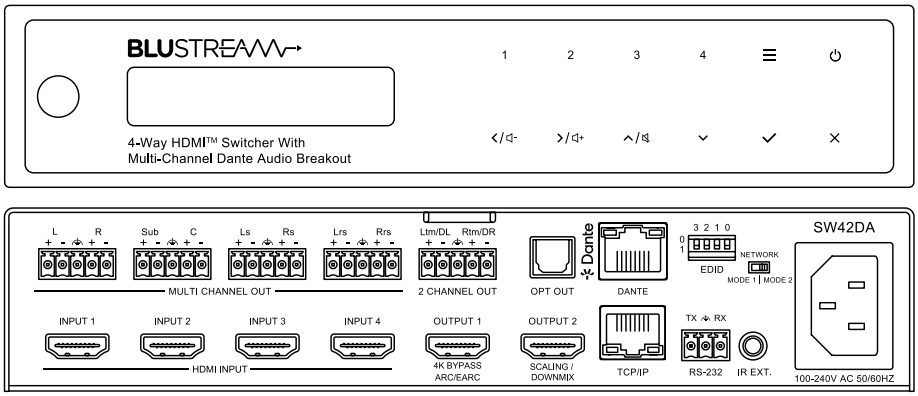



# SW42DA

## User Manual

**Thank you for purchasing this product.**

For optimum performance and safety, please read these instructions carefully before connecting, operating or adjusting this product. Please keep this manual for future reference.

**Surge Protection Device Recommended**

This product contains sensitive electrical components that may be damaged by electrical spikes, surges, electric shock, lightning strikes, etc. Use of surge protection systems is highly recommended in order to protect and extend the life of your equipment.

# Contents

# Introduction

The Blustream SW42DA is a 4-Way HDMI switch that has been designed to breakout, convert, and downmix embedded Dolby Audio or DTS Audio within a HDMI switching environment.

The SW42DA will pass native video with the embedded multi-channel audio to compatible equipment on output 1, with a second HDMI output featuring optional video down-scaling from 4K 60Hz 4:4:4 or 4:2:0, video down to 1080p, with the native embedded audio, or down-mixed 2ch audio as required.

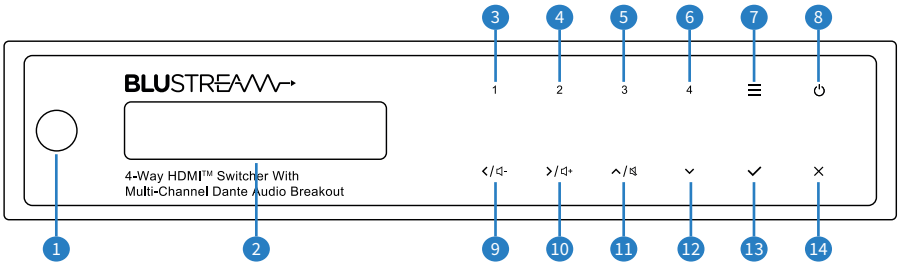
Audio capabilities include the selection and manipulation of formats across both multichannel and 2ch downmixed. The Dante output allows for 9.1ch breakout and embedding into a Dante digital signal, and/or 7.1ch breakout with a separate 2ch down-mixed Dante output. Optical S/PDIF breakout (2ch or 5.1ch as required), individual analogue multi-channel breakout, and 2ch downmixed balanced/unbalanced analogue audio can also be broken out as required directly from the unit.

The SW42DA provides an advanced, but cost effective solution for ensuring that 4K UHD video and multi-channel audio can be distributed around a Dante multi-room system where there are a mixture of 2ch and/or 7.1ch zones or 7.1.2ch / 5.1.4ch (9.1ch) audio, with multiple output resolution requirements. Perfect for cinema and media room set up's where local content would be shared within a multi-zone distributed system where either multichannel or down-mixed audio is required.

**FEATURES:**

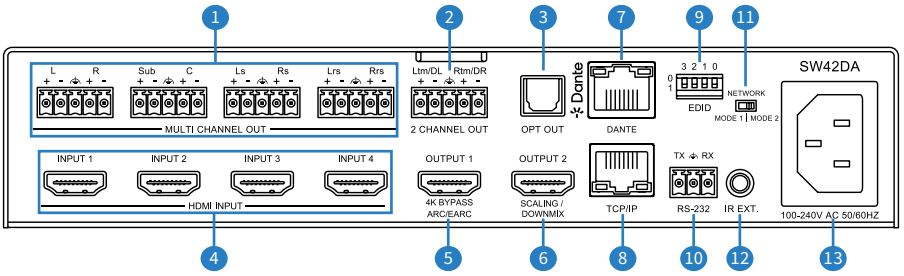
- Features 4 x HDMI inputs which can be switched to the dual HDMI outputs
- Supports HDMI 2.0b 18Gbps specification including 4K 60Hz 4:4:4 UHD video
- Supports distribution of the latest HDR resolutions including HDR10/10+ and Dolby Vision
- HDMI output 1 replicates the HDMI input signal up to 4K 60Hz 4:4:4 ands 7.1.2ch Dolby Atmos and DTS-HD audio
- HDMI output 2 features 4K video down-scaler and 7.1.2ch to 2ch Dolby Atmos and DTS-HD audio downmix
- Supports all known HDMI audio formats including Dolby TrueHD, Dolby Atmos, Dolby Digital Plus and DTS-HD Master Audio transmission
- HDMI audio breakout of Dolby Atmos and DTS-HD to up to 8 channels of Dante audio (7.1ch) and independent 2 down-mixed channels of Dante audio
- HDMI audio breakout of Dolby Atmos and DTS-HD to up to 10 channels of Dante audio (7.1.2ch / 5.1.4ch)*
- HDMI audio breakout to 7.1ch balanced and unbalanced analogue audio outputs
- HDMI Dolby Atmos and DTS-HD 7.1 down-mixing to 2ch balanced and unbalanced audio ouputs
- Supports ARC/eARC including breakout to 7.1ch and 2ch downmixed analogue and Dante audio
- Supports: 44.1, 48, 88.2 & 96kHz sample rates @ 24-bit
- Configurable Dante® device latency using Dante® Controller
- Supports AES67 RTP audio transport
- Control via front panel, TCP/IP, web-GUI, RS-232 and IR
- HDCP 2.3 compliant with advanced EDID management
- *Dante 2ch down-mix channels are re-allocated to additional 7.1.2/5.1.4 use
- Configurable Dante® device latency (2ch out supports 2, 3, 4, 5 or 10ms. 8ch out supports 4, 5 or 10ms - configurable using Dante® Controller)

# Front Panel




1. IR Receiver Window
2. LCD Display — Shows the status of input/output selection, EDID, etc...
3. Input 1 Button
4. Input 2 Button
5. Input 3 Button
6. Input 4 Button
7. Menu Button
8. Power Button — Press and hold for 3 seconds to power ON / OFF the SW42DA
9. Left Button / Volume Down
10. Right Button / Volume Up
11. Up Button / Volume Mute
12. Down Button
13. Confirm Button
14. Cancel Button

# Rear Panel




1. L/R Analogue Audio Outputs — 8 x balanced/unbalanced phoenix connectors
2. L/R Analogue Audio Outputs — 2 channel downmixed balanced/unbalanced phoenix connectors
3. Optical Audio Output — Toslink (S/PDIF) conne ctor
4. HDMI Input 1-4
5. HDMI Output 1 — Bypass video output maintains native video resolution and audio format
6. HDMI Output 2 — Scaled / down-mixed output
7. Dante® PoE+ Port — RJ45 socket connects Dante® Network
8. TCP/IP Network Connection — RJ45 connector
10. RS-232 Port — 3-pin Phoenix connector
9. EDID DIP Switches — Adjust the EDID setting for the source input
11. Network Mode Switch — Mode 1 & Mode 2
12. IR Input — 3.5mm stereo jack
13. IEC Power Connector

**Please note:** The 2ch downmixed outputs can be assigned as height speakers in 7.1.2ch and 5.1.4ch configurations
**Please note:** The optical audio ouput can operate in 2ch downmix mode or in bypass mode (supports 5.1ch)

# Operation and Connections

Basic operation of the SW42DA can be achieved via the front panel: connect the HDMI source devices, the analogue audio outputs, the HDMI outputs, and power to the rear of the unit:

- Buttons 1-4 will switch between the HDMI inputs
- The Menu Button will scroll through a few functions of the SW42DA such as EDID, Network and Dante configuration
- The menu can be navigated using the arrow, confirm and cancel buttons

EDID for the HDMI source can be manually set using the DIP switches on the rear of the unit. Please refer to the EDID Management section of the manual for DIP switch settings.

The SW42DA features two RJ45 ports. Functionality of these port can be controlled by selecting the Network Mode on the rear of the unit, allowing the SW42DA to suit the needs of the installation:

- Mode 1: The PoE+ Dante® port allows connection to Dante®, TCP/IP and the web-GUI
- Mode 2: The PoE+ Dante® port allows connection to Dante®. The TCP/IP port allows access to TCP/IP and the web-GUI

The IR EXT port can be used to control the SW42DA via the included remote when the IR Receiver Window is obstructed, or via a 3rd party control processor.

For full configuration of the SW42DA, the in-built Web-GUI must be utilised

# EDID Management

EDID (Extended Display Identification Data) is a data structure that is used between a display and a source. This data is used by the source to find out what audio and video resolutions are supported by the display, then from this information the source will determine what the best resolution is to output.

While the objective of EDID is to make connecting a digital display to a source a simple plug and play procedure, issues do arise when multiple displays or video matrix switching is introduced because of the increased number of variables.

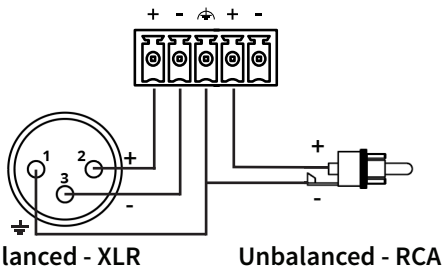
The SW42DA will act as an 'end point' in the HDMI signal path. Using the EDID dip-switches predetermines the video resolution and audio format of the source, regardless of the video output resolution that the SW42DA scales to.

