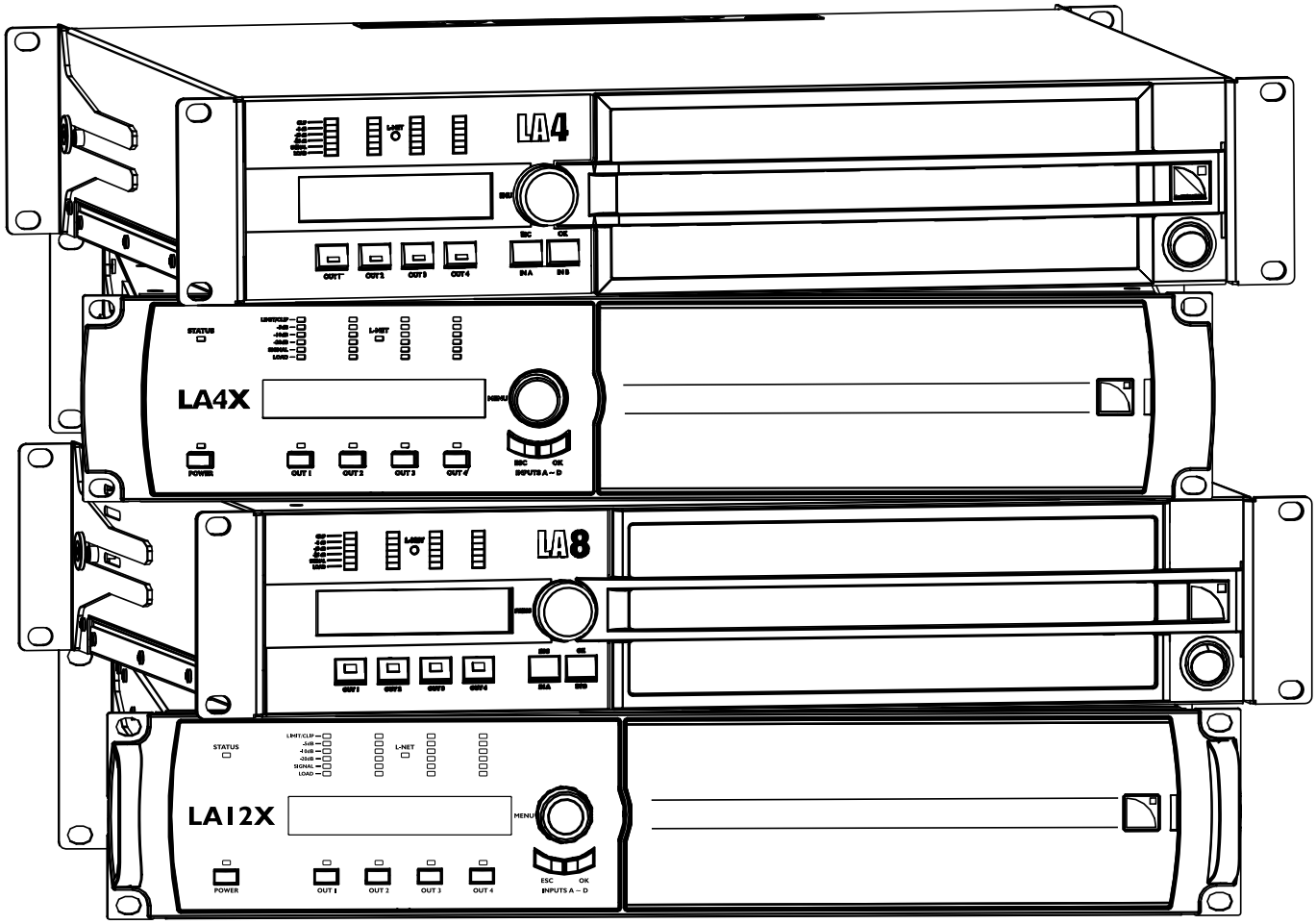
PRESET GUIDE

user manual (EN)



Document reference: preset guide user manual (EN) version 10.0
Distribution date: August 22, 2018

Contents

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 LA4, LA4X, LA8, LA12X, LA-RAK and LA-RAK II user 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 LA4, LA4X, LA8 and LA12X preset libraries version 6.0(.0).

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, 5XT, X8, 8XT, Kiva, Kilo).

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).

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 Presets 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 manual 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.55).

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 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 tutorial 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	load	8 Ω	4 Ω	2.7 Ω
LA12X		4 x 1400 W	4 x 2600 W	4 x 3300 W
LA8		4 x 1100 W	4 x 1800 W	
LA4X		4 x 1000 W		N/A
LA4		4 x 800 W	4 x 1000 W	N/A

LA4 preset library

The LA4 onboard preset library is stored in the factory memory locations 011 to 089 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 6.0

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

KILOKIVA

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

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

SB118

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

SB15

031	[SB15_100]	SB15, LPF=100 Hz
032	[SB15_100_C]	SB15, LPF=100 Hz, cardioid pattern

KILO

033	[KILO]	Kilo, LPF=100 Hz

12XTA

034	[12XTA_FI]	12XT active, full range, fill
035	[12XTA_FI_100]	12XT active, HPF=100 Hz, fill
036	[12XTA_FR]	12XT active, full range, FOH
037	[12XTA_FR_100]	12XT active, HPF=100 Hz, FOH
038	[12XTA_MO]	12XT active, full range, monitor
039	[12XTA_MO_100]	12XT active, HPF=100 Hz, monitor

12XTP

040	[12XTP_FI]	12XT passive, full range, fill
041	[12XTP_FI_100]	12XT passive, HPF=100 Hz, fill
042	[12XTP_FR]	12XT passive, full range, FOH
043	[12XTP_FR_100]	12XT passive, HPF=100 Hz, FOH
044	[12XTP_MO]	12XT passive, full range, monitor
045	[12XTP_MO_100]	12XT passive, HPF=100 Hz, monitor

8XT

046	[8XT_FI]	8XT, full range, fill
047	[8XT_FI_100]	8XT, HPF=100 Hz, fill
048	[8XT_FR]	8XT, full range, FOH
049	[8XT_FR_100]	8XT, HPF=100 Hz, FOH
050	[8XT_MO]	8XT, full range, monitor
051	[8XT_MO_100]	8XT, HPF=100 Hz, monitor

5XT

052	[5XT]	5XT, full range

115XT

053	[115XT_FI]	115XT, full range, fill
054	[115XT_FI_100]	115XT, HPF=100 Hz, fill
055	[115XT_FR]	115XT, full range, FOH
056	[115XT_FR_100]	115XT, HPF=100 Hz, FOH
057	[115XT_MO]	115XT, full range, monitor
058	[115XT_MO_100]	115XT, HPF=100 Hz, monitor

MTD115bA

059	[115bA_FI]	MTD115b active, full range, fill
060	[115bA_FI_100]	MTD115b active, HPF=100 Hz, fill
061	[115bA_FR]	MTD115b active, full range, FOH
062	[115bA_FR_100]	MTD115b active, HPF=100 Hz, FOH
063	[115bA_MO]	MTD115b active, full range, monitor
064	[115bA_MO_100]	MTD115b active, HPF=100 Hz, monitor

MTD115bP

065	[115bP_FI]	MTD115b passive, full range, fill
066	[115bP_FI_100]	MTD115b passive, HPF=100 Hz, fill
067	[115bP_FR]	MTD115b passive, full range, FOH
068	[115bP_FR_100]	MTD115b passive, HPF=100 Hz, FOH
069	[115bP_MO]	MTD115b passive, full range, monitor
070	[115bP_MO_100]	MTD115b passive, HPF=100 Hz, monitor

112XT

071	[112XT_FI]	112XT, full range, fill
072	[112XT_FI_100]	112XT, HPF=100 Hz, fill
073	[112XT_FR]	112XT, full range, FOH
074	[112XT_FR_100]	112XT, HPF=100 Hz, FOH
075	[112XT_MO]	112XT, full range, monitor
076	[112XT_MO_100]	112XT, HPF=100 Hz, monitor

MTD112b

077	[112b_FI]	MTD112b, full range, fill
078	[112b_FI_100]	MTD112b, HPF=100 Hz, fill
079	[112b_FR]	MTD112b, full range, FOH
080	[112b_FR_100]	MTD112b, HPF=100 Hz, FOH
081	[112b_MO]	MTD112b, full range, monitor
082	[112b_MO_100]	MTD112b, HPF=100 Hz, monitor

MTD108a

083	[108a_FI]	MTD108a, full range, fill
084	[108a_FI_100]	MTD108a, HPF=100 Hz, fill
085	[108a_FR]	MTD108a, full range, FOH
086	[108a_FR_100]	MTD108a, HPF=100 Hz, FOH
087	[108a_MO]	MTD108a, full range, monitor
088	[108a_MO_100]	MTD108a, HPF=100 Hz, monitor

FLAT

089	[FLAT_LA4]	Flat EQ, protection minimizing clipping risks

LA4X preset library

The LA4X onboard preset library is stored in the factory memory locations 011 to 078 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 6.0

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

KUDO

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

KARA

023	[KARA]	Kara, full range, FOH
024	[KARA_FI]	Kara, HPF=100 Hz, fill
025	[KARADOWNK1]	Kara, HPF=100 Hz, optimized delay for K1 downfill
026	[KARADOWNK2]	Kara, HPF=100 Hz, optimized delay for K2 downfill

KIVA_II

027	[KIVA II]	Kiva II, full range, FOH
028	[KIVA II_FI]	Kiva II, full range, fill

