



Manufacturer: BrightSign
Device Type: Digital Signage

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GENERAL INFORMATION

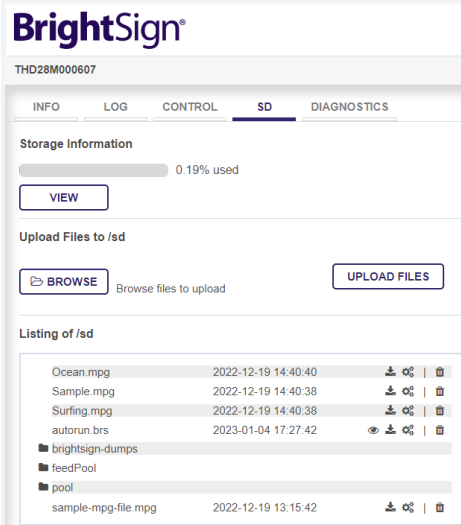
Q-SYS PLUGIN NAME:	BrightSign
VERSION:	1.1
AUTHORED BY:	QSC
SUMMARY:	This Q-SYS Plugin interfaces with the control script authored by BrightSign to control basic player features. If a custom control script is loaded to the BrightSign player, this plugin is capable of sending custom commands that are compatible with the custom control script.
GENERAL NOTES:	<ul style="list-style-type: none">• This plugin can communicate over UDP/IP or a Serial connection depending on which is chosen in the design-time properties.• IMPORTANT: If using 'Control Script Mode', the provided BrightScript script must be loaded to the root directory of the SD card of the BrightSign player. Once the script is loaded, the player must be rebooted. Upon rebooting, the player will automatically start the script. Note that the provided script may need to be edited slightly prior to loading. Please see the "BrightScript Customization" section later in this document for additional information.
DEVICES USED FOR TESTING	QSC Q-SYS Core 110f (9.8) BrightSign HD224

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INITIAL SETUP

<p>PROPERTIES</p>	<p>UDP Listener Mode: (Only available when Transport is "UDP/IP") Allows the user to determine which plugin instance will be responsible for receiving UDP responses from BrightSign players. See 'Using Multiple BrightSign Plugin Instances In Design' section for more information.</p> <p>Options include:</p> <ul style="list-style-type: none"> - Primary: The plugin will handle responses from all BrightSign players being controlled in a single design. If using multiple BrightSign plugins, ONLY ONE can be set to 'Primary'. If there is only one BrightSign plugin in your design, it should be set to 'Primary'. - Secondary: The plugin will receive responses from its respective BrightSign player via the 'Primary' plugin in your design. As long as there is one 'Primary' there can be as many 'Secondary' plugins as needed. <p>Transport: Allows the user to determine whether they would like to communicate via UDP/IP or Serial connection. See below for default connection values.</p> <p>Mode: Allows the user to choose between the two modes that the plugin can operate in.</p> <ul style="list-style-type: none"> - Control Script Mode: Requires the user to load the provided BrightScript file "autorun.brs" to the player. All commands supported in the script are supported in this plugin. - Custom Mode: Allows the user to load a custom "autorun.brs" script to the BrightSign player. The user can then define custom commands and send them to the player. <p>Number of Commands: (Only available in 'Custom Mode') Allows the user to define how many custom commands will be needed to interface with their custom script loaded to the player.</p> <p>Debug Level: Allows the user to decide which type of debug statements are printed to the console.</p>
<p>LOADING CUSTOM SCRIPT FILE</p>	<p>First, navigate to the web interface of the BrightSign player on your network and enter the player's credentials when prompted.</p> <p>Next, navigate to the tab labeled "SD". From there you will be able to browse for files on your PC that you would like to upload. Find/edit the provided 'autorun.brs' file or your own custom script. Once your file is selected, click 'Upload'.</p> <p>Remember after the file is loaded, you must reboot the BrightSign player. Upon rebooting, the script should run automatically. Once the script is running, the Q-SYS plugin will be able to operate.</p> <p>(See next page for graphic.)</p>

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UDP/IP: All required fields must be populated in order for a connection to be made.

- For Control Script Mode, the custom script running on the Brightsign player will have properties for the ports to use for sending and receiving UDP messages. These ports must be different from each other. The plugin has corresponding pins for "Remote" and "Local" port. The "Remote" port in the plugin must match the "udpPortReceive" property in the custom script and the "Local" port in the plugin must match the "udpPortSend" property in the custom script. Please see "BrightScript Customization" section later in this document for additional information.

