Liberty Arranger Q-SYS Plugin

The following Q-SYS plugin is detailed in this document:

IPEX6000 Liberty Arranger

Prerequisites

Before configuring the plugin:

- Obtain the IP address of the Arranger device
- The device names need to be set to follow a format that the driver will understand.

  1. Open the device web interface (enter the Arranger Controller ip address in a web browser)
  2. Select the **Device Settings** tab.
  3. Select the device in the **Select Device** dropdown
  4. Select the first heading **Name** and populate the **name** field according to the schema below:
     - Decoders/Output Devices should be labelled RX**x**_FriendlyName where **x** denotes the receiver number to assign to the device. For example RX1_Lounge.
     - Encoders/Input Devices should be labelled TX**y**_FriendlyName where **y** denotes the transmitter number to assign to the device. For example TX1_AppleTV.
     - If the device is to operate as a Tranceiver (Encoder + Decoder), then the device should be labelled as RX**x**FriendlyName_TX**y**_FriendlyName, where **x** is the receiver number and **y** is the transmitter number. For example RX1_Lounge_TX1_AppleTV

- To recall presets in the driver, presets need to have been previously configured in the Arranger Web Interface. For example on the web interface **Video Wall** and **Multiview** tabs you can configure a video wall/multiview, and then save as a preset. You will need the preset name to enter in the driver later to recall the preset.

Configuration Overview

1. Drag the plugin into your schematic.
2. Enter the number of inputs and outputs in properties.
3. Press F5 to save your design to the Core and run it. (Or, press F6 to emulate your design.)
4. In your schematic, double-click the plugin to open the component's control panel.
5. In the Config tab, establish a connection by entering the IP address.
6. **In order for switching to work** for each decoder/output, please configure the switch settings on the **Switch Config** tab. When you apply these settings they are stored persistently (so they do not need to be set again if the program is restarted). **Please note:** Switch settings for an output will not update in the Arranger UI until a video switch is performed from the driver for that output - so when switch settings are configured in the driver, they do not immediately update in the Arranger web interface.

Properties

Inputs

Specify the number of devices set as encoders/transmitters in the project.

Outputs

Specify the number of devices set as decoders/receivers in the project.

Debug Mode

Dev use only

Debug Level

Dev use only

Debug Subsystems

Dev use only

Show Debug

Enables the debug window

Controls

For further explanation of the functions that follow, please refer to the manufacturer:

https://secure.libertycable.com/products/digitalinxip/IPEXAR-6000/DigitalinxIP-Arranger-6000-Controller

Controller

Control Pin	Function	Default/Range
Network		
IP Address	Type the IP address of the Arranger Controller device the driver should connect to.	
Connection Status	Displays the current connection status and any applicable error.	Read only
Reboot Devices		
Decoders	Enter list of decoders to reboot	Comma separated and ranges allowed For example 1-4 is decoders 1,2,3,4.
Encoders	Enter list of encoders to reboot	Comma separated and ranges allowed For example 1-4 is encoders 1,2,3,4.
Reboot Selected Devices	Reboot the devices listed in the Decoders and Encoders controls	Trigger
Reboot All Devices	Reboot all encoders and decoders	Trigger
Load Preset		
Preset name	Enter name of preset to recall	Has to match exactly a preset setup in the Arranger Web interface (case sensitive)
Load Preset	Loads the preset	Trigger

Switch Config

Control Pin	Function	Default/Range
Decoders	Enter list of decoders to configure	Comma separated and ranges allowed For example 1-4 or 1,2,3,4.
Video Mode	Select a video mode	fast/sync/sync_scale
Aspect	Select the aspect mode (only available for fast video mode)	keep/stretch/crop
Format	Select the format (only available for fast/sync_scale video modes)	combo box of different resolutions
Apply	Apply the switch settings to use in future when switching decoder inputs. These settings must be configured here before switching takes place in the driver. This only needs to be done once - after a reboot the settings persist. Settings can be overwritten for a decoder by reapplying new settings.	Trigger

Video

Control Pin	Function	Default/Range
Multi-Switch Command	Switch several receivers to a sender	Text e.g. 3:1,2,3,4,5; switches receivers 1-5 to TX3
Output x~Input	Switch receiver x to a sender	Text e.g. 4 (switch receiver x to tx4)
Output x~Input y	Switch receiver x to sender y	Boolean
Output x~Off	Switch receiver x off	Boolean

Digital Audio

Control Pin	Function	Default/Range
Multi-Switch Command	Switch several receivers to a sender	Text e.g. 3:1,2,3,4,5; switches receivers 1-5 to TX3
Output x~Input	Switch receiver x to a sender	Text e.g. 4 (switch receiver x to tx4)
Output x~Input y	Switch receiver x to sender y	Boolean
Output x~Off	Switch receiver x off	Boolean

