NETWORK TECHNOLOGIES INCORPORATED
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XTENDEX® Series

ST-IPUSB4K-L/R-VWDH

Dual head HDMI with USB

KVM Extender over IP

Setup Guide

ST-IPUSB4K-L-VWDH

Local Unit- Front and Rear View

INTRODUCTION

The XTENDEX® Dual Head 4K@30Hz HDMI USB KVM Over IP Extender provides remote KVM (USB keyboard, USB mouse(USB1.x/USB2), and dual 4Kx2K HDMI monitor) access to a USB computer up to 492 feet (150 meters) over a Gigabit network using two CAT6/6a/7 cables. The local and remote units can be connected together for a Point-to-Point connection via CAT6/6a/7 cable or a Point-to-Many connection via a Gigabit network switch. Support for multiple transmitters in a Many-to-Many connection requires a managed Gigabit network switch. Supports video wall installations from 1x2 to 4x4 screens.

Features:

- Signal transmission via two CAT6/6a/7 cables.
- Use as dual head extender or two separate extenders grouped in one set
- Supports Dual Ultra-HD 4Kx2K resolutions to 3840x2160 (30Hz), 2K resolution 2560x1440 (60Hz), HDTV resolutions to 1080p, and up to 1920x1200 (WUXGA).
- HDMI features supported:
  - HDMI 1.4
  - x.v.Color, sYCC601 color, Adobe RGB Color and Adobe YCC601 color
  - Dolby TrueHD, LPCM 7.1, DTS-HD Master Audio, Dolby Digital, and DTS
  - Bandwidth up to 340 MHz (10.2 Gbps)
  - Lip Sync
  - HDCP 1.4 compliant.
- USB ports for keyboard, mouse, flash drive, HDD or touchscreen display.
  - Keyboard and mouse are hot-pluggable.
  - Four USB1.x and four USB2.0 female Type A ports.
    - When using as a dual head extender, only four of the USB ports will work
- Supports video wall installations from 1x2 to 4x4 screens.
  - Displays can be rotated 180 and 270°.
- Plug-and-Play installation allows receivers to find the transmitter automatically on the same network. (Network configuration may be required for managed network switch.)
- Support for Point-to-Many or Many-to-Many connections requires a managed Gigabit network switch with IGMP support and Jumbo frame support.
  - Manage transmitter/receiver connections and video wall configuration with OSD or network switch that supports VLAN; Each VLAN group acts as a separate HDMI Over IP Channel on the network.
- When using multiple remote units, there are two USB control modes - Exclusive Mode and Sharing Mode.
  - USB Exclusive Mode: Only one remote unit can have USB control over the source computer at any time.
  - USB Sharing Mode: Multiple remote units share the control of the source computer.
    - Up to 5 USB devices will be recognized by the computer.
- Customizable EDID table on local unit.
- Supports the DDC2B protocol.
- Supports full-duplex RS232 at 115200 baud.
- Supports Single PC with Dual HDMI, 3.5mm Audio, USB.
- Full Infrared Remote (IR) control of HDMI source from remote UHDTV using existing source remote control.
- Easily expandable – add receivers as you add control stations.
- Integrated mounting brackets for easy surface/wall mounting.

Materials supplied with this kit:

- Local Unit
- Remote Unit
- 1- USB A-to-B Cable (1.8m)
- 1- 3.5mm male to male audio cable (1.527m)
- 2- HDMI male to male cable (2m)
- 2- 110 or 220V, 50/60Hz; 12VDC,5A AC Adapter
- 2- Line cord, country specific

Use NTI HDMI Cables for Input and Output cables

Available Cables	Supported Resolution	
	1080p@60Hz	4096x2160 and 3840x2160
HD-xx-MM Where x=3,6,10,15,20, 30 and 50 ft	Yes	Max. 20 ft (@ 30Hz)
HD-ACT-xx-MM Where xx= 20,25,30,40 and 50 ft	Yes	Yes (@ 30Hz)
HD-ACT-xx-MM Where xx= 60,75 and 100 ft	Yes	No
HD4K18GB-FO-xxM-MM Where xx= 10,15,20,25,30,50,70 and 100 meters	Yes	Yes
DVI-HD-xM-MM Where x= 1,2,3 and 5 meters	Yes	No
DP-HD-xx-MM Where xx= 3,6,10 and 15 ft	Yes	Yes

where:

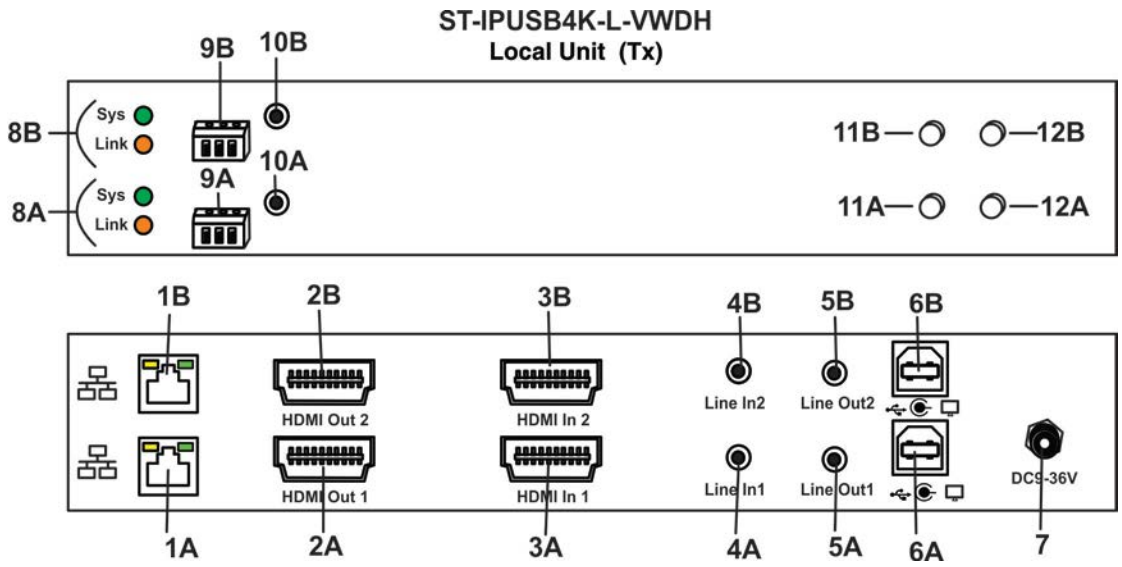
xx is the length of the cable in feet

MM indicates male-to-male connector

*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).*

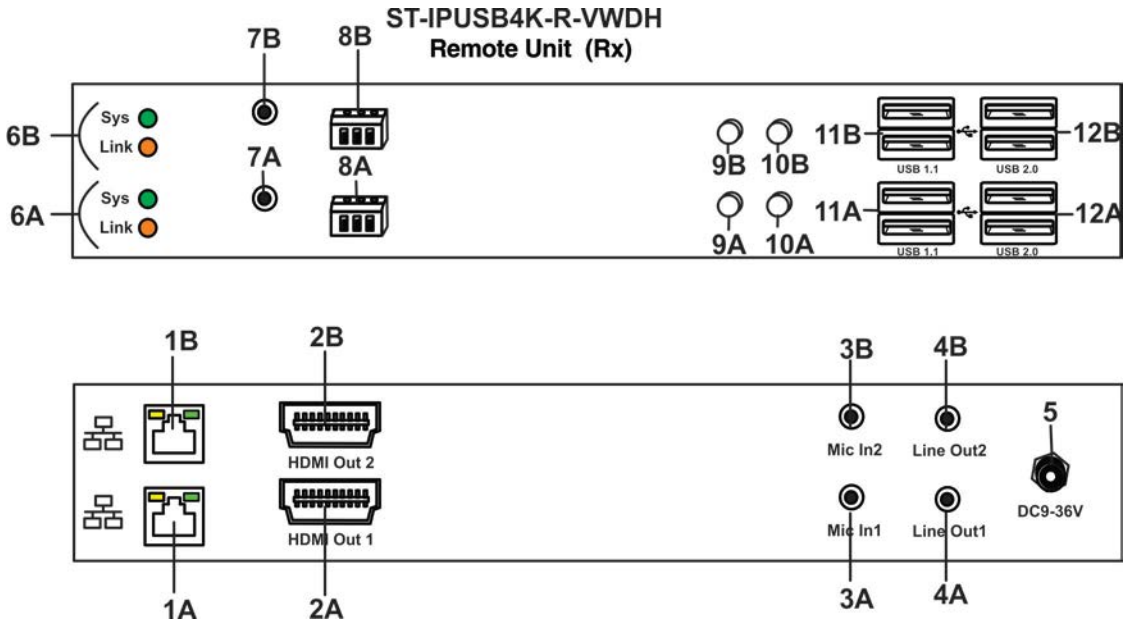
FEATURES AND FUNCTIONS

Note: The Local and Remote units each contain 2 processors (A and B). The A processor supports "HDMI1", USB, and 3.5mm Audio ports, while the B processor supports "HDMI2" ports only. The A is referred as "Main" and B is referred as "2nd" throughout this manual.



No. Connector	Description
1A/1B Ethernet	Main (1A) and 2nd(1B) Gigabit Ethernet ports
2A/2B HDMI In	Main (2A) and 2nd (2B) HDMI input ports
3A/3B HDMI Out	Main (3A) and 2nd (3B) HDMI output ports
4 Line In	3.5mm Stereo Audio input port
5 Line Out	3.5mm Stereo Audio output port (from Mic. In of Rx)
6A/6B USB-to-PC	USB Upstream port, Virtual USB HUB extension
7 DC Power input	System power input, DC 12V.
8A/8B (Main/2nd) Green: System LED Amber: Link LED	**Green Blinking/Amber Off:** System is starting up. **Green On/Amber Off:** System is ready, TX/RX not connected. **Green On/Amber Fast Blinking:** Main/2nd processors are connecting. **Green On/Amber Slow Blink:** Main/2nd processors are internally connected, TX/RX is externally connected, waiting for video input. **Green On/Amber On:**TX/RX connected, video input is ready.
9A/9B RS232	Main (9A) and 2nd (9B) terminals for RS232 cable connection for duplex RS232 signal at **115200** baud. Configuration settings at 8 databits, no parity and 1 stop bit. Pin assignment: TxD/RxD/Gnd.

