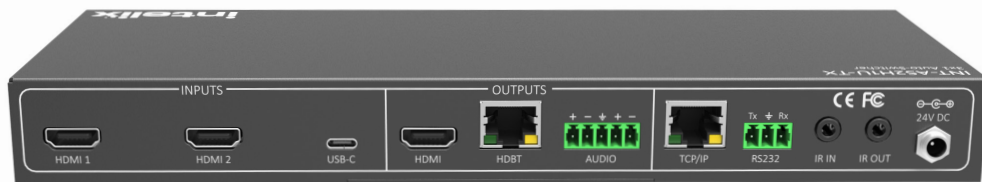




INT-AS2H1U-TX Owners Manual



Important Safety Instructions

- » Please completely read and verify you understand all instructions in this manual before operating this equipment.
- » Keep these instructions in a safe, accessible place for future reference.
- » Heed all warnings.
- » Follow all instructions.
- » Do not use this apparatus near water.
- » Clean only with a dry cloth.
- » Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
- » Use only accessories specified or recommended by Intelix.
- » Explanation of graphical symbols:

◊ Lightning bolt/flash symbol: the lightning bolt/flash and arrowhead within an equilateral triangle symbol is intended to alert the user to the presence of uninsulated “dangerous voltage” within the product enclosure which may be of sufficient magnitude to constitute a risk of shock to a person or persons.



◊ Exclamation point symbol: the exclamation point within an equilateral triangle symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.



- » **WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPARATUS TO RAIN OR MOISTURE AND OBJECTS FILLED WITH LIQUIDS, SUCH AS VASES, SHOULD NOT BE PLACED ON THIS APPARATUS.**
- » Use the mains plug to disconnect the apparatus from the mains.
- » **THE MAINS PLUG OF THE POWER CORD MUST REMAIN READILY ACCESSIBLE.**
- » Do not defeat the safety purpose polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding-type plug has two blades and a third grounding prong. The wide blade or the third prong is provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of your obsolete outlet. **Caution! To reduce the risk of electrical shock, grounding of the center pin of this plug must be maintained.**
- » Protect the power cord from being walked on or pinched particularly at the plugs, convenience receptacles, and the point where they exit from the apparatus.
- » Do not block the air ventilation openings. Only mount the equipment per Intelix’s instructions.
- » Use only with the cart, stand, table, or rack specified by Intelix or sold with the equipment. When/if a cart is used, use caution when moving the cart/equipment combination to avoid injury from tip-over.
- » Unplug this apparatus during lightning storms or when unused for long periods of time.
- » **Caution! Shock Hazard. Do not open the unit.**
- » Refer to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.



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Product Overview

The Intelix INT-AS2H1U-TX is a 3x1 A/V auto switcher that features two HDMI inputs, one USB-C input, one HDMI output, one HDBaseT output and one balanced analog audio output. The USB-C input supports ALT-DP mode and can also charge a connected source device up to 40 watts. The built in HDBaseT transmitter output can transmit HDMI or USB-C audio and video, RS232 and bi-directional IR over a single solid core shielded Category cable to a compatible Intelix HDBaseT receiver up to 70 meters or 230 feet. The INT-AS2H1U-TX supports 1080p video signal up to 70m/230' and 4K signals up to 4K@60Hz / 4:2:0 / 8 bit color up to 40m/130'. The switcher supports CEC pass through (HDBaseT receiver only) and is HDCP 2.2 compliant. A built in web GUI allows easy configuration of A/V routing, EDID, display on/off automation, network and HDCP features. 48V PoH is built in to allow the INT-AS2H1U-TX HDBaseT transmitter output to power a compatible Intelix receiver.

The switchers functions can be controlled by built in web GUI, RS232 or by TCP/IP. The INT-AS2H1U-TX can also manually control a connected display to the HDBaseT receiver via CEC or RS232 or can be configured to automate the display ON/OFF whenever a video signal is introduced or absent from the switcher system.

The INT-AS2H1U-TX is compatible with all Intelix HDBaseT receivers and any HDBaseT product that is built to HDBaseT certified standards.

Product Contents

- INT-AS2H1U-TX 3x1 Auto Switcher
- Quick Install Guide
- (1) IR Receiver
- (1) IR Emitter
- (1) RS232 to DB9 breakout cable
- (1) 5-pin phoenix connector
- (2) Mounting Clips with (4) Screws
- (4) Plastic Cushions
- 24V Power Adapter with US, EU, UK and AU plug adapters.

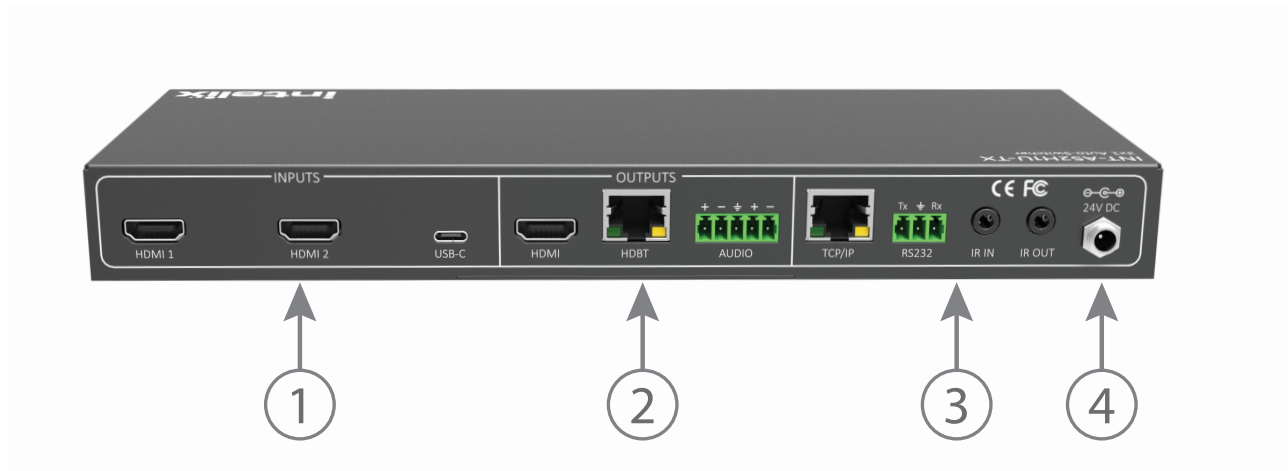
Front and Rear Panels

Front Panel



1. **FW** - Illuminates solid RED when switcher is in standby mode or illuminates GREEN when device is powered ON.
2. **STATUS LEDs**
 - *POWER* - Illuminates solid RED when switcher is ON, no LED is shown when switcher is OFF
 - *HDMI 1* - Illuminates solid GREEN when HDMI 1 input is chosen
 - *HDMI 2* - Illuminates solid GREEN when HDMI 2 input is chosen
 - *USB-C* - Illuminates solid GREEN when USB C input is chosen
 - *AUTO* - Illuminates solid GREEN when AUTO switching mode is chosen, NO
3. **CEC**
 - *AUTO/MAN* - 2 pin dip switch for CEC auto display ON/OFF mode selection