KIVA

029	[KIVA]	Kiva, full range, FOH
030	[KIVA_FI]	Kiva, full range, fill

SB15KIVA

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

KILOKIVA

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

ARCS_II

033	[ARCS II]	ARCS II, full range

ARCS_WF

034	[ARCS_WIFO]	ARCS Wide or ARCS Focus, full range, FOH
035	[ARCS_WIFO_FI]	ARCS Wide or ARCS Focus, full range, fill

SB18

036	[SB18_60]	SB18, LPF=60 Hz
037	[SB18_100]	SB18, LPF=100 Hz
038	[SB18_60_C]	SB18, LPF=60 Hz, cardioid pattern
039	[SB18_100_C]	SB18, LPF=100 Hz, cardioid pattern

SB15

040	[SB15_100]	SB15, LPF=100 Hz
041	[SB15_100_C]	SB15, LPF=100 Hz, cardioid pattern

KILO

042	[KILO]	Kilo, LPF=100 Hz

SYVA

043	[SYVA]	Syva, full range

SYVA_LOW

044	[SYVA LOW_100]	Syva Low (separated), LPF=100 Hz

SYVA+LOW

045	[SYVA LOW SYVA]	Syva & Syva Low (coupled)

SYVA_SUB

046	[SYVA SUB_100]	Syva Sub, LPF=100 Hz

X15HiQ

047	[X15]	X15 HiQ, full range
048	[X15_MO]	X15 HiQ, full range, monitor, low latency

X12

049	[X12]	X12, full range
050	[X12_MO]	X12, full range, monitor, low latency

X8

051	[X8]	X8, full range
052	[X8_MO]	X8, full range, monitor, low latency

115XTHiQ

053	[HiQ_FI]	115XT HiQ, full range, fill
054	[HiQ_FI_100]	115XT HiQ, HPF=100 Hz, fill
055	[HiQ_FR]	115XT HiQ, full range, FOH
056	[HiQ_FR_100]	115XT HiQ, HPF=100 Hz, FOH
057	[HiQ_MO]	115XT HiQ, full range, monitor
058	[HiQ_MO_100]	115XT HiQ, HPF=100 Hz, monitor

12XTA

059	[12XTA_FI]	12XT active, full range, fill
060	[12XTA_FI_100]	12XT active, HPF=100 Hz, fill
061	[12XTA_FR]	12XT active, full range, FOH
062	[12XTA_FR_100]	12XT active, HPF=100 Hz, FOH
063	[12XTA_MO]	12XT active, full range, monitor
064	[12XTA_MO_100]	12XT active, HPF=100 Hz, monitor

12XTP

065	[12XTP_FI]	12XT passive, full range, fill
066	[12XTP_FI_100]	12XT passive, HPF=100 Hz, fill
067	[12XTP_FR]	12XT passive, full range, FOH
068	[12XTP_FR_100]	12XT passive, HPF=100 Hz, FOH
069	[12XTP_MO]	12XT passive, full range, monitor
070	[12XTP_MO_100]	12XT passive, HPF=100 Hz, monitor

8XT

071	[8XT_FI]	8XT, full range, fill
072	[8XT_FI_100]	8XT, HPF=100 Hz, fill
073	[8XT_FR]	8XT, full range, FOH
074	[8XT_FR_100]	8XT, HPF=100 Hz, FOH
075	[8XT_MO]	8XT, full range, monitor
076	[8XT_MO_100]	8XT, HPF=100 Hz, monitor

5XT

077	[5XT]	5XT, full range

FLAT

078	[FLAT_LA4X]	Flat EQ, protection minimizing clipping risks

LA8 preset library

The LA8 onboard preset library is stored in the factory memory locations 011 to 154 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 6.0

K1

011	[K1]	K1, full range

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

K1-SB

015	[K1SB_60]	K1-SB, LPF=60 Hz, optimized for CONTOUR configuration
016	[K1SB_X]	K1-SB, LPF=200 Hz, optimized for THROW configuration with K1
017	[K1SB_X K2]	K1-SB, LPF=200 Hz, optimized for THROW configuration with K2

V-DOSC

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

KUDO

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

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

dV-DOSC

037	[dV_FI]	dV-DOSC, HPF=100 Hz, fill
038	[dV_LO]	dV-DOSC, full range, LO contour
039	[dV_LO_100]	dV-DOSC, HPF=100 Hz, LO contour
040	[dV_HI]	dV-DOSC, full range, HI contour
041	[dV_HI_100]	dV-DOSC, HPF=100 Hz, HI contour

dV-D_dVS

042	[dV_dV-S_LO]	dV-DOSC & dV-SUB, X-OVER=100 Hz, LO contour
043	[dV_dV-S_HI]	dV-DOSC & dV-SUB, X-OVER=100 Hz, HI contour
044	[dV_dV-S_LO60]	dV-DOSC & dV-SUB, HPF=60 Hz, X-OVER=100 Hz, LO contour
045	[dV_dV-S_HI60]	dV-DOSC & dV-SUB, HPF=60 Hz, X-OVER=100 Hz, HI contour

dV-SUB

046	[dV-S_60_100]	dV-SUB, HPF=60 Hz, LPF=100 Hz
047	[dV-S_100]	dV-SUB, LPF=100 Hz
048	[dV-S_60_X]	dV-SUB, HPF=60 Hz, LPF=200 Hz, optimized for [V-DOSC_*xx*_60] presets
049	[dV-S_X]	dV-SUB, LPF=200 Hz, optimized for [V-DOSC_xx_X] presets

ARCS_II

050	[ARCS II]	ARCS II, full range

ARCS

051	[ARCS_LO]	ARCS, full range, LO contour
052	[ARCS_LO_60]	ARCS, HPF=60 Hz, LO contour
053	[ARCS_LO_100]	ARCS, HPF=100 Hz, LO contour
054	[ARCS_HI]	ARCS, full range, HI contour
055	[ARCS_HI_60]	ARCS, HPF=60 Hz, HI contour
056	[ARCS_HI_100]	ARCS, HPF=100 Hz, HI contour

ARCS_WF

057	[ARCS_WIFO]	ARCS Wide or ARCS Focus, full range, FOH
058	[ARCS_WIFO_FI]	ARCS Wide or ARCS Focus, full range, fill

SB28

059	[SB28_60]	SB28, LPF=60 Hz
060	[SB28_100]	SB28, LPF=100 Hz
061	[SB28_60_C]	SB28, LPF=60 Hz, cardioid pattern
062	[SB28_100_C]	SB28, LPF=100 Hz, cardioid pattern

SB218

063	[SB218_60]	SB218, LPF=60 Hz
064	[SB218_100]	SB218, LPF=100 Hz
065	[SB218_X]	SB218, LPF=200 Hz, optimized for [V-DOSC_xx_X] presets

SB18

066	[SB18_60]	SB18, LPF=60 Hz
067	[SB18_100]	SB18, LPF=100 Hz
068	[SB18_60_C]	SB18, LPF=60 Hz, cardioid pattern
069	[SB18_100_C]	SB18, LPF=100 Hz, cardioid pattern

SB118

070	[SB118_60]	SB118, LPF=60 Hz
071	[SB118_100]	SB118, LPF=100 Hz
072	[SB118_60_C]	SB118, LPF=60 Hz, cardioid pattern
073	[SB118_100_C]	SB118, LPF=100 Hz, cardioid pattern

SB15

074	[SB15_100]	SB15, LPF=100 Hz
075	[SB15_100_C]	SB15, LPF=100 Hz, cardioid pattern

KILO

076	[KILO]	Kilo, LPF=100 Hz

KIVA_II

077	[KIVA II]	Kiva II, full range, FOH
078	[KIVA II_FI]	Kiva II, full range, fill

KIVA

079	[KIVA]	Kiva, full range, FOH
080	[KIVA_FI]	Kiva, full range, fill

SB15KIVA

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

KILOKIVA

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

SYVA

083	[SYVA]	Syva, full range

SYVA_LOW

084	[SYVA LOW_100]	Syva Low (separated), LPF=100 Hz

SYVA+LOW

085	[SYVA LOW SYVA]	Syva & Syva Low (coupled)

SYVA_SUB

086	[SYVA SUB_100]	Syva Sub, LPF=100 Hz

X15HiQ

087	[X15]	X15 HiQ, full range
088	[X15_MO]	X15 HiQ, full range, monitor, low latency

X12

089	[X12]	X12, full range
090	[X12_MO]	X12, full range, monitor, low latency

X8

091	[X8]	X8, full range
092	[X8_MO]	X8, full range, monitor, low latency

115XTHiQ

093	[HiQ_FI]	115XT HiQ, full range, fill
094	[HiQ_FI_100]	115XT HiQ, HPF=100 Hz, fill
095	[HiQ_FR]	115XT HiQ, full range, FOH
096	[HiQ_FR_100]	115XT HiQ, HPF=100 Hz, FOH
097	[HiQ_MO]	115XT HiQ, full range, monitor
098	[HiQ_MO_100]	115XT HiQ, HPF=100 Hz, monitor

12XTA

099	[12XTA_FI]	12XT active, full range, fill
100	[12XTA_FI_100]	12XT active, HPF=100 Hz, fill
101	[12XTA_FR]	12XT active, full range, FOH
102	[12XTA_FR_100]	12XT active, HPF=100 Hz, FOH
103	[12XTA_MO]	12XT active, full range, monitor
104	[12XTA_MO_100]	12XT active, HPF=100 Hz, monitor

