



PLX-HDB.4

10.2Gbps High Speed HD-AV + Data Extender

INSTALLATION GUIDE

Features:

- ▶ HDBaseT™ technology extends multiple uncompressed formats simultaneously over a single CAT6 cable up to 100m
- ▶ HDMI® up to 10.2Gbps, including support for 1080p60/120, Deep Color, HD-3D and 4K (24p) video, and HD Audio
- ▶ 3x 10/100 BaseT Ethernet (up to 100Mbps) each side - 6 ports total
- ▶ IR & RS232 code passthrough extension for device control & automation
- ▶ External DC power required to source (TX) side only, not required at display side
- ▶ HDCP compliant
- ▶ Daisy chain systems for extension potential to 800m total (8x100m systems)
- ▶ Domestic, commercial or digital signage applications
- ▶ Vertical surface mountable

Contents

- 1x PLX-HDB.4 Transmitter [TX]
- 1x PLX-HDB.4 Receiver [RX]
- 1x DC Power Supply (for use at source side only)

Identifying the units

The PLX-HDB.4 set has a distinct send (transmitter) and receive (receiver) pair. Please ensure that you install each at the correct side.

TRANSMITTER - PLX-HDB.4 [TX] SOURCE SIDE

Easily identifiable with the silk screen label (right) on the underside, most notably the word "Transmitter". The TX unit also references "[TX]" on the front panel model ID, and it's also the only one with power input socket and switch on the back.



RECEIVER - PLX-HDB.4 [RX] SINK/DISPLAY SIDE

Easily identifiable with the silk screen label (right) on the underside, most notably the word "Receiver". The RX unit also references "[RX]" on the front panel model ID



Installation Placement & Ventilation

This is a high performance product which is designed to operate at very high data rates, and coupled with the PoE (Power over Ethernet) feature, the system produces a relatively high operating heat level in both boxes. Please keep the transmit/receive pair away from ambient heat (eg; roof space) and radiant heat (eg; AV receivers) sources, taking care to allow adequate ventilation with normal (~< 24°C) room temperature air being allowed to circulate around the unit/s. Ideally you should aim to provide at least 100mm of uninhibited clear air around the ventilation grills on both sides.



Please also keep the PLX-HDB.4 system away from electromagnetic interference (EMI) as well as radio frequency interference (RFI). Overheating and/or exposure to EMI/RFI may cause performance inconsistencies or product failure.

Wall Mounting

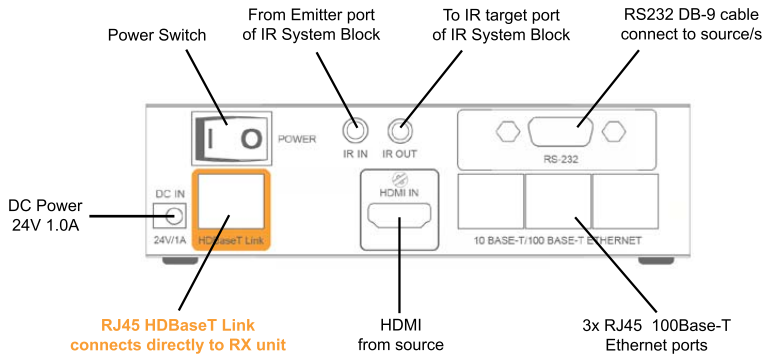
Both TX and RX units can be affixed to any vertical surface. The top lid of each box has an integrated mounting tab with keyhole mounting holes. For wall mounting, fix two screws or flat head nails (with head diameter no more than 5mm) 90mm apart in the horizontal plain. Position each respective TX/RX box with the top plate facing the wall and mounting tab at the top. This will result in the base silkscreen label facing outwards and cable connections facing upwards to avoid cable dropouts.

The same recommended installation conditions apply to wall mounting as to counter top mounting, with 100mm clear space on each side and good ventilation with normal (~< 24°C) room temperature air being allowed to circulate around the unit/s. Overheating may cause performance inconsistencies or product failure.

