

XT-HDBT-EX100-4K18G-KIT

User Manual



Introduction

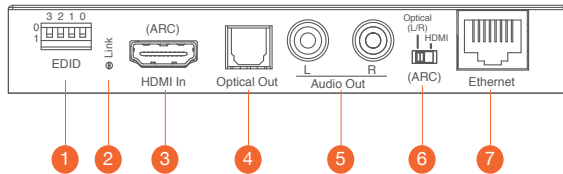
Our range of HDBaseT products offer the very best in performance and flexibility. The XT-HDBT-EX100-4K18G-KIT is an industry leading 4K HDBaseT solution delivering HDMI 2.0 with HDCP 2.2 support, Bi-directional IR, RS-232 and PoH (PoE) up to lengths of 70m at 4K (100m at 1080p) over a single CAT cable. The XT-HDBT-EX100-4K18G-KIT HDBaseT kit provides enhanced features including ARC via HDMI or Optical (S/PDIF) and integrated Ethernet pass-through.

Key Features

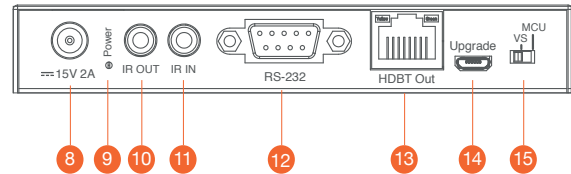
- Advanced HDBaseT technology offering uncompressed video and audio with zero latency
- Advanced Color Space Conversion (CSC) allows full HDMI 2.0 4K 18Gbps input signal
- Extends HDMI up to a distance of 100m over single CAT cable
- Supports 4K UHD video up to 70m (3840 x 2160 @60Hz 4:4:4, 4096 x 2160 @24Hz 4:4:4, and 4K @60Hz 4:2:0)
- Supports all industry standard video resolutions including VGA-WUXGA and 480i-4K
- Supports 3D signal display
- Supports ARC (Audio Return Channel) from display via HDMI and Optical digital inputs (ARC feature supports distance of up to 90m)
- Supports audio return to HDMI, Optical digital and analogue L/R audio outputs (DAC PCM only)
- Supports all known HDMI audio formats including Dolby TrueHD, Dolby Atmos, Dolby Digital Plus and DTS-HD Master Audio transmission
- Integrated Ethernet pass-through
- Bi-directional RS-232 pass through
- Bi-directional IR pass-through
- Bi-directional PoH (Power over HDBaseT) to power extenders from either transmitter or receiver end
- HDCP 2.2 support

Panel Description

XT-HDBT-EX100-4K18G-TX

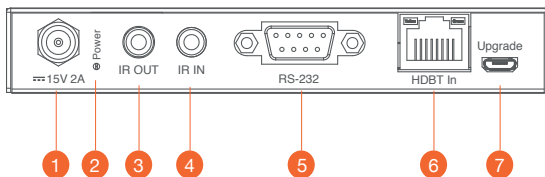


- 1 EDID Management - Used to manage the video and audio resolution output by the connected source device.
- 2 HDMI Link LED - LED will be lit when an active HDMI connection is detected.
- 3 HDMI input - Connect to the HDMI output of the local source device.
- 4 Optical audio output - TOSLINK audio output. Connects to local AV amplifier when using Audio Return Channel (ARC) feature.
- 5 Analogue audio 2CH L/R output - Connects to third party audio amplifier for audio breakout of either local HDMI or Audio Return Channel from XT-HDBT-EX100-4K18G-RX. Note: Audio format must be 2ch PCM.
- 6 Audio output selection switch - Select ARC output from HDBT receiver as either HDMI or audio breakout via optical output + analog L/R audio.
- 7 Ethernet port - RJ45 connector. Connect to local network switch to extend 10/100 network to HDBaseT Receiver ethernet port.

