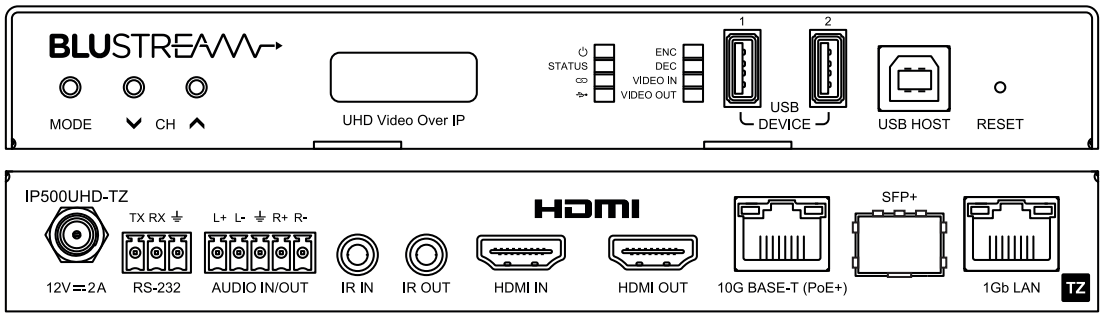


Blustream Multicast IP500UHD-TZ

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 are highly recommended in order to protect and extend the life of your equipment.

Safety And Performance Notice

The transmission distances of HDMI over UTP cables are measured using TE CONNECTIVITY 1427071-6.

EIA/TIA-568-B termination (T568B) of cables is recommended for optimal performance.

To minimise interference of the unshielded twisted pairs in the CAT5e/6/6a cable do not run the Cat5e/6/6a cabling with or in close parallel proximity to mains power cables.

Do not substitute or use any other power supply other than approved PoE network products or approved Blustream power supplies.

Do not disassemble any Blustream Multicast products for any reason. Doing so will void the manufacturer's warranty.

Contents

Introduction

The Blustream IP500UHD Transceiver is a SDVoE Compliant AV over IP solution that provides the highest-quality, uncompromised 4K with zero latency Audio/Video extension over copper or optical fibre 10G network. The IP500UHD-TZ includes support for HDMI 2.0 including distribution of HDR (High Dynamic Range), 10/12-bit colour content and multi-channel HD audio signals.

The IP500UHD-TZ provides advanced features including PoE+ and transmission of multiple control and data signals alongside audio and video, including IR, RS-232, USB (KVM) and 1Gb Ethernet. The IP500UHD-TZ is ideal for 18Gbps HDMI installations where multiple transceivers can be combined with one or more 10GbE copper / fibre switches to form a distributed video matrix, multi-viewer, or video wall system.

Features

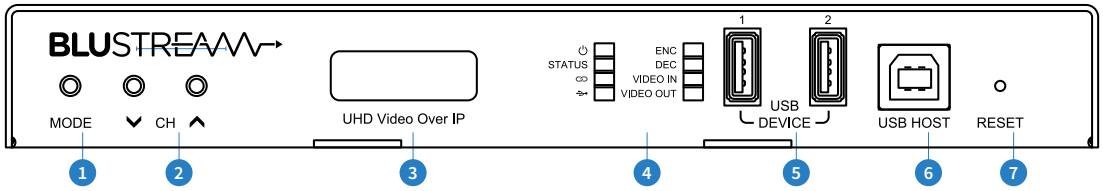
- Advanced 18Gbps UHD Video over 10Gb network with visually lossless compression, and zero latency
- Supports HDMI 2.0 18Gbps specification with pass-through for up to 4K 60Hz 4:4:4 and 10/12-bit HDR sources, including Dolby Vision*
- Supports video scaling and seamless switching
- Supports all known HDMI audio formats including Dolby Atmos, Dolby TrueHD, Dolby Digital Plus and DTS-HD Master Audio transmission
- Features 4 operational modes:
  - Matrix distribution (requires 10Gb network switch)
  - Video Wall (requires 10Gb network switch)
  - Multiview mode (requires 10Gb network switch)
  - One-to-one HDMI extender (no network switch required)
- Supports fixed signal routing function for IR, RS-232, CEC and USB
- USB end to end/point to point pass-through
- Analogue L/R audio embedding and audio breakout (balanced and unbalanced)
- Bi-directional 10/100/1000BaseT Ethernet pass-through
- Supports bi-directional 5V or 12V IR pass-through
- PoE (Power over Ethernet) to power Blustream products from PoE+ switch
- HDCP 2.2 compliant with advanced EDID management
- Local 12V 2A power supply (should Ethernet switch not support PoE+)

*HDR and Dolby Vision content requires Genlock mode to be enabled (video scaler in passthrough mode)

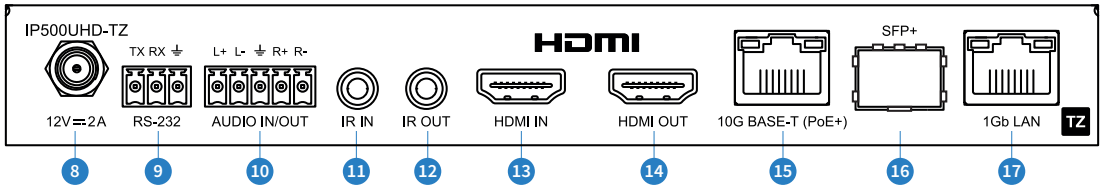
Please note: The Blustream Multicast system distributes HDMI video over 10Gb managed network hardware. It is advised that Blustream Multicast products are connected on an independent network switch to prevent interference or drop in signal performance due to other network products. Please take care to make sure that you have read and understood the instructions in the User Manual available to download from the Blustream website, and that you have setup your network switch correctly prior to connecting any Blustream Multicast products. Failure to do so may result in problems with configuration of the system and video performance.

Panel Description - IP500UHD-TZ Transceiver

Front Panel



Rear Panel



1. Mode Button - Press and hold for 10 seconds to toggle the mode between Transmitter or Receiver mode
2. Channel Up/Down Buttons - in both TX and RX mode, press and hold up button for 3 seconds to enter sub menu, or press and hold both up and down buttons for 10 seconds to enter the local configuration mode.
   When in RX mode and not in a menu, the up and down arrows will cycle through the source TX selected
3. OLED Display - Displays important information about the device, as well as configuration menus
4. Status LED's - Power LED illuminates when device is powered
   - Status LED illuminates when device MCU is active
   - Link LED illuminates when the device has a link with another IP500UHD-TZ device
   - USB LED illuminates when USB device is connected
   - ENC LED illuminates when device is in Encoder / TX mode
   - DEC LED illuminates when device is in Decoder / RX mode
   - Video In LED illuminates when video source is being received
   - Video Out LED illuminates when video output device is connected
5. USB Devices - Connect USB peripheral devices
6. USB Host – Connect USB host PC
7. Reset button - Press and hold for 5 seconds to factory reset the product
8. DC Power – Use 12V 2A DC adaptor (sold separately) if not using a PoE+ network switch
9. RS-232 Port – Connect to third party control device to extend RS-232 commands to any IP500UHD-TZ device
10. L/R Analogue Audio Input/Output - Balanced or unbalanced 2ch audio selectable input or output.
    Please note: source input must be PCM 2ch audio for analogue audio output to work
11. IR Input – 3.5mm stereo jack. Transmits IR to any IP500UHD-TZ currently viewing or being viewed. Use supplied Blustream 5V IR Receiver. When using the Blustream IRCAB cable (optional) ensure cable direction is correct
12. IR Output – 3.5mm mono jack – Routed IR from any IP500UHD-TZ allowing source or display control. Use supplied Blustream 5V IR emitter
13. HDMI Input – Connect to a HDMI source
14. HDMI Output – Connect to a HDMI display
15. 10G BaseT Connection (PoE+) - Connect to 10Gb Layer 3 Managed switch HDMI video distribution
16. SFP+ connection - Connect to 10Gb Layer 3 Managed switch SFP+ port for HDMI video distribution
17. 1Gb LAN Connection - Connect to network switch for Ethernet passthrough

IP500UHD-TZ Transmitter / Receiver Mode Configuration

All IP500UHD-TZ Transceivers are configured by default into Transmitter / Encoder mode. To toggle between Transmitter / Encoder and Receiver / Decoder mode, press and hold the MODE button on the front panel of the unit for 10 seconds. After the unit reboots, the OLED display will then show the product has switched to Receiver / Decoder mode. The mode can also be configured via the ACM500. Please see the ACM500 User Manual, downloadable from the Blustream website, for more information on how to complete this.

