



NTI® NETWORK
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XTENDEX® Series

ST-C6USBDP4K21GB-328

4K DisplayPort USB KVM 60Hz HDBaseT RS232 & Stereo Audio Extender via CAT6a/7 Cable

Installation and Operation Manual



ST-C6USBDP4K21GB-328
Remote Unit
(Front and Back)

TRADEMARK

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CHANGES

The material in this guide is for information only and is subject to change without notice. Network Technologies Inc reserves the right to make changes in the product design without reservation and without notification to its users.

Note: This device does not support MST (Multi Stream Transport) hub function based on DP1.2

WARNING: Outdoor or underground runs of CAT6a/7 cable could be dangerous and will void the warranty.

WARNING: The CAT6a/7 connection cable used between NTI XTENDEX Series Local and Remote or any XTENDEX Series products must be wired straight through (pin 1 to pin 1, pin 2 to pin 2, etc.) The use of a CROSSOVER CABLE will damage the extender and void your warranty.

WARNING: Never connect the XTENDEX to an Ethernet card, Ethernet router, hub or switch or other Ethernet RJ45 connector of an Ethernet device. Damage to devices connected to the Ethernet may result.

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INTRODUCTION

The XTENDEX® 4K DisplayPort USB KVM HDBaseT Extender transmits uncompressed digital Ultra-HD 4Kx2K 60Hz 4:4:4 DisplayPort signal, transparent USB, stereo audio, and RS232 up to 328 feet over a single HDBaseT-certified CAT6A cable. Each extender consists of a local unit that connects to a computer, and a remote unit that connects to a UHD DisplayPort display and USB 2.0 device.

- Transmits an uncompressed high-speed DisplayPort signal over one CAT6a/7 cable using HDBaseT technology.
- Supports Ultra-HD 4Kx2K resolutions to 3840x2160 @60Hz YUV 4:4:4, and HDTV resolutions to 1080p @60Hz.
 - Using HDBaseT-certified CAT6a cable, extend up to 328 feet (100 meters).
 - Using standard CAT6a/7 cable, extend up to 175 feet (53 meters).
- DisplayPort features supported:
 - DisplayPort 1.2
 - 48-bit Color
 - RGB, YCbCr 4:4:4, YCbCr 4:2:2
 - LPCM, Dolby TrueHD, and DTS-HD Master Audio
 - Does NOT support MST
- HDCP 1.3 compliant.
- Four USB 2.0 ports support fully transparent USB connection.
 - Extend USB devices such as a keyboard, mouse, game controller, USB flash drive, touch screen monitor, whiteboard, etc.
 - Compliant with USB 2.0 (low/full/high speed) standards.
- Supports DP-embedded digital audio and 3.5mm stereo audio input/output.
- Supports full-duplex RS232 at 115200 baud.
- Mounting brackets included for easy surface/wall mounting.

MATERIALS

Materials supplied with this kit:

- Local and Remote Unit
- 1 x 100-240VAC, 50 or 60Hz-12VDC/1.5A AC Adapter (**For Local Unit**)
- 1 x 100-240VAC, 50 or 60Hz-12VDC/2.5A AC Adapter (**For Remote Unit**)
- Mounting hardware
- URL Slip with path to this manual

Materials Not supplied but **REQUIRED**:

- CAT6a solid UTP; CAT7 solid STP twisted-pair cables terminated with RJ45 connectors wired straight thru- pin 1 to pin 1, etc. (see page 7 for proper EIA/TIA 568 B wiring method)

