



**NETWORK  
TECHNOLOGIES  
INCORPORATED**

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**XTENDEX® Series**

**ST-C5USB-250**  
**250 FOOT DVI and USB Extender via**  
**CAT5e/6**  
**Installation and Operation Manual**

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**TRADEMARK**

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**CHANGES**

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## INTRODUCTION

The ST-C5USBD-250 (XTENDEX) USB Extender with DVI Video extends four USB devices and a single link DVI-D monitor up to 250 feet via two CAT5e/6/7 solid UTP cables. Each USB extender consists of a Local Unit that connects to a computer, and a Remote Unit that connects to four USB devices and a monitor.

### Features:

- Supports fully transparent USB connections – able to support all common hardware platforms including PC, SUN and MAC and their associated peripherals.
- Extend devices such as keyboards, mice, printers, game controllers, USB flash drives, touch screen monitors, whiteboards, etc.
- Supports computer resolutions to 1920x1200.
- Compliant with USB 2.0 specifications (low speed and full speed USB devices supported).
- Supports Plug-n-Play specification.
- Built in default EDID configuration table.

### Local Unit

- Supports USB computers (PC, SUN and MAC) with DVI-D video.
- Multiplatform support: Windows 2000/XP/Vista/Windows 7/Server 2000/2003/2008, Solaris, Linux, FreeBSD, and MAC OS 9/10
- One female DVI-D and one female USB Type B connectors.

### Remote Unit

- One female DVI-D and four female USB Type A connectors.
- Supports low-speed and full-speed USB devices.
- Supports resolutions to 1920x1200.

## MATERIALS

### Materials supplied with this kit:

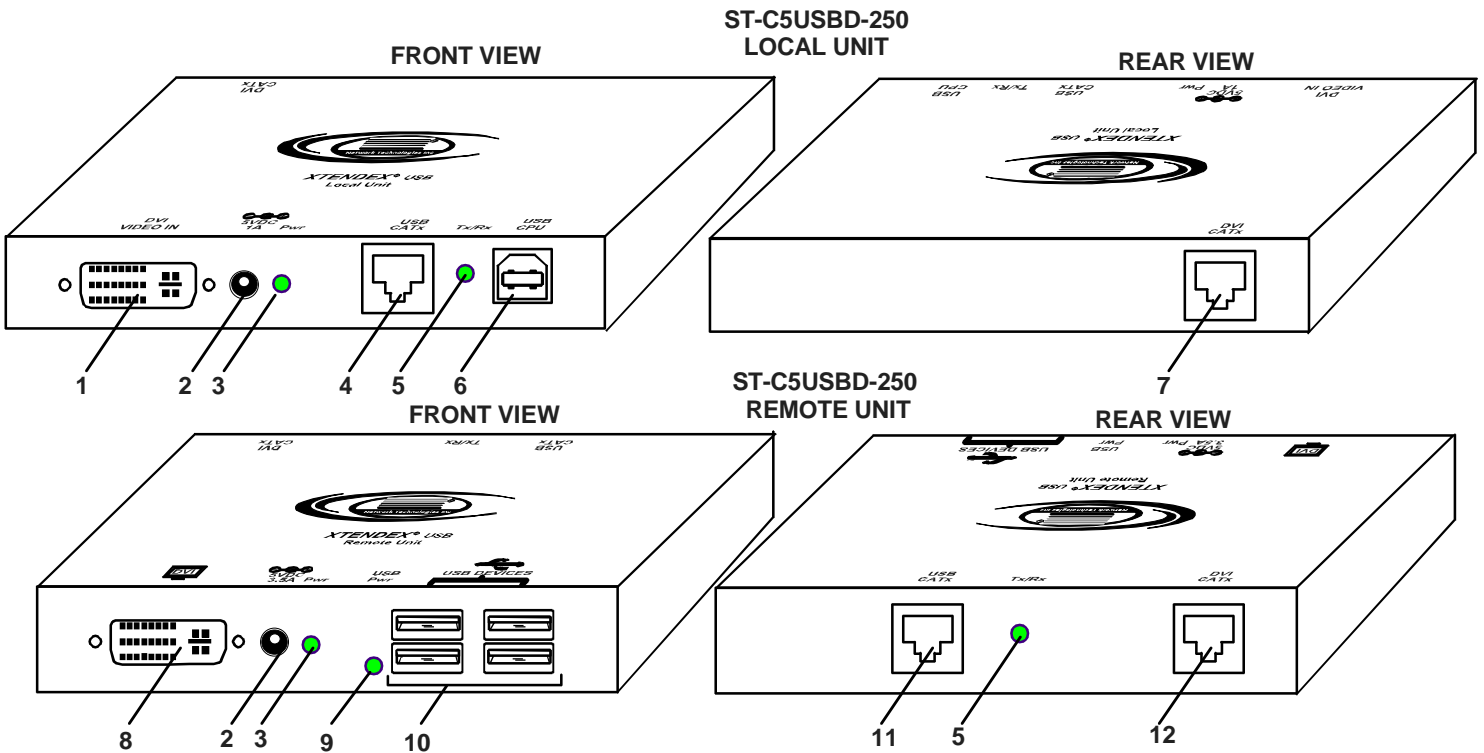
- NTI ST-C5USBD-250 Local Unit
- NTI ST-C5USBD-250 Remote Unit
- Two 90 - 240VAC @ 47 - 63Hz-5VDC/4A AC Adapters
- This manual