To change the EDID settings move the EDID dip-switches as required on the front panel of the unit. Please see below table for settings:

| 3 | 2 | 1 | 0 | EDID Type |
|---|---|---|---|---|
| *Combination of DIP positions* | | | | |
| 0 | 0 | 0 | 0 | 1080p 60Hz 2.0ch |
| 0 | 0 | 0 | 1 | 1080p 60Hz 5.1ch |
| 0 | 0 | 1 | 0 | 1080p 60Hz 7.1ch |
| 0 | 0 | 1 | 1 | 4K 60Hz 4:2:0 2.0ch |
| 0 | 1 | 0 | 0 | 4K 60Hz 4:2:0 5.1ch |
| 0 | 1 | 0 | 1 | 4K 60Hz 4:2:0 7.1ch |
| 0 | 1 | 1 | 0 | 4K 60Hz 4:4:4 8bit 2.0ch |
| 0 | 1 | 1 | 1 | 4K 60Hz 4:4:4 8bit 5.1ch |
| 1 | 0 | 0 | 0 | 4K 60Hz 4:4:4 8bit 7.1ch |
| 1 | 0 | 0 | 1 | 4K 60Hz 4:4:4 10bit 2.0ch |
| 1 | 0 | 1 | 0 | 4K 60Hz 4:4:4 10bit 5.1ch |
| 1 | 0 | 1 | 1 | 4K 60Hz 4:4:4 10bit 7.1ch |
| 1 | 1 | 0 | 0 | DVI 1920x1080 No Audio |
| 1 | 1 | 0 | 1 | DVI 1920x1200 No Audio |
| 1 | 1 | 1 | 0 | Copy from Output 1 |
| 1 | 1 | 1 | 1 | Software Control |

# 2 Channel Line Outputs

The 2 channel line output can be assigned as a 2ch downmixed audio signal, or re-allocated as additional height speakers when decoding 7.1.2ch or 5.1.4ch signals. The analogue output can be wired with balanced or unabalanced audio devices with the pin out as adjacent.




**Balanced - XLR** **Unbalanced - RCA**

# Web-GUI - Log In and Initialisation

The following pages will take you through the operation of the unit's web-GUI. You must connect a TCP/IP RJ45 socket to your local network, or directly from your computer to the SW42DA, in order to access the product's web-GUI.

By default, the unit is set to DHCP; however, if a DHCP server (eg: network router) is not installed, the unit's IP address will revert to below details:

Default IP Address is: 192.168.0.200 Default Admin Username is: blustream Default Admin Password is: @Bls1234

If the IP address of the SW42DA is not known, it can be found by:

- Using the front panel buttons to scroll to the IP address
- Using a 3rd party IP scanning tool
- Using RS-232 connection and sending 'STATUS' command; this will return all settings of the SW42DA
- Using the default hostname address: sw42da.local

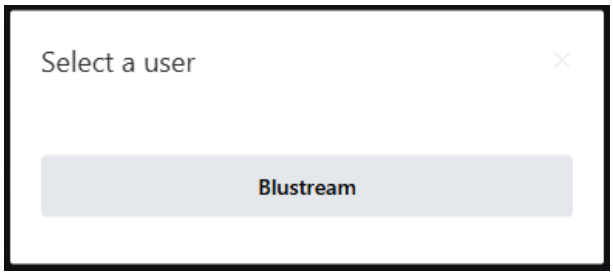
When initially accessing the web-GUI of the SW42DA, the Guest Control page is shown as below. Permissions for the Guest can be set so as to restrict control of the unit for users who are not logged in.

### Login Page:

The web-GUI supports multiple users along with multiple user permissions as follows:

- Admin (Blustream) — The Admin account allows full access to all functions and configuration of the unit.
- User Accounts — User accounts can be utilised, each with individual login details and can be assigned permissions to specific inputs and functions.
- Guest — The Guest user can access the control page without logging in.

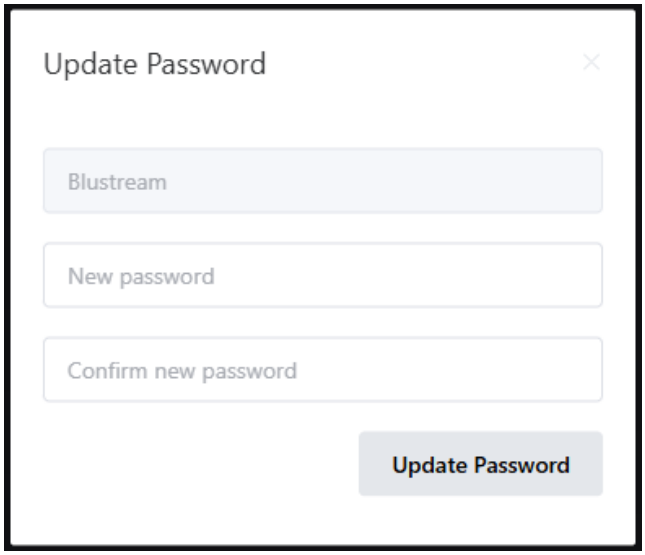
**Please note:** The guest user should have permissions set to prevent unwanted access, as they do not require credentials for control of the unit.




**Please note:** the first time the Administrator logs into the web-GUI of the SW42DA, the default password must be changed to a unique password. Please retain this password for future use. Forgetting the password will mean having to factory reset the unit, losing all prior network and configuration settings.

New password regulations requires passwords being set for products to be a minimum of 8 characters and contain a minimum of: 1 x uppercase letter, 1 x lowercase latter, 1 x symbol and 1 x number.

Passwords can be changed as required within the web-GUI of the unit once logged in.



# Web-GUI - Control

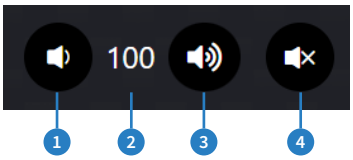
Once logged in as the Administrator, additional web-GUI pages become available from within the GUI: these can be navigated to by pressing the corresponding icon.

The Control page allows for source selection and the volume levels of the Line & Dante outputs to be set or muted.


**Source Select:**

The input source can be selected from one of the HDMI inputs by pressing the corresponding button. This will set the source for both HDMI Output 1 & HDMI Output 2 (mirrored).

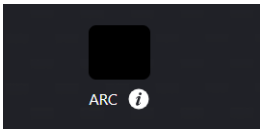
All levels sections across the web-GUI feature the same controls for each of their respective channels. Volume can be adjusted by using the corresponding slider for the desired channel. Fine-tuning of the volume can be achieved by using the decrement button ❶ or the increment button ❸, or by manually inputting the value ❷. The output can be muted by pressing the mute button ❹.




**ARC:**

The Audio Return Channel (ARC) on HDMI Ouput 1 can act as a source or an output.

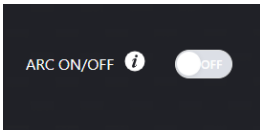
When set as a source, ARC will be assigned as input 5 on the SW42DA, resulting in ARC audio for all audio outputs, but no video signal on HDMI 1 & 2 outputs.




When set as an output, ARC can be enabled or disabled via a toggle.

When enabled, HDMI Output 1 will only output video. HDMI Output 2 will output the selected source audio and video. This allows you to use HDMI Output 2 for additional HDMI distribution purposes. ARC will be output to the analogue and Dante audio outputs.

When disabled, HDMI Output 1 & 2 won't be affected.

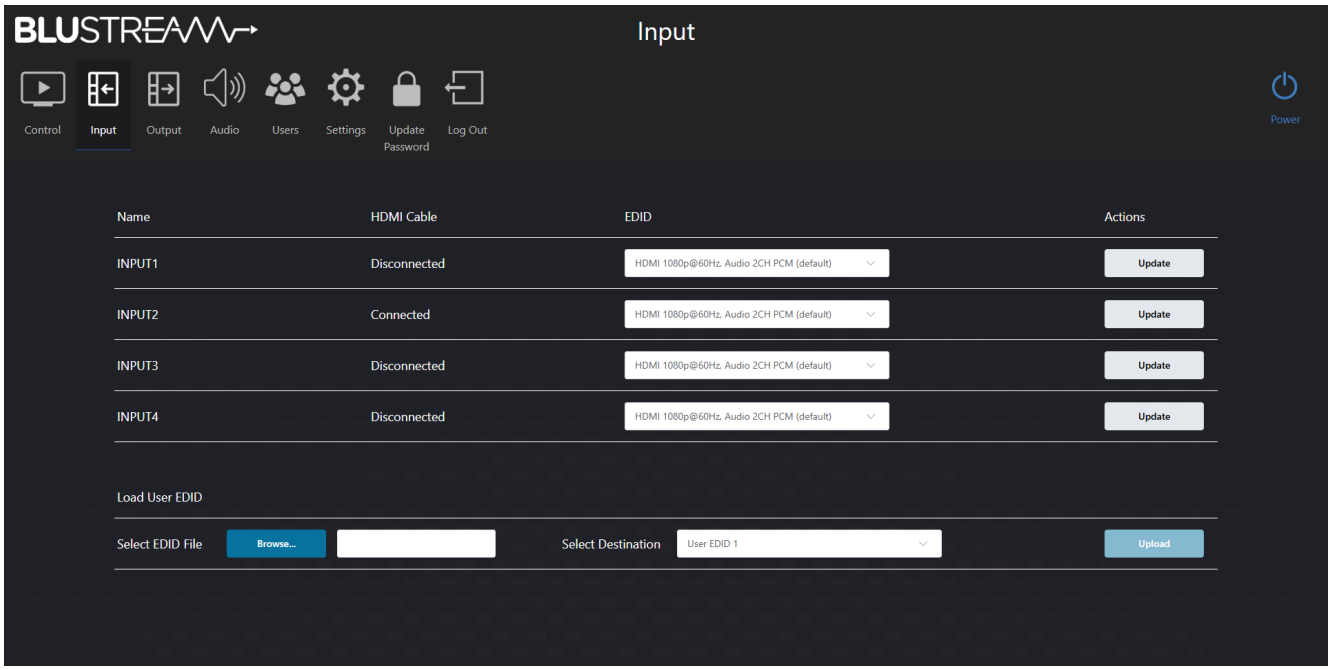



**Please note:**HDMI ARC is only supported on HDMI Output 1

# Web-GUI - Input

The Input Page allows for source configuration and EDID management.

Clicking the 'Update' button to the right of each input allows for the name of the source to be entered. This name is updated across the web-GUI globally for simpler selection of inputs.