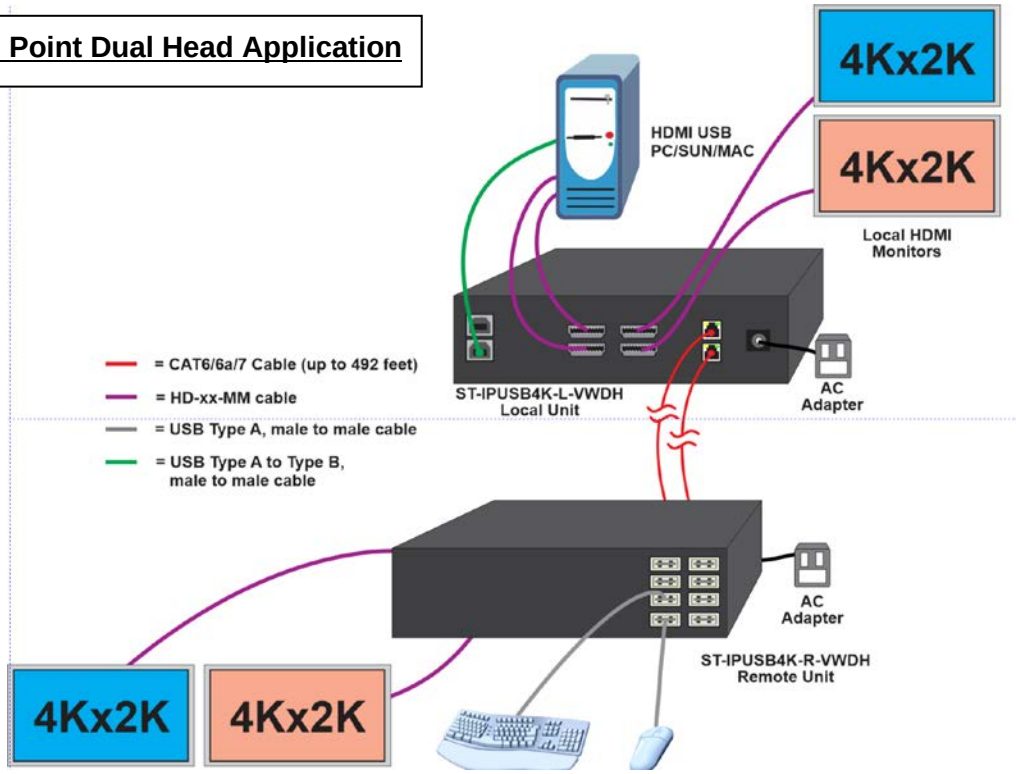
10A/10B IR OUT	Main (10A) and 2nd (10B) 3.5mm jacks for connection of IR Emitter (not included)
11A/11B Button 1 Host	Press and hold at power ON until green and amber LEDs blink: Factory Reset and enter **192.168.0.88** setup mode Press and hold for 3 seconds to lock Remote keyboard and mouse
12A/12B Button 2	Press momentarily to select video graphic mode Press and hold for 3 seconds to enable/disable anti-dither



No. Connector	Description
1A/1B Ethernet	Main (1A) and 2nd(1B) Gigabit Ethernet ports
2A/2B HDMI Out	Main (2A) and 2nd(2B) HDMI output ports
3 Mic. In	Microphone Input, extend to the Line Out of Tx
4 Line Out	3.5mm Stereo Audio output port
5 DC Power input	System power input, DC 12V.
6A/6B Main/2nd Green: System LED Amber: Link LED	**Green Blinking/Amber Off:** System is starting up. **Green On/Amber Off:** System is ready, TX/RX not connected. **Green On/AmberFast Blinking:** Main/2nd processors are connecting. **Green On/AmberSlow Blink:** Main/2nd processors are internally connected; TX/RX is externally connected, waiting for video input. **Green On/Amber On:**TX/RX connected, video input is ready.
7A/7B IR IN	Main (7A) and 2nd (7B) 3.5mm jacks for connection of IR Receiver (not included)
8A/8B RS232	Main (8A) and 2nd (8B) terminal block for RS232 cable connection for duplex RS232 signal at 115200 baud. Pin assignment: TxD/RxD/Gnd.
9A/9B **Mode Button**	Press momentarily to select video/graphic mode Press and hold for 3 seconds to enable/disable anti-dither Press and hold at power ON until green LED blinks to: Set this RX as EDID Master
10A/10B **Link Button**	Press and hold at power ON until green and amber LED blinks to reset to defaults and enter Setup mode for 192.168.0.88 Press momentarily to enter OSD Transmitter List menu Press and hold for 3 seconds to request USB access rights
11A/11B USB 1.1 Host	2x USB-A 1.1 device ports for keyboard and mouse connection
12A/12B USB 2.0 Host	2x USB-A 2.0 device ports for touchscreen, flash drive, printer

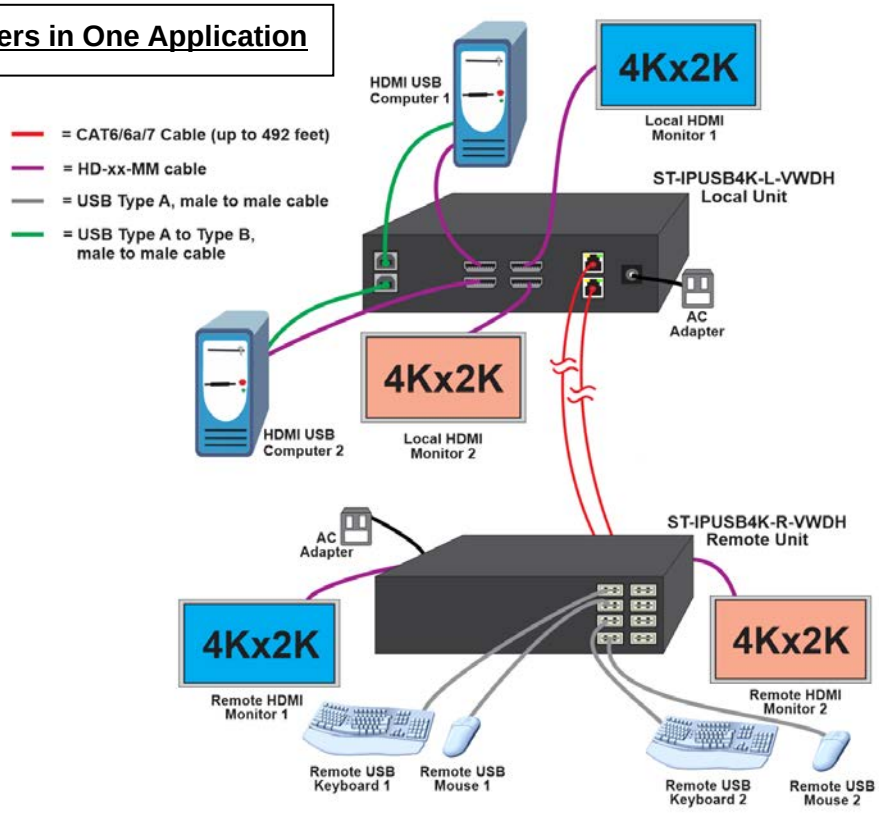
APPLICATIONS

Point to Point Dual Head Application



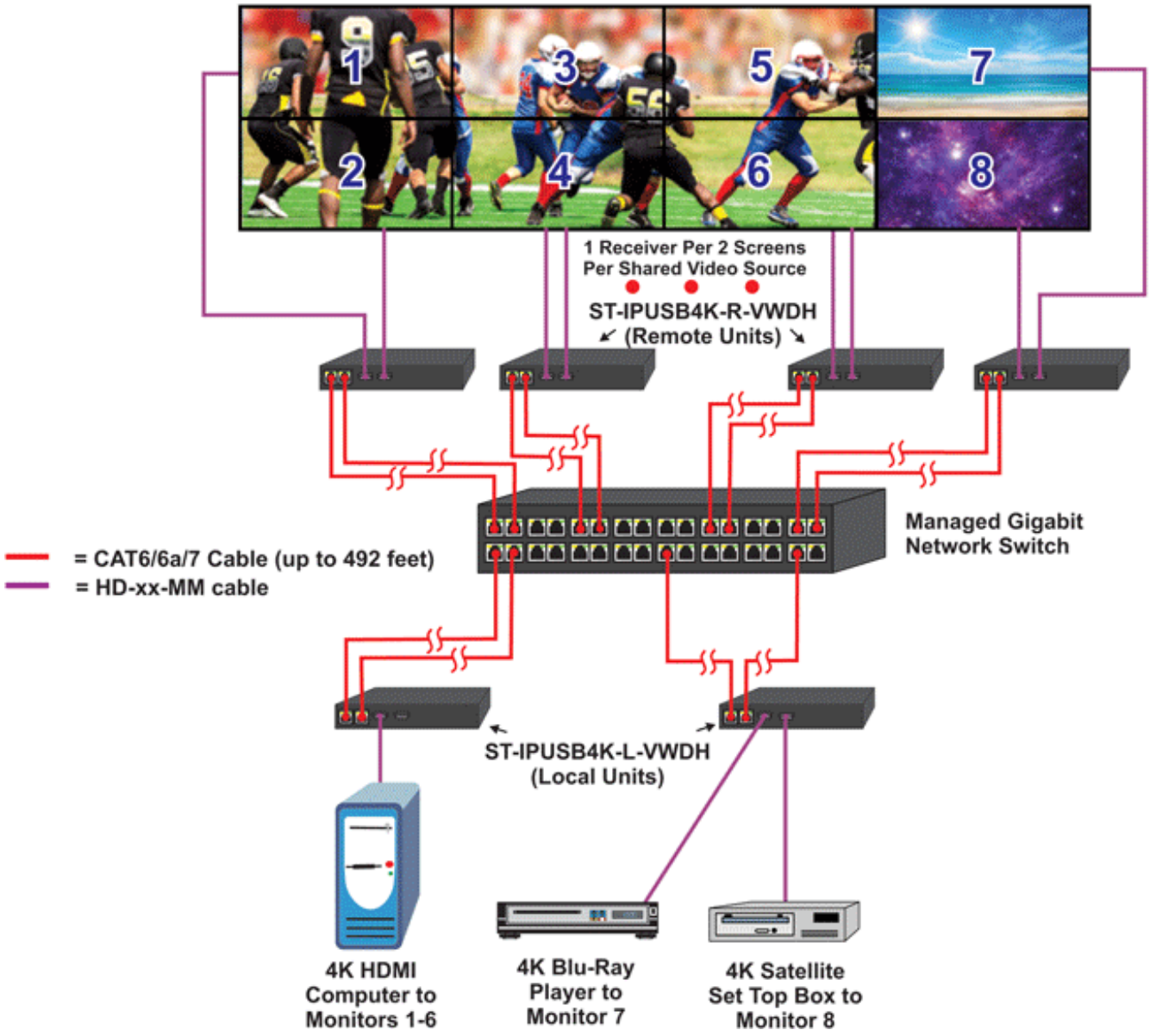
Use the XTENDEX as a dual head extender with the ability to split the video to two monitors on the Local and Remote ends of the application. **Note:** When used as a dual head extender, the USB ports in the top half of the local and remote units (one type B and 4 type A) cannot be used.

