

# ▶ HEX70HDU-KIT

## 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.

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# Introduction

Our HEX70HDU-KIT extender kit is an industry leading 4K HDBaseT™ multi-format solution delivering HDMI, USB-C and DisplayPort™ up to lengths of 70m at 1080p (40m at 4K 60Hz 4:4:4) over a single CAT cable.

The HEX70HDU-KIT provides enhanced features including local HDMI input on the HDBaseT™ Receiver for additional source input, web GUI for control and configuration, auto display control, audio breakout, bi-directional IR pass-through, and EDID management.

The HEX70HDU-KIT has multiple control options including buttons on both TX and RX units, IR, RS-232 and TCP/IP.

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## FEATURES:

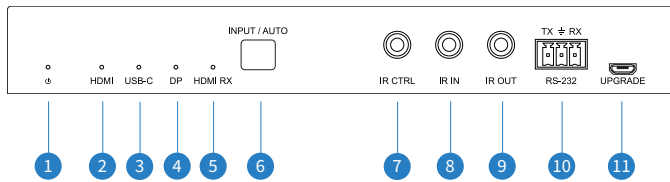
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- Advanced HDBaseT™ technology offering distribution of video and audio over a single CAT cable
- Features 1 x HDMI, 1 x USB-C, and 1 x DisplayPort™ input on the HDBaseT™ Transmitter with manual or auto source selection
- Features a local HDMI input on the HDBaseT™ Receiver for connection of a source device local to the display
- Supports 4K 60Hz 4:4:4 UHD video up to 40m
- Extends HDMI 1080p up to a distance of 70m over a single CAT cable
- Supports all known HDMI audio formats including Dolby TrueHD, Atmos, and DTS-HD Master Audio transmission
- Supports USB Type C up to 4K UHD 60Hz 4:4:4\* (DP1.2 with 60W charging capability)
- Supports DisplayPort™ up to 4K UHD 60Hz 4:4:4, 4K 30Hz 4:4:4 DP1.2
- Audio breakout to analogue L/R audio\*\* and Coaxial digital (S/PDIF) outputs concurrently
- Supports Bi-directional PoC to power extenders from either Transmitter or Receiver end
- Bi-directional IR pass-through
- Auto display on / off feature allowing control of display at the HDBaseT™ Receiver via CEC, RS-232, or Relay
- Web interface module for control and configuration of the HEX70HDU-KIT
- Control via front panel, IR, RS-232 and TCP/IP
- Advanced EDID and HDCP management

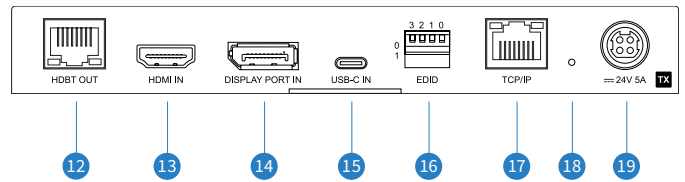
*\*USB-C video support is limited to 4K 60Hz 4:2:0 when charging feature is activated by the source device*

*\*\*Analogue audio breakout supports 2ch PCM only*

# TX Panel Description

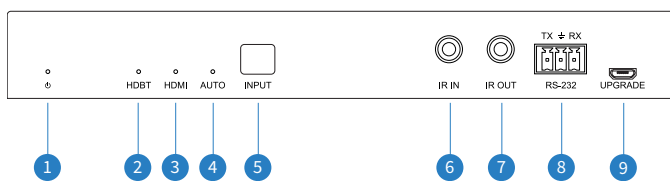


- 1 Power status indicator
- 2 Local HDMI input signal link indicator
- 3 DisplayPort™ input signal link indicator
- 4 USB-C input signal link indicator
- 5 Remote (RX) HDMI input signal link indicator
- 6 Input / Auto select button - press to change source, hold for 3 seconds to enable / disable auto signal sense switching
- 7 IR control port (to Blustream 5V 3.5mm IR receiver or IR control device)
- 8 IR IN (from Blustream 5V 3.5mm IR receiver)
- 9 IR OUT (to Blustream 5V 3.5mm IR emitter)
- 10 RS-232 - 3-pin phoenix connector for RS-232 pass through, or device control by RS-232 commands

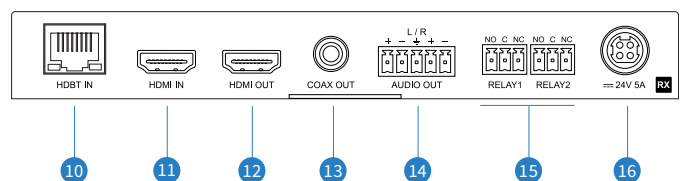


- 11 USB Upgrade port
- 12 HDBaseT™ output - connect to Receiver
- 13 HDMI input - connect to source equipment
- 14 DisplayPort™ input - connect to source equipment using a cable capable of carrying video
- 15 USB-C input - connect to source equipment
- 16 EDID DIP switch (UP=0, DOWN=1)
- 17 TCP/IP (RJ45) – connect to LAN for TCP/IP control  
Default IP of the HEX70HDU-KIT is **192.168.0.200**
- 18 Reset HEX70HDU to default IP settings
- 19 Power port – use included 24V/5A DC adaptor to power the device

# RX Panel Description



- 1 Power status indicator
- 2 Local HDBaseT™ input signal link indicator
- 3 Local HDMI input signal link indicator
- 4 Auto input signal link indicator
- 5 Input / Auto select button - press to change source, hold for 3 seconds to enable / disable auto signal sense switching
- 6 IR IN (from Blustream 5V 3.5mm IR receiver)
- 7 IR OUT (to Blustream 5V 3.5mm IR emitter)
- 8 RS-232 - 3-pin phoenix connector for RS-232 pass through, or device control by RS232 commands
- 9 USB Upgrade port



- 10 HDBaseT™ input - connect to Transmitter
- 11 HDMI input - connect to local source equipment
- 12 HDMI output - connect to display equipment
- 13 Coaxial digital audio output – extract audio from the selected input signal
- 14 L/R analogue audio outputs (5-pin phoenix) extracted audio from the selected input signal  
**Note:** Input signal must be PCM 2ch audio
- 15 Relay - 3-pin phoenix connector
- 16 Power port – use included 24V/5A DC adaptor to power the device

## USB-C Functionality

The HEX70HDU-KIT features USB-C input on the transmitter. The USB-C input supports a full 18Gbps 4K 60Hz 4:4:4 video signal. It also supports up to 60W charging, however, when charging is activated, video bandwidth is automatically limited to 10Gbps and maximum resolution up to 4K 60Hz 4:2:0 video signals.

## Front Panel LED's and Auto Switching

The HEX70HDU-KIT includes LED indicator lights to identify what input is selected. On the Transmitter if an input LED is solid then it is the selected source and in manual switching mode, if it is flashing then the unit is in auto switching mode. On the Receiver, there is an input LED for showing whether remote HDBT or local HDMI source is selected, as well as a dedicated LED indicator that will be solid if auto switching mode is enabled hence the RX LED's will not flash.

Auto switching is enabled by default on both Transmitter and Receiver. When enabled, if a source is disconnected, the HEX70HDU-KIT will go back to the previously active input, and if the previously active input isn't available it will find the next active input starting from input 1 to input 4.