The IP500UHD-TZ OLED display will show different information, or menu system, depending on what mode is selected. The display will turn off after 30 seconds of inactivity. The table below outlines all of the configuration settings:

Transmitter / Encoder Mode	Receiver / Decoder Mode
Front Display: 1st line shows TX name (does not scroll), eg: • TX: Transmitter 001 2nd line scrolls through TX IP and TX ID every 5 seconds, eg: • TX: IP 169.254.3.1 • TX: ID 001	**Front Display:** 1st line scrolls through RX Name, RX ID, and RX IP every 5 seconds, eg: • RX: Receiver 001 • RX: ID 001 • RX: IP 169.254.6.1 2nd line scrolls through the TX information being viewed: TX Name, TX ID, and TX IP every 5 seconds, eg: • TX: Transmitter 001 • TX: ID 001 • TX: IP 169.254.3.1
Press and hold UP and DOWN buttons for 5 seconds to enter the Local Config menu	
Local Config: • Transmitter ID This will set the Transmitter ID as well as its related IP addresses eg: if ID is set to 004, new IP and SSIP addresses will be 169.254.3.4 and 169.254.103.4 respectively.	**Local Config:** • Receiver ID This will set the Receiver ID as well as its related IP addresses eg: if ID is set to 003, new IP and SSIP addresses will be 169.254.6.3 and 169.254.106.3 respectively.
Press and hold UP and DOWN buttons for 5 seconds to confirm the new ID	
Press and hold UP button for 5 seconds to enter the TX or RX Config sub menu	
TX Sub Menu Config: • Audio • F/W Info • SFP Info • IP Info • EDID	**RX Sub Menu Config:** • Scaler • F/W Info • SFP Info • IP Info • Viewing Mode • Max Channel
Use Up and DOWN buttons to highlight the item to be selected Press and hold UP and DOWN buttons for 5 seconds to enter the sub menu	
F/W Info: • SDVoE: 1.2.0.2 • GUI: 1.10.04 • MCU: 1.10.20 • Back	**F/W Info:** • SDVoE: 1.2.0.2 • GUI: 1.10.04 • MCU: 1.10.20 • Back
SFP Info: • MAC: 6CDFFB000203 • Gateway: 169.254.100.1 • Subnet: 255.255.0.0 • 169.254.103.1 • Back	**SFP Info:** • MAC: 6CDFFB000203 • Gateway: 169.254.100.1 • Subnet: 255.255.0.0 • 169.254.106.1 • Back
IP Info: • MAC: 6CDFFB000202 • Gateway: 169.254.100.1 • Subnet: 255.255.0.0 • IP: 169.254.3.1 • Back	**IP Info:** • MAC: 6CDFFB000202 • Gateway: 169.254.100.1 • Subnet: 255.255.0.0 • IP: 169.254.3.1 • Back
EDID: • 00: 1080p 2ch • 01: 1080p 5.1ch • 02: 1080p 7.1ch • 03: 1080i 2ch • 04: 1080i 5.1ch • 05: 1080i 7.1ch • 06: 1080p 3D 2ch • 07: 1080p 3D 5.1ch • 08: 1080p 3D 7.1ch • 09: 4k30 444 2ch • 10: 4k30 444 5.1ch • 11: 4k30 444 7.1ch • 12: 4k60 420 2ch • 13: 4k30 420.1ch • 14: 4k30 420 7.1ch • 15: 4k60 444 2ch • 16: 4k60 444 5.1ch • 17: 4k60 444 7.1ch • 18: 4k60 444 2ch HDR • 19: 4k60 444 5.1ch HDR • 20: 4k60 444 7.1ch HDR • Back	**Scaler:** • 00: Passthrough • 01: 720x480@60 4:3 • 02: 720x480@60 16:9 • 03: 720x576@50 4:3 • 04: 720x576@50 16:9 • 05: 1280x720@24 • 06: 1280x720@25 • 07: 1280x720@30 • 08: 1280x720@50 • 09: 1280x720@60 • 10: 1920x1080@24 • 11: 1920x1080@25 • 12: 1920x1080@30 • 13: 1920x1080@50 • 14: 1920x1080@60 • 15: 3840x2160@24 • 16: 3840x2160@25 • 17: 3840x2160@30 • 18: 3840x2160@50 • 19: 3840x2160@60 • 20: 4096x2160@24 • 21: 4096x2160@25 • 22: 4096x2160@30 • 23: 4096x2160@50 • 24: 4096x2160@60 • Back
Audio: • Auto Audio • HDMI Audio • Analogue Audio. • Back	**Max Channel:** • MAX TX: 000 - x (where x is the max channels that an Rx can scroll through, and 000 is the ablity to view all channels/TX's) • Back
	Viewing Mode • 'MATRIX' or 'VIDEOWALL' or 'MULTIVIEW' • Back
Settings menu will time out and return to main display after 20 seconds of inactivity	

Understanding IP500UHD-TZ Product Status Lights

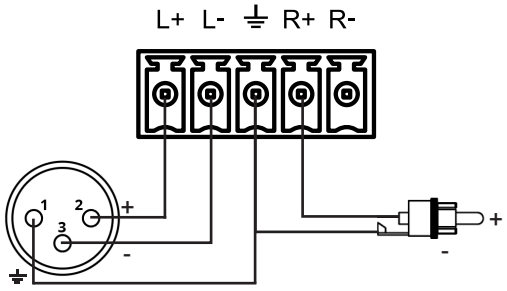
IP500UHD-TZ devices have several LED lights to indicate connectivity status, or to help diagnose connection problems.

Multicast Status Lights

1. Power LED illuminates when device is powered
2. Status LED illuminates when device MCU is active
3. Link LED illuminates when the device has a link with another IP500UHD-TZ device
4. USB LED illuminates when USB device is connected
5. ENC LED illuminates when device is in Encoder / Transmitter mode
6. DEC LED illuminates when device is in Decoder / Receiver mode
7. Video In LED illuminates when video source is being received
8. Video Out LED illuminates when video output device is connected
9. LAN PoE status light - solid Orange indicates PoE from the network switch powering the Multicast product
10. LAN status light - solid Green indicates active network connection

Audio Connections

The IP500UHD-TZ features a single analogue audio input/output that is selectable via the ACM500.



Audio Input Mode

The analogue line level input can be used to replace the original HDMI audio of the source connected to the Multicast Transmitter with analogue L/R 2ch line level audio. The embedded analogue audio is then distributed with the adjacent HDMI video signal throughout the Multicast system.
Switching between original HDMI audio and embedded line level analogue 2ch audio is achieved using Blustream serial/Telnet/IP commands, or by selecting the Audio Source within the ACM500 web-GUI or front panel of the unit.
Please note: It is only possible to select EITHER HDMI audio or local analogue line input. It is not possible to distribute both audio sources simultaneously.

Audio Output Mode

The analogue line level output can be used to breakout the embedded 2ch analogue source audio from the HDMI input signal.
Please note: The source input must be PCM 2ch audio for the analogue audio output to work. The Blustream Multicast products do not down-mix multichannel audio signals.

Network Port Configuration

The Blustream IP500UHD system features three physical network connections:

- 10G Base-T (PoE+) RJ45 connection to distribute video via a 10Gbps network infrastructure. It features PoE+ support for powering the tranceiver from a PoE+ network switch.
- SFP+ connection to support video distribution over greater cabling distances via the use of optic fibre cables and SFP+ modules (not included).
- 1Gb LAN connection for passing ethernet traffic trough to connected devices

Note: The SFP+ port should use UL Listed Optional Transceiver product, Rated 3.3Vdc, Laser Class 1.

