KVM-SET-14
4K HDMI with USB
KVM Extenders
Over Gigabit Ethernet
Manual and Setup Guide

(Firmware A6.6.0.7, 01/09/2019)

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(b) provide a replacement in exchange for the defective Product or,
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b) Resulting from attempts by those other than Apantac representatives to install, repair, or service the Product;

c) Caused by installation of the Product in a hostile operating environment or connection of the Product to incompatible equipment;

Table of Contents

1.0 What's in the Box

The KVM Extenders can be sold in pairs (sets) or individually, depending on the configuration of the system.

KVM-SET-14

- 1 x KVM-IP-Tx-PL
- 1 x KVM-IP