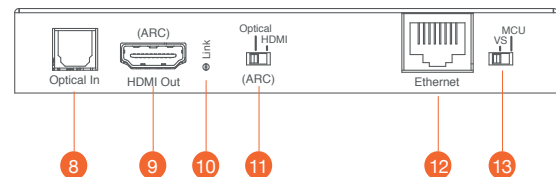


- 8 Power port - Connect Xantech 15V DC power supply only. Note - HDBaseT extender kit can be powered from either the Transmitter or Receiver by using the power over cable (POH) feature.
- 9 Power LED indicator
- 10 IR OUT port - Connect to Xantech 12V Emitter (sold separately). Connection is used to control the local source device from Xantech IR Receiver connected at the XT-HDBT-EX100-4K18G-RX.
- 11 IR IN port - Connect to Xantech 12V IR Receiver (sold separately). Connection is used extend IR over the HDBaseT signal to control devices located at the XT-HDBT-EX100-4K18G-RX end.
- 12 RS-232 port - Bi-directional RS-232 with XT-HDBT-EX100-4K18G-RX RS-232 port.
- 13 HDBaseT output - RJ45 connector. Connect to HDBaseT input on XT-HDBT-EX100-4K18G-RX.
- 14 Upgrade port - Used for firmware upgrade
- 15 Hardware upgrade selection switch

XT-HDBT-EX100-4K18G-RX



- 1 Power port - Connect Xantech 15V DC power supply only. Note - HDBaseT extender kit can be powered from either the Transmitter or Receiver by using the power over cable (POH) feature.
- 2 Power LED indicator.
- 3 IR OUT port - Connect to Xantech 12V Emitter (sold separately). Connection is used to control the local source or display device from Xantech IR Receiver connected at the XT-HDBT-EX100-4K18G-TX.
- 4 IR IN port - Connect to Xantech 12V IR Receiver (sold separately). Connection is used extend IR over the HDBaseT signal to control devices located at the XT-HDBT-EX100-4K18G-TX end.
- 5 RS-232 port - Bi-directional RS-232 with XT-HDBT-EX100-4K18G-TX RS-232 port.



- 6 HDBaseT input - RJ45 connector. Connect to HDBaseT output on XT-HDBT-EX100-4K18G-TX.
- 7 Upgrade port - Used for firmware upgrade
- 8 Optical audio input - TOSLINK audio input.
- 9 HDMI Output - Connect to the HDMI input on local display device.
- 10 HDMI Link LED - LED will be lit when an active HDMI connection is detected.
- 11 Audio return selection switch - Switch between ARC and TOSLINK (Optical) when using Audio Return feature.
- 12 Ethernet port - Connect to local network products to extend 10/100 network from HDBaseT Transmitter.
- 13 Hardware upgrade selection switch

Understanding the XT-HDBT-EX100-4K18G-KIT HDBaseT status lights

The Xantech HDBaseT extender solution includes status LED indicators on both the Transmitter and Receiver products to show all connections are active and to help diagnose possible problems.

Understanding the status lights:-

Xantech HT-HDBT-EX100-4K18G-TX

- The green HDBaseT link light will be off when there is no CAT cable/active HDBaseT connection on the RJ45 HDBaseT input
- The green HDBaseT link light will blink if there is an unstable connection between the Xantech Transmitter and HDBaseT Receiver
- The green 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 Xantech HDBaseT Transmitter.
- The HDMI link light will be off when there is no connection with a source device
- The HDMI link light will be on when there is an active connection with a source device