Name

- Displays the name of the input

HDMI Cable

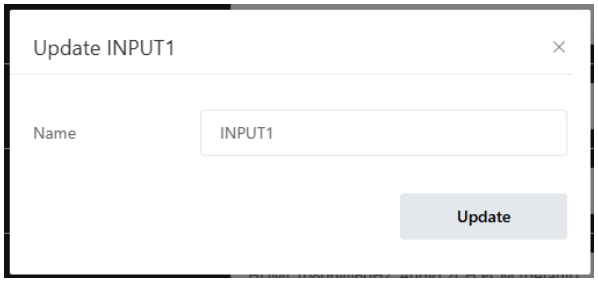
- Displays the connection status of the input port

EDID

- EDID selection can be made for each input source device to ensure the correct video and audio resolutions are requested from the SW42DA to the source. The drop down menu contains all of the EDID formats supported, the ability to copy the EDID from another output with a connected display, and also the ability to load up to 2 x user defined EDIDs

Actions

- The Update button will open a sub menu to configure the following options:




Name

- The name of the input can be updated by entering a new name into the name field and pressing the Update button

**Load User EDID:**

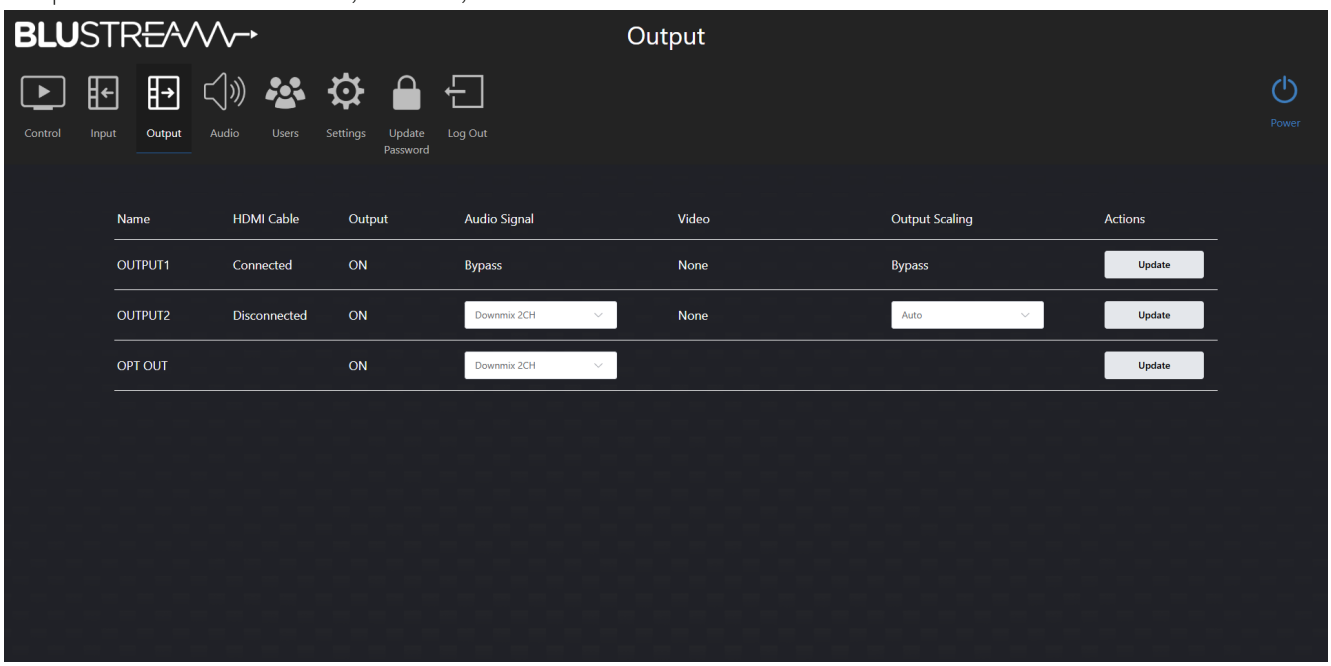
It is possible to upload custom EDID .bin files to the SW42DA if a specific EDID is not listed within the standard formats. A custom EDID file can be generated from a third party EDID generation tool, and uploaded using the Browse and Upload buttons. There are 2 x custom EDID slots available that can be directed at any of the 4 x inputs.

Once a file has been uploaded, it can be selected by using the corresponding USER EDID option.

# Web-GUI - Output

The Output page allows for configuration of the HDMI and Optical outputs.

The outputs can be turned on or off, renamed, and can be set to downmix and scale.




Name

- Displays the name of the Output

HDMI Cable

- Displays the connection status of the output port

Output

- Displays if the output is set to either ON or OFF

Audio Signal

- Set the audio format to either *Downmix 2CH* (for displays that only support 2ch audio) or *Bypass*

Video

- The SW42DA can detect and display information about the output connection such as the resolution, refresh rate, colour depth and HDR

Output Scaling

- Set the scaler for the output to either *Auto*, *Force 1080p* or *Bypass*

| | |
|---|---|
| *Auto* | Output will be automatically set to the best possible video format |
| *Bypass* | Output bypasses the scaler |
| *Force 1080p* | Output will be downscaled to 1080p format, with HDCP 1.x compliance |

Actions

- The Update button will open a sub menu to configure the following options:

**Web-GUI - Output (continued)**

Name

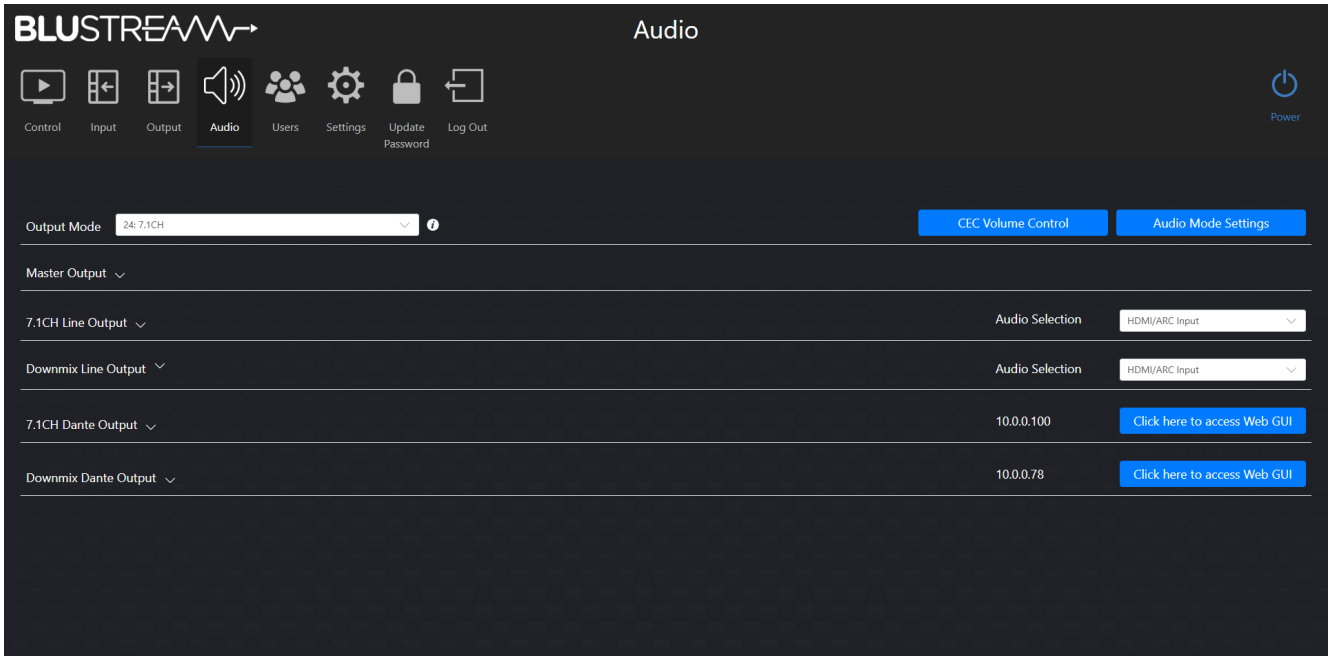
- The name of the output can be updated by entering a new name into the name field and pressing the Update button

Output

- The output can be turned on or off by using the toggle

# Web-GUI - Audio

The Audio page allows for configuration and fine tuning of the analogue outputs and Dante® audio devices.




**Output Mode:**

In the drop down menu, the supported audio formats are displayed. Selecte the desired Output Mode and it will be applied.

A table on the following page provides the channel mapping for all 26 modes:

**Please note:** When the Output Mode supports Dolby ATMOS Enabled Speakers, the Analogue/Dante 2 Channel Out will not have the audio downmix function. Please select a mode without Dolby ATMOS Enabled Speakers if you need the audio downmix function.

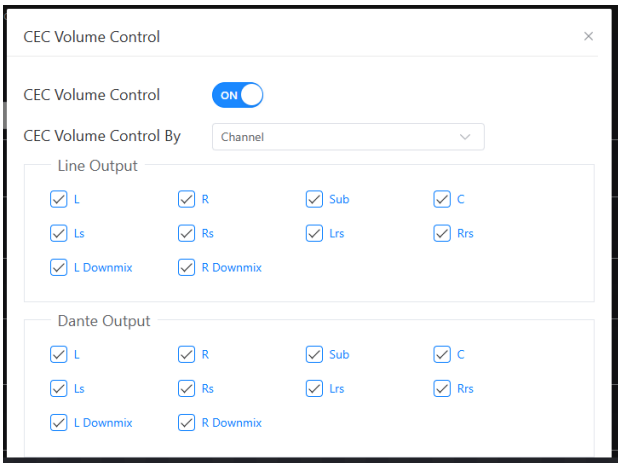
**Please note:** After changing the Output Mode, the Dante module is rebooted. This takes about 40 seconds for the Dante Controller to update any changes.