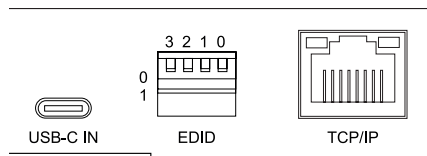
## EDID Control

EDID (Extended Display Identification Data) is a data structure that is used between a display and a source to negotiate the best audio and video resolutions that are supported in the system. A global EDID of the HEX70HDU-KIT can be configured using a combination of DIP switch settings (see below), or using IP / RS-232 commands.

### Global EDID Settings

DIP switch position '0' = Off / Up

DIP switch position '1' = On / Down



### EDID DIP Switches

- [DIP] = 0000: HDMI 1080p @60Hz, Audio 2ch PCM (default)
- [DIP] = 0001: HDMI 1080p @60Hz, Audio 5.1ch PCM/DTS/DOLBY
- [DIP] = 0010: HDMI 1080p @60Hz, Audio 7.1ch PCM/DTS/DOLBY/HD
- [DIP] = 0011: HDMI 1080i @60Hz, Audio 2ch PCM
- [DIP] = 0100: HDMI 1080i @60Hz, Audio 5.1ch PCM/DTS/DOLBY
- [DIP] = 0101: HDMI 1080i @60Hz, Audio 7.1ch PCM/DTS/DOLBY/HD
- [DIP] = 0110: HDMI 4K @60Hz 4:2:0, Audio 2ch PCM
- [DIP] = 0111: HDMI 4K @60Hz 4:2:0, Audio 5.1ch PCM/DTS/DOLBY
- [DIP] = 1000: HDMI 4K @60Hz 4:2:0, Audio 7.1ch PCM/DTS/DOLBY/HD
- [DIP] = 1001: HDMI 4K @60Hz 4:4:4, Audio 2ch PCM
- [DIP] = 1010: HDMI 4K @60Hz 4:4:4, Audio 5.1ch PCM/DTS/DOLBY
- [DIP] = 1011: HDMI 4K @60Hz 4:4:4, Audio 7.1ch PCM/DTS/DOLBY/HD
- [DIP] = 1100: DVI 1920x1080 @60Hz, Audio None
- [DIP] = 1101: DVI 1920x1200 @60Hz, Audio None
- [DIP] = 1110: EDID Passthrough
- [DIP] = 1111: Software Controlled EDID (set EDID via TCP/IP or RS-232)

## Automatic System On/Off Control

The HEX70HDU is designed to help automate basic control of AV equipment within a room without the need for a 3rd party control system. It can control devices via RS-232 and relay outputs. Its key function is to turn the system on when a video signal is sensed, and turn it off when that signal is lost.

Configuration of this functionality can be completed via RS-232. See the RS-232 Configuration and Telnet Commands section at the rear of this manual for additional information and command API.

### System On:

When the HEX70HDU detects video signal (via TMDS or 5V), the system will start and automatically perform the following actions at the same time:

- Send RS-232 On Command, then delay (between 1~180s, default 3s), then send user defined RS-232 command once configured via RS-232
- Toggle the state of relay 1 for a predetermined time (enabled by default, between 3~180s, default 10s, 0 is always open while the unit is on)

**Please note:** when setting video signal trigger to TMDS or 5V, please ensure the System On and System Off settings match or the feature may not operate correctly.

### System Off:

When the controller detects the video signal is lost, and does not receive a signal sense trigger within the delay time (between 5~180mins, default 10mins), the system will turn off and automatically perform the following actions:

- Send RS-232 Off Command, then delay (between 1~180s, default 3s), then repeat the command once configured via RS-232
- Toggle the state of relay 2 for a predetermined time (enabled by default, between 3~180s, default 10s, 0s will turn off when the unit turns stops sensing)

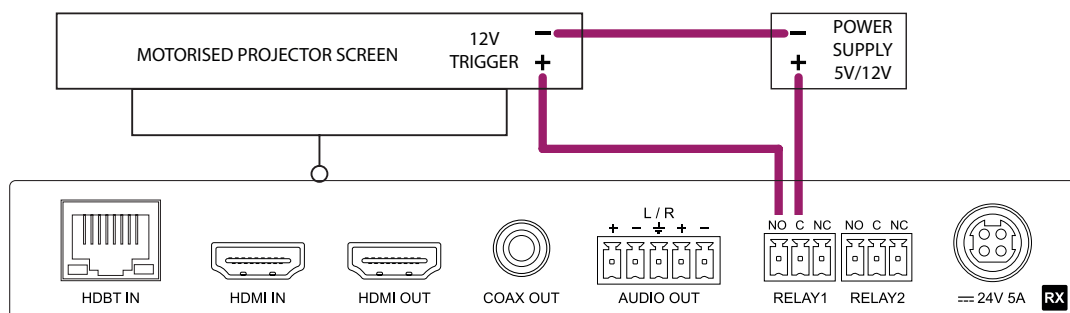
## Relay Control

The HEX70HDU-RX features relay control to trigger external devices when a HDMI signal is sensed or lost.

By default when the unit is turned on or off, both relay 1 and 2 will open for 10 seconds and then close afterwards.

- For relay 1, the delay time can be set to 0 seconds which will keep the relay open when the unit is turned on, and close the relay when the unit is turned off
- Relay 2 does not have this feature

For relay API commands, please see the RS-232 Configuration and Telnet Commands section at the rear of this manual.



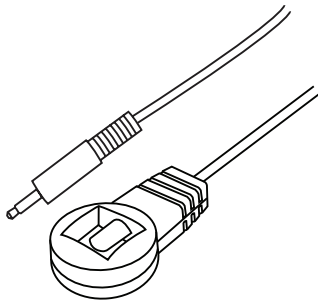
## Infrared (IR) Control

The Blustream range of extender products include source switching control via IR.

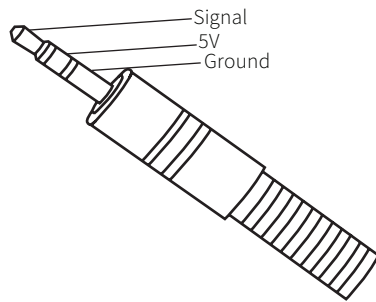
**IMPORTANT: Blustream Infrared products are all 5V and NOT compatible with alternative manufacturers Infrared solutions. When using third party 12V IR control solutions please use the Blustream IRCAB cable for IR conversion.**

### IR Receiver - IRR

Blustream 5V IR receiver to receive an IR signal for control of the extender.



### IR Receiver - Stereo 3.5mm

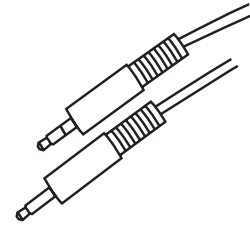


### IR Control Cable - IRCAB (not supplied)

Blustream IR Control cable 3.5mm Mono to 3.5mm Stereo for linking third party control solutions to Blustream products.

Compatible with 12V IR 3rd party products.

**Please Note:** cable is directional as indicated.



## CEC Control

The HEX70HDU features CEC control of source devices and displays via the products web GUI and RS-232. It is possible to send CEC commands such as power on / off, input selection, as well as volume up or down.