Xantech HT-HDBT-EX100-4K18G-RX

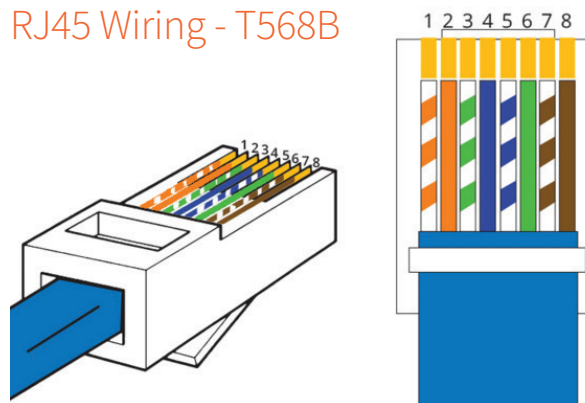
- The HDMI link light will be off when there is no connection with a display
- The HDMI link light will be on when there is an active connection with a display
- The green HDBaseT link light will be off when there is no CAT cable/active HDBaseT connection on the RJ45 HDBaseT input
- The green HDBaseT link light will blink if there is an unstable connection between the Xantech Transmitter and HDBaseT Receiver
- The green HDBaseT link light will be lit when a CAT cable is connected to the HDBaseT RJ45 output on the Receiver and an active connection is achieved with the Xantech HDBaseT Transmitter.

Terminating the interconnecting HDBaseT CAT cable

It is important that the interconnecting CAT cable between the Xantech 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. Xantech 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.

RJ45 Wiring - T568B



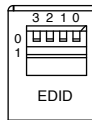
Adjusting The EDID Settings

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

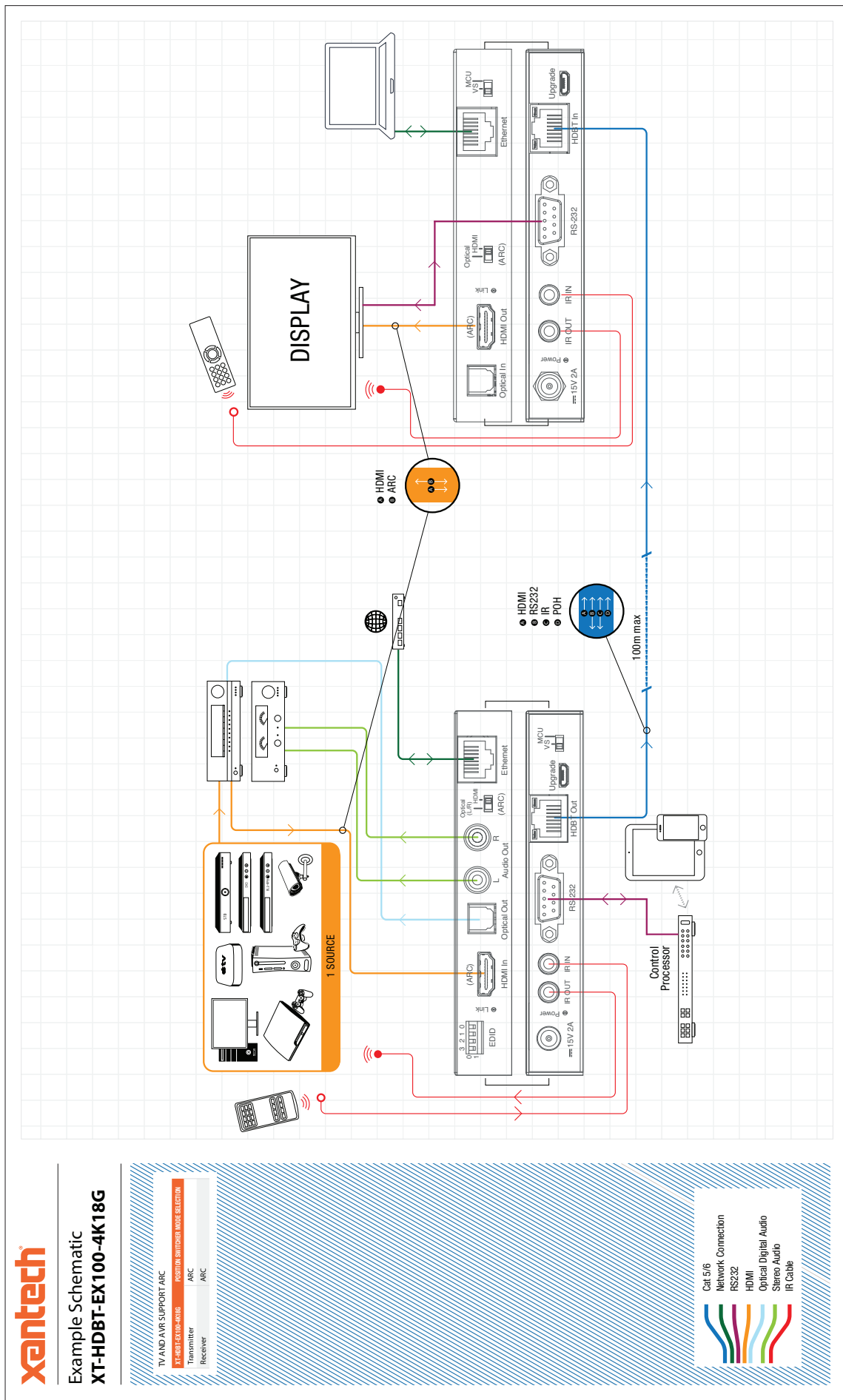
While the objective of EDID is to make connecting a digital display to a source a simple plug and play procedure, issues can arise when multiple displays or video matrix switching is introduced due to the increased number of variables. By pre-determining the video resolution and audio format of the source and display device you can reduce the time needed for EDID hand shaking thus making switching quicker and more reliable.

