



SRX900

Plugin for Q-SYS
User Guide
v1.0.1



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INTRODUCTION

The JBL SRX900 Series Q-SYS plugin brings the SRX900 Series loudspeakers to the Q-SYS control ecosystem. Metering, fault monitoring, output load monitoring, and other high-level functions are available for integration into larger integrated systems using Q-SYS control Processors.

The plugin will always read its state from the device. It cannot be configured offline and have the settings sent to the device.

Compatibility

The Plugin supports the following models:

- SRX906LA (Dual 6.5-inch Powered Line Array Loudspeaker)
- SRX910LA (Dual 10-inch Powered Line Array Loudspeaker)
- SRX918S (Single 18-inch Powered Subwoofer)
- SRX928S (Dual 18-inch Powered Subwoofer)

Additional information on the SRX900 Series can be found on the JBL Professional website.

https://jblpro.com/en/product_families/srx900-series

HControl and Q-SYS

The Harman proprietary communications protocol, HControl operates over a standard TCP/IP network and is compatible with Q-LAN traffic. To communicate with the Core, the Core and the SRX900 devices need to be the same network, configured to support TCP traffic between them.

Relationship with JBL Performance Software

JBL Performance is a Harman software platform that supports the connection, configuration, and control of the SRX900 Series devices.

JBL Performance should be used for the setup and configuration of all SRX900 Series devices.

Controls in the plugin should immediately track those in JBL Performance. Toggling a mute in the plugin will be reflected in Performance and vice versa.

Download JBL Performance from the JBL Professional website

<https://jblpro.com/en/products/performance-software>

Warning: The Plugin is designed to work with the latest SRX900 Series firmware. Before using the plugin, please download the latest version of JBL Performance and connect to the loudspeaker to check if the loudspeakers are running the latest firmware.

HControl NetSetter is a networking utility built into JBL Performance that aids in discovering and managing networking-related parameters of Harman HControl devices. It allows re-addressing, and network configuration, regardless of the current subnet configuration.

Networking with HControl

When using SRX900 devices with Q-SYS, it is recommended to use static IP addressing, as the plugin requires the IP address of the paired device to be manually entered.

Q-SYS makes it easy to accidentally duplicate IP addresses within multiple instances of the plugin. Use caution when globally copying and pasting settings as the IP address will copy and paste along with other parameters.

TCP/IP Port Configuration

If specific ports need to be allowed in your IT infrastructure, HControl uses port 4197 to communicate between the Harman devices and the Q-SYS Core.

Q-SYS System Notes

The provided plugin documentation assumes you have a working knowledge of the Q-SYS system and Q-SYS Designer.

The plugin is designed to work with Q-SYS Designer v9.8.2 and above. The latest version of Q-SYS Designer can be downloaded from the Q-SYS Website.

<https://www.qsys.com/resources/software-and-firmware/q-sys-designer-software/>

The plugin takes advantage of the capabilities enabled with the Scripting Engine functionality of the cores. You may need to purchase this license for your cores at an additional cost from Q-SYS.

Most of the parameters and functions in the plugin can work in emulation mode without a Q-SYS Core attached.

INSTALLATION

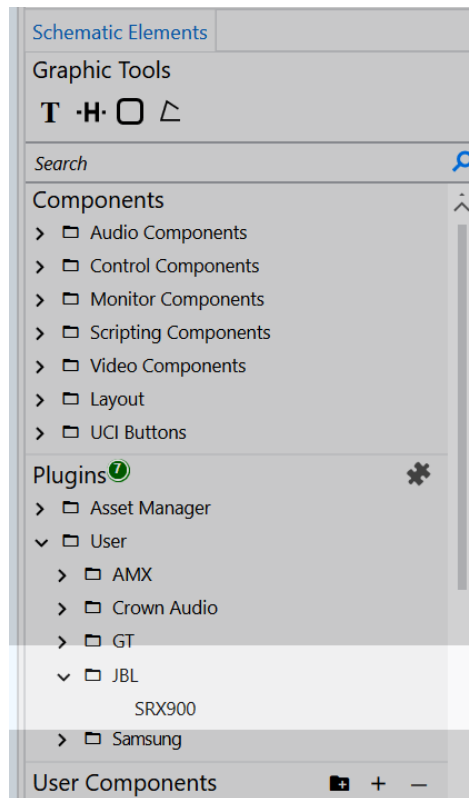
Double-click the FILENAME.qplug file from the downloaded .zip directory and click Yes in the confirmation dialog to install the plugin.



