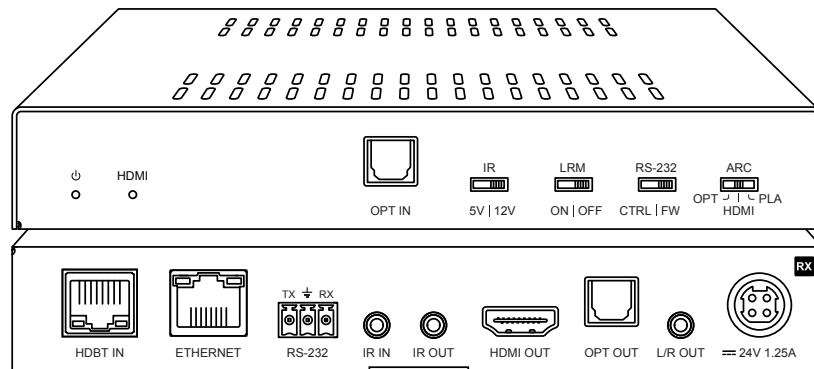


# RX150CS

## Quick Reference Guide



## Introduction

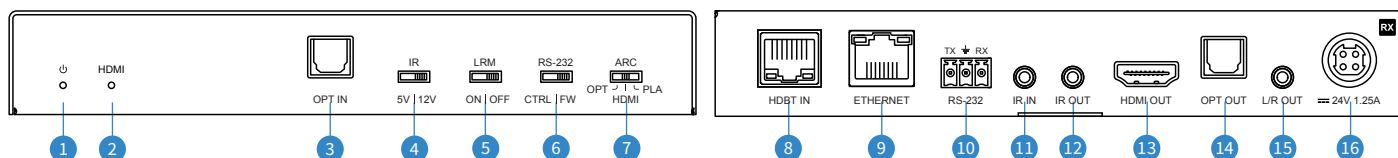
Our RX150CS HDMI 2.0 4K 60Hz 4:4:4 (18Gbps) HDCP 2.2 HDBaseT™ ARC Receiver offers market leading features and outstanding value utilising CSC technology.

The product extends HDMI, Bi-directional IR & RS-232 and is powered by the Matrix up to lengths of 150m (4K to 100m). The RX150CS Receiver features ARC support and Ethernet pass through when used with compatible Blustream hardware and simultaneous analogue stereo and Optical Toslink audio breakout.

### FEATURES:

- Advanced HDBaseT™ technology offering distribution of video and audio over a single CAT cable
- Advanced Colour Space Conversion (CSC) supports HDMI2.0 18Gbps specification including HDR
- Supports 4K 60Hz 4:4:4 UHD video up to 100m
- Extends HDMI 1080p video up to 150m (HDBaseT™ long reach mode)
- Supports all industry standard video resolutions including VGA-WUXGA and 480i-4K
- Automatic downscaling of up to 4K 60Hz 4:4:4 video input to 1080p
- Supports ARC (Audio Return Channel) from connected display via HDMI or Optical digital inputs (when used with compatible Blustream Transmitter / Matrix)
- Bi-directional Ethernet pass through when used with compatible Blustream Transmitter or Matrix solution.
- Supports bitstream passthrough of multichannel surround sound including object-based audio formats in line with HDMI specifications
- Bi-directional RS-232 pass-through
- Supports bi-directional IR pass-through to compatible HDBaseT™ device
- Supports PoC (Power over Cable) from Blustream Matrix or Transmitter products
- HDCP 2.2 support

## RX150CS Panel Descriptions



- 1 Power Status Indicator
- 2 HDMI Output Status Indicator
- 3 Optical (S/PDIF) Input - Connect to display for optical audio return to the Transmitter / Matrix
- 4 5V / 12V IR Voltage Switch - select between 5V or 12V IR output voltage
- 5 HDBaseT™ Long Reach Mode On / Off
- 6 RS-232 Port Mode Selection Switch - Select between firmware update mode or normal control passthrough mode
- 7 ARC Mode Selection Switch - Alters ARC mode when used with compatible ARC enabled Matrix products:  
PLA - HDMI ARC used with PLA88CS matrix,  
HDMI - HDMI ARC to be used with HMXL88/66ARC matrix,  
OPT - Optical ARC to be used with any compatible Blustream ARC matrix or transmitter
- 8 HDBaseT™ Input - Connect from Matrix via CAT cable
- 9 Ethernet Connection - Connect to network / device for Ethernet LAN pass-through to / from Receiver
- 10 RS-232 Port - 3-Pin Phoenix connector to pass bi-directional IR to / from the receiver
- 11 IR Input - Connect to Blustream 5V 3.5mm IR receiver
- 12 IR Output - Connect to Blustream 5V 3.5mm IR emitter
- 13 HDMI Output - Connect to local HDMI display
- 14 Optical Audio (S/PDIF) Output - Connect to local audio amplification or distribution device
- 15 L/R Audio Output - Audio breakout of source audio signal from the Transmitter / Matrix (2ch PCM only)
- 16 24V/1.25A DC Power Input 4-Pin DIN connector

## Advanced Functions

The RX150CS has been designed to partner with all Blustream HDBaseT™ Matrix products and will receive audio and video from these devices, as well as bi-directional IR and RS-232 control. Advanced functions such as ARC, CSC, Ethernet passthrough and Long Reach mode will only function with a compatible Matrix or Transmitter product.