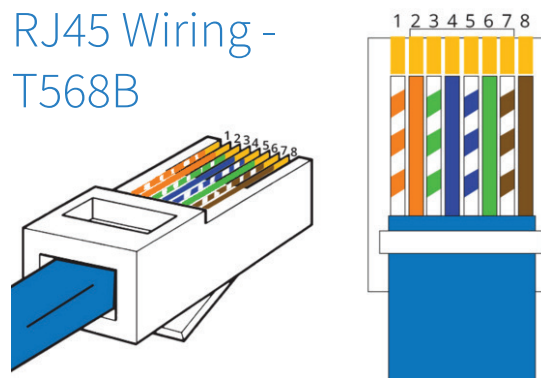
Please see the RS-232 command list at the end of this document for a full list of CEC commands available.

**Please note:** CEC is subject to the support of standardised codes for the sources and displays connected to the extender.

## Terminating CAT Cable for use with HDBaseT™

It is important that the interconnecting CAT cable between Blustream HDBaseT™ products is terminated using the correct RJ45 pin configuration. The link CAT cable MUST be a 'straight' (pin-to-pin) CAT cable, and it is advised that this is wired to the T568B wiring standard as this format is less prone to EMI (Electro-Magnetic Interference).

When installing CAT cables it is advised that you use the best possible CAT cable quality. HDMI distribution products will only work if used with CAT5e standard cable or above. Blustream recommends using a CAT6 cable (or better) for installations, especially when running longer distances, in areas of high EMI, or for 4K signal distribution. It is advised that using any method of patch panel, wall plate, or join within the CAT cable is avoided as these can add degradation to the signal. Blustream also recommend using RJ45 connectors that are recommended for use with the choice of CAT cable.



## Understanding the HDBaseT™ Status LED's

The extender includes status LED indicators on the HDBaseT™ RJ45 ports to show all connections are active, and to help diagnose potential connectivity issues.

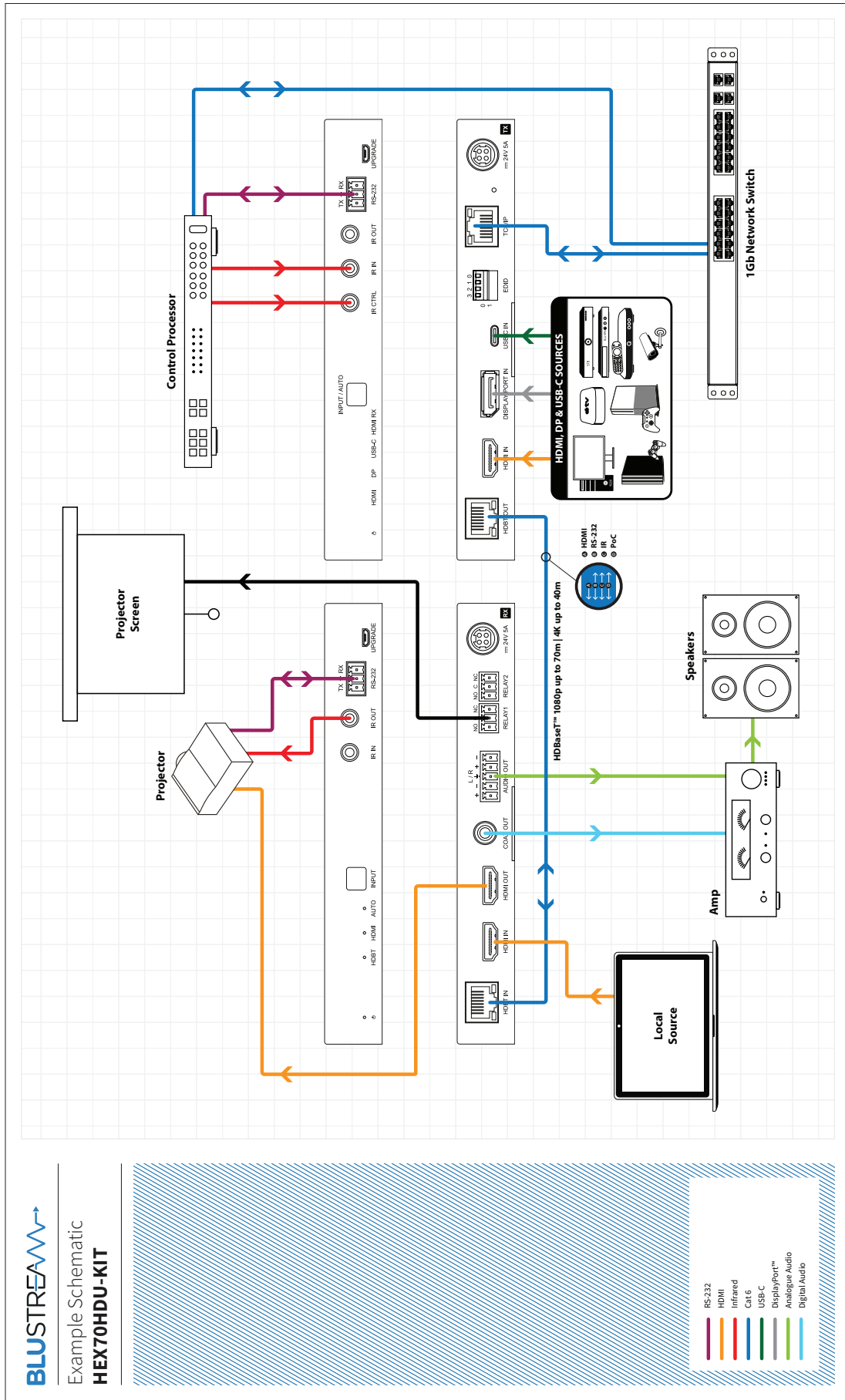
### Understanding the Status Lights - HEX70HDU-KIT:

- The yellow HDBaseT™ status link light will be OFF when there is no HDBaseT™ link established with the Blustream HDBaseT™ receiver
- The yellow HDBaseT™ status link light will be ON when there is a HDBaseT™ link established with the Blustream HDBaseT™ receiver
- The green HDBaseT™ link light will be OFF when there is no video signal being transmitted between the HDBaseT™ Transmitter and HDBaseT™ receiver
- The green HDBaseT™ link light will be ON when there is a HDCP enabled video signal being transmitted between the HDBaseT™ Transmitter and HDBaseT™ receiver
- The green HDBaseT™ link light will BLINK when there is a video signal with no HDCP being transmitted between the HDBaseT™ Transmitter and HDBaseT™ receiver

The link lights will only serve as an indication to the connectivity between the HDBaseT™ transmitter and receiver units. The LED's will not indicate a termination, bandwidth, interference or cable length issues on a CAT cable run. Blustream always recommend qualifying / verifying / certifying a CAT cable run for suitability prior to the installation of HDBaseT™ equipment.



# Schematic



## Web GUI Control

The following pages take you through the operation of the HEX70HDU web GUI. You must connect the TCP/IP RJ45 socket to your local network in order to access the product's web GUI.