Rear Panel



1. INPUT

- *HDMI 1* - HDMI 1 input
- *HDMI 2* - HDMI 2 input
- *USB C* - USB-C input (supports ALT-DP video mode)

2. OUTPUTS

- *HDMI* - HDMI output
- *HDBT* - HDBaseT output (mirrors HDMI)
- *AUDIO* - 5 pin phoenix balanced analog audio output

3. CONTROL

- *TCP/IP* - RJ45 to control device via network / web GUI
- *RS232* - 3 pin phoenix connector for RS232 control of switcher
- *IR IN* - 3.5mm IR input to connect IR receiver for IR pass through
- *IR OUT* - 3.5mm IR input to connect IR emitter for IR pass through

4. DC24V- Locking power supply port

Installation Instructions

Mount the Matrix

Attach the supplied mounting clips to the sides of the INT-AS2H1U-TX. At least 2 inches of free air space is required on both sides of the INT-AS2H1U-TX for proper side ventilation. Avoid mounting the INT-AS2H1U-TX near a power amplifier or any other source of significant heat.

Connect Sources

Video Inputs

Connect source devices to the HDMI or USB-C inputs. When using HDMI cables for source inputs, use a High Speed HDMI cable that is less than or equal to 1.5 meters in length for 4k60 signals and 5 meters for 1080p signals.

When connecting a source device to the USB-C input using a USB-C cable, be sure the USB-C cable is capable of supporting audio, video and power charging and is no longer than 2 meters (6.6') in total length. The USB-C input supports ALT-DP mode for video, to ensure a laptop is compatible with the INT-AS2H1U-TX, check the laptops capability of supporting this mode.

Note that not all laptops with USB-C port options will support video or more specifically ALT-DP video mode.

Connect Displays

HDMI Output

Connect a display device to the HDMI output using a High Speed HDMI cable that is less than or equal to 5 meters in length for 4k60 signals and 8 meters for 1080p signals.

HDBaseT Output

Connect a solid core CAT6 F/UTP rated category cable to the INT-AS2H1U-TX HDBaseT output and a compatible Intelix HDBaseT receiver. Use TIA/EIA-568B wiring for Category 6 connection between the INT-AS2H1U-TX and the HDBaseT receiver.

Once HDBaseT receiver is connected, connect a display device to the HDMI output of the HDBaseT receiver using a High Speed HDMI cable that is less than or equal to 1.5 meters in length for 4k60 signals and 5 meters for 1080p signals.

Connect Audio

Connect an audio amplifier to the audio output of the INT-AS2H1U-TX, the switcher features a line level left and right balanced stereo audio output. The outputs can be wired as unbalanced by only using the positive leads.

Connecting RS232 Control

RS232 Port Wiring

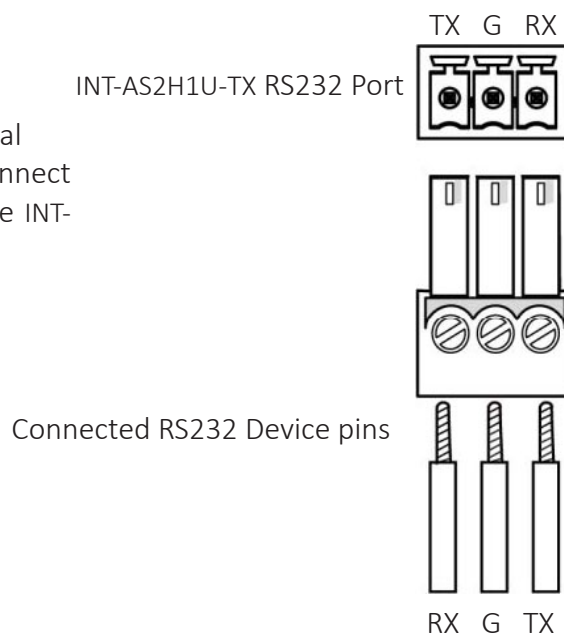
Connect a control system to the INT-AS2H1U-TX via RS232 for switcher control.

RS232 Wiring

Connect the system controller RX signal to TX on the INT-AS2H1U-TX, then connect the controllers TX signal to RX on the INT-AS2H1U-TX.

RS232 Settings:

- 9600 baud
- 8 Data Bits
- 1 Stop Bit
- Parity = none



Connecting IR Control

Passing IR Signals

The INT-AS2H1U-TX is capable of passing IR signals between 33 and 55 KHz. To prevent damage to any of the electronics, the switcher and/or connected extender should be powered off while inserting or removing any IR components. Inserting an IR transmitter into the IR IN port may damage the IR circuit for that extender.

IR OUT: The IR transmitter (IR emitter) must be plugged into the IR OUT port.

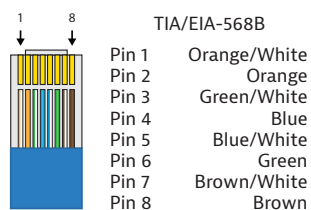
IR IN: The IR receiver (IR eye) must be plugged into the IR IN port.

Connect Ethernet Control / Web GUI Access

The INT-AS2H1U-TX can be controlled via Ethernet through a web browser interface or can be controlled via telnet.

To access the built in web GUI for configuration and/or switcher control, connect the INT-AS2H1U-TX and a PC computer to a network switcher or router. Open a web browser on the PC computer and enter the IP address of the INT-AS2H1U-TX. The web GUI will prompt you for a user name and password, the default user name and password for the INT-AS2H1U-TX is *admin* for both

NOTE: Be sure the PC computer is in same network ID range as the INT-AS2H1U-TX.



The TCP/IP port requires a standard straight-through Category 5 or greater cable with the TIA/EIA-568B crimp pattern for optimal operation.

The default settings for the TCP/IP port are:

IP address: 192.168.0.178

Telnet: Port 4001

Applying Power

Connect the included power supply to the INT-AS2H1U-TX power port and twist the locking connector clockwise to lock power supply in place.

Configuring CEC and RS232 Display Automation

Automatic Display ON - CEC

To automatically turn ON a connected display via CEC when an active input is connected to the inputs, slide the **CEC** mode switch to the **AUTO** position on the front of the INT-AS2H1U-TX switcher.

In CEC **AUTO** mode, once an active video source has been connected to the switchers video inputs, the display connected to the HDBaseT receiver via HDMI will be turned ON via CEC.