12XTP

105	[12XTP_FI]	12XT passive, full range, fill
106	[12XTP_FI_100]	12XT passive, HPF=100 Hz, fill
107	[12XTP_FR]	12XT passive, full range, FOH
108	[12XTP_FR_100]	12XT passive, HPF=100 Hz, FOH
109	[12XTP_MO]	12XT passive, full range, monitor
110	[12XTP_MO_100]	12XT passive, HPF=100 Hz, monitor

8XT

111	[8XT_FI]	8XT, full range, fill
112	[8XT_FI_100]	8XT, HPF=100 Hz, fill
113	[8XT_FR]	8XT, full range, FOH
114	[8XT_FR_100]	8XT, HPF=100 Hz, FOH
115	[8XT_MO]	8XT, full range, monitor
116	[8XT_MO_100]	8XT, HPF=100 Hz, monitor

5XT

117	[5XT]	5XT, full range

115XT

118	[115XT_FI]	115XT, full range, fill
119	[115XT_FI_100]	115XT, HPF=100 Hz, fill
120	[115XT_FR]	115XT, full range, FOH
121	[115XT_FR_100]	115XT, HPF=100 Hz, FOH
122	[115XT_MO]	115XT, full range, monitor
123	[115XT_MO_100]	115XT, HPF=100 Hz, monitor

MTD115bA

124	[115bA_FI]	MTD115b active, full range, fill
125	[115bA_FI_100]	MTD115b active, HPF=100 Hz, fill
126	[115bA_FR]	MTD115b active, full range, FOH
127	[115bA_FR_100]	MTD115b active, HPF=100 Hz, FOH
128	[115bA_MO]	MTD115b active, full range, monitor
129	[115bA_MO_100]	MTD115b active, HPF=100 Hz, monitor

MTD115bP

130	[115bP_FI]	MTD115b passive, full range, fill
131	[115bP_FI_100]	MTD115b passive, HPF=100 Hz, fill
132	[115bP_FR]	MTD115b passive, full range, FOH
133	[115bP_FR_100]	MTD115b passive, HPF=100 Hz, FOH
134	[115bP_MO]	MTD115b passive, full range, monitor
135	[115bP_MO_100]	MTD115b passive, HPF=100 Hz, monitor

112XT

136	[112XT_FI]	112XT, full range, fill
137	[112XT_FI_100]	112XT, HPF=100 Hz, fill
138	[112XT_FR]	112XT, full range, FOH
139	[112XT_FR_100]	112XT, HPF=100 Hz, FOH
140	[112XT_MO]	112XT, full range, monitor
141	[112XT_MO_100]	112XT, HPF=100 Hz, monitor

MTD112b

142	[112b_FI]	MTD112b, full range, fill
143	[112b_FI_100]	MTD112b, HPF=100 Hz, fill
144	[112b_FR]	MTD112b, full range, FOH
145	[112b_FR_100]	MTD112b, HPF=100 Hz, FOH
146	[112b_MO]	MTD112b, full range, monitor
147	[112b_MO_100]	MTD112b, HPF=100 Hz, monitor

MTD108a

148	[108a_FI]	MTD108a, full range, fill
149	[108a_FI_100]	MTD108a, HPF=100 Hz, fill
150	[108a_FR]	MTD108a, full range, FOH
151	[108a_FR_100]	MTD108a, HPF=100 Hz, FOH
152	[108a_MO]	MTD108a, full range, monitor
153	[108a_MO_100]	MTD108a, HPF=100 Hz, monitor

FLAT

154	[FLAT_LA8]	Flat EQ, protection minimizing clipping risks

LA12X preset library

The LA12X onboard preset library is stored in the factory memory locations 011 to 079 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 6.0

K1

011	[K1]	K1, full range

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

K1-SB

015	[K1SB_60]	K1-SB, LPF=60 Hz, optimized for CONTOUR configuration
016	[K1SB_X]	K1-SB, LPF=200 Hz, optimized for THROW configuration with K1
017	[K1SB_X K2]	K1-SB, LPF=200 Hz, optimized for THROW configuration with K2

KARA

018	[KARA]	Kara, full range, FOH
019	[KARA_FI]	Kara, HPF=100 Hz, fill
020	[KARADOWNK1]	Kara, HPF=100 Hz, optimized delay for K1 downfill
021	[KARADOWNK2]	Kara, HPF=100 Hz, optimized delay for K2 downfill

ARCS_II

022	[ARCS II]	ARCS II, full range

ARCS_WF

023	[ARCS_WIFO]	ARCS Wide or ARCS Focus, full range, FOH
024	[ARCS_WIFO_FI]	ARCS Wide or ARCS Focus, full range, fill

KS28

025	[KS28_60]	KS28, LPF=60 Hz
026	[KS28_100]	KS28, LPF=100 Hz
027	[KS28_60_C]	KS28, LPF=60 Hz, cardioid pattern
028	[KS28_100_C]	KS28, LPF=100 Hz, cardioid pattern

SB28

029	[SB28_60]	SB28, LPF=60 Hz
030	[SB28_100]	SB28, LPF=100 Hz
031	[SB28_60_C]	SB28, LPF=60 Hz, cardioid pattern
032	[SB28_100_C]	SB28, LPF=100 Hz, cardioid pattern

SB18

033	[SB18_60]	SB18, LPF=60 Hz
034	[SB18_100]	SB18, LPF=100 Hz
035	[SB18_60_C]	SB18, LPF=60 Hz, cardioid pattern
036	[SB18_100_C]	SB18, LPF=100 Hz, cardioid pattern

SB15

037	[SB15_100]	SB15, LPF=100 Hz
038	[SB15_100_C]	SB15, LPF=100 Hz, cardioid pattern

KIVA_II

039	[KIVA II]	Kiva II, full range, FOH
040	[KIVA II_FI]	Kiva II, full range, fill

KIVA

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

SB15KIVA

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

SYVA

044	[SYVA]	Syva, full range

SYVA_LOW

045	[SYVA LOW_100]	Syva Low (separated), LPF=100 Hz

SYVA+LOW

046	[SYVA LOW SYVA]	Syva & Syva Low (coupled)

SYVA_SUB

047	[SYVA SUB_100]	Syva Sub, LPF=100 Hz

X15HiQ

048	[X15]	X15 HiQ, full range
049	[X15_MO]	X15 HiQ, full range, monitor, low latency

X12

050	[X12]	X12, full range
051	[X12_MO]	X12, full range, monitor, low latency

X8

052	[X8]	X8, full range
053	[X8_MO]	X8, full range, monitor, low latency

115XTHiQ

054	[HiQ_FI]	115XT HiQ, full range, fill
055	[HiQ_FI_100]	115XT HiQ, HPF=100 Hz, fill
056	[HiQ_FR]	115XT HiQ, full range, FOH
057	[HiQ_FR_100]	115XT HiQ, HPF=100 Hz, FOH
058	[HiQ_MO]	115XT HiQ, full range, monitor
059	[HiQ_MO_100]	115XT HiQ, HPF=100 Hz, monitor

12XTA

060	[12XTA_FI]	12XT active, full range, fill
061	[12XTA_FI_100]	12XT active, HPF=100 Hz, fill
062	[12XTA_FR]	12XT active, full range, FOH
063	[12XTA_FR_100]	12XT active, HPF=100 Hz, FOH
064	[12XTA_MO]	12XT active, full range, monitor
065	[12XTA_MO_100]	12XT active, HPF=100 Hz, monitor

12XTP

066	[12XTP_FI]	12XT passive, full range, fill
067	[12XTP_FI_100]	12XT passive, HPF=100 Hz, fill
068	[12XTP_FR]	12XT passive, full range, FOH
069	[12XTP_FR_100]	12XT passive, HPF=100 Hz, FOH
070	[12XTP_MO]	12XT passive, full range, monitor
071	[12XTP_MO_100]	12XT passive, HPF=100 Hz, monitor

8XT

072	[8XT_FI]	8XT, full range, fill
073	[8XT_FI_100]	8XT, HPF=100 Hz, fill
074	[8XT_FR]	8XT, full range, FOH
075	[8XT_FR_100]	8XT, HPF=100 Hz, FOH
076	[8XT_MO]	8XT, full range, monitor
077	[8XT_MO_100]	8XT, HPF=100 Hz, monitor

5XT

078	[5XT]	5XT, full range

FLAT

079	[FLAT_LA12X]	Flat EQ, protection minimizing clipping risks

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_xxxx] preset with LA4 or LA4X provides 6 dB of headroom. Using the [FLAT_LA8] preset with LA8 provides 8 dB of headroom. Using [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 / KI-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]

Downfill options for additional vertical coverage

K2 enclosures driven by [K2_110]

Kara enclosures driven by [KARADOWNK1]

[K1] and [K2 xxx]

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

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 factory parameters already include optimal delay value for the coupling of a K1 line source with Kara 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]

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 user manual for details.

Downfill options for additional vertical coverage
Kara enclosures driven by [KARADOWNK2]

[K2 xxx]

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

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 factory parameters already include optimal delay value for the coupling of a K2 line source with Kara as a downfill.
[KARADOWNK2] provides 11 dB of headroom.

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 *	
Kudo line source	[KUDO*xx*_25]	—	35 Hz — 20 kHz
	[KUDO*xx*_40]		40 Hz — 20 kHz
	[KUDO*xx*_60]		60 Hz — 20 kHz
Kudo line source + subwoofer	[KUDO*xx*_40]	[xxxx_60_C]	down to 25 Hz (KS28 and SB28) or 32 Hz (SB18) reinforced LF contour

* with subwoofers as a cardioid array, use [*xxxx_xx*_C]

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	IN A	0 dB	0 ms	+	ON
right LF	OUT 2	LF					ON
MF	OUT 3	MF					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.