Two Extenders in One Application



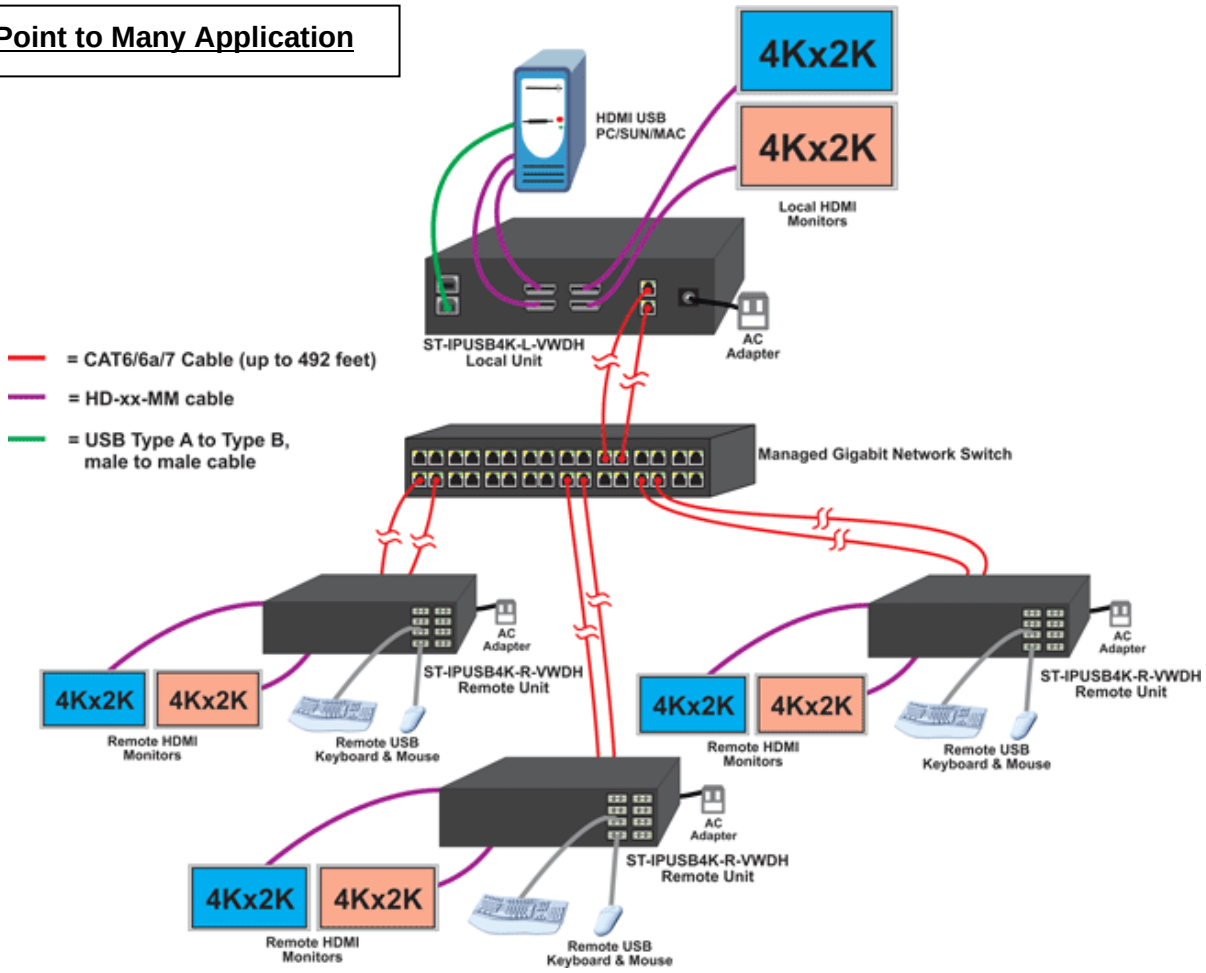
The XTENDEX can also be used as two separate extenders grouped together in one set. Easily extend two independent sources with one extender.

Video Wall Application

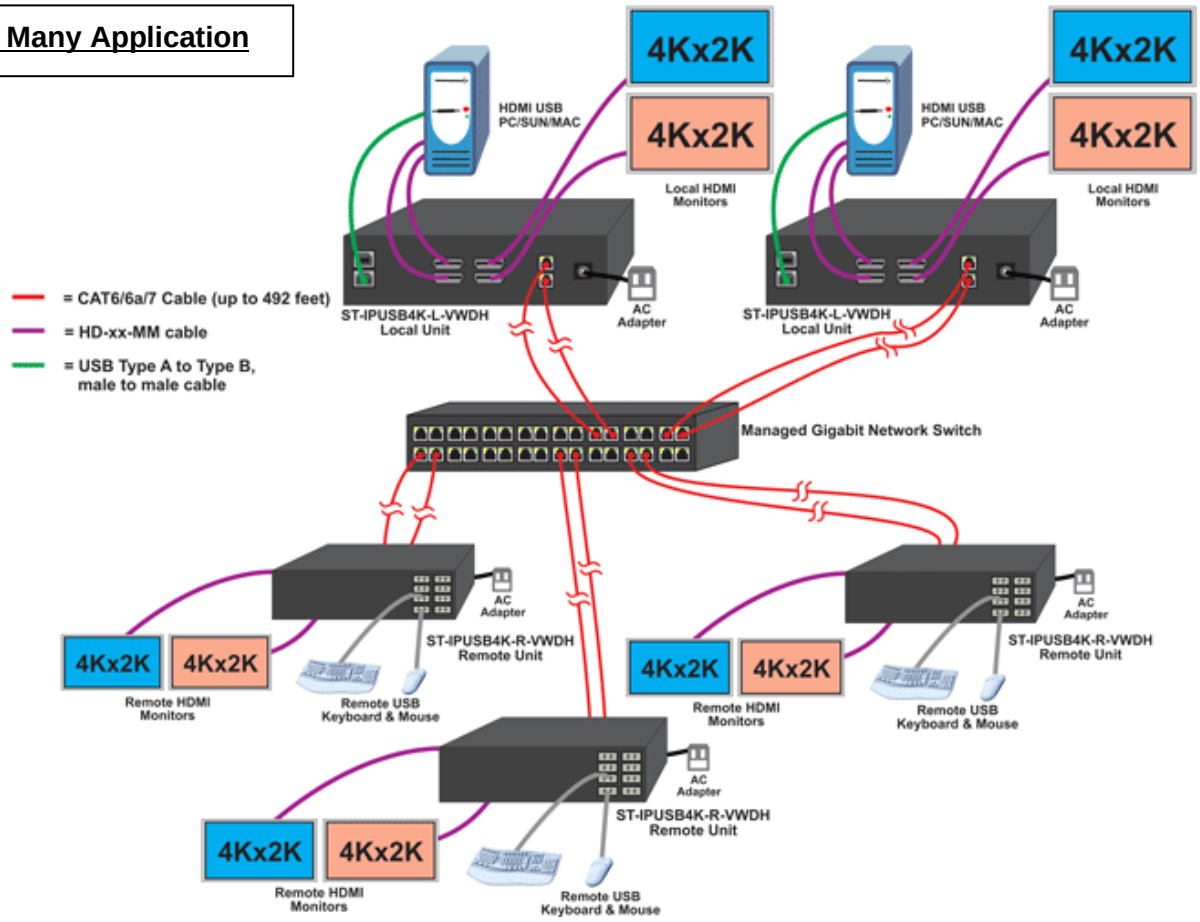


When a managed gigabit network switch is used, a local unit can send video to several remotes, or multiple local units can send video to multiple remote units (next page) and a video wall can be assembled as shown above.

Point to Many Application



Many to Many Application



CONFIGURATION

Use the main configuration Web page in the Local (TX) and Remote (RX) Units to configure them.

To access the TX/RX Configuration Web page:

1. Directly connect the TX/RX to a PC LAN port. Set the PC IP address to 10.0.1.1, with Net Mask 255.0.0.0.
2. Open the PC's web browser (we recommend Chrome) and enter TX/RX IP address 10.xx.xx.xx (address is on the bottom of the unit) to open the units Web interface.

