STORM|AUDIO

STORMAUDIO – ISP

Control4 driver

For ISP MK1, MK2, MK3 & Core16

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DRIVER OVERVIEW

This driver integrates the **StormAudio - Immersive Sound Processors** (**ISP**) in your Control4 projects.

This driver can either use IR or IP to control the ISP, but not concurrently. The IP method provides 2 ways feedback and advanced control.

This driver can manage up to 3 zones in addition to the main "Theater". One of these zones can also be an Audio/Video zone. See your ISP Owner's Manual to set the Zones.

This driver is divided in 3 proxies, improving the control possibilities of your processor inside your Control4 environment:

> **1-StormAudio - ISP**: Main proxy.
>> Used to make the A/V & Network connections in Composer and control the ISP. In navigators, it allows the active upmixer selection (StormXT included).
>
> **2-Remote Control**: Secondary proxy.
>> In navigators, embeds the Remote Control page of the ISP's WebUI. Requires Navigators version 321.46 or above.
>
> **3-Display Control**: Secondary proxy.
>> On ISPs MK3 and Core16, use this driver to control the front panel of the ISP.

Supported products:

ISP MK1, MK2, MK3 & Core16.

ISP documentation:

Owner's Manuals: https://www.stormaudio.com/download-center/

Knowledge Center: https://support-stormaudio.atlassian.net/wiki/spaces/SUP/overview

ISP SETUP

Your ISP must already be configured with your Inputs/Outputs, Zones, Presets, Settings. You can always make changes in the ISP as you set up your C4 ISP driver, the changes will appear dynamicly through Composer, but the process is easier if the ISP is configured first.

IR method:

· Make sure your C4 controller can send IR signals towards the ISP's IR sensor. For MK1 units, you need to plug an optional IR sensor in the back panel. All other ISPs have IR sensors on the front panel, but can also use an optional IR sensor on the back panel.
 Note:
 If using IR method, the 2nd proxy "Remote Control" will not be available as it requires the IP address of the ISP. Some functions are also not supported.

IP method:

· For this driver to work over IP, the ISP power management must be set to *Network Standby*. Otherwise, the C4 controller will not be able to wake the ISP up from StandBy.
 =>Set the Network Standby option to ON in the Settings tab of the WebUI.

· The ISP's IP address should be set to static to ensure reliability over time. Make sure to stay out of the dynamic range of your LAN to avoid IP conflicts.
 =>Set the static IP address in the System tab of the WebUI.

COMPOSER SETUP

1. Add the ISP driver to your C4 driver directory on your computer.
2. Add the ISP driver to your C4 project.
3. Make your A/V connections with the ISP (Inputs, Outputs). The Inputs should follow the Inputs table made in the ISP WebUI's Inputs page. A disabled input in the WebUI is still considered as a valid input in Composer.
4. Bind your endpoints. If using only the main theater, the endpoints will automatically be set, verify it is correct. If using multiple zones, you have to set endpoints accordingly. For example:

Room Control				
Main Output	RoomControl	AUDIO_SELECTION	Output	TEST - Main Zone->Audio End-Point 1, TEST - Main ...
Main Output	RoomControl	AUDIO_VOLUME	Output	TEST - Main Zone->Video Volume 1, TEST - Main Zo...
Main Output	RoomControl	VIDEO_SELECTION	Output	
AV Zone Output	RoomControl	AUDIO_SELECTION	Output	TEST - Zone 2->Audio End-Point 1, TEST - Zone 2->...
AV Zone Output	RoomControl	AUDIO_VOLUME	Output	TEST - Zone 2->Video Volume 1, TEST - Zone 2->Au...
AV Zone Output	RoomControl	VIDEO_SELECTION	Output	
Zone 2 Output	RoomControl	AUDIO_SELECTION	Output	
Zone 2 Output	RoomControl	AUDIO_VOLUME	Output	
Zone 3 Output	RoomControl	AUDIO_SELECTION	Output	
Zone 3 Output	RoomControl	AUDIO_VOLUME	Output	

   Here Zone 2 and Zone 3 are not used, only the Main Zone and the AV Zone. The bindings are made to 2 different rooms with displays and speakers.