Kara

Kara and Kara(i) 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 or SB18 *	
Kara line source	[KARA]	—	55 Hz - 20 kHz
Kara line source + coupled subwoofer	[KARA]	[xxxx_100]	down to 32 Hz (SB18) or 25 Hz (KS28 or SB28) reinforced LF contour
Kara line source + separated subwoofer	[KARA]	[xxxx_60]	
single or pair of Kara enclosures	[KARA_FI]	—	high-pass at 100 Hz flat response

* with subwoofers as a cardioid array, use [xxxx_xx_C]

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

* with SB subwoofers as a cardioid array, use [SB*xx_xx*_C]

[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

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

Kiva SB15m

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

* with SB subwoofers as a cardioid array, use [SB*xx_xx*_C]

[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	IN A	0 dB	0 ms	+	ON
KIVA	OUT 2	PA					ON
KIVA	OUT 3	PA					ON
KIVA	OUT 4	PA					ON

i Hybrid preset combining [KIVA] with [SB15_100], pre-alignment delay included.

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

Kiva Kilo

loudspeaker configuration	preset(s)			acoustic properties
	Kiva	Kilo	SB18*	
Kiva line source	[KIVA]	—		80 Hz - 20 kHz
Kiva line source + coupled Kilo	[KIVA_KILO]		—	down to 50 Hz
Kiva line source + coupled Kilo + SB18	[KIVA_KILO]		[SB18_60]	down to 32 Hz reinforced LF contour
single or pair of Kiva enclosures	[KIVA_FI]	—		80 Hz - 20 kHz flat response

* with SB subwoofers as a cardioid array, use [SBxx_xx_C]

[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	IN A	0 dB	0 ms	+	ON
KIVA	OUT 2	PA					ON
KIVA	OUT 3	PA					ON
KIVA	OUT 4	PA					ON

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

[KILO]

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

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 **	dV-DOSC	
V-DOSC line source	[V-DOSC _LO] or [V-DOSC_HI]	—			40 Hz - 20 kHz
V-DOSC line source + coupled dV-SUB	[V-DOSC_xx _X]	[dV-S_X]	—		down to 35 Hz reinforced LF contour
V-DOSC line source + KS28 / SB28	[V-DOSC _xx_60]	—	[xx28_60]	—	down to 25 Hz reinforced LF contour
V-DOSC line source + coupled SB218	[V-DOSC_xx _X]	—	[SB218_X]	—	
V-DOSC 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
V-DOSC line source + coupled dV-DOSC	[V-DOSC _xx]	—		[dV_xx_100]	downfill coverage

* standard HF contour with [xx_LO] or increased HF contour with [xx_HI]

** with subwoofers as a cardioid array, use [xxxx_xx_C]

[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	IN A	0 dB	0 ms	+	ON
right LF	OUT 2	LF					ON
MF	OUT 3	MF					ON
HF	OUT 4	HF					ON

i 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

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**	
dV-DOSC line source	[dV_LO] or [dV_HI]	—		65 Hz - 20 kHz
dV-DOSC line source + coupled dV-SUB	[dV_dV-S_xx]		—	down to 35 Hz reinforced LF contour
	[dV_xx_100]	[dV-S_100]		
dV-DOSC line source + coupled subwoofer	[dV_xx_100]	—	[xxxx_100]	down to 32 Hz (SB18/ SB118) or 25 Hz (KS28 / SB28 / SB218)
dV-DOSC line source + coupled dV-SUB + coupled subwoofer	[dV_dV-S_xx60]		[xxxx_60]	
	[dV_xx_100]	[dV-S_60_100]		
single or pair of dV-DOSC 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]

[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					ON
LF	OUT 3	LF	IN A	0 dB	0 ms	+	ON
HF	OUT 4	HF					ON

[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					ON
LF	OUT 3	LF	IN B	0 dB	0 ms	+	ON
HF	OUT 4	HF					ON

[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]

loudspeaker elements	outputs	channels	routing	gain	delay	polarity	mute
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

[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.

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 II

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

* with subwoofers as a cardioid array, use [xxxx_xx_C]

[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					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.

ARCS Wide / ARCS Focus

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

* with SB subwoofers as a cardioid array, use [SBxx_xx_C]

[ARCS_WIFO] and [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

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

* standard HF contour with [xx_LO] or increased HF contour with [xx_HI]

** with subwoofers as a cardioid array, use [xxxx_xx_C]

[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	
Syva colinear source	[SYVA]	—	—	87 Hz - 20 kHz
Syva colinear source + coupled Syva Low	[SYVA LOW SYVA]		—	down to 40 Hz reinforced LF contour
Syva colinear source + separated Syva Low	[SYVA]	[SYVA LOW_100]	—	
Syva colinear source + coupled Syva Low + Syva Sub	[SYVA LOW SYVA]		[SYVA SUB_100]*	down to 27 Hz reinforced LF contour
Syva 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					ON
Syva Low	OUT 3	LF	IN B	0 dB	0 ms	+	ON
Syva	OUT 4	PA					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, i.e., 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 LOW_100] and [SYVA SUB_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

[SYVA SUB_100] polarity is reversed to optimize Syva Sub acoustic summation with Syva/Syva Low.

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.

X15 HiQ

X15 HiQ is an active coaxial loudspeaker enclosure.

loudspeaker configuration	preset(s)		acoustic properties
	X15 HiQ	SB18*	
X15 HiQ	[X15]	—	55 Hz - 20 kHz
	[X15_MO]	—	52 Hz - 20 kHz low latency
X15 HiQ + SB18	[X15]	[SB18_100]	down to 32 Hz reinforced LF contour
	[X15_MO]		down to 32 Hz reinforced LF contour low latency

* with SB subwoofers as a cardioid array, use [SB18_100_C]

[xx_MO] presets for the X 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 LA8 or 3.00 ms on 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					ON
LF	OUT 3	LF	IN B	0 dB	0 ms	+	ON
HF	OUT 4	HF					ON

[SB18_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

[SB18_100_C]

loudspeaker elements	outputs	channels	routing	gain	delay	polarity	mute
SR	OUT 1	SR	IN A	0 dB	0 ms	+	ON
SB	OUT 2	SB					ON
SB	OUT 3	SB					ON
SB	OUT 4	SB					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 or SB18*	
X12	[X12]	—	59 Hz - 20 kHz
	[X12_MO]	—	57 Hz - 20 kHz low latency
X12 + subwoofer	[X12]	[SBxx_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 SB subwoofers as a cardioid array, use [SBxx_100_C]

[xx_MO] presets for the X 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 LA8 or 3.00 ms on 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

[SBxx_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

[SBxx_100_C]

loudspeaker elements	outputs	channels	routing	gain	delay	polarity	mute
SR	OUT 1	SR	IN A	0 dB	0 ms	+	ON
SB	OUT 2	SB					ON
SB	OUT 3	SB					ON
SB	OUT 4	SB					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*	
X8	[X8]	—	60 Hz - 20 kHz
	[X8_MO]	—	55 Hz - 20 kHz low latency
X8 + SB15m	[X8]	[SB15_100]	down to 40 Hz reinforced LF contour
	[X8_MO]		down to 40 Hz reinforced LF contour low latency

* with SB subwoofers as a cardioid array, use [SB15_100_C]

[xx_MO] presets for the X 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 LA8 or 3.00 ms on 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

[SBxx_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

[SBxx_100_C]

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

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*	
5XT	[5XT]	—	95 Hz - 20 kHz
5XT + SB15m	[5XT]	[SB15_100]	down to 40 Hz reinforced LF contour

* with SB subwoofers as a cardioid array, use [SBxx_xx_C]

[5XT]

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

[SB15_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

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]
12XT (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 SB subwoofer	[xxx_xx_100]	[SBxx_100]	down to 40 Hz (SB15m) or 32 Hz (SB18/SB118) reinforced LF contour	

* with SB subwoofers as a cardioid array, use [SBxx_xx_C]

** [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 SB subwoofer	[xxx_xx_100]	[SBxx_100]	down to 32 Hz reinforced LF contour	

* with SB subwoofers as a cardioid array, use [SBxx_xx_C]

** [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					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.

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).