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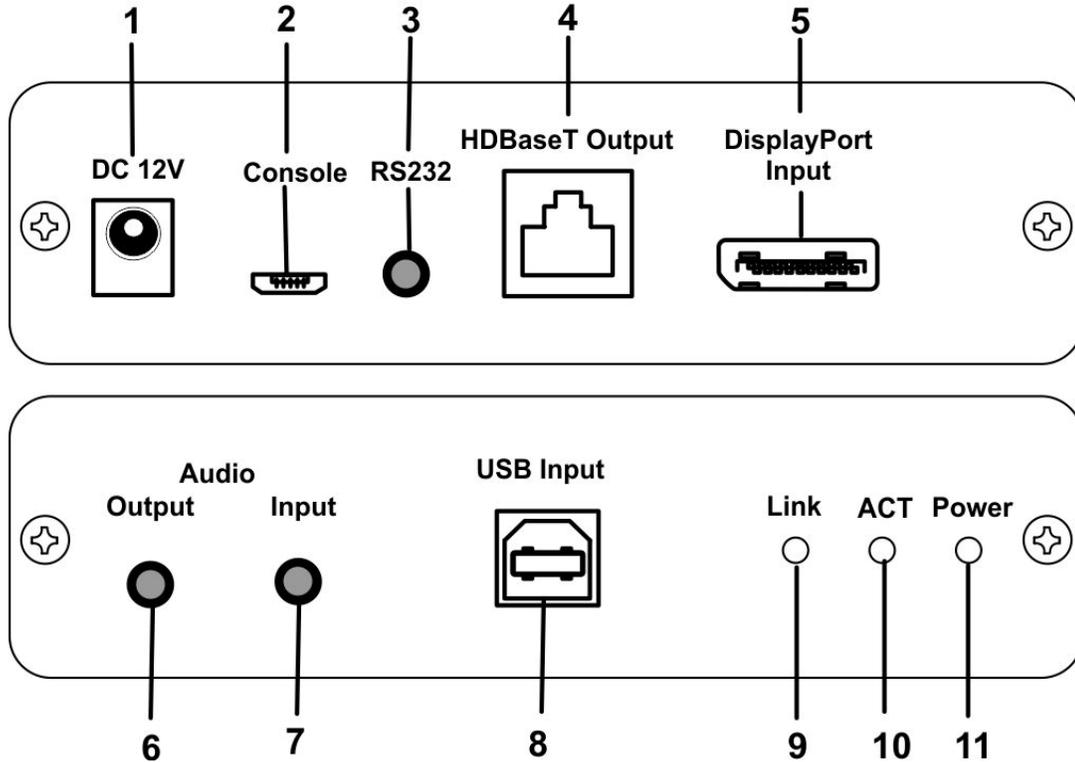
- DisplayPort male-male cable to connect a DisplayPort source or display up to 15 feet (Order NTI # DP-xx-MM where xx=3, 6, 10 or 15 foot cable).
- DisplayPort Active Optical cable to connect a DisplayPort source or display up to 100 meters (Order NTI # DP4K21GB-FO-xxM-MM where xx=10, 15,20,25,30,50, 70 and 100 meters cable).
- USB Type A male to Type B male cable to extend USB devices(Order NTI #USB2-AB-xx-5T where xx= 0.5, 3, 6, 10 feet and 5 meter cable)

Always use the shortest possible cable for best performance.

Contact your nearest NTI distributor or NTI directly for all of your KVM needs at 800-RGB-TECH (800-742-8324) in US & Canada or 330-562-7070 (Worldwide) or at our website at <http://www.networktechinc.com> and we will be happy to be of assistance.