Connections

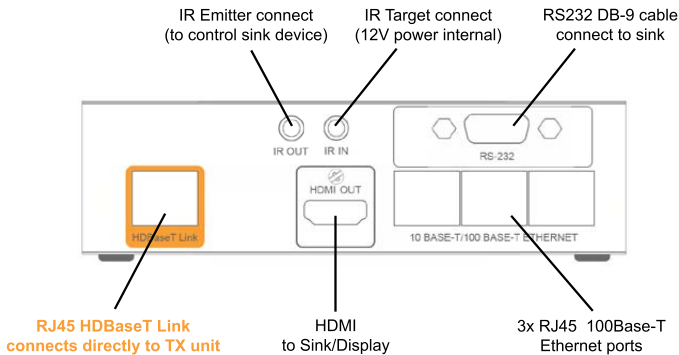
Transmitter - PLX-HDB.4[TX]

for use at the source side - DVD, Blu-ray, etc.



Receiver (RX) - PLX-HDB.4[RX]

for use at the sink/display side - TV, projector, etc.



Cabling

HDMI cables (not included) - use only certified High Speed HDMI® cables up to 5m in length.

Ethernet cables (not included);

For Ethernet Ports - Industry standard CATx LAN patch cables, same as for a standard Ethernet switch

For HDBaseT Port - see page 4 "LAN cable configuration for HDBaseT Link"

RS232 cables (not included) - use industry standard DB-9 terminated RS232 cables

IR Repeaters (not included) - see "Infrared Repeater Passthrough" section on page 6



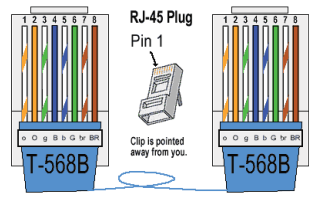
Caution: All cabling must be away from any equipment with electromagnetic waves, i.e.: microwave, radio equipment, high voltage.

LAN cable configuration for HDBaseT Link

We recommend the use of the TIA/EIA-568-B configuration as the preferred CAT6 termination method. Technically the HDBaseT Link only requires a direct pin-pin connection, meaning that TIA/EIA568-A can also be used, depending on installer preference and experience.

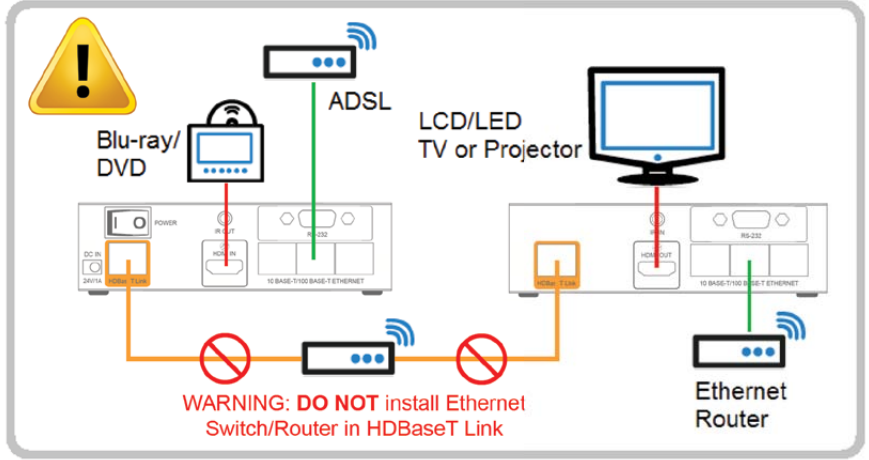
HDBaseT Link (TIA/EIA-568-B)

- PIN
1. Orange-white
 2. Orange
 3. Green-white
 4. Blue
 5. Blue-white
 6. Green
 7. Brown-white
 8. Brown



WARNING: DO NOT USE CROSSOVER CABLES OR ANY CONFIGURATION WHICH IS NOT DIRECT PIN-PIN

The HDBaseT Link can be connected through a network patch panel, but only where a direct point-to-point connection is achieved between **PLX-HDB.4** RX and TX units. **DO NOT** use Ethernet routers or switches in the HDBaseT Link (orange coded), or damage WILL result and warranty will be voided.



An Ethernet switch, wired or wireless router, or modem can be safely connected to the black colored Ethernet ports on the PLX-HDB.4, labelled **"10Base-T/100Base-T ETHERNET"**. This enables distribution of Internet/Ethernet data throughout the HD-AV system, with the PLX-HDB.4 in effect acting as a 6-port Ethernet switch; 3 ports at the TX and 3 ports at the RX, with up to 100m CAT6 cable in between.