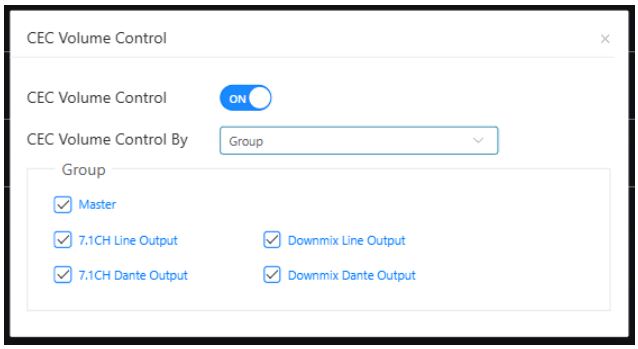
| Output Mode | MULTI CHANNEL OUT | | | | | | | | 2 CHANNEL OUT | |
|---|---|---|---|---|---|---|---|---|---|---|
| | L | R | Sub | C | Ls | Rs | Lrs | Rrs | Ltm/DL | Rtm/DR |
| 01: 2.0CH | L | R | - | - | - | - | - | - | DL | DR |
| 02: 2.1CH + Top Middle(2.1.2CH) | L | R | Sub | - | - | - | Ltm | Rtm | DL | DR |
| 03: 2.1CH + Dolby ATMOS Enabled Speaker(2.1.2CH) | L | R | Sub | - | - | - | Le | Re | - | - |
| 04: 3.1CH | L | R | Sub | C | - | - | - | - | DL | DR |
| 05: 3.1CH + Top Middle(3.1.2CH) | L | R | Sub | C | - | - | Ltm | Rtm | DL | DR |
| 06: 3.1CH + Dolby ATMOS Enabled Speaker(3.1.2CH) | L | R | Sub | C | - | - | Le | Re | - | - |
| 07: 4.1CH | L | R | Sub | - | Ls | Rs | - | - | DL | DR |
| 08: 4.1CH + Top Middle(4.1.2CH) | L | R | Sub | - | Ls | Rs | Ltm | Rtm | DL | DR |
| 09: 4.1CH + Dolby ATMOS Enabled Speaker(4.1.2CH) | L | R | Sub | - | Ls | Rs | Le | Re | - | - |
| 10: 4.1CH + Top Rear + Top Front(4.1.4CH) | L | R | Sub | - | Ls | Rs | Ltr | Rtr | Ltf | Rtf |
| 11: 4.1CH + Top Rear + Dolby ATMOS Enabled Speaker(4.1.4CH) | L | R | Sub | - | Ls | Rs | Ltr | Rtr | Le | Re |
| 12: 4.1CH + Dolby ATMOS Enabled Speaker + Top Front(4.1.4CH) | L | R | Sub | - | Ls | Rs | Lse | Rse | Ltf | Rtf |
| 13: 4.1CH + Front & Rear Dolby ATMOS Enabled Speaker(4.1.4CH) | L | R | Sub | - | Ls | Rs | Lse | Rse | Le | Re |
| 14: 5.1CH | L | R | Sub | C | Ls | Rs | - | - | DL | DR |
| 15: 5.1CH + Top Middle(5.1.2CH) | L | R | Sub | C | Ls | Rs | Ltm | Rtm | DL | DR |
| 16: 5.1CH + Dolby ATMOS Enabled Speaker(5.1.2CH) | L | R | Sub | C | Ls | Rs | Le | Re | - | - |
| 17: 5.1CH + Top Rear + Top Front(5.1.4CH) | L | R | Sub | C | Ls | Rs | Ltr | Rtr | Ltf | Rtf |
| 18: 5.1CH + Top Rear + Dolby ATMOS Enabled Speaker(5.1.4CH) | L | R | Sub | C | Ls | Rs | Ltr | Rtr | Le | Re |
| 19: 5.1CH + Dolby ATMOS Enabled Speaker + Top Front(5.1.4CH) | L | R | Sub | C | Ls | Rs | Lse | Rse | Ltf | Rtf |
| 20: 5.1CH + Front & Rear Dolby ATMOS Enabled Speaker(5.1.4CH) | L | R | Sub | C | Ls | Rs | Lse | Rse | Le | Re |
| 21: 6.1CH | L | R | Sub | - | Ls | Rs | Lrs | Rrs | DL | DR |
| 22: 6.1CH + Top Middle(6.1.2CH) | L | R | Sub | - | Ls | Rs | Lrs | Rrs | Ltm | Rtm |
| 23: 6.1CH + Dolby ATMOS Enabled Speaker(6.1.2CH) | L | R | Sub | - | Ls | Rs | Lrs | Rrs | Le | Re |
| 24: 7.1CH | L | R | Sub | C | Ls | Rs | Lrs | Rrs | DL | DR |
| 25: 7.1CH + Top Middle(7.1.2CH) | L | R | Sub | C | Ls | Rs | Lrs | Rrs | Ltm | Rtm |
| 26: 7.1CH + Dolby ATMOS Enabled Speaker(7.1.2CH) | L | R | Sub | C | Ls | Rs | Lrs | Rrs | Le | Re |

## CEC Volume Control:

The SW42DA has the ability to adjust the volume of connected devices through the HDMI-CEC (Consumer Electronics Control) feature, essentially allowing you to control multiple devices with a single remote through a single HDMI connection.

Pressing the *CEC Volume Control* button will open a sub menu to configure the following options:



**CEC Volume Control (continued)**

CEC Volume Control

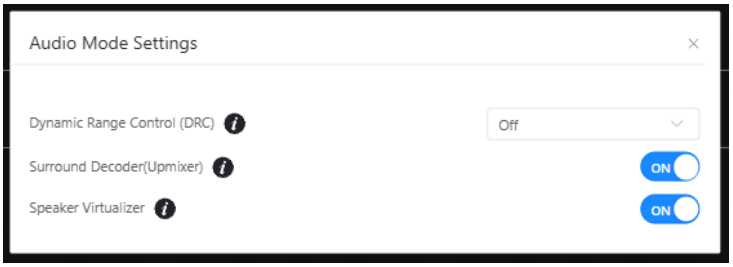
- ON / OFF

CEC Volume Control By

- Channel — Individual audio channels can be specifically selected for CEC control
- Group — The entire Line & Dante audio output group can be selected for CEC control

**Audio Mode Settings:**

Pressing the *Audio Mode Settings* button will open a sub menu to configure the following options:




Dynamic Range Control (DRC)

- ON/ OFF/ AUTO — Dynamic Range Control is used to adjust the dynamic loudness range of the content on playback to fit the capabilities of playback systems and listener preference. Essentially, low-level signals are boosted, mid-level signals are left untouched, and high-level signals are compressed, thus reducing the overall dynamic range

  When set to auto, it will be up to the source to determine when to switch DRC on or off

Surround Decoder (Upmixer)

- ON / OFF — Surround Decoder Upmixing produces an extended surround sound optimized for your speaker system from audio content with less speaker channels

Speaker Virtualizer

- ON /OFF — Speaker Virtualizer enables you to access a more immersive entertainment experience from traditional channel-based speaker layouts through digital signal processing including Dolby Atmos height virtualization and surround virtualization

**Group and Channel Output Management:**

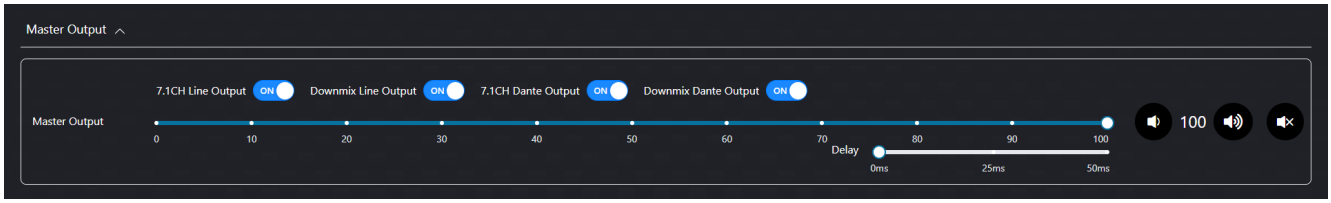
The Line & Dante Outputs of the SW42DA are displayed here. The availability of each section and it's respective controls will change based on the selected Output mode. The screenshots in this manual are of the SW42DA operating in mode 24.

Master Output

The Master Output sets the volume for all outputs on the SW42DA. To set an output volume independently, set the desired output grouping toggle to OFF.

The Master Output volume can be adjusted by using the corresponding slider and/or volume controls.

A delay can be set between 0ms and 50ms by the delay slider. This can be used to rectify lip sync and other similar issues.




Multichannel Line Output & 2 Channel Line Output

The Multichannel Line Output & 2 Channel Line Output audio source can selected from the Audio Selection drop down box:

- HDMI / ARC Input
- Dante Input

The name of the output group and the number of configurable channels will change depending on the Output Mode selected

**Please note:** When the output mode supports Dolby ATMOS Enabled Speakers, the 2 Channel Line Output will not have the audio downmix function.

**Group and Channel Output Management (continued)**

- To set a speaker channel volume independently, set the desired speaker channel grouping toggle to OFF
- The channel's volume can be adjusted by using the corresponding slider and/or volume controls
- A delay can be set between 0ms and 50ms by the delay slider below the channel. This can be used to rectify lip sync and other similar issues

Multichannel Dante Output & 2 Channel Dante Output

The Multichannel Dante Output & 2 Channel Dante Output IP address is displayed here.

The name of the output and the number of configurable channels will change depending on the Output Mode selected.

**Please note:** When the output mode supports Dolby ATMOS Enabled Speakers, the Dante 2 Channel Output will not have the audio downmix function.

- To set a speaker channel volume independently, set the desired speaker channel grouping toggle to OFF.
- The channel's volume can be adjusted by using the corresponding slider and/or volume controls
- A delay can be set between 0ms and 50ms by the delay slider below the channel. This can be used to rectify lip sync and other similar issues

**Dante Module Web-GUI:**

Direct configuration of the SW42DA Dante modules can be achieved by pressing the *Click here to access Web GUI* button which will open an additional web browser window to access the Dante module's web-GUI.

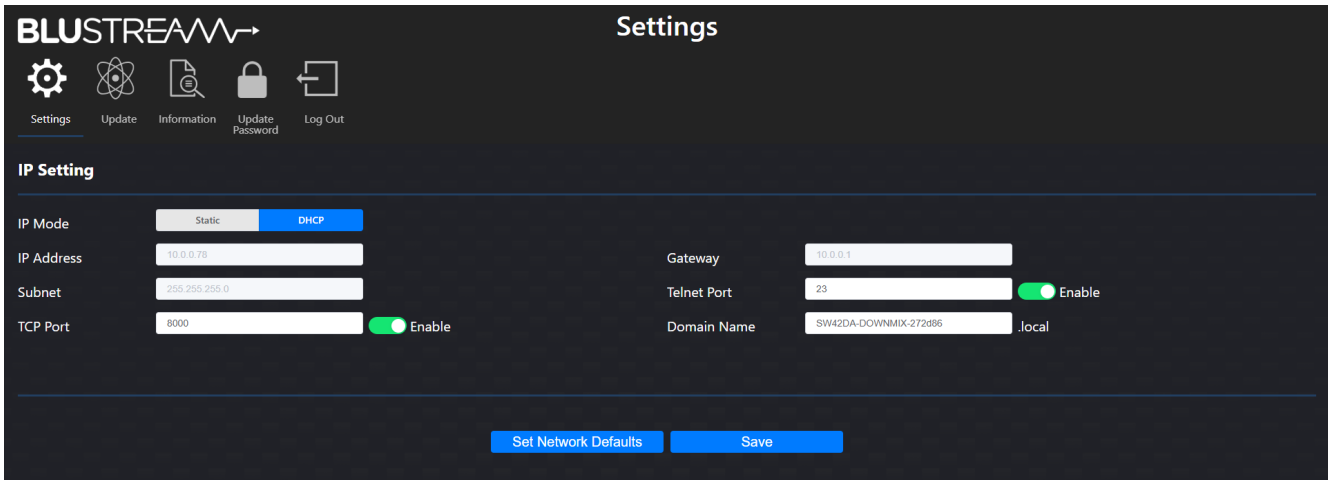
**Please note:** the default IP of the Dante® modules may differ to the main IP address of the SW42DA. Please check the network settings of the SW42DA within the Settings page.

When initially accessing the web-GUI of the Dante Module, a login screen will be displayed. The default login credentials are:

Default Username is: blustream Default Password is: @Bls1234

# Web-GUI - Dante Module Settings

Once logged in, the Settings page will be displayed as shown below. Additional web-GUI pages become available from within the GUI which can be navigated to by pressing the corresponding icon.