NOTE: CEC automatic display ON/OFF is only supported remotely on HDBaseT receiver when connected to the INT-AS2H1U-TX switcher.

Automatic Display OFF - CEC

To automatically turn OFF a connected display via CEC when an active input is no longer active, log on to the internal web GUI and navigate to the RS232 page and set the **NO SIGNAL TIMEOUT** to ON and then set the expiration timer to trigger the OFF event. For visual instructions of this process see pg 18, *RS232 Display Control Configuration*.

Manual Display ON/OFF Control - CEC

To manually turn ON/OFF a connected display and disable automatic display ON/OFF operation, slide the CEC mode switch to the **MAN** position on the front of the INT-AS2H1U-TX switcher.

In CEC **MAN (manual)** mode, display ON/OFF commands can be sent to a display via CEC either by using the internal web GUI or by using serial or telnet commands. See pg 18, *RS232 Display Control Configuration* and pg 28, *RS232 CEC/RS232 Display On/Off control*.

Automatic Display ON - RS232

To automatically turn ON a connected display via RS232 when an active input is connected to the switchers inputs, log on to the internal web GUI and navigate to the RS232 page. Set the display control to ON and then enter the RS232 ON string information for the display. For visual instructions of this process see pg 18, *RS232 Display Control Configuration*.

Automatic Display OFF - RS232

To automatically turn OFF a connected display via CEC when an active input is no longer active, log on to the internal web GUI and navigate to the RS232 page and set the **NO SIGNAL TIMEOUT** to ON and then set the expiration timer and then enter the RS232 ON string information for the display. For visual instructions of this process see pg 18, *RS232 Display Control Configuration*.

HDBaseT Cabling Requirements

HDBaseT Cabling

To ensure proper performance of the INT-AS2H1U-TX, it is recommended that you use solid core, shielded Category 6 F/UTP cabling at a minimum. Category 5e F/UTP may perform well but may not support power over HDBaseT reliably over longer distances.



When using shielded category cabling *ALWAYS*...

-use shielded connectors
-properly ground the category cable

For optimized HDBaseT performance use the following Liberty Wire and Cable branded cabling;

Category 6 plenum; **24-4P-P-L6SH**

Category 6A plenum; **24-4P-P-L6ASH**

Category 6 NON-plenum; **24-4P-L6SH**

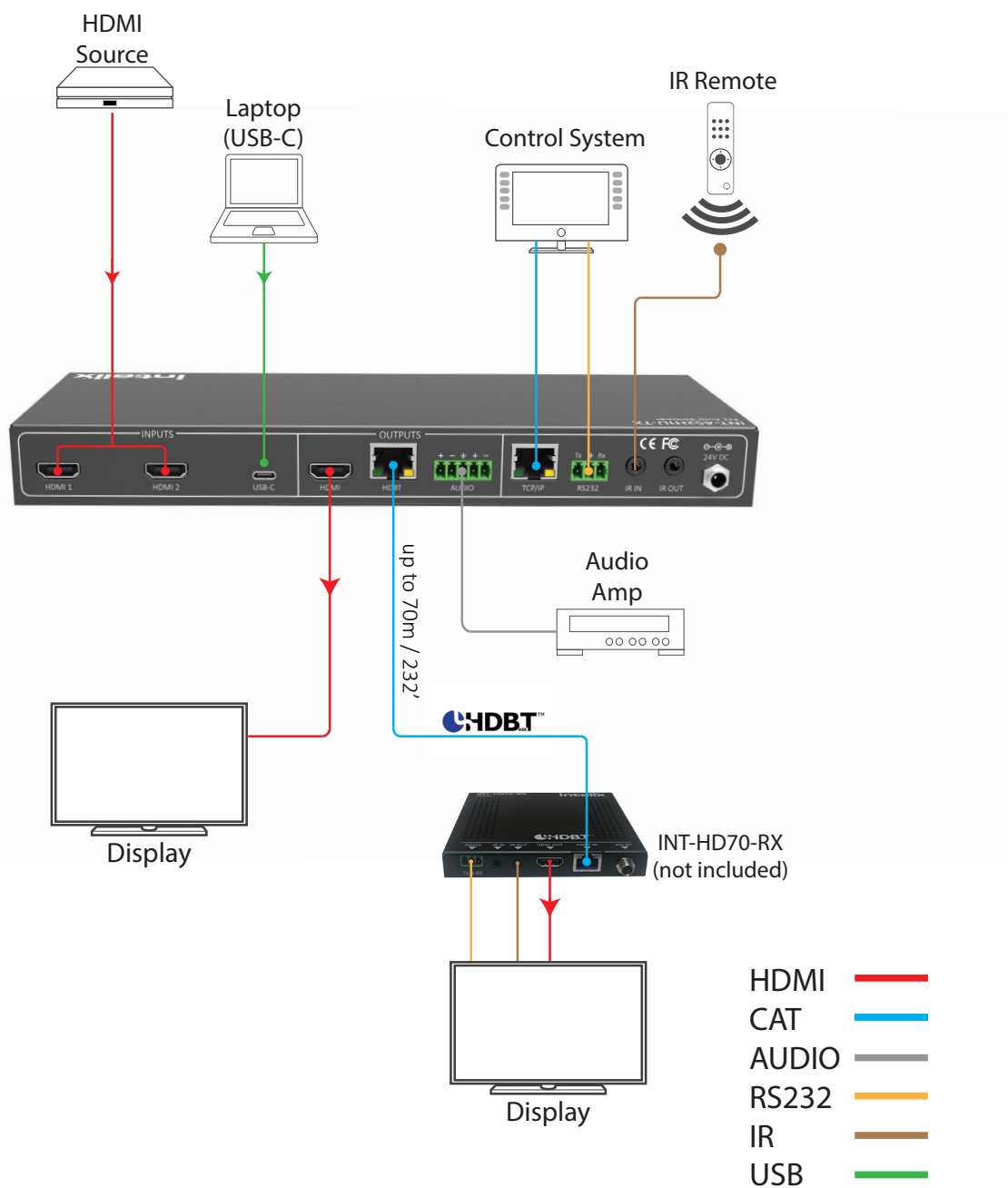
Category 6A NON-plenum; **24-4P-L6ASH**

TIA/EIA-568B		
	Pin 1	Orange/White
	Pin 2	Orange
	Pin 3	Green/White
	Pin 4	Blue
	Pin 5	Blue/White
	Pin 6	Green
	Pin 7	Brown/White
	Pin 8	Brown

Twisted Pair Wiring

Use TIA/EIA-568B wiring for Category 6 connection between send and receive units.