Serial: The serial port settings must be populated in order for the connection to be opened.

For Control Script Mode, the serial connection must be set as follows:

- Baud Rate: 115200
- Parity: N
- Data Bits: 8

ESTABLISHING CONNECTION

Once all required fields are setup, the plugin will automatically try to connect and initialize. Since UDP and Serial don't provided connection status, if using 'Custom Mode', the plugin will automatically become initialized. Enable debugging to see if communication has been established.



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PLUGIN CONTROLS (SETUP)

IP Address (UDP/IP Only)	Set to the target IP address of the player.
Remote Port (UDP/IP Only)	Set to the port on which the player is set to listen for messages (as set in the custom script if using 'Control Script Mode').
Local Port (UDP/IP Only)	Set to the port on which the player is set to send responses (as set in the custom script if using 'Control Script Mode'). Only available if plugin UDP Listener Mode is set to 'Primary'.
Baud Rate (Serial Only)	Set to the target baud rate of the player's serial port. If using 'Control Script Mode', this must be set to 115200.
Parity (Serial Only)	Set to the target parity of the player's serial port. If using 'Control Script Mode', this must be set to 'N'.
Data Bits (Serial Only)	Set to the target data bits of the player's serial port. If using 'Control Script Mode', this must be set to 8.
Play Status	Indicates that media is playing on the player. This control is disabled in 'Custom Mode'.
Loop Status	Indicates that media is looping on the player. This control is disabled in 'Custom Mode'.
Reboot	Pulse to reboot the player. This control is disabled in 'Custom Mode'.
Status	Displays the overall status of the plugin.
Disable	Set high to disable plugin.

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PLUGIN CONTROLS (CONTROL) (Control Script Mode Only)

File Select	Populated with all of the media files on the player. Whichever file is selected will be played when the 'Play', 'Play/Clear', or 'Loop' control is engaged.
Refresh	Refreshes the list of files on the player.
Play	Pulse to play selected media file.
Pause	Pulse to pause selected media file. If 'Play' is pulsed while paused, the content will resume.
Stop	Pulse to stop the media file that is currently playing.
Play/Clear	Pulse to the play selected media file. File will clear after media is finished playing.
Loop	Pulse to indefinitely loop the selected media file.
Stop/Clear	Pulse to stop the media file that is currently playing. The file will then clear from the screen.
Device Response	Displays the device's responses to transport controls.
Volume Slider	Adjust slider to adjust the media volume on the player.
Current Level	Displays the current volume level the player is set to.

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PLUGIN CONTROLS (FILES) (Control Script Mode Only)

File List	Displays list of files found on the player.
Refresh	Refreshes the list of available files. (Operates identically to the 'Refresh' control on the 'Control page').
Web Folder URL	Set to the folder on the web that the player will download files from. Upon entering a URL, the player will attempt to download files from that location. Please see BrightSign documentation to learn how to download media files from a web server.

PLUGIN CONTROLS (CUSTOM COMMANDS) (Custom Mode Only)

Command String [1 – 100]	Allows user to specify custom command that will be sent to a custom script on the player.
Command Trigger [1 – 100]	Sends the corresponding custom command to the player.

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BRIGHTSCRIPT CUSTOMIZATION

If using 'Control Script Mode', the provided BrightScript script ("autorun.brs") must be loaded to the root directory of the SD card of the BrightSign player. Once the script is loaded, the player must be rebooted. Upon rebooting, the player will automatically start the script.

Prior to loading the script, you may need to adjust the "udpPortSend" and "udpPortReceive" properties (as shown in Figure 1 below). The plugin has corresponding pins for "Remote Port" and "Local Port" (as shown in Figure 2 below). The "Remote" port in the plugin must match the "udpPortReceive" property in the custom script and the "Local" port in the plugin must match the "udpPortSend" property in the custom script.

If you have multiple instances of the plugin in the same Design, each plugin will be talking to a different BrightSign player but you should use the same custom script loaded to all players.

Note that for any "Local Port" value you are setting, the port must be available and not in use already on the Core.