**IP Settings:**

IP Mode

- Static / DHCP

IP Address

- Disabled when in DHCP mode

IP Subnet

- Disabled when in DHCP mode

TCP Port

- Enable / Disable (default: 8000)

Gateway

- Disabled when in DHCP mode

Telnet Port

- Enable / Disable (default: 23)

Domain name (mDNS)

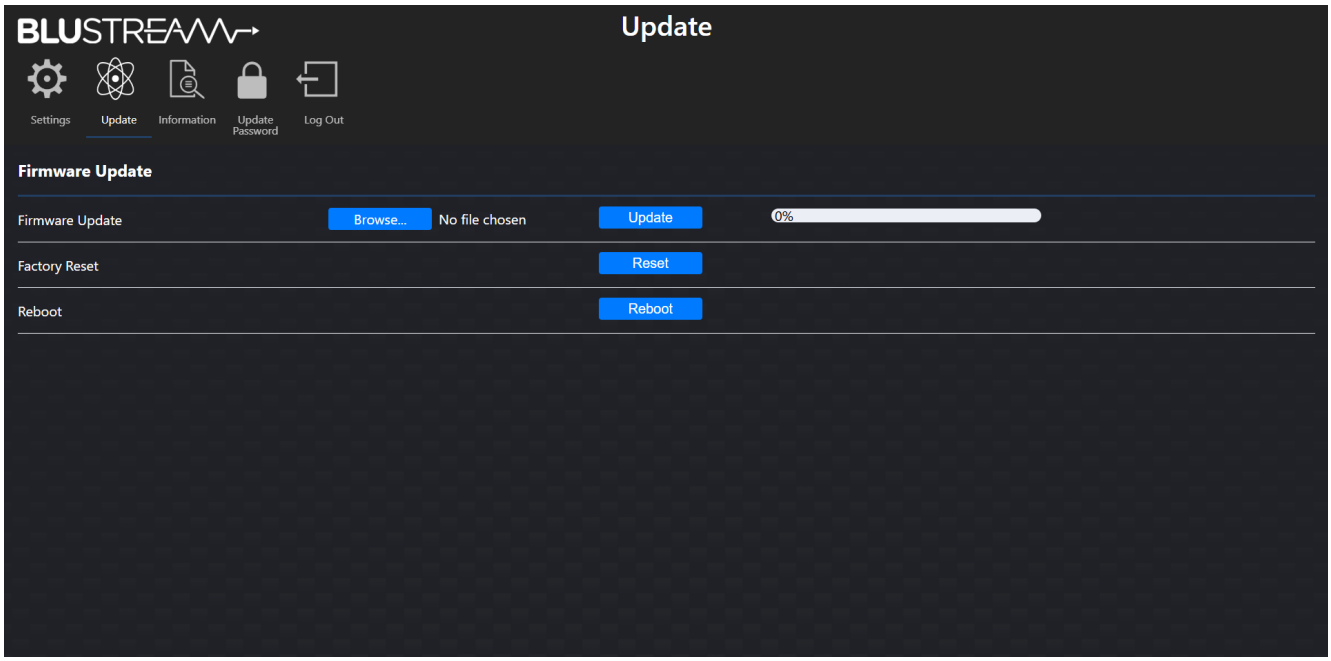
- mDNS is a protocol used in network environments to resolve hostnames to IP addresses within local networks without the need for a dedicated DNS server. The SW42DA is able to be accessed via the hostname if the IP address is not known.

Press the *Save* button to apply any changes.

To revert to factory default network settings, press the *Set Network Defaults* button.

# Web-GUI - Dante Module Update

The Update page allows for the firmware of the Dante module to be upgraded and for the module to be factory reset.




Firmware Update

- Browse your device for a firmware file to upload to the unit.

Factory Reset

- Erases all settings and reboots the unit.

Reboot

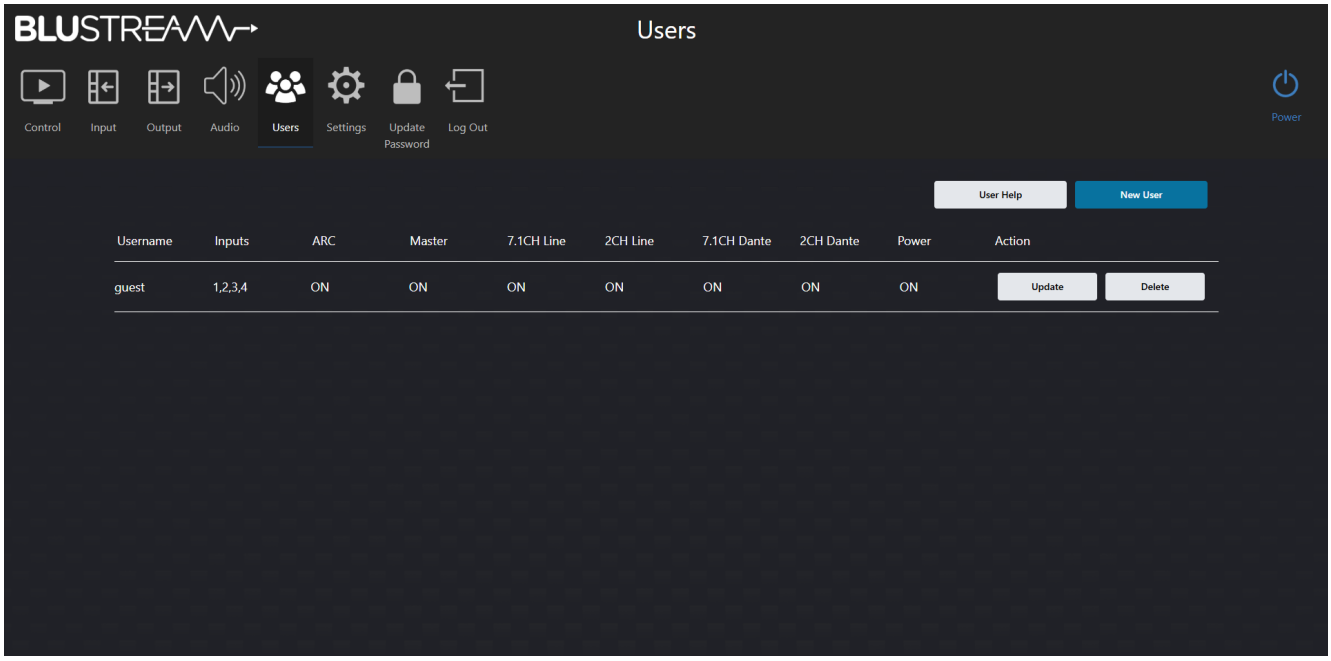
- Reboots the unit.

# Web-GUI - Dante Module Information

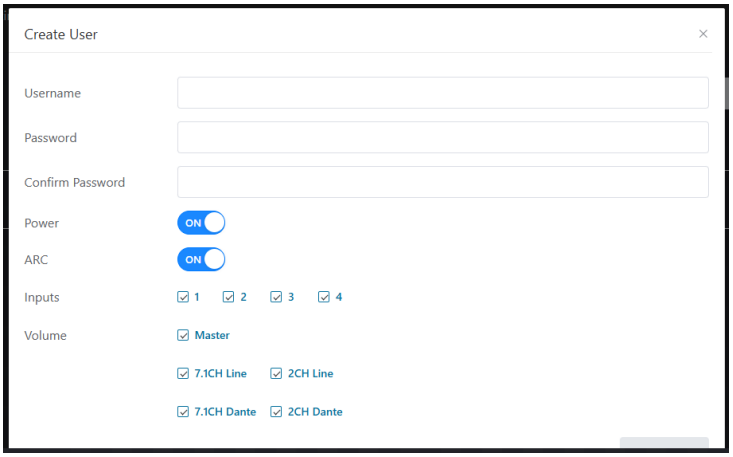
The Information page displays the model name, serial number, web-GUI firmware version and MCU firmware version of the SW42DA. It also displays network configuration, temperature and uptime data.

# Web-GUI - Users

The Users page allows for configuration of the Guest and User privileges. The SW42DA can be setup with different users, each with their own control privileges. This will enable the Administrator to manage the accessibility of features, including inputs and outputs, for each individual.




To create a new user, press the *New User* button to open a sub menu:

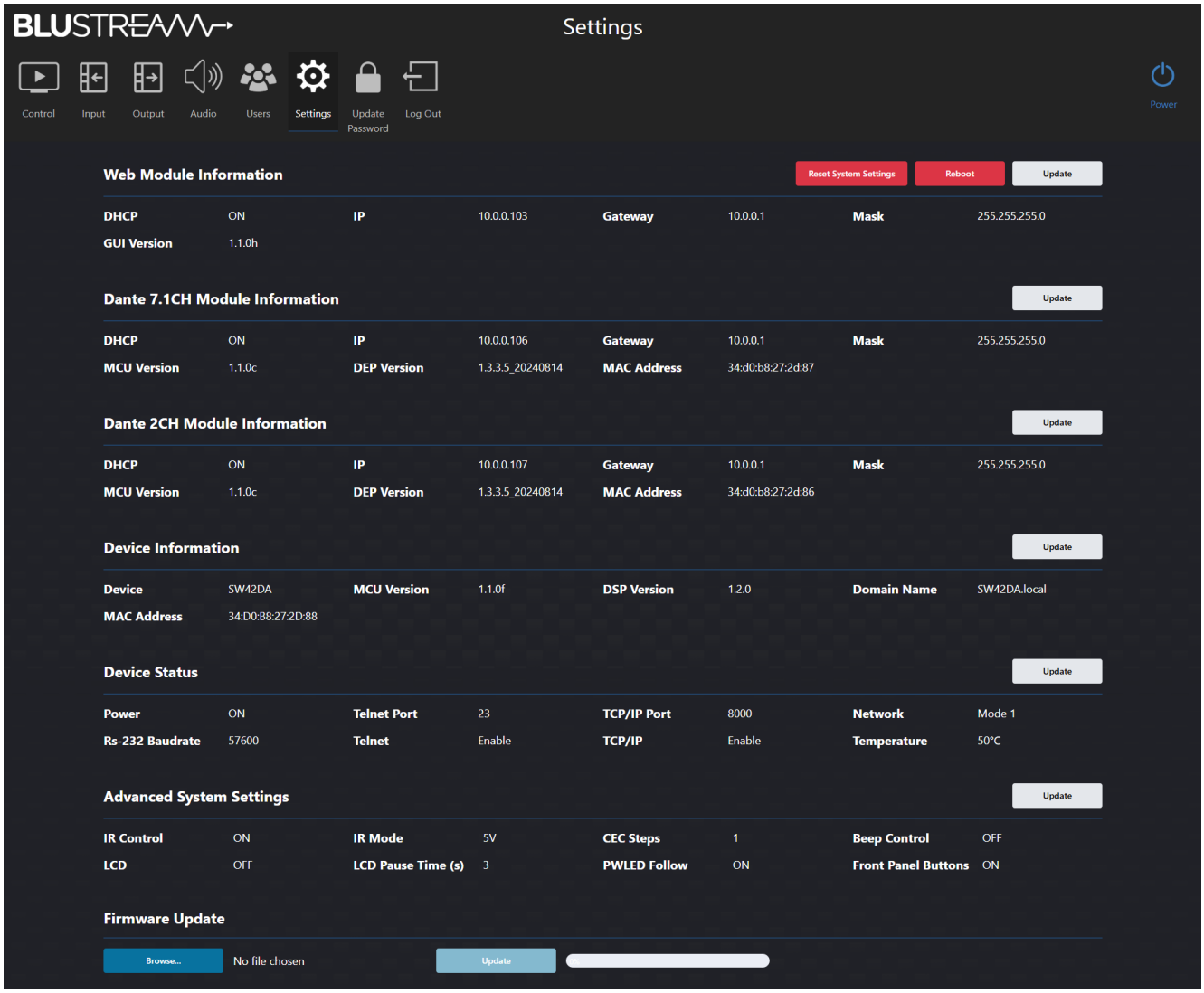



Enter a unique username and password, and configure the privileges for that user by toggling and checking/unchecking the desired options. Click the Create button at the bottom of the sub menu to finalise the new user creation.

