]	K3 = 0.5 ms	<input type="checkbox"/>	KS28 = 0 ms	<input type="checkbox"/>
[K3] + [KS28_60_C]	K3 = 6 ms	<input type="checkbox"/>	KS28 = 0 ms	<input type="checkbox"/>
[K3] + [KS28_60_Cx]	K3 = 4 ms	<input type="checkbox"/>	KS28 = 0 ms	<input type="checkbox"/>

**K3 + KS21**

presets	pre-alignment delay values and polarity settings			
[K3] + [KS21_60]	K3 = 0 ms	<input type="checkbox"/>	KS21 = 0 ms	<input type="checkbox"/>
[K3] + [KS21_60_C]	K3 = 5.5 ms	<input type="checkbox"/>	KS21 = 0 ms	<input type="checkbox"/>
[K3] + [KS21_60_Cx]	K3 = 5 ms	<input type="checkbox"/>	KS21 = 0 ms	<input type="checkbox"/>

**Kudo + SB118**

presets	pre-alignment delay values and polarity settings	
[KUDOxx_60] + [SB118_60]	Kudo = 0 ms <input data-bbox="965 235 1013 280" type="button" value="+"/>	SB118 = 3.5 ms <input data-bbox="1444 235 1492 280" type="button" value="+"/>
[KUDOxx_60] + [SB118_60_C]	Kudo = 2 ms <input data-bbox="965 324 1013 369" type="button" value="+"/>	SB118 = 0 ms <input data-bbox="1444 324 1492 369" type="button" value="+"/>

**Kudo + SB18**

presets	pre-alignment delay values and polarity settings	
[KUDOxx_60] + [SB18_60]	Kudo = 0 ms <input data-bbox="965 533 1013 577" type="button" value="+"/>	SB18 = 3.9 ms <input data-bbox="1444 533 1492 577" type="button" value="+"/>
[KUDOxx_60] + [SB18_60_C]	Kudo = 1.6 ms <input data-bbox="965 622 1013 667" type="button" value="+"/>	SB18 = 0 ms <input data-bbox="1444 622 1492 667" type="button" value="+"/>

**Kudo + SB218**

presets	pre-alignment delay values and polarity settings	
[KUDOxx_60] + [SB218_60]	Kudo = 0 ms <input data-bbox="965 828 1013 873" type="button" value="+"/>	SB218 = 5 ms <input data-bbox="1444 828 1492 873" type="button" value="+"/>

**Kudo + SB28**

presets	pre-alignment delay values and polarity settings	
[KUDOxx_60] + [SB28_60]	Kudo = 0 ms <input data-bbox="965 1046 1013 1090" type="button" value="+"/>	SB28 = 5 ms <input data-bbox="1444 1046 1492 1090" type="button" value="+"/>
[KUDOxx_60] + [SB28_60_C]	Kudo = 0.5 ms <input data-bbox="965 1135 1013 1180" type="button" value="+"/>	SB28 = 0 ms <input data-bbox="1444 1135 1492 1180" type="button" value="+"/>

**Kudo + KS28**

presets	pre-alignment delay values and polarity settings	
[KUDOxx_60] + [KS28_60]	Kudo = 0 ms <input data-bbox="965 1341 1013 1386" type="button" value="+"/>	KS28 = 5 ms <input data-bbox="1444 1341 1492 1386" type="button" value="+"/>
[KUDOxx_60] + [KS28_60_C]	Kudo = 0.5 ms <input data-bbox="965 1431 1013 1476" type="button" value="+"/>	KS28 = 0 ms <input data-bbox="1444 1431 1492 1476" type="button" value="+"/>

**Kara + SB18**

<b>presets</b>	<b>pre-alignment delay values and polarity settings</b>	
[KARA] + [SB18_100]	Kara = 0 ms <input style="background-color: #cccccc; border: 1px solid black; padding: 2px 5px; vertical-align: middle;" type="button" value="+"/>	SB18 = 0 ms <input style="background-color: #cccccc; border: 1px solid black; padding: 2px 5px; vertical-align: middle;" type="button" value="+"/>
[KARA_FI] + [SB18_100]	Kara = 3 ms <input style="background-color: #cccccc; border: 1px solid black; padding: 2px 5px; vertical-align: middle;" type="button" value="+"/>	SB18 = 0 ms <input style="background-color: #cccccc; border: 1px solid black; padding: 2px 5px; vertical-align: middle;" type="button" value="+"/>
[KARA] + [SB18_100_C]	Kara = 5.5 ms <input style="background-color: #cccccc; border: 1px solid black; padding: 2px 5px; vertical-align: middle;" type="button" value="+"/>	SB18 = 0 ms <input style="background-color: #cccccc; border: 1px solid black; padding: 2px 5px; vertical-align: middle;" type="button" value="+"/>
[KARA] + [SB18_100_Cx]	Kara = 4 ms <input style="background-color: #cccccc; border: 1px solid black; padding: 2px 5px; vertical-align: middle;" type="button" value="+"/>	SB18 = 0 ms <input style="background-color: #ff0000; border: 1px solid black; padding: 2px 5px; vertical-align: middle;" type="button" value="-"/>
[KARA_FI] + [SB18_100_C]	Kara = 8.5 ms <input style="background-color: #cccccc; border: 1px solid black; padding: 2px 5px; vertical-align: middle;" type="button" value="+"/>	SB18 = 0 ms <input style="background-color: #cccccc; border: 1px solid black; padding: 2px 5px; vertical-align: middle;" type="button" value="+"/>
[KARA_FI] + [SB18_100_Cx]	Kara = 7 ms <input style="background-color: #cccccc; border: 1px solid black; padding: 2px 5px; vertical-align: middle;" type="button" value="+"/>	SB18 = 0 ms <input style="background-color: #ff0000; border: 1px solid black; padding: 2px 5px; vertical-align: middle;" type="button" value="-"/>
[KARA] + [SB18_60]	Kara = 2.5 ms <input style="background-color: #cccccc; border: 1px solid black; padding: 2px 5px; vertical-align: middle;" type="button" value="+"/>	SB18 = 0 ms <input style="background-color: #cccccc; border: 1px solid black; padding: 2px 5px; vertical-align: middle;" type="button" value="+"/>
[KARA] + [SB18_60_C]	Kara = 8 ms <input style="background-color: #cccccc; border: 1px solid black; padding: 2px 5px; vertical-align: middle;" type="button" value="+"/>	SB18 = 0 ms <input style="background-color: #cccccc; border: 1px solid black; padding: 2px 5px; vertical-align: middle;" type="button" value="+"/>
[KARA] + [SB18_60_Cx]	Kara = 6.5 ms <input style="background-color: #cccccc; border: 1px solid black; padding: 2px 5px; vertical-align: middle;" type="button" value="+"/>	SB18 = 0 ms <input style="background-color: #ff0000; border: 1px solid black; padding: 2px 5px; vertical-align: middle;" type="button" value="-"/>

**Kara + KS21**

<b>presets</b>	<b>pre-alignment delay values and polarity settings</b>	
[KARA] + [KS21_60]	Kara = 0.5 ms <input style="background-color: #cccccc; border: 1px solid black; padding: 2px 5px;" type="button" value="+"/>	KS21 = 0 ms <input style="background-color: #cccccc; border: 1px solid black; padding: 2px 5px;" type="button" value="+"/>
[KARA] + [KS21_60_C]	Kara = 6 ms <input style="background-color: #cccccc; border: 1px solid black; padding: 2px 5px;" type="button" value="+"/>	KS21 = 0 ms <input style="background-color: #cccccc; border: 1px solid black; padding: 2px 5px;" type="button" value="+"/>
[KARA] + [KS21_60_Cx]	Kara = 5.5 ms <input style="background-color: #cccccc; border: 1px solid black; padding: 2px 5px;" type="button" value="+"/>	KS21 = 0 ms <input style="background-color: #ff0000; border: 1px solid black; padding: 2px 5px;" type="button" value="-"/>
[KARA] + [KS21_100]	Kara = 0 ms <input style="background-color: #cccccc; border: 1px solid black; padding: 2px 5px;" type="button" value="+"/>	KS21 = 0.5 ms <input style="background-color: #cccccc; border: 1px solid black; padding: 2px 5px;" type="button" value="+"/>
[KARA] + [KS21_100_C]	Kara = 5 ms <input style="background-color: #cccccc; border: 1px solid black; padding: 2px 5px;" type="button" value="+"/>	KS21 = 0 ms <input style="background-color: #cccccc; border: 1px solid black; padding: 2px 5px;" type="button" value="+"/>
[KARA] + [KS21_100_Cx]	Kara = 4 ms <input style="background-color: #cccccc; border: 1px solid black; padding: 2px 5px;" type="button" value="+"/>	KS21 = 0 ms <input style="background-color: #ff0000; border: 1px solid black; padding: 2px 5px;" type="button" value="-"/>
[KARA_FI] + [KS21_100]	Kara = 0 ms <input style="background-color: #cccccc; border: 1px solid black; padding: 2px 5px;" type="button" value="+"/>	KS21 = 2.5 ms <input style="background-color: #ff0000; border: 1px solid black; padding: 2px 5px;" type="button" value="-"/>
[KARA_FI] + [KS21_100_C]	Kara = 3 ms <input style="background-color: #cccccc; border: 1px solid black; padding: 2px 5px;" type="button" value="+"/>	KS21 = 0 ms <input style="background-color: #ff0000; border: 1px solid black; padding: 2px 5px;" type="button" value="-"/>
[KARA_FI] + [KS21_100_Cx]	Kara = 2 ms <input style="background-color: #cccccc; border: 1px solid black; padding: 2px 5px;" type="button" value="+"/>	KS21 = 0 ms <input style="background-color: #cccccc; border: 1px solid black; padding: 2px 5px;" type="button" value="+"/>