The TX and RX Web interface each contain 3 subtabs; **System, Network and Functions.**

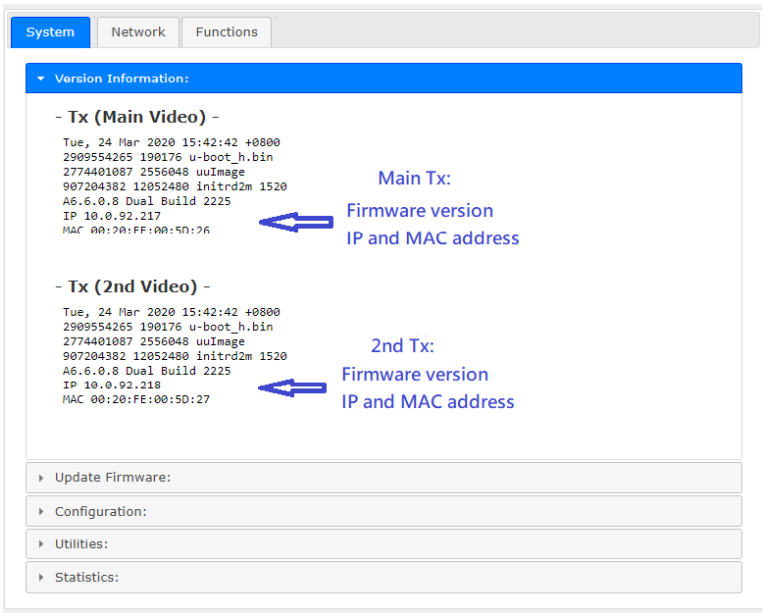
System Tab

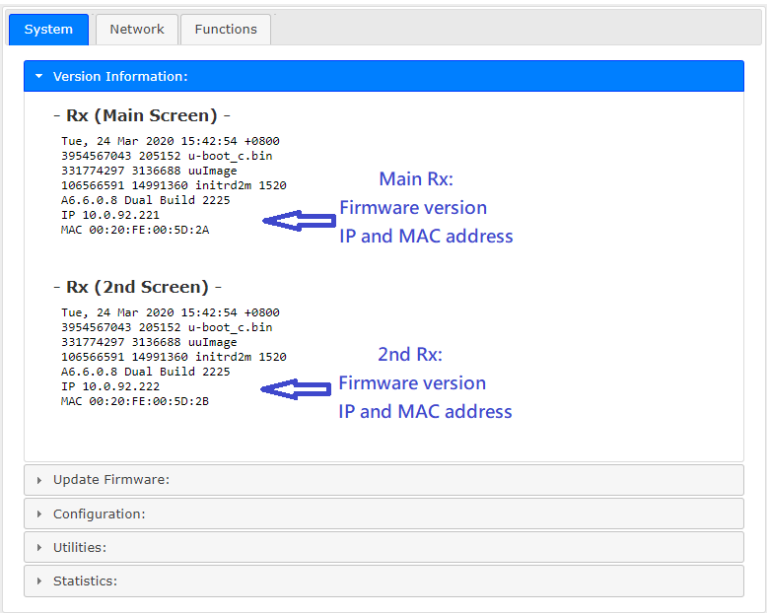
The System Tab contains 5 subpages including Version Information, Update Firmware, Configuration, Utilities and Statistics.

System

Version Information

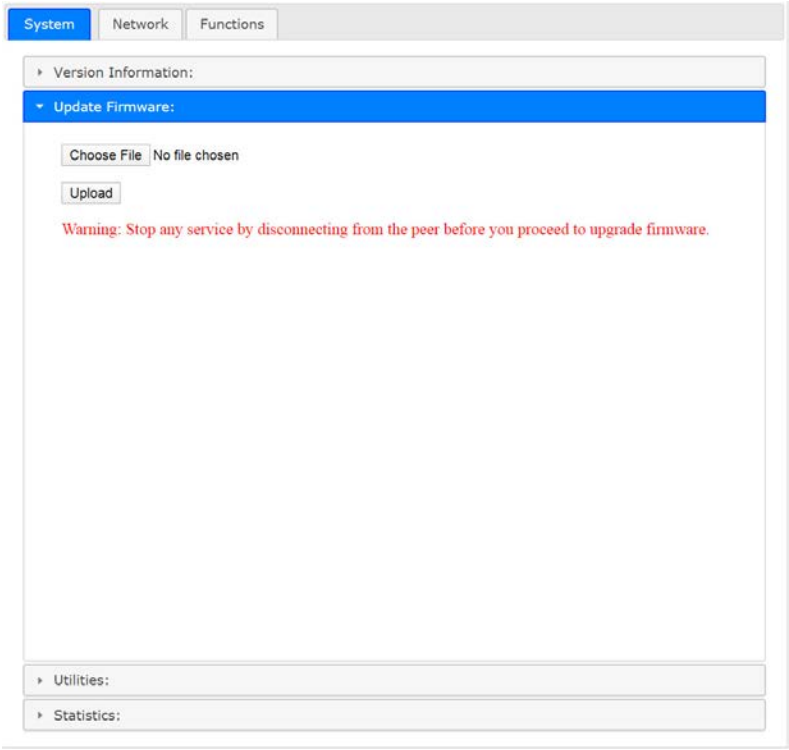
Provides information for "Tx" or "Rx", Firmware version, IP addresses for both Ethernet ports, and MAC addresses for both ports:





➢ **Update Firmware**

To update firmware in both processors simultaneously, navigate to the firmware file (.bin) then click "**Upload"** to start firmware upgrade. The firmware upgrade takes about 3 minutes, after which it will display "DONE Rebooting…" to indicate the unit has been upgraded and rebooted.



Configuration

You an export settings to a configuration file, or import a configuration file of saved settings from an external file. Click **Configuration** -> **Save Configuration** to export settings to a file, click **Upload Configuration** to import a configuration.

Utilities

Commands

Factory Default ---> To reset the device to

Reboot ---> To reboot the device.

the factory default.

EDID (TX Main only, not in RX)

The TX provides flexible EDID selections:

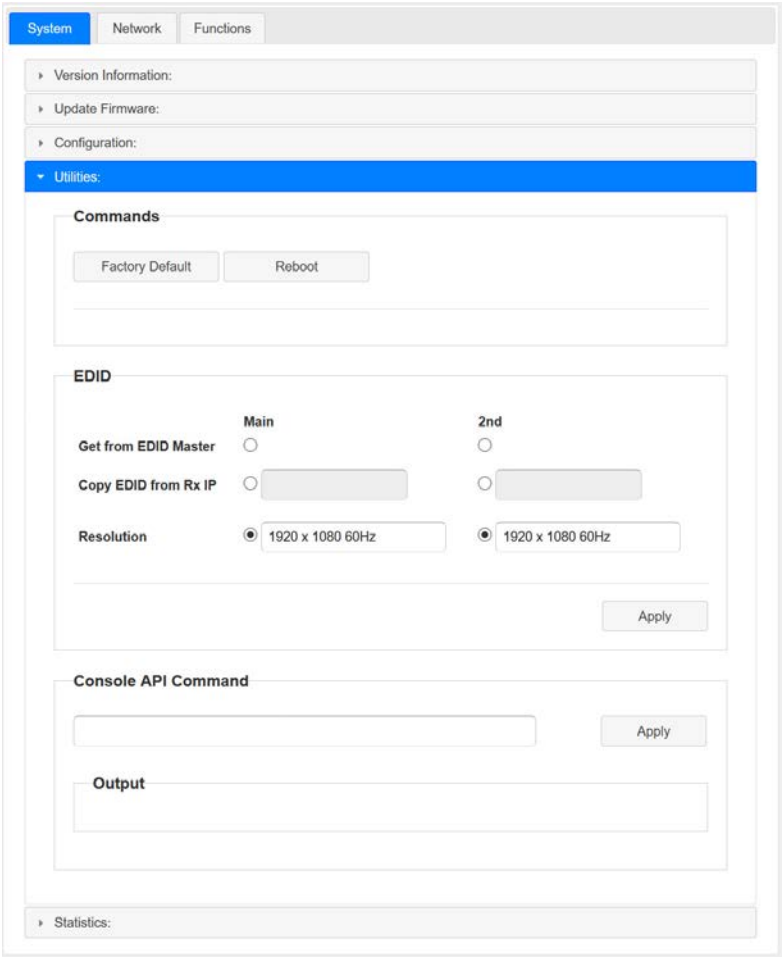
Copy EDID from EDID Master --->TX will get EDID from the RX with EDID Master setting.

Copy EDID from RX IP--->TX will get EDID from a specific RX, enter RX's IP here.

Resolution--->You can set TX with a specific resolution from the drop-down menu.

Available resolutions are 3840x2160 30Hz, 2560x1440 60Hz, 1920 x 1200 60Hz, 1920 x 1080 60Hz **(default)**, 1680 x 1050 60Hz, 1440 x 900 60Hz, 1366 x 768 60Hz, 1280 x 1024 60Hz, 1280 x 720 60Hz, 1024 x 768 60Hz, 720 x 480 60Hz.