The new user will appear in the user list. The privileges for that user can then be updated as needed by pressing the *Update* button. The user may be deleted by pressing the *Delete* button.

# Web-GUI - Settings

The Settings page allows for the configuration of the system settings, such as the ability to reboot & factory reset the system, configure network settings, and update the firmware.




Reset System Settings:

- Returns all device settings to their default state.

Reboot:

- Reboots the SW42DA

### Web Module Information:

The Web Module Information section displays the network configuration of the SW42DA, and the firmware version of the web-GUI. The Update button will open a sub menu to configure the network settings of the module, which can be set manually or automatically with DHCP. Press the Update button at the bottom of the sub menu to apply any changes.

### Dante 7.1CH Module Information

The Dante 7.1CH Module Information section displays the network configuration of the Dante 7.1CH Module, the MCU & DEP firmware version and the MAC address of the Dante module . The Update button will open a sub menu to configure the network settings of the module, which can be set manually or automatically with DHCP. Press the Update button at the bottom of the sub menu to apply any changes.

### Dante 2CH Module Information

The Dante 2CH Module Information section displays the network configuration of the Dante 2CH Module, the MCU & DEP firmware version and the MAC address of the Dante module. The Update button will open a sub menu to configure the network settings of the module, which can be set manually or automatically with DHCP. Press the Update button at the bottom of the sub menu to apply any changes.

**Device Information:**

The Device Information section displays the device name, MCU & DSP firmware version, the domain name of the unit, and the MAC address, and the firmware version of the web-GUI. The Update button will open a sub menu to configure the following items:

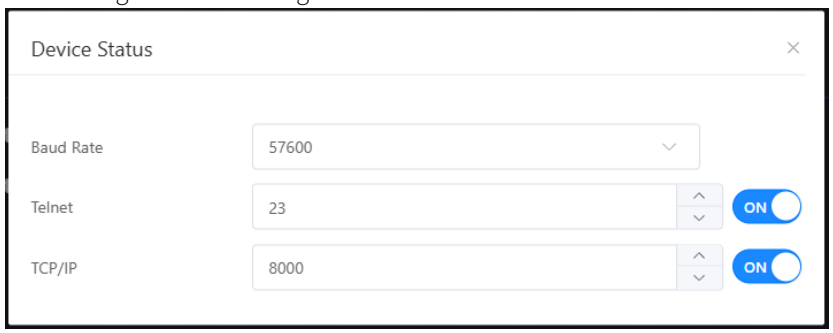

Domain Name:

- Sets the domain name of the SW42DA that can be used to access the web-GUI without knowing the IP details of the unit.

Press the Update button at the bottom of the sub menu to apply any changes.

**Device Status:**

The Device Status sections controls the parameters of the RS-232 serial port as well as provides system information. The Update button will open a sub menu to configure the following items:




Baud rate:

- Selects the desired RS-232 communication baud rate; default is 57600

Telnet Port:

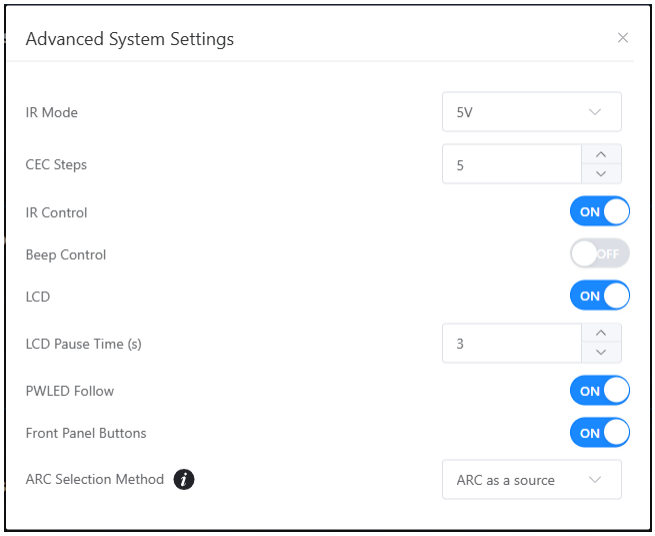
- Sets the Telnet port; default is 23
- Telnet access can be enabled or disabled via the toggle

TCP/IP

- Set's the TCP/IP port; default is 8000
- TCP/IP access can be enabled or disabled via the Toggle

**Advanced System Settings:**

The Advanced System Settings section allows for configuration of the IR mode, CEC, the LCD and front panel buttons. The Update button will open a sub menu to configure the following items:



**Advanced System Settings (continued)**

IR Mode

- Set's the operating voltage of the IR ports

CEC Steps

- Sets the number of steps to increment or decrement by per CEC command

IP Control

- Enable / Disable the IR functionality

Beep Control

- Enable / Disable system unit beep sounds

LCD

- Enable / Disable the LCD to auto turn off when the unit is powered on

LCD Pause Time (s)

- Set the amount of time for the LCD screen to automatically turn off

PWLED Follow

- Sets the power LED not follow LCD status (e.g. when the unit is powered on, the power LED is always on)

Front Panel Buttons

- Enable / Disable the front panel buttons

ARC Selection Method

- ARC Selection Method changes how ARC functions on the SW42DA
- 'ARC as a source' will assign ARC as input 5 on the SW42DA resulting in ARC audio for all audio outputs, but no video signal on HDMI 1 & 2 outputs.
- 'ARC toggle On/Off' will not effect the video signal of HDMI output 1 & 2 however when ARC ON is enabled HDMI output 1 will have no audio (just video) and HDMI output 2 will have original source audio and video on the output. This allows you to use HDMI output 2 for additional HDMI distribution purposes. ARC toggle On/Off will then play ARC on the Analague and Dante audio output

**Firmware Update:**

Browse your device for a firmware file to upload to the unit.

The web-GUI module and MCU can both be updated from here, so ensure the desired firmware is selected.

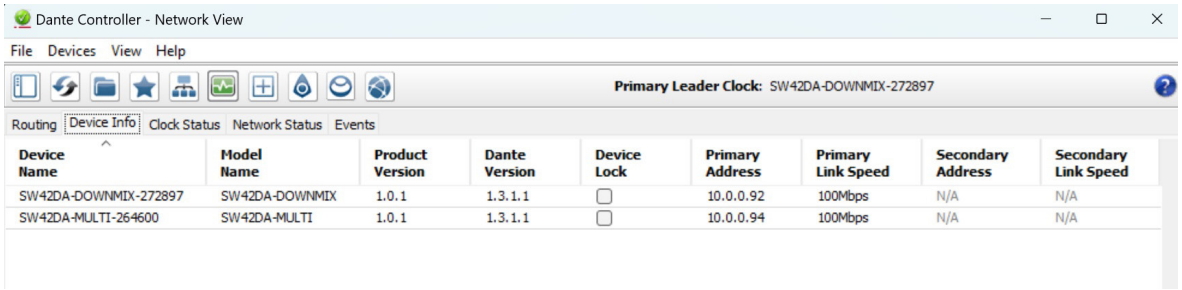
Once the required file has been selected press Update. The upgrade process will start and the progress will be shown on screen.

Once complete a message of 'Upgrade Successful' will be displayed.

**Please note:** Dante® firmware update must be completed within the 'Audio Page' of the SW42DA, or via Dante® Controller.

# Dante® Audio

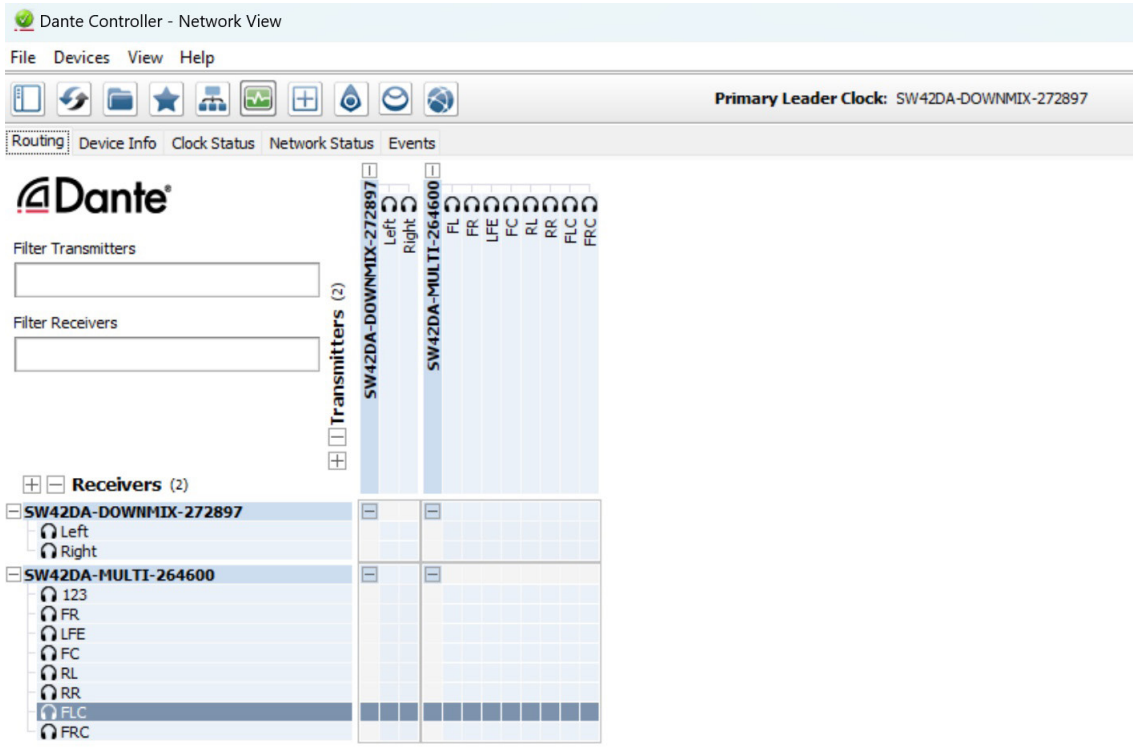
The SW42DA is seen as 2x Dante® audio products - both an 8ch (7.1) and 2ch Dante® device, each with their own settings that can be updated and managed / routed independently.



