



NTI® NETWORK
TECHNOLOGIES
INCORPORATED

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XTENDEX® Series

VOPEX-C64K18GB-4 4K HDMI Splitter/Extender Installation and Operation Manual



**VOPEX-C64K18GB-4 Local Unit
Front and Rear View**



**VOPEX-C64K18GB-4 Remote Unit
Front and Rear View**

TRADEMARK

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CHANGES

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TABLE OF CONTENTS

Introduction..... 1
Materials 2
Preparation for Installation 2
Features and Functions..... 3
Installation 5
Interconnection Cable Wiring Method 6
Troubleshooting..... 6
Technical Specifications..... 7
Warranty Information 8

INTRODUCTION

The VOPEX® 4K HDMI Splitter/Extender simultaneously distributes uncompressed Ultra-HD 4Kx2K 60Hz 4:4:4 HDMI video, multi-channel audio, and IR from one video source to up to four displays and speakers, each located up to 100 feet away via CATx cable.

The VOPEX-C64K18GB-4 system consists of two components: the 4K HDMI HDBase-T broadcast unit (Local Unit), which connects to the HDMI source and also supplies video to a local display; and a receiver (Remote Unit) (included) for each remote 4K HDMI display. The units are interconnected by CAT5e/6/6a/7 cable.

Features

- Transmits an uncompressed HDMI signal over one CATx cable to multiple display locations.
 - Extend Ultra-HD 4Kx2K 60Hz 4:4:4 to 100 feet.
 - Extend 4Kx2K 30Hz to 165 feet.
 - Extend 1080p to 200 feet.
 - Refer to the resolution chart in the specifications section for resolutions using different CATx cable types and lengths.
- Supports Ultra-HD 4Kx2K resolutions (4096x2160 and 3840x2160 @24/25/30/60Hz YUV 4:4:4) and HDTV resolutions to 1080p.
- HDMI features supported:
 - HDMI 2.0
 - YUV 4:4:4
 - Dolby TrueHD, DTS-HD Master Audio, Dolby Digital, DTS 7.1 and LPCM.
 - HDR
 - 3D
 - Bandwidth up to 600 Mhz (18 Gbps)
 - Support for CEC (consumer electronic control) on transmitter for local loop back output.
 - Receivers do not support CEC.
 - Lip Sync
- HDCP 2.2 compliant.
- Supports the DDC2B protocol.
- Built-in default EDID table.
- Ideal for digital signage, tradeshow, or classrooms where high quality video on multiple displays is needed.

MATERIALS

Materials supplied with this kit:

- VOPEX-C64K18GB-4 Local Unit
- VOPEX-C64K18GB-4 Remote Units (x4)
- 100-240VAC, 50 or 60Hz-12VDC/2A AC Adapter
- 100-240VAC, 50 or 60Hz-12VDC/1A AC Adapter (x4)
- IR Blaster and cable
- IR Receiver and cable (x4)
- URL Slip with web address of this manual

Materials *Not* supplied but **REQUIRED**:

Use HD-xx-MM cable to connect an HDMI source or display.

- Maximum HDMI cable length:
 - 50 feet for resolutions up to 4K @ 30Hz
 - 25 feet for resolutions up to 4K @ 60Hz

Use CATx solid or stranded straight through cable for TIA/EIA-568B wiring terminated with standard RJ45 connectors.

Cables can be purchased from Network Technologies Inc by calling (800) 742-8324 (800-RGB-TECH) in the US and Canada or (330) 562-7070 (worldwide).

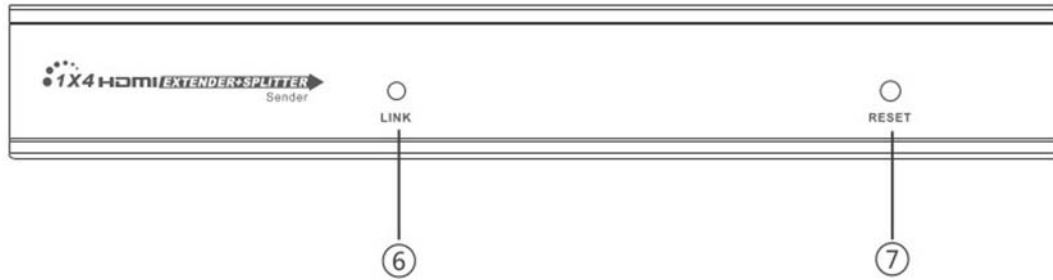
PREPARATION FOR INSTALLATION

- Locations should be chosen for the monitors, mice, and keyboards that also have space to connect the Remote and Local Units within the distance provided by the cables.
- The CATX 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, 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 CPU and monitors 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 re-connection procedures before proceeding.
- Local and Remote Units should be grounded through either a display or source that uses a 3-prong power cord. If only one unit is grounded, shielded CAT5 cable should be used.

