Manufacturer: Sony
Model: Bravia
Device Type: Flat Panel Display

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GENERAL INFORMATION	
Q-SYS PLUGIN NAME:	Sony Bravia Flat Panel Display
VERSION:	2.2
AUTHORED BY:	Control Concepts, Inc.
SUMMARY:	This Q-SYS Plugin controls Sony Bravia models of flat panel displays.
GENERAL NOTES:	To drop this plugin into your Q-SYS Design, navigate to the Asset Manager in Q-SYS Designer, locate the plugin, and install it. It will then be available in the 'Schematic Elements' window under Plugins>Asset Manager>Sony> Bravia Display The recommended power mode when the display is not on is **Wake On Signal** or **Always On**. These settings allow the plugin to maintain its connection while the display is powered off. If these settings are not used, the plugin may not be able to maintain its connection when the display is powered off and therefore may not be able to turn on the display. The pre-shared key is a required security parameter for the plugin to communicate with the display. The pre-shared key is enabled and configured on the Sony display. Navigate to Settings -> Network & Internet -> Home network -> IP control on the display. Select the **Authentication** menu option and select the option **Normal and Pre-Shared Key**. Next select **Pre-Shared Key** menu option and enter a string for the key. The same string must be entered to the Pre-Shared Key input pin of the plugin. The plugin will not be able to communicate with the display if the pre-shared key plugin parameter does not match the string value entered to the display menu option.
DEVICE USED FOR TESTING	QSC Q-SYS Core 110f (9.8.0)

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INITIAL SETUP	
PROPERTIES	**Show App Icons**: Specifies whether to show icons on the buttons for launching the installed applications. Available options include "Yes" and "No". When set to "No", the buttons will be blank. The default value is "Yes". **Debug Level**: Specifies the verbosity of debug output to the console of Q-SYS Designer. Options include: • Off (No debug output logged) • Device Communication (Debug output relative to message sending and receiving logged) • Troubleshooting (All debug output logged) **Debug Output**: Specifies where the debug logging will be written to. Options include: • Console (Debug output only written to Q-SYS console) • Console and Log (Debug output written to Q-SYS console and internal log) **Show Debug**: Shows or hides the debug console of Q-SYS Designer. While showing, debug output written to the console by the plugin will be visible.
ESTABLISHING CONNECTION	The IP address and pre-shared key (see General Notes for information about setting the pre-shared key) must be set prior to attempting plugin communication to the connected display. These parameters are configured at runtime by typing into the fields on the **Connection** tab or using the input pins for each parameter. Changing either of these parameters after initial startup of the plugin will force the plugin to reinitialize its connection. These values will be retained by the Q-SYS core if the design is reloaded. The plugin will automatically connect to the display and begin the initialization process, wherein the plugin will attempt to query the display for all relevant data. Once the display has sent at least one successful response, the **Communicating** indicator/pin will turn on, and plugin status will be set to **OK**. If the display is turned on, the plugin will query the display for its current state. Once the plugin has received responses from the display for all the initial queries, the **Initialized** indicator/pin will turn on. At this point, the plugin is considered fully ready for operation. If the display is turned off when the plugin is started, full initialization will occur when the display is turned on.

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PLUGIN PAGES (CONNECTION)	
Connect	Trigger to begin communicating with the connected display and start the initialization process. This pin is provided as convenience to the integrator. The plugin automatically initiates connection to the display when the design is started on the core. *[Input | Boolean]*
Disconnect	Trigger to stop communication with the connected display. *[Input | Boolean]*
IP Address	Specifies the network IP address configured in the plugin properties. Changing the IP address through the corresponding pin at runtime requires the plugin to be reinitialized. *[Input/Output | String]*
Is Communicating	Indicates if the plugin is communicating with the connected display. *[Output | Boolean]*
Is Initialized	Indicates if the plugin has synchronized the current display state. *[Output | Boolean]*
MAC Address	Indicates the MAC address queried from the connected display. *[Output | String]*
Model	Indicates the device model queried from the connected display. *[Output | String]*
Pre-Shared Key	Specifies the pre-shared key configured in the plugin properties. Changing the pre-shared key through the corresponding pin at runtime requires the plugin to be reinitialized. *[Input | String]*
Reboot	Trigger to force the display to reboot. *[Input | Boolean]*
Reconnect	Trigger to force the plugin to reconnect to the display and refresh current display state. *[Input | Boolean]*

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PLUGIN PAGES (CONNECTION - *continued*)	
Serial Number	Indicates the serial number queried from the connected display. *[Output	String]*
Status	Indicates the current connection status or error status if any errors are received by the plugin during runtime operation. *[Output	String]*
Wake on LAN	Trigger to broadcast the wake-on-LAN packet. *[Input	Boolean]*

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PLUGIN PAGES (CONTROL)	
INPUT [1 – n]	Trigger to set the specified video input as the active input on the display. Available inputs are queried by the module and the button labels are updated to reflect the actual name of the discovered inputs. The plugin supports a maximum of twelve (12) inputs, the actual number of available inputs may be less. Unused input buttons are hidden on the **Control** tab of the plugin interface. *[Input/Output | Boolean]*
Input Selection	Trigger to set the video input of the specified index as the active input on the display. The index parameter range is from 1 to the number of queried video inputs. *[Input/Output | Number]*
Power On	Trigger to turn on the connected display. *[Input | Boolean]*
Power Off	Trigger to turn off the connected display. *[Input | Boolean]*
Power Status	Indicates the display power is on when indicator is on, and display power is off when indicator is off. *[Output | Boolean]*
Video On	Trigger to turn on the video display (unmute the video display). *[Input | Boolean]*
Video Off	Trigger to turn off the video display (mute the video display). *[Input | Boolean]*
Video Status	Indicates the video display is on (unmuted) when indicator is on, and video display is off (muted) when indicator is off. *[Output | Boolean]*
Volume Down	Trigger to incrementally decrease the display volume level. Hold to ramp down volume until the button or pin is released. *[Input | Boolean]*
Volume Level	Set the display volume to the specified level. Volume range is 0 to 100. *[Input | Number]*