A/V Diagram



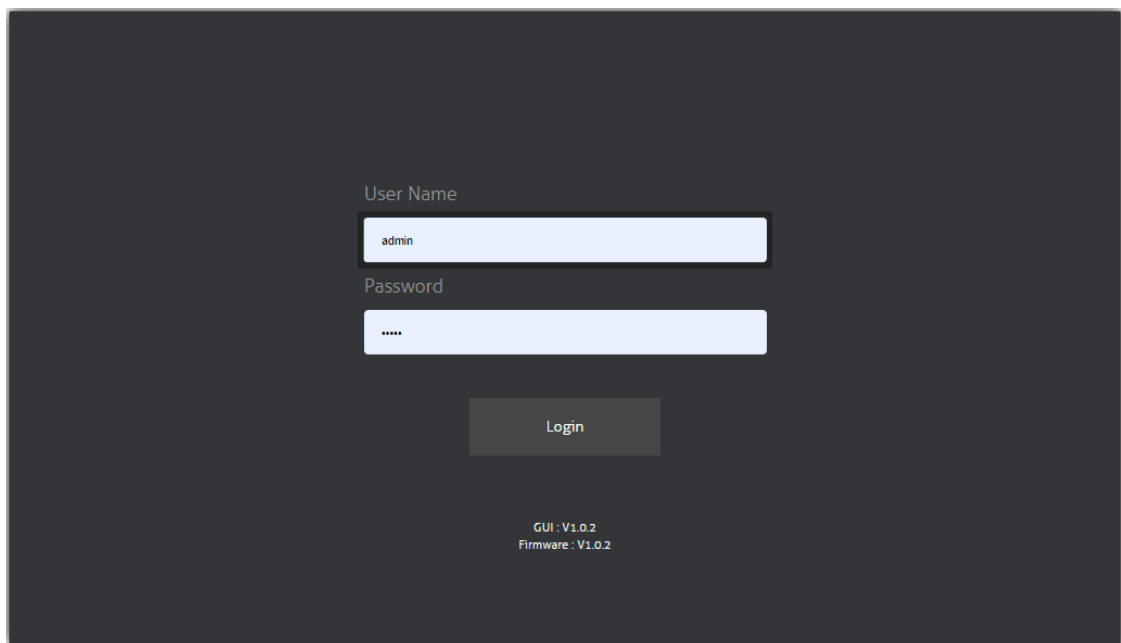
Web GUI Control / System Settings

Switcher Control and Configuration

Connecting to Web GUI Control

Network a PC computer and the INT-AS2H1U-TX then open a web browser and type in IP address of the INT-AS2H1U-TX. The default IP address is 192.168.0.178. Be sure the computer you are using to connect to the INT-AS2H1U-TX is in the same IP range to access the web GUI / server.

The login screen will appear. The default user name and password is *admin*

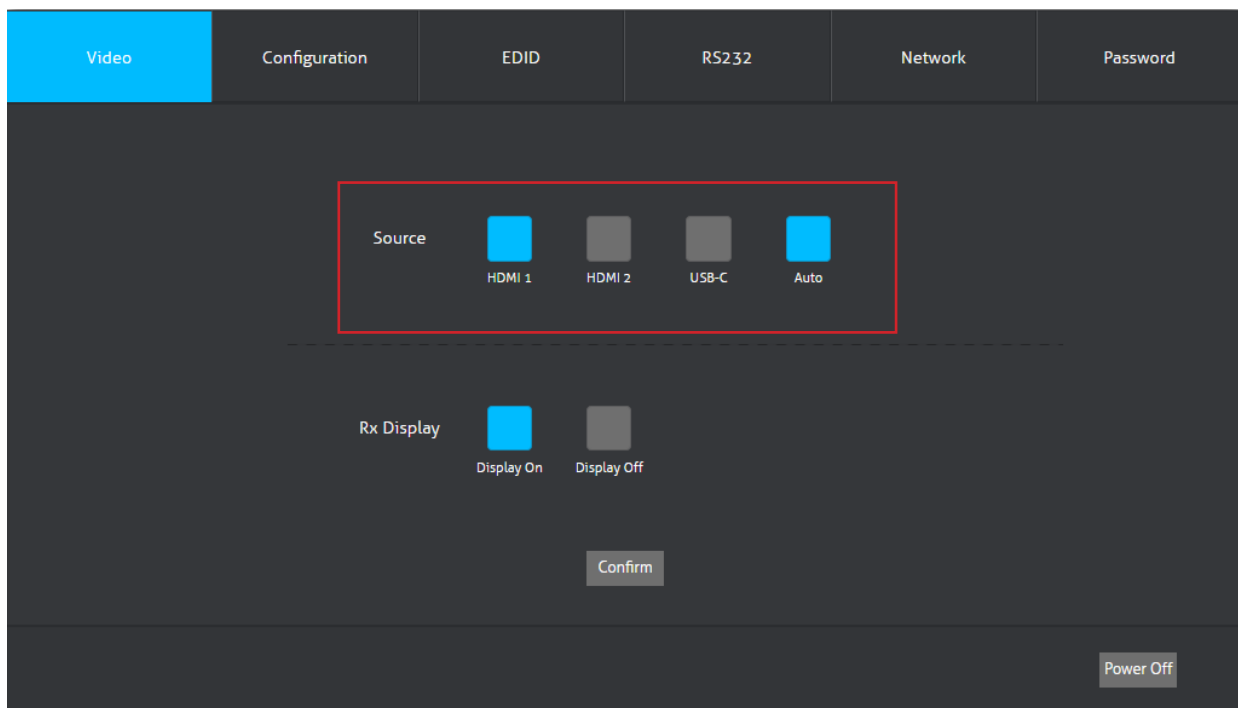
The image shows a web browser window displaying the login interface of the INT-AS2H1U-TX. The background is dark gray. In the center, there are two white input fields. The first field is labeled "User Name" and contains the text "admin". The second field is labeled "Password" and contains five asterisks "*****". Below these fields is a dark gray button with the word "Login" in white. At the bottom center, the text "GUI : V1.0.2" and "Firmware : V1.0.2" is displayed in a small white font.

Video Switching

The *Video* menu allows you to route A/V signals to the HDMI and HDBaseT outputs of the switcher simultaneously and enable / disable auto switching mode. By default the INT-AS2H1U-TX is set to auto switching mode.

To switch the video route for the switcher, check the HDMI 1, HDMI 2 or USB-C buttons, then press *CONFIRM*.

To enable / disable auto switching mode, check the *AUTO* button.