HDMI over IP Network Configuration

The Blustream Multicast system distributes HDMI video over Layer 3 Managed network hardware. It is advised that Blustream Multicast products are connected to an independent network switch to prevent interference or drop in signal performance due to other network products bandwidth requirements.

Blustream Multicast products are not limited to certain brands of network hardware, but should a network switch that Blustream have not tested or written instructions for be used, ensure it supports the following network features:

Multicast - (one-to-many or many-to-many distribution) is group communication where information is addressed to a group of network devices simultaneously (Blustream IP250UHD-RX Receivers).

Instant Leave / Fast Leave / Immediate Leave - a feature associated with Multicast and means that as soon as an active connection is no longer required (the link between Transmitter and Receiver) the Multicast group and flow of track is stopped instantly. This prevents unnecessary flow of network traffic on the network switch.

IGMP Snooping - the process of listening to Internet Group Management Protocol (IGMP) network traffic. The feature allows a network switch to listen in on the IGMP conversation between hosts and routers (Transmitters and Receivers). By listening to this flow of traffic the switch maintains a map of which links need which IP multicast streams. Multicasts may be filtered from the links which do not need them and thus controls which ports receive specific multicast traffic.

Jumbo Frames / Jumo Packets / MTU - Ethernet frames with more than 1,500 bytes of payload. Conventionally, jumbo frames can carry up to 9,000 bytes of payload.

Please note: Blustream have worked with many network switch providers to create setup guides and saved configuration files to help configure the products to work with Multicast hardware. These configuration files can be downloaded from the Blustream website, by selecting the "LAN Switch Guides" button on any Multicast product page.

Configuration & Control of an IP500UHD Multicast System

Blustream recommend the use of an ACM500 for configuration and control of the IP500HD Multicast system.

The Blustream ACM500 includes a web interface module for simple configuration and control of a Multicast system. The web-GUI features 'drag and drop' source selection with video preview, control of independent routing of IR, RS-232, USB/KVM, Audio and Video. Pre-built Blustream product drivers simplify Multicast control and configuration and negate the need for an understanding of complex network infrastructures. We strongly recommend every IP500UHD Multicast system utilises an ACM500. Please see the ACM500 User Manual for further information.

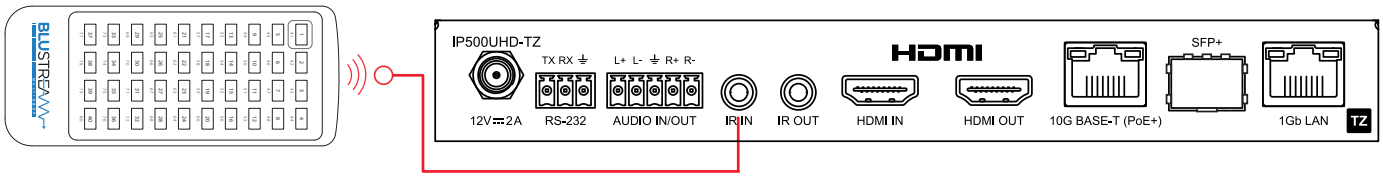
InfraRed Control

The Blustream Multicast system can be controlled using local IR hardware connected directly to the IP500UHD-TZ in Receiver mode. This prevents the need for a third party control solution for switching. Only the source selection feature is available using local IR control through the Receiver. For advanced features such as video wall mode, audio embedding etc RS-232 or TCP/IP control will be required via the ACM500.

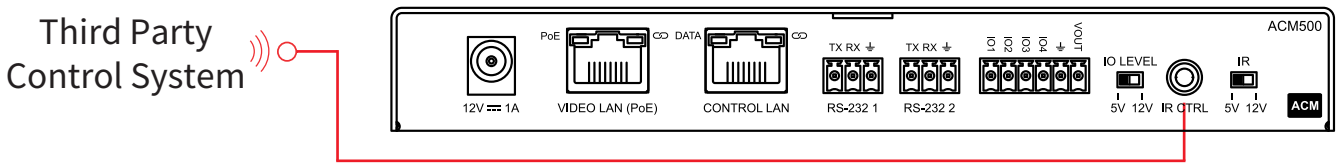
Blustream have created 80x IR commands allowing source selection of up to 80x IP500UHD-TZ in Transmitter mode. For systems larger than 80x source devices (IP50UHD-TX) the ACM500 control module is required.

For the complete database of Multicast IR commands, please visit the Blustream website page for any Multicast product, click on the "Drivers & Protocols" button, and navigate to the folder named "Multicast IR Control".

Infrared Control of IP500UHD-TZ in Receiver mode using REM100 (sold separately):



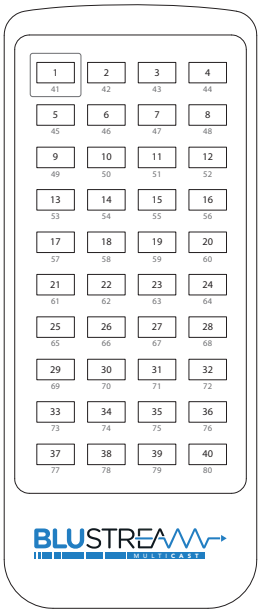
Infrared Control using Third Party Control System and ACM500



Remote Control - REM100

Input (Transmitter) Selection

The Blustream REM100 remote control can be used at any Blustream Multicast IP500UHD-TZ in Receiver mode and can select up to 80x source inputs (IP500UHD-TZ in Transmitter mode).



Using the remote:

Sources 1-40 are selected using the input selection buttons 1-40.

Sources 41-80 are selected by first activating the ‘secondary control mode’ which is achieved by pressing and holding source button 1 (top left) for 5 seconds. Once this mode is active the buttons 1-40 are now selecting sources 41-80.

To return control back to source inputs 1-40 simply press and hold source button 1 for 5 seconds to revert to ‘main control mode’.

InfraRed Distribution

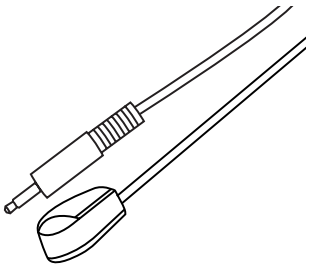
The Blustream range of Multicast products include multiple options for control and routing of IR.

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.

Each Blustream Multicast unit is supplied with both an IR Receiver and Emitter, details below:

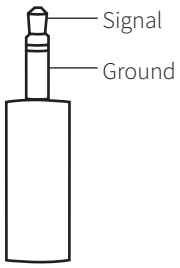
IR Emitter - IER1 & IRE2 (IRE2 sold separately)

Blustream 5V IR Emitter designed for discrete IR control of hardware



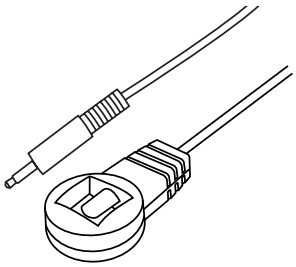
Infrared 3.5mm Pin-Out

IR Emitter - Mono 3.5mm

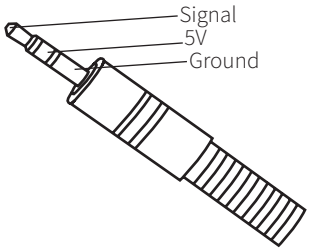


IR Receiver - IRR

Blustream 5V IR receiver to receive IR signal and distribute through Blustream products



IR Receiver - Stereo 3.5mm

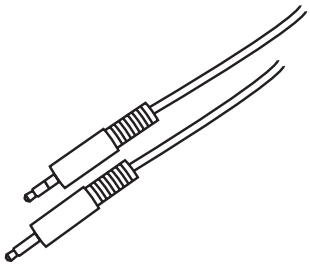


IR Control Cable - IRCAB (sold separately)

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

Compatible with 12V IR third party products.