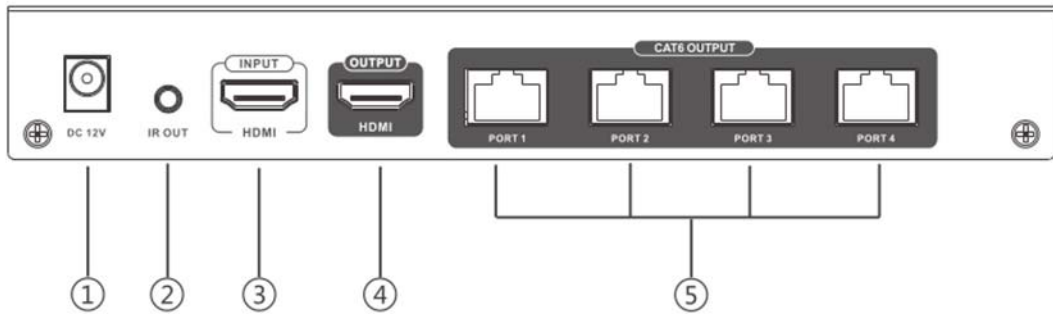
Note: CATX connection cable used between NTI XTENDEX Series Local and Remote or any XTENDEX Series products should not be run underground, outdoors or between buildings.

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

FEATURES AND FUNCTIONS



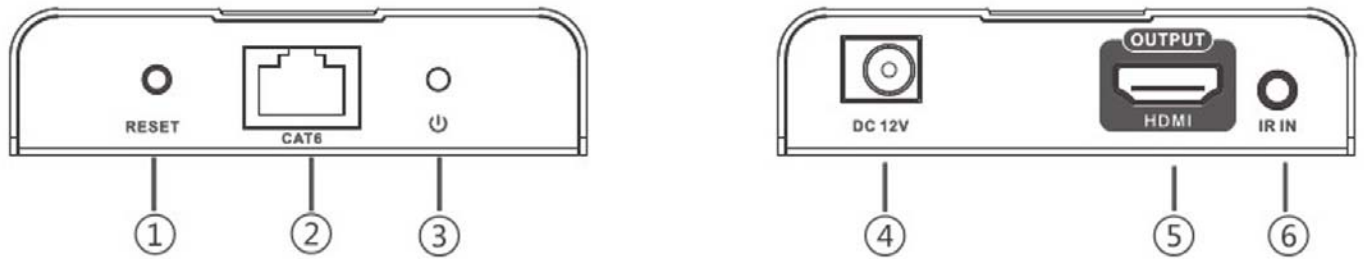
**VOPEX-C64K18GB-4 Local Unit
Frontview**



**VOPEX-C64K18GB-4 Local Unit
Rearview**

Label	Type	Description
1	Power Jack	Connection Jack for 12VDC AC adapter
2	IR Out	Connection jack for IR blaster
3	HDMI Female	For connection of HDMI cable to video source
4	HDMI Female	For connection of HDMI cable to local display device
5	RJ45 Female	For connection of CATx cable to Remote Units
6	LED	-Red LED indicates that power is ON but no image is being sent to the Remote Units -Green LED indicates power is ON and an image is being sent to the Remote Units
7	Button	Press to Reboot the Local Unit

Note: DVI video sources and displays are not supported.