The below chart outlines the Matrix products that support these advanced functions:

MATRIX / TRANSMITTER	CSC	ARC	ETHERNET	LONG REACH MODE
PLA88CS	Yes	Yes	Yes	Yes
HMXL88ARC	Yes	Yes	No	No
HMXL66ARC	Yes	Yes	No	No
HMXL42ARC	Yes	Yes	No	No
AMF42AU	Yes	Yes	No	No
C88CS	Yes	No	No	No
C66CS	Yes	No	No	No

## ARC and Optical Audio Return

The RX150CS supports several methods to transfer Audio Return from the Display back to a Blustream Matrix. By definition, ARC (Audio Return Channel) and Optical Audio Return, will support up to a maximum of 5.1ch HD audio pass-through. For ARC via HDMI, CEC needs to be enabled on both the display and the AVR for the required communication to instigate the ARC channel to be opened. The RX150CS is transparent to this communication.

The RX150CS will also allow for Optical Audio Return to be sent across the HDBaseT™ link. Please ensure the correct settings on both the Matrix and Receiver are selected for the required audio transmission method.

The RX150CS features an analogue 2ch L/R audio breakout for a 2ch audio from the source device connected at the Matrix / Transmitter. **Please note:** this output port is audio breakout of the HDMI audio being fed to the HDMI input of the Matrix / Transmitter, not the audio return channel from the display.

## Power Over Cable

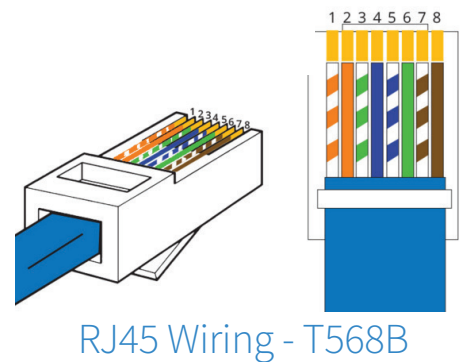
The RX150CS supports 24V PoC (Power over Cable). To reduce the risk of damaging incompatible HDBaseT™ products, please check the connected HDBaseT™ device supports 24V PoC before powering this device on. The Blustream RX150CS HDBaseT™ Receiver is recommended for use with the Blustream PLA88CS Matrix as all features are supported. Please ensure that PoC is enabled/disabled on the connected Matrix via one of the following methods (please refer to the Matrix user guide for further instructions):

- 1 Using Matrix web browser interface
- 2 Using Matrix Front Panel Meny System
- 3 Using API commands via Telnet / RS-232

## Terminating the Interconnecting HDBaseT™ CAT Cable

It is important that the interconnecting CAT cable between the 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 possible. HDMI distribution products will only work if used with CAT5e standard cable or above. Blustream recommends using a CAT6 (or better) cable for your installations, especially when running over longer distances, in areas of high EMI, or for 4K signal distribution.



## Understanding the HDBaseT™ Signal Status Lights

Blustream HDBaseT™ extender solutions include status LED indicators on both the Transmitter and Receiver products to show all connections are active and to help diagnose possible problems with the HDBaseT™ link.

### Understanding the Status Lights:

#### Receiver:

- The HDMI status indicator light will be off when there is no connection with a display / sink
- The HDMI status indicator light will be on when there is an active connection with a display
- The orange HDBaseT™ link light will be off when there is no CAT cable / active HDBaseT™ connection on the RJ45 HDBaseT™ output
- The orange HDBaseT™ link light will blink if there is an unstable connection between the Transmitter and Receiver
- The orange HDBaseT™ link light will be lit when a CAT cable is connected to the HDBaseT™ RJ45 output on the Transmitter and an active connection is achieved with the Receiver
- The green HDBaseT™ HDCP light will be off when no video signal is received
- The green HDBaseT™ HDCP light will flash when there is video signal without HDCP being received
- The green HDBaseT™ HDCP light will be on when there is video signal with HDCP being received
- The power link light will be off when no power is connected to the Receiver, or to the connected Transmitter unit
- The power link light will be on when power is connected directly to the Receiver or is being received from the Transmitter unit

## Specifications

### RX150CS

- **Video Input Connectors:** 1x HDBaseT™ RJ45 connector
- **Video Output Connectors:** 1x HDMI Type A, female
- **Audio Input Connectors:** 1x Optical (S/PDIF)
- **Audio Output Connectors:** 1x Toslink (S/PDIF),  
1x 3.5mm L/R analogue audio
- **RS-232 Port:** 1x 3-pin Phoenix connector
- **Ethernet Port:** 1x RJ45 connector
- **IR Input Port:** 1x 3.5mm stereo jack
- **IR Output Port:** 1x 3.5mm mono jack
- **Mounting Kit:** Included
- **Power Supply:** 24V/1.25A DC, 4-pin DIN connector
- **Casing Dimensions (W x D x H):** 164mm x 100mm x 25mm
- **Shipping Weight:** 0.5kg
- **Operating Temperature:** 32°F to 104°F (-5°C to +55°C)
- **Storage Temperature:** -4°F to 140°F (-25°C to +70°C)

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

## Package Contents

### RX150CS

- 1 x RX150CS Receiver
- 2 x Mounting Bracket Sets
- 1 x Quick Reference Guide

## 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.