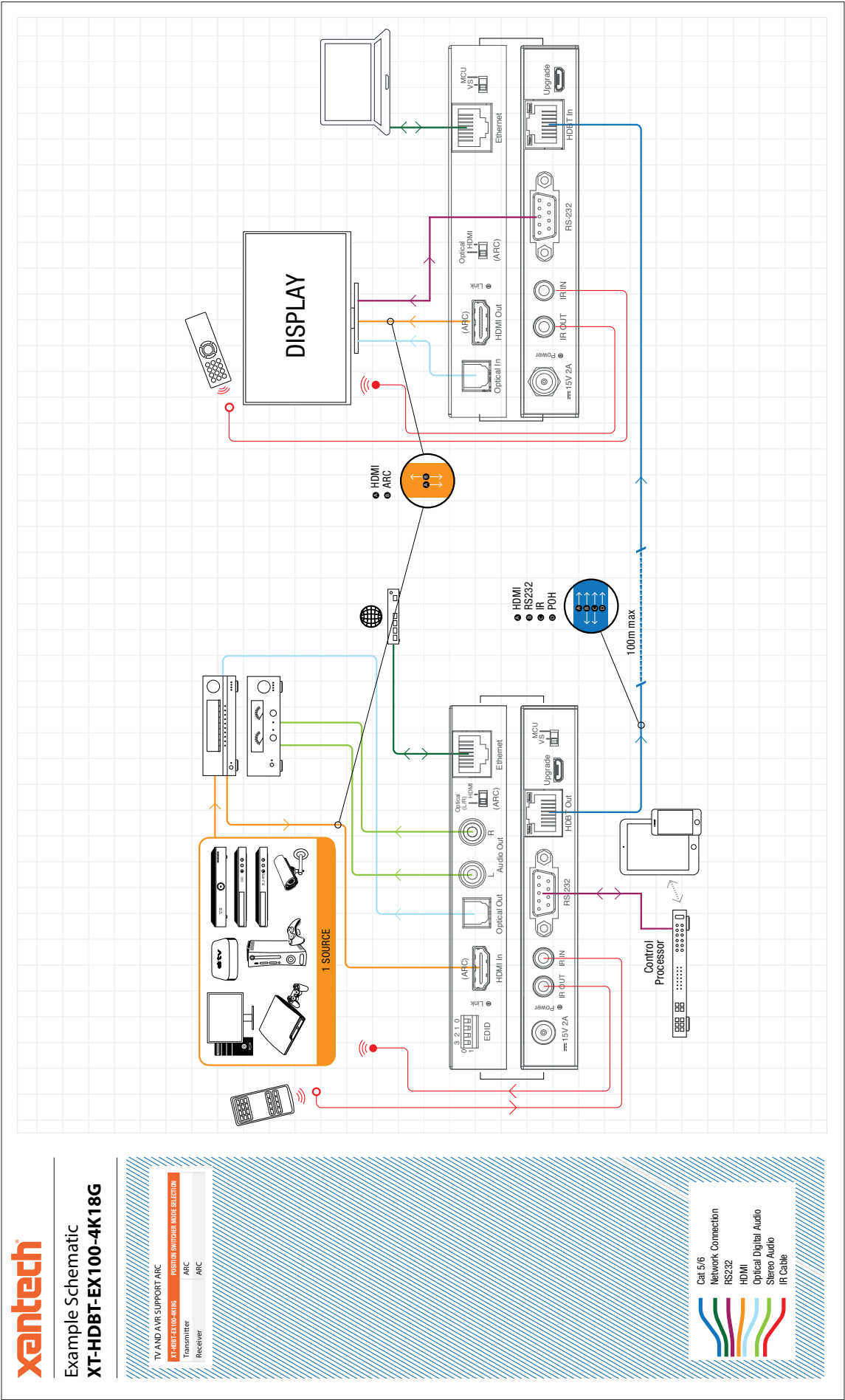
Configuration of extender EDID settings can be achieved using the product dip-switches on the HDBaseT Transmitter.