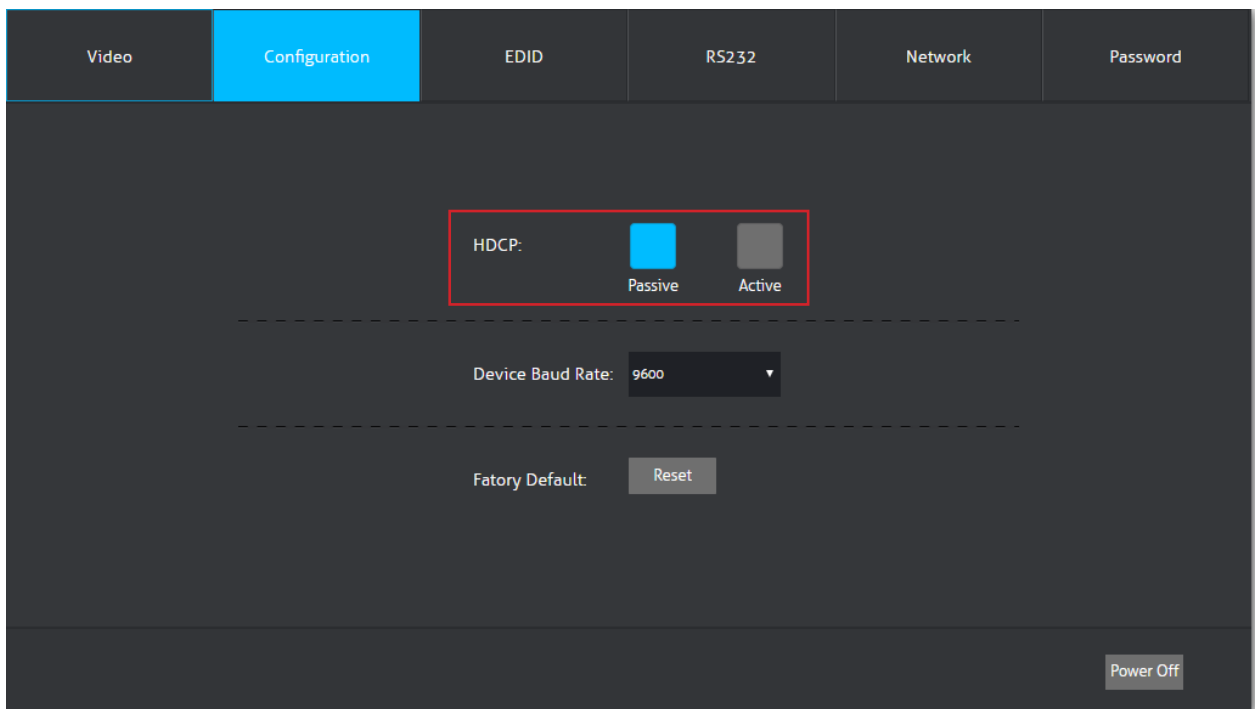


HDCP Configuration

The *Configuration* menu allows you to set the HDCP mode of the INT-AS2H1U-TX

Set the HDCP mode to either *PASSIVE* or *ACTIVE*

- PASSIVE = Automatically follows the HDCP version of the source device selected
- ACTIVE= HDCP 1.4 will automatically be encrypted on the output if the video input has either 2.2 or 1.4 encrypted content, if the video input has no HDCP encryption, the output will not be encrypted. This option is best for legacy displays that support 4K content but does not support 1.4 HDCP encryption



Device Baud Rate Configuration

The *Configuration* menu allows you to set the baud rate of the INT-AS2H1U-TX so it can be controlled by 3rd party control device.

Select the desired baud rate of the device using the drop down menu labeled *DEVICE BAUD RATE*

The screenshot displays the Configuration menu of the INT-AS2H1U-TX device. The menu is divided into several tabs: Video, Configuration (highlighted in blue), EDID, RS232, Network, and Password. The Configuration tab is active, showing various settings. The HDCP section has two toggle buttons: Passive (blue) and Active (grey). Below this, the Device Baud Rate is set to 9600, with a dropdown arrow indicating it can be changed. A red box highlights the Device Baud Rate dropdown menu. Below the baud rate, there is a Factory Default section with a Reset button. At the bottom right, there is a Power Off button.

Video	Configuration	EDID	RS232	Network	Password
HDCP: ☒ Passive ☐ Active Device Baud Rate: 9600 ▼ Factory Default: Reset Power Off					

EDID Management

EDID can be set for each input using the *EDID* menu.

To adjust an inputs EDID option, click on the desired input channel, HDMI 1, HDMI 2 or USB-C, then choose the desired resolution option that is available. *NOTE:* Not all EDID tables will be available for USB-C input Copying and setting EDID from a connected display can be done by selecting the *HDMI OUT* and *HDBT OUT* options. When an option is selected press *CONFIRM*.

Note: When choosing to copy EDID from a display via HDMI OUT or HDBT OUT option, a display must be connected to either option to read EDID correctly.

When uploading a *USER DEFINED* EDID option, click the open field to locate the .bin EDID file on your local computer, then click *APPLY*.

The screenshot shows the 'EDID' menu in a dark-themed interface. At the top, there are tabs for 'Video', 'Configuration', 'EDID' (which is highlighted in blue), 'RS232', 'Network', and 'Password'. Below these tabs, there are three sub-tabs for input channels: 'HDMI 1' (highlighted in blue), 'HDMI 2', and 'USB-C'. The main area displays two columns of radio button options. The left column lists various resolution and audio combinations for HDMI 1, such as '1280x720@60Hz Stereo Audio' and '3840x2160@30Hz 8bit High Definition Audio'. The right column lists options for HDMI 2, including '3840x2160@30Hz Deep Color LPCM 6CH' and 'HDMI Out'. The 'HDBT Out' option is currently selected, indicated by a blue dot. Below these options, there are two 'User-defined' sections, each with a text input field containing '.bin' and an 'Apply' button. At the bottom center is a 'Confirm' button, and at the bottom right is a 'Power Off' button.

RS232 Display Control Configuration

RS232 auto display ON/OFF control mode settings can be adjusted by using the RS232 menu. Automatic display ON operation mode can be turned on by sliding the ON button next to **DISPLAY CONTROL**.

NOTE: In order to engage this feature for CEC ON/OFF display control, switch the CEC AUTO/MAN dipswitch on the front of the INT-AS2H1U-TX to the AUTO position. The CEC auto on/off option will only work when a display is connected to the HDMI output of the connected HDBaseT receiver.

The screenshot shows the RS232 configuration menu with the following fields and controls:

- Display Control:** A toggle switch set to **On** (highlighted with a red box).
- Hex:** An unchecked checkbox.
- Display On:** A text input field.
- Display Off:** A text input field.
- Input Select:** A text input field.
- Input Delay:** A text input field followed by a unit **s**.
- Baud Rate:** A text input field set to **9600**.
- Command:** A text input field.
- Command Ending:** A text input field set to **CR+LF**.
- No Signal Timeout:** A text input field set to **2**, followed by a **Min** label and a toggle switch set to **On**.
- No Activity Timeout:** A text input field set to **0**, followed by a **Min** label and a toggle switch set to **Off**.
- Save:** A button located below the timeout settings.
- Power Off:** A button located at the bottom right of the menu.