**Kara + SB28**

<b>presets</b>	<b>pre-alignment delay values and polarity settings</b>	
[KARA] + [SB28_100]	Kara = 0 ms <input style="background-color: #cccccc; border: 1px solid black; padding: 2px 5px;" type="button" value="+"/>	SB28 = 1 ms <input style="background-color: #cccccc; border: 1px solid black; padding: 2px 5px;" type="button" value="+"/>
[KARA] + [SB28_100_C]	Kara = 4.5 ms <input style="background-color: #cccccc; border: 1px solid black; padding: 2px 5px;" type="button" value="+"/>	SB28 = 0 ms <input style="background-color: #cccccc; border: 1px solid black; padding: 2px 5px;" type="button" value="+"/>
[KARA] + [SB28_100_Cx]	Kara = 7.5 ms <input style="background-color: #cccccc; border: 1px solid black; padding: 2px 5px;" type="button" value="+"/>	SB28 = 0 ms <input style="background-color: #ff0000; border: 1px solid black; padding: 2px 5px;" type="button" value="-"/>
[KARA] + [SB28_60]	Kara = 0 ms <input style="background-color: #cccccc; border: 1px solid black; padding: 2px 5px;" type="button" value="+"/>	SB28 = 5 ms <input style="background-color: #ff0000; border: 1px solid black; padding: 2px 5px;" type="button" value="-"/>
[KARA] + [SB28_60_C]	Kara = 0.5 ms <input style="background-color: #cccccc; border: 1px solid black; padding: 2px 5px;" type="button" value="+"/>	SB28 = 0 ms <input style="background-color: #ff0000; border: 1px solid black; padding: 2px 5px;" type="button" value="-"/>
[KARA] + [SB28_60_Cx]	Kara = 4.5 ms <input style="background-color: #cccccc; border: 1px solid black; padding: 2px 5px;" type="button" value="+"/>	SB28 = 0 ms <input style="background-color: #cccccc; border: 1px solid black; padding: 2px 5px;" type="button" value="+"/>

**Kara + KS28**

presets	pre-alignment delay values and polarity settings			
[KARA] + [KS28_100]	Kara = 0 ms	<input type="checkbox"/>	KS28 = 1 ms	<input type="checkbox"/>
[KARA] + [KS28_100_C]	Kara = 4.5 ms	<input type="checkbox"/>	KS28 = 0 ms	<input type="checkbox"/>
[KARA] + [KS28_100_Cx]	Kara = 7.5 ms	<input type="checkbox"/>	KS28 = 0 ms	<input type="checkbox"/>
[KARA] + [KS28_60]	Kara = 0 ms	<input type="checkbox"/>	KS28 = 5 ms	<input type="checkbox"/>
[KARA] + [KS28_60_C]	Kara = 0.5 ms	<input type="checkbox"/>	KS28 = 0 ms	<input type="checkbox"/>
[KARA] + [KS28_60_Cx]	Kara = 4.5 ms	<input type="checkbox"/>	KS28 = 0 ms	<input type="checkbox"/>

**Kara + SB18 + SB28**

presets	pre-alignment delay values and polarity settings					
[KARA] + [SB18_100] + [SB28_60]	Kara = 0 ms	<input type="checkbox"/>	SB18 = 0 ms	<input type="checkbox"/>	SB28 = 5.5 ms	<input type="checkbox"/>
[KARA] + [SB18_100] + [SB28_60_C]	Kara = 0 ms	<input type="checkbox"/>	SB18 = 0 ms	<input type="checkbox"/>	SB28 = 0 ms	<input type="checkbox"/>
[KARA] + [SB18_100] + [SB28_60_Cx]	Kara = 5.5 ms	<input type="checkbox"/>	SB18 = 5.5 ms	<input type="checkbox"/>	SB28 = 0 ms	<input type="checkbox"/>

**Kara + SB18 + KS28**

presets	pre-alignment delay values and polarity settings					
[KARA] + [SB18_100] + [KS28_60]	Kara = 0 ms	<input type="checkbox"/>	SB18 = 0 ms	<input type="checkbox"/>	KS28 = 5.5 ms	<input type="checkbox"/>
[KARA] + [SB18_100] + [KS28_60_C]	Kara = 0 ms	<input type="checkbox"/>	SB18 = 0 ms	<input type="checkbox"/>	KS28 = 0 ms	<input type="checkbox"/>
[KARA] + [SB18_100] + [KS28_60_Cx]	Kara = 5.5 ms	<input type="checkbox"/>	SB18 = 5.5 ms	<input type="checkbox"/>	KS28 = 0 ms	<input type="checkbox"/>

**Kara + KS21 + SB28**

presets	pre-alignment delay values and polarity settings					
[KARA] + [KS21_100] + [SB28_60]	Kara = 0 ms	<input type="checkbox"/>	KS21 = 0.5 ms	<input type="checkbox"/>	SB28 = 5.5 ms	<input type="checkbox"/>
[KARA] + [KS21_100] + [SB28_60_C]	Kara = 0 ms	<input type="checkbox"/>	KS21 = 0.5 ms	<input type="checkbox"/>	SB28 = 0 ms	<input type="checkbox"/>
[KARA] + [KS21_100] + [SB28_60_Cx]	Kara = 5.5 ms	<input type="checkbox"/>	KS21 = 6 ms	<input type="checkbox"/>	SB28 = 0 ms	<input type="checkbox"/>

**Kara + KS21 + KS28**

<b>presets</b>	<b>pre-alignment delay values and polarity settings</b>		
[KARA] + [KS21_100] + [KS28_60]	Kara = 0 ms <input style="background-color: #cccccc; border: 1px solid black; padding: 2px 5px;" type="button" value="+"/>	KS21 = 0 ms <input style="background-color: #cccccc; border: 1px solid black; padding: 2px 5px;" type="button" value="+"/>	KS28 = 5.5 ms <input style="background-color: #cc0000; color: white; border: 1px solid black; padding: 2px 5px;" type="button" value="-"/>
[KARA] + [KS21_100] + [KS28_60_C]	Kara = 0 ms <input style="background-color: #cccccc; border: 1px solid black; padding: 2px 5px;" type="button" value="+"/>	KS21 = 0.5 ms <input style="background-color: #cccccc; border: 1px solid black; padding: 2px 5px;" type="button" value="+"/>	KS28 = 0 ms <input style="background-color: #cc0000; color: white; border: 1px solid black; padding: 2px 5px;" type="button" value="-"/>
[KARA] + [KS21_100] + [KS28_60_Cx]	Kara = 5.5 ms <input style="background-color: #cccccc; border: 1px solid black; padding: 2px 5px;" type="button" value="+"/>	KS21 = 6 ms <input style="background-color: #cccccc; border: 1px solid black; padding: 2px 5px;" type="button" value="+"/>	KS28 = 0 ms <input style="background-color: #cccccc; border: 1px solid black; padding: 2px 5px;" type="button" value="+"/>

**Kara II + SB18**

<b>presets</b>	<b>pre-alignment delay values and polarity settings</b>	
[KARA II] + [SB18_100]	Kara II = 0 ms <input style="background-color: #cccccc; border: 1px solid black; padding: 2px 5px;" type="button" value="+"/>	SB18 = 0 ms <input style="background-color: #cccccc; border: 1px solid black; padding: 2px 5px;" type="button" value="+"/>
[KARA_II_FI] + [SB18_100]	Kara II = 3 ms <input style="background-color: #cccccc; border: 1px solid black; padding: 2px 5px;" type="button" value="+"/>	SB18 = 0 ms <input style="background-color: #cccccc; border: 1px solid black; padding: 2px 5px;" type="button" value="+"/>
[KARA II] + [SB18_100_C]	Kara II = 5.5 ms <input style="background-color: #cccccc; border: 1px solid black; padding: 2px 5px;" type="button" value="+"/>	SB18 = 0 ms <input style="background-color: #cccccc; border: 1px solid black; padding: 2px 5px;" type="button" value="+"/>
[KARA II] + [SB18_100_Cx]	Kara II = 4 ms <input style="background-color: #cccccc; border: 1px solid black; padding: 2px 5px;" type="button" value="+"/>	SB18 = 0 ms <input style="background-color: #cc0000; color: white; border: 1px solid black; padding: 2px 5px;" type="button" value="-"/>
[KARA_II_FI] + [SB18_100_C]	Kara II = 8.5 ms <input style="background-color: #cccccc; border: 1px solid black; padding: 2px 5px;" type="button" value="+"/>	SB18 = 0 ms <input style="background-color: #cccccc; border: 1px solid black; padding: 2px 5px;" type="button" value="+"/>
[KARA_II_FI] + [SB18_100_Cx]	Kara II = 7 ms <input style="background-color: #cccccc; border: 1px solid black; padding: 2px 5px;" type="button" value="+"/>	SB18 = 0 ms <input style="background-color: #cc0000; color: white; border: 1px solid black; padding: 2px 5px;" type="button" value="-"/>
[KARA II] + [SB18_60]	Kara II = 2.5 ms <input style="background-color: #cccccc; border: 1px solid black; padding: 2px 5px;" type="button" value="+"/>	SB18 = 0 ms <input style="background-color: #cccccc; border: 1px solid black; padding: 2px 5px;" type="button" value="+"/>
[KARA II] + [SB18_60_C]	Kara II = 8 ms <input style="background-color: #cccccc; border: 1px solid black; padding: 2px 5px;" type="button" value="+"/>	SB18 = 0 ms <input style="background-color: #cccccc; border: 1px solid black; padding: 2px 5px;" type="button" value="+"/>
[KARA II] + [SB18_60_Cx]	Kara II = 6.5 ms <input style="background-color: #cccccc; border: 1px solid black; padding: 2px 5px;" type="button" value="+"/>	SB18 = 0 ms <input style="background-color: #cc0000; color: white; border: 1px solid black; padding: 2px 5px;" type="button" value="-"/>