FEATURES AND FUNCTIONS

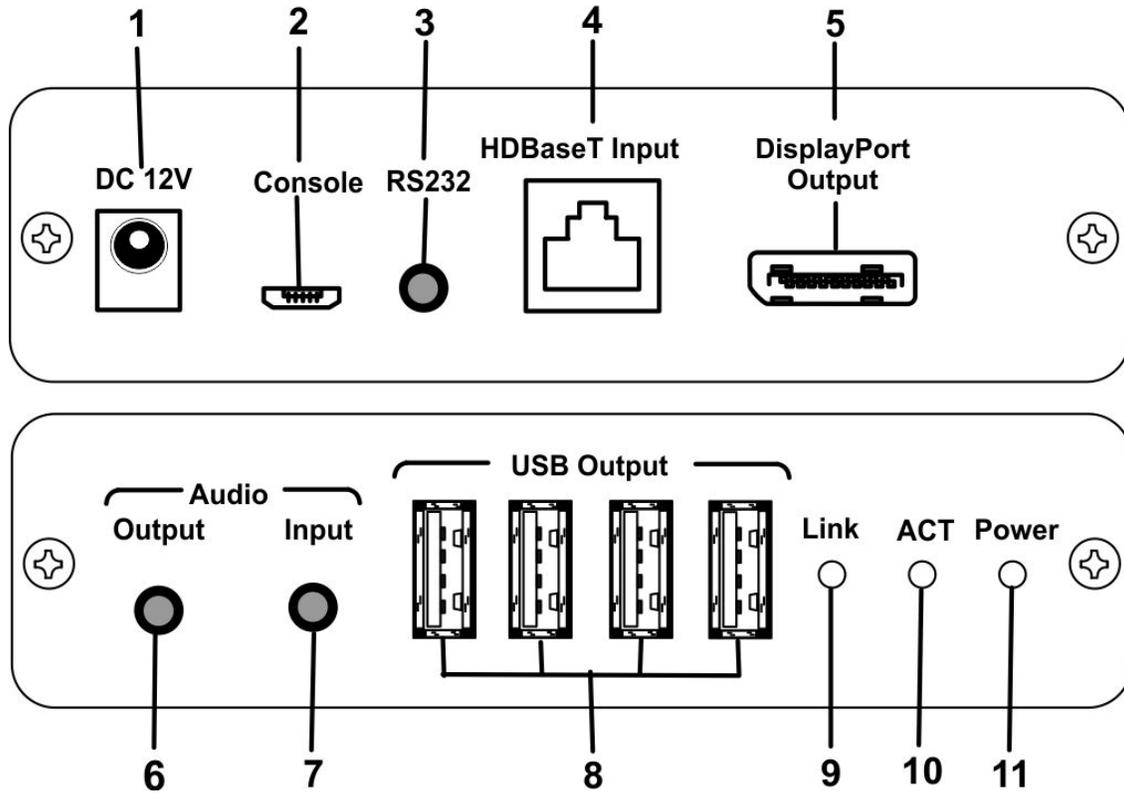
**ST-C6USBDP4K21GB-328
Local Unit**



#	LABEL	CONNECTOR	DESCRIPTION
	FRONT		
1	DC 12V	Power jack	Connection jack for the AC adapter
2	Console	USB Type B micro	For connection of a USB cable for firmware upgrade
3	RS232	3.5mm Jack	For connecting RS232 serial cable
4	HDBaseT	RJ45 female	For connecting the CAT6a/7 cable between the Local and Remote units
5	DisplayPort Input	DisplayPort female	For connecting DisplayPort cable from video/audio source
6	Audio Output	3.5mm Stereo Jack	For connection of local self-powered stereo speakers
7	Audio Input	3.5mm Stereo Jack	For connecting to stereo audio source
8	USB Input	USB Type B Female	For connecting USB 2.0 cable from host connection
9	Link	LED	To indicated connection with Remote Unit
10	ACT	LED	To indicate signal transfer between the Remote and Local unit
11	Power	LED	To indicate the unit has been properly powered

WARNING: If the HDBaseT Output and Input ports of a powered Remote or Local extender are connected to the RS232 port of another Remote or Local unit, the HDBaseT ports will be damaged and render the XTENDEX unusable and void the warranty.

ST-C6USBDP4K21GB-328 Remote Unit



#	LABEL	CONNECTOR	DESCRIPTION
	FRONT		
1	DC 12V	Power jack	Connection jack for the AC adapter
2	Console	USB Type B micro	For connection of a USB cable for firmware upgrade
3	RS232	3.5mm Jack	For connecting RS232 serial cable
4	HDBaseT	RJ45 female	For connecting the CAT6a/7 cable between the Local and Remote units
5	DisplayPort Output	DisplayPort female	For connecting DisplayPort cable from DisplayPort monitor
6	Audio Output	3.5mm Stereo Jack	For connection of remote self-powered stereo speakers
7	Audio Input	3.5mm Stereo Jack	For connecting a microphone
8	USB Input	USB Type A Female	For connecting USB 2.0 cables from extended devices
9	Link	LED	To indicated connection with Local Unit
10	ACT	LED	To indicate signal transfer between the Remote and Local unit
11	Power	LED	To indicate the unit has been properly powered