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

- CAT5e/6/7 solid unshielded twisted-pair cable(s) terminated with RJ45 connectors wired straight thru- pin 1 to pin 1, etc. (see pg. 5 for proper EIA/TIA 568 B wiring method)
- DVI male-male cables to connect the monitor to the Remote Unit and the computer to the Local Unit (Order NTI # DVI-IS-xx-MM where x=3, 6, or 10 foot cable). Both DVI-I and DVI-D type cables can be used for this connection.
- USB A-B cable to connect the USB port of the computer to the Local Unit (Order NTI # USB-AB-xM where x=1,2,3 or 5 meters)

*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).*

**FEATURES AND FUNCTIONS**



1. **DVI Video In**- DVI Female- for connecting cable from DVI video source
2. **Power Connector**- for connecting AC adapter
3. **Pwr**- LED for indicating the power is ON
4. **USB CATx**- RJ45 Female- for connecting CAT5e/6/7 cable from Remote Unit “USB CATx” connector
5. **TxRx**- LED for indicating communication through the USB CATx cable
6. **USB CPU**- USB Type B Female- for connecting a USB cable from a CPU for devices to be extended
7. **DVI CATx**-RJ45 Female- for connecting CAT5e/6/7 cable from Remote Unit “DVI CATx” connector
8. **DVI Monitor** - DVI Female- for connecting cable from DVI display
9. **USB Pwr**- LED for indicating that the USB ports are powered ON
10. **USB DEVICES**- USB Type A Female- for connecting supported USB devices
11. **USB CATx**- RJ45 Female- for connecting CAT5e/6/7 cable from Local Unit “USB CATx” connector
12. **DVI CATx**-RJ45 Female- for connecting CAT5e/6/7 cable from Local Unit “DVI CATx” connector

# INSTALLATION

## Connecting The Local Unit

1. Connect the Local Unit to the computer using an A-B USB cable. Connect the Type A connector to the computer and the Type B connector end to the Local Unit at "USB CPU".
2. Connect the Local Unit to the DVI-D port on the computer using a male-to-male single-link DVI cable.