**Kara II + KS21**

<b>presets</b>	<b>pre-alignment delay values and polarity settings</b>	
[KARA II] + [KS21_60]	Kara II = 0.5 ms <input style="background-color: #cccccc; border: 1px solid black; padding: 2px 5px;" type="button" value="+"/>	KS21 = 0 ms <input style="background-color: #cccccc; border: 1px solid black; padding: 2px 5px;" type="button" value="+"/>
[KARA II] + [KS21_60_C]	Kara II = 6 ms <input style="background-color: #cccccc; border: 1px solid black; padding: 2px 5px;" type="button" value="+"/>	KS21 = 0 ms <input style="background-color: #cccccc; border: 1px solid black; padding: 2px 5px;" type="button" value="+"/>
[KARA II] + [KS21_60_Cx]	Kara II = 5.5 ms <input style="background-color: #cccccc; border: 1px solid black; padding: 2px 5px;" type="button" value="+"/>	KS21 = 0 ms <input style="background-color: #cc0000; border: 1px solid black; padding: 2px 5px;" type="button" value="-"/>
[KARA II] + [KS21_100]	Kara II = 0 ms <input style="background-color: #cccccc; border: 1px solid black; padding: 2px 5px;" type="button" value="+"/>	KS21 = 0.5 ms <input style="background-color: #cccccc; border: 1px solid black; padding: 2px 5px;" type="button" value="+"/>
[KARA II] + [KS21_100_C]	Kara II = 5 ms <input style="background-color: #cccccc; border: 1px solid black; padding: 2px 5px;" type="button" value="+"/>	KS21 = 0 ms <input style="background-color: #cccccc; border: 1px solid black; padding: 2px 5px;" type="button" value="+"/>
[KARA II] + [KS21_100_Cx]	Kara II = 4 ms <input style="background-color: #cccccc; border: 1px solid black; padding: 2px 5px;" type="button" value="+"/>	KS21 = 0 ms <input style="background-color: #cc0000; border: 1px solid black; padding: 2px 5px;" type="button" value="-"/>
[KARA_II_FI] + [KS21_100]	Kara II = 0 ms <input style="background-color: #cccccc; border: 1px solid black; padding: 2px 5px;" type="button" value="+"/>	KS21 = 2.5 ms <input style="background-color: #cc0000; border: 1px solid black; padding: 2px 5px;" type="button" value="-"/>
[KARA_II_FI] + [KS21_100_C]	Kara II = 3 ms <input style="background-color: #cccccc; border: 1px solid black; padding: 2px 5px;" type="button" value="+"/>	KS21 = 0 ms <input style="background-color: #cc0000; border: 1px solid black; padding: 2px 5px;" type="button" value="-"/>
[KARA_II_FI] + [KS21_100_Cx]	Kara II = 2 ms <input style="background-color: #cccccc; border: 1px solid black; padding: 2px 5px;" type="button" value="+"/>	KS21 = 0 ms <input style="background-color: #cccccc; border: 1px solid black; padding: 2px 5px;" type="button" value="+"/>

**Kara II + SB28**

<b>presets</b>	<b>pre-alignment delay values and polarity settings</b>	
[KARA II] + [SB28_100]	Kara II = 0 ms <input style="background-color: #cccccc; border: 1px solid black; padding: 2px 5px;" type="button" value="+"/>	SB28 = 1 ms <input style="background-color: #cccccc; border: 1px solid black; padding: 2px 5px;" type="button" value="+"/>
[KARA II] + [SB28_100_C]	Kara II = 4.5 ms <input style="background-color: #cccccc; border: 1px solid black; padding: 2px 5px;" type="button" value="+"/>	SB28 = 0 ms <input style="background-color: #cccccc; border: 1px solid black; padding: 2px 5px;" type="button" value="+"/>
[KARA II] + [SB28_100_Cx]	Kara II = 7.5 ms <input style="background-color: #cccccc; border: 1px solid black; padding: 2px 5px;" type="button" value="+"/>	SB28 = 0 ms <input style="background-color: #cc0000; border: 1px solid black; padding: 2px 5px;" type="button" value="-"/>
[KARA II] + [SB28_60]	Kara II = 0 ms <input style="background-color: #cccccc; border: 1px solid black; padding: 2px 5px;" type="button" value="+"/>	SB28 = 5 ms <input style="background-color: #cc0000; border: 1px solid black; padding: 2px 5px;" type="button" value="-"/>
[KARA II] + [SB28_60_C]	Kara II = 0.5 ms <input style="background-color: #cccccc; border: 1px solid black; padding: 2px 5px;" type="button" value="+"/>	SB28 = 0 ms <input style="background-color: #cc0000; border: 1px solid black; padding: 2px 5px;" type="button" value="-"/>
[KARA II] + [SB28_60_Cx]	Kara II = 4.5 ms <input style="background-color: #cccccc; border: 1px solid black; padding: 2px 5px;" type="button" value="+"/>	SB28 = 0 ms <input style="background-color: #cccccc; border: 1px solid black; padding: 2px 5px;" type="button" value="+"/>

**Kara II + KS28**

presets	pre-alignment delay values and polarity settings			
[KARA II] + [KS28_100]	Kara II = 0 ms	<input type="checkbox"/>	KS28 = 1 ms	<input type="checkbox"/>
[KARA II] + [KS28_100_C]	Kara II = 4.5 ms	<input type="checkbox"/>	KS28 = 0 ms	<input type="checkbox"/>
[KARA II] + [KS28_100_Cx]	Kara II = 7.5 ms	<input type="checkbox"/>	KS28 = 0 ms	<input type="checkbox"/>
[KARA II] + [KS28_60]	Kara II = 0 ms	<input type="checkbox"/>	KS28 = 5 ms	<input type="checkbox"/>
[KARA II] + [KS28_60_C]	Kara II = 0.5 ms	<input type="checkbox"/>	KS28 = 0 ms	<input type="checkbox"/>
[KARA II] + [KS28_60_Cx]	Kara II = 4.5 ms	<input type="checkbox"/>	KS28 = 0 ms	<input type="checkbox"/>

**Kara II + SB18 + SB28**

presets	pre-alignment delay values and polarity settings					
[KARA II] + [SB18_100] + [SB28_60]	Kara II = 0 ms	<input type="checkbox"/>	SB18 = 0 ms	<input type="checkbox"/>	SB28 = 5.5 ms	<input type="checkbox"/>
[KARA II] + [SB18_100] + [SB28_60_C]	Kara II = 0 ms	<input type="checkbox"/>	SB18 = 0 ms	<input type="checkbox"/>	SB28 = 0 ms	<input type="checkbox"/>
[KARA II] + [SB18_100] + [SB28_60_Cx]	Kara II = 5.5 ms	<input type="checkbox"/>	SB18 = 5.5 ms	<input type="checkbox"/>	SB28 = 0 ms	<input type="checkbox"/>

**Kara II + SB18 + KS28**

presets	pre-alignment delay values and polarity settings					
[KARA II] + [SB18_100] + [KS28_60]	Kara II = 0 ms	<input type="checkbox"/>	SB18 = 0 ms	<input type="checkbox"/>	KS28 = 5.5 ms	<input type="checkbox"/>
[KARA II] + [SB18_100] + [KS28_60_C]	Kara II = 0 ms	<input type="checkbox"/>	SB18 = 0 ms	<input type="checkbox"/>	KS28 = 0 ms	<input type="checkbox"/>
[KARA II] + [SB18_100] + [KS28_60_Cx]	Kara II = 5.5 ms	<input type="checkbox"/>	SB18 = 5.5 ms	<input type="checkbox"/>	KS28 = 0 ms	<input type="checkbox"/>

**Kara II + KS21 + SB28**

presets	pre-alignment delay values and polarity settings					
[KARA II] + [KS21_100] + [SB28_60]	Kara II = 0 ms	<input type="checkbox"/>	KS21 = 0.5 ms	<input type="checkbox"/>	SB28 = 5.5 ms	<input type="checkbox"/>
[KARA II] + [KS21_100] + [SB28_60_C]	Kara II = 0 ms	<input type="checkbox"/>	KS21 = 0.5 ms	<input type="checkbox"/>	SB28 = 0 ms	<input type="checkbox"/>
[KARA II] + [KS21_100] + [SB28_60_Cx]	Kara II = 5.5 ms	<input type="checkbox"/>	KS21 = 6 ms	<input type="checkbox"/>	SB28 = 0 ms	<input type="checkbox"/>

**Kara II + KS21 + KS28**

presets	pre-alignment delay values and polarity settings		
[KARA II] + [KS21_100] + [KS28_60]	Kara II = 0 ms <input style="background-color: #cccccc;" type="button" value="+"/>	KS21 = 0 ms <input style="background-color: #cccccc;" type="button" value="+"/>	KS28 = 5.5 ms <input style="background-color: #ff0000;" type="button" value="-"/>
[KARA II] + [KS21_100] + [KS28_60_C]	Kara II = 0 ms <input style="background-color: #cccccc;" type="button" value="+"/>	KS21 = 0.5 ms <input style="background-color: #cccccc;" type="button" value="+"/>	KS28 = 0 ms <input style="background-color: #ff0000;" type="button" value="-"/>
[KARA II] + [KS21_100] + [KS28_60_Cx]	Kara II = 5.5 ms <input style="background-color: #cccccc;" type="button" value="+"/>	KS21 = 6 ms <input style="background-color: #cccccc;" type="button" value="+"/>	KS28 = 0 ms <input style="background-color: #cccccc;" type="button" value="+"/>

**Kiva + Kilo**

presets	pre-alignment delay values and polarity settings	
[KIVA] + [KILO]	Kiva = 0 ms <input style="background-color: #cccccc;" type="button" value="+"/>	Kilo = 1.5 ms <input style="background-color: #cccccc;" type="button" value="+"/>

**Kiva/Kilo + SB118**

presets	pre-alignment delay values and polarity settings	
[KIVA_KILO] + [SB118_60]	Kiva/Kilo = 0 ms <input style="background-color: #cccccc;" type="button" value="+"/>	SB118 = 5.9 ms <input style="background-color: #cccccc;" type="button" value="+"/>
[KIVA_KILO] + [SB118_60_C]	Kiva/Kilo = 0 ms <input style="background-color: #cccccc;" type="button" value="+"/>	SB118 = 0.4 ms <input style="background-color: #cccccc;" type="button" value="+"/>

