



L-ACOUSTICS Q-SYS PLUG-IN FOR 4-CHANNEL AMPLIFIED CONTROLLERS

technical bulletin - v.2.0

Introduction

The L-Acoustics Q-SYS plug-in for 4-channel Amplified Controllers allows integrating L-Acoustics sound reinforcement systems in projects where highly customizable user interface or monitoring solutions are required and addressed using QSC Q-SYS platform.

Supported device types: LA4, LA8, LA4X, LA12X, LA2Xi

The L-Acoustics Q-SYS plug-in version 1.7.2 is compatible with Q-SYS Designer software from minimum version 8.1.0.

Release notes (February 2024)

New features

QP-99	Support of firmware 2.13
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Fixed issues

History of public releases

- November 2022 - version 1.7.0
 - Set IP address at runtime instead of through design-time property
 - One plugin for all 4-channel amplified controllers
- August 2022 - version 1.6.0
 - Support of firmware 2.12
- October 2021 - version 1.5.0
 - IP Control Failover between primary and secondary
- July 2021 - version 1.4.1
 - Monitoring of +24VDC backup power presence on LA2Xi
 - Output pin with device serial number
- October 2020 - version 1.4.0
 - Support of LA2Xi and firmware 2.11
- April 2020 - version 1.3.0
 - Support of firmware 2.10
 - Allow AVB input stream channel mapping
 - Identify Amplified Controller (blinking screen)
 - New control to turn on/off the TCP connection
 - New property to enable/disable system logging
- June 2019 - version 1.2.3
 - Allow storing configuration when no name is provided. Use existing one or generate new
 - Configurations now supporting Firmware 2.9.10
- April 2019 - version 1.2.2
 - New configuration management feature (firmware 2.9.8 minimum required)
 - Preset number gets an asterisk sign when modified
 - New control displaying current firmware version number
- October 2018 - version 1.2.0
 - Possibility to read output impedances during PA/VA speaker monitoring calibration
 - LA4X: AVB functions are now disabled if the hardware is not AVB capable
 - Added signal presence LEDs to the Audio Levels section.
- October 2018 - version 1.1.1
 - Fixed issue: Plug-in sometimes gets disconnected and does not reconnect, or reconnection takes a long time
 - Fixed issue: 'Unmute All' button has no input pin

- Fixed issue: When tweaking several buttons at the same time, small disconnections happen, or button statuses get unsynced with actual unit parameters
- September 2018 - version 1.1.0
 - AVB input status can be included in PA/VA monitoring
 - Fallback "Active" LEDs turn orange when fallback reset is possible
- May 2018 - version 1.0.1
 - First release

Compatibility

Device Compatibility

L-Acoustics Q-SYS plug-in version	LA2Xi Firmware versions	LA4X / LA12X Firmware versions	LA4 / LA8 Firmware versions	Drive System Release	Q-SYS Designer minimum version
1.7.2	From: 2.11.1.2 To: 2.13.x	From: 2.8.3.2 To: 2.13.x	From: 2.8.3.2 To: 2.13.x	From: Sept. 2017	8.1.0
1.7.0, 1.6.0	From: 2.11.1.2 To: 2.12.x	From: 2.8.3.2 To: 2.12.x	From: 2.8.3.2 To: 2.12.x	From: Sept. 2017 To: Sept. 2023	8.1.0
1.5.0, 1.4.1, 1.4.0	From: 2.11.1.2 To: 2.11.x	From: 2.8.3.2 To: 2.11.x	From: 2.8.3.2 To: 2.11.x	From: Sept. 2017 To: May 2022	8.0.0
1.3.0	Not compatible	From: 2.8.3.2 To: 2.10.x	From: 2.8.3.2 To: 2.10.x	From: Sept. 2017 To: July 2020	7.1.0
1.2.3, 1.2.2, 1.2.1, 1.2.0, 1.1.1	Not compatible	From: 2.8.3.2 To: 2.9.x	From: 2.8.3.2 To: 2.9.x	From: Sept. 2017 To: Dec. 2019	7.0.1
1.1.0, 1.0.1	Not compatible	From: 2.8.3.2 To: 2.9.x	Not compatible	From: Sept. 2017 To: Dec. 2019	7.0.1