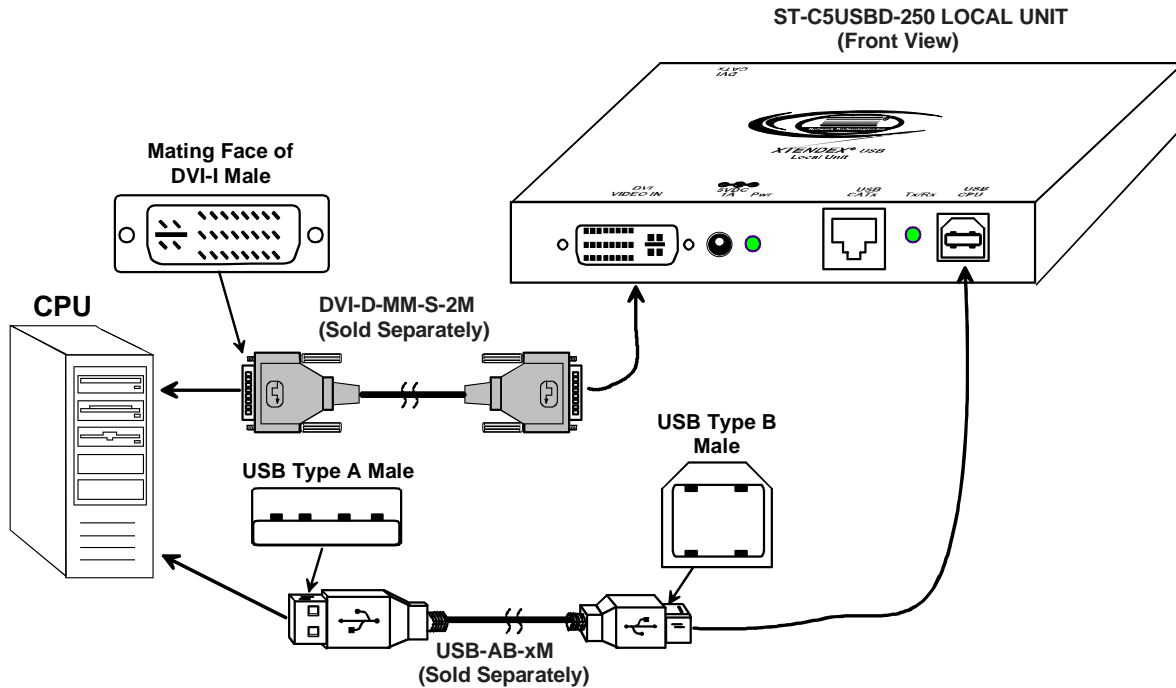


Figure 1- Local Unit CPU connections

3. Connect an AC adapter to the power connector on the Local Unit and connect to power source. Check that power LED is lit. The TX/RX LED should not be flashing at this time.
4. Connect a CAT5e/6/7 cable to the "DVI-CATx" connector, and another to the "USB-CATx" connector.