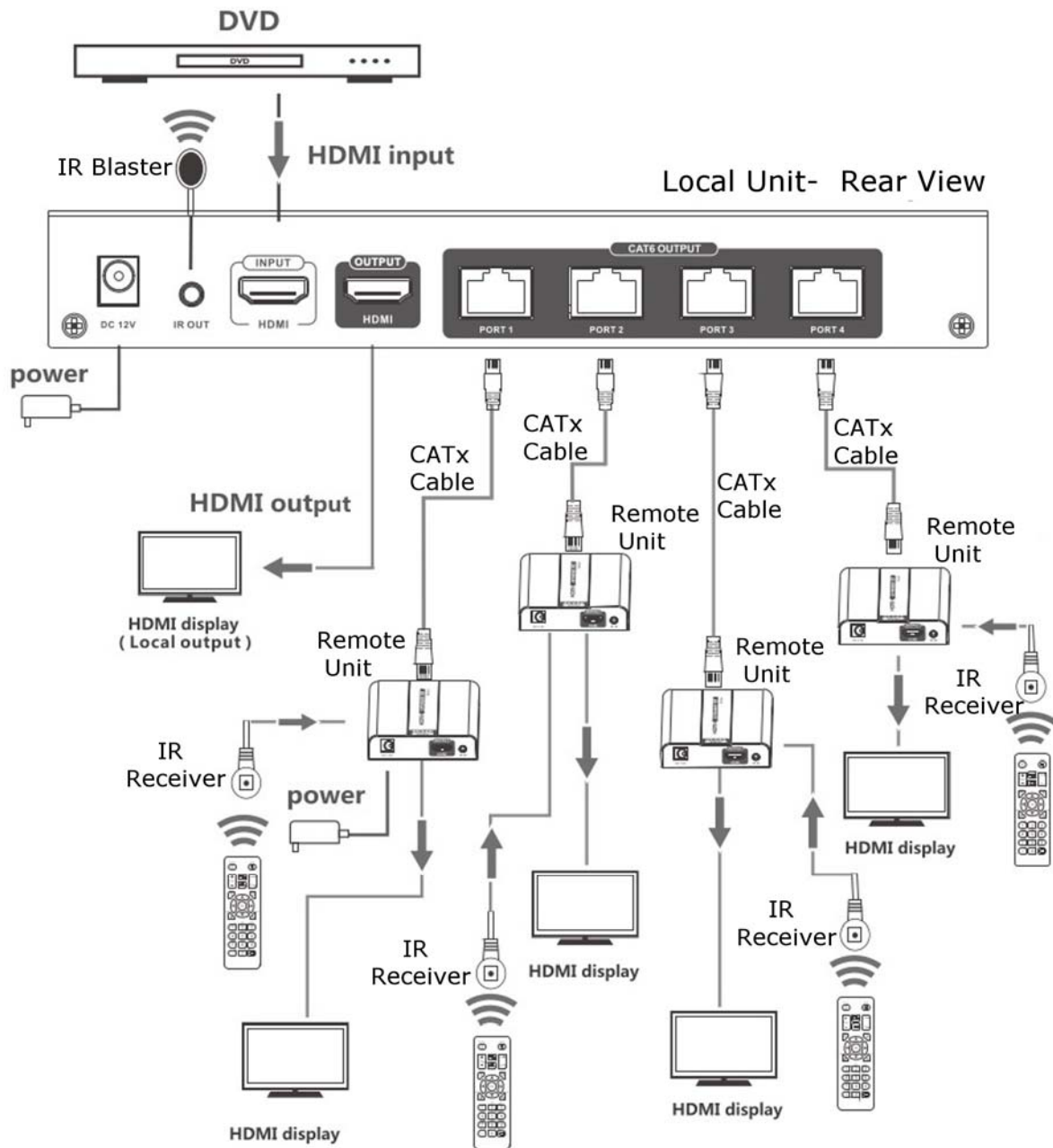
**VOPEX-C64K18GB-4 Remote Unit
Front and Rear Views**

Label	Type	Description
1	Button	Press to Reboot the Remote Unit
2	RJ45 Female	For connection of CATx cable from the Local Unit
3	LED	-Red LED indicates that power is ON but no image is being received -Green LED indicates power is ON and an image is being received
4	Power Jack	Connection Jack for AC adapter
5	HDMI Female	For connection of HDMI cable to extended display device
6	IR IN	Connection jack for IR receiver

Note: DVI displays are not supported.

INSTALLATION

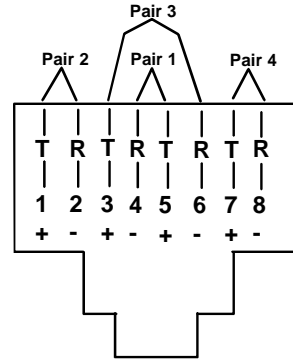
1. Connect the video source to the Local Unit at the "HDMI INPUT" port with HD-xx-MM cable (sold separately).
2. Connect the IR blaster to the "IR OUT" port on the Local Unit.
3. Connect CATx cables between the Local Unit and each Remote Unit.
4. Connect each extended display device to an "HDMI OUTPUT" port on a Remote Unit.
5. Connect an IR Receiver to each Remote Unit at the "IR IN" port.
6. If using a locally connected display device, connect it to the Local Unit at the "HDMI OUTPUT" port with HD-xx-MM cable.
7. Connect the 12VDC 2A AC adapter to the Local Unit power jack.
8. Connect a 12VDC 1A AC adapter to each Remote Unit power jack.



