XTND 4K (40) TPC Splitter (1x4+1)

CODE: XTND4K14140TPC
Product Guide (English UK)

Contents

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Glossary of terms

Extended Display Identification Data (EDID)	EDID comes from your display and is bundled in with HDMI picture and audio data. EDID tells the HDMI source what resolution the display can handle and what audio format it can play. EDID is not normally an issue when connecting a source directly to display. However, in distributed XTND environments, the XTND device can receive different EDID messages from the displays it is connected to. To fix EDID see page 12.
IR RX & IR TX	Infrared (IR) Receiver (RX) and Transmitter (TX). The RX 'receives' a signal from another remote control and the TX 'transmits' it. (See page 14)
Tipping Point Compression (TPC)	HDA makes transmission of 18Gbps content possible using TPC. Visually lossless, TPC only becomes active if the source output threshold is breached, hence the term tipping point.
XTND transmitter	Part of the XTND pair. The XTND transmitter takes a HDMI signal and converts it into a format which can be carried over Cat cable. The transmitter is installed at the source end of the setup.
XTND receiver	Part of the XTND pair. The XTND receiver takes the signal made by the XTND transmitter and converts it back to HDMI so that it can be connected to a display.

IMPORTANT

For optimum performance and safety, please read these instructions carefully before connecting, operating or configuring this product. Please keep this manual for future reference.

Surge protection is recommended

This device contains sensitive electrical components that may be damaged by electrical spikes, surges, electric shock, lightning strikes, etc. The usage of surge protection systems is recommended in order to protect and extend the life of your system.

In the box

Name: **XTND 4K (40) TPC Splitter (1x4+1)**
Product code: **XTND4K14140TPC**

x1	XTND 4K (40) TPC Splitter (1x4+1) Transmitter
x4	XTND 4K (40) TPC Splitter (1x4+1) Receiver
x1	Infrared Transmitter cable (1.5m) (IR TX)
x4	Infrared (20-60Khz) Receiver cable (1.5m) (IR RX)
x1	12V 2.5A Power Supply with adapters (UK,EU,US,AU)
x5	Mounting Kits
x1	User Manual

Features

Supports 18Gbps bandwidth and video picture formats up to 4K@60Hz (4:4:4) including HDR and Dolby Vision*

Includes local HDMI loop out

4K up to 40m (131ft)

Digital audio support up to and including Dolby Atmos and DTS:X

Audio extraction over coax & stereo (source audio only - no downmix).

Backwards IR

EDID management

Power over Cable

***Only Dolby Vision Low Latency Mode is supported at 60Hz**

Specifications

HDMI version	HDMI 2.0b
HDCP compliance	HDCP 2.2 & HDCP 1.4
Video bandwidth	18Gbps
Video resolution	Up to 4K@60Hz (4:4:4)
Colour space	RGB, YCbCr 4:4:4, YUV 4:4:4, YCbCr 4:2:2/4:2:0
Colour depth	8-bit, 10-bit, 12-bit (1080p@60Hz) 8-bit, 10-bit, 12-bit (4K@60Hz) 8-bit (4K@60Hz 4:4:4)
HDR formats	HDR10, HDR10+, Dolby Vision*, HLG
Video & audio I/O	**Input:** x1 HDMI **Outputs:** x4 Cat, x1 HDMI (Mirror), x1 3.5mm Stereo Jack, x1 Digital Coax
Transmission distance	1080p 60m (196ft) 4K 40m (131ft)
HDMI audio formats	PCM 2.0 / 5.1 / 7.1, Dolby Digital / Plus / EX / True HD / Atmos, DTS, DTS-EX, DTS-96 / 24, DTS High Res, DTS-HD Master Audio, DTS-X
Coax audio formats	PCM 2.0, Dolby Digital / Plus / DTS 2.0 /5.1
Stereo audio formats	PCM 2.0

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Infrared	20Khz - 60Khz
ESD protection	±8kV (Air-gap discharge) ±4kV (Contact discharge)
Power consumption	14W (Maximum)
Power supply	12V 2.5A
Operating temperature	0°C - 40°C / 32°F - 104°F
Storage temperature	-20°C - 60°C / -4°F - 140°F
Relative humidity	20 - 90% (Non-condensing)
Housing	Steel
Colour	Grey (Carbonite)
Dimensions (W/D/H) mm	Transmitter: 210 x 100 x 25 Receiver: 88 x 61 x 18
Weight	Transmitter: 617g Receiver: 155g
Package weight	1900g

*Only Dolby Vision Low Latency Mode is supported at 60Hz.