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

Default IP Address is: **192.168.0.200**

Default Username is: **blustream**

Default Password is: **1234**

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

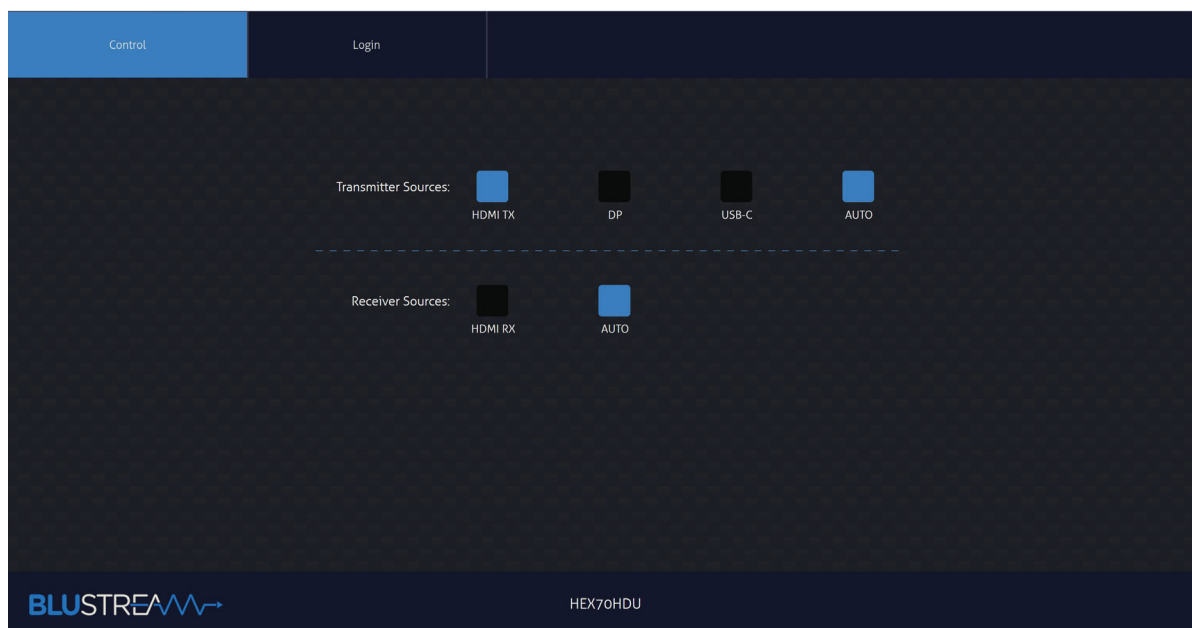
**Guest Account** - This account does not require a user to login. The Guest account can only change sources for each zone. Guest access can be changed by the Admin, limiting inputs or outputs, or deleting as necessary.

**User Accounts** - 7x User accounts can be utilised, each with individual login details. User accounts can be assigned permissions to specific areas and functions. A User must log in to make use of these functions.

**Admin Account** - This account allows full access to all functions of the kit as well as assigning users with permissions.

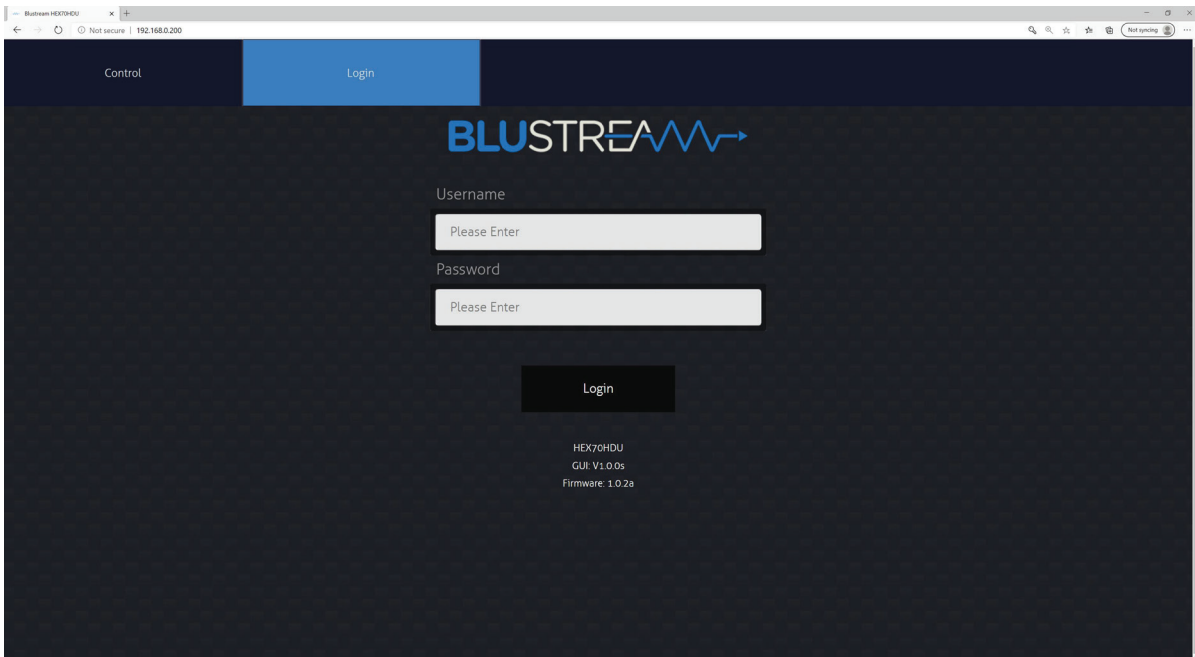
### Guest Control Page

The Guest Control page allows a guest user to change inputs without needing to be logged into the HEX70HDU. Simply select the square that corresponds with the input you wish to select.



### Login Page

The Login page allows a user or admin to login and access additional functionality. This page also shows you the current firmware version of both the kit and web GUI.

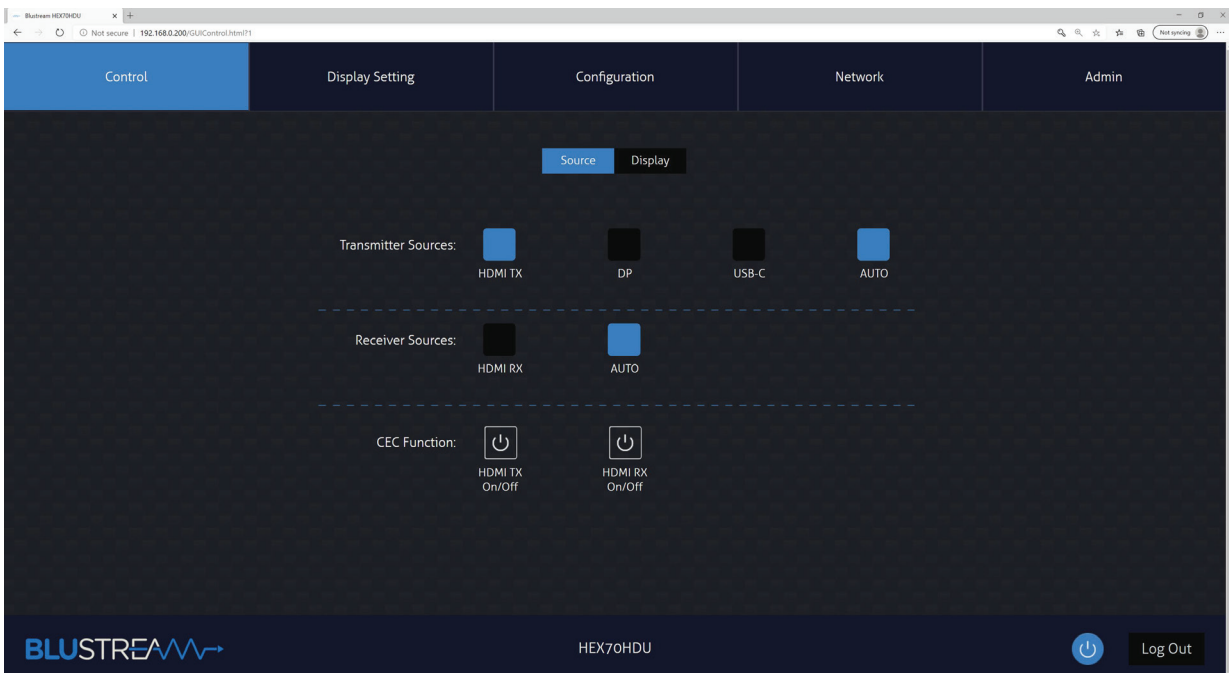


### User Control Page - Source

A logged in User or Admin Control Page allows a user to change inputs for the HEX70HDU. Simply select the square that corresponds with the input you wish to select. You can also enable or disable auto switching mode for both the transmitter and receiver independently.