# Dante® Controller

Dante® Controller software is required in order to configure the SW42DA as well as control your Dante® network. Audinate provide extensive training videos and documentation on their website. This can be found here: http://www.audinate.com/products/software/dante-controller

Upon connecting the SW42DA to a compatible network, the Dante® Controller software should automatically discover the device. The SW42DA will appear in the Dante® Controller with the name “SW42DA-MULTI” and “SW42DA-DOWNMIX”




It is possible to route all audio channels independently, but these are intended for 7.1ch + 2ch downmix use, or (if configured) as 7.1.2ch or 5.1.4ch speaker configuration.

# Dante® Controller

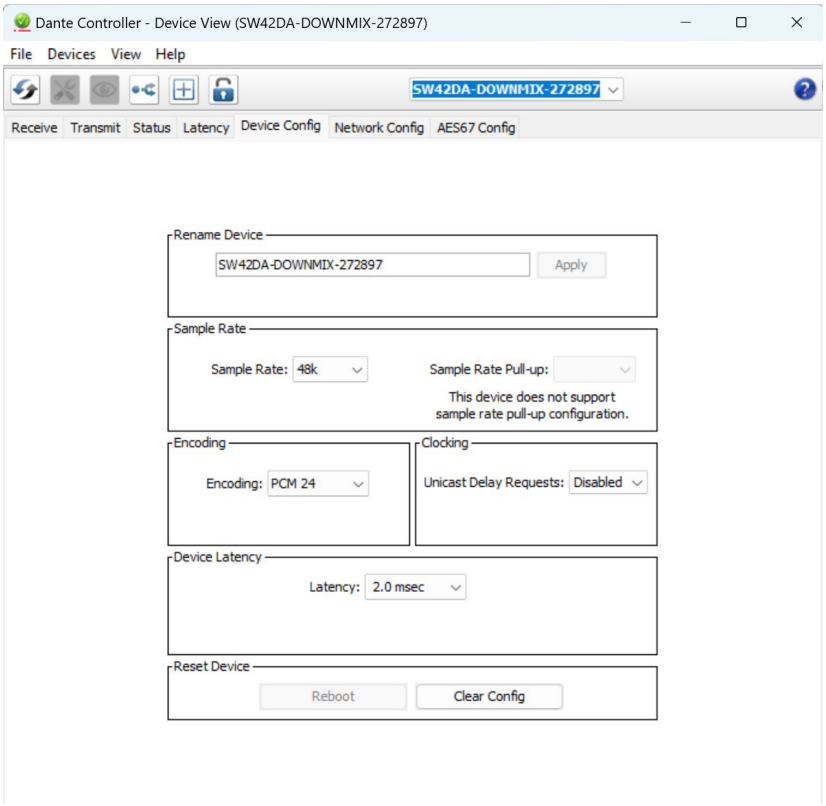
By default, the SW42DA is shipped with the network settings set to obtain an IP Address automatically on the Dante® port. This means that if a DHCP server is present on the network, the SW42DA will be provided with an IP Address. If no DHCP server is present, then the SW42DA will receive a default IP Address in the 169.254.xxx.xxx range. To change the IP Address of the SW42DA, enter the “Audio” page and access the web-GUI for the Dante® module that you wish to udpate.

# Advanced Dante® Settings

It is possible to change various Dante® related settings of the SW42DA under the “Device Info” screen in the Dante® Controller software. To do so, select the “Device Config” menu.

Here it is possible to adjust the sample rate of the SW42DA. **Please note:** Dante® products can only transmit or receive audio from other Dante® products that are set up with the same sample rate. A mismatch in sample rate may stop audio from transmitting.

Under the “Device Config” screen the latency of the SW42DA can be configured with 1, 2 or 5 milliseconds delay.



# Certifications

## FCC NOTICE

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

• Reorient or relocate the receiving antenna.

• Increase the separation between the equipment and receiver.

• Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

• Consult the dealer or an experienced radio/TV technician for help.

**CAUTION** - changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

## CANADA, INDUSTRY CANADA (IC) NOTICES

This Class B digital apparatus complies with Canadian ICES-003. Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

## CORRECT DISPOSAL OF THIS PRODUCT

This marking indicates that this product should not be disposed with other household wastes. To prevent possible harm to the environment or human health from uncontrolled waste disposal, recycle it responsibly to promote the sustainable reuse of material resources. To return your used device, please use the return and collection systems or contact the retailer where the product was purchased. They can take this product for environmentally safe recycling.

# Specifications

**Video Input Connectors:** 4 x HDMI Type A, 19-pin, female

**Video Output Connectors:** 2 x HDMI Type A, 19-pin, female

**Audio Output Connectors:** 1 x Optical (Toslink), 5 x 5-Pin Phoenix (8ch + 2ch balanced/unbalanced analogue audio), 1 x RJ45, female (100Mbps Dante® network)

**EDID Selection:** 4-pin DIP switch

**TCP/IP Control:** 1 x RJ45, female

**RS-232 Port:** 1 x 3-pin Phoenix

**IR Input Port:** 1 x 3.5mm stereo jack

**Product upgrade:** 1 x Micro USB female

**Dimensions (W x H x D):** 220mm x 214mm x 45mm, without feet or connections

**Shipping Weight:** 2.6kg

**Operating Temperature:** 32°F to 104°F (0°C to 40°C)

**Storage Temperature:** - 4°F to 140°F (- 20°C to 60°C)

**Power Supply:** Internal 100-240V AC

# Package Contents

- 1 x SW42DA
- 1 x Remote control
- 1 x IR receiver
- 1 x 19” Rack Mounting kit
- 4 x Mounting feet
- 1 x Quick Reference Card
- 1 x IEC Power Cable

# Acknowledgements

# RS-232 Configuration and Telnet Commands

The SW42DA can be controlled via serial and TCP/IP.

The default RS-232 communication settings are:

Baud rate: 57600
Data bits: 8
Stop bits: 1
Parity bit: none

The following pages list all available serial / IP commands.

**Commonly Used Serial Commands**

There are several commands that are commonly used for control and testing:

| | |
|---|---|
| STATUS | Status will give feedback on the switcher such as outputs on, type of connection, etc. |
| PON | Power on |
| POFF | Power off |
| OUTON/OFF | Toggling the main output ON or OFF as required<br>Example: OUTON (This would turn the main output on) |
| OUT FRyy | (yy is the input)<br>Example: OUT FR04 (This would switch the main output to source input 4) |

**Common Mistakes**

- Carriage return: Some programs do not require the carriage return where as other will not work unless sent directly after the string. In the case of some Terminal software the token <CR> is used to execute a carriage return. Depending on the program you are using this token maybe different. Some other examples that other control systems deploy include \r or 0D (in hex)
- Spaces: Blustream commands do not require space between commands unless specified. There may be some programs that require spacing in order to work.
  - How the string should look is as follows: OUTON
  - How the string may look if spaces are required: OUT{Space}ON
- Baud rate or other serial protocol settings not correct

## RS-232 Configuration and Telnet Commands (continued)

| COMMAND | ACTION |
|---|---|
| ? | Print Help Information |
| HELP | Print Help Information |
| STATUS | Print System Status And Port Status |
| FWVER | Print All Soft Version |
| UPTIME | Print System Uptime |
| TEMP | Print System Temperature |
| PON | Power On, System Run On Normal State |
| POFF | Power Off, System Run On Power Save State |
| PWLED FOLLOW ON/ OFF | ON: Set System Power Led Follow LCD Status<br>OFF: Set System Power Led Not Follow LCD Status In Power On State |
| REBOOT | Set System And Network Reboot |
| IR ON/OFF | Set System IR Control On Or Off |
| IR 5V | Set System IR Is 5V Power Supply Infrared Receiver |
| IR 12V | Set System IR Is 12V Power Supply Infrared Receiver |
| KEY ON/OFF | Set System KEY Control On Or Off |
| BEEP ON/OFF | Set Onboard Beep On Or Off |
| LCD ON/OFF | Set LCD Always On Or Set LCD Off After No Operation 30 Seconds |
| LCD DSPT x | Set LCD Display Scroll And Pause Time To x(s)<br>x=[0...10]: Pause Time |
| RSB x | Set RS232 Baud Rate To x bps<br>x=[0:115200 1:57600 |
| RESET | Reset System To Default Setting |
| RESET ALL | Reset System And Network To Default Setting (Should Type “Yes” To Confirm) |
| CEC ON/OFF | Set CEC Volume Control On Or Off |
| CEC VC BY xx | Set CEC Volume Control By xx<br>xx=01: Group<br>xx=02: Channel |
| VOL+xx | Increase System Volume<br>xx=[01...100]:Steps<br>xx Can Be Empty(1 Step) |
| VOL-xx | Decrease System Volume<br>xx=[01...100]:Steps<br>xx Can Be Empty(1 Step) |
| VOL xx | Set System Volume Value To xx<br>xx=[00...100]:Volume Value |
| DELAY xx | Set System Delay Time To xx(ms)<br>xx=[00...50]:Delay Time |
| MUTE ON/OFF | Set Mute On Or Off |
| MASTER xx ON/OFF | Set Master Output Including/Excluding xx<br>xx=00: All Output Port<br>xx=[01]: Multi Channel Line Out<br>xx=[02]: 2 Channel Line Out<br>xx=[03]: Multi Channel Dante Out<br>xx=[04]: 2 Channel Dante Out |
| IN xx CEC VOL STEPS yy | Set CEC Vol Steps<br>xx=[00...01]:0:ALL<br>yy=[01...10]:CEC Steps |

| COMMAND | ACTION |
|---|---|
| OUT xx ON/OFF | Set Output:xx On Or Off<br>xx=00: Select All Output Port<br>xx=01: Select HDMI Output Port 1<br>xx=02: Select HDMI Output Port 2<br>xx=03: Select Optical Output Port |
| OUT xx SCALING yy | Set Output:xx Video Mode yy<br>xx=02: Select Output 2 Port<br>yy=[01]: Set Output 2 Port Video Mode Auto<br>yy=[02]: Set Output 2 Port Video Mode Force 1080p<br>yy=[03]: Set Output 2 Port Video Mode Bypass |
| OUT xx AUDIO yy | Set Output xx Audio To yy<br>xx=02: Select Output 2 Port<br>xx=03: Select Optical Output Port<br>yy=[01]: Bypass<br>yy=[02]: Downmix 2CH |
| OUT FR yy | Set Output From Input:yy<br>yy=[01]: Select Input 1 Port<br>yy=[02]: Select Input 2 Port<br>yy=[03]: Select Input 3 Port<br>yy=[04]: Select Input 4 Port<br>yy=[05]: Select ARC Input |
| OUT xx ARC ON/OFF | Set Output:xx ARC On Or Off<br>xx=01: Select Output 1 Port |
| ARC MODE xx | Select ARC Mode<br>xx=01: Select ARC As a Source<br>xx=02: Select ARC Toggle On/Off |
| OUT DRC ON/OFF/ AUTO | Set DSP Dynamic Range Control (DRC) Mode |
| OUT SUD ON/OFF | Set DSP Surround Decoder (Upmixer) On Or Off |
| OUT SPV ON/OFF | Set DSP Speaker Virtualizer On Or Off |