Features Compatibility

Feature	Compatible Devices	Minimum Firmware version	Minimum Drive System Release	L-Acoustics Q-SYS plug-in minimum version
IP Control Failover	LA2Xi, LA12X	2.10.1.1	April 2020	1.5.0
GPIO	LA2Xi	2.11.1.2	Oct. 2020	1.4.0
AVB Network Redundancy	LA2Xi, LA12X	2.10.1.1	April 2020	1.3.0
Configurations	All	2.9.8.2	April 2019	1.2.3
AVB input stream monitoring in PA/VA section	LA2Xi, LA4X, LA12X	2.9.1.6	July 2018	1.1.0
PA/VA	LA2Xi, LA4X, LA12X	2.8.3.2	Sept. 2017	1.0.1

Installing the L-Acoustics Q-SYS plug-in for 4-channel Amplified Controllers

The L-Acoustics Q-SYS plug-in for 4-channel Amplified Controllers is available in the Q-SYS Asset Manager as 'L-Acoustics Amplified Controller 4 channels'.

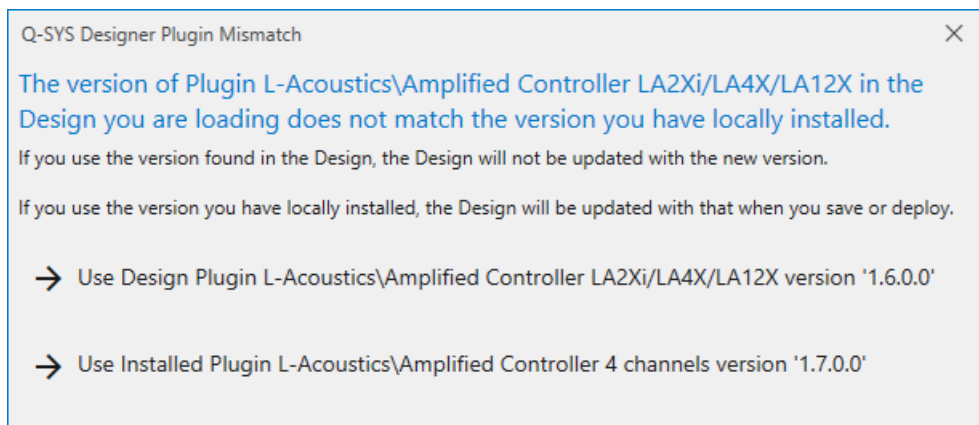
Use the Q-SYS Asset Manager **Version**, **Install**, **Update** and **Remove** functions to manage the plugin versions in the local Q-SYS Designer plugins library.

Updating existing designs

When opening an existing design created with another version of a plug-in, Q-SYS Designer asks which plug-in version to keep for this design.


It is possible to save the design with a past version of the plug-in even if the plug-in was deleted. The whole plug-in is included in the design when saving.

When asked, either click **Use Design Plugin** for the past version or click **Use Installed Plugin** for the latest version.



Each new release is backward compatible with previous versions.