**Kiva/Kilo + SB18**

presets	pre-alignment delay values and polarity settings	
[KIVA_KILO] + [SB18_60]	Kiva/Kilo = 0 ms <input style="background-color: #cccccc;" type="button" value="+"/>	SB18 = 6.3 ms <input style="background-color: #cccccc;" type="button" value="+"/>
[KIVA_KILO] + [SB18_60_C]	Kiva/Kilo = 0 ms <input style="background-color: #cccccc;" type="button" value="+"/>	SB18 = 0.8 ms <input style="background-color: #cccccc;" type="button" value="+"/>

**Kiva + SB15m**

presets	pre-alignment delay values and polarity settings	
[KIVA] + [SB15_100]	Kiva = 0 ms <input style="background-color: #cccccc;" type="button" value="+"/>	SB15m = 1.4 ms <input style="background-color: #cccccc;" type="button" value="+"/>
[KIVA] + [SB15_100_C]	Kiva = 2.4 ms <input style="background-color: #cccccc;" type="button" value="+"/>	SB15m = 0 ms <input style="background-color: #cccccc;" type="button" value="+"/>
[KIVA_FI] + [SB15_100]	Kiva = 0 ms <input style="background-color: #cccccc;" type="button" value="+"/>	SB15m = 0.6 ms <input style="background-color: #cccccc;" type="button" value="+"/>

**Kiva/SB15m + SB18**

presets	pre-alignment delay values and polarity settings	
[KIVA_SB15] + [SB18_60]	Kiva/SB15m = 0 ms <input style="background-color: #cccccc;" type="button" value="+"/>	SB18 = 8.5 ms <input style="background-color: #cccccc;" type="button" value="+"/>
[KIVA_SB15] + [SB18_60_C]	Kiva/SB15m = 0 ms <input style="background-color: #cccccc;" type="button" value="+"/>	SB18 = 3 ms <input style="background-color: #cccccc;" type="button" value="+"/>

**Kiva II + SB15m**

presets	pre-alignment delay values and polarity settings	
[KIVA II] + [SB15_100]	Kiva II = 0 ms <input type="checkbox"/>	SB15m = 1 ms <input type="checkbox"/>
[KIVA II] + [SB15_100_C]	Kiva II = 2.5 ms <input type="checkbox"/>	SB15m = 0 ms <input type="checkbox"/>
[KIVA II] + [SB15_100_Cx]	Kiva II = 4.5 ms <input type="checkbox"/>	SB15m = 0 ms <input type="checkbox"/>
[KIVA II_FI] + [SB15_100]	Kiva II = 0 ms <input type="checkbox"/>	SB15m = 1 ms <input type="checkbox"/>
[KIVA II_FI] + [SB15_100_C]	Kiva II = 2.5 ms <input type="checkbox"/>	SB15m = 0 ms <input type="checkbox"/>
[KIVA II_FI] + [SB15_100_Cx]	Kiva II = 5 ms <input type="checkbox"/>	SB15m = 0 ms <input type="checkbox"/>

**Kiva II + SB15m + SB18**

presets	pre-alignment delay values and polarity settings		
[KIVA II] + [SB15_100] + [SB18_60]	Kiva II = 0 ms <input type="checkbox"/>	SB15m = 1 ms <input type="checkbox"/>	SB18 = 1 ms <input type="checkbox"/>
[KIVA II] + [SB15_100] + [SB18_60_C]	Kiva II = 4.5 ms <input type="checkbox"/>	SB15m = 5.5 ms <input type="checkbox"/>	SB18 = 0 ms <input type="checkbox"/>
[KIVA II] + [SB15_100] + [SB18_60_Cx]	Kiva II = 1 ms <input type="checkbox"/>	SB15m = 2 ms <input type="checkbox"/>	SB18 = 0 ms <input type="checkbox"/>
[KIVA II] + [SB15_100_C] + [SB18_60]	Kiva II = 2.5 ms <input type="checkbox"/>	SB15m = 0 ms <input type="checkbox"/>	SB18 = 3.5 ms <input type="checkbox"/>
[KIVA II] + [SB15_100_C] + [SB18_60_C]	Kiva II = 4.5 ms <input type="checkbox"/>	SB15m = 2 ms <input type="checkbox"/>	SB18 = 0 ms <input type="checkbox"/>
[KIVA II] + [SB15_100_C] + [SB18_60_Cx]	Kiva II = 3 ms <input type="checkbox"/>	SB15m = 0.5 ms <input type="checkbox"/>	SB18 = 0 ms <input type="checkbox"/>

**V-DOSC + SB218**

presets	pre-alignment delay values and polarity settings	
[V-DOSC_xx_X] + [SB218_X]	V-DOSC = 1.8 ms <input type="checkbox"/>	SB218 = 0 ms <input type="checkbox"/>
[V-DOSC_xx_60] + [SB218_60]	V-DOSC = 0 ms <input type="checkbox"/>	SB218 = 3.8 ms <input type="checkbox"/>

**V-DOSC + SB28**

presets	pre-alignment delay values and polarity settings	
[V-DOSC_xx_60] + [SB28_60]	V-DOSC = 0 ms <input type="checkbox"/>	SB28 = 3.8 ms <input type="checkbox"/>
[V-DOSC_xx_60] + [SB28_60_C]	V-DOSC = 1.7 ms <input type="checkbox"/>	SB28 = 0 ms <input type="checkbox"/>

**V-DOSC + KS28**

presets	pre-alignment delay values and polarity settings	
[V-DOSC_xx_60] + [KS28_60]	V-DOSC = 0 ms <input type="checkbox"/>	KS28 = 3.8 ms <input type="checkbox"/>
[V-DOSC_xx_60] + [KS28_60_C]	V-DOSC = 1.7 ms <input type="checkbox"/>	KS28 = 0 ms <input type="checkbox"/>

**V-DOSC + dV-SUB**

presets	pre-alignment delay values and polarity settings	
[V-DOSC_xx_X] + [dV-S_X]	V-DOSC = 0 ms <input type="checkbox"/>	dV-SUB = 0.2 ms <input type="checkbox"/>

**V-DOSC + dV-SUB + SB218**

presets	pre-alignment delay values and polarity settings		
[V-DOSC_xx_60] + [dV-S_60_X] + [SB218_60]	V-DOSC = 0 ms <input type="checkbox"/>	dV-SUB = 0.2 ms <input type="checkbox"/>	SB218 = 3.7 ms <input type="checkbox"/>

**V-DOSC + dV-SUB + SB28**

presets	pre-alignment delay values and polarity settings		
[V-DOSC_xx_60] + [dV-S_60_X] + [SB28_60]	V-DOSC = 0 ms <input type="checkbox"/>	dV-SUB = 0.2 ms <input type="checkbox"/>	SB28 = 3.7 ms <input type="checkbox"/>
[V-DOSC_xx_60] + [dV-S_60_X] + [SB28_60_C]	V-DOSC = 1.9 ms <input type="checkbox"/>	dV-SUB = 2 ms <input type="checkbox"/>	SB28 = 0 ms <input type="checkbox"/>

**V-DOSC + dV-SUB + KS28**

presets	pre-alignment delay values and polarity settings		
[V-DOSC_xx_60] + [dV-S_60_X] + [KS28_60]	V-DOSC = 0 ms <input type="checkbox"/>	dV-SUB = 0.2 ms <input type="checkbox"/>	KS28 = 3.7 ms <input type="checkbox"/>
[V-DOSC_xx_60] + [dV-S_60_X] + [KS28_60_C]	V-DOSC = 1.9 ms <input type="checkbox"/>	dV-SUB = 2 ms <input type="checkbox"/>	KS28 = 0 ms <input type="checkbox"/>

**V-DOSC + dV-DOSC**

presets	pre-alignment delay values and polarity settings	
[V-DOSC_xx_60] + [dV_xx_100]	V-DOSC = 0 ms <input type="checkbox"/>	dV-DOSC = 0 ms <input type="checkbox"/>

**V-DOSC + dV-DOSC downfill**

presets	pre-alignment delay values and polarity settings	
[V-DOSC_xx_60] + [dV_xx_100]	V-DOSC = 0 ms <input type="checkbox"/>	dV-DOSC = 0.04 ms <input type="checkbox"/>

**dV-DOSC + SB118**

presets	pre-alignment delay values and polarity settings	
[dV_xx_100] + [SB118_100]	dV = 2.7 ms <input data-bbox="965 235 1013 291" type="button" value="+"/>	SB118 = 0 ms <input data-bbox="1444 235 1492 291" type="button" value="+"/>
[dV_xx_100] + [SB118_100_C]	dV = 8.3 ms <input data-bbox="965 324 1013 380" type="button" value="+"/>	SB118 = 0 ms <input data-bbox="1444 324 1492 380" type="button" value="+"/>

**dV-DOSC + SB218**

presets	pre-alignment delay values and polarity settings	
[dV_xx_100] + [SB218_100]	dV = 0.8 ms <input data-bbox="965 537 1013 593" type="button" value="+"/>	SB218 = 0 ms <input data-bbox="1444 537 1492 593" type="button" value="+"/>

**dV-DOSC + SB18**

presets	pre-alignment delay values and polarity settings	
[dV_xx_100] + [SB18_100]	dV = 2.4 ms <input data-bbox="965 750 1013 806" type="button" value="+"/>	SB18 = 0 ms <input data-bbox="1444 750 1492 806" type="button" value="+"/>
[dV_xx_100] + [SB18_100_C]	dV = 8 ms <input data-bbox="965 840 1013 896" type="button" value="+"/>	SB18 = 0 ms <input data-bbox="1444 840 1492 896" type="button" value="+"/>