JBL SRX900
.qplugx

If preferred, you can manually move the file directly to the Q-SYS directory in your \Documents\QSC\Q-SYS Designer\Plugins folder. Note: Q-SYS designer may need to be closed for this to update correctly.

On the next launch of Q-SYS designer, you will see the plugin in the Schematic Elements pane under Plugins>User>JBL.



Updating the plugin

When updating the plugin, follow the same steps as above. If an error appears, you may need to manually delete the old plugin and place the new one in the \Documents\QSC\Q-SYS Designer\Plugins folder.

USING THE PLUGIN

Adding the SRX900 Plugin to your schematic

Add a plugin to your design file by dragging it from the Schematic Elements menu into your workspace. You can add as many copies of the plugin as you need. If you prefer, you can copy and paste plugins between files and within your design. Be aware, if you have populated the IP address, this will also get copied, and it may cause problems associated with redundant TCP connections.


Running the Plugin

After configuring the plugin with the correct model and interfacing it with other items in your schematic, enter emulate mode or save your configuration to the core and run it.

To connect the plugin to the device, you must enter the IP address of the SRX900 device. Once the correct IP address is entered, the plugin will search the network, connect, and begin to display the device state.

PLUGIN FEATURES

Properties

Properties	
SRX900 Properties	
Model	SRX906LA
Show Debug	No
Graphic Properties	
Label	JBL SRX900
Position	776,4899
Fill	
Script Access	
Code Name	JBLSRX900
Script Access	None
Control Pins	
▸ Config	
▸ Fault	
▸ Info	
▸ Input	
▸ Load	
▸ Meter	
▸ Output	
▸ Power	
▸ Signal Generator	
Disable <input type="checkbox"/>	

Model

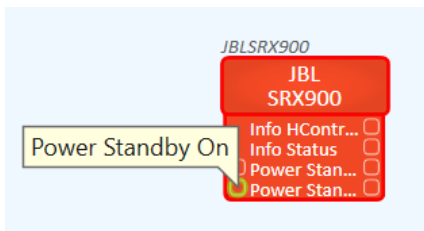
You must set the plugin to control the correct Model of the SRX900 Series in the Properties area:

- SRX906LA
- SRX910LA
- SRX918S
- SRX928S

Control Pins

Control Pins will provide the information I/O required to drive logic outside of the plugin. They are arranged by category and correspond to controls and logic in the plugin. Check the box next to the controls that you want to appear below the plugin object.

Note: There are more variables available as control pins than are shown in the plugin's user interface.



Properties

SRX900 Properties

Model	SRX906LA
Show Debug	No

Graphic Properties

Label	JBL SRX900
Position	776,4899
Fill	

Script Access

Code Name	JBLSRX900
Script Access	None

Control Pins

- Config
- Fault
- ▲ Info
 - Amplifier Health
 - Container
 - DSP Version
 - Fan State
 - Firmware Version
 - Hardware Version
 - HControl D Text
 - HControl ID**
 - HControl ID Lock
 - HControl Label
 - High Pass
 - Locate
 - Locate Flash
 - Mains Voltage
 - Mode
 - Model
 - Network Gateway
 - Network MAC Address
 - Network Mask
 - Network Mode
 - Serial Number
 - Status**
 - TCP Connection
 - Temperature C
 - Temperature Percent
- Input
- Load
- Meter
- Output
- ▲ Power
 - Sleep Active
 - Sleep Auto
 - Standby
 - Standby Active
 - Standby Off**
 - Standby On**
- Signal Generator
 - Disable

Available Control Pins

Config

- Log
- Configuration Changes
- Connection faults
- Control Changes
- Hardware Faults
- Input Faults
- Load Faults
- Output Faults
- Status Changes
- IP Address