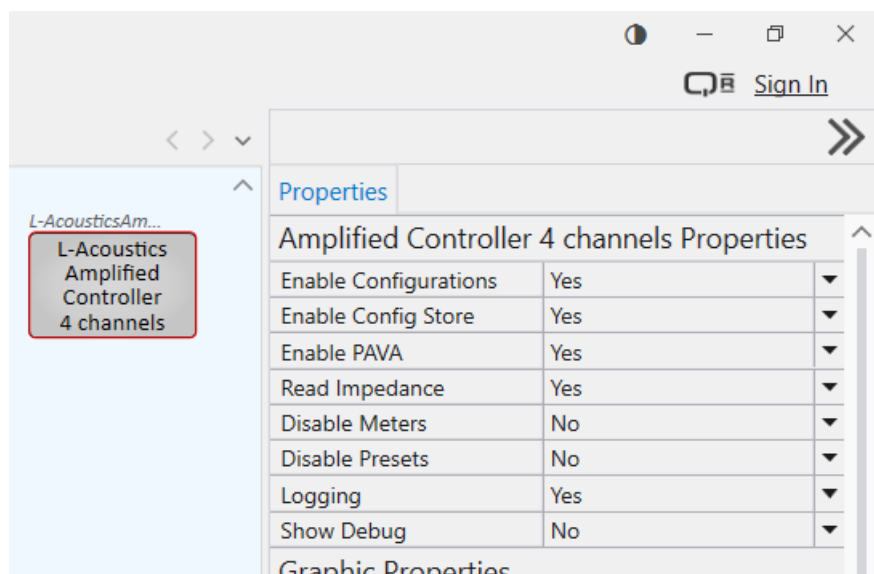
With the **Use Installed Plugin** option, the dialog pops up as many times as there are instances of the plug-in in the design. This is Q-SYS Designer expected behavior.

 When the **Q-SYS Designer Plugin Mismatch** dialog opens while connected to a hardware Q-SYS Core, and the option **Use Installed Plugin** is selected, the plug-ins are updated locally in Q-SYS Designer with the newest version, but it is required to trigger **Save to Core & Run** afterwards in order to also update the design running inside the Q-SYS Core. Failing to do so will result in an unpredictable behavior of the plug-ins.

Component description

Drag the plugin from **Schematic Elements** to the design.

Clicking the Component block in the design displays its **Properties**.



Enable Configurations

enable the possibility to recall configurations (preset and group parameters) stored inside the amplified controller. Refer to amplified controller owner's manual for more information about preset and group parameters.



Never recall configurations when LA Network Manager is connected to the device, or setting conflicts will occur. The configuration recall function is designed to substitute for LA Network Manager supervision. Therefore LA Network Manager must not be used when recalling configurations, or must be set to offline mode or disconnected.

Enable Config Store

enable the possibility to store the current amplified controller state (preset and group parameters) as a new configuration (available only when **Enable Configurations** equals Yes)



Use configuration **Store** buttons after loading the appropriate / corresponding LA Network Manager session to the amplified controller

Enable PA/VA

enable/disable a section dedicated to Public Address & Voice Alarm applications (also called "evac") to configure permanent monitoring of the amplified controller general state and inputs, and periodic loudspeaker silent monitoring, as required



PA/VA parameters are always pushed from the component to the physical unit at connection initialization to enforce the conditions determined for PA/VA monitoring, even after amplified controller firmware updates or when the unit is replaced by a spare unit.

Read Impedance

enable the output impedance readout for each speaker section when Speaker Monitoring is enabled (available only when **Enable PA/VA** equals Yes)

Disable Meters

unsubscribe from / subscribe to meters notifications from the device

Disabling meters may save control processing power on the Q-SYS core.

Disable Presets

allow/inhibit preset control

Logging

enable or disable writing status messages to system logs.

Control Pins

expand to edit which control pins should be displayed on the component, as necessary

The **Control Pins** tree is dynamically updated according to the device properties.

User Interface description

Double-click the component to open the user interface. The list of pages depends on the component's properties.

IP Connection frame

IP Connection

Primary

Connected

IP

192.168.101.41

Available

Active

Go Active

Automatic Failover

Secondary

IP

192.168.102.41

Available

Active

Go Active

- IP: Enter the primary IP address (and secondary IP address when applicable) of the device.
- Connected: the plugin is currently connected to the device.
- Available: the device is responding on primary and/or secondary IP addresses and IP connection is possible.
- Active: the plug-in is targeting primary or secondary IP address for socket connection.
- Go Active: manually failover to primary/secondary IP address.
- Automatic Failover: the plug-in automatically fails over to the alternative IP address (if available) when active connection is lost.