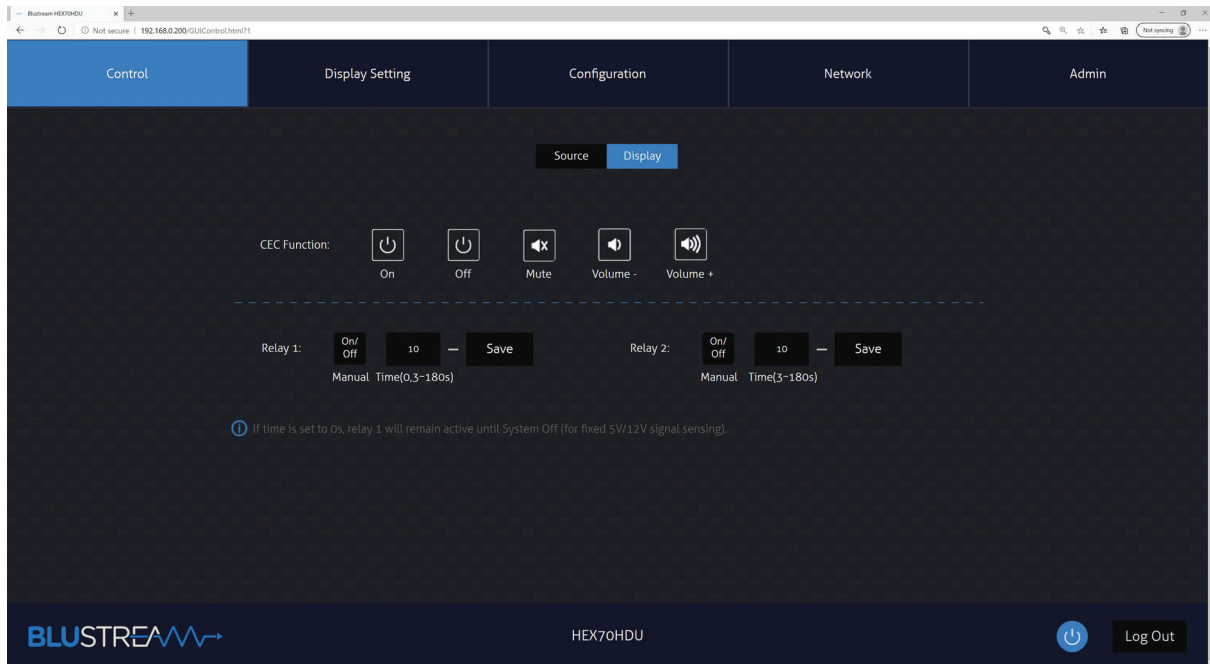
A User or Admin also has the ability to send out CEC power toggle command to either the input selected on the Transmitter or the input connected to the Receiver.

There is also a power button on the lower right corner to turn the unit on or off.



### User Control Page - Display

The User Control Display Page allows you to send CEC commands out to the display device connected to the Receiver, as well as configuring the 2 relay outputs on the Receiver, by manually opening or closing them, as well as setting the time the relay is switched for.



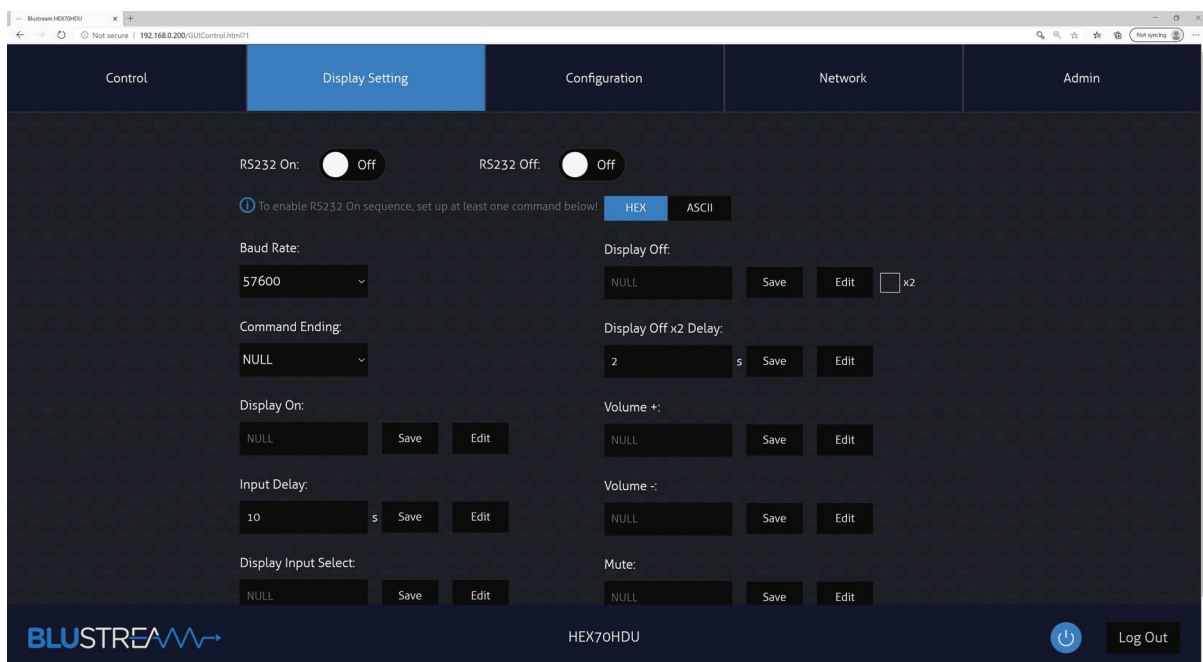
### Display Setting Page

The Display Setting Page allows you to remotely control a device connected via RS-232 to the Receiver. It is also possible to automate the display on, input select and display off process via RS-232.

If RS-232 On is enabled, the Display On and Display Input Select commands are sent out of the Receiver, when the Transmitter senses a signal.

If RS-232 Off is enabled, the User Off Command will be sent out of the Receiver, when the Transmitter stops sensing a signal.