Please note: Cable is directional as indicated



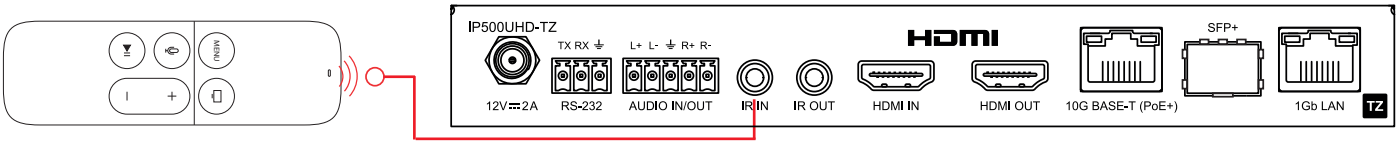
InfraRed Pass-Through (Source Control)

The Multicast products feature InfraRed pass-through allowing users to use an original source remote to control the sources located remotely.

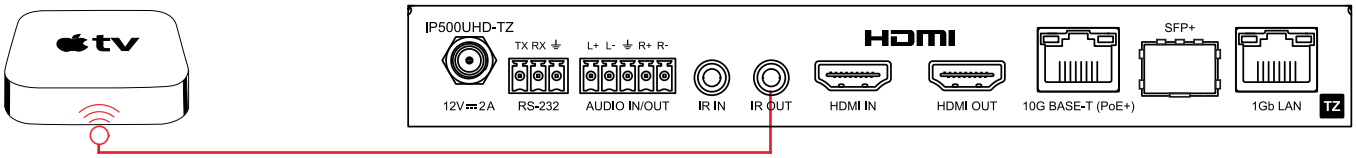
The IR signal is routed discreetly to the source that is currently selected, meaning that individual source control can be achieved with installations consisting of multiple source equipment of the same type, i.e. - multiple Satellite boxes of the same make / model.

Connections:

The IRR - IR receiver is connected to the IR IN socket on the IP500UHD-TZ in Receiver mode.



The IRE1 - IR emitter is connected to the IR OUT socket on the IP500UHD-TZ in Transmitter mode and the bud should be located directly on top of the IR receiver window of the source device.



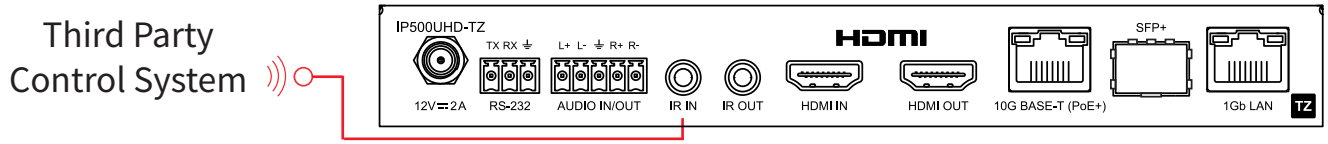
InfraRed Pass-Through (Display Control)

Using the ACM500 control module, IR can be routed independently from any IP500UHD-TZ in Transmitter mode to any IP500UHD-TZ in Receiver mode for discrete display control, regardless of the current video stream routing between a receiver and another transmitter.

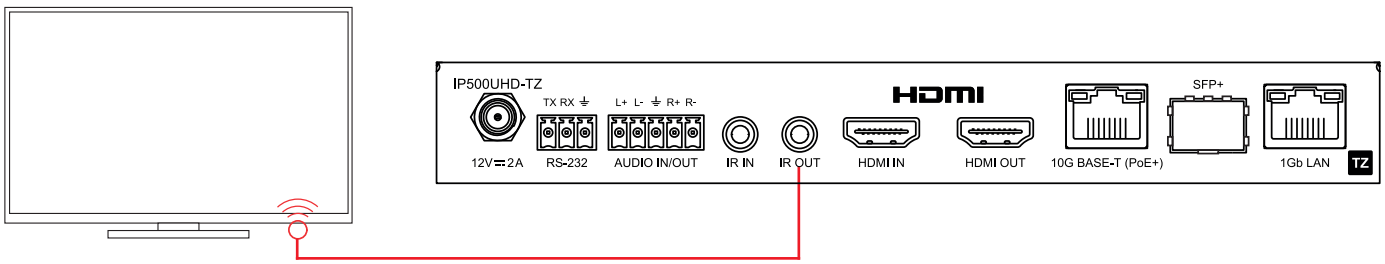
Please note: It is possible to create a one-to-one relationship between any Transmitter and Receiver however it is not possible to create a one-to-many relationship. Each Transmitter must go to a discrete Receiver. It is also possible to set up a one-to-all relation either from 1 Transmitter to all Receivers, or from 1 Receiver to all Transmitters. This is controlled within the ACM500.

Connections:

When using a third party IR control solutions please either use Blustream IRCAB cable for IR conversion from 12V to 5V, or set up the IR voltage for each unit via the ACM500 and use a straight-through 3.5mm mono to stereo cable. Connect the IR output of the third party control system to the IR IN of the IP500UHD-TZ in Transmitter mode.



The IRE1 - IR emitter is connected to the IR OUT socket on the IP500UHD-TZ in Receiver mode and the bud should be located directly on top of the IR receiver window of the display device.



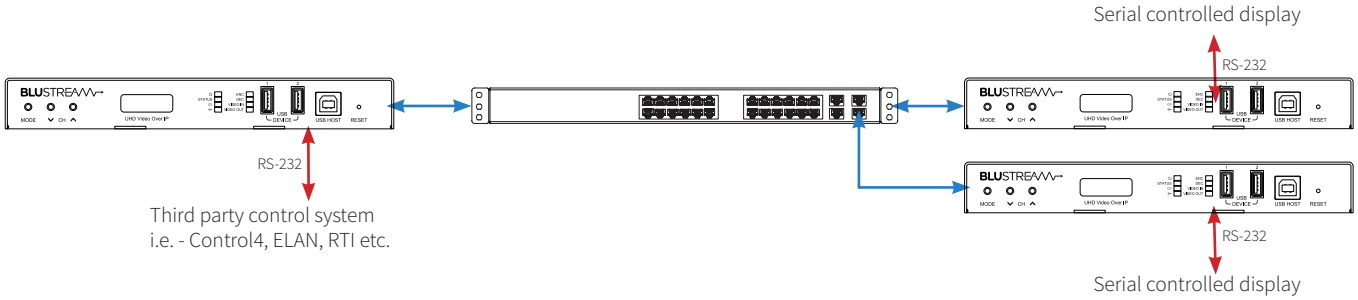
RS-232 (Serial) Bi-Directional Pass-Through

Multicast products feature bi-directional RS-232 pass-through for control of products using serial commands.

There are multiple methods for distribution of RS-232 using the Blustream Multicast solution which include:

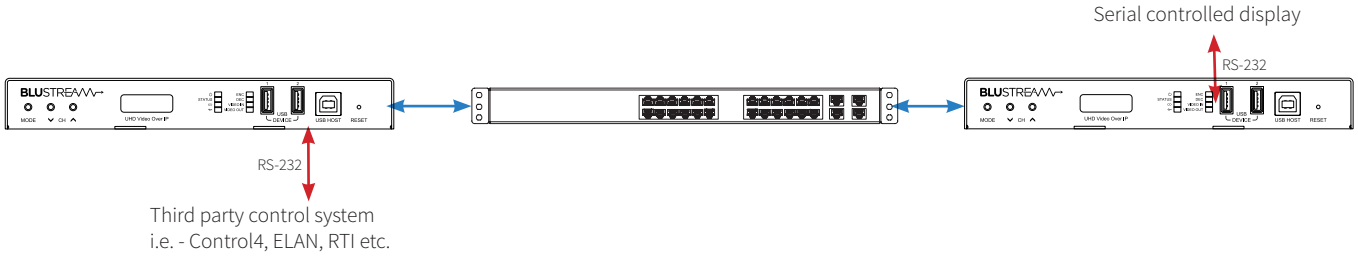
1) RS-232 Follow Mode

The default mode for the IP500UHD-TZ devices is RS-232 Follow Mode. This is where a device in Transmitter Mode will send or receive RS-232 commands to any devices in Receiver Mode that are connected to it. A device in Receiver Mode will send and receive RS-232 commands to the Transmitter it has selected. When a Receiver changes the source or Transmitter it si viewing, the RS-232 route will be updated.