Controller Status frame

Controller Status

Type: LA2Xi

FW: 2.12.1.3

OK - Primary

Current Preset

1:X12

+24V in

Temperature

Output 1

Output 2

Output 3

Output 4

On/Standby

Online

Identify

Display Lock

Reboot

OK

High

Over

OK

High

Over

OK

High

Over

OK

High

Over

This frame exposes the main status and controls of the amplified controller: IP address (primary and secondary when applicable), firmware version, device global status (summary of general health and PA/VA status when applicable), socket connection, +24VDC presence (if applicable) and output modules temperature ; preset selection, power mode (Online/Standby), front panel display lock, identify (front panel blink), reboot.

Configurations frame

Configurations

Store with Custom Configuration Name

Slot

Configuration Name

201

Store

Recall

202

Store

Recall

203

Store

Recall

204

Store

Recall

205

Store

Recall

206

Store

Recall

207

Store

Recall

208

Store

Recall

Configurations are designed to recall pre-programmed system tunings (including EQ and delay) when LA Network Manager is not used.

Please refer to L-Acoustics Amplified Controller Q-SYS plug-in Technical Bulletin for the procedures on how to create, use and update Configurations.

This frame gives access to the list of configurations available in the unit. When the appropriate properties are enabled, the **Store** and **Recall** buttons are used to respectively save to or load from a configuration slot. Use the top text box to type a name for the target configuration before storing.

- ! Never recall configurations when LA Network Manager is connected to the device, or setting conflicts will occur. The configuration recall function is designed to substitute for LA Network Manager supervision. Therefore LA Network Manager must not be used when recalling configurations, or must be set to offline mode or disconnected.
- ! Use configuration **Store** buttons after loading the appropriate / corresponding LA Network Manager session to the amplified controller.

Input Settings frame

Input Settings

Input Mode: AVB

XLR Type: A/B (AES), C/D (ANA)

OK - AVB Locked 96kHz - AVB secondary Locked 96kHz

Input Lock: AVB Pri. (Active), Sec. (Active), AES A/B (Active), AES C/D (Active)

AVB Stream Channel Mapping: A: 1, B: 2, C: 3, D: 5

AVB Fallback to XLR: Enable, Active, Reset

AES Fallback to C/D: Enable, Active, Reset

This frame gives access to the input source, XLR type, input status, and AVB and AES fallbacks status and controls, as well as AVB input stream channel mapping.

Audio Levels frame

Audio Levels

Input Meters: Signal LED Threshold (-50.0dB), Hold Time (s) (1)

Input Meters: A, B, C, D (Signal, -60.0dB)

Output Meters: 1, 2, 3, 4 (Gain, Protect, Clip, Limit, -60.0dB)

Master Mute, Mute All, Unmute All

Output mode: BTL, PBTL (LA2Xi only)

Signal Routing: A, A, B, B

This frame gives access to output gain, mute, routing, and shows limit, clip, protect states, and output mode (LA2Xi only). If meters are enabled, the section also displays input level meters, input signal presence and output level meters.

Mute behavior:

- Master Mute (toggle):
 - PUSH: mute the unmuted outputs
 - RELEASE: unmute outputs that were previously muted by the Master Mute button (same behavior as LA Network Manager Master Mute button). Outputs that were muted before the Master Mute button was pushed remain muted after the Master Mute button is released.
- Mute All (toggle):
 - PUSH: mute all outputs
 - RELEASE: unmute all outputs
 - This button automatically turns ON when all outputs are muted.
- Unmute all (trigger): unmute all outputs

GPIO

GPIO LA2Xi: Each of the four GPIO/O can be set either as a GPI or a GPO. Select functions accordingly.
 GPI have two functions (rising and falling edge) and GPO have one function.
 State LED in GPI mode: OFF = Low / ON = High
 State LED in GPO mode: OFF = Open / ON = Closed