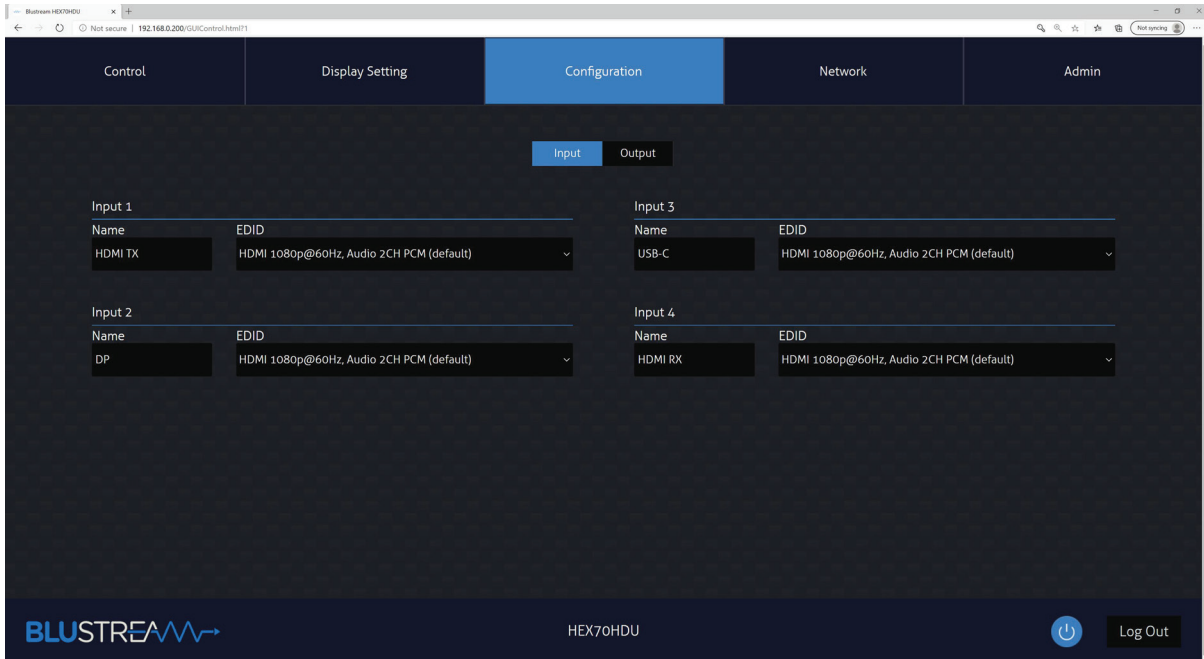
You can also specify the Baud Rate and Command Ending (eg: new line, carriage return) to the match the RS-232 device connected to the Receiver.



### Configuration Page - Input

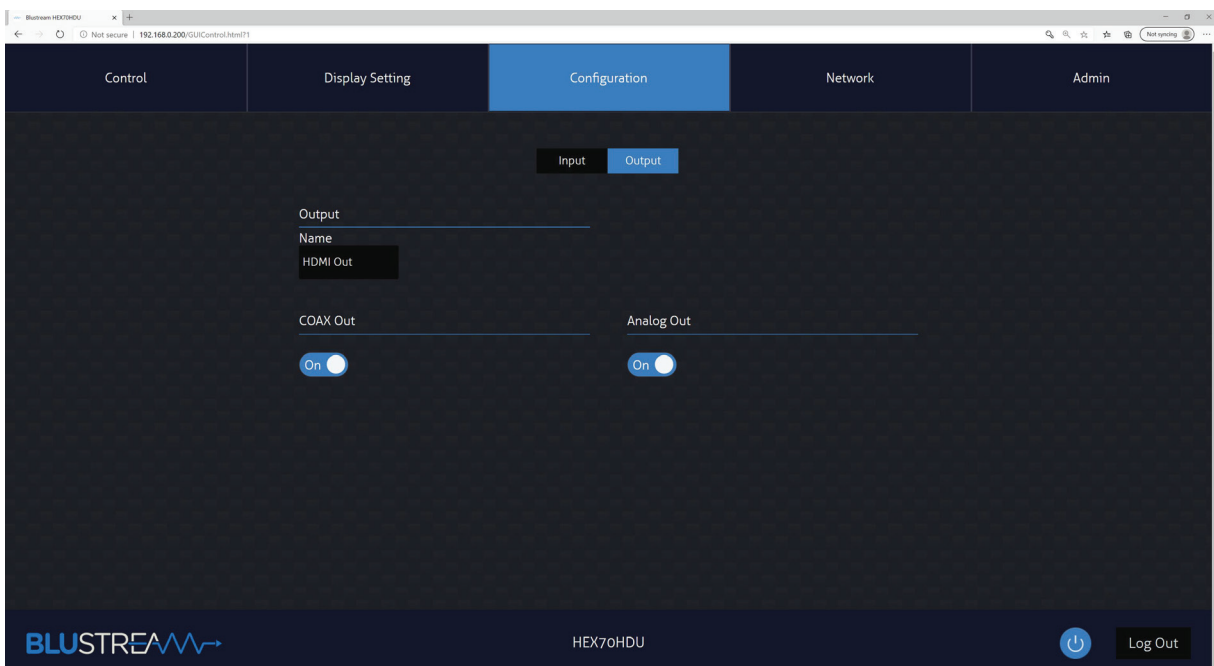
The Configuration Page allows you to configure settings to do with both inputs and outputs of the HEX70HDU. You can select the configuration for either Input or Output at the top of the page.

Within the Input Page, you can enter a Name for each input as well as specify an EDID from the drop down menu.



### Configuration Page - Output

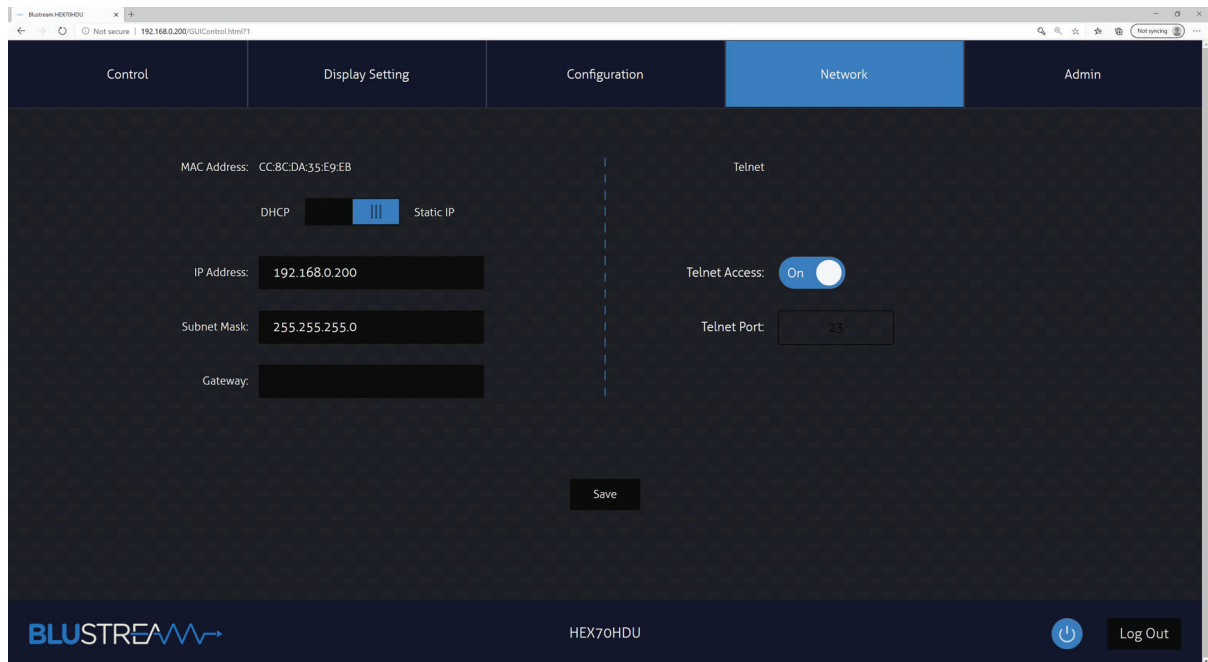
The Output Configuration Page allows you to configure settings to do with the output of the Receiver. You can enter a Name for the output as well as enable or disable the coaxial and analogue outputs.