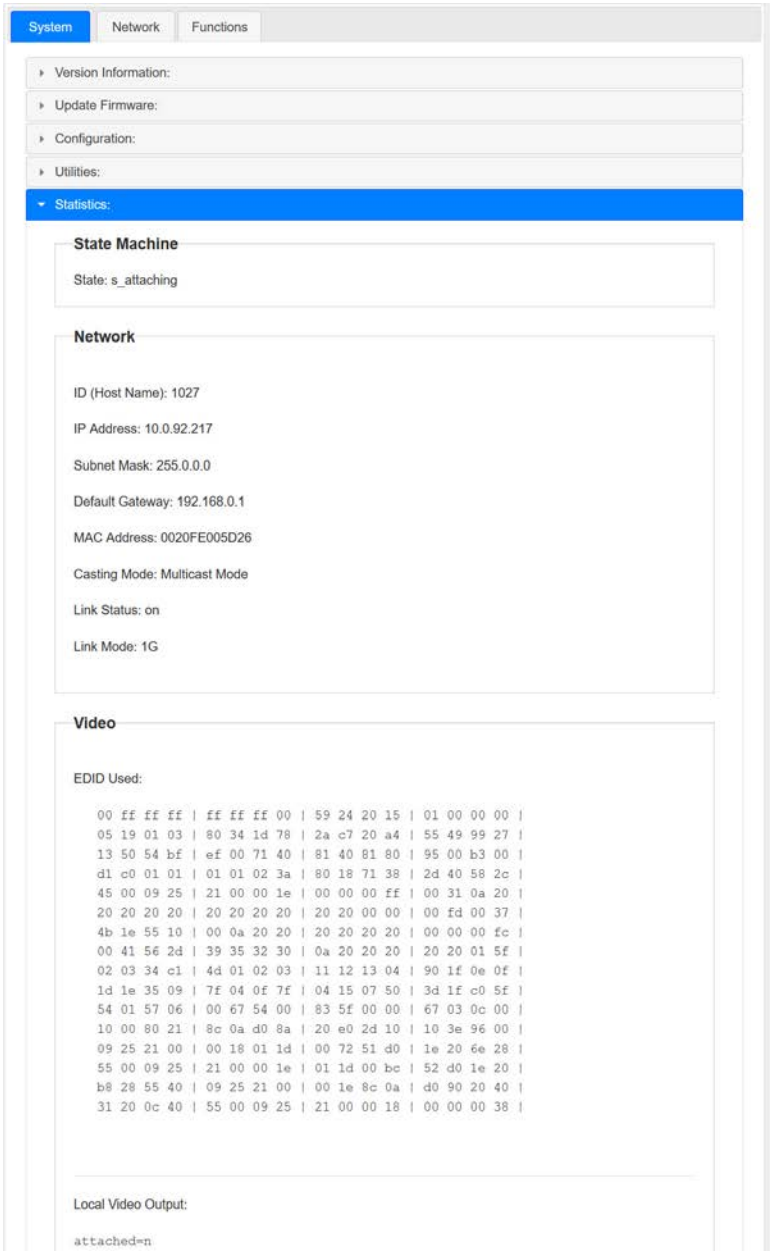
Note: This Resolution option will be overwritten by the RX EDID Master if the TX is set on Unicast.



Console API Command --->The feature is not supported.

Statistics

Display system status for State Machine, Network, Video EDID, Video Screen attachment, Video Timing.

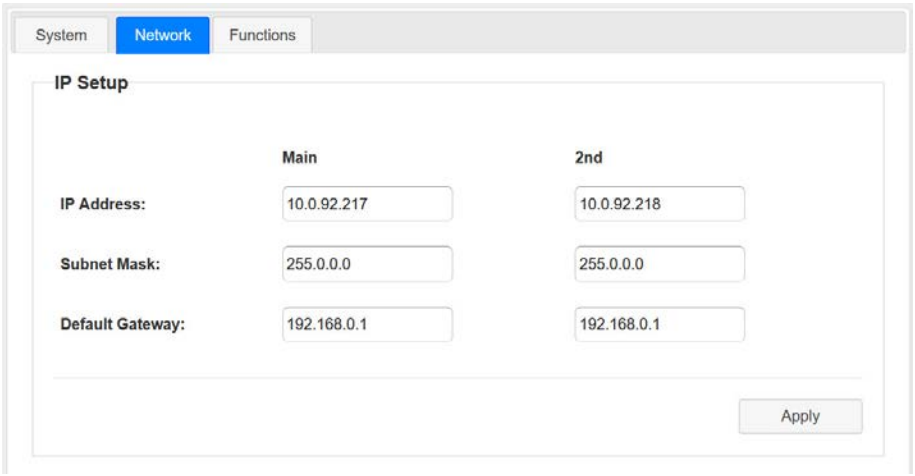


Network tab

IP Setup (TX/RX)

The system supports **Static** setup for the IP configuration:

Manually enter an IP Address, Subnet Mask, and Default Gateway for both the Main and 2nd processors. Click “Apply” to save.



Casting Mode (TX only)

The dual head TX can be set in **Multicast (default)** or Unicast mode.

In Multicast mode, the Multicast IP prefix can be configured:

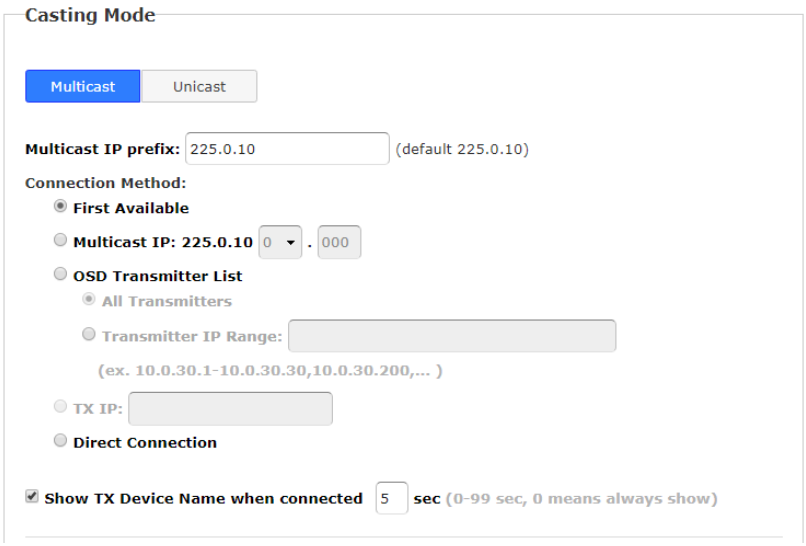
Multicast IP prefix (default 225.0.10)

The Main and 2nd Multicast IP addresses share the prefix but must be configured with different last 4 digits (as seen below).

Casting Mode (RX only)

The RX can be set in **Multicast (default)** or Unicast mode.

In **Multicast mode**, you can setup the Multicast IP prefix and select the Connection Method from: First Available **(default)**, Multicast IP, OSD Transmitter List, and Direct Connection.



In **Unicast mode**, you can select the Connection Method from First Available, OSD Transmitter List, TX IP and Direct Connection.

First Available: the dual head RX will connect to the first available TX when powered ON.

Multicast IP 225.0.10x.xxx: the dual head RX will connect to the TX with the Multicast IP address that is specified here.

OSD Transmitter List: the dual head RX will display the available TXs in the OSD menu for user to select from.

Select "**All Transmitters**" if all of the TXs are permitted.

Select "**Transmitter IP Range**" and input the IP range with "-" and",".

For example, "10.0.92.101 – 10.0.92.120, 10.0.92.135, 10.0.92.188, …"

TX IP: the dual head RX will connect to this specified TX only.

Direct Connection: this setting enables dual head RX to connect to TX in the same subnet and Casting Mode. Jumbo Frame and EDID Master will be automatically enabled.

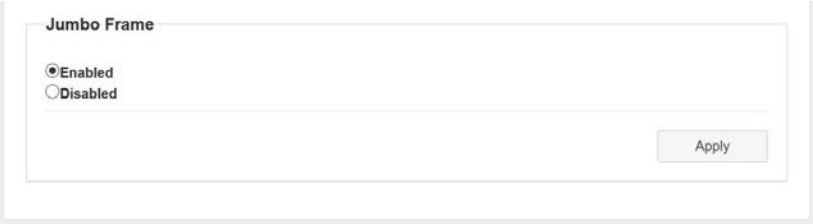
★ **Show TX Device name when connected (RX)**

This feature enables RX to display the TX name (or IP) for the specified period of time when connected. Default is enabled with a 5 second period.

Jumbo Frame (TX/RX)

The TX/RX supports Jumbo Frame (8K bytes) for better video quality. Default is **Enabled**.

Note: The Ethernet Switch also must be set with Jumbo Frame enabled (at least 8K) if the TX has been enabled.



Functions

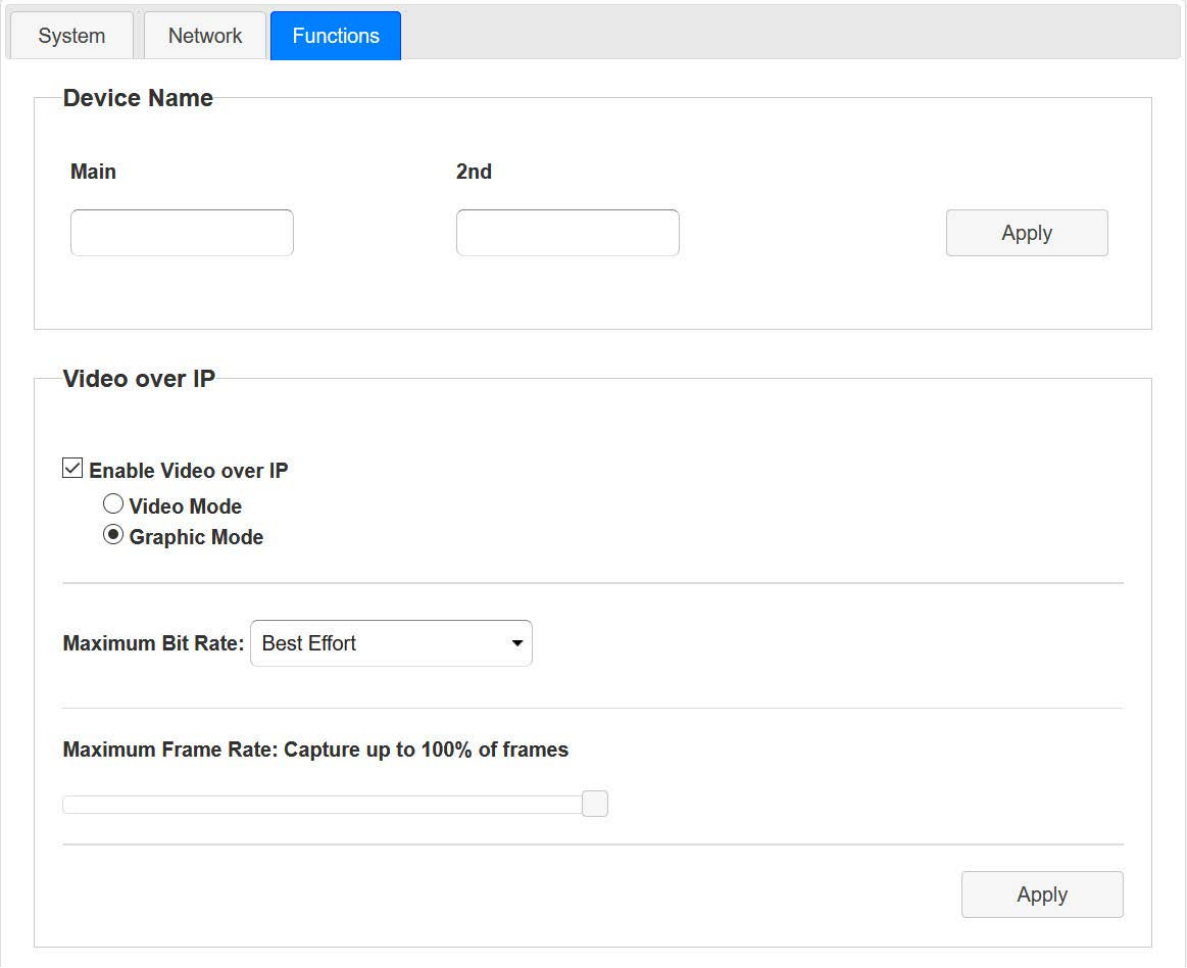
Functions contains four sub pages: Device Name, Video over IP, USB over IP and Multi-Screen Setting