When using the *Display Control* mode, the switcher will control the display ON and OFF status of a connected display via RS232 (via HDBaseT receiver) based on input voltage status, ie HDMI 5V pin 19. This can be changed from voltage to TMDS video status for auto ON/OFF operation. See pg 24, *Autoswitching / Routing*

To set the NO signal / NO activity timers ON or OFF, check the ON/OFF button for each option. Specify the time in minutes to which the timers will expire. To save the current selections click *SAVE*. By default both options are OFF.

NO SIGNAL TIMEOUT refers to the active HDMI 5V / HPD status for the connected video source.

NO ACTIVITY TIMER refers to the switching activity of the switcher

The screenshot displays the RS232 configuration page of a device. The top navigation bar includes tabs for Video, Configuration, EDID, RS232 (highlighted in blue), Network, and Password. The main content area is divided into two sections by a dashed line. The top section contains settings for Display Control (a blue 'On' toggle), a 'Hex' checkbox, and input/output parameters: Display On, Display Off, Input Select, Input Delay (with a unit 's'), Baud Rate (set to 9600), Command, and Command Ending (set to CR+LF). The bottom section, enclosed in a red rectangular box, features two timeout settings: 'No Signal Timeout' (set to 2 minutes with a blue 'On' toggle) and 'No Activity Timeout' (set to 0 minutes with a grey 'Off' toggle). A 'Save' button is positioned below these settings. At the bottom right of the interface is a 'Power Off' button.

Explanation Of Display On/Off Control Parameters

The screenshot shows the RS232 configuration page of a device. The 'RS232' tab is selected. The 'Display Control' toggle is set to 'On'. A 'Hex' checkbox is present. Below these are fields for 'Display On:', 'Display Off:', 'Input Select:', and 'Input Delay:'. To the right are 'Baud Rate:' (set to 9600), 'Command:', and 'Command Ending:' (set to CR+LF). At the bottom, there are 'No Signal Timeout:' (set to 2 Min) and 'No Activity Timeout:' (set to 0 Min) with their respective toggle switches. A 'Save' button is located below the timeouts, and a 'Power Off' button is in the bottom right corner.

HEX: Check this box if using HEX formatted strings, by default this is unchecked and any command entered is transmitted in ASCII format. When using HEX formatted strings, there is no need for prefix or suffix identifiers, ie 02h 01h or 0X01, 0x02 etc. For example if the HEX code is listed as A1h A2h A3h or 0XA1 0XA2 0XA3, enter in A1 A2 A3 in the GUI field. Note to add a space between each character.

DISPLAY ON: Enter the display ON RS232 command in this field and click *SAVE*. The display ON command for the connected display will be located in the manufacturers display owners manual.

DISPLAY OFF: Enter the display OFF RS232 command in this field and click *SAVE*. The display OFF command for the connected display will be located in the manufacturers display owners manual.

INPUT SELECT: Enter the preferred display INPUT RS232 command in this field and click *SAVE*. The display INPUT command for the connected display will be located in the manufacturers display owners manual.

INPUT DELAY: Enter the preferred display INPUT RS232 delay timing, in seconds, in this field and click *SAVE*. The timer will delay the INPUT SELECT RS232 command by the specified time after the DISPLAY ON command has been generated.

BAUD RATE: Enter the preferred baud rate in this field and click *SAVE*. The baud rate for the connected display will be located in the manufacturers display owners manual.

COMMAND: Enter a test command in this field and click *SAVE* to send test command.

COMMAND ENDING : Enter the required string terminator and click *SAVE*. NULL, CR, LF or CR+LF can be chosen. NULL = none, CR = carriage return, LF = line feed and CR+LF = carriage return and line feed

Network Configuration

The *Network* menu allows you to set the network settings for the device.

Navigate to the *Network* menu, select either *DHCP* or *STATIC IP* as the desired IP mode. If choosing *DHCP*, make sure the INT-AS2H1U-TX is connected to a router / network switch with DHCP server support. When choosing the *STATIC IP* option, manually enter in the desired *IP ADDRESS*, *SUBNET MASK* and *GATEWAY* information, then click *CONFIRM* for changes to take place. Depending on the newly given IP address range you may need to adjust your computers IP address settings to log back into the web GUI server for the INT-AS2H1U-TX

The screenshot displays the 'Network' configuration page of the INT-AS2H1U-TX web GUI. The top navigation bar includes tabs for 'Video', 'Configuration', 'EDID', 'RS232', 'Network' (which is highlighted in blue), and 'Password'. The main content area shows the 'MAC Address' as 'CC:8C:DA:35:DC:98'. Below this, there are two radio buttons for selecting the IP mode: 'DHCP' and 'Static IP'. The 'Static IP' option is currently selected, indicated by a blue bar. Under the 'Static IP' section, there are three input fields: 'IP Address' with the value '192.168.0.178', 'Subnet Mask' with the value '255.255.255.0', and 'Gateway' with the value '192.168.0.1'. A 'Confirm' button is located below these fields. At the bottom right of the page, there is a 'Power Off' button.

Security

The *Password* menu allows you to set the admin password to a user defined password as well as lock or unlock the front panel buttons of the INT-AS2H1U-TX

Navigate to the *Security* menu, enter in a user defined password in the password field, then click *CONFIRM*. To lock or unlock the front panel buttons simply check the *ON* or *OFF* option.

The screenshot shows the web interface of the INT-AS2H1U-TX device. At the top, there is a navigation bar with six tabs: Video, Configuration, EDID, RS232, Network, and Password. The Password tab is currently selected and highlighted in blue. Below the navigation bar, the main content area is dark gray. It contains two input fields: 'User Name:' with the value 'admin' and 'New Password:' with the value 'admin'. Below these fields is a 'Confirm' button. In the bottom right corner of the main content area, there is a 'Power Off' button.

RS232 and TCP/IP Control

RS232 Settings: 9600 baud, 8 Data bits, 1 Stop bit, Parity = None

TCP/IP Settings: User defined IP address (default IP address:192.168.0.178), port 4001

There are no spaces between any of the characters in the command string. The commands are case sensitive. All commands are terminated with a carriage return (CR) and line feed (LF).