**dV-DOSC + SB28**

presets	pre-alignment delay values and polarity settings	
[dV_xx_100] + [SB28_100]	dV = 0.8 ms <input data-bbox="965 1048 1013 1104" type="button" value="+"/>	SB28 = 0 ms <input data-bbox="1444 1048 1492 1104" type="button" value="+"/>
[dV_xx_100] + [SB28_100_C]	dV = 6.3 ms <input data-bbox="965 1137 1013 1193" type="button" value="+"/>	SB28 = 0 ms <input data-bbox="1444 1137 1492 1193" type="button" value="+"/>

**dV-DOSC + KS28**

presets	pre-alignment delay values and polarity settings	
[dV_xx_100] + [KS28_100]	dV = 0.8 ms <input data-bbox="965 1344 1013 1400" type="button" value="+"/>	KS28 = 0 ms <input data-bbox="1444 1344 1492 1400" type="button" value="+"/>
[dV_xx_100] + [KS28_100_C]	dV = 6.3 ms <input data-bbox="965 1433 1013 1489" type="button" value="+"/>	KS28 = 0 ms <input data-bbox="1444 1433 1492 1489" type="button" value="+"/>

**dV-DOSC + dV-SUB**

presets	pre-alignment delay values and polarity settings	
[dV_xx_100] + [dV-S_100]	dV = 0 ms <input data-bbox="965 1639 1013 1695" type="button" value="+"/>	dV-SUB = 0 ms <input data-bbox="1444 1639 1492 1695" type="button" value="+"/>

**dV-DOSC + dV-SUB + SB118**

presets	pre-alignment delay values and polarity settings		
[dV_xx_100] + [dV-S_60_100] + [SB118_60]	dV = 0 ms <input data-bbox="805 1854 853 1910" type="button" value="+"/>	dV-SUB = 0.75 ms <input data-bbox="1125 1854 1173 1910" type="button" value="+"/>	SB118 = 4 ms <input data-bbox="1444 1854 1492 1910" type="button" value="+"/>
[dV_xx_100] + [dV-S_60_100] + [SB118_60_C]	dV = 1.5 ms <input data-bbox="805 1944 853 2000" type="button" value="+"/>	dV-SUB = 2.25 ms <input data-bbox="1125 1944 1173 2000" type="button" value="+"/>	SB118 = 0 ms <input data-bbox="1444 1944 1492 2000" type="button" value="+"/>

**dV-DOSC + dV-SUB + SB218**

presets	pre-alignment delay values and polarity settings		
[dV_xx_100] + [dV-S_60_100] + [SB218_60]	dV = 0 ms <input type="checkbox"/>	dV-SUB = 0.75 ms <input type="checkbox"/>	SB218 = 4.5 ms <input type="checkbox"/>

**dV-DOSC + dV-SUB + SB18**

presets	pre-alignment delay values and polarity settings		
[dV_xx_100] + [dV-S_60_100] + [SB18_60]	dV = 0 ms <input type="checkbox"/>	dV-SUB = 0.75 ms <input type="checkbox"/>	SB18 = 4.4 ms <input type="checkbox"/>
[dV_xx_100] + [dV-S_60_100] + [SB18_60_C]	dV = 1.1 ms <input type="checkbox"/>	dV-SUB = 1.85 ms <input type="checkbox"/>	SB18 = 0 ms <input type="checkbox"/>

**dV-DOSC + dV-SUB + SB28**

presets	pre-alignment delay values and polarity settings		
[dV_xx_100] + [dV-S_60_100] + [SB28_60]	dV = 0 ms <input type="checkbox"/>	dV-SUB = 0.75 ms <input type="checkbox"/>	SB28 = 4.5 ms <input type="checkbox"/>
[dV_xx_100] + [dV-S_60_100] + [SB28_60_C]	dV = 1 ms <input type="checkbox"/>	dV-SUB = 1.75 ms <input type="checkbox"/>	SB28 = 0 ms <input type="checkbox"/>

**dV-DOSC + dV-SUB + KS28**

presets	pre-alignment delay values and polarity settings		
[dV_xx_100] + [dV-S_60_100] + [KS28_60]	dV = 0 ms <input type="checkbox"/>	dV-SUB = 0.75 ms <input type="checkbox"/>	KS28 = 4.5 ms <input type="checkbox"/>
[dV_xx_100] + [dV-S_60_100] + [KS28_60_C]	dV = 1 ms <input type="checkbox"/>	dV-SUB = 1.75 ms <input type="checkbox"/>	KS28 = 0 ms <input type="checkbox"/>

**Constant curvature WST systems****ARCS + SB118**

presets	pre-alignment delay values and polarity settings	
[ARCS_xx_60] + [SB118_60]	ARCS = 0.8 ms <input type="checkbox"/>	SB118 = 0 ms <input type="checkbox"/>
[ARCS_xx_60] + [SB118_60_C]	ARCS = 6.3 ms <input type="checkbox"/>	SB118 = 0 ms <input type="checkbox"/>
[ARCS_xx_100] + [SB118_100]	ARCS = 1.4 ms <input type="checkbox"/>	SB118 = 0 ms <input type="checkbox"/>
[ARCS_xx_100] + [SB118_100_C]	ARCS = 6.9 ms <input type="checkbox"/>	SB118 = 0 ms <input type="checkbox"/>

**ARCS + SB18**

presets	pre-alignment delay values and polarity settings	
[ARCS_xx_60] + [SB18_60]	ARCS = 0.4 ms <input data-bbox="965 235 1013 291" type="button" value="+"/>	SB18 = 0 ms <input data-bbox="1444 235 1492 291" type="button" value="+"/>
[ARCS_xx_60] + [SB18_60_C]	ARCS = 5.9 ms <input data-bbox="965 324 1013 380" type="button" value="+"/>	SB18 = 0 ms <input data-bbox="1444 324 1492 380" type="button" value="+"/>
[ARCS_xx_100] + [SB18_100]	ARCS = 1.1 ms <input data-bbox="965 414 1013 470" type="button" value="+"/>	SB18 = 0 ms <input data-bbox="1444 414 1492 470" type="button" value="+"/>
[ARCS_xx_100] + [SB18_100_C]	ARCS = 6.6 ms <input data-bbox="965 504 1013 560" type="button" value="+"/>	SB18 = 0 ms <input data-bbox="1444 504 1492 560" type="button" value="+"/>

**ARCS + SB218**

presets	pre-alignment delay values and polarity settings	
[ARCS_xx_60] + [SB218_60]	ARCS = 0 ms <input data-bbox="965 694 1013 750" type="button" value="+"/>	SB218 = 0.9 ms <input data-bbox="1444 694 1492 750" type="button" value="+"/>
[ARCS_xx_100] + [SB218_100]	ARCS = 0 ms <input data-bbox="965 784 1013 840" type="button" value="+"/>	SB218 = 0.3 ms <input data-bbox="1444 784 1492 840" type="button" value="+"/>

**ARCS + SB28**

presets	pre-alignment delay values and polarity settings	
[ARCS_xx_60] + [SB28_60]	ARCS = 0 ms <input data-bbox="965 996 1013 1052" type="button" value="+"/>	SB28 = 0.6 ms <input data-bbox="1444 996 1492 1052" type="button" value="+"/>
[ARCS_xx_60] + [SB28_60_C]	ARCS = 4.9 ms <input data-bbox="965 1086 1013 1142" type="button" value="+"/>	SB28 = 0 ms <input data-bbox="1444 1086 1492 1142" type="button" value="+"/>
[ARCS_xx_100] + [SB28_100]	ARCS = 0 ms <input data-bbox="965 1176 1013 1232" type="button" value="+"/>	SB28 = 0.5 ms <input data-bbox="1444 1176 1492 1232" type="button" value="+"/>
[ARCS_xx_100] + [SB28_100_C]	ARCS = 5.0 ms <input data-bbox="965 1265 1013 1321" type="button" value="+"/>	SB28 = 0 ms <input data-bbox="1444 1265 1492 1321" type="button" value="+"/>

**ARCS + KS28**

presets	pre-alignment delay values and polarity settings	
[ARCS_xx_60] + [KS28_60]	ARCS = 0 ms <input data-bbox="965 1456 1013 1512" type="button" value="+"/>	KS28 = 0.6 ms <input data-bbox="1444 1456 1492 1512" type="button" value="+"/>
[ARCS_xx_60] + [KS28_60_C]	ARCS = 4.9 ms <input data-bbox="965 1545 1013 1601" type="button" value="+"/>	KS28 = 0 ms <input data-bbox="1444 1545 1492 1601" type="button" value="+"/>
[ARCS_xx_100] + [KS28_100]	ARCS = 0 ms <input data-bbox="965 1635 1013 1691" type="button" value="+"/>	KS28 = 0.5 ms <input data-bbox="1444 1635 1492 1691" type="button" value="+"/>
[ARCS_xx_100] + [KS28_100_C]	ARCS = 5.0 ms <input data-bbox="965 1724 1013 1780" type="button" value="+"/>	KS28 = 0 ms <input data-bbox="1444 1724 1492 1780" type="button" value="+"/>



**ARCS II + SB28**

presets	pre-alignment delay values and polarity settings	
[ARCS_II] + [SB28_60]	ARCS II = 0 ms <input type="button" value="+"/>	SB28 = 2 ms <input type="button" value="+"/>
[ARCS_II] + [SB28_60_C]	ARCS II = 3.5 ms <input type="button" value="+"/>	SB28 = 0 ms <input type="button" value="+"/>
[ARCS_II] + [SB28_60_Cx]	ARCS II = 7.5 ms <input type="button" value="+"/>	SB28 = 0 ms <input type="button" value="-"/>

**ARCS II + KS28**

presets	pre-alignment delay values and polarity settings	
[ARCS_II] + [KS28_60]	ARCS II = 0 ms <input type="button" value="+"/>	KS28 = 2 ms <input type="button" value="+"/>
[ARCS_II] + [KS28_60_C]	ARCS II = 3.5 ms <input type="button" value="+"/>	KS28 = 0 ms <input type="button" value="+"/>
[ARCS_II] + [KS28_60_Cx]	ARCS II = 7.5 ms <input type="button" value="+"/>	KS28 = 0 ms <input type="button" value="-"/>