Note: You must power cycle the product after making EDID changes. For some sources it may be necessary to power cycle the source after EDID changes have been made for the source to update its video & audio output settings.



- [DIP]=0000:** HDMI 1080p@60Hz, Audio 2ch PCM
- [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 + 4K@30Hz 4:4:4, Audio 2ch PCM
- [DIP]=0111:** HDMI 4K@60Hz 4:2:0 + 4K@30Hz 4:4:4, Audio 5.1ch PCM/DTS/DOLBY
- [DIP]=1000:** HDMI 4K@60Hz 4:2:0 + 4K@30Hz 4:4:4, 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 1280x1024@60Hz, Audio None
- [DIP]=1101:** DVI 1920x1080@60Hz, Audio None
- [DIP]=1110:** DVI 1920x1200@60Hz, Audio None
- [DIP]=1111:** Software Control EDID





Specifications:

XT-HDBT-EX100-4K18G-TX

Video Input Connectors: 1x HDMI Type A, 19-pin female

Video Output Connectors: 1x HDBaseT™ RJ45 connector

Audio Output Connector: 1x Optical (TOSLINK), 2x RCA (L/R) analog

RS-232 serial port: 1x DB-9 connector

Ethernet ports: 1x RJ45, female

IR Input ports: 1x 12V 3.5mm stereo jack

IR Output ports: 1x 12V 3.5mm mono jack

Dimensions (W x H x D): 142mm x 21mm x 129mm

XT-HDBT-EX100-4K18G-RX

Video Input Connectors: 1x HDBaseT™ RJ45 connector

Video Output Connectors: 1x HDMI Type A, 19-pin female

Audio Input Connector: 1x Optical (TOSLINK)

RS-232 serial port: 1x DB-9 connector

Ethernet ports: 1x RJ45, female

IR Input ports: 1x 12V 3.5mm stereo jack

IR Output ports: 1x 12V 3.5mm mono jack

Dimensions (W x H x D): 142mm x 21mm x 129mm

Shipping Weight: 1.6Kg

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

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

NOTE: Specifications are subject to change without notice.

Package Contents:

- 1x XT-HDBT-EX100-4K18G-TX
- 1x XT-HDBT-EX100-4K18G-RX
- 1x 15V/2A DC power supply
- 2x Mounting kit
- 1x 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.

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.

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