Device Name (TX/RX)

To set TX/RX Device name, enter --->**Functions** --->**Device Name** --->input name (8 characters max) ---> **Apply** to save the Device Name.

Video over IP (TX)

Functions --->**Video over IP:**

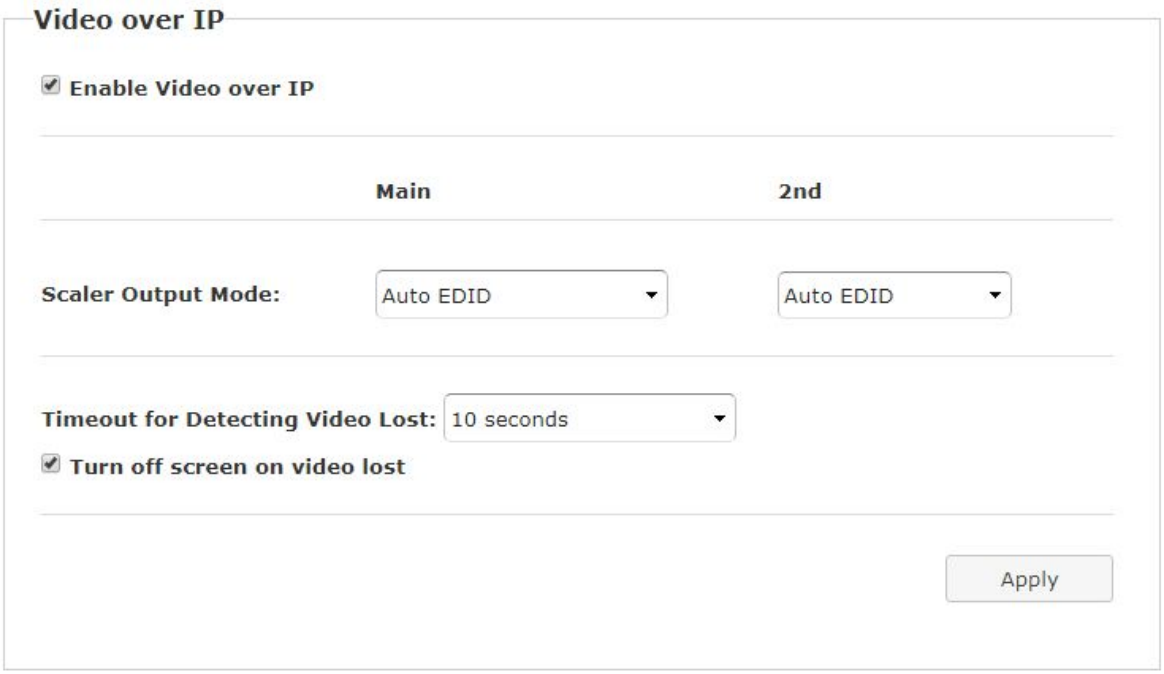


Enable Video over IP (**Default: Enabled**)

Video/Graphic Mode: Select Video Mode for video to play smoothly. Select Graphic Mode for static picture in a KVM application.

Maximum Bit Rate: Options are “Best Effort”, “200, 150, 100, 50, and 10 Mbps” for the TX bandwidth selection. **(Default: Best Effort).**

Maximum Frame Rate: This provides the maximum % of the TX frames rate capture up to 100% **(Default: 100%)**.



Video over IP (RX)

Enable Video over IP (**Default Enabled**).

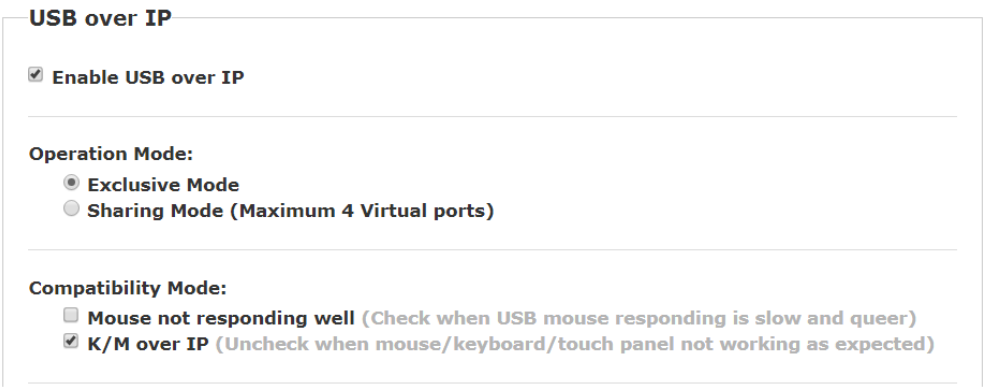
Scaler Output Mode: The RX is built with a scaler feature. The output resolution can be selected from these options: Auto EDID (the default), Pass Through, 2160p30, 2160p25,1080p60, 1080p50, 1920x1200, Customize. Auto EDID means the RX will output to a screen resolution depending upon the screens EDID.

Timeout for detecting video lost: The timeout period for when it is detected that the video source is lost (**default 10 sec.**)

Turn off screen on video lost: Stop the video output when the video source is lost (**default Enabled**)

USB over IP (TX)

Enable USB over IP --->Check to enable TX's USB over IP feature (**default Enabled**).It works as a 5-port Virtual HUB when TX is attached to PC USB. These 5 Virtual USB ports will be sequentially linked to the connected RX USB devices. There are 4 USB ports on each RX, but only the port with device attached will occupy the TX's Virtual USB port.



Operation Mode--->The TX USB-over-IP supports the following 2 operation modes:

Exclusive Mode: All of TX's 5 Virtual USB ports will be exclusively assigned to the RX that currently has the USB access rights. The other RXs can request USB access rights manually.

Sharing Mode: The TX's 5 Virtual USB ports can be shared by multiple RXs at the same time. Depending on the number of USB devices on each RX, it is possible to have up to 5 RXs sharing the same TX's Virtual USB.

Compatibility Mode

Mouse not responding well ---> enable this setting when mouse is slow and behaving poorly.

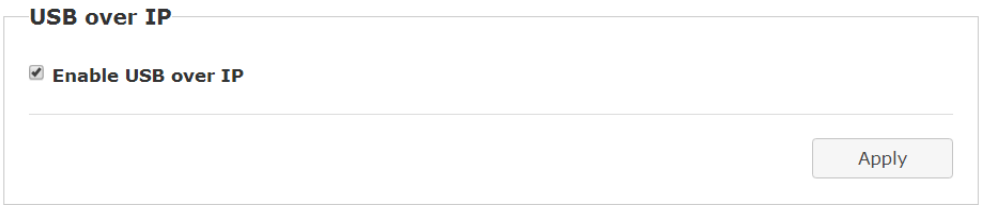
K/M over IP---> The TX also has a built in K/M over IP HID emulation for multiple RXs to share the same TX's keyboard/mouse. This feature will occupy one TX's Virtual USB port when it is enabled **(default: Enabled)**.

USB over IP KMoIP ports (RX)

There are 2 x USB 1.1 and 2 x USB 2.0 ports on the Main of a dual head RX. These 4 USB ports can be configured for USB-over-IP or KM-over-IP devices. The USB-over-IP devices will be virtually linked to the TX's 5 Virtual USB ports; the KM-over-IP devices will be linked and shared with the TX's K/M over IP HID emulation port.

The advantage is that USB-over-IP devices have better USB compatibility, for example USB Touchscreens, flash drives, … these devices must be configured with USB-over-IP. The advantage of using KM-over-IP devices is that multiple RXs can share the same TX's K/M over IP HID emulation port. It is recommended to configure the 2 x USB 1.1 (keyboard/mouse) as KMoIP ports and 2 x USB 2.0 as USB over IP ports (for Touchscreen or flash drives).

The RX Main **USB over IP** Configuration Web page:



This **USB over IP** setting must be enabled for any USB devices to be attached with TX's Virtual USB HUB.

The RX Main **KMoIP ports** Configuration Web page:

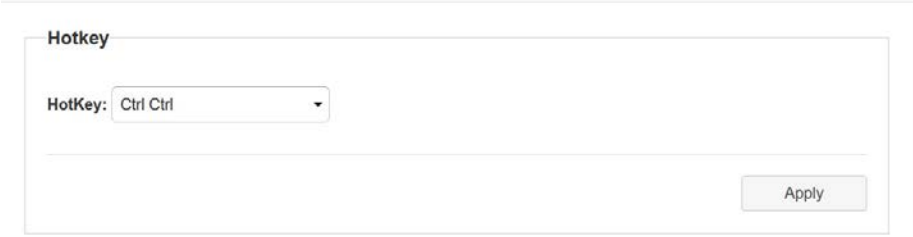
Enable the port #1, 2, 3, 4 for the device to be linked with the TX's K/M over IP HID emulation port. **Default is Port 1 and 2 KMoIP Enabled.**

Note: All of RX's 4 x USB ports will be auto configured as KMoIP if the USB over IP is disabled.