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

subwoofer	presets	optimal compatibility
SB15m	[SB15_100] or [SB15_100_C]	Coupled Kiva, coupled Kiva II, XT, X12, X8
SB18(i)	[SB18_60] or [SB18_60_C]	Kudo, Kara, Kiva/Kilo, ARCS,ARCS Wide, ARCS Focus
SB18m	[SB18_100] or [SB18_100_C]	Kara, ARCS, XT, X series, Kiva II
SB118	[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
SB28	[SB28_60] or [SB28_60_C]	K1, K2, V-DOSC, Kudo, dV-DOSC/dV-SUB, Kara/SB18, ARCS, ARCSII
	[SB28_100] or [SB28_100_C]	dV-DOSC, Kara, coupled ARCS
KS28	[KS28_60] or [KS28_60_C]	K1, K2, V-DOSC, Kudo, dV-DOSC/dV-SUB, Kara/SB18, ARCS, ARCSII
	[KS28_100] or [KS28_100_C]	dV-DOSC, Kara, coupled ARCS
SB218	[SB218_60]	V-DOSC, Kudo, dV-DOSC/dV-SUB, ARCS
	[SB218_100]	dV-DOSC, coupled ARCS
Syva Low	[SYVA LOW SYVA]	coupled Syva, coupled Syva + Syva Sub
	[SYVA LOW_100]	Syva, Syva + Syva Sub
Syva Sub	[SYVA SUB_100]*	Syva/Syva Low, coupled Syva/Syva Low

* reverse the polarity on Syva Sub when using it with Syva Low

loudspeaker configuration*	preset**	acoustic properties
standard	[xxxx_60] or [xxxx_100]	down to 40 Hz (SB15m, Syva Low), 32 Hz (SB18 / SB118), 27 Hz (Syva Low+Syva Sub), or 25 Hz (KS28 / SB28 / SB218)
cardioid	[xxxx_60_C] or [xxxx_100_C]	down to 40 Hz (SB15m), 32 Hz (SB18 / SB118) or 25 Hz (KS28 / SB28) cardioid directivity pattern

* refer to the subwoofer user manual for the recommended deployment patterns in each configuration

** SB218 is 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] or [xxxx_100_C]

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

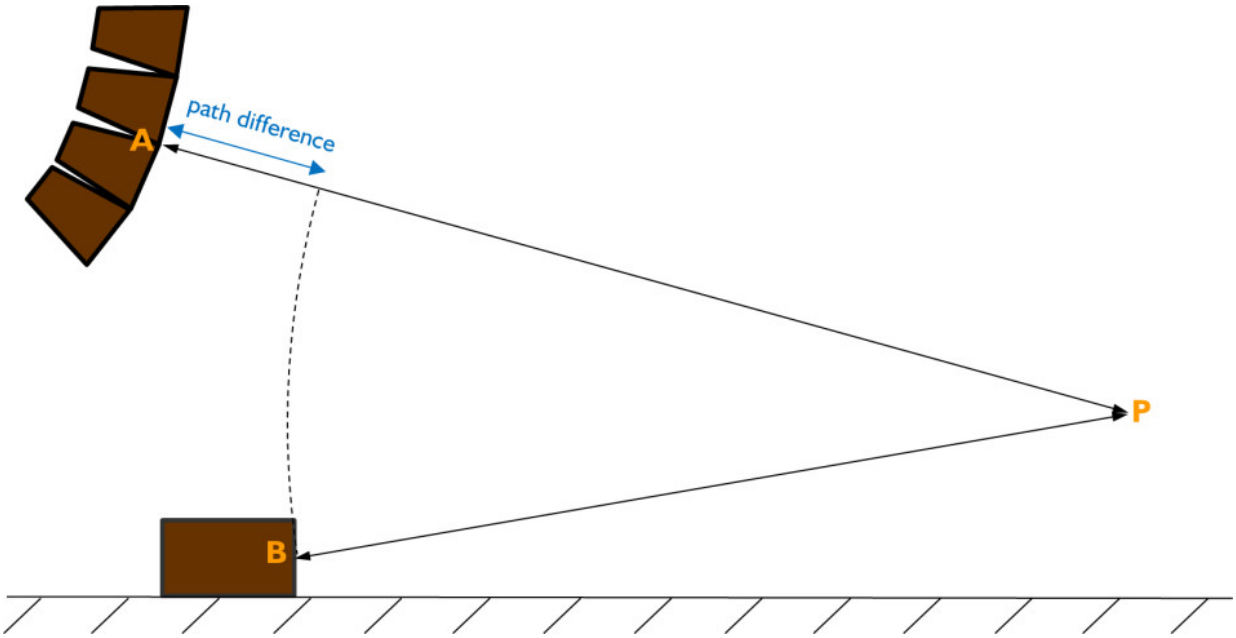
Pre-alignment delays have been measured with the enclosures at the same geometric location, front face on the same plane.

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.

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): Path difference (m) / Sound velocity (m.s-1), with:
   sound velocity ≈ 340 m.s-1 at 20°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 ≠ 0, substract **Pre-alignment delay a** to both Alignment delay values.

Variable curvature WST systems

K1 + K1-SB

presets	pre-alignment delay values	
[K1] + [K1SB_X]	K1 = 0 ms	K1-SB = 0 ms
[K1] + [K1SB_60]	K1 = 6 ms	K1-SB = 0 ms

K1 + SB28

presets	pre-alignment delay values	
[K1] + [SB28_60]	K1 = 0 ms	SB28 = 6 ms
[K1] + [SB28_60_C]	K1 = 0 ms	SB28 = 0.5 ms

K1 + KS28

presets	pre-alignment delay values	
[K1] + [KS28_60]	K1 = 0 ms	KS28 = 6 ms
[K1] + [KS28_60_C]	K1 = 0 ms	KS28 = 0.5 ms

K1 + K1-SB + SB28

presets	pre-alignment delay values		
[K1] + [K1SB_X] + [SB28_60]	K1 = 0 ms	K1-SB = 0 ms	SB28 = 6 ms
[K1] + [K1SB_X] + [SB28_60_C]	K1 = 0 ms	K1-SB = 0 ms	SB28 = 0.5 ms
[K1] + [K1SB_60] + [SB28_60]	K1 = 8 ms	K1-SB = 2 ms	SB28 = 0 ms
[K1] + [K1SB_60] + [SB28_60_C]	K1 = 13.5 ms	K1-SB = 7.5 ms	SB28 = 0 ms

K1 + K1-SB + KS28

presets	pre-alignment delay values		
[K1] + [K1SB_X] + [KS28_60]	K1 = 0 ms	K1-SB = 0 ms	KS28 = 6 ms
[K1] + [K1SB_X] + [KS28_60_C]	K1 = 0 ms	K1-SB = 0 ms	KS28 = 0.5 ms
[K1] + [K1SB_60] + [KS28_60]	K1 = 8 ms	K1-SB = 2 ms	KS28 = 0 ms
[K1] + [K1SB_60] + [KS28_60_C]	K1 = 13.5 ms	K1-SB = 7.5 ms	KS28 = 0 ms

K2 + K1-SB

presets	pre-alignment delay values	
[K2] + [K1SB_X K2]	K2 = 0 ms	K1-SB = 0 ms
[K2] + [K1SB_60]	K2 = 6 ms	K1-SB = 0 ms

K2 + SB28

presets	pre-alignment delay values	
[K2] + [SB28_60]	K2 = 0 ms	SB28 = 6 ms
[K2] + [SB28_60_C]	K2 = 0 ms	SB28 = 0.5 ms

K2 + KS28

presets	pre-alignment delay values	
[K2] + [KS28_60]	K2 = 0 ms	KS28 = 6 ms
[K2] + [KS28_60_C]	K2 = 0 ms	KS28 = 0.5 ms

K2 + K1-SB + SB28

presets	pre-alignment delay values		
[K2] + [K1SB_X K2] + [SB28_60]	K2 = 0 ms	K1-SB = 0 ms	SB28 = 6 ms
[K2] + [K1SB_X K2] + [SB28_60_C]	K2 = 0 ms	K1-SB = 0 ms	SB28 = 0.5 ms
[K2] + [K1SB_60] + [SB28_60]	K2 = 8 ms	K1-SB = 2 ms	SB28 = 0 ms
[K2] + [K1SB_60] + [SB28_60_C]	K2 = 13.5 ms	K1-SB = 7.5 ms	SB28 = 0 ms

K2 + K1-SB + KS28

presets	pre-alignment delay values		
[K2] + [K1SB_X K2] + [KS28_60]	K2 = 0 ms	K1-SB = 0 ms	KS28 = 6 ms
[K2] + [K1SB_X K2] + [KS28_60_C]	K2 = 0 ms	K1-SB = 0 ms	KS28 = 0.5 ms
[K2] + [K1SB_60] + [KS28_60]	K2 = 8 ms	K1-SB = 2 ms	KS28 = 0 ms
[K2] + [K1SB_60] + [KS28_60_C]	K2 = 13.5 ms	K1-SB = 7.5 ms	KS28 = 0 ms

Kudo + SB118

presets	pre-alignment delay values	
[KUDOxx_60] + [SB118_60]	Kudo = 0 ms	SB118 = 3.5 ms
[KUDOxx_60] + [SB118_60_C]	Kudo = 2 ms	SB118 = 0 ms

Kudo + SB18

presets	pre-alignment delay values	
[KUDOxx_60] + [SB18_60]	Kudo = 0 ms	SB18 = 3.9 ms
[KUDOxx_60] + [SB18_60_C]	Kudo = 1.6 ms	SB18 = 0 ms

Kudo + SB218

presets	pre-alignment delay values	
[KUDOxx_60] + [SB218_60]	Kudo = 0 ms	SB218 = 5 ms

Kudo + SB28

presets	pre-alignment delay values	
[KUDOxx_60] + [SB28_60]	Kudo = 0 ms	SB28 = 5 ms

presets	pre-alignment delay values	
[KUDOxx_60] + [SB28_60_C]	Kudo = 0.5 ms	SB28 = 0 ms

Kudo + KS28

presets	pre-alignment delay values	
[KUDOxx_60] + [KS28_60]	Kudo = 0 ms	KS28 = 5 ms
[KUDOxx_60] + [KS28_60_C]	Kudo = 0.5 ms	KS28 = 0 ms

Kara + SB18

presets	pre-alignment delay values	
[KARA] + [SB18_100]	Kara = 0 ms	SB18 = 0 ms
[KARA_FI] + [SB18_100]	Kara = 3.0 ms	SB18 = 0 ms
[KARA] + [SB18_100_C]	Kara = 5.5 ms	SB18 = 0 ms
[KARA_FI] + [SB18_100_C]	Kara = 8.5 ms	SB18 = 0 ms
[KARA] + [SB18_60]	Kara = 2.5 ms	SB18 = 0 ms
[KARA] + [SB18_60_C]	Kara = 8 ms	SB18 = 0 ms