**ARCS Wide/Focus + SB18m**

presets	pre-alignment delay values and polarity settings	
[ARCS_WIFO] or [ARCS_WIFO_FI] + [SB18_60]	ARCS Wide/Focus = 1.5 ms <input type="button" value="+"/>	SB18m = 0 ms <input type="button" value="+"/>
[ARCS_WIFO] or [ARCS_WIFO_FI] + [SB18_60_C]	ARCS Wide/Focus = 7 ms <input type="button" value="+"/>	SB18m = 0 ms <input type="button" value="+"/>
[ARCS_WIFO] or [ARCS_WIFO_FI] + [SB18_60_Cx]	ARCS Wide/Focus = 6 ms <input type="button" value="+"/>	SB18m = 0 ms <input type="button" value="-"/>

**A15 Wide/Focus + KS21**

presets	pre-alignment delay values and polarity settings	
[A15] or [A15_FI] or [A15_MO] + [KS21_60]	A15 Wide/Focus = 3.5 ms <input type="button" value="+"/>	KS21 = 0 ms <input type="button" value="-"/>
[A15] or [A15_FI] + [KS21_60_C]	A15 Wide/Focus = 9 ms <input type="button" value="+"/>	KS21 = 0 ms <input type="button" value="-"/>
[A15] or [A15_FI] + [KS21_60_Cx]	A15 Wide/Focus = 8 ms <input type="button" value="+"/>	KS21 = 0 ms <input type="button" value="+"/>

**A10 Wide/Focus + KS21**

presets	pre-alignment delay values and polarity settings	
[A10] or [A10_FI] or [A10_MO] + [KS21_100]	A10 Wide/Focus = 0 ms <input type="button" value="+"/>	KS21 = 0 ms <input type="button" value="+"/>
[A10] or [A10_FI] + [KS21_100_C]	A10 Wide/Focus = 5.5 ms <input type="button" value="+"/>	KS21 = 0 ms <input type="button" value="+"/>
[A10] or [A10_FI] + [KS21_100_Cx]	A10 Wide/Focus = 0 ms <input type="button" value="+"/>	KS21 = 0 ms <input type="button" value="+"/>

## Colinear systems



No pre-alignment delay values are required for the Syva system.

## Coaxial loudspeaker enclosures



[xx\_MO] presets for the X series and A series use the amplified controller low latency operating mode. When used along with subwoofers, it is recommended to use the subwoofers in low latency operating mode. To achieve this, create custom presets combining low latency channel sets and subwoofer channel sets.

If the subwoofers are driven from a dedicated amplified controller using a subwoofer factory preset, they are operated in normal latency mode. Therefore, an additional delay should be set to the [xx\_MO] low latency channels to align them: 2.66 ms on LA4 and LA8 or 3.00 ms on LA2Xi, LA4X, and LA12X.

### X15 HiQ + SB18

presets	pre-alignment delay values and polarity settings			
[X15] + [SB18_100]	X15 HiQ = 4 ms	<input type="checkbox"/>	SB18 = 0 ms	<input type="checkbox"/>
[X15_MO] + [SB18_100]	X15 HiQ = 0 ms	<input type="checkbox"/>	SB18 = 1 ms	<input type="checkbox"/>
[X15] + [SB18_100_C]	X15 HiQ = 9.7 ms	<input type="checkbox"/>	SB18 = 0 ms	<input type="checkbox"/>
[X15] + [SB18_100_Cx]	X15 HiQ = 8.25 ms	<input type="checkbox"/>	SB18 = 0 ms	<input type="checkbox"/>

### X15 HiQ + KS21

presets	pre-alignment delay values and polarity settings			
[X15] + [KS21_100]	X15 HiQ = 0 ms	<input type="checkbox"/>	KS21 = 1.5 ms	<input type="checkbox"/>
[X15_MO] + [KS21_100]	X15 HiQ = 0 ms	<input type="checkbox"/>	KS21 = 1.5 ms	<input type="checkbox"/>
[X15] + [KS21_100_C]	X15 HiQ = 3.9 ms	<input type="checkbox"/>	KS21 = 0 ms	<input type="checkbox"/>
[X15] + [KS21_100_Cx]	X15 HiQ = 2.6 ms	<input type="checkbox"/>	KS21 = 0 ms	<input type="checkbox"/>

### X12 + SB15m

presets	pre-alignment delay values and polarity settings			
[X12] + [SB15_100]	X12 = 1.5 ms	<input type="checkbox"/>	SB15m = 0 ms	<input type="checkbox"/>
[X12_MO] + [SB15_100]	X12 = 1.7 ms	<input type="checkbox"/>	SB15m = 0 ms	<input type="checkbox"/>
[X12] + [SB15_100_C]	X12 = 5.1 ms	<input type="checkbox"/>	SB15m = 0 ms	<input type="checkbox"/>
[X12] + [SB15_100_Cx]	X12 = 3 ms	<input type="checkbox"/>	SB15m = 0 ms	<input type="checkbox"/>

**X12 + SB18**

presets	pre-alignment delay values and polarity settings	
[X12] + [SB18_100]	X12 = 0 ms <input style="background-color: #cccccc;" type="button" value="+"/>	SB18 = 0 ms <input style="background-color: #cccccc;" type="button" value="+"/>
[X12_MO] + [SB18_100]	X12 = 0.6 ms <input style="background-color: #cccccc;" type="button" value="+"/>	SB18 = 0 ms <input style="background-color: #cccccc;" type="button" value="+"/>
[X12] + [SB18_100_C]	X12 = 5.7 ms <input style="background-color: #cccccc;" type="button" value="+"/>	SB18 = 0 ms <input style="background-color: #cccccc;" type="button" value="+"/>
[X12] + [SB18_100_Cx]	X12 = 4 ms <input style="background-color: #cccccc;" type="button" value="+"/>	SB18 = 0 ms <input style="background-color: #cc0000;" type="button" value="-"/>

**X12 + KS21**

presets	pre-alignment delay values and polarity settings	
[X12] + [KS21_100]	X12 = 0 ms <input style="background-color: #cccccc;" type="button" value="+"/>	KS21 = 1 ms <input style="background-color: #cccccc;" type="button" value="+"/>
[X12_MO] + [KS21_100]	X12 = 0 ms <input style="background-color: #cccccc;" type="button" value="+"/>	KS21 = 0.4 ms <input style="background-color: #cccccc;" type="button" value="+"/>
[X12] + [KS21_100_C]	X12 = 4.8 ms <input style="background-color: #cccccc;" type="button" value="+"/>	KS21 = 0 ms <input style="background-color: #cccccc;" type="button" value="+"/>
[X12] + [KS21_100_Cx]	X12 = 3.4 ms <input style="background-color: #cccccc;" type="button" value="+"/>	KS21 = 0 ms <input style="background-color: #cc0000;" type="button" value="-"/>

**X8 + SB15m**

presets	pre-alignment delay values and polarity settings	
[X8] + [SB15_100]	X8 = 2 ms <input style="background-color: #cccccc;" type="button" value="+"/>	SB15m = 0 ms <input style="background-color: #cc0000;" type="button" value="-"/>
[X8_MO] + [SB15_100]	X8 = 0 ms <input style="background-color: #cccccc;" type="button" value="+"/>	SB15m = 3 ms <input style="background-color: #cccccc;" type="button" value="+"/>
[X8] + [SB15_100_C]	X8 = 5.7 ms <input style="background-color: #cccccc;" type="button" value="+"/>	SB15m = 0 ms <input style="background-color: #cc0000;" type="button" value="-"/>
[X8] + [SB15_100_Cx]	X8 = 3.8 ms <input style="background-color: #cccccc;" type="button" value="+"/>	SB15m = 0 ms <input style="background-color: #cc0000;" type="button" value="-"/>

**5XT + SB15m**

presets	pre-alignment delay values and polarity settings	
[5XT] + [SB15_100]	5XT = 0 ms <input style="background-color: #cccccc;" type="button" value="+"/>	SB15m = 0 ms <input style="background-color: #cccccc;" type="button" value="+"/>
[5XT_MO] + [SB15_100]	5XT = 0.6 ms <input style="background-color: #cccccc;" type="button" value="+"/>	SB15m = 0 ms <input style="background-color: #cccccc;" type="button" value="+"/>

**5XT + SB10i**

presets	pre-alignment delay values and polarity settings	
[5XT] or [5XT_MO] + [SB10_100]	5XT = 0 ms <input style="background-color: #cccccc;" type="button" value="+"/>	SB10i = 1.6 ms <input style="background-color: #cc0000;" type="button" value="-"/>

**X4i + Syva Sub**

presets	pre-alignment delay values and polarity settings	
[X4] + [SYVA SUB_200]	X4i = 0 ms <input style="float: right;" type="button" value="+"/>	Syva Sub = 0.5 ms <input style="float: right;" type="button" value="+"/>
[X4_MO] + [SYVA SUB_200]	X4i = 0 ms <input style="float: right;" type="button" value="+"/>	Syva Sub = 1 ms <input style="float: right;" type="button" value="+"/>

**X4i + SB10i**

presets	pre-alignment delay values and polarity settings	
[X4] or [X4_MO] + [SB10_200]	X4i = 2.4 ms <input style="float: right;" type="button" value="+"/>	SB10i = 0 ms <input style="float: right;" type="button" value="-"/>

**115XT HiQ + SB118**

presets	pre-alignment delay values and polarity settings	
[HIQ_FI_100] + [SB118_100]	HiQ = 2.6 ms <input style="float: right;" type="button" value="+"/>	SB118 = 0 ms <input style="float: right;" type="button" value="+"/>
[HIQ_FR_100] + [SB118_100]	HiQ = 2.6 ms <input style="float: right;" type="button" value="+"/>	SB118 = 0 ms <input style="float: right;" type="button" value="+"/>
[HIQ_MO_100] + [SB118_100]	HiQ = 2.5 ms <input style="float: right;" type="button" value="+"/>	SB118 = 0 ms <input style="float: right;" type="button" value="+"/>