Transmitter Diagram

Help is only an email away: **support@hdanywhere.com**.
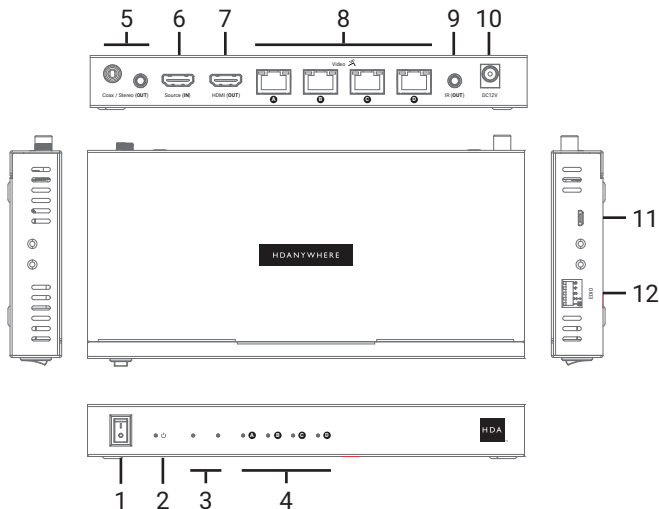
Description

1. **Power Switch:** Turns the XTND on/off.

2. **Power:** Indicator light. If this light is on and solid then the XTND has power.

3. **HDMI Status**: The left light indicates an active HDMI source is connected if on. The right light indicates an active display is connected if on.

4. **Video Status (A-D)**: Indicator light. If this light is on then the XTND Receiver is connected to an active display.

5. **Coax / Stereo (OUT)**: HDMI source audio extraction ports. These ports do not downmix HDMI audio.

6. **Source (IN)**: HDMI video input.

7. **HDMI (OUT)**: HDMI video output.

8. **VIDEO TPC**: Cat (RJ45) video output port. 18Gbps video will pass through using TPC. The port has two indicator lights. Left light: solid means connection between XTND transmitter and XTND receiver is good. Off means that there is no connection detected. Right light: solid means a signal is being transmitted. Off means no signal is detected.

9. **IR (OUT)**: Connect an IR TX to this port to enable remote (IR) control of any AV device local to the XTND transmitter.

10. **DC12V**: Connect the supplied power supply to this port to provide power to the XTND transmitter and receiver(s).

11. **Service**: Micro USB port to update XTND firmware and adjust EDID settings for serial (page 13)

12. **EDID**: Five dip switches which can be used to set EDID operating mode for the XTND (page 12). Each switch has two positions "UP" or "DOWN". UP = 1. DOWN = 0.

Receiver Diagram

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Description

1. **HDMI (OUT)**: HDMI video output. Connect to your display to provide a picture.

2. **DC12V**: Unused.

3. **IR (IN)**: Connect an IR RX to the "IR IN" port to receive an IR command from a remote control to pass through to the XTND transmitter.

4. **Firmware**: Micro USB port to update XTND firmware.

5. **VIDEO TPC**: Video output port (RJ45). 18Gbps video will pass through using TPC. The port has two indicator lights. Left light: solid means the XTND has power and is on. Right light: solid means that the XTND transmitter and receiver are connected.

EDID switch positions

11111	1080P, Stereo Audio 2.0	**10001**	4K2K60Hz_420, HD Audio 7.1
11110	1080P, Dolby/DTS 5.1	**10000**	4K2K60Hz_444, Stereo Audio 2.0
11101	1080P, HD Audio 7.1	**01111**	4K2K60Hz_444, Dolby/DTS 5.1
11100	1080I, Stereo Audio 2.0	**01110**	4K2K60Hz_444, HD Audio 7.1
11011	1080I, Dolby/DTS 5.1	**01101**	4K2K60Hz_444, Stereo Audio 2.0 HDR
11010	1080I, HD Audio 7.1	**01100**	4K2K60Hz_444, Dolby/DTS 5.1 HDR
11001	1080P 3D, Stereo Audio 2.0	**01011**	4K2K60Hz_444, HD Audio 7.1HDR
11000	1080P 3D, Dolby/DTS 5.1	**01010**	Copy from HDMI (OUT)
10111	1080P 3D, HD Audio 7.1	**01001**	Copy from Output A
10110	4K2K30Hz_444, Stereo Audio 2.0	**01000**	Copy from Output B
10101	4K2K30Hz_444, Dolby/DTS 5.1	**00111**	Copy from Output C
10100	4K2K30Hz_444, HD Audio 7.1	**00110**	Copy from Output D
10011	4K2K60Hz_420, Stereo Audio 2.0	**00000**	Disable dip switch EDID
10010	4K2K60Hz_420, Dolby/DTS 5.1		

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Connecting over USB

This XTND can be controlled directly from a PC or control system by sending ASCII commands via the USB port. Connect a USB cable to the "Service" port on the side of the XTND and open a serial command tool on your computer.