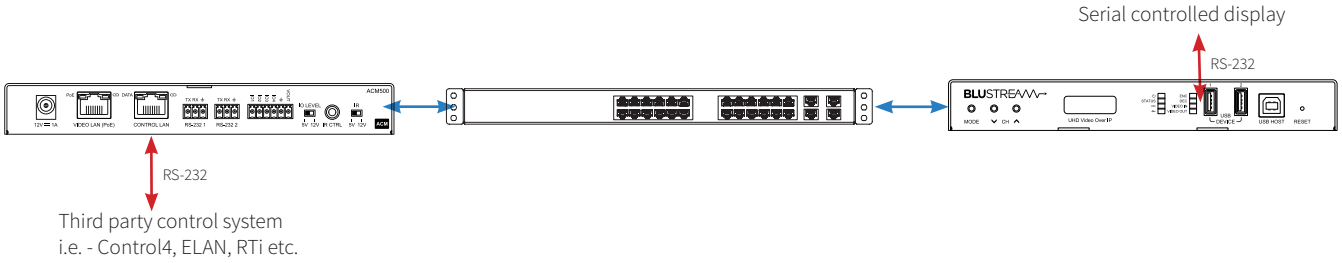
2) RS-232 Fixed Routing Mode

Within the ACM500 you can specify a fixed RS-232 route between any Transmitter and Receiver. This RS-232 route will be fixed regardless of what video source is being viewed on the Receiver. It is possible to have multiple Receivers with fixed routes to a single Transmitter in this mode.



3) RS-232 Guest Mode - Telnet/IP conversion to RS-232

This method of control converts a Telnet/IP control command into an RS-232 command. A link is programmed that creates an open connection between an ACM500 control module and any IP500UHD-TZ in Transmitter or Receiver mode within the system. Telnet/IP commands are sent into the ACM500 from a third party control solution. This is then converted into an RS-232/serial command for control of third party products connected to the IP500UHD-TZ.



Please note: Only one method of RS-232 pass-through can be used at the same time. It is not possible to mix different methods of RS-232 control simultaneously.

Accessing the IP500UHD-TZ Web-GUI Interface

Each Blustream Multicast product is shipped with a default fixed IP address of 169.254.100.254. Once the PC network is amended to work in the same IP range as the fixed IP of the Multicast products, it is possible to communicate directly with the built-in web server in each Multicast IP500UHD-TZ Transceiver.

Following configuration using the ACM500 web-GUI, by manual configuration, or the web-GUI interface of the product, the unit will have a different IP address to that of the factory default. The front panel of the device should display its IP address.

The ACM500 web-GUI can also be used to show all connected Multicast products within a system. Entering the fixed IP address (for a singular new unit), or the configured IP address of a configured unit, into a web browser on a PC, gives access to the units configuration for monitoring, resetting, firmware upgrading, or further configuration.

On entering the unit IP address into a web browser, a username and password prompt will be displayed.

Enter the username: **blustream**

Enter the password: **1 2 3 4**

The firs time you log in to the device you will be asked to update the password. Please record this password as it is non-recoverable and you may need to factory reset the device in case of a lost password.

Transmitter Mode:

When in transmitter mode, the first device to be assigned an IP address when using the ACM500 web-GUI, will be given the web GUI IP address of 169.254.103.1. The next unit in transmitter mode will be assigned an IP address of 169.254.103.2 and so on....

Once the IP range of 169.254.103.x is filled (254 units), the unit will be auto-assigned of an IP address from 169.254.104.1 and so on...

Once the IP range of 169.254.104.x is filled (254 units), the unit will be auto-assigned of an IP address from 169.254.105.1 up to 169.254.5.254 - this gives a maximum configuration of 762x devices in transmitter mode in any system using the ACM500 web-GUI.

Receiver Mode:

When in receiver mode, the first device to be assigned an IP address when using the ACM500 web-GUI, will be given the IP address of 169.254.106.1. The next unit in receiver mode will be assigned an IP address of 169.254.106.2 and so on....

Once the IP range of 169.254.106.x is filled (254 units), the unit will be auto-assigned of an IP address from 169.254.107.1 and so on...

Once the IP range of 169.254.107.x is filled (254 units), the unit will be auto-assigned of an IP address from 169.254.108.1 up to 169.254.8.254 - this gives a maximum configuration of 762x receivers in any system using the ACM500 web-GUI.

This part of the guide will explain the use of directly communicating with an individual unit. It is assumed the IP address of the unit is known. The units web-GUI is similar in function to the ACM500 with many of the options in the web-GUI being concurrently available within the ACM500, however the units web-GUI should primarily be used as a tool for checking configuration, or problem solving, rather than as a method for setting up a new system.

Multicast Web-GUI - IP500UHD-TZ

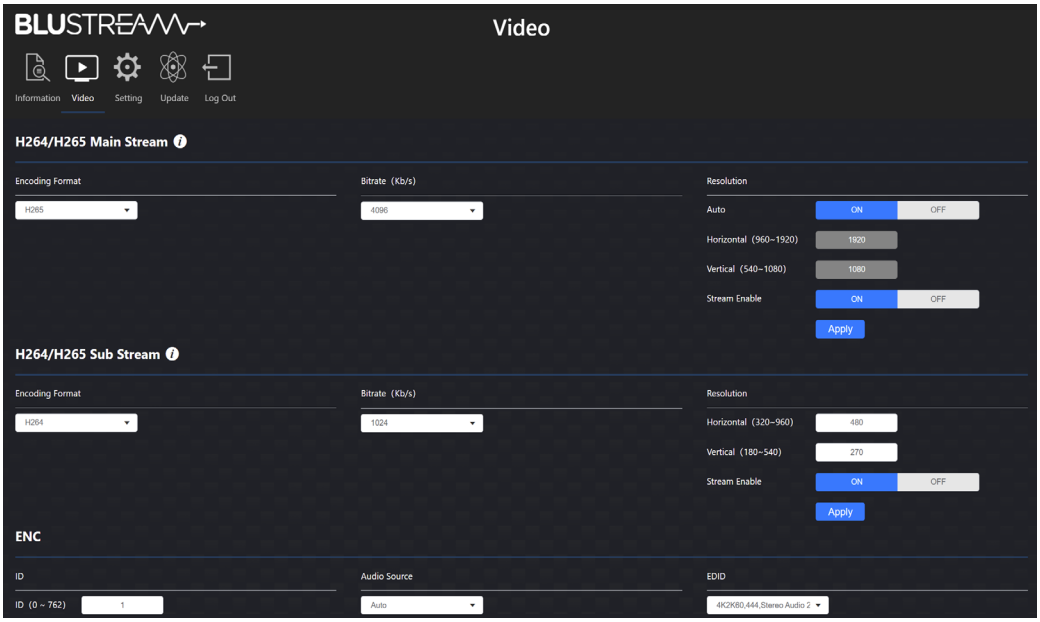
The menu structure for the built-in web-GUI of the IP500UHD-TZ is as follows:

Information Page (same for both Transmitter Mode and Receiver Mode):

The Information Page provides an overview of the individual unit, including important details such as firmware version and IP address information.

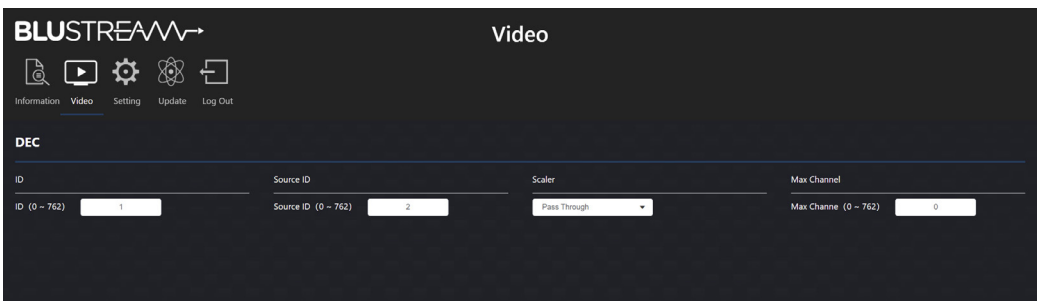
Video Page (Transmitter Mode):

The Video Page in Transmitter Mode allows you to adjust video encoding settings for the Main Stream and Sub Stream being output by the device. It is possible to adjust the video encoding mode between H265 and H264, encoding bitrate, as well as encoding resolution. It is also possible to adjust the ID of the device in Transmitter Mode, select the audio source between the HDMI input signal or the analogue input signal, and adjust the EDID setting of the unit.