**115XT HiQ + SB18**

presets	pre-alignment delay values and polarity settings	
[HIQ_FI_100] + [SB18_100]	HiQ = 2.3 ms <input style="float: right;" type="button" value="+"/>	SB18 = 0 ms <input style="float: right;" type="button" value="+"/>
[HIQ_FR_100] + [SB18_100]	HiQ = 2.3 ms <input style="float: right;" type="button" value="+"/>	SB18 = 0 ms <input style="float: right;" type="button" value="+"/>
[HIQ_MO_100] + [SB18_100]	HiQ = 2.2 ms <input style="float: right;" type="button" value="+"/>	SB18 = 0 ms <input style="float: right;" type="button" value="+"/>

**115XT HiQ + dV-SUB**

presets	pre-alignment delay values and polarity settings	
[HIQ_FI_100] + [dV-S_100]	HiQ = 0.6 ms <input style="float: right;" type="button" value="+"/>	dV-SUB = 0 ms <input style="float: right;" type="button" value="+"/>
[HIQ_FR_100] + [dV-S_100]	HiQ = 0.6 ms <input style="float: right;" type="button" value="+"/>	dV-SUB = 0 ms <input style="float: right;" type="button" value="+"/>
[HIQ_MO_100] + [dV-S_100]	HiQ = 0.5 ms <input style="float: right;" type="button" value="+"/>	dV-SUB = 0 ms <input style="float: right;" type="button" value="+"/>

**Active 12XT + SB118**

presets	pre-alignment delay values and polarity settings	
[12XTA_FI_100] + [SB118_100]	12XTA = 2.6 ms <input type="checkbox"/>	SB118 = 0 ms <input type="checkbox"/>
[12XTA_FR_100] + [SB118_100]	12XTA = 2.6 ms <input type="checkbox"/>	SB118 = 0 ms <input type="checkbox"/>
[12XTA_MO_100] + [SB118_100]	12XTA = 2.5 ms <input type="checkbox"/>	SB118 = 0 ms <input type="checkbox"/>

**Active 12XT + SB18**

presets	pre-alignment delay values and polarity settings	
[12XTA_FI_100] + [SB18_100]	12XTA = 2.3 ms <input type="checkbox"/>	SB18 = 0 ms <input type="checkbox"/>
[12XTA_FR_100] + [SB18_100]	12XTA = 2.3 ms <input type="checkbox"/>	SB18 = 0 ms <input type="checkbox"/>
[12XTA_MO_100] + [SB18_100]	12XTA = 2.2 ms <input type="checkbox"/>	SB18 = 0 ms <input type="checkbox"/>

**Passive 12XT + SB118**

presets	pre-alignment delay values and polarity settings	
[12XTP_FI_100] + [SB118_100]	12XTP = 2.4 ms <input type="checkbox"/>	SB118 = 0 ms <input type="checkbox"/>
[12XTP_FR_100] + [SB118_100]	12XTP = 2.4 ms <input type="checkbox"/>	SB118 = 0 ms <input type="checkbox"/>
[12XTP_MO_100] + [SB118_100]	12XTP = 2.4 ms <input type="checkbox"/>	SB118 = 0 ms <input type="checkbox"/>

**Passive 12XT + SB18**

presets	pre-alignment delay values and polarity settings	
[12XTP_FI_100] + [SB18_100]	12XTP = 2.1 ms <input type="checkbox"/>	SB18 = 0 ms <input type="checkbox"/>
[12XTP_FR_100] + [SB18_100]	12XTP = 2.1 ms <input type="checkbox"/>	SB18 = 0 ms <input type="checkbox"/>
[12XTP_MO_100] + [SB18_100]	12XTP = 2.1 ms <input type="checkbox"/>	SB18 = 0 ms <input type="checkbox"/>

**8XT + SB118**

presets	pre-alignment delay values and polarity settings	
[8XT_FI_100] + [SB118_100]	8XT = 3.1 ms <input type="checkbox"/>	SB118 = 0 ms <input type="checkbox"/>
[8XT_FR_100] + [SB118_100]	8XT = 3.2 ms <input type="checkbox"/>	SB118 = 0 ms <input type="checkbox"/>
[8XT_MO_100] + [SB118_100]	8XT = 3.0 ms <input type="checkbox"/>	SB118 = 0 ms <input type="checkbox"/>

**8XT + SB18**

presets	pre-alignment delay values and polarity settings	
[8XT_FI_100] + [SB18_100]	8XT = 2.8 ms <input data-bbox="965 235 1013 291" type="button" value="+"/>	SB18 = 0 ms <input data-bbox="1444 235 1492 291" type="button" value="+"/>
[8XT_FR_100] + [SB18_100]	8XT = 2.9 ms <input data-bbox="965 324 1013 380" type="button" value="+"/>	SB18 = 0 ms <input data-bbox="1444 324 1492 380" type="button" value="+"/>
[8XT_MO_100] + [SB18_100]	8XT = 2.7 ms <input data-bbox="965 414 1013 470" type="button" value="+"/>	SB18 = 0 ms <input data-bbox="1444 414 1492 470" type="button" value="+"/>

**115XT + SB118**

presets	pre-alignment delay values and polarity settings	
[115XT_FI_100] + [SB118_100]	115XT = 2.6 ms <input data-bbox="965 616 1013 672" type="button" value="+"/>	SB118 = 0 ms <input data-bbox="1444 616 1492 672" type="button" value="+"/>
[115XT_FR_100] + [SB118_100]	115XT = 2.5 ms <input data-bbox="965 705 1013 761" type="button" value="+"/>	SB118 = 0 ms <input data-bbox="1444 705 1492 761" type="button" value="+"/>
[115XT_MO_100] + [SB118_100]	115XT = 2.9 ms <input data-bbox="965 795 1013 851" type="button" value="+"/>	SB118 = 0 ms <input data-bbox="1444 795 1492 851" type="button" value="+"/>

**115XT + SB18**

presets	pre-alignment delay values and polarity settings	
[115XT_FI_100] + [SB18_100]	115XT = 2.3 ms <input data-bbox="965 996 1013 1052" type="button" value="+"/>	SB18 = 0 ms <input data-bbox="1444 996 1492 1052" type="button" value="+"/>
[115XT_FR_100] + [SB18_100]	115XT = 2.2 ms <input data-bbox="965 1086 1013 1142" type="button" value="+"/>	SB18 = 0 ms <input data-bbox="1444 1086 1492 1142" type="button" value="+"/>
[115XT_MO_100] + [SB18_100]	115XT = 2.6 ms <input data-bbox="965 1176 1013 1232" type="button" value="+"/>	SB18 = 0 ms <input data-bbox="1444 1176 1492 1232" type="button" value="+"/>

**Active MTD115 + SB118**

presets	pre-alignment delay values and polarity settings	
[115bA_FI_100] + [SB118_100]	115bA = 2.4 ms <input data-bbox="965 1377 1013 1433" type="button" value="+"/>	SB118 = 0 ms <input data-bbox="1444 1377 1492 1433" type="button" value="+"/>
[115bA_FR_100] + [SB118_100]	115bA = 2.5 ms <input data-bbox="965 1467 1013 1523" type="button" value="+"/>	SB118 = 0 ms <input data-bbox="1444 1467 1492 1523" type="button" value="+"/>
[115bA_MO_100] + [SB118_100]	115bA = 2.7 ms <input data-bbox="965 1556 1013 1612" type="button" value="+"/>	SB118 = 0 ms <input data-bbox="1444 1556 1492 1612" type="button" value="+"/>

**Active MTD115 + SB18**

presets	pre-alignment delay values and polarity settings	
[115bA_FI_100] + [SB18_100]	115bA = 2.1 ms <input type="checkbox"/>	SB18 = 0 ms <input type="checkbox"/>
[115bA_FR_100] + [SB18_100]	115bA = 2 ms <input type="checkbox"/>	SB18 = 0 ms <input type="checkbox"/>
[115bA_MO_100] + [SB18_100]	115bA = 2.4 ms <input type="checkbox"/>	SB18 = 0 ms <input type="checkbox"/>

**Passive MTD115 + SB118**

presets	pre-alignment delay values and polarity settings	
[115bP_FI_100] + [SB118_100]	115bP = 2.1 ms <input type="checkbox"/>	SB118 = 0 ms <input type="checkbox"/>
[115bP_FR_100] + [SB118_100]	115bP = 2.2 ms <input type="checkbox"/>	SB118 = 0 ms <input type="checkbox"/>
[115bP_MO_100] + [SB118_100]	115bP = 2.8 ms <input type="checkbox"/>	SB118 = 0 ms <input type="checkbox"/>

**Passive MTD115 + SB18**

presets	pre-alignment delay values and polarity settings	
[115bP_FI_100] + [SB18_100]	115bP = 1.8 ms <input type="checkbox"/>	SB18 = 0 ms <input type="checkbox"/>
[115bP_FR_100] + [SB18_100]	115bP = 1.9 ms <input type="checkbox"/>	SB18 = 0 ms <input type="checkbox"/>
[115bP_MO_100] + [SB18_100]	115bP = 2.5 ms <input type="checkbox"/>	SB18 = 0 ms <input type="checkbox"/>

**112XT + SB118**

presets	pre-alignment delay values and polarity settings	
[112XT_FI_100] + [SB118_100]	112XT = 2.3 ms <input type="checkbox"/>	SB118 = 0 ms <input type="checkbox"/>
[112XT_FR_100] + [SB118_100]	112XT = 2.3 ms <input type="checkbox"/>	SB118 = 0 ms <input type="checkbox"/>
[112XT_MO_100] + [SB118_100]	112XT = 2.6 ms <input type="checkbox"/>	SB118 = 0 ms <input type="checkbox"/>