INTERCONNECTION CABLE WIRING METHOD

The connection cable between the remote and local is terminated with RJ45 connectors and must be wired according to the EIA/TIA 568 B industry standard. Wiring is as 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



View looking into RJ45 female

TROUBLESHOOTING

No Image on display and no audio	<ul style="list-style-type: none"> • Make sure display is not in standby mode • Check all cable connections, make sure they are fully inserted • Verify that LEDs on Local and Remote units are both illuminated and blue (red means no signal) • Make sure the display device supports the resolution output by the video source
Image is unstable	<ul style="list-style-type: none"> • Press the "RESET" button on the Local and Remote Units to refresh the signal • Disconnect and re-connect the CATx cable associated with the unstable display at each end of the cable.
Only some ports have output	<ul style="list-style-type: none"> • Check all cable connections, make sure they are fully inserted • Press the "RESET" button on the Local and Remote Units to refresh the signal • Disconnect and re-connect the CATx cable associated with the unstable display at each end of the cable.

TECHNICAL SPECIFICATIONS

Local Unit	
Video Compatibility	HDMI 2.0, HDCP 2.2 Compatible
Video Connectors	HDMI Female (Does not support DVI displays or sources)
Video bandwidth	18 Gbps
Resolution Supported	Supports Ultra-HD 4Kx2K resolutions to 4096x2160 and HDTV resolutions to 1080p. 4Kx2K (4096x2160 and 3840x2160) at 24/25/30/60Hz YUV 4:4:4.
IR Connector	3.5mm female;
IR Frequency Range	20 to 60kHz
Extension cable connectors	RJ45 female HDBase-T connector for sending/receiving ultra-high definition video, audio, IR, DDC signals.
Latency	16mS
Remote Unit	
Resolution Supported	Supports Ultra-HD 4Kx2K resolutions to 4096x2160 and HDTV resolutions to 1080p. 4Kx2K (4096x2160 and 3840x2160) at 24/25/30/60Hz YUV 4:4:4. Note: Refer to the resolution chart for resolutions using different CATx cable types and lengths.
Video Connectors	HDMI Female (Does not support DVI displays)
IR Frequency Range	20 to 60kHz
Extension cable connectors	RJ45 female HDBase-T connector for sending/receiving ultra-high definition video, audio, IR, DDC signals.
Audio	Supports embedded digital audio through HDMI compatible TVs or audio receivers.
General	
Local Unit Power	100V or 240V at 50 or 60Hz-12VDC/2.0A via AC Adapter
Remote Unit Power	100V or 240V at 50 or 60Hz-12VDC/1.0A via AC Adapter
Operating temperature	32 to 140°F (0 to 60°C)
Storage temperature	-4 to 158°F (-20 to 70°C)
Operating/storage relative humidity	20 to 90% non-condensing RH
Interconnect Cable	Use CATx solid or stranded straight through cable for TIA/EIA-568B wiring terminated with standard RJ45 connectors.
Maximum HDMI Cable Length (Use NTI HD-xx-MM)	<ul style="list-style-type: none"> ▪ 50 feet for resolutions up to 4K @ 30Hz ▪ 25 feet for resolutions up to 4K @ 60Hz
Dimensions WxDxH (In.)	
Local Unit	8.37x4.00x1.22 (212.6x101.5x31 mm)
Remote Unit	3.21x3.98x0.81 (81.6x101x20.6 mm)
Regulatory Approvals	CE, FCC, RoHS

Distances and Resolutions for CAT5e/CAT6/CAT6a and CAT7 Cables

Cable	Distance	Maximum Resolution
CAT5e UTP or STP	50 feet (15 meters)	4096x2160 and 3840x2160 at 60Hz YUV 4:4:4
	165 feet (50 meters)	4096x2160 and 3840x2160 at 30Hz YUV 4:4:4
	200 feet (61 meters)	1080p at 60Hz
CAT6 STP	75 feet (23 meters)	4096x2160 and 3840x2160 at 60Hz YUV 4:4:4
	165 feet (50 meters)	4096x2160 and 3840x2160 at 30Hz YUV 4:4:4
	200 feet (61 meters)	1080p at 60Hz
CAT6 UTP	100 feet (30 meters)	4096x2160 and 3840x2160 at 60Hz YUV 4:4:4
	165 feet (50 meters)	4096x2160 and 3840x2160 at 30Hz YUV 4:4:4
	200 feet (61 meters)	1080p at 60Hz
CAT6a UTP	100 feet (30 meters)	4096x2160 and 3840x2160 at 60Hz YUV 4:4:4
	165 feet (50 meters)	4096x2160 and 3840x2160 at 30Hz YUV 4:4:4
	200 feet (61 meters)	1080p at 60Hz
CAT7 STP	100 feet (30 meters)	4096x2160 and 3840x2160 at 60Hz YUV 4:4:4
	165 feet (50 meters)	4096x2160 and 3840x2160 at 30Hz YUV 4:4:4
	200 feet (61 meters)	1080p at 60H

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.