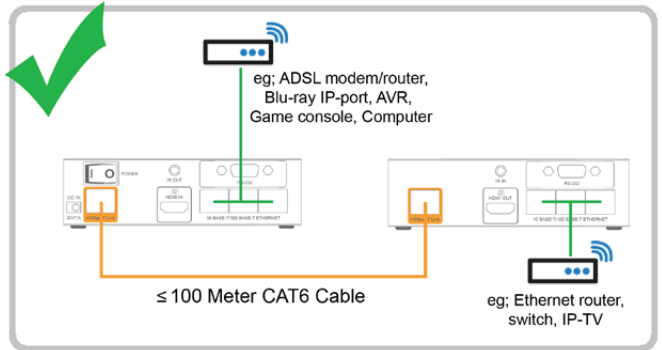
Format Support

Complete all connections prior to powering the system.

Ethernet

Supports industry standard Ethernet formats and protocols, 10Base-T (10Mbps) & 100Base-T (100Mbps)

For Ethernet/Internet sharing at source and display sides, in place of HDMI Ethernet Channel

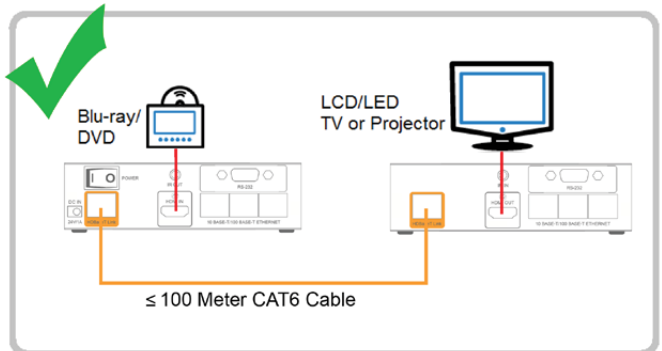


HDMI®

HIGH-DEFINITION MULTIMEDIA INTERFACE

Supports up to 3.4Gbps/channel (10.2Gbps) HDMI. Includes Full-HD 1080p, 3D & 4K video, Deep Color, x.v.Color, HD Audio and Audio Return Channel (ARC)

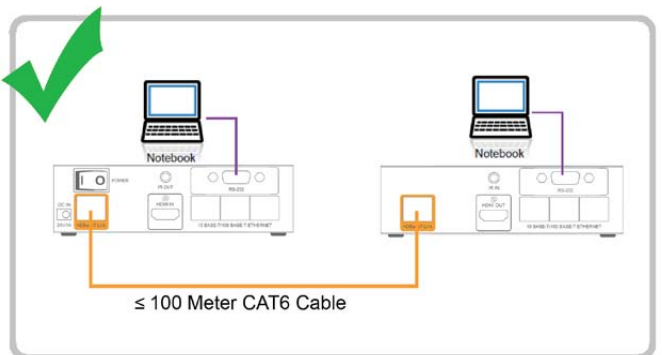
NOTE: Does NOT support HDMI Ethernet Channel



RS-232

EIA Recommended Standard 232 (aka Serial).

This unit supports direct passthrough of 'simple' (non-handshake) RS-232 character encodings, voltage and signalling rates as defined by the EIA. The PLX-HDB.4 performs no processing of the RS-232 signal, just pure passthrough.



Infrared Repeater Passthrough

Bi-directional IR supported;

SOURCE END (Tx)

“IR IN” - Downstream signal to emitter

Connect 3.5mm-3.5mm mono or stereo cable (not included) from emitter port on IR block

TIP: IR Signal
GND: GROUND

SINK END (Rx)

“IR OUT” - Connect IR Emitter directly

Connect standard IR emitter (not included) directly, and adhere to IR sensor on downstream device

TIP: IR Signal
GND: GROUND

“IR OUT” - Upstream signal from IR target

Connect 3.5mm-3.5mm stereo cable (not included) to “IR Target” port on IR block

TIP: not connected
RING: IR SIGNAL (back to IR block)
GND: GROUND

“IR IN” - Connect IR Target directly

Connect 3.5mm terminated IR target directly to the this port. 12V power supplied - no external power

TIP: +12V DC only
RING: IR SIGNAL (back to source)
GND: GROUND

TIP: The upstream IR support has the 3.5mm jack & DC power configured for use with Kordz brand IR extender equipment. Reconfiguring other brand cables may also enable compatibility.