Video Page (Receiver Mode):

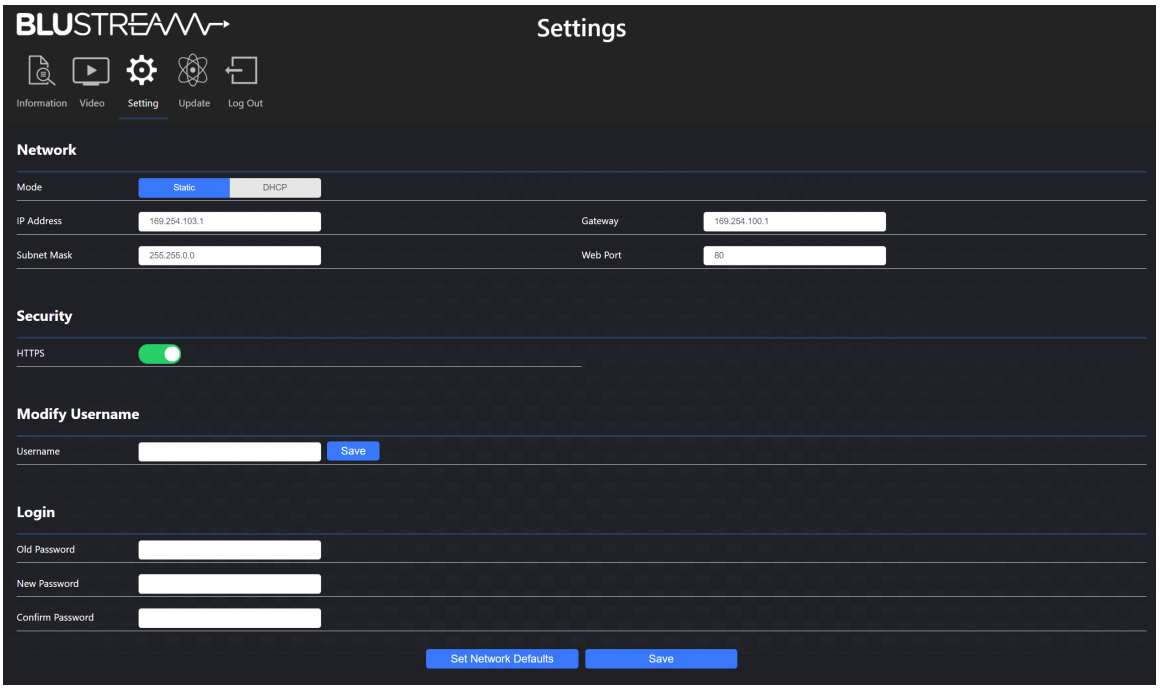
The Video Page in Receiver Mode allows you to adjust the ID of the device in Receiver Mode, select the source ID of the Transmitter source you wish to view, adjust the scaler output settings or set a maximum number of channels the video selection via the front panel will allow you to choose from.



Multicast Web-GUI - IP500UHD-TZ

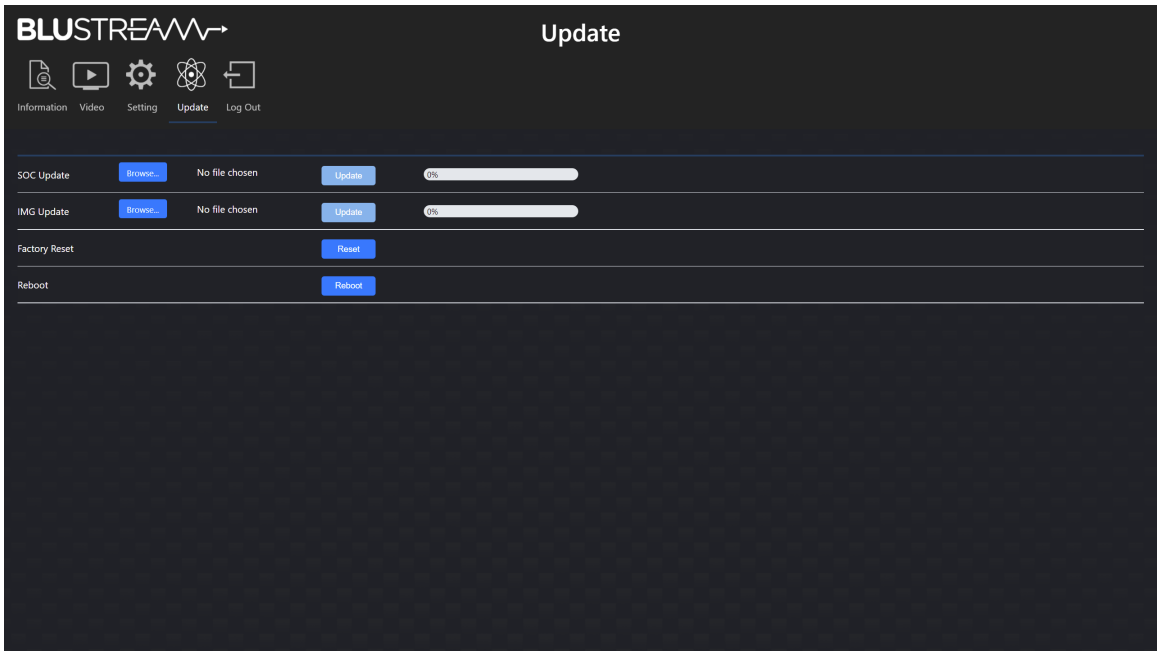
Settings Page (same for both Transmitter Mode and Receiver Mode):

The Settings Page allows you to adjust the network configuration settings such as DHCP or Static IP mode, the devices IP address, as well as enable or disable HTTPS security within the web GUI. It also allows you to change the admin username and password if required.



Update Page (same for both Transmitter Mode and Receiver Mode):

The Update Page allows you to update the firmware of the web GUI of the device. You can also Factory Reset the unit or reboot it.



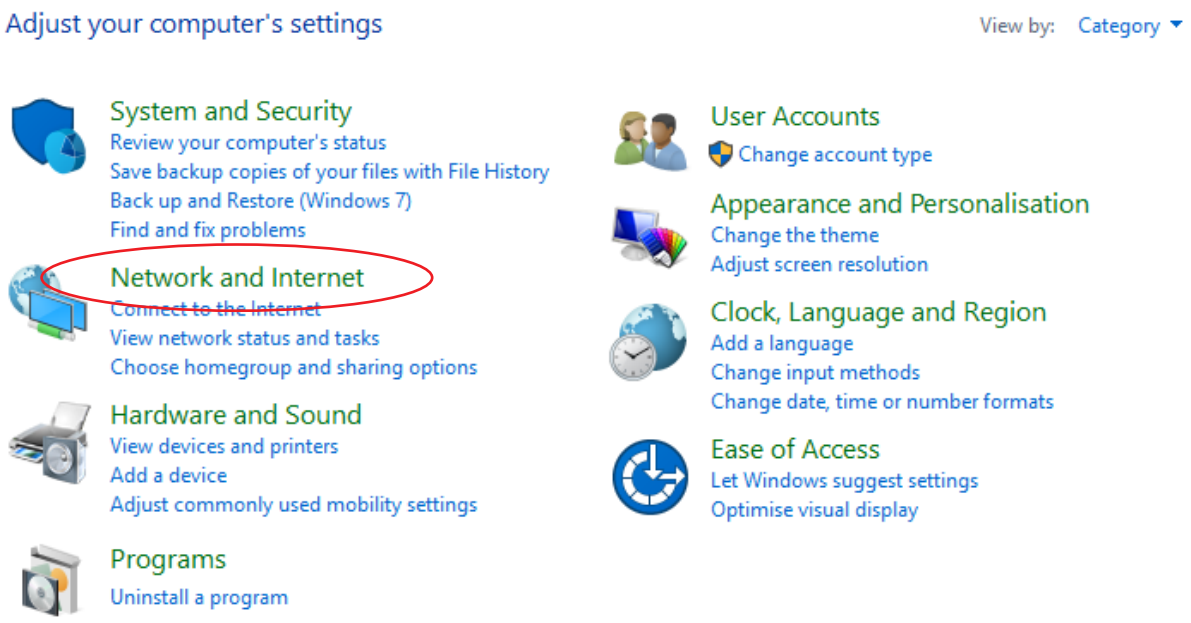
Changing a Computer IP address

To communicate with the Control Network or Multicast Video Network, the IP Address of the computer being used may need to be amended to communicate with the either network.