**112XT + SB18**

presets	pre-alignment delay values and polarity settings	
[112XT_FI_100] + [SB18_100]	112XT = 2 ms <input type="checkbox"/>	SB18 = 0 ms <input type="checkbox"/>
[112XT_FR_100] + [SB18_100]	112XT = 2 ms <input type="checkbox"/>	SB18 = 0 ms <input type="checkbox"/>
[112XT_MO_100] + [SB18_100]	112XT = 2.3 ms <input type="checkbox"/>	SB18 = 0 ms <input type="checkbox"/>

**MTD112b + SB118**

presets	pre-alignment delay values and polarity settings	
[112b_FL_100] + [SB118_100]	112b = 2.4 ms <input type="checkbox"/>	SB118 = 0 ms <input type="checkbox"/>
[112b_FR_100] + [SB118_100]	112b = 2.5 ms <input type="checkbox"/>	SB118 = 0 ms <input type="checkbox"/>
[112b_MO_100] + [SB118_100]	112b = 3.0 ms <input type="checkbox"/>	SB118 = 0 ms <input type="checkbox"/>

**MTD112b + SB18**

presets	pre-alignment delay values and polarity settings	
[112b_FL_100] + [SB18_100]	112b = 2.1 ms <input type="checkbox"/>	SB18 = 0 ms <input type="checkbox"/>
[112b_FR_100] + [SB18_100]	112b = 2.2 ms <input type="checkbox"/>	SB18 = 0 ms <input type="checkbox"/>
[112b_MO_100] + [SB18_100]	112b = 2.7 ms <input type="checkbox"/>	SB18 = 0 ms <input type="checkbox"/>

**MTD108a + SB118**

presets	pre-alignment delay values and polarity settings	
[108a_FL_100] + [SB118_100]	108a = 3.5 ms <input type="checkbox"/>	SB118 = 0 ms <input type="checkbox"/>
[108a_FR_100] + [SB118_100]	108a = 3.6 ms <input type="checkbox"/>	SB118 = 0 ms <input type="checkbox"/>
[108a_MO_100] + [SB118_100]	108a = 4.0 ms <input type="checkbox"/>	SB118 = 0 ms <input type="checkbox"/>

**MTD108a + SB18**

presets	pre-alignment delay values and polarity settings	
[108a_FL_100] + [SB18_100]	108a = 3.2 ms <input type="checkbox"/>	SB18 = 0 ms <input type="checkbox"/>
[108a_FR_100] + [SB18_100]	108a = 3.3 ms <input type="checkbox"/>	SB18 = 0 ms <input type="checkbox"/>
[108a_MO_100] + [SB18_100]	108a = 3.7 ms <input type="checkbox"/>	SB18 = 0 ms <input type="checkbox"/>



## Impedance load

Most enclosures have a nominal impedance of 8 Ω. The exceptions are:

- 16 Ω:
  - K2 (HF section), Kiva II, V-DOSC (HF section), 5XT, X4i
- 4 Ω:
  - SB28, KS28, Syva Low, K1-SB

### total impedance

Nominal	number of enclosures/sections in parallel				
	2	3	4	5	6
16 Ω	8 Ω	5.3 Ω	4 Ω	3.2 Ω	2.7 Ω
8 Ω	4 Ω	2.7 Ω	—	—	—



#### **4 Ω enclosures cannot be connected in parallel.**

Refer to [Enclosure drive capacity per amplified controller](#) (p.98) for the maximum number of enclosures/sections per output and in total on each amplified controller.

## Enclosure drive capacity per amplified controller



### Risks of output mute, global attenuation, or loss of audio quality.

Do not exceed the maximum number of connected enclosures per channel and in total.

Driving more enclosures than indicated can trigger the amplified controller protection systems.

	LA2Xi			LA4X	LA12X
	per output* / total			per output* / total	per output* / total
	SE#	BTL	PBTL		
<b>coaxial enclosures</b>					
X4i	4 / 16	—		4 / 16	6 / 24
5XT	4 / 16	—		4 / 16	6 / 24
X8	2 / 8	1 / 2	—	2 / 8	3 / 12
X12	1 / 4	1 / 2	—	1 / 4	3 / 12
X15 HiQ	1 / 2	—		1 / 2	3 / 6
8XT	—			2 / 8	3 / 12
Active 12XT	—			2 / 4	3 / 6
Passive 12XT	—			1 / 4	3 / 12
112XT	—			2 / 4	3 / 6
115XT HiQ	—			1 / 2	3 / 6
115XT	—			1 / 2	3 / 6
MTD108a	—			2 / 8	3 / 12
MTD112b	—			1 / 4	2 / 8
Active MTD115b	—			1 / 2	2 / 4
Passive MTD115b	—			1 / 4	2 / 8
<b>colinear sources</b>					
Syva	1 / 4	1 / 2	—	1 / 4	3 / 12
<b>constant curvature WST enclosures</b>					
ARCS Wide/Focus	1 / 4	1 / 2	—	1 / 4	3 / 12
A10(i) Wide/Focus	2 / 8	1 / 2	—	2 / 8	3 / 12
A15(i) Wide/Focus	1 / 4	1 / 2	—	1 / 4	3 / 12
ARCS II	—			1 / 2	3 / 6
ARCS	—			1 / 2	3 / 6
<b>variable curvature WST enclosures</b>					
K1	—			—	2 / 2
K1-SB	—			—	1 / 4
K2	—			1 / 1	3 / 3
K3(i)	—			1 / 2	3 / 6
Kara(i)	2 / 4	—		2 / 4	3 / 6
Kara II(i)	2 / 4	—		2 / 4	3 / 6

	LA2Xi			LA4X	LA12X
	per output* / total			per output* / total	per output* / total
	SE#	BTL	PBTL		
Kiva II	2 / 8	2 / 4	—	2 / 8	6 / 24
Kiva / Kilo	—			2 / 8	3 / 12
Kudo	—			1 / 1	3 / 3
V-DOSC	—			—	2 / 2
dV-DOSC	—			—	3 / 6
<b>subwoofer enclosures</b>					
KS28	1 / 4	—	1 / 1	—	1 / 4
SB28	1 / 4	—	1 / 1	—	1 / 4
KS21(i)	1 / 4	1 / 2	—	1 / 4	2 / 8
SB18(i/m) / SB18 Ili	1 / 4	1 / 2	—	1 / 4	3 / 12
SB218	—			—	1 / 4
SB118	—			1 / 4	2 / 8
SB15m	1 / 4	1 / 2	—	1 / 4	3 / 12
SB10i	2 / 8	1 / 2	—	2 / 8	3 / 12
Syva Low	1 / 4	—		1 / 4	2 / 6 <sup>a</sup>
Syva Sub	1 / 4	1 / 2	—	1 / 4	3 / 12
dV-SUB	—			—	1 / 4

<sup>a</sup> LA12X can drive up to two Syva Low per output, but no more than six per controller at high level.

\* For passive loudspeakers, the value corresponds to the number of enclosures in parallel on the output. For active loudspeakers, the value corresponds to the number of sections in parallel on the output.

# Maximum SPL is reduced in SE operating mode for all systems except X4i and 5XT. Refer to the LA2Xi owner's manual for more information.

## Enclosure drive capacity per LA4 / LA8



### Risks of output mute, global attenuation, or loss of audio quality.

Do not exceed the maximum number of connected enclosures per channel and in total.

Driving more enclosures than indicated can trigger the amplified controller protection systems.

	LA4	LA8
	per output* / total	per output* / total
<b>coaxial enclosures</b>		
X4i	4 / 16	6 / 24
5XT	3 / 12	6 / 24
X8	–	3 / 8 <sup>a</sup>
X12	–	2 / 8
X15 HiQ	–	2 / 4
8XT	2 / 8	3 / 12
Active 12XT	2 / 4	3 / 6
Passive 12XT	1 / 4	2 / 8
112XT	2 / 4	3 / 6
115XT HiQ	1 / 2	2 / 4
115XT	1 / 2	3 / 6
MTD108a	2 / 8	3 / 12
MTD112b	1 / 4	2 / 8
Active MTD115b	1 / 2	2 / 4
Passive MTD115b	1 / 4	2 / 8
<b>colinear sources</b>		
Syva	–	2 / 8
<b>constant curvature WST enclosures</b>		
ARCS Wide/Focus	1 / 4	2 / 8
A10(i) Wide/Focus	–	2 / 8
A15(i) Wide/Focus	–	2 / 8
ARCS II	–	2 / 4
ARCS	1 / 2	3 / 6
<b>variable curvature WST enclosures</b>		
K1	–	2 / 2
K1-SB	–	1 / 4
K2	–	3 / 3
K3(i)	–	2 / 4
Kara(i)	–	3 / 6
Kara II(i)	–	3 / 6

<sup>a</sup> LA8 can drive up to three X8 per output, but no more than eight per controller at high level.

	<b>LA4</b>	<b>LA8</b>
	<b>per output* / total</b>	<b>per output* / total</b>
Kiva II	–	4 / 16
Kiva / Kilo	2 / 8	3 / 12
Kudo	–	3 / 3
V-DOSC	–	2 / 2
dV-DOSC	–	3 / 6
<b>subwoofer enclosures</b>		
KS28	–	–
SB28	–	1 / 4
KS21(i)	–	2 / 6 <sup>b</sup>
SB18(i/m) / SB18 Ili	1 / 4	2 / 6 <sup>c</sup>
SB218	–	1 / 4
SB118	1 / 4	2 / 8
SB15m	1 / 4	2 / 6 <sup>d</sup>
SB10i	–	3 / 12
Syva Low	–	1 / 4
Syva Sub	1 / 4	2 / 8
dV-SUB	–	1 / 4

<sup>b</sup> LA8 can drive up to two KS21 or KS21i per output, but no more than six per controller at high level.

<sup>c</sup> LA8 can drive up to two SB18, SB18i, SB18m or SB18 Ili per output, but no more than six per controller at high level.

<sup>d</sup> LA8 can drive up to two SB15m per output, but no more than six per controller at high level.

\* For passive loudspeakers, the value corresponds to the number of enclosures in parallel on the output. For active loudspeakers, the value corresponds to the number of sections in parallel on the output.



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