DC Power

The PLX-HDB.4 system has been engineered to optimise installation convenience by eliminating the need for an external power supply at the sink/display side. This has been achieved by utilizing the unique PoE (Power over Ethernet) capability of the HDBaseT™ technology in order to pass power from the transmitter (TX) to the receiver (RX) unit for required operating power of the RX unit. PoE is not offered as an separately accessible feature.

The Transmitter unit requires an external power supply of 24V 1A in order to operate the system. This is equivalent to 1/2 PoE in the 802.3at specification. Please use only a high quality, safety & compliance certified power supply for your country of operation, which in most markets we include with the system.

System Initialization

Once all connections have been made to the PLX-HDB.4 RX and TX units, turn on the main power switch (to the “I” position) on the back of the TX unit. The “LINK” lights on both TX & RX initially light up RED, and will automatically turn GREEN within a few seconds as the HDBaseT™ link is completed. Once this happens the system is successfully initialized and ready for use.

Front Panel LED Indicator Key

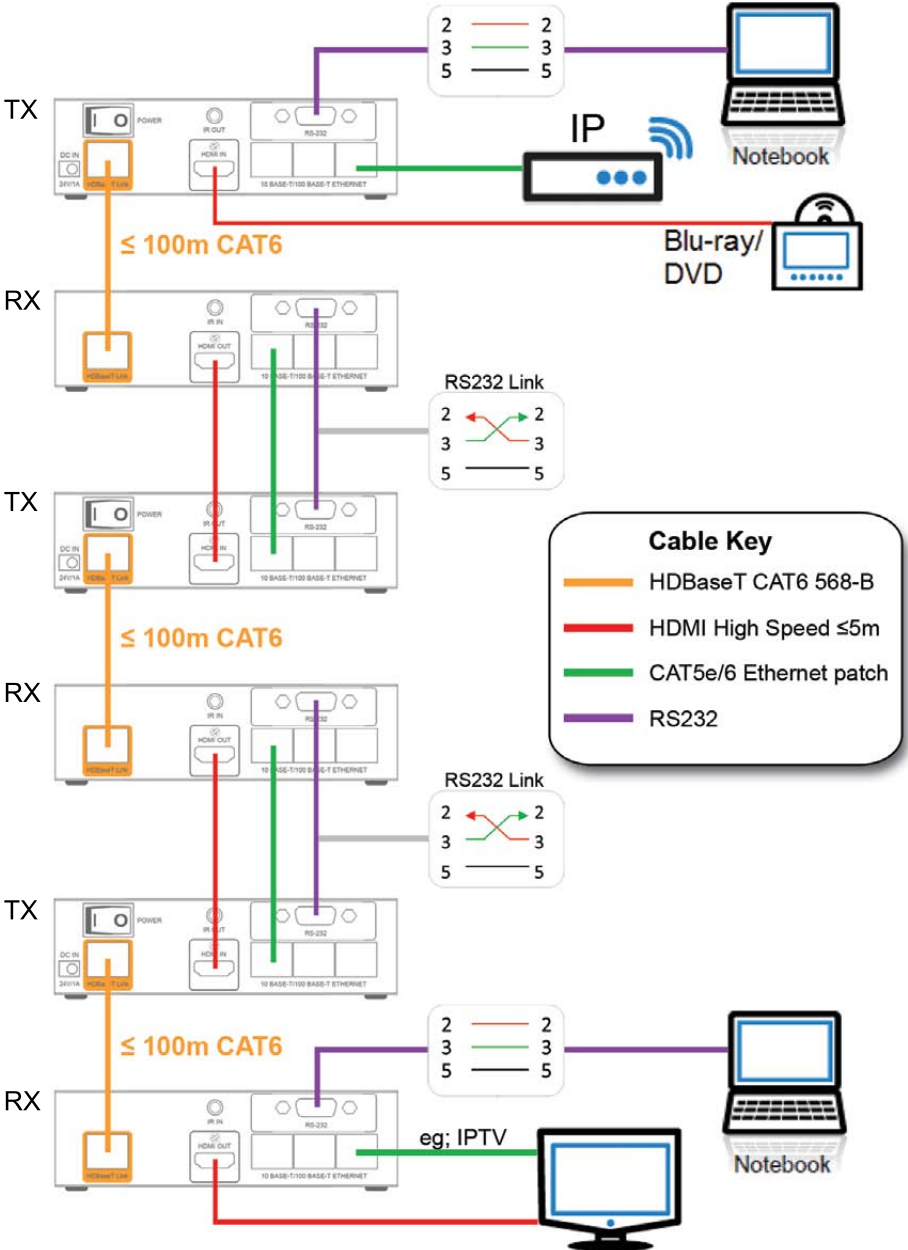
The LED light pipe on the front of both the RX & TX units are each the same. All LEDs are bi-color, with indications as follows:

LINK	HDBase-T Link between RX/TX	Red=NO Link, non-operational	Green=Active Link
HDMI	HDCP handshake in HDMI@	Red=NO Link, non-operational	Green=Active Link
Ethernet	1	Yellow=10BaseT,	Green=100BaseT, “Blink”=traffic
	2	Yellow=10BaseT,	Green=100BaseT, “Blink”=traffic
	3	Yellow=10BaseT,	Green=100BaseT, “Blink”=traffic



Extension beyond 100m

If a total operating range of longer than 100m is required, the outputs from one **PLX-HDB.4** RX can be connected to the inputs of a second complete **PLX-HDB.4** system. Each additional system which is added will extend the total cable length by 100m, with a maximum of eight (8) systems deep. The diagram below depicts an example of a three tiered system to achieve up to 300m, although it can be repeated to a maximum of 800m ;



Specifications

ITEM NO.	PLX-HDB.4 [TX]	PLX-HDB.4 [RX]
HDBaseT™ Link cable	CAT6 UTP recommended, CAT5e also useable	
HDBaseT™ Link cable length	≤ 100m / 327'	
Supported connectivity formats	HDMI®, 3+3 port 100Base-T Ethernet, Bi-directional IR passthrough, RS-232 (simple) passthrough	
Data Rate - Total	10.2Gbps	
- HDMI® Data rate	≤ 10.2Gbps	
- Ethernet Data rate	≤ 100Mbps	
- IR/RS232 Data rate	a few bits...	
Video Performance	297MHz	
- HDMI Video Bandwidth	480i/p, 576i/p, 720p, 1080i, 1080p 24-120Hz	
- Supported Formats	4K (up to 4096x2160) 24/29.97/30p	
SD/HD	All HDMI® mandated 3D formats	
UltraHD	8 bit color, 10-16 bit Deep Color, x.v.Color™	
3D	(depending on video resolution & frame rate)	
- Color Space formats		
Audio Format support	PCM 2.0/5.1/7.1 Dolby Digital® 5.1/EX/Plus/TrueHD DTS®/DTS-ES/Neo6/96-24/DTS-HD/DTS-HD Master Audio™	
HDBaseT™ Link Connector	RJ-45 Shielded x 1 (Output)	RJ-45 Shielded x 1 (Input)
HDMI® Cable Distance	≤ 5m High Speed only	
HDMI® Connector	HDMI A Type x 1 (Input)	HDMI A Type x 1 (Output)
HDMI® Audio Return Channel	Supported, but pre-installation interoperability test recommended	
HDMI® Ethernet Channel	not supported	
Ethernet port connectors I/O	RJ-45 Shielded x 3	RJ-45 Shielded x 3
IR connection I/O	3.5mm jack x2 Null tip, SIG ring, GND collar Mono - IR SIG tip, GND sleeve	3.5mm jack x2 +12VDC tip, SIG ring, GND collar Mono - IR SIG tip, GND sleeve
RS-232 connection I/O	Industry standard DB-9 connector on TX & RX	
Power input	DC 24V 1A	Contained PoE from TX
Temperature (°C)	Operation: 0 to 55°, Storage: -20° to 85°, Humidity: up to 90%	
DIMENSIONS W x H x D mm	145 x 43 x 95	145 x 43 x 95
Weight	470g	485g

www.kordz.com



HDBaseT Adopter since 2010



HDMI Adopter since 2005



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Seaford VIC Australia



Kordz USA, Inc
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Member



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