PREPARATION FOR INSTALLATION

- Locations should be chosen for the monitor that also has space to connect the Remote unit within the distance provided by the cables. If extension cables are needed, contact NTI for the cables required.
- The CAT6a/7 cables must be run to the locations where the Remote and Local units will be connected. Be careful to route the cables away from any sources of magnetic fields or electrical interference that might reduce the quality of the video signal (i.e. AC motors, welding equipment, fluorescent lighting, etc.).
- All cables should be installed in such a way that they do not cause stress on their connections to the equipment. Extended lengths of cable hanging from a connection may interfere with the quality of that connection. Secure cables as needed to minimize this.
- Properly shut down and disconnect the power from the video source and monitor to be separated. If other equipment is involved whose connections are being interrupted, be sure to refer to the instruction manuals for that equipment for proper disconnection and reconnection procedures before proceeding.

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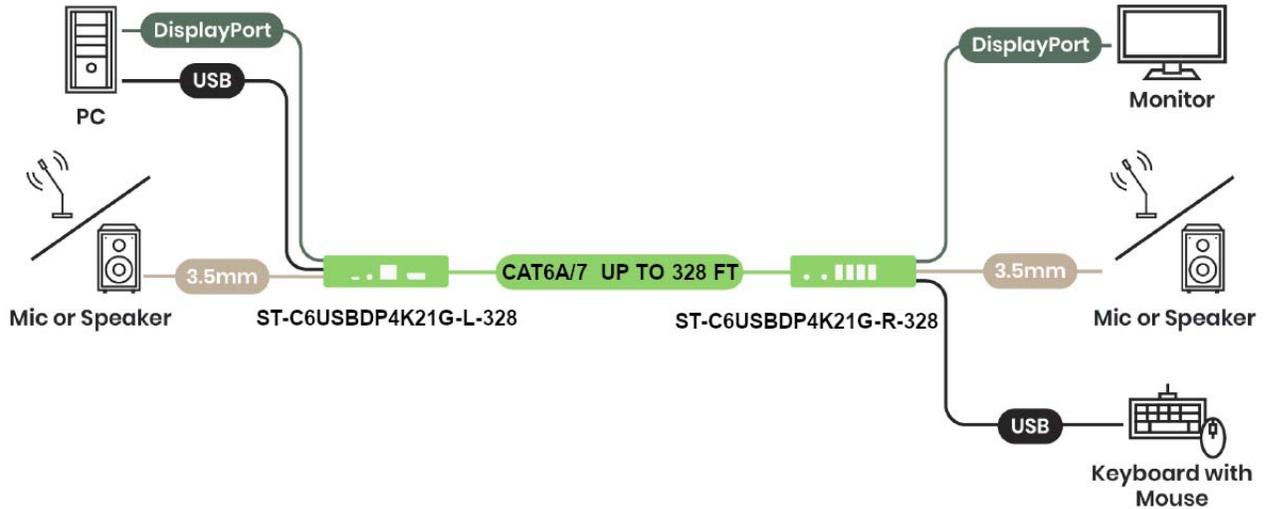


WARNING: Never connect the XTENDEX to an Ethernet card, Ethernet router, hub or switch or other Ethernet RJ45 connector of an Ethernet device. Damage to devices connected to the Ethernet may result.

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INSTALLATION AND OPERATION

Connections:

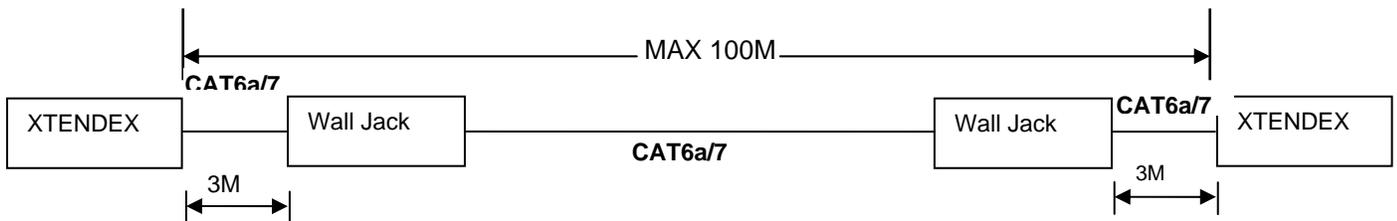


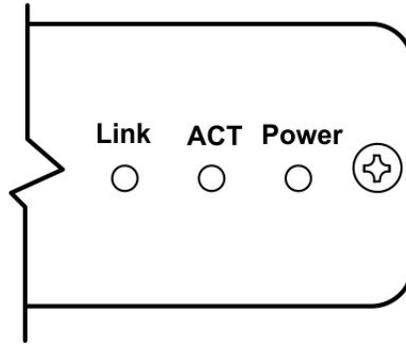
For the connection between the Local and Remote units, we recommend using a high quality CAT6a/7 UTP/STP or FTP cable. A poor quality cable or network connection or improper construction will cause an unstable connection, video or sound disruptions, or noise on the display. Use a HDBaseT-certified CAT6a cable to extend up to 328 feet (100 meters).

Distance chart:

Video Resolution Supported	CATx Cable	Distance
3840x2160 4K@60Hz YUV 4:4:4	HDBase-T Certified CAT6a	100m (328 feet)
1080p@60Hz	CAT6a/7	53.34m (175 feet)

If connecting through a wall socket, the CAT6a/7 cable length between the XTENDEX and Wall Jack must be less than 3 meters, as illustrated below:





LED Indication :

Link LED: Illuminated solid Blue when a link is established between the Local and Remote Units
 ACT LED: Flashes Blue when there is activity between the Local and Remote Units
 Power LED: Illuminated solid Green when Power is ON

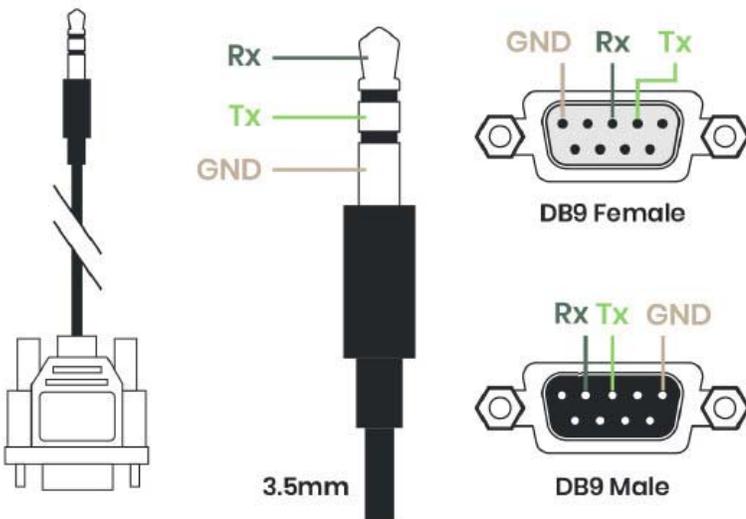
Audio Transmission

The ST-C6USBDP4K121GB-328 transmits DP audio. DP audio can only be played from a DisplayPort output.

The ST-C6USBDP4K121GB-328 also has an independent 3.5mm sound channel at the Local Unit and Remote Unit. The Local and Remote Units can each have a self-powered stereo speaker and microphone connected to them. The 3.5mm microphone/audio source on the Local can only be heard at the Remote speaker, and the 3.5mm microphone/audio source at the Remote can only be heard at the Local speaker.

RS232

The ST-C6USBDP4K121GB-328 supports RS232 extension via a 3.5mm stereo jack connection. If your RS232 device uses a DB9 connector, you will need a DB9 to 3.5mm adapter cable to connect the device to the Local and Remote Units.