Manual A/V Routing

Description	Command	Examples
Switch to HDMI input 1	<code>#SET_AV H1</code>	Command: <code>#SET_AV H1<CR><LF></code> Response: <code>@AV H1<CR><LF></code>
Switch to HDMI input 2	<code>#SET_AV H2</code>	Command: <code>#SET_AV H2<CR><LF></code> Response: <code>@AV H2<CR><LF></code>
Switch to USB-C input	<code>#SET_AV U</code>	Command: <code>#SET_AV U<CR><LF></code> Response: <code>@AV USB-C<CR><LF></code>
Query current routing status	<code>#GET_AV</code>	Command: <code>#GET_AV</code> Response: <code>@AV H1<CR><LF></code>

Autoswitching / Routing

Description	Command	Examples
Enable autoswitching mode	#SET_AUTO_SWITCH EN	Command: #SET_AUTO_SWITCH EN<CR><LF> Response: @AUTO_SWITCH ENABLE<CR><LF>
Disable autoswitching mode	#SET_AUTO_SWITCH DIS	Command: #SET_AUTO_SWITCH DIS<CR><LF> Response: @AUTO_SWITCH DISABLE<CR><LF>
Enable TMDS switching mode. Switches based on video signal presence	#SET_AUTO_SWITCH TMDS	Command: #SET_AUTO_SWITCH TMDS<CR><LF> Response: @AUTO_SWITCH TMDS<CR><LF>
Enable 5V/HPD switching mode. Switches based on HDMI 5V / Hot Plug Detect	#SET_AUTO_SWITCH HPD	Command: #SET_AUTO_SWITCH HPD<CR><LF> Response: @AUTO_SWITCH HPD<CR><LF>
Query auto switching modes	#GET_AUTO_SWITCH	Command: #GET_AUTO_SWITCH<CR><LF> Response: @AUTO_SWITCH ENABLE<CR><LF> or @AUTO_SWITCH DISABLE<CR><LF> @AUTO_SWITCH HPD<CR><LF> OR @AUTO_SWITCH TMDS<CR><LF>

Audio Control

Description	Command	Examples
Turns the stereo analog L/R audio output ON	#SET_IIS ON	Command: #SET_IIS ON<CR><LF> Response: @IIS OUT ON<CR><LF>
Turns the stereo analog L/R audio output OFF	#SET_IIS OFF	Command: #SET_IIS OFF<CR><LF> Response: @IIS OUT OFF<CR><LF>
Query audio status	#GET_IIS	Command: #GET_IIS<CR><LF> Response: @IIS OUT ON<CR><LF> OR @IIS OUT OFF<CR><LF>

RS232 Automatic Display Configuration

Description	Command	Examples
Enables automatic display ON control	#SET_DISPLAY_CTL EN	Command: #SET_DISPLAY_CTL EN<CR><LF> Response: @DISPLAY_CTL ENABLE<CR><LF>
Disables automatic display ON control	#SET_DISPLAY_CTL DIS	Command: #SET_DISPLAY_CTL DIS<CR><LF> Response: @DISPLAY_CTL DISABLE<CR><LF>
Enables automatic display OFF control based on HDMI 5V / signal status. Sets no signal timer in minutes	#SET_NO_SIG 1 {T} {T} = 000-999 minutes	Command: #SET_NO_SIG 1 015<CR><LF> Response: @SET_NO_SIG 1 015<CR><LF>
Disables automatic display OFF control based on signal status	#SET_NO_SIG 0	Command: #SET_NO_SIG 0<CR><LF> Response: @GET_NO_SIG 0<CR><LF>
Query auto display OFF control status based on signal status	#GET_NO_SIG	Command: #GET_NO_SIG<CR><LF> Response: @GET_NO_SIG 1 015<CR><LF>
Enables automatic display OFF control based on no switching activity. Sets no switching activity timer in minutes	#SET_NO_ACT 1 {T} {T} = 000-999 minutes	Command: #SET_NO_ACT 1 100<CR><LF> Response: @SET_NO_ACT 1 100<CR><LF>
Disables automatic display OFF control based on no switching activity	#SET_NO_ACT 0	Command: #SET_NO_ACT 0<CR><LF> Response: @GET_NO_ACT 0<CR><LF>
Query auto display OFF control status based on switching activity	#GET_NO_ACT	Command: #GET_NO_ACT<CR><LF> Response: @GET_NO_ACT 1 100<CR><LF>

RS232 Automatic Display Configuration - continued

Description	Command	Examples
Sets display ON command in ASCII format	#SET_ON_A: {S} {S} = ASCII STRING	Command: #SET_ON_A: PWON<CR><LF> Response: @SET_ON_A: PWON<CR><LF>
Sets display OFF command in ASCII format	#SET_OFF_A: {S} {S} = ASCII STRING	Command: #SET_OFF_A: PWOFF<CR><LF> Response: @SET_OFF_A: PWOFF<CR><LF>
Sets display ON command in HEX format	#SET_ON_H: {H} {H} = HEX STRING	Command: #SET_ON_H: A1 A2 A3<CR><LF> Response: @SET_ON_H: A1 A2 A3<CR><LF>
Sets display OFF command in HEX format	#SET_OFF_H: {H} {H} = HEX STRING	Command: #SET_OFF_H: B1 B2 B3<CR><LF> Response: @SET_OFF_H: B1 B2 B3<CR><LF>
Sets display INPUT command in ASCII format. Sends command after display ON has been sent	#SET_ISEL_A: {S} {S} = ASCII STRING	Command: #SET_ISEL_A: INPUT1<CR><LF> Response: @SET_ISEL_A: INPUT1<CR><LF>
Sets display INPUT command in HEX format. Sends command after display ON has been sent	#SET_ISEL_H: {H} {H} = HEX STRING	Command: #SET_ISEL_H: C1 C2 C3<CR><LF> Response: @SET_ISEL_H: C1 C2 C3<CR><LF>
Sets input command delay time after display ON command has been sent	#SET_IDEL_TIME: {T} {T} = 000-999 SECONDS	Command: #SET_IDEL_TIME: 010<CR><LF> Response: @INPUT_DELAY 010<CR><LF>
Query input command delay time	#GET_IDEL_TIME	Command: #GET_IDEL_TIME<CR><LF> Response: @INPUT_DELAY 010<CR><LF>

RS232 / CEC Display On/Off Control

Description	Command	Examples
Turns display ON via CEC or RS232. Sends stored ON Rs232 command to HDBaseT receivers RS232 port	#SET_DISPLAY ON	<i>Command:</i> #SET_DISPLAY ON<CR><LF> <i>Response:</i> @DISPLAY ON<CR><LF>
Turns display OFF via CEC or RS232. Sends stored ON Rs232 command to HDBaseT receivers RS232 port	#SET_DISPLAY OFF	<i>Command:</i> #SET_DISPLAY OFF<CR><LF> <i>Response:</i> @DISPLAY OFF<CR><LF>