5. Choose your control method:
   o **IR method**: Bind the IR input of the ISP to an IR output of your C4 controller in Composer.
   o **IP method**: Enter the IP address in the Network connection tab of Composer. If the ISP is online, it will fill some of the Properties fields. See below.

6. Set the proxies you want to use in your Navigators. The "Remote Control" proxy is hidden by default. Go in the room you want to use it in and set it to visible in the Navigator tab:

Do the same with the "Display Control" proxy (for Core16, MK3 and above).

PROPERTIES

== Basic Settings ==

Setting	Use	Range
Command Delay Milliseconds	Sets the delay before sending commands. Increase it if you notice instabilities.	10-2000ms
Power On Delay Seconds	Sets the delay before sending the ON command.	0-30s
Power Off Delay Seconds	Sets the delay before sending the OFF command.	0-5s
NetworkKeepAliveIntervalSeconds	Sets the delay between the keepalive commands. This keeps the TCP/IP connection alive and ensure stability. Default is 30s.	15-120s

== Processor Info ==

Information about the product connected to the C4 environment (IP method required):
- Device Brand
- Device Model
- Firmware Version
- MAC address
- IP Address

== Control ==

Send Command:

When selecting a parameter and clicking on Set, send the following commands to the ISP through TCP/IP:

1. **Get Processor Status**: reads the current status of the ISP (On/Off) and updates the Power State field.
2. **Toggle Power**: toggles the current power status of the ISP (On/Off).
3. **Refresh Zones**: reads the current Zones configuration of the ISP and updates the Zones Lists.
4. **Restart Unit**: reboots the ISP.

== Status ==

Power State: On/Off
Connected to Network: Yes/No
Message status: current status of the unit

== Zones Settings ==

Setting	Use	Info
HDMI Out Matrix Mode	Reads the current Matrix Mode selected in the ISP. You can set it to match your needs in the Settings tab of the ISP's WebUI	Mirror Zone 2 A/V or PassThrough
AV Zone Selected	Selected Zone for Audio and Video	X - "Zone Name"
AV Zone List	List of the available Audio/Video zones in the ISP. Select one and set it to use it as A/V Zone	X - "Zone Name"
Audio Zone 1 Selected	Selected Zone for Audio Zone 1	X - "Zone Name"
Audio Zone 1 List	List of the available Audio zones in the ISP. Select one and set it to use it as Audio Zone 1	X - "Zone Name"
Audio Zone 2 Selected	Selected Zone for Audio Zone 2	X - "Zone Name"
Audio Zone 2 List	List of the available Audio zones in the ISP. Select one and set it to use it as Audio Zone 2	X - "Zone Name"

Note:
All zones can work concurrently with the Main Theater.
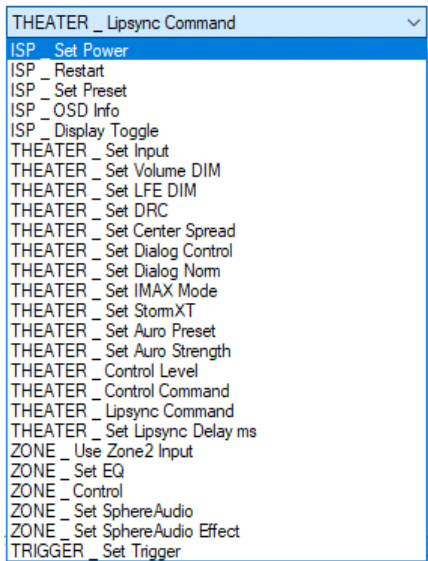See the Owner's Manual to set the Matrix Mode for the A/V Zone.

== Volume Ramping ==

Setting	Use	Range
Ramping Method	Choose wether holding the volume buttons make the volume level follows a curve or a linear function. Find parameters below to set the curve.	Volume Curve or Pulse Commands
Volume Ramp Delay Milliseconds	Set the "speed" of the Volume Curve. The lower the fastest the volume will go up.	50-500ms
Volume Ramp Steps	Set the number of steps between minimum and maximum volume. The lower the less precise the volume ramping will be.	0-100
Volume Ramp Slope	Set the slope "weight" of the Volume Ramping. Increasing the weight will make reaching high Volume longer and dropping to low levels quicker. The lower the weight, the closer to a linear curve the volume ramping will act.	0-100

SPECIFIC COMMANDS

Some specific commands are not available from the GUI, but can be set or retrieved by using commands in programming.