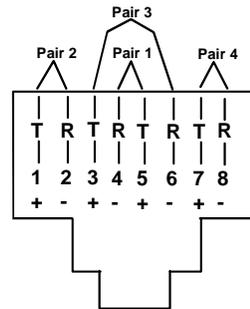


RS232(DB9 Female)		3.5 mm Phone Jack	
Pin	Definition	Pin	Definition
Pin 2	TX	Pin 1	RX
Pin 3	RX	Pin 2	TX
Pin 5	GND	Pin 3	GND
RS232(DB9 Male)		3.5 mm Phone Jack	
Pin	Definition	Pin	Definition
Pin 2	RX	Pin 1	RX
Pin 3	TX	Pin 2	TX
Pin 5	GND	Pin 3	GND

INTERCONNECTION CABLE WIRING METHOD

The CAT6a/7 connection cables between the Remote and Local are terminated with RJ45 connectors and must be wired according to the EIA/TIA 568 B industry standard. Wiring is per the table and drawing below.

Pin	Wire Color	Pair	Function
1	White/Orange	2	T
2	Orange	2	R
3	White/Green	3	T
4	Blue	1	R
5	White/Blue	1	T
6	Green	3	R
7	White/Brown	4	T
8	Brown	4	R



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TECHNICAL SPECIFICATIONS

Items	Specification
Local Unit	
Devices supported	USB PC or UHD video source with DisplayPort output
OS supported	Multiplatform support: Windows 7/10/11, Linux, and MAC OS10/11/12.
Connectors	1- Female DisplayPort 1- Female USB Type B 1- Female 3.5mm (RS232) 2- Female 3.5mm for Stereo Audio (line in and line out) 1- Female RJ45 1- Female USB Micro B connector for firmware updates
Remote Unit	
Connectors	1- Female DisplayPort 4- Female USB Type A (Transparent USB) <ul style="list-style-type: none"> ○ Supports high-speed (480 Mbps), full-speed (12 Mbps), or low-speed (1.5 Mbps) USB devices - keyboard, mouse, game controller, USB flash drive, touch screen monitor, whiteboard, etc. 1- Female 3.5mm (RS232) <ul style="list-style-type: none"> ○ Support full-duplex RS232 up to 115200 baud. 1- Female RJ45 (CAT cable) 2- Female 3.5mm for Stereo Audio (line in and line out) 1- Female USB Micro B connector for firmware updates
General	
Operating Temperature	-4 to 158°F (-20 to 70°C)
Storage Temperature	-40 to 185°F (-40 to 85°C).
Operating Humidity	up to 95% RH (no condensation)
Video Resolutions Supported	Ultra-HD 4Kx2K 60Hz 4:4:4 resolutions (3840x2160 @60Hz); HDTV resolutions to 1080p @60Hz
Audio Supported	Embedded digital audio through DisplayPort compatible displays or audio receivers Up to 7.1 LPCM 192KHz / Dolby TrueHD / DTS-HD MA
HDCP	Compliant
Power Supply	100-240VAC 50/60Hz; 12VDC1.5A (Local Unit (Transmitter)) 100-240VAC 50/60Hz; 12VDC2.5A (Remote Unit (Receiver))
Power Consumption	Local : < 5W ; Remote: < 17W (Max. Power) Note: The maximum load on each USB port cannot exceed 0.5A.
Dimensions (WxDxH)	4.89x4.81x1.25 in. (124x122x32 mm)
Maximum Extension Distance using HDBase-T certified CAT6a cable	328 feet (100 meters)

General (Continued)	
Maximum Extension Distance using solid CAT6a/7 cable	175 feet (53 meters)
Weight	Local: 349.2g (.770lb) Remote: 347.4g (.766lb)
Regulatory Approvals	RoHS3

Note: This device does not support MST (Multi Stream Transport) hub function based on DP1.2

WARRANTY INFORMATION

The warranty period on this product (parts and labor) is two (2) years from the date of purchase. Please contact Network Technologies Inc at **(800) 742-8324** (800-RGB-TECH) or **(330) 562-7070** or visit our website at <http://www.networktechinc.com> for information regarding repairs and/or returns. A return authorization number is required for all repairs/returns.

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