Baud rate: 115200
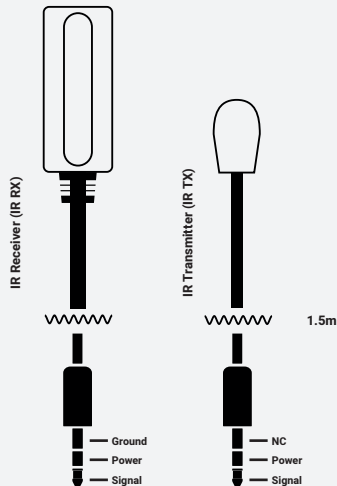Data bits: 8
Stop bit: 1
Check bit: 0

The API is available from our support site or by emailing support@hdanywhere.com

IR (Infrared) control

XTND can send IR signals from the receiver to the transmitter to control almost any AV device. Using this feature will allow you to use a remote control at the display end of the XTND setup and pass that IR command from your display location back to the HDMI source device that is connected to the XTND transmitter.

Sending IR commands from a display 'back' to the XTND transmitter

1. Connect an IR TX to port labelled "IR (OUT)" on the XTND transmitter.

2. Place the IR TX bud (small tear drop part) in front of the IR window of the device that you wish to control.

3. Connect an IR RX to port labelled "IR (IN)" on the XTND receiver.

4. Place IR RX in line-of-sight of the remote control.

IR Receiver (IR RX)

IR Transmitter (IR TX)

1.5m

Ground
Power
Signal

NC
Power
Signal

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Testing that IR works

This section aims to verify that your XTND's IR control system is setup correctly and assumes that all other setup has been followed as per the instructions laid out in this manual. Please refer to the XTND wiring diagrams in this document to ensure that your setup matches that before proceeding with the verification below.

Testing operation from a display 'back' to the XTND transmitter

Start this test by ensuring that your XTND system is powered on and your source device (connected to your XTND transmitter) is being correctly displayed on screen. Check that your IR cabling is correctly connected to your XTND system (page 12) and that your remote control has a clear line-of-sight to the IR RX. Point your remote at the IR RX and test a remote control command for your source device. You should notice that it responds as if the source device was directly in front of you. If it worked then you have setup IR control correctly.

Cabling

Currently you can use Cat6, Cat6e, Cat6a, Cat7 or Cat7a with XTND. Cat5e may work, but is not recommended, due to its limited bandwidth capabilities.

Optimum performance

Whichever network cable type you choose, ensure that the main wiring architecture is 'solid core' and not stranded 'patch' cabling. Patch cabling can be used for the last few metres of a run (e.g wallplate) but should be avoided over longer runs as signal transfer over stranded cores is significantly impacted. The use of pre-made leads is not recommended unless you can be absolutely sure of their construction credentials (i.e. solid core 568B). For optimum performance, use a single piece of Cat cable terminated directly at the transmitter and the receiver ends. Make sure to use the correct connector types (i.e. RJ45 solid core) crimp connectors.

Shielded cables

Shielded FTP cable is not a stipulation. However, if you are using this type of cable ensure compatible shielded accessories are used. Failure to terminate cable screen at all points can induce interference rather than eliminate it.

Patch panels and wall plates

If patch panels are terminated correctly then there is a minimal loss of distance. The use of wallplates and patch panels has the potential to cause increased resistance on the cable introducing pinch points for signal transmission and could reduce transmission lengths. TIP: Instead of using RJ45 wallplates use brush plates.
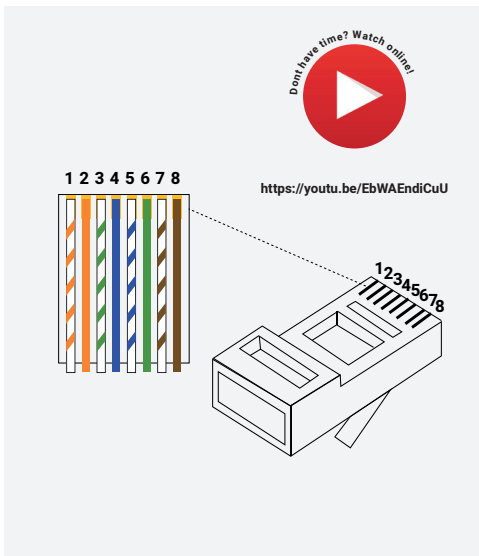
Help is only an email away: **support@hdanywhere.com**.