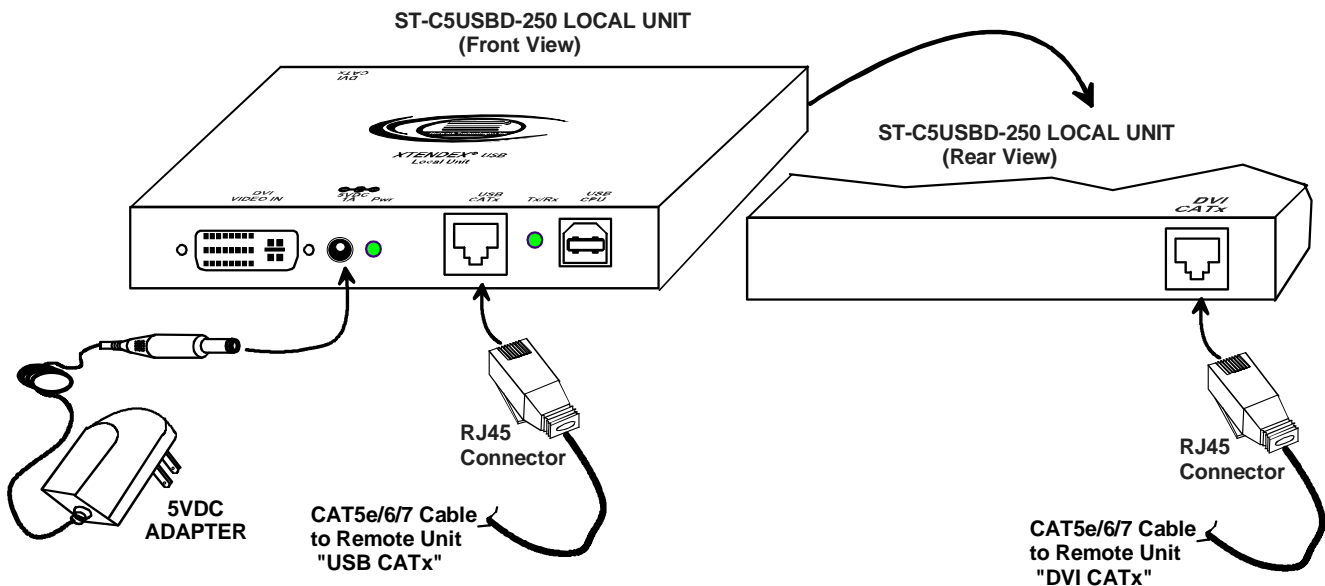


Figure 2- Local Unit power and CATx connections

## Connecting The Remote Unit

1. Connect an AC adapter to the power connector on the Remote Unit and connect to power source. Check that power LED is lit. The TX/RX LED should not be flashing at this time.
2. Connect the Remote Unit to a peripheral device using a USB A-B cable. The USB Type A connector will connect to any of the 4 USB Type A female ports on the Remote Unit. The USB Type B connector will connect the peripheral device.
3. Connect the Remote Unit to a DVI video display. The DVI cable from the display will connect to the DVI port on the Remote Unit.
4. Connect the CAT5e/6/7 cables from the Local Unit to the same-named ports on the Remote Unit ("DVI CATx" to "DVI CATx", and "USB CATx" to "USB CATx"). Once connected check that the Power LED on both receiver and transmitter is ON and the "Tx/Rx" LEDs are both flashing, indicating that communication exists between the two units.