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PLUGIN PAGES (CONTROL - *continued*)	
Volume Mute	Trigger to change the display volume mute state between muted and unmuted. *[Input/Output | Boolean]*
Volume Up	Trigger to incrementally increase the display volume level. Hold to ramp up volume until the button or pin is released. *[Input | Boolean]*

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PLUGIN PAGES (APPS)	
APP [1 – n]	Trigger to launch the selected application. Installed applications are queried by the module and the button labels are updated to reflect the actual names of discovered applications. The plugin supports a maximum of forty (40) applications, the actual number of installed applications may be less. Unused application buttons are hidden on the **Apps** tab of the plugin interface. *[Input/Output	Boolean]*
App Selection	Trigger to launch the application of the specified index. The index parameter range is from 1 to the number of discovered applications. *[Input/Output	Number]*
Refresh	Trigger to force the plugin to query for all installed applications and refresh the list of discovered applications.

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PLUGIN PAGES (REMOTE)	
Audio	Trigger to send the Audio IR code to the display. *[Input | Boolean]*
Back	Trigger to send the Back IR code to the display. *[Input | Boolean]*
Blue	Trigger to send the Blue IR code to the display. *[Input | Boolean]*
CC	Trigger to send the CC IR code to the display. *[Input | Boolean]*
Channel Down	Trigger to send the Channel Down IR code to the display. *[Input | Boolean]*
Channel Up	Trigger to send the Channel Up IR code to the display. *[Input | Boolean]*
Display	Trigger to send the Display IR code to the display. *[Input | Boolean]*
Dot	Trigger to send the Dot (.) IR code to the display. *[Input | Boolean]*
Down	Trigger to send the Down IR code to the display. *[Input | Boolean]*
Flash Minus	Trigger to send the Flash Minus IR code to the display. *[Input | Boolean]*
Flash Plus	Trigger to send the Flash Plus IR code to the display. *[Input | Boolean]*
Green	Trigger to send the Green IR code to the display. *[Input | Boolean]*

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PLUGIN PAGES (REMOTE - *continued*)	
HDMI [1-4]	Trigger to send the corresponding HDMI input IR code to the display. *[Input | Boolean]*
Help	Trigger to send the Help IR code to the display. *[Input | Boolean]*
Home	Trigger to send the Home IR code to the display. *[Input | Boolean]*
Input	Trigger to send the Input IR code to the display. *[Input | Boolean]*
Left	Trigger to send the Left IR code to the display. *[Input | Boolean]*
Mute	Trigger to send the Mute IR code to the display. *[Input | Boolean]*
Next	Trigger to send the Next IR code to the display. *[Input | Boolean]*
Number [0-9]	Trigger to send the corresponding numeric IR code to the display. *[Input | Boolean]*
OK	Trigger to send the OK IR code to the display. *[Input | Boolean]*
Options	Trigger to send the Options IR code to the display. *[Input | Boolean]*
Pause	Trigger to send the Pause IR code to the display. *[Input | Boolean]*
Play	Trigger to send the Play IR code to the display. *[Input | Boolean]*

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PLUGIN PAGES (REMOTE - *continued*)	
Power	Trigger to send the Power IR code to the display. *[Input | Boolean]*
Previous	Trigger to send the Previous IR code to the display. *[Input | Boolean]*
Red	Trigger to send the Red IR code to the display. *[Input | Boolean]*
Right	Trigger to send the Right IR code to the display. *[Input | Boolean]*
Stop	Trigger to send the Stop IR code to the display. *[Input | Boolean]*
Sync Menu	Trigger to send the Sync Menu IR code to the display. *[Input | Boolean]*
Up	Trigger to send the Up IR code to the display. *[Input | Boolean]*
Volume Down	Trigger to send the Volume Down IR code to the display. *[Input | Boolean]*
Volume Up	Trigger to send the Volume Up IR code to the display. *[Input | Boolean]*
Yellow	Trigger to send the Yellow IR code to the display. *[Input | Boolean]*

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PLUGIN PAGES (SIGNAGE)	
Launch Website URL [1-10]	Trigger to open the display browser to the website specified by the corresponding **Website URL** text field. *[Input | Boolean]*
Website URL [1-10]	Indicates the website URL string that will open on the display browser when the corresponding Launch button or pin is triggered. Website URLs must be formatted as "http://www.site.domain" or "https://www.site.domain". *[Input | String]*
Website URL [1-10] Status	Indicates the website specified by the corresponding Website URL text field is currently open in the display browser when on, or not open in the browser when off. *[Input | Boolean]*

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ADDITIONAL INFORMATION	
Change Log	V2.2 – Resolved an issue where the IP address and pre-shared key parameters were not being retained when the design loaded to the core. Added new video mute feature.
Support	Control Concepts, Inc. support@controlconcepts.net (201) 797-7900 336 Route 46 Fairfield, NJ 07004