HDMI cabling

HDANYWHERE recommends using suitably robust and good quality HDMI cables. It is not advised to use passive HDMI cables over 5 metres in length either on the inputs or the outputs of the XTND system. Where HDMI cables longer than 5 metres are required, HDA recommends utilising its own brand of long distance HDMI cables or a suitable alternative.

Note:
DO NOT USE ANY COPPER CLAD ALUMINIUM (CCA) Cat 6/7 CABLE.

Don't have time? Watch online!

https://youtu.be/EbWAEndiCuU

Terminate using RJ45 connectors to 568B wiring standard.

Example wiring diagram

We have detailed a setup to show how the main feature-set of this XTND system could be used and demonstrated together.

In this diagram, an Apple TV is being extended to a display up to 40m away. The HDMI (Out) on the XTND transmitter is being used to provide picture to an additional display local to the Apple TV. Audio from the Apple TV is being extracted and fed to a nearby AVR that is providing audio amplification in the location of Output A. The Apple TV is controlled by sending commands from its native remote control through the XTND system and reproduced at the XTND transmitter location providing distance remote control of the device.

Note:

This XTND system has been designed so that it can be installed in multiple ways. The purpose of the diagram is to illustrate a typical/example setup and assumes that you are already familiar with the basics of wiring and infrastructure. If you are unsure how you might install this device in to your property then contact support@hdanywhere.com or contact a HDA Pro (https://hdanywhere.com/dealers-and-installers/) for further assistance.

Transmitter

AVR

Receiver(s)

— HDMI Cable
— Ethernet Cable
— Coax
— Cat Cable
— IR RX/TX Cable
— Speaker Cable

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Power up sequence

1   Ensure that all devices are turned off.

2   Connect HDMI source to "HDMI (IN)" port on the XTND transmitter.

3   Connect the XTND transmitter and receiver together by using Cat 6/7 cable connected to the each end of the "Video TPC" port.

4   Connect a display to the "HDMI (OUT)" port on the XTND receiver.

5   If any devices require IR control, ensure that IR is connected at this stage as well (page 14).

6   Plug in the supplied power lead and switch on the XTND. XTND power indicator LEDs should be lit and solid.

7   Turn on the source device followed by the display(s).

8   Ensure that your display is set to the correct AV input.

9   A picture should now be displayed.

2 Year Guarantee

WHO WE ARE
1. We are HD CONNECTIVITY LTD trading as HDANYWHERE ("HDA"), a limited company registered under number 06046737 in England and Wales with its registered offices at The Haysfield, Malvern, WR14 1GF, United Kingdom.

OUR GUARANTEE TO YOU
2. We, HDANYWHERE warrant to you, the end user of the HDA hardware (the "Products") that on the date of delivery of the Products to you, and for a period of 2 years from that date of delivery, the Products shall:
(a) match any description that has been provided to you;
(b) be free from any significant defects in their design, the materials used to make them, and   the way they are made;
(c) be of satisfactory quality (within the meaning of the Consumer Rights Act 2015); and
(d) be fit for any purpose held out by us.
This 2 year period, or, if the period has been extended to 3 years in accordance with paragraph 3, will be the "Guarantee Period". We offer this guarantee to all our customers who are resident and have an address in Great Britain and Northern Ireland.

EXTENDING YOUR GUARANTEE (NOT APPLICABLE TO ANY XTND)
3. On registering your Products with the HDA Cloud, the guarantee offered in paragraph 2 by us will automatically extend for a period of one year, provided that your registration takes place within 30 days from the date of delivery. The one year guarantee extension starts automatically from the date that the original 2 year guarantee ends.

HOW TO CLAIM ON YOUR GUARANTEE AND YOUR REMEDIES
4.   Subject to paragraphs 5 and 6 of this guarantee, Your sole remedies under Our guarantee to You are as follows:
(i)Up to 30 days: we will repair or replace your Products or provide you with a full refund of the price of the defective Products at your option.
(ii)   Up to 6 Months: we will repair or replace your Products. If we are unable to repair or replace your Products we will provide you with a full refund of the price of the defective Products.
(iii)   Up to 2 (3) Years: we will repair or replace your Products. If we are unable to repair or replace your Products we will provide you with a partial refund of the price of the defective Products based upon the devaluation of the Products since the time of purchase.