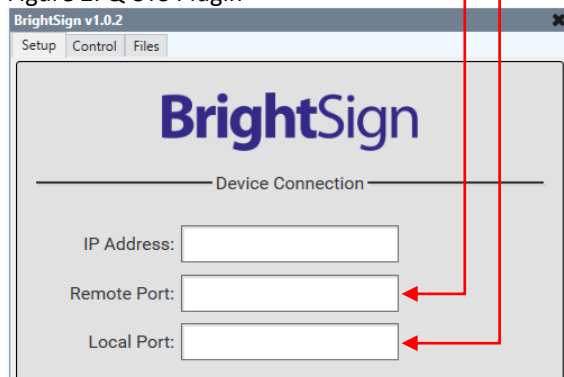
Figure 1. BrightScript (autorun.brs)

```

1 sub Main()
2   version$ = "v3.01E"
3   settings = createobject ("roAssociativeArray")
4   settings.debug = false
5
6   REM
7   REM The two UDP ports cannot be the same
8   settings.udpPortSend = 23 'for sending udp commands
9   settings.udpPortReceive = 24 'for receiving UDP commands
10  settings.udpDestinationAddress$ = "255.255.255.255"
11  settings.serialPortSpeed = 115200
12  settings.serialPortMode$ = "8N1"
13  settings.videoMode$ = "1280x720x60p" 'set to "empty" to use automode
14  'Enable or Disable Attract Video use

```

Figure 2. Q-SYS Plugin

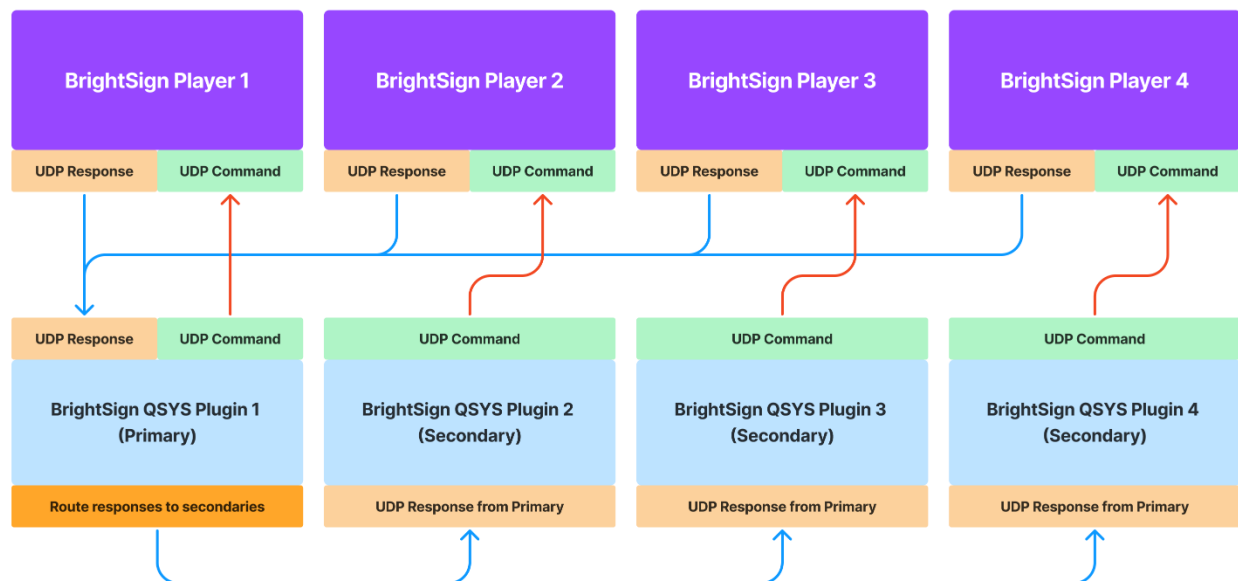


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USING MULTIPLE BRIGHTSIGN PLUGIN INSTANCES IN DESIGN

Since the default 'autorun.brs' file uses a UDP broadcast address to send its responses to, only one plugin can open that UDP port and listen for responses. The plugin defined as the 'Primary' will open the UDP port and listen for responses on that broadcast address. If the UDP packet not intended for the 'Primary' plugin, the 'Primary' plugin will publish a notification to the design that the 'Secondary' plugins will be subscribed to.

Because of this, only one plugin can be defined as 'Primary', while all other instances of the plugin should be set to 'Secondary'.



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ADDITIONAL INFORMATION

Change Log	v1.0.0 – Initial Release v1.0.1 – Updates to internal CommUtil for Custom Mode message handling v1.0.2 – Updates to fix missing messages from the device when multiple instances of the plugin are present in the same Design v1.1 – Implemented 'primary'/'secondary' modes to handle UDP broadcast traffic from devices. v1.1.1 – Added support for emulation
Support	Control Concepts, Inc. support@controlconcepts.net