Kara + SB28

presets	pre-alignment delay values	
[KARA] + [SB28_100]	Kara = 0 ms	SB28 = 1.35 ms
[KARA] + [SB28_100_C]	Kara = 4.2 ms	SB28 = 0 ms
[KARA] + [SB28_60]	Kara = 0.3 ms	SB28 = 0 ms
[KARA] + [SB28_60_C]	Kara = 5.9 ms	SB28 = 0 ms

Kara + KS28

presets	pre-alignment delay values	
[KARA] + [KS28_100]	Kara = 0 ms	KS28 = 1.35 ms
[KARA] + [KS28_100_C]	Kara = 4.2 ms	KS28 = 0 ms
[KARA] + [KS28_60]	Kara = 0.3 ms	KS28 = 0 ms
[KARA] + [KS28_60_C]	Kara = 5.9 ms	KS28 = 0 ms

Kara + SB18 + SB28

presets	pre-alignment delay values		
[KARA] + [SB18_100] + [SB28_60]	Kara = 0 ms	SB18 = 0 ms	SB28 = 1.3 ms
[KARA] + [SB18_100] + [SB28_60_C]	Kara = 4.2 ms	SB18 = 4.2 ms	SB28 = 0 ms

Kara + SB18 + KS28

presets	pre-alignment delay values		
[KARA] + [SB18_100] + [KS28_60]	Kara = 0 ms	SB18 = 0 ms	KS28 = 1.3 ms
[KARA] + [SB18_100] + [KS28_60_C]	Kara = 4.2 ms	SB18 = 4.2 ms	KS28 = 0 ms

Kiva + Kilo

presets	pre-alignment delay values	
[KIVA] + [KILO]	Kiva = 0 ms	Kilo = 1.5 ms

Kiva/Kilo + SB118

presets	pre-alignment delay values	
[KIVA_KILO] + [SB118_60]	Kiva/Kilo = 0 ms	SB118 = 5.9 ms
[KIVA_KILO] + [SB118_60_C]	Kiva/Kilo = 0 ms	SB118 = 0.4 ms

Kiva/Kilo + SB18

presets	pre-alignment delay values	
[KIVA_KILO] + [SB18_60]	Kiva/Kilo = 0 ms	SB18 = 6.3 ms
[KIVA_KILO] + [SB18_60_C]	Kiva/Kilo = 0 ms	SB18 = 0.8 ms

Kiva + SB15m

presets	pre-alignment delay values	
[KIVA] + [SB15_100]	Kiva = 0 ms	SB15m = 1.4 ms
[KIVA] + [SB15_100_C]	Kiva = 2.4 ms	SB15m = 0 ms
[KIVA_FI] + [SB15_100]	Kiva = 0 ms	SB15m = 0.6 ms

Kiva/SB15m + SB18

presets	pre-alignment delay values	
[KIVA_SB15] + [SB18_60]	Kiva/SB15m = 0 ms	SB18 = 8.5 ms
[KIVA_SB15] + [SB18_60_C]	Kiva/SB15m = 0 ms	SB18 = 3 ms

Kiva II + SB15m

presets	pre-alignment delay values	
[KIVA II] + [SB15_100]	Kiva II = 0 ms	SB15m = 1 ms
[KIVA II] + [SB15_100_C]	Kiva II = 2.7 ms	SB15m = 0 ms
[KIVA II_FI] + [SB15_100]	Kiva II = 0 ms	SB15m = 0.7 ms
[KIVA II_FI] + [SB15_100_C]	Kiva II = 3 ms	SB15m = 0 ms

Kiva II + SB15m + SB18

presets	pre-alignment delay values		
[KIVA II] + [SB15_100] + [SB18_60]	Kiva II = 0 ms	SB15m = 1 ms	SB18 = 8.5 ms
[KIVA II] + [SB15_100] + [SB18_60_C]	Kiva II = 0 ms	SB15m = 1 ms	SB18 = 2.95 ms
[KIVA II] + [SB15_100_C] + [SB18_60]	Kiva II = 2.7 ms	SB15m = 0 ms	SB18 = 11.2 ms
[KIVA II] + [SB15_100_C] + [SB18_60_C]	Kiva II = 2.7 ms	SB15m = 0 ms	SB18 = 5.65 ms

V-DOSC + SB218

presets	pre-alignment delay values	
[V-DOSC_xx_X] + [SB218_X]	V-DOSC = 1.8 ms	SB218 = 0 ms
[V-DOSC_xx_60] + [SB218_60]	V-DOSC = 0 ms	SB218 = 3.8 ms

V-DOSC + SB28

presets	pre-alignment delay values	
[V-DOSC_xx_60] + [SB28_60]	V-DOSC = 0 ms	SB28 = 3.8 ms
[V-DOSC_xx_60] + [SB28_60_C]	V-DOSC = 1.7 ms	SB28 = 0 ms

V-DOSC + KS28

presets	pre-alignment delay values	
[V-DOSC_xx_60] + [KS28_60]	V-DOSC = 0 ms	KS28 = 3.8 ms
[V-DOSC_xx_60] + [KS28_60_C]	V-DOSC = 1.7 ms	KS28 = 0 ms

V-DOSC + dV-SUB

presets	pre-alignment delay values	
[V-DOSC_xx_X] + [dV-S_X]	V-DOSC = 0 ms	dV-SUB = 0.2 ms

V-DOSC + dV-SUB + SB218

presets	pre-alignment delay values		
[V-DOSC_xx_60] + [dV-S_60_ X] + [SB218_60]	V-DOSC = 0 ms	dV-SUB = 0.2 ms	SB218 = 3.7 ms

V-DOSC + dV-SUB + SB28

presets	pre-alignment delay values		
[V-DOSC_xx_60] + [dV-S_60_ X] + [SB28_60]	V-DOSC = 0 ms	dV-SUB = 0.2 ms	SB28 = 3.7 ms
[V-DOSC_xx_60] + [dV-S_60_ X] + [SB28_60_C]	V-DOSC = 1.9 ms	dV-SUB = 2 ms	SB28 = 0 ms

V-DOSC + dV-SUB + KS28

presets	pre-alignment delay values		
[V-DOSC_xx_60] + [dV-S_60_ X] + [KS28_60]	V-DOSC = 0 ms	dV-SUB = 0.2 ms	KS28 = 3.7 ms
[V-DOSC_xx_60] + [dV-S_60_ X] + [KS28_60_C]	V-DOSC = 1.9 ms	dV-SUB = 2 ms	KS28 = 0 ms

V-DOSC + dV-DOSC

presets	pre-alignment delay values	
[V-DOSC_xx_60] + [dV_xx_100]	V-DOSC = 0 ms	dV-DOSC = 0 ms

V-DOSC + dV-DOSC downfill

presets	pre-alignment delay values	
[V-DOSC_xx_60] + [dV_xx_100]	V-DOSC = 0 ms	dV-DOSC = 0.04 ms

dV-DOSC + SB118

presets	pre-alignment delay values	
[dV_xx_100] + [SB118_100]	dV = 2.7 ms	SB118 = 0 ms
[dV_xx_100] + [SB118_100_C]	dV = 8.3 ms	SB118 = 0 ms

dV-DOSC + SB218

presets	pre-alignment delay values	
[dV_xx_100] + [SB218_100]	dV = 0.8 ms	SB218 = 0 ms

dV-DOSC + SB18

presets	pre-alignment delay values	
[dV_xx_100] + [SB18_100]	dV = 2.4 ms	SB18 = 0 ms
[dV_xx_100] + [SB18_100_C]	dV = 8 ms	SB18 = 0 ms

dV-DOSC + SB28

presets	pre-alignment delay values	
[dV_xx_100] + [SB28_100]	dV = 0.8 ms	SB28 = 0 ms
[dV_xx_100] + [SB28_100_C]	dV = 6.3 ms	SB28 = 0 ms

dV-DOSC + KS28

presets	pre-alignment delay values	
[dV_xx_100] + [KS28_100]	dV = 0.8 ms	KS28 = 0 ms
[dV_xx_100] + [KS28_100_C]	dV = 6.3 ms	KS28 = 0 ms

dV-DOSC + dV-SUB

presets	pre-alignment delay values	
[dV_xx_100] + [dV-S_100]	dV = 0 ms	dV-SUB = 0 ms

dV-DOSC + dV-SUB + SB118

presets	pre-alignment delay values		
[dV_xx100] + [dV-S_60_100] + [SB118_60]	dV = 0 ms	dV-SUB = 0.75 ms	SB118 = 4 ms
[dV_xx_100] + [dV-S_60_100] + [SB118_60_C]	dV = 1.5 ms	dV-SUB = 2.25 ms	SB118 = 0 ms

dV-DOSC + dV-SUB + SB218

presets	pre-alignment delay values		
[dV_xx_100] + [dV-S_60_100] +[SB218_60]	dV = 0 ms	dV-SUB = 0.75 ms	SB218 = 4.5 ms

dV-DOSC + dV-SUB + SB18

presets	pre-alignment delay values		
[dV_xx_100] + [dV-S_60_100] + [SB18_60]	dV = 0 ms	dV-SUB = 0.75 ms	SB18 = 4.4 ms
[dV_xx_100] + [dV-S_60_100] + [SB18_60_C]	dV = 1.1 ms	dV-SUB = 1.85 ms	SB18 = 0 ms

dV-DOSC + dV-SUB + SB28

presets	pre-alignment delay values		
[dV_xx_100] + [dV-S_60_100] + [SB28_60]	dV = 0 ms	dV-SUB = 0.75 ms	SB28 = 4.5 ms
[dV_xx_100] + [dV-S_60_100] + [SB28_60_C]	dV = 1 ms	dV-SUB = 1.75 ms	SB28 = 0 ms

dV-DOSC + dV-SUB + KS28

presets	pre-alignment delay values		
[dV_xx_100] + [dV-S_60_100] + [KS28_60]	dV = 0 ms	dV-SUB = 0.75 ms	KS28 = 4.5 ms
[dV_xx_100] + [dV-S_60_100] + [KS28_60_C]	dV = 1 ms	dV-SUB = 1.75 ms	KS28 = 0 ms