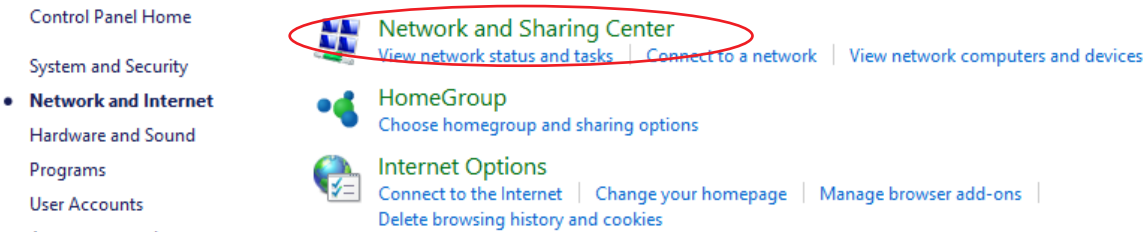
1) Connect the computer to the Multicast network switch using an Ethernet cable.

2) In the Windows toolbar navigate to 'CONTROL PANEL'.

3) Select 'NETWORK AND INTERNET'.

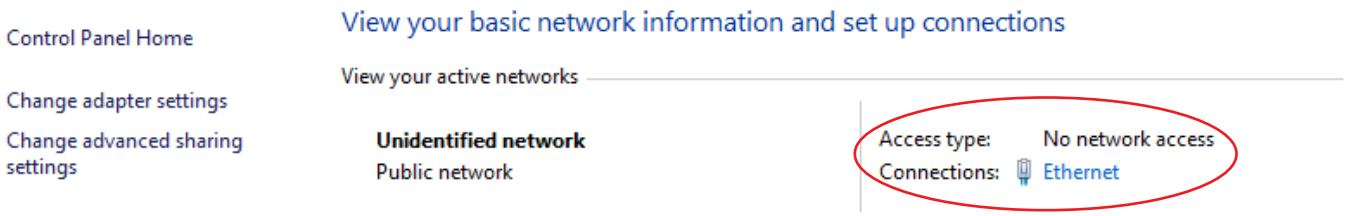


5) Select 'NETWORK AND SHARING CENTER'.

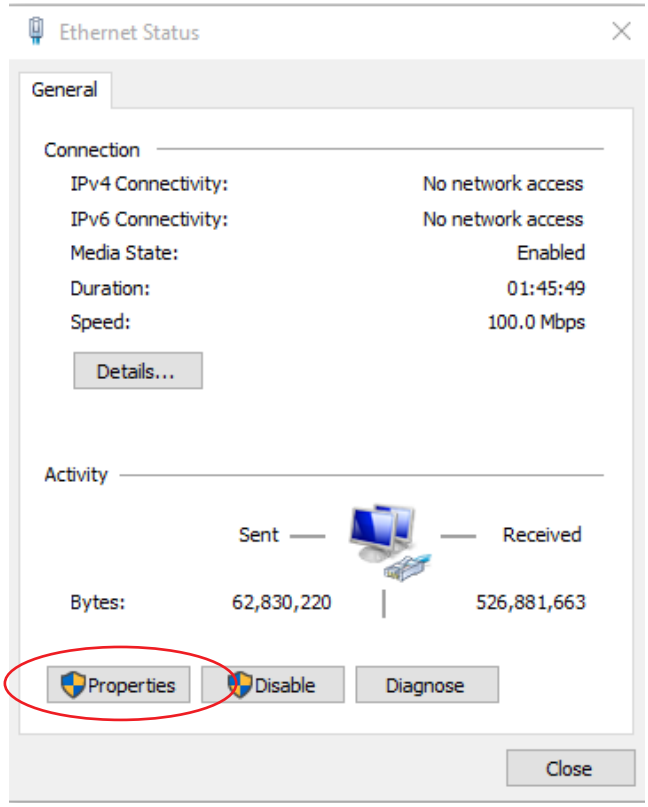


6) Under 'View your Active Networks' see connection types available.

Select 'Local Area Connection' as this is the method of communication being used with the switch.

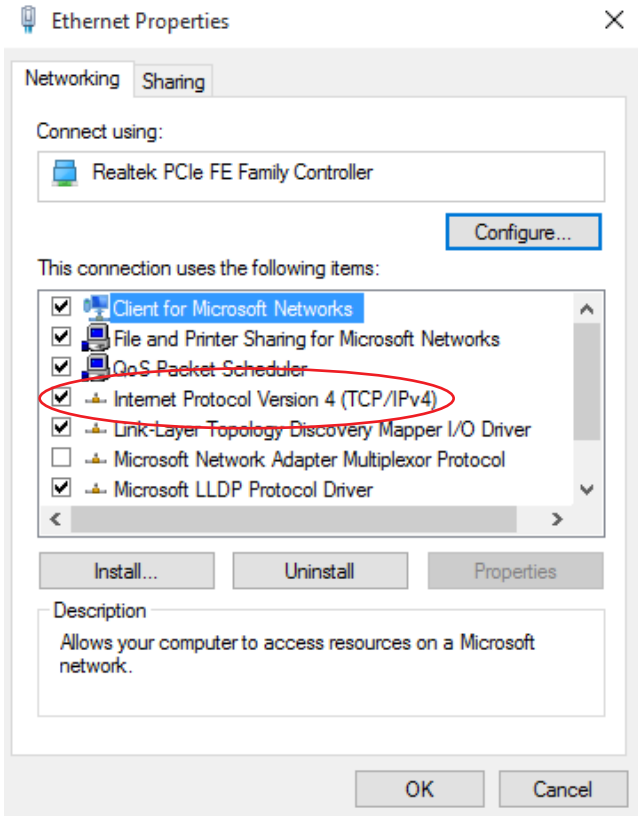


7) In the next window select 'PROPERTIES'



8) A. In the 'NETWORKING' window highlight/select 'INTERNET PROTOCOL VERSION 4 (TCP/IPv4)'

B. Select 'PROPERTIES', or double click on 'INTERNET PROTOCOL VERSION 4 (TCP/IPv4)'



9) A. Under the 'General' tab select 'USE THE FOLLOWING IP ADDRESS'