Hotkey (RX Main only)

The dual head RX supports Hotkey for OSD Menu. To choose the RX OSD Hotkey:

Functions --->**Hotkey** ---> select the Hotkey from the list: <Ctrl><Ctrl>, <Shift><Shift>, <Alt><Alt>, or <Scroll><Scroll> **(default: Ctrl Ctrl)**.



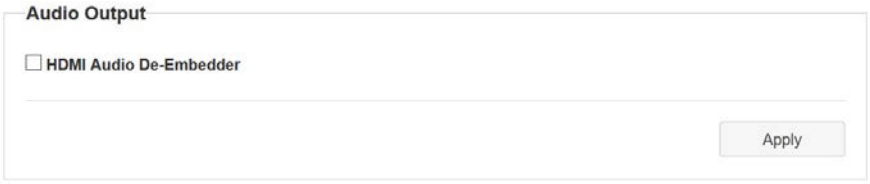
Audio Output (RX)

If the TX's input audio is in HDMI, you can route the audio output on Line Out of the RX:

Functions --->**Audio Output** ---> check **"HDMI Audio De-Embedder"**.

Click **Apply** to save the setting and reboot. (**default is Disabled**)

Note: If any of the 3.5mm audio jacks are used (at the TX or the RX), audio will not be carried by the HDMI Out to the display.]



Local Audio Input and Remote Audio Output always work together. Remote Input and Local Output only works when extender units are in Unicast (one Tx pairs with only one Rx) mode.

Multi-Screen Setting (TX Main only)

The system supports Multi-Screen feature which is useful for PC with multiple HDMI screen outputs (above):

Main Video: Enable this setting if this TX is connected to the PC's main video output.

Note: Any TX with Main Video setting disabled will not be shown on the OSD Transmitter List.

2nd Video TX IP: Type in another TX IP address which is connected to the PC's 2nd video output. (This 2nd TX IP will be set when the dual head TX is powered ON.)

3rd Video TX IP: Type in another TX IP address which is connected to the PC's 3rd video output.

4th Video TX IP: Type in another TX IP address which is connected to the PC's 4th video output.

Multi-Screen Setting (RX)

As above in the RX Main Multi-Screen Setting Web page:

2ndScreen RX IP: Type in another RX IP address which is connected to the 2nd screen. (This 2nd RX IP will be set when the dual head RX is powered ON.)

3rd Screen RX IP: Type in another RX IP address which is connected to the 3rd screen.

4th Screen RX IP: Type in another RX IP address which is connected to the 4th screen.

When the Main RX switches to a new TX, its associated RXs will also be switched to the new TX's associated TXs automatically.

Mirror (RX only)

When the **"Mirror"** option is enabled, the associated RXs will connect to the same TX as the Main RX is connected to. This splitter function enables multiple RXs to display the same TX video.

INSTALLATION (TX/RX)

1. The factory default Connection Method for the dual head RX is “OSD Transmitter List”, and TX is in Multicast mode with its default Multicast IP (shown on the label). It means all TXs will send packets with default Multicast IP (225.0.10x.xxx), and all RXs will find the TX with last connection. If the TX is not found on the network, the RX will display the OSD menu for the user to select the TX.
2. Use a CAT6/6a/7 cable (UTP or STP) (wired straight through, EIA 568B) to directly connect TX/RX as a pair connection, or connect to an IGMP enabled Gigabit Ethernet switch for many-to-many installation.

   Note: Each dual head TX comes with individual factory default Multicast IP which is shown on the unit label.
3. Connect TX/RX to video source/screen using HDMI cable.
4. The TX factory default EDID setting is 1920x1080 60Hz.

   You can change TX to “**Get from EDID Master**” (see page 8)

   You can change TX to “**Copy EDID from RX IP**“ (see page 8 to enable TX to get EDID from a specific RX).

   You can set the TX to a specific resolution (see page 7 for resolutions to choose from)
5. The following start-up messages will be displayed during RX power on:

   FW: 02-Jan-2019 A6.6.0.8(Firmware date and version)

   Local IP: 10.0.34.38 (RX’s IP address)

   MAC: 0020FExxxxxx (RX’s MAC address)

   Connection Method: First Available

   Remote IP: 10.0.x.x/ 225.0.x.x (Connecting target TX IP / Multicast IP)
6. **To get the best video performance, please refer to page 13 to enable TX/RX Jumbo Frame setting, and set Ethernet Switch Jumbo Frame with minimum 8K bytes.**
7. Attach HDMI/DVI source to the TX’s Main and 2nd HDMI In connector. Then power ON the TX unit, the **Green** LED will blink then go steady ON to indicate ready and waiting for connection with the RX.
8. As long as TX/RX connection is established, both TX and RX Amber LEDs will start to blink, indicating waiting for video input source (Green LED is ON).
9. If you are using a PC as the video source, check that the correct screen EDID is shown in the PC’s graphic control panel.
10. Activate video with audio source to TX, then check if all RXs are correctly displaying the video. In this step, both Green and Amber LEDs should be ON to indicate the unit is ready and video source is also ready.

Note: For 2nd HDMI port to work on the RX, the upper and lower Ethernet ports on the TX and RX must each be connected to the LAN.

USB over IP and KM over IP installation

1. Connect TX Main USB-B to PC. The operating system in the PC will detect a Generic USB 2.0 Virtual Hub Device.
2. Refer to the USBoverIP, K/M over IP and KMoIP ports on page 16 to properly configure TX and RX for the USB devices such as keyboard, mouse, Flash Drive, Touch Screen, etc.

   Note: The RX KMoIP ports will be linked to TX's KM over IP HID emulation; The RX USB-over-IP ports will be linked to TX's Virtual USB ports.

   It is not necessary to gain USB access rights for the KMoverIP port. The TX (PC) can be shared with multiple RXs for keyboard/mouse access in KMoverIP mode.
3. There are 4 USB-A ports on the RX.

   The factory default setting for the TX is both USB-over-IP and KM-over-IP enabled;

   The factory default setting for the RX is USB-over-IP enabled, USB 1.1 KMoIP enabled and USB 2.0 KMoIP disabled.
4. To gain the access rights for a USB-over-IP port:

   Connect a keyboard to an RX USB port. Press "U" key to toggle from the Transmitter List OSD menu (see "Hot Key Operation below).

   The RX displays "Requesting USB" to indicate starting USB-over-IP connection, and message of "Starting USB" will be displayed if it successfully gained the USB access rights.

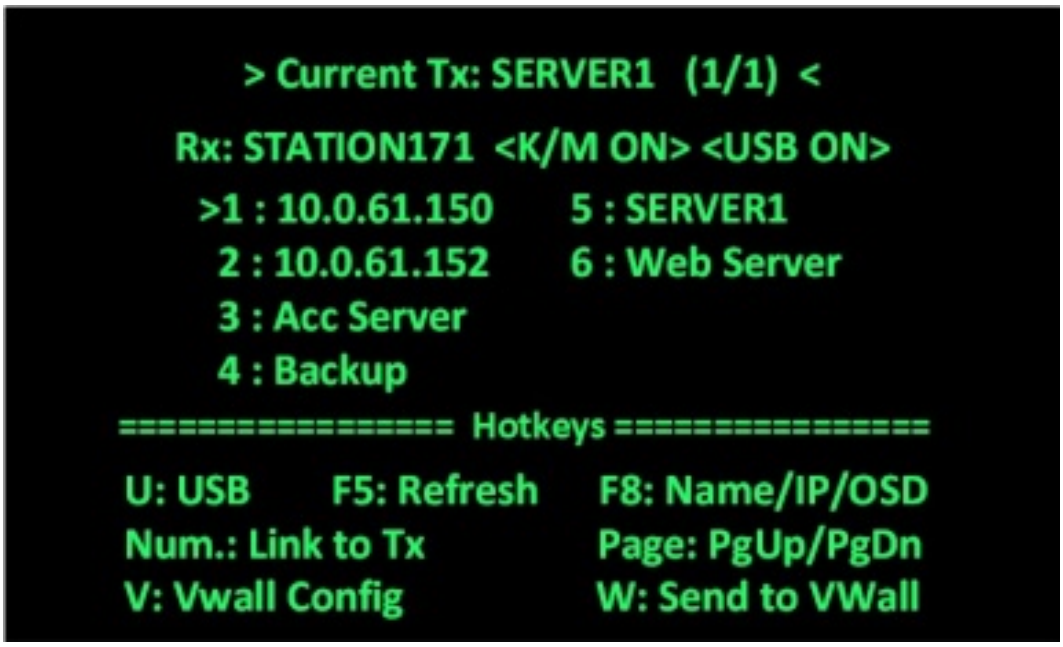
   Meanwhile, the previous USB Master unit will show an OSD message of "USB Stopping".

Hotkey Operation

RX "Transmitter List OSD Menu" by Hotkey

Pressing <hotkey><hotkey> at the RX keyboard will activate the Transmitter List OSD Menu with maximum 8 Transmitters per page (see image on top of next page). The top 2 lines are the current TX and RX IP or name.

You can select the TX by pressing the ↑↓ keys then press <Enter> to connect to the selected TX. You can also press keys 1 ~ 8 to immediately connect to the target TX.



While in the Transmitter List OSD Menu, you can:

Press **U** to request/release USB-over-IP.

Press **F5** to refresh Transmitter List.