Constant curvature WST systems

ARCS + SB118

presets	pre-alignment delay values	
[ARCS_xx_60] + [SB118_60]	ARCS = 0.8 ms	SB118 = 0 ms
[ARCS_xx_60] + [SB118_60_C]	ARCS = 6.3 ms	SB118 = 0 ms
[ARCS_xx_100] + [SB118_100]	ARCS = 1.4 ms	SB118 = 0 ms
[ARCS_xx_100] + [SB118_100_C]	ARCS = 6.9 ms	SB118 = 0 ms

ARCS + SB18

presets	pre-alignment delay values	
[ARCS_xx_60] + [SB18_60]	ARCS = 0.4 ms	SB18 = 0 ms
[ARCS_xx_60] + [SB18_60_C]	ARCS = 5.9 ms	SB18 = 0 ms
[ARCS_xx_100] + [SB18_100]	ARCS = 1.1 ms	SB18 = 0 ms
[ARCS_xx_100] + [SB18_100_C]	ARCS = 6.6 ms	SB18 = 0 ms

ARCS + SB218

presets	pre-alignment delay values	
[ARCS_xx_60] + [SB218_60]	ARCS = 0 ms	SB218 = 0.9 ms
[ARCS_xx_100] + [SB218_100]	ARCS = 0 ms	SB218 = 0.3 ms

ARCS + SB28

presets	pre-alignment delay values	
[ARCS_xx_60] + [SB28_60]	ARCS = 0 ms	SB28 = 0.6 ms
[ARCS_xx_60] + [SB28_60_C]	ARCS = 4.9 ms	SB28 = 0 ms
[ARCS_xx_100] + [SB28_100]	ARCS = 0 ms	SB28 = 0.5 ms
[ARCS_xx_100] + [SB28_100_C]	ARCS = 5.0 ms	SB28 = 0 ms

ARCS + KS28

presets	pre-alignment delay values	
[ARCS_xx_60] + [KS28_60]	ARCS = 0 ms	SB28 = 0.6 ms
[ARCS_xx_60] + [KS28_60_C]	ARCS = 4.9 ms	SB28 = 0 ms
[ARCS_xx_100] + [KS28_100]	ARCS = 0 ms	SB28 = 0.5 ms
[ARCS_xx_100] + [KS28_100_C]	ARCS = 5.0 ms	SB28 = 0 ms

ARCS II + SB28

presets	pre-alignment delay values	
[ARCS_II] + [SB28_60]	ARCS II = 0 ms	SB28 = 2.6 ms
[ARCS_II] + [SB28_60_C]	ARCS II = 2.9 ms	SB28 = 0 ms

ARCS II + KS28

presets	pre-alignment delay values	
[ARCS_II] + [KS28_60]	ARCS II = 0 ms	KS28 = 2.6 ms
[ARCS_II] + [KS28_60_C]	ARCS II = 2.9 ms	KS28 = 0 ms

ARCS Wide/Focus + SB18m

presets	pre-alignment delay values	
[ARCS_WIFO] or [ARCS_WIFO_FI] + [SB18_60]	ARCS Wide/Focus = 1.7 ms	SB18m = 0 ms
[ARCS_WIFO] or [ARCS_WIFO_FI] + [SB18_60_C]	ARCS Wide/Focus = 7.2 ms	SB18m = 0 ms

Colinear systems

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

Coaxial loudspeaker enclosures

[xx_MO] presets for the X 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 LA8 or 3.00 ms on LA4X and LA12X.

X15 HiQ + SB18

presets	pre-alignment delay values	
[X15] + [SB18_100]	X15 HiQ = 0 ms	SB18 = 0 ms
[X15_MO] + [SB18_100]	X15 HiQ = 0 ms	SB18 = 0 ms

X12 + SB15m

presets	pre-alignment delay values	
[X12] + [SB15_100]	X12 = 0 ms	SB15m = 2.8 ms
[X12_MO] + [SB15_100]	X12 = 0 ms	SB15m = 2.8 ms

X12 + SB18

presets	pre-alignment delay values	
[X12] + [SB18_100]	X12 = 0 ms	SB18 = 0 ms
[X12_MO] + [SB18_100]	X12 = 0 ms	SB18 = 0 ms

X8 + SB15m

presets	pre-alignment delay values	
[X8] + [SB15_100]	X8 = 0 ms	SB15m = 2.6 ms
[X8_MO] + [SB15_100]	X8 = 0 ms	SB15m = 2.6 ms

115XT HiQ + SB118

presets	pre-alignment delay values	
[HIQ_FI_100] + [SB118_100]	HiQ = 2.6 ms	SB118 = 0 ms
[HIQ_FR_100] + [SB118_100]	HiQ = 2.6 ms	SB118 = 0 ms
[HIQ_MO_100] + [SB118_100]	HiQ = 2.5 ms	SB118 = 0 ms

115XT HiQ + SB18

presets	pre-alignment delay values	
[HIQ_FI_100] + [SB18_100]	HiQ = 2.3 ms	SB18 = 0 ms
[HIQ_FR_100] + [SB18_100]	HiQ = 2.3 ms	SB18 = 0 ms
[HIQ_MO_100] + [SB18_100]	HiQ = 2.2 ms	SB18 = 0 ms

115XT HiQ + dV-SUB

presets	pre-alignment delay values	
[HIQ_FI_100] + [dV-S_100]	HiQ = 0.6 ms	dV-SUB = 0 ms
[HIQ_FR_100] + [dV-S_100]	HiQ = 0.6 ms	dV-SUB = 0 ms
[HIQ_MO_100] + [dV-S_100]	HiQ = 0.5 ms	dV-SUB = 0 ms

Active 12XT + SB118

presets	pre-alignment delay values	
[12XTA_FI_100] + [SB118_100]	12XTA = 2.6 ms	SB118 = 0 ms
[12XTA_FR_100] + [SB118_100]	12XTA = 2.6 ms	SB118 = 0 ms
[12XTA_MO_100] + [SB118_100]	12XTA = 2.5 ms	SB118 = 0 ms

Active 12XT + SB18

presets	pre-alignment delay values	
[12XTA_FI_100] + [SB18_100]	12XTA = 2.3 ms	SB18 = 0 ms
[12XTA_FR_100] + [SB18_100]	12XTA = 2.3 ms	SB18 = 0 ms
[12XTA_MO_100] + [SB18_100]	12XTA = 2.2 ms	SB18 = 0 ms

Passive 12XT + SB118

presets	pre-alignment delay values	
[12XTP_FI_100] + [SB118_100]	12XTP = 2.4 ms	SB118 = 0 ms
[12XTP_FR_100] + [SB118_100]	12XTP = 2.4 ms	SB118 = 0 ms
[12XTP_MO_100] + [SB118_100]	12XTP = 2.4 ms	SB118 = 0 ms

Passive 12XT + SB18

presets	pre-alignment delay values	
[12XTP_FI_100] + [SB18_100]	12XTP = 2.1 ms	SB18 = 0 ms
[12XTP_FR_100] + [SB18_100]	12XTP = 2.1 ms	SB18 = 0 ms
[12XTP_MO_100] + [SB18_100]	12XTP = 2.1 ms	SB18 = 0 ms

8XT + SB118

presets	pre-alignment delay values	
[8XT_FI_100] + [SB118_100]	8XT = 3.1 ms	SB118 = 0 ms
[8XT_FR_100] + [SB118_100]	8XT = 3.2 ms	SB118 = 0 ms
[8XT_MO_100] + [SB118_100]	8XT = 3.0 ms	SB118 = 0 ms

8XT + SB18

presets	pre-alignment delay values	
[8XT_FI_100] + [SB18_100]	8XT = 2.8 ms	SB18 = 0 ms
[8XT_FR_100] + [SB18_100]	8XT = 2.9 ms	SB18 = 0 ms
[8XT_MO_100] + [SB18_100]	8XT = 2.7 ms	SB18 = 0 ms

5XT + SB15m

presets	pre-alignment delay values	
[5XT] + [SB15_100]	5XT = 0.3 ms	SB15m = 0 ms

115XT + SB118

presets	pre-alignment delay values	
[115XT_FI_100] + [SB118_100]	115XT = 2.6 ms	SB118 = 0 ms
[115XT_FR_100] + [SB118_100]	115XT = 2.5 ms	SB118 = 0 ms
[115XT_MO_100] + [SB118_100]	115XT = 2.9 ms	SB118 = 0 ms

115XT + SB18

presets	pre-alignment delay values	
[115XT_FI_100] + [SB18_100]	115XT = 2.3 ms	SB18 = 0 ms
[115XT_FR_100] + [SB18_100]	115XT = 2.2 ms	SB18 = 0 ms
[115XT_MO_100] + [SB18_100]	115XT = 2.6 ms	SB18 = 0 ms

Active MTD115 + SB118

presets	pre-alignment delay values	
[115bA_FI_100] + [SB118_100]	115bA = 2.4 ms	SB118 = 0 ms
[115bA_FR_100] + [SB118_100]	115bA = 2.5 ms	SB118 = 0 ms
[115bA_MO_100] + [SB118_100]	115bA = 2.7 ms	SB118 = 0 ms