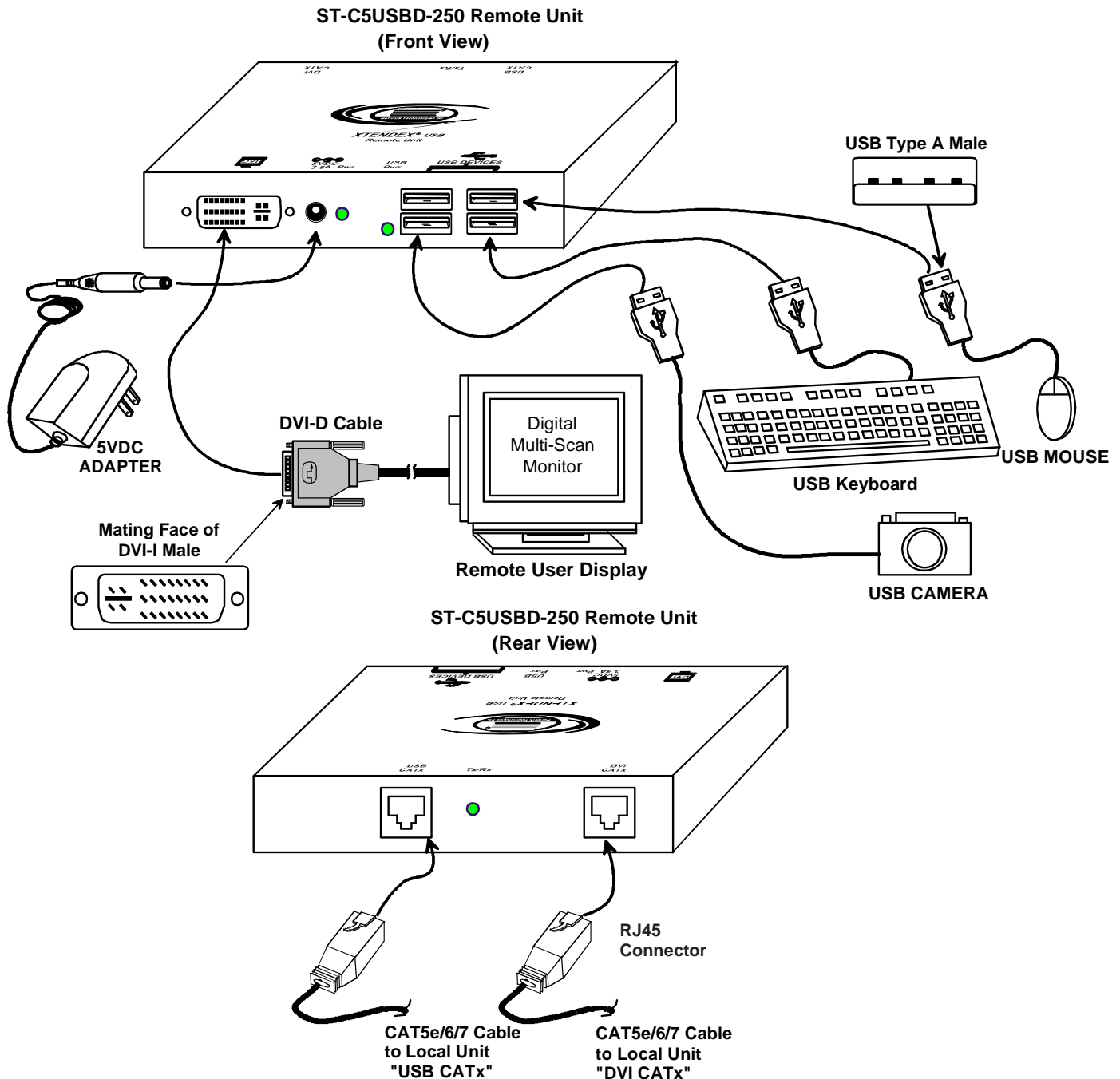


Figure 3- Remote Unit connections

## OPERATING INSTRUCTIONS

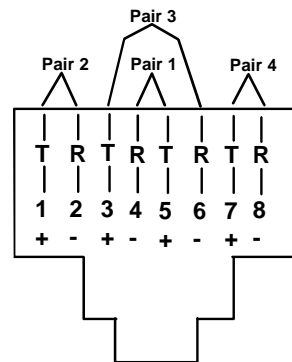
Once installation is completed verify that the power is present at all devices in the system. If the computer was ON during the set up it might be necessary to reboot the computer. The display should react as if it were directly connected to the computer.

The USB peripheral devices should be ready for use. The “USB PWR” LED should be illuminated if the USB ports are powered ON.

## 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



### Distances and Resolutions for CAT5e/CAT6 and CAT7 solid wire Cables Unshielded Twisted Pair (UTP) and Shielded Twisted Pair (STP)

UTP CABLE	DISTANCE (feet)	RESOLUTION
CAT5e UTP	100	1920x1200 at 60Hz
	150	1280x1024 at 60Hz
	200	1024x768 at 60Hz
	230	1024x768 at 60Hz
CAT6 UTP	100	1920x1200 at 60Hz
	150	1920x1200 at 60Hz
	200	1600x1200 at 60Hz
550 MHz CAT6 UTP	100	1920x1200 at 60Hz
	150	1920x1200 at 60Hz
	200	1600x1200 at 60Hz
	250	1024x768 at 60Hz
CAT6 STP	100	1280x1024 at 60Hz
	150	1280x1024 at 60Hz
	200	1280x1024 at 60Hz
CAT7 STP	150	1920x1200 at 60Hz
	200	1920x1200 at 60Hz

For best results, CAT6 550 MHz UTP solid cable is recommended.

## TECHNICAL SPECIFICATIONS

Models with VGA Video	
Video Compatibility	DVI-D Single-link
Video Connectors	DVI-I Female
USB Connector Type	USB Type B (Local) USB Type A (x4) (Remote)
Video Data Rate	1.65 Gbps
Resolution	1920 x 1200 @ 60 Hz
USB max data rate	12Mbps
USB compatibility	2.0 (low speed and full speed devices)
General	
Interconnect Cable	CAT5e/6/7 Solid STP/UTP EIA/TIA 568 B wiring w/ male RJ45 connectors
Remote and Local Unit Power	90-240VAC at 50 or 60Hz-5VDC/4.0A via AC Adapters (2)
Dimensions WxDxH (In.) (Local and Remote)	5.5x3.5x.1

## TROUBLESHOOTING

Each and every piece of every product produced by Network Technologies Inc is 100% tested to exacting specifications. We make every effort to insure trouble-free installation and operation of our products. If problems are experienced while installing this product, please look over the troubleshooting chart below to see if perhaps we can answer any questions that arise. If the answer is not found in the chart, please check the FAQs (Frequently Asked Questions) at our website at <http://www.networktechinc.com> or contact us directly for help at 1-800-742-8324 (800-RGB-TECH) in US & Canada or 1-330-562-7070 worldwide. We will be happy to assist in any way we can.

Problem	Cause	Solution
<b>No Video</b>	<ul style="list-style-type: none"> <li>Video Cable not connect properly</li> <li>No Power</li> <li>Monitor connected after computer was booted</li> </ul>	<ul style="list-style-type: none"> <li>Check all cable connections</li> <li>Check power supplies. Power LEDs should be illuminated</li> <li>Reboot the computer</li> </ul>
<b>No USB support</b>	USB or USB CATx cables are not connected properly	Check all cable connections
<b>No USB and no Video</b>	USB and DVI CATx cables are connected to opposite ports	Make sure CATx cables are between same-named ports ("DVI CATx" and "USB CATx")

## 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.

**PRODUCT: ST-C5USB-D-250**

**SERIAL NO.:** \_\_\_\_\_

**DATE:** \_\_\_\_\_ **INSPECTED BY:** \_\_\_\_\_

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