Fault

- Load Bad (HF/LF)
- Load Bad Is Fault (HF/LF)
- Load Out Of Tolerance (HF/LF)
- Load Out Of Tolerance Is Fault (HF/LF)
- Output Clip (HF/LF)
- Output Clip Is Fault (HF/LF)
- Output Limit (HF/LF)
- Output Limit Is Fault (HF/LF)
- Amplifier Health
- DSP Drop
- DSP Drop Fault
- DSP Drop Is Fault
- Fan State
- Hardware Summary
- Input
- Input Clip
- Input Clip Is Fault
- Mains Voltage
- New
- Power Drop
- Power Drop Fault
- Power Drop Is Fault
- Power Pin
- Protect
- Reset
- Signal Loss
- Signal Loss Is Fault
- Sleeping
- Sleeping Is Fault
- Standby
- Standby Is Fault
- Thermal

Info

- Amplifier Health
- Container
- DSP Version
- Fan State
- Firmware Version
- Hardware Version
- HControl ID Text
- HControl ID
- HControl ID Lock
- HControl Label
- High Pass / Low Pass
- Locate

- Locate Flash
- Mains Voltage
- Mode / Orientation
- Model
- Network Gateway
- Network MAC Address
- Network Mask
- Network Mode
- Serial Number
- Status
- TCP Connection
- Temperature C
- Temperature Percent

Input

- Clip
- Gain
- Signal

Load

- Speaker Bad (HF/LF)
- Speaker Health (HF/LF)
- Speaker Health LED (HF/LF)
- Speaker Impedance (HF/LF)
- Speaker Out Of Tolerance (HF/LF)

Meter

- Input
 - Peak
 - Peak SCALED
 - RMS
 - RMS SCALED
- Output
 - Gain Reduction (HF/LF)
 - Gain Reduction SCALED (HF/LF)
 - Peak (HF/LF)
 - Peak SCALED (HF/LF)
 - RMS (HF/LF)
 - RMS SCALED (HF/LF)

Fast

Output

- Clip (HF/LF)
- Fault (HF/LF)
- Limit (HF/LF)
- Load (HF/LF)
- Mute (HF/LF)

Power

- Sleep Active
- Sleep Auto
- Standby
- Standby Active
- Standby Off
- Standby On

Signal Generator

- Active
- Enable
- Frequency
- Level
- Mode

Disable

Main Plugin Window

JBL SRX900	
Summary Faults Signal Generator, Load Monitor Info, Logging	
IP Address	192.168.1.148
Container	6LA Array 2:1
HCID	148
Model	SRX906LA
HC Label	SRX906LA-000148
Status	OK

The main plugin window contains tabbed four pages located across the top.

Common Header:

IP Address – The IP Address of the device. This field is required for communication. This is the only field required to be programmed in Q-SYS. The remainder of the fields in this section are programmed with JBL Performance.

HCID – Displays the selected device's HControl ID.

HC Label – Displays the current HC Label of the connected device.

Container – Displays the array name of the current or most recent array this device was synchronized with, and the position within the array, after the colon.

Model – Displays the discovered model of the device.

Status – The current status of the device, aggregated from all available information. It uses standard Q-SYS status colors and values.

Common Controls:

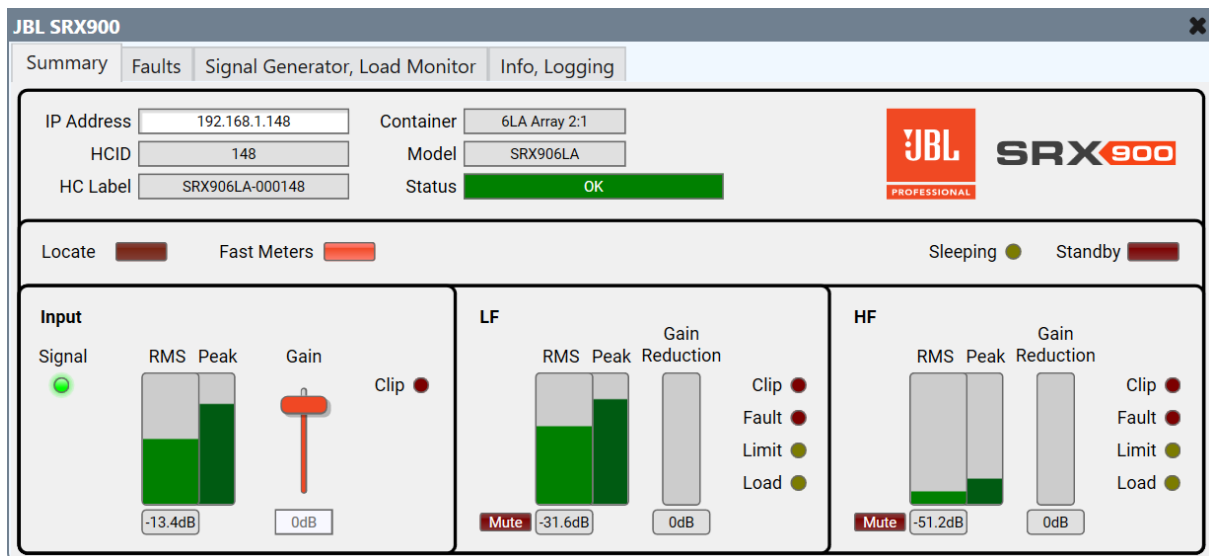
Locate	Sleeping	Standby
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Locate – Press to flash the connected device's LCD Screen and panel lights. Press again to stop. This feature can be enabled or disabled from the LCD on the device, from JBL Performance or from Q-SYS.

Sleeping – Lights if the device is in Auto Sleep. This feature controlled via the device panel, within JBL Performance.

Standby – Toggle to set the device to standby. This disables the amplifier and turns off all LEDs except power and network. Note that meters may continue to show signal.

Summary Tab



The Summary Tab provides a high-level overview of the critical input and output information. This tab offers most of the vital information sought after from the plugin.

Summary Indicators and Controls:

Fast Meters – Toggle between standard and fast meter updates.

Enabled by default, disabling this will substantially decrease the SRX900 Series traffic across your network if higher refresh rate on meters is not necessary for your use case.

Input Channel:

Signal – The indicator lights up green if the input signal level is detected, above -60.0dB RMS.

Meter (RMS and Peak) – Displays the input signal level.

Updated at a background (slow) rate or can be made “live” with the “Fast Meters”

Gain Fader – Gain control from -100dB to +20dB

Output Channels:

Clip – Lights if the input is clipping.

Meter (RMS, Peak and Gain Reduction) – Displays the output signal level.

Updated at a background (slow) rate or can be made “live” with the “Fast Meters”.

Mute – Select to enable the mute on the output.

Clip – Lights if the output signal is clipping.

Fault – Lights if there is any problem with this output channel. Faults are configured on the next page and can include many different indicators.

Limit – Lights if the output is being limited.

Load – Lights if there is a problem with the output channel load, as monitored on the Loads page.

Faults Tab

JBL SRX900

Summary | **Faults** | Signal Generator, Load Monitor | Info, Logging

IP Address: 192.168.1.148 Container: 6LA Array 2:1
HCID: 148 Model: SRX906LA
HC Label: SRX906LA-000148 Status: **Fault - LF Load Bad**

Locate Use checkboxes to enable optional faults Sleeping Standby

Device	LF	HF
Amplifier Health: Good <input type="checkbox"/>	Clip <input type="checkbox"/>	Clip <input type="checkbox"/>
Mains Voltage: 239.2 <input type="checkbox"/>	Limit <input type="checkbox"/>	Limit <input type="checkbox"/>
Fan State: Normal <input type="checkbox"/>	Speaker Bad <input type="checkbox"/>	Speaker Bad <input type="checkbox"/>
Temperature %: 33.8 C 28.7 <input type="checkbox"/>	Speaker Out Of Tolerance <input type="checkbox"/>	Speaker Out Of Tolerance <input type="checkbox"/>
Power Pin Fault: <input type="checkbox"/>		
Protect: <input type="checkbox"/>		
DSP Drop: <input type="checkbox"/> Reset		
Power Drop: <input type="checkbox"/>		

The plugin monitors a range of possible device faults and aggregates selected faults to the master fault for each given input, output, or fault type. All parameters on this tab are constantly monitored. Disabling a fault check box will not stop it from being monitored and displayed on other pages, but it will prevent the state from being considered a fault.