## RS-232 Configuration and Telnet Commands (continued)

| COMMAND | ACTION |
|---|---|
| OUT MODE yy | Set Audio Output Mode:yy<br>yy=01: 2.0CH<br>yy=02: 2.1CH + Top Middle(2.1.2CH)<br>yy=03: 2.1CH + Top Middle(2.1.2CH) Dolby ATMOS Enabled Speaker<br>yy=04: 3.1CH<br>yy=05: 3.1CH + Top Middle(3.1.2CH)<br>yy=06: 3.1CH + Top Middle(3.1.2CH) Dolby ATMOS Enabled Speaker<br>yy=07: 4.1CH<br>yy=08: 4.1CH + Top Middle(4.1.2CH)<br>yy=09: 4.1CH + Top Middle(4.1.2CH) Dolby ATMOS Enabled Speaker<br>yy=10: 4.1CH + Top Rear + Top Front(4.1.4CH)<br>yy=11: 4.1CH + Top Rear + Top Front(4.1.4CH) Front Dolby ATMOS Enabled Speaker<br>yy=12: 4.1CH + Top Rear + Top Front(4.1.4CH) Rear Dolby ATMOS Enabled Speaker<br>yy=13: 4.1CH + Top Rear + Top Front(4.1.4CH) Front & Rear Dolby ATMOS Enabled Speaker<br>yy=14: 5.1CH<br>yy=15: 5.1CH + Top Middle(5.1.2CH)<br>yy=16: 5.1CH + Top Middle(5.1.2CH) Dolby ATMOS Enabled Speaker<br>yy=17: 5.1CH + Top Rear + Top Front(5.1.4CH)<br>yy=18: 5.1CH + Top Rear + Top Front(5.1.4CH) Front Dolby ATMOS Enabled Speaker<br>yy=19: 5.1CH + Top Rear + Top Front(5.1.4CH) Rear Dolby ATMOS Enabled Speaker<br>yy=20: 5.1CH + Top Rear + Top Front(5.1.4CH) Front & Rear Dolby ATMOS Enabled Speaker<br>yy=21: 6.1CH<br>yy=22: 6.1CH + Top Middle(6.1.2CH)<br>yy=23: 6.1CH + Top Middle(6.1.2CH) Dolby ATMOS Enabled Speaker<br>yy=24: 7.1CH<br>yy=25: 7.1CH + Top Middle(7.1.2CH)<br>yy=26: 7.1CH + Top Middle(7.1.2CH) Dolby ATMOS Enabled Speaker |

| COMMAND | ACTION |
|---|---|
| OUT xx VOL+yy | Increase Output:xx Volume<br>xx=00: Select All Output Port<br>xx=01: Multi Channel Line Out L<br>xx=02: Multi Channel Line Out R<br>xx=03: Multi Channel Line Out Sub<br>xx=04: Multi Channel Line Out C<br>xx=05: Multi Channel Line Out Ls<br>xx=06: Multi Channel Line Out Rs<br>xx=07: Multi Channel Line Out Lrs<br>xx=08: Multi Channel Line Out Rrs<br>xx=09: 2 Channel Line Out L<br>xx=10: 2 Channel Line Out R<br>xx=11: Multi Channel Dante Out L<br>xx=12: Multi Channel Dante Out R<br>xx=13: Multi Channel Dante Out Sub<br>xx=14: Multi Channel Dante Out C<br>xx=15: Multi Channel Dante Out Ls<br>xx=16: Multi Channel Dante Out Rs<br>xx=17: Multi Channel Dante Out Lrs<br>xx=18: Multi Channel Dante Out Rrs<br>xx=19: 2 Channel Dante Out L<br>xx=20: 2 Channel Dante Out R<br>xx=21: Multi Channel Line Out Group<br>xx=22: 2 Channel Line Out Group<br>xx=23: Multi Channel Dante Out Group<br>xx=24: 2 Channel Dante Out Group<br>xx=25: Master Out<br>yy=[1...100]:Steps<br>yy Can Be Empty (1 Step) |
| OUT xx VOL-yy | Decrease Output:xx Volume<br>xx=Same With Above<br>yy=[01...100]: Steps<br>yy Can Be Empty (1 Step) |
| OUT xx VOL yy | Set Output:xx Volume Value To yy<br>xx=Same With Above<br>yy=[00...100]: Volume Value |
| OUT xx MUTE ON/OFF | Set Output Mute On Or Off<br>xx=Same With Above |
| OUT xx DELAY yy | Set Output:xx Delay Time To yy(ms)<br>xx=00: Same With Above<br>yy=[00...50]: Delay Time |
| OUT xx CEC VC ON/OFF | Set Output xx CEC Volume Control On Or Off<br>xx=Same With Above |
| AUDIO xx FR yy | Set Line Output xx Audio From Input yy<br>xx=01: Select Multi Channel Output Port<br>xx=02: Select 2 Channel Output Port<br>yy=[01]: HDMI/ARC Input<br>yy=[02]: Dante Input |

## RS-232 Configuration and Telnet Commands (continued)

| COMMAND | ACTION |
|---|---|
| GROUP zz CHANNEL yy ON/OFF | Set GROUP zz Volume Setting Including/Excluding Channel yy<br>zz=01: Multi Channel Line Out Group<br>zz=02: 2 Channel Line Out Group<br>zz=03: Multi Channel Dante Out Group<br>zz=04: 2 Channel Dante Out Group<br>yy=[00]: Select All Channels In The Group<br>(When zz=01: Multi Channel Line Out Group)<br>yy=[01]: L<br>yy=[02]: R<br>yy=[03]: Sub<br>yy=[04]: C<br>yy=[05]: Ls<br>yy=[06]: Rs<br>yy=[07]: Lrs<br>yy=[08]: Rrs<br>(When zz=02: 2 Channel Line Out Group)<br>yy=[01]: L<br>yy=[02]: R<br>(When zz=03: Multi Channel Dante Out Group)<br>yy=[01]: L<br>yy=[02]: R<br>yy=[03]: Sub<br>yy=[04]: C<br>yy=[05]: Ls<br>yy=[06]: Rs<br>yy=[07]: Lrs<br>yy=[08]: Rrs<br>(When zz=04: 2 Channel Dante Out Group)<br>yy=[01]: L<br>yy=[02]: R |
| EDID xx CP yy | Set Input:xx EDID Copy From Output:yy<br>xx=00: Select All Input Port<br>xx=[01...04]: Select One Input Port<br>yy=[01...02]: Select One Output Port |

| COMMAND | ACTION |
|---|---|
| EDID xx DF zz | Set Input:xx EDID To Default EDID:zz<br>xx=00: Select All Input Port<br>xx=[01...04]: Select One Input Port<br>zz=00: HDMI 1080p@60Hz<br>zz=01: HDMI 1080p@60Hz<br>zz=02: HDMI 1080p@60Hz<br>zz=03: HDMI 1080i@60Hz<br>zz=04: HDMI 1080i@60Hz<br>zz=05: HDMI 1080i@60Hz<br>zz=06: HDMI 1080p@60Hz/3D<br>zz=07: HDMI 1080p@60Hz/3D<br>zz=08: HDMI 1080p@60Hz/3D<br>zz=09: HDMI 4K@30Hz 4:4:4<br>zz=10: HDMI 4K@30Hz 4:4:4<br>zz=11: HDMI 4K@30Hz 4:4:4<br>zz=12: HDMI 4K@60Hz 4:2:0/4K@30Hz 4:4:4<br>zz=13: HDMI 4K@60Hz 4:2:0/4K@30Hz 4:4:4<br>zz=14: HDMI 4K@60Hz 4:2:0/4K@30Hz 4:4:4<br>zz=15: HDMI 4K@60Hz 4:4:4<br>zz=16: HDMI 4K@60Hz 4:4:4<br>zz=17: HDMI 4K@60Hz 4:4:4<br>zz=18: HDMI 4K@60Hz 4:4:4<br>zz=19: HDMI 4K@60Hz 4:4:4<br>zz=20: HDMI 4K@60Hz 4:4:4<br>zz=21: HDMI 4K@60Hz 4:4:4<br>zz=22: HDMI 4K@60Hz 4:4:4<br>zz=23: HDMI 4K@60Hz 4:4:4<br>zz=24: HDMI 4K@60Hz 4:4:4<br>zz=25: HDMI 4K@60Hz 4:4:4<br>zz=26: HDMI 4K@60Hz 4:4:4<br>zz=27: HDMI 4K@60Hz 4:4:4<br>zz=28: HDMI 4K@60Hz 4:4:4<br>zz=29: HDMI 4K@60Hz 4:4:4<br>zz=30: DVI 1280x1024@60Hz<br>zz=31: DVI 1920x1080@60Hz<br>zz=32: DVI 1920x1200@60Hz<br>zz=33: HDMI 1920x1200@60Hz<br>zz=34: User EDID 1<br>zz=35: User EDID 2<br>zz=36: EDID Pass-through (Copy From Sink 1) |
| NET DHCP ON/OFF | Set Auto IP(DHCP) On Or Off |
| NET IP xxx.xxx.xxx.xxx | Set IP Address |
| NET GW xxx.xxx.xxx.xxx | Set Gateway Address |
| NET SM xxx.xxx.xxx.xxx | Set Subnet Mask Address |
| NET TCPPORT xxxx | Set TCP/IP Port |
| NET TCPPORT ON/OFF | Set TCP/IP On Or Off |
| NET TN xxxx | Set Telnet Port |
| NET TN ON/OFF | Set Telnet On Or Off |
| NET RB | Set Network Reboot And Apply New Config!!! |
| NET DNS xxxx | Set DNS Domain Name To xxxx |

# Installer Notes

# Installer Notes

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