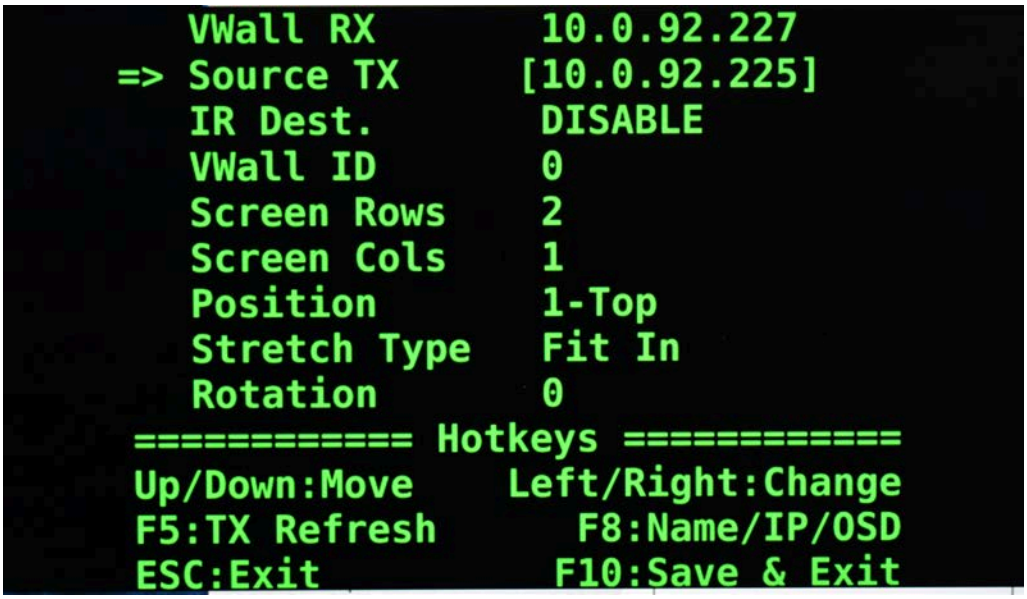
Press **F8** to switch in between Name/IP/OSD modes.

Press **V** to enter Video Wall configuration (below).

Press **W** to send the current display to other RX or RXs with VWall ID.

To end the OSD, press**<ESC>**

While the Video Wall OSD menu is up (below), the characteristics of the RX with the video wall can be adjusted as needed. A video wall with a 4x4 configuration can be configured. The user can go into this page and configure the entire video wall system from any receiver's OSD. Keys to press for the desired changes are indicated at the bottom of the menu.



Using the Vwall Config Menu

1. VWall RX: Use ← and → on the keyboard to toggle between RX's on the network and choose which screen is to be configured. The selections include all IPs for the top and the bottom layer of RX units on the network.

2. Source TX: Use ← and → on the keyboard to toggle between TX's source that this screen will use.

3. VWall ID: Use the same ID for all screens configured for the Video Wall being configured.

4. Screen Rows: How many rows are on this video wall.

5. Screen Cols: How many columns are on this video wall.

6. Position: Select which position this screen will be on the video wall.

   For 1x2 (rows:2, cols:1) VW, the choice will be "1-Top" and "2-Bottom".

   For 2x1 VW, the choice will be "1-Left" and "2-Right".

   For 2x2 VW, the choice will be "1-TopLeft", "2-TopRight", "3-BottomLeft", and "4-BottomRight"

   Configurations up to 4 rows and 4 columns can be configured.

7. Stretch Type- Select "Fit In" to have the image fill your screen, or "Keep Aspect" to keep the image aspect ratio proportions the same as they were transmitted.

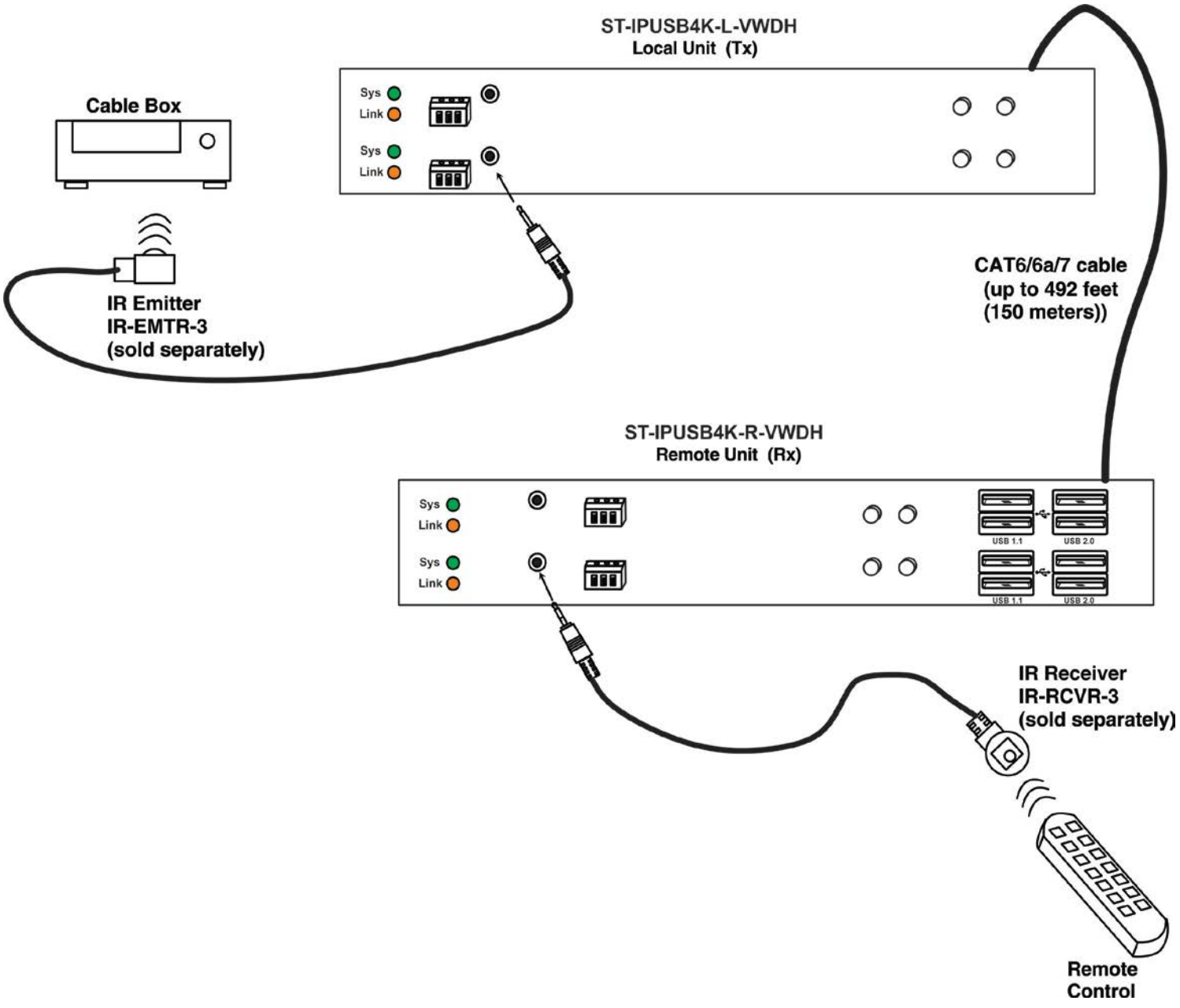
8. Rotation: Select between rotating the image 0,180 or 270 degrees.

Don't forget to press <F10> to save any changes you make to the RX configuration before you exit the menu.

To exit the OSD without saving, press**<ESC>**

INFRARED

If the device being extended can be controlled with an infrared remote, an IR signal receiver (IR-RCVR-3, sold separately) and an IR signal emitter (IR-EMTR-3, also sold separately) can be installed on each 3.5mm port as shown below.



SPECIFICATIONS

Local Unit

- Compatible with a USB computer (PC, SUN and MAC) with Dual Ultra-HD HDMI output.
- Multiplatform support: Windows 2000/XP/Vista/7/8/10, Windows Server 2000/2003/2008/2012, Solaris, Linux, FreeBSD, and MAC OS 9/10.
- Two female HDMI connectors for source.
- Two female HDMI connectors for display.
- Two female USB Type B connectors.
- Two female 3.5mm stereo jacks for audio out and mic in.
- Speaker only works when in a point-to-point connection.
- Two female 3.5mm stereo jacks for connection of IR-EMTR-3 IR Emitters (sold separately).
- Two RJ45 female for Ethernet connection
- 3-Pin terminal block for RS232 connection

Remote Unit

- Two female HDMI connectors.
- Eight female USB Type A connectors for keyboard, mouse, flash drive, HDD, or touchscreen display.
    - Four USB 2.0 and four USB 1.1
- Two female 3.5mm stereo jacks for audio out and mic in.
    - Microphone only works when in a point-to-point connection.
- Two female 3.5mm stereo jacks for connection of IR-RCVR-3 IR Receivers (sold separately).
- Two RJ45 female for Ethernet connection
- 3-Pin terminal block for RS232 connection

Supported video resolutions:

- Ultra-HD 4Kx2K resolutions (3840x2160 @ 30Hz)
- 2K Cinema (2048x1080 @ 60Hz)
- HDTV resolutions to 1080p
- Up to 1920x1200 (WUXGA)

Supports embedded digital audio through HDMI compatible TVs or audio receivers.

Power- Local and Remote unit:

- Input: 100 to 240 VAC at 50 or 60 Hz via AC adapters (two included).
- Output: 12 VDC, 5A

Dimensions

WxDxH (in): 6.3x4.33x1.99 (160x110x50.5 mm).

Environmental

- Operating temperature: 32 to 158°F (0 to 70°C).
- Storage temperature: -4 to 185°F (-20 to 85°C).
- Operating/storage relative humidity: 0 to 80% non-condensing RH.

Regulatory Approvals

- RoHS, CE ,FCC
- TAA Compliant

Max Distance

Using CAT6/6a/7 straight through cable with TIA/EIA-568B wiring terminated with standard RJ45 connectors, extend to 492 feet (150 meters).

Note: When a managed gigabit switch is used (depending upon the model), the Local and Remote can each be connected with up to 492 feet of CATx cable, for a total distance of 984 feet.

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.