Functions		GPO Options	
GPIO 1 State <input checked="" type="radio"/> GPI Mode <input type="text" value="GPI"/>	GPI Slots ↑ No function A 1 ↓ No function B 1 GPO Manual state	Manual Closed Custom Fault AMP Temperature Outputs Ethernet AES Lock AVB Lock Ethernet Eth 1 Eth 2 Blink 1 sec AES Lock AES A/B AES C/D	
GPIO 2 State <input checked="" type="radio"/> GPI Mode <input type="text" value="GPI"/>	GPI Slots ↑ No function A 1 ↓ No function B 1 GPO Ethernet link	Manual Closed Custom Fault AMP Temperature Outputs Ethernet AES Lock AVB Lock Ethernet Eth 1 Eth 2 Blink 1 sec AES Lock AES A/B AES C/D	
GPIO 3 State <input checked="" type="radio"/> GPI Mode <input type="text" value="GPI"/>	GPI Slots ↑ No function A 1 ↓ No function B 1 GPO No function	Manual Closed Custom Fault AMP Temperature Outputs Ethernet AES Lock AVB Lock Ethernet Eth 1 Eth 2 Blink 1 sec AES Lock AES A/B AES C/D	
GPIO 4 State <input checked="" type="radio"/> GPI Mode <input type="text" value="GPI"/>	GPI Slots ↑ No function A 1 ↓ No function B 1 GPO No function	Manual Closed Custom Fault AMP Temperature Outputs Ethernet AES Lock AVB Lock Ethernet Eth 1 Eth 2 Blink 1 sec AES Lock AES A/B AES C/D	

When connected to a compatible unit (LA2Xi amplified controller), this tab allows to configure the GPIO functions and monitor the GPIO statuses of the device.

The GPIO settings are also available in LA Network Manager.

PA/VA System Monitoring frame

PAVA System Monitoring

OK

Fault Conditions

Input ● AES Lock ● AES Audio ● AVB Lock ● Amplifier ● Output ● Temperature ● Speaker ●

Input Monitoring

OK

Pilot Tone Detection Frequency 21000

Pilot Tone Detection Resolution 100

Pilot Tone Detection Threshold -60.0

Input Pilot Tone Monitoring Enable

Pilot Tone Enable A B C D

AES Input Monitoring Enable

AES Lock AES Audio A / B C / D

AVB Input Monitoring

AVB Lock

Output Monitoring

OK

Test Interval (s) 58

LF Generator

Frequency 16

Gain -32.0

Hold Time 375

Ramp Time 63

GFT Size 24000

HF Generator

Frequency 20000

Gain -28.0

Hold Time 100

Ramp Time 50

GFT Size 5760

Speaker Monitoring Enable

High Frequency Testing

	1	2	3	4
High Frequency Testing	Enable	Enable	Enable	Enable
Short Circuit Detected	●	●	●	●
Minimum Impedance	6.00	6.00	6.00	6.00
Maximum Impedance	10.0	10.0	10.0	10.0
Open Circuit Detected	●	●	●	●

Low Frequency Testing

	1	2	3	4
Low Frequency Testing	Enable	Enable	Enable	Enable
Short Circuit Detected	●	●	●	●
Minimum Impedance	1.00	1.00	1.00	1.00
Maximum Impedance	7.00	7.00	7.00	7.00
Open Circuit Detected	●	●	●	●

If enabled, this frame gives access to the parameters that must be monitored for installation projects that require PA/VA live system check. Definition of the parameters is installation-specific and must be calibrated by a qualified L-Acoustics Application Engineer or a qualified delegate using dedicated tools.

Speaker Monitoring Enable

High Frequency Testing

	384.5 Ω	59.9 Ω	3	4
High Frequency Testing	Enable	Enable	Enable	Enable
Short Circuit Detected	●	●	●	●
Minimum Impedance	6.00	6.00	6.00	6.00
Maximum Impedance	500	500	10.0	10.0
Open Circuit Detected	●	●	●	●

Low Frequency Testing

	423.6 Ω	237.5 Ω	3	4
Low Frequency Testing	Enable	Enable	Enable	Enable
Short Circuit Detected	●	●	●	●
Minimum Impedance	1.00	1.00	1.00	1.00
Maximum Impedance	500	500	7.00	7.00
Open Circuit Detected	●	●	●	●

When the property **Read Impedance** is active, the selected speaker section numbers are replaced with current impedance values.



The component must be connected to the amplified controller at calibration time.

This ensures the component is notified of the defined parameters, and is able to push them again during normal operation at connection initialization.

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