### Network Page

The Network Page allows you to specify the TCP/IP network port settings. You can choose from Static IP or DHCP, as well as specify a fixed IP Address, Subnet Mask and Gateway. It is also possible to change or disable the Telnet port.

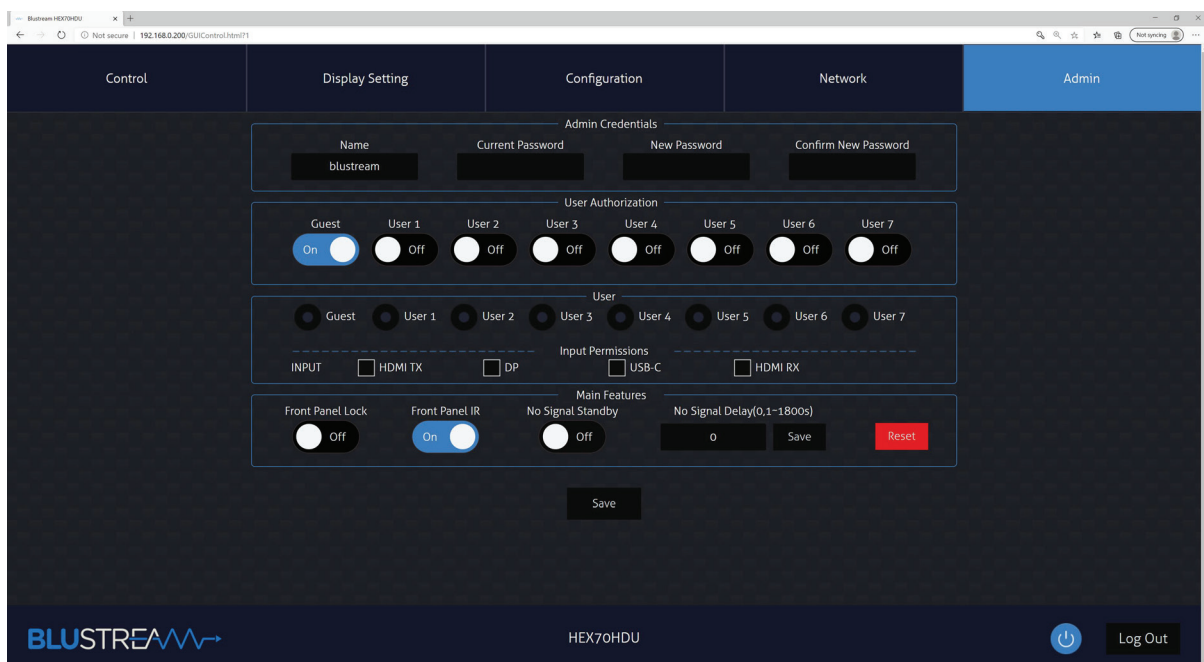


### Admin Page

The Admin Page allows the admin to configure up to 8 users including a guest user. Each user can adjust their password via this page as well.

The Admin, or Users who have been given Admin permissions, are able to allocate permissions to Users. These permissions include allowing or disallow access to each page in the Web GUI, as well as allowing or disallowing access to each input or output in the product.

The Admin Page also allows you to lock or unlock the Front Panel Buttons of the HEX70HDU-KIT as well as Factory Reset the unit.





## RS-232 Configuration and Telnet Commands

The Blustream HDBaseT™ kit can be controlled via serial and TCP/IP.

The RS-232 port is used for configuration and control of the product, as well as pass through of RS-232 commands to the Blustream HDBaseT™ receiver.

The default RS-232 communication settings are:

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

The following pages list all available serial commands.

### Commonly used Serial Commands

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

<b>STATUS</b>	Status will give feedback on the kit such as input signals, type of connection etc...
<b>PON</b>	Power on
<b>POFF</b>	Power off
<b>OUTxxFRyy</b>	(xx is the zone out, yy is the input)
Example:-	OUT01FR04 (This would switch output 1 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 OUT01ON
  - How the string may look if spaces are required: OUT{Space}01{Space}ON
- Baud rate or other serial protocol settings not correct



# RS-232 Configuration and Telnet Commands

COMMAND	ACTION
?	Print Help Information
HELP	Print Help Information
STATUS	Print System Status And Port Status
INSTA	Print All Inputs Status
OUTSTA	Print Outputs Status
CTRLSTA	Print All Controls Status
PON	Set System Power On
POFF	Set System Power Off
KEY ON/OFF	Set System Key Control On Or Off
IR ON/OFF	Set system IR Control On or Off
NOSIGDLY xxx	Set No Signal Delay Timeout To xxx (Default 0s, Range From 0s To 1800s)
RESET	Reset System To Default Setting (Type 'Yes' To Confirm, 'No' To Discard)
REBOOT	Reboot System
POCOUT ON	Set PoC Output On
POCOUT OFF	Set PoC Output Off
COAX ON/OFF	Set Coax Audio Out On Or Off

COMMAND	ACTION
ANALOGUE ON/OFF	Set Analogue Audio Out On Or Off
BALANCEDAUD ON	Set Analogue Audio Out To Balanced
BALANCEDAUD OFF	Set Analogue Audio Out To Unbalanced
TX SWITCH aa	Set Transmitter Switching To aa
RX SWITCH aa	Set Receiver Switching To aa
TX TRGON x	Set The Trigger Method x On Transmitter Input To Perform System On x = 1 - HDMI (5V) x = 2 - HDMI (TMDS)
RX TRGON x	Set The Trigger Method x On Receiver Input To Perform System On x = 1 - HDMI (5V) x = 2 - HDMI (TMDS)
OUT xx FR yy	Set Output From Input:yy xx = 00 : All RX Outputs xx = 01 : RX Output 1 yy = 01 : TX HDMI Input yy = 02 : TX DisplayPort Input yy = 03 : TX USB-C Input yy = 04 : RX HDMI Input
EDID xx DF zz	Set Inputxx EDID To Default EDID zz (EDID Dip Switch Must Be Switched To EDID Software) xx = 00: Select All Input Port xx = [01...04]: Select One Input Port zz = 00: HDMI 1080p@60Hz, Audio 2CH PCM (default) 01: HDMI 1080p@60Hz, Audio 5.1CH DTS/DOLBY 02: HDMI 1080p@60Hz, Audio 7.1CH DTS/DOLBY/HD 03: HDMI 1080i@60Hz, Audio 2CH PCM 04: HDMI 1080i@60Hz, Audio 5.1CH DTS/DOLBY 05: HDMI 1080i@60Hz, Audio 7.1CH DTS/DOLBY/HD 06: HDMI 1080p@60Hz/3D, Audio 2CH PCM 07: HDMI 1080p@60Hz/3D, Audio 5.1CH DTS/DOLBY 08: HDMI 1080p@60Hz/3D, Audio 7.1CH DTS/DOLBY/HD 09: HDMI 4K@30Hz 4:4:4, Audio 2CH PCM 10: HDMI 4K@30Hz 4:4:4, Audio 5.1CH DTS/DOLBY 11: HDMI 4K@30Hz 4:4:4, Audio 7.1CH DTS/DOLBY/HD 12: HDMI 4K@60Hz 4:2:0/4K@30Hz 4:4:4, Audio 2CH PCM 13: HDMI 4K@60Hz 4:2:0/4K@30Hz 4:4:4, Audio 5.1CH DTS/DOLBY 14: HDMI 4K@60Hz 4:2:0/4K@30Hz 4:4:4, Audio 7.1CH DTS/DOLBY/HD 15: HDMI 4K@60Hz 4:4:4, Audio 2CH PCM 16: HDMI 4K@60Hz 4:4:4, Audio 5.1CH DTS/DOLBY 17: HDMI 4K@60Hz 4:4:4, Audio 7.1CH DTS/DOLBY/HD 18: DVI 1280x1024@60Hz, Audio None 19: DVI 1920x1080@60Hz, Audio None 20: DVI 1920x1200@60Hz, Audio None 21: HDMI 1920x1200@60Hz, Audio 2CH PCM/6CH PCM 22: User EDID 1 23: User EDID 2 24: EDID Passthrough