5.   In order to claim under the guarantee given to you in paragraph 2 you will need to:
(a)   give us notice in writing of your intention to claim under the guarantee during the Guarantee Period, and do so within a reasonable time after finding that some or all of the Products do not comply with the guarantee set out in paragraph 2;
(b)   show that the Products that you claim are defective, have been examined by a HDA Pro or other authorised or suitably qualified installer, and that they have[MG3] confirmed in writing that the suspected defect in the Products stems solely from a fault in the HDA hardware;
(c) give us a reasonable opportunity to examine the Products in question;
(d) provide us with an order number and a dated sales or delivery receipt from an HDA Distributor, HDA Pro or other authorised dealer, reseller or installer of the Products.
(e) obtain from us in advance of returning the Products a return merchandise authorisation and/or case number[MG4] ; and
(f) (if asked to do so by us) return such Products to our place of business at our cost.

CIRCUMSTANCES WHERE YOUR GUARANTEE DOESN'T APPLY
6. We shall not be liable for the Products' failure to comply with the guarantee set out in paragraph 2 in any of the following events:

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(a) If you make any further use of the Products after giving us notice of an issue in accordance with paragraph 5;
(b) the defect arises because you failed to follow our oral or written instructions as to the storage, installation[MG5] , use and maintenance of the Products;
(c) the defect arises as a result of your use of the Products with any other software or hardware that is not compatible with the Products;
(d) the products are used by you for any commercial purpose, including rental or demonstrative purposes;
(e) you alter or repair the Products without the written consent of HDA;
(f) the defect arises as a result of an act of god, fair wear and tear, or your misuse, abuse, unreasonable use, wilful damage, negligence, or abnormal storage of the Products or by any other causes unrelated to defective hardware or manufacturing;
(g) where the serial number has been altered, defaced or removed;
(h) where the warranty seal on the system has been altered, defaced or removed; or
(i) where the Products differ from their description as a result of changes made to ensure they comply with applicable statutory or regulatory requirements.

TRANSFERRING YOUR GUARANTEE TO SOMEONE ELSE
7. HDA will not accept any liability under such guarantee unless you are the original customer or can produce a letter or chain of letters from the original customer and subsequent customers (where appropriate) transferring the benefit of the guarantee to you.

PRODUCTS THAT ARE NOT COVERED BY THIS GUARANTEE
8. This guarantee does not cover products sold and clearly marked "as is", "B-grade", or with faults. This guarantee does not apply to any system software that is preinstalled in the HDA hardware, or is subsequently provided via update or upgrade releases. Any and all HDA software is licensed to you under the terms of a separate end user licence agreement found here: https://hdanywhere.com/legals

HOW THIS GUARANTEE WORKS WITH OUR EULA
9. We may void this guarantee if we reasonably believe that the HDA system has been used in a manner that violates terms of our separate End User Licence Agreement (EULA) for the HDA software. You assume all-risk and liabilities associated with the use of third party products in conjunction with the Products.

YOUR STATUTORY RIGHTS
10. This guarantees is in addition to your statutory rights (including under the Consumer Rights Act) which are not affected by this guarantee

GENERAL TERMS OF THIS GUARANTEE
11. Except as provided in this guarantee, we shall have no liability to you in respect of the Products' failure to comply with the guarantee set out in paragraph 2.

12. We reserve the right to amend or withdraw this guarantee at any time although for the avoidance of doubt any guarantees that are in existence at such a time will be honoured.

13. These Conditions shall apply to any repaired or replacement Product supplied by us.

GUARANTEE CONTACT INFORMATION
To contact (support@hdanywhere.com) or call HDANYWHERE Technical Support (call charges will depend on your telephone provider. Please check with your operator for exact charges).The team is available 9am - 5pm weekdays. To help us handle your query promptly, please have your invoice number and model SKU and serial ready.

Important information

EU Conformity

Hereby, HDANYWHERE declares that this HDMI connectivity device is in compliance with the essential requirements and other relevant provisions of the following Directives: 2006/95/EC (LVD Directive); 2004/108/EC (EMC Directive); 1999/5/EC (R&TTE Directive). The full text of the EU declaration of conformity is available in the compliance section at HDANYWHERE.com/legals

Recycling your device properly

In some areas, the disposal of certain electronic devices is regulated. Make sure you dispose of or recycle your device in accordance with your local laws and regulations.

Hire a HDA Pro

If cabling infrastructure, installation and control seem like too much to absorb and learn then why not hire a HDA Pro to do the work instead for you? Having your XTND system professionally installed should help to guarantee the system's long-term performance and ensure that it blends neatly with your decor.

Find a HDA Pro anywhere in the world today https://hdanywhere.com/dealers-and-installers/

Let us know what you think.

We would love to hear how we could further improve our products and services.
If we can make something better, please let us know!

support@hdanywhere.com