For example, output limiting is constantly monitored and displayed on the summary page, but it is only shown as a fault and passed to the header's status field if enabled here.

Device:

Amplifier Health – This is a basic aggregated status of the amplifier's possible faults.

Possible states: "Good", "Warning" or "Needs Attention"

Amplifier Health Fault – Lights when amplifier state reports a fault.

Mains Voltage – Reported mains voltage in volts.

Mains Voltage Fault – Lights when mains power state is reported faulty, i.e., outside allowed voltage limits.

Fan State – Possible states: "Normal", "Open", "Short" and "Unknown".

Fan State Fault – Lights when the fan state reports a fault.

Temperature – Reports the device temperature in both % of thermal headroom and degrees Celsius.

Temperature Fault – Lights when device temperature exceeds the allowed threshold.

Power Pin Fault – Lights when there is the amplifier module reports a power fault.

Protect Fault – Lights when the device has gone into protect mode.

Input Clip – Lights when the active input is clipping.

Signal Loss – Lights when the signal is below -60.0dB RMS.

Sleeping – Lights when the device is sleeping.

Standby – Lights when the device is in standby.

DSP Drop – Toggles on when a rapid power drop occurs that is long enough to cause the DSP to reboot, but not long enough to reboot the rest of the system. When a DSP fault is detected, the DSP is rapidly rebooted, causing a momentary audio drop.

Power Drop – Toggles on when the device detects that there has been a power interruption long enough for the CPU to reboot. A Power Drop Fault indicates the system rebooted.

Reset – As the above two faults are momentary, they will latch if they occur (if either or both are enabled). This control resets the state to normal and can be triggered via a control pin if desired.

For Each Output Channel:

Clip – Toggles on when the output signal is clipping.

Limit – Lights if the output is being limited.

Speaker Bad – Lights if there is a problem with the output channel load.

Speaker Out of Tolerance – Lights if the speaker load is out of tolerance.

Signal Generator, Load Monitor Tab

The screenshot shows the JBL SRX900 web interface. At the top, there are tabs for Summary, Faults, Signal Generator, Load Monitor (selected), and Info, Logging. Below the tabs, the interface is divided into several sections:

- System Information:** IP Address (192.168.1.148), Container (6LA Array 2:1), HCID (148), Model (SRX906LA), HC Label (SRX906LA-000148), and Status (OK).
- Operational Status:** Locate (red bar), Sleeping (green dot), and Standby (red bar).
- Signal Generator Section:** Enable (red bar), Active (yellow dot), Mode (Pink), Level (-33.0dB), and Freq Hz (1000).
- LF Section:** Speaker Health (Bad, red dot).
- HF Section:** Speaker Health (Good, green dot).

The Loads tab offers controls for the Signal Generator and monitoring the output loads.

Signal Generator:

Enable – Switches the signal generator on and off.

Active – Lights when the signal generator is enabled.

Mode – Choose from Pink Noise, White Noise or Sine Wave.

Gain – Anything from -100dB to + 0dB. Be careful!

Frequency – From 20Hz to 20,000Hz.

For Each Output Channel:

Speaker Health – Each channel measures the drivers attached to it. The result can indicate “Good” with a green indicator, “Out Of Tolerance” (yellow), “Bad” (red) or “Untested” (grey). Individual output pins are available for each of these, along with an estimated impedance. To get an accurate reading the level must be driven to a significant level.