# RS-232 Configuration and Telnet Commands

COMMAND	ACTION
EDID xx CP yy	Set Input xx EDID Copy From Output yy
EDID SAVE zz	Save EDID File From PC Into User Slot zz zz=22: User EDID 1 zz=23: User EDID 2
RELAY xx MODE yy	Set Relay xx to Mode yy xx = 00 : All Relays xx = 01 : Relay 1 xx = 02 : Relay 2 yy = 01 : Disable NO And Enable NC yy = 02 : Enable NO And Disable NC
RELAY1 xxx	Set The Relay Delay 1 Time To xxx.(Default 10s, Range From 3s To 180s) Triggered When System On. If xxx = 000 Relay 1 Will Remain Active Until System Off(For Fixed 5V/12V Signal Sensing).
RELAY2 xxx	Set The Relay Delay 2 Time To xxx.(Default 10s, Range From 3s To 180s) Triggered When System Off.
OUT xx PON	Send Output xx CEC And RS232 Power On Command
OUT xx POFF	Send Output xx CEC And RS232 Power Off Command
OUT xx VOLUP	Send Output xx CEC And RS232 Vol Up Command
OUT xx VOLDOWN	Send Output xx CEC And RS232 Vol Down Command
OUT xx MUTE	Send Output xx CEC And RS232 Mute Toggle
OUT xx INPUT yy	Send Output xx CEC Input Channel yy xx = 01 : RX HDMI Output yy = 00 : Next HDMI Channel yy = [01...15] : HDMI Channel 01 To HDMI Channel 15
IN xx CEC POWER	Send Input xx CEC Power Toggle Command xx = 01 : TX HDMI Input xx = 02 : RX HDMI Input
RS232BAUD z	Set RS232 Baud Rate To z z = 1 2400, 2 4800, 3 9600, 4 19200, 5 38400, 6 57600 (default), 7 115200"

COMMAND	ACTION
RS232ON x:y:z:a	Send y Type Of Command a Stored In Slot x Whose Baud Rate Is z x = 1 Send RS232 Display On x = 2 Send RS232 Display Input Select x = 3 Send RS232 User Command 1 x = 4 Send RS232 User Command 2 x = 5 Send RS232 Volume Up x = 6 Send RS232 Volume Down x = 7 Send RS232 Volume Mute y = a ASCII, h HEX z = 1 2400, 2 4800, 3 9600, 4 19200, 5 38400, 6 57600 (Default), 7 115200 a = RS232 Command
RS232OFF y:z:a	Set RS232 Off Command a Of y Type Whose Baud Rate Is z y = a ASCII, h HEX z = 1 2400, 2 4800, 3 9600, 4 19200, 5 38400, 6 57600 (Default), 7 115200 a = RS232 command
RS232ON DISABLE	Disable Auto RS232 Commands When Detecting A Signal
RS232OFF DISABLE	Disable Auto RS232 Commands When Not Detecting A Signal
RS232RPT x	Set x Number Of Times RS232 OFF Command Is Repeated (Default 1 Time, Range From 1 Time To 2 Times)
RS232RPTDLY xx	Set The Sending Interval Time In xx Second(s) Between RS232 OFFs (Default 2s, Range From 1s To 10s)
RS232INPUTDLY xx	Set The Sending Interval Time In xx Second(s) Between RS232 ONs (Default 10s, Range From 1s To 30s)
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 RB	Set Network Reboot and Apply New Config
NET TN xxxx	Set Telnet Port
NET DHCP ON/OFF	Set Auto IP(DHCP) ON Or OFF

# Specifications

## HEX70HDU-TX Transmitter

- **Video Input Connectors:** 1 x HDMI Type A, 19-pin, female; 1 x USB Type C; 1 x DisplayPort™
- **Video Output Connectors:** 1 x HDBaseT™ RJ45 connector
- **RS-232 Serial Port:** 1 x 3-pin phoenix connector
- **TCP/IP Control:** 1 x RJ45, female
- **IR Input Ports:** 2 x 3.5mm stereo jack
- **IR Output Port:** 1 x 3.5mm mono jack
- **EDID:** 4-pin DIP switch
- **Product Upgrade:** 1 x Micro USB, female
- **Local Power Input:** 1 x 24V/5A 4-PIN DIN connector
- **Casing Dimensions (W x H x D):** 180mm x 23.5mm x 155mm

## HEX70HDU-RX Receiver

- **Video Input Connectors:** 1 x HDMI Type A, 19-pin, female; 1 x HDBaseT™ RJ45 connector
- **Video Output Connectors:** 1 x HDMI Type A, 19-pin, female
- **Audio Output Connectors:** 5-pin phoenix connector (2ch balanced / unbalanced analogue audio); 1 x RCA (S/PDIF)
- **RS-232 Serial Port:** 1 x 3-pin phoenix connector
- **Relay Control:** 2 x 3-pin Phoenix connectors
- **IR Input Port:** 1 x 3.5mm stereo jack
- **IR Output Port:** 1 x 3.5mm mono jack
- **Product Upgrade:** 1 x Micro USB, female
- **Local Power Input:** 1 x 24V/5A 4-PIN DIN connector
- **Casing Dimensions (W x H x D):** 180mm x 23.5mm x 155mm
  
- **Operating Temperature:** 32°F to 104°F (-5°C to +55°C)
- **Storage Temperature:** -4°F to 140°F (-25°C to +70°C)
- **Shipping Weight:** 2.3kg
- **Power Supply:** 24V/5A DC

**NOTE:** Specifications are subject to change without notice. Weights and dimensions are approximate.

# Package Contents

- 1 x HEX70HDU-TX
- 1 x HEX70HDU-RX
- 1 x 24V/5A DC Power Supply
- 1 x IR Emitter
- 1 x IR Receiver
- 1 x RS-232 Control Cable
- 2 x Mounting Kits
- 1 x Quick Reference Guide

# Acknowledgements

DisplayPort™ and the DisplayPort™ logo are trademarks owned by the Video Electronics Standards Association (VESA®) in the United States and other countries.

## 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.

### CANADA, AVIS D'INDUSTRY CANADA (IC)

Cet appareil numérique de classe B est conforme aux normes canadiennes ICES-003.

Son fonctionnement est soumis aux deux conditions suivantes : (1) cet appareil ne doit pas causer d'interférence et (2) cet appareil doit accepter toute interférence, notamment les interférences qui peuvent affecter son fonctionnement.

### 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.