RS232 Pass Through Control

Description	Command	Examples
Sets baud rate of local switcher RS232 port	<pre>#SET_RS232_BAUD [B] {B} (BAUD RATE) = 1-7 1 = 2400 2 = 4800 3 = 9600 4 = 19200 5 = 38400 6 = 57600 7 = 115200</pre>	<i>Command:</i> <pre>#SET_RS232_BAUD 3<CR><LF></pre> <i>Response:</i> <pre>@RS232_BAUD 3<CR><LF></pre>
Query baud rate of local switcher RS232 port	<pre>#GET_RS232_BAUD</pre>	<i>Command:</i> <pre>#GET_RS232_BAUD<CR><LF></pre> <i>Response:</i> <pre>@RS232_BAUD 3<CR><LF></pre>
Sets baud rate of HDBaseT receivers RS232 port	<pre>#SET_FAR_BAUD [B] {B} (BAUD RATE) = 1-7 1 = 2400 2 = 4800 3 = 9600 4 = 19200 5 = 38400 6 = 57600 7 = 115200</pre>	<i>Command:</i> <pre>SET_FAR_BAUD 2<CR><LF></pre> <i>Response:</i> <pre>@RS232_FAR_BAUD 2<CR><LF></pre>
Query baud rate of HDBaseT receivers RS232 port	<pre>#GET_FAR_BAUD</pre>	<i>Command:</i> <pre>#GET_FAR_BAUD<CR><LF></pre> <i>Response:</i> <pre>@RS232_FAR_BAUD 2<CR><LF></pre>

RS232 Pass Through Control - continued

Description	Command	Examples
Transmit ASCII serial string to HDBaseT receivers RS232 port	<pre>#SET_ON_A_1:{S}</pre> <i>{S}</i> = ASCII STRING	<i>Command:</i> <pre>#SET_ON_A_1:PWON<CR><LF></pre> <i>Response:</i> <pre>@SEND_A_1: PWON<CR><LF></pre>
Transmit HEX serial string to HDBaseT receivers RS232 port	<pre>#SET_ON_H_1:{H}</pre> <i>{H}</i> = HEX STRING	<i>Command:</i> <pre>#SET_ON_H_1:D1 D2 D3<CR><LF></pre> <i>Response:</i> <pre>@SEND_H_1: D1 D2 D3<CR><LF></pre>
Transmit ASCII serial string to local switcher RS232 port	<pre>#SET_ON_A_0:{S}</pre> <i>{S}</i> = ASCII STRING	<i>Command:</i> <pre>#SET_ON_A_0:PWON<CR><LF></pre> <i>Response:</i> <pre>@SEND_A_0: PWON<CR><LF></pre>
Transmit HEX serial string to local switcher RS232 port	<pre>#SET_ON_H_0:{H}</pre> <i>{H}</i> = HEX STRING	<i>Command:</i> <pre>#SET_ON_H_0:D1 D2 D3<CR><LF></pre> <i>Response:</i> <pre>@SEND_H_0: D1 D2 D3<CR><LF></pre>

System Commands

Description	Command	Examples
Turns switcher ON	#SET_POWER ON	Command: <pre>#SET_POWER ON<CR><LF></pre> Response: <pre>@POWER ON<CR><LF></pre>
Turns switcher OFF	PWOFF.	Command: <pre>#SET_POWER OFF<CR><LF></pre> Response: <pre>@POWER OFF<CR><LF></pre>
Query power status	#GET_POWER	Command: <pre>#GET_POWER<CR><LF></pre> Response: <pre>@POWER ON OR @POWER OFF<CR><LF></pre>
Reboots switcher	#REBOOT	Command: <pre>#REBOOT<CR><LF></pre> Response: <pre>@REBOOT<CR><LF></pre>
Restores the matrix to factory defaults	#FACTORY_RESET	Command: <pre>#FACTORY_RESET<CR><LF></pre> Response: <pre>@FACTORY_RESET<CR><LF></pre>
Query current IP Address	#GET_IP_ADDR	Command: <pre>#GET_IP_ADDR<CR><LF></pre> Response: <pre>@IP_ADDR: 192.168.0.178<CR><LF></pre>

Technical Specifications

Video	
Video Inputs	(2) HDMI, (1) USB-C
Video Input Connectors	(2) HDMI Type A Female, (1) USB-C 3.0
Input video Signal	HDMI for HDMI input, ALT-DP Mode for USB-C
HDMI Input Resolution Support	Up to 4Kx2K@60Hz 4:2:0 / 8 bit deep color
USB C Input Resolution Support	Up to 4Kx2K@30Hz 4:2:0 / 8 bit deep color
Video Output	(1) HDMI, (1) HDBaseT (mirrored)
Video Output Connector	(1) Type-A Female HDMI, (1) RJ45
Output Resolution Support	Up to 3840 x 2160 @60Hz / 4:2:0 / 8 bit deep color
Standards	HDMI 2.0, HDCP 2.2 and CEC
System Bandwidth	10.2Gbps
Control	
Control Ports	(1) RS232, (1) IR IN, (1) IR OUT, (1) TCP/IP, (1) Firmware
Control Connectors	(1) 3-pin terminal blocks, (2) 3.5mm jacks, (1) RJ45, (1) Micro USB
IR Carrier Frequency Range	33-55kHz at 5 volts
HDBaseT Signal Characteristics	
Maximum Distance	70 m (up to 1080p) , 40 m (up to 4K@60Hz / 4:2:0 / 8 bit deep color)
Cable Requirements	Solid core shielded Category 6 F/UTP cable or greater with TIA/EIA-568B crimp pattern
Chassis and Environmental	
Dimensions (WxHxD)	269 mm x 30 mm x 100 mm (10.6 in x 1.2 in x 4 in)
Shipping Weight	465g (1 lbs.)
Operating Temperature	0° to +55° C (+32° to +131° F)
Operating Humidity	10% to 90%, Non-condensing
Storage Temperature	-20° to +70° C (+14° to +158° F)
Storage Humidity	10% to 90%, Non-condensing
Power, ESD, and Regulatory	
Power Supply Input	100V-240VAC / 50-60 Hz
Power Supply Output	24VDC / 4A
Power Consumption	80 watts (max)
ESD Protection	15kV
Product Regulatory	FCC, CE, RoHS
Power Supply Regulatory	CE, RoHS
Other	
Standard Warranty	5 years
Included Accessories	Quick Install Guide, (1) 5-pin Phoenix connectors, (1) IR Emitter, (1) IR Receiver, (1) RS232 to DB9 breakout cable, (1) DC24V 4A power adapter with US, EU, UK and AU power plug, (2) Rack mount ears with 4 mounting screws, (4) Plastic Cushions
Compatible Receivers	INT-HD70-RX, INT-HDX100-RX (up to 70m), INT-HDX100-RXWP (up to 70m) and INT-BSR4K-H2 (receiver must be powered locally).

Distances and picture quality may be affected by cable grade, cable quality, source and destination equipment, RF and electrical interference, and cable patches.

Thank you for your purchase.

For Technical Support please call our toll
free number at 800-530-8998 or email us at
supportlibav@libav.com

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