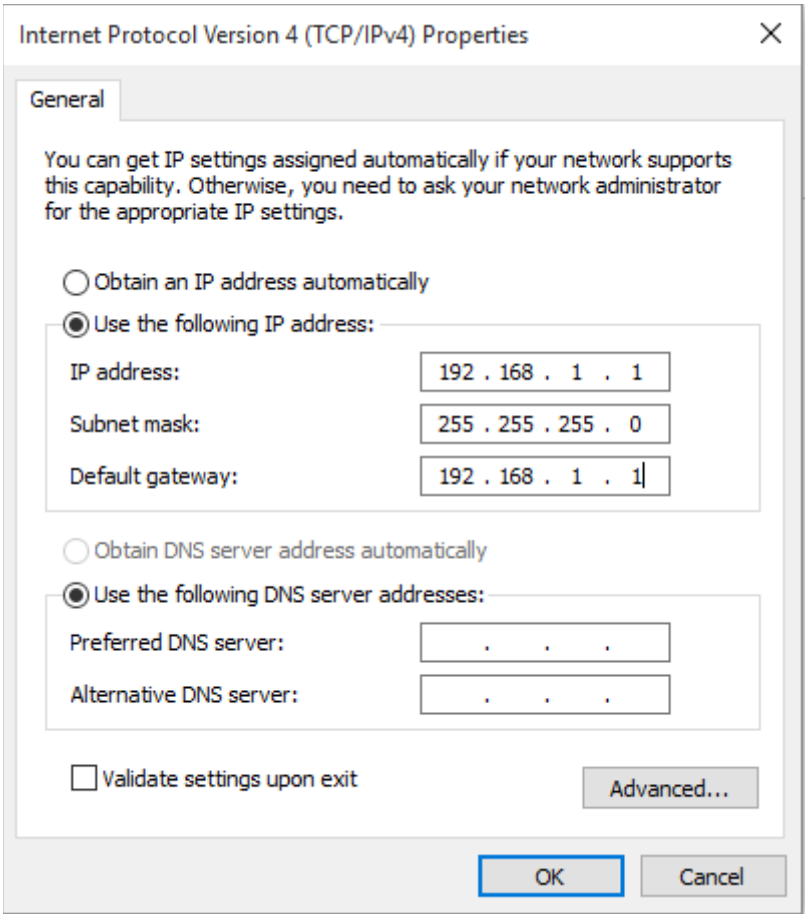
B. Enter the following FIXED IP network details for the configuration of the **Network Switch** or the **ACM500** (check with the manufacturer of the LAN switch if this address is relevant in advance)

IP Address	192.168.0.1
Subnet Mask	255.255.255.0
Default Gateway	192.169.0.1

C. Enter the following FIXED IP network details for **Blustream Multicast products**

IP Address	169.254.100.1
Subnet Mask	255.255.0.0
Default Gateway	169.254.100.1

It is important to have the IP address range of the PC configured to the correct range when setting up the LAN switch. Once configuration of the LAN switch has been completed, the IP address range of the PC will need to be amended if using the ACM500 or the Multicast Tansmitter or Receiver web-GUI's.



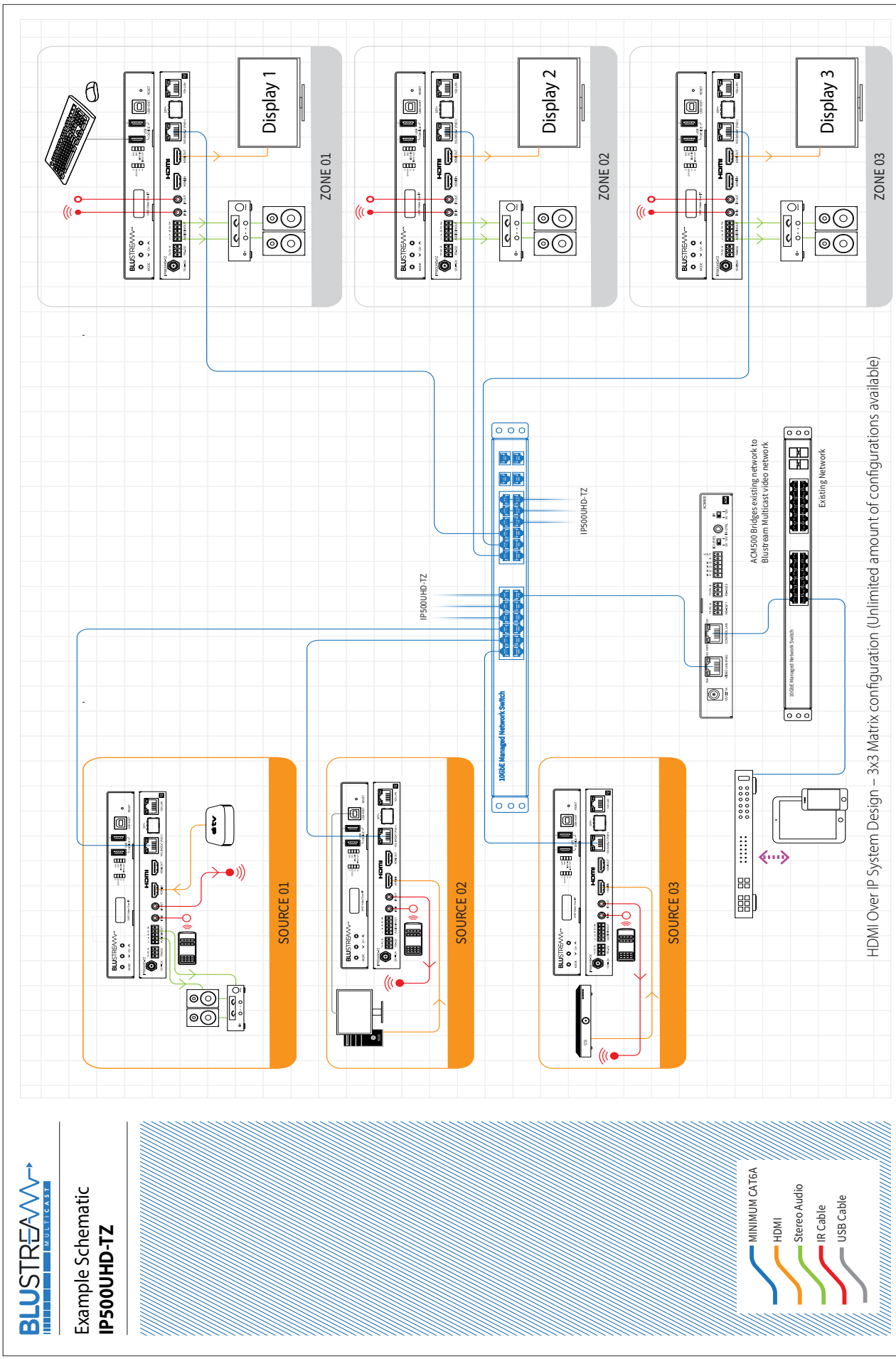
10) Click 'OK' and exit the network setup

11) Enter the default Network Switch, ACM500 or Blustream Multicast address into a web browser and check for connection to the unit. If the Transmitter and Receiver products have already been configured, enter the address of one of these (it is advised to use 169.254.103.1 - this will be the first default Transmitter IP address).

Application Diagram - Matrix Configuration

BLUSTREAM MULTICAST

Example Schematic
IP500UHD-TZ



Specifications

IP500UHD-TZ

- **Video Input:** 1 x HDMI Type A, female
- **Video Output:** 1 x HDMI Type A, female
- **Audio Input/Output:** 1 x 5-Pin Phoenix connector
- **Ethernet Port:** 1 x 10GBaseT RJ45 Video network,
  1 x SFP+ module video network,
  1 x 1Gb LAN RJ45 pass-through
- **RS-232 Serial Port:** 1 x 3-Pin Phoenix connector
- **USB/KVM Port:** 1 x USB-Type B (host),
  2 x USB-Type A (device)
- **IR Input:** 1 x 3.5mm stereo jack
- **IR Output:** 1 x 3.5mm mono jack
- **Dimensions (W x D x H):** 191mm x 153mm x 25mm
- **Dimensions Incl. Connections (W x D x H):** 191mm x 153mm x 25mm , without feet
- **Shipping Weight:** 1.05kg
- **Operating Temperature:** 32°F to 104°F (0°C to 40°C)
- **Storage Temperature:** -4°F to 140°F (-20°C to 60°C)
- **Operating Altitude:** < 2000m
- **Power Supply:** PoE or 12V 1A DC (sold separately) - where PoE not delivered by LAN switch

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

Package Contents

IP500UHD-TZ

- 1 x IP500UHD-TZ Transceiver
- 1 x IR Receiver
- 1 x IR Emitter
- 4 x Rubber Feet
- 1 x Mounting Kit
- 1 x Quick Reference Guide

Maintenance

Clean this unit with a soft, dry cloth. Never use alcohol, paint thinner or benzene to clean this unit.

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.

www.blustream.com.au
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