Info, Logging Tab

The screenshot displays the 'Info, Logging' tab for a JBL SRX900 device. At the top, there are navigation tabs: 'Summary', 'Faults', 'Signal Generator, Load Monitor', and 'Info, Logging'. The main content area is divided into several sections:

- Header Information:** IP Address (192.168.1.148), Container (6LA Array 2:1), HCID (148), Model (SRX906LA), HC Label (SRX906LA-000148), and Status (OK).
- Locate:** A red indicator bar.
- Power States:** Sleeping (green dot) and Standby (red bar).
- Information Section:** Network Mode (DHCP), Network Mask (255.255.255.0), Gateway (192.168.1.254), MAC Address (00:0a:40:30:00:8b), Serial No. (12345678), and HW Version (F).
- Preset Section:** Mode (Fill) and High Pass (80Hz).
- Event Log Section:** A list of event categories with checkboxes: Status Changes (checked), Hardware Faults (unchecked), Load Faults (unchecked), Output Faults (unchecked), Input Faults (unchecked), Connection Faults (unchecked), Configuration Changes (checked), and Control Changes (checked).

This tab shows device information, Speaker Preset information, and Event logging to Q-SYS.

Information:

Version – The plugin version number is shown just under the JBL logo.

Network Mode – Possible states: DHCP or Static.

Network Mask – Reports the current IP Network mask of the device.

Gateway – Reports the current Gateway of the device.

MAC Address - Reports the network interface MAC address of the device.

Serial No. - Reports the Serial number of the device.

HW Version – Reports the HW Version of the device.

FW Version – Reports the FW Version of the device.

DSP Version – Reports the DSP Version of the device.

Preset:

Mode – Displays the mode of the device for 906LA and 910LA systems. Options include Array, Small Array, or Fill for 906LA and Array, or Fill, for 910LA.

Orientation – Displays the preset orientation for subwoofer models. Forward is the standard preset and Cardioid sets the output DSP to process the unit to be rear-firing in a gradient array.

High/Low Pass – Displays the high/low pass frequency chosen in the preset.

Event Logging:

The Event Log controls let you decide what goes into the Q-SYS Event Log.

Event Log

Status Changes <input checked="" type="checkbox"/>	Input Faults <input type="checkbox"/>
Hardware Faults <input type="checkbox"/>	Connection Faults <input type="checkbox"/>
Load Faults <input type="checkbox"/>	Configuration Changes <input checked="" type="checkbox"/>
Output Faults <input type="checkbox"/>	Control Changes <input checked="" type="checkbox"/>


Enable any, all, or none of these to write valuable messages to the Q-SYS Event Log. Disabling an item will not stop it from being monitored; it just won't appear in the event log.

Fault Priorities

If there are multiple active faults, the Status control will display only one fault. Listed below is the order of faults, from highest priority to lowest.

Optional faults are only included if they are selected as faults on the Faults tab. For example, an input clip will not show as a fault unless the relevant “Input Clip” checkbox is selected.

For the same fault on HF and LF channels, LF takes priority.

Highest	Device Missing (Offline)	
Priority	Model or Firmware does not match (wrong type)	
	Power Drop Fault	
	Power Pin Fault	
	Hardware Fault	
	DSP Drop Fault	
	In Protect	
	Signal Loss Fault	
	Sleeping Fault	
	In Standby Fault	
	Load Bad Fault	
	Load Out of Tolerance Fault	
	Thermal Fault	
	Input Clip Fault	
	Output Clip Fault	
	Output Limit Fault	
	Amplifier Health “Needs Attention”	
	Model or firmware does not match (wrong model)	
	Mains Voltage Fault	
	Fan Fault	
	Lowest	Amplifier Health “Warning”
	Priority	

Reported Fault Aggregation

Individual faults are aggregated into summary faults using logic in the plugin. Most logic faults appear in the GUI, and all logic faults are found on the plugin's output pins.

Optional faults are only included if they are selected as faults on the Faults tab. For example, an input clip will not show as a fault unless the relevant "Input Clip" checkbox is selected.

Any Fault	Missing (Offline)	Timeout	
		TCP Disconnected	
		Incomplete Replies	
	Mains Voltage Fault		
	In Protect		
	Over Temperature		
	Hardware Fault	Power Pin Fault	
		Power Drop	
		DSP Drop	
		Amplifier Health Not OK	
		Fan Fault	
	Input Fault	Input No Signal	
		Input Clip	
		Sleeping	
		In Standby	
	Channel Fault	Output Fault	Output Clip
			Output Limit
		Load Fault	Load Bad
			Load Out Of Tolerance