These commands are divided in 4 groups:

1.   **ISP: Main commands to the ISP**
   - Set Power: *on/off/toggle*
   - Restart: *restarts the ISP*
   - Set Preset: *selects a preset in the list*
   - OSD Info: *displays info about the incoming signal over the Screen* (HMC82 or above required)
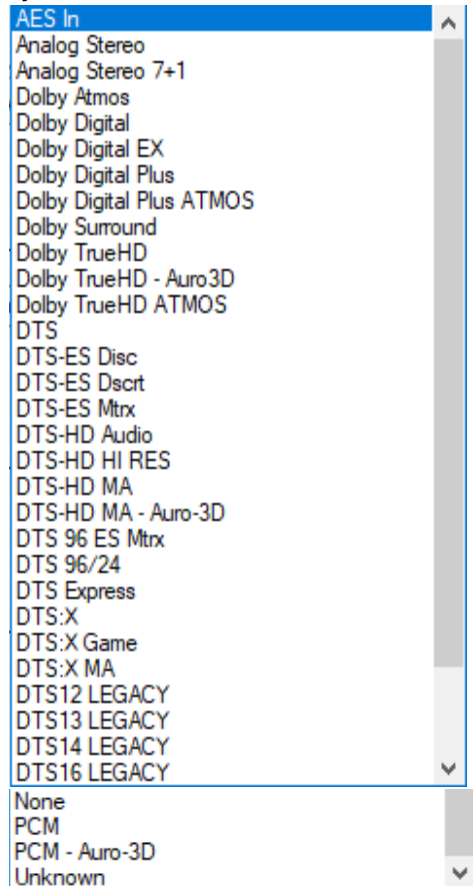   - Display Toggle: *enable/disable the display backlighting* (front panel of MK3 & Core 16)

2.   **THEATER: Commands to the Main Theater**
   - Set Input: *Allows to select an Input by its name rather than its ID*
   - Set Volume DIM: *on/off/toggle*
   - Set LFE DIM: *on/off/toggle*
   - Set DRC: *on/off/auto*
   - Set Center Spread: *on/off/toggle*
   - Set Dialog Control: *level -6/+6 dB*
   - Set Dialog Norm: *on/off/toggle*
   - Set IMAX Mode: *on/off/auto*
   - Set StormXT: *on/off/toggle*
   - Set Auro Preset: *Small/Medium/Large/Speech*
   - Set Auro Strength: *0/+15 dB*
   - Control Level: *-6/+6 dB for*
       i.   Center Enhance
       ii. Surround Enhance
       iii. Sub Enhance
       iv. Bass
       v.   Treble
       vi. Brightness
   - Control Command: *up/down 1dB for*

        i. Center Enhance

        ii. Surround Enhance

        iii. Sub Enhance

        iv. Bass

        v. Treble

        vi. Brightness

- Lipsync Command: *up/down 10ms for*
- Set Lipsync Delay ms: *0/250ms*

3. **ZONES: Relatives commands to Zones defined in the ISP. Zones can be selected in the command programming.**

   - Use Zone2 Input: *on/off/toggle*
   - Set EQ: *on/off/toggle*
   - Control Level: *-6/+6 dB for*
     - i. Bass
     - ii. Treble
   - Set SphereAudio: *on/off/toggle*
   - Set SphereAudio Effect : *common for all zones*

4. **TRIGGER: controls the trigger of the ISP.**

   - Set Trigger: *on/off/toggle*

EVENTS

When streams are detected, events are sent accordingly. You can use them to program your Control 4 system. Here is a non-exhaustive list of the recognized streams

CHANGE LOGS

Version 104: Initial Release

Version 105: Icons fix

Version 143:

        Small bug with Volume Ramping fixed

        Improved Zone management (power off only when all zones are out, unused zones are muted)

        Improved input switching

        More logs available

        4.4r1 ready

Version 147: First installation bug fixed