Active MTD115 + SB18

presets	pre-alignment delay values	
[115bA_FI_100] + [SB18_100]	115bA = 2.1 ms	SB18 = 0 ms
[115bA_FR_100] + [SB18_100]	115bA = 2 ms	SB18 = 0 ms
[115bA_MO_100] + [SB18_100]	115bA = 2.4 ms	SB18 = 0 ms

Passive MTD115 + SB118

presets	pre-alignment delay values	
[115bP_FI_100] + [SB118_100]	115bP = 2.1 ms	SB118 = 0 ms
[115bP_FR_100] + [SB118_100]	115bP = 2.2 ms	SB118 = 0 ms
[115bP_MO_100] + [SB118_100]	115bP = 2.8 ms	SB118 = 0 ms

Passive MTD115 + SB18

presets	pre-alignment delay values	
[115bP_FI_100] + [SB18_100]	115bP = 1.8 ms	SB18 = 0 ms
[115bP_FR_100] + [SB18_100]	115bP = 1.9 ms	SB18 = 0 ms
[115bP_MO_100] + [SB18_100]	115bP = 2.5 ms	SB18 = 0 ms

112XT + SB118

presets	pre-alignment delay values	
[112XT_FI_100] + [SB118_100]	112XT = 2.3 ms	SB118 = 0 ms
[112XT_FR_100] + [SB118_100]	112XT = 2.3 ms	SB118 = 0 ms
[112XT_MO_100] + [SB118_100]	112XT = 2.6 ms	SB118 = 0 ms

112XT + SB18

presets	pre-alignment delay values	
[112XT_FI_100] + [SB18_100]	112XT = 2 ms	SB18 = 0 ms
[112XT_FR_100] + [SB18_100]	112XT = 2 ms	SB18 = 0 ms
[112XT_MO_100] + [SB18_100]	112XT = 2.3 ms	SB18 = 0 ms

MTD112b + SB118

presets	pre-alignment delay values	
[112b_FI_100] + [SB118_100]	112b = 2.4 ms	SB118 = 0 ms
[112b_FR_100] + [SB118_100]	112b = 2.5 ms	SB118 = 0 ms
[112b_MO_100] + [SB118_100]	112b = 3.0 ms	SB118 = 0 ms

MTD112b + SB18

presets	pre-alignment delay values	
[112b_FI_100] + [SB18_100]	112b = 2.1 ms	SB18 = 0 ms
[112b_FR_100] + [SB18_100]	112b = 2.2 ms	SB18 = 0 ms
[112b_MO_100] + [SB18_100]	112b = 2.7 ms	SB18 = 0 ms

MTD108a + SB118

presets	pre-alignment delay values	
[108a_FI_100] + [SB118_100]	108a = 3.5 ms	SB118 = 0 ms
[108a_FR_100] + [SB118_100]	108a = 3.6 ms	SB118 = 0 ms
[108a_MO_100] + [SB118_100]	108a = 4.0 ms	SB118 = 0 ms

MTD108a + SB18

presets	pre-alignment delay values	
[108a_FI_100] + [SB18_100]	108a = 3.2 ms	SB18 = 0 ms
[108a_FR_100] + [SB18_100]	108a = 3.3 ms	SB18 = 0 ms
[108a_MO_100] + [SB18_100]	108a = 3.7 ms	SB18 = 0 ms

Enclosure drive capacity per amplified controller

Enclosure drive capacity per LA4

Make sure the total number of connected enclosures does not exceed the maximum number of enclosures per controller.

coaxial enclosures

loudspeaker enclosure	maximum number of connections per output *	maximum number of enclosures per controller
5XT	3	12
8XT	2	8
Active 12XT	2	4
Passive 12XT	1	4
112XT	2	4
115XT HiQ	1	2
115XT	1	2
MTD108a	2	8
MTD112b	1	4
Active MTD115b	1	2
Passive MTD115b	1	4

constant curvature WST enclosures

loudspeaker enclosure	maximum number of connections per output *	maximum number of enclosures per controller
ARCS Wide / ARCS Focus	1	4
ARCS	1	2

variable curvature WST enclosures

loudspeaker enclosure	maximum number of connections per output *	maximum number of enclosures per controller
Kiva / Kilo	2	8

subwoofer enclosures

loudspeaker enclosure	maximum number of connections per output *	maximum number of enclosures per controller
SB15m	1	4
SB18	1	4
SB118	1	4

* 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.

Enclosure drive capacity per LA4X

Make sure the total number of connected enclosures does not exceed the maximum number of enclosures per controller.

coaxial enclosures

loudspeaker enclosure	maximum number of connections per output *	maximum number of enclosures per controller
5XT	4	16
X8	2	8
X12	1	4
X15 HiQ	1	2
8XT	2	8
Active 12XT	2	4
Passive 12XT	1	4
115XT HiQ	1	2

constant curvature WST enclosures

loudspeaker enclosure	maximum number of connections per output *	maximum number of enclosures per controller
ARCS Wide / ARCS Focus	1	4
ARCS II	1	2

variable curvature WST enclosures

loudspeaker enclosure	maximum number of connections per output *	maximum number of enclosures per controller
Kiva / Kilo	2	8
Kiva II	2	8
Kara	2	4
K2	1	1
Kudo	1	1

colinear sources

loudspeaker enclosure	maximum number of connections per output *	maximum number of enclosures per controller
Syva	1	4

subwoofer enclosures

loudspeaker enclosure	maximum number of connections per output *	maximum number of enclosures per controller
SB15m	1	4
SB18	1	4
Syva Low	1	4
Syva Sub	1	4

For ARCS, SB118, the MTD series, 112XT and 115XT, refer to the enclosure drive capacity table for LA4.

* 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.

Enclosure drive capacity per LA8

Make sure the total number of connected enclosures does not exceed the maximum number of enclosures per controller.

coaxial enclosures

loudspeaker enclosure	maximum number of connections per output *	maximum number of enclosures per controller
5XT	6	24
X8	3	8 [a]
X12	2	8
X15 HiQ	2	4
8XT	3	12
Active 12XT	3	6
Passive 12XT	2	8
112XT	3	6
115XT	3	6
115XT HiQ	2	4
MTD108a	3	12
MTD112b	2	8
Active MTD115b	2	4
Passive MTD115b	2	8

constant curvature WST enclosures

loudspeaker enclosure	maximum number of connections per output *	maximum number of enclosures per controller
ARCS Wide / ARCS Focus	2	8
ARCS II	2	4
ARCS	3	6

[a] LA8 can drive up to three X8 per output, but no more than eight per controller at high level.

variable curvature WST enclosures

loudspeaker enclosure	maximum number of connections per output *	maximum number of enclosures per controller
Kiva / Kilo	3	12
Kiva II	4	16
Kara	3	6
K2	3	3
K1	2	2
K1-SB	1	4
Kudo	3	3
V-DOSC	2	2
dV-DOSC	3	6

colinear sources

loudspeaker enclosure	maximum number of connections per output *	maximum number of enclosures per controller
Syva	2	8

subwoofer enclosures

loudspeaker enclosure	maximum number of connections per output *	maximum number of enclosures per controller
SB15m	2	6 [b]
SB18	2	8
SB28	1	4
SB118	2	8
SB218	1	4
Syva Low	1	4
Syva Sub	2	8
dV-SUB	1	4

[b] 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.

Enclosure drive capacity per LA12X

Make sure the total number of connected enclosures does not exceed the maximum number of enclosures per controller.

coaxial enclosures

loudspeaker enclosure	maximum number of connections per output *	maximum number of enclosures per controller
5XT	6	24
X8	3	12
X12	3	12
X15 HiQ	3	6
8XT	3	12
Active 12XT	3	6
Passive 12XT	3	12
115XT HiQ	3	6

constant curvature WST enclosures

loudspeaker enclosure	maximum number of connections per output *	maximum number of enclosures per controller
ARCS Wide / ARCS Focus	3	12
ARCS II	3	6

variable curvature WST enclosures

loudspeaker enclosure	maximum number of connections per output *	maximum number of enclosures per controller
Kiva	3	12
Kiva II	6	24
Kara	3	6
K2	3	3
K1	2	2
K1-SB	1	4

colinear sources

loudspeaker enclosure	maximum number of connections per output *	maximum number of enclosures per controller
Syva	3	12

subwoofer enclosures

loudspeaker enclosure	maximum number of connections per output *	maximum number of enclosures per controller
SB15m	3	12
SB18	3	12
SB28	1	4
Syva Low	2	6 [a]
Syva Sub	3	12
KS28	1	4

For 112XT, 115XT, the MTD series, ARCS, dV-DOSC, Kudo, V-DOSC, KILO, SB118, SB218 and dV-SUB, refer to the enclosure drive capacity table for LA8.

[a] 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.

L-Acoustics, an L-Group Company
13 rue Levacher Cintrat - 91460 Marcoussis - France
+33 1 69 63 69 63 - info@l-acoustics.com
www.l-acoustics.com

L-Acoustics GmbH
Steiermärker Str. 3-5
70469 Stuttgart
Germany
+49 7 11 89660 323

L-Acoustics Ltd.
PO. Box Adler Shine - Aston House
Cornwall Avenue - London N3 1LF
United Kingdom
+44 7224 11 234

L-Acoustics Inc.
2645 Townsgate Road, Suite 600
Westlake Village, CA 91361
USA
+1 805 604 0577

L-GROUP

www.l-group.com