Analog Audio

Control Pin	Function	Default/Range
Multi-Switch Command	Switch several receivers to a sender	Text e.g. 3:1,2,3,4,5; switches receivers 1-5 to TX3
Output x~Input	Switch receiver x to a sender	Text e.g. 4 (switch receiver x to tx4)
Output x~Input y	Switch receiver x to sender y	Boolean
Output x~Off	Switch receiver x off	Boolean

USB HID

Control Pin	Function	Default/Range
Output x~Input	Switch receiver x to a sender	Text e.g. 4 (switch receiver x to tx4)
Output x~Input y	Switch receiver x to sender y	Boolean
Output x~Off	Switch receiver x off	Boolean

USB

Control Pin	Function	Default/Range
Output x~Input	Switch receiver x to a sender	Text e.g. 4 (switch receiver x to tx4)
Output x~Input y	Switch receiver x to sender y	Boolean
Output x~Off	Switch receiver x off	Boolean

IR Serial CEC

Control Pin	Function	Default/Range
Send IR		
IR Decoders	Enter list of decoders to configure	Comma separated and ranges allowed For example 1-4 or 1,2,3,4.
IR Encoders	Enter list of encoders to configure	Comma separated and ranges allowed For example 1-4 or 1,2,3,4.
IR Code	IR Code to send	Pronto infrared code. e.g hexadecimal string which represents the Pronto infrared code to be sent. Its length must be a multiple of eight (i.e. data length must be a multiple of four bytes) and cannot exceed 256 burst pairs and a maximum length of 1032 bytes
Send IR	Send the IR code to the specified encoders and decoders	Trigger
Send CEC		
CEC Decoders	Enter list of decoders to configure	Comma separated and ranges allowed For example 1-4 or 1,2,3,4.
CEC Encoders	Enter list of encoders to configure	Comma separated and ranges allowed For example 1-4 or 1,2,3,4.
Command	CEC Code to send	e.g. F004
Send CEC	Send the CEC code to the specified encoders and decoders	Trigger
Send Serial		
Serial Decoders	Enter list of decoders to configure	Comma separated and ranges allowed For example 1-4 or 1,2,3,4.
Serial Encoders	Enter list of encoders to configure	Comma separated and ranges allowed For example 1-4 or 1,2,3,4.
Command	Serial String to send	text e.g. hello world
Send Serial	Send the Serial Command to the specified encoders and decoders	Trigger

Serial Pins

Serial pins are provided so that serial drivers can be connected to this driver to control 3rd party devices in Q-Sys designer. Serial commands/responses from the 3rd party connected driver will be sent/received from the physical device that is connected to the physical serial port of an encoder/decoder. For example if a 3rd party serial controlled amplifier is connected to the serial port of decoder 3, then the serial pin of the Q-sys driver controlling the amplifier would need to be connected to the Serial RX3 pin on this driver.

Device Config

Control Pin	Function	Default/Range
Encoder Config		
Config Encoders	Enter list of encoders to configure	Comma separated and ranges allowed For example 1-4 or 1,2,3,4.
Analog Audio Direction	Whether the analog audio acts as an input or an output	Input/Output
Send Encoder Config	Send the config to the specified encoders	Trigger
Decoder Config		
Config Decoders	Enter list of decoders to configure	Comma separated and ranges allowed For example 1-4 or 1,2,3,4.
Analog Audio Output Source	Select analog or hdmi audio as audio source	Analog (Stereo Audio) / HDMI (Downmix Audio)
HDMI Audio Source	Select analog or hdmi audio as HDMI audio source	Analog (Stereo Audio) / HDMI (Sync / Downmix / Multichannel) Audio
Send Decoder Config	Send the config to the specified decoders	Trigger
Send Video Mute		
Video Mute Decoders	Enter list of decoders to configure	Comma separated and ranges allowed For example 1-4 or 1,2,3,4.
Video Mute Color	Enter RGB Hex color to show on display connected to decoder	e.g FF0000 for red
Video Mute State	Select whether to mute/unmute the display	Boolean
Send Video Mute	Send the video mute command to the specified decoders	Trigger

Hotplugs

Control Pin	Function	Default/Range
Output x~Decoder Online	State is whether the controller has a connection to the decoder	Boolean
Output x~Display Detect	State is whether the decoder detects a connected display	Boolean
Input x~Encoder Online	State is whether the controller has a connection to the encoder	Boolean
Input x~Source Detect	State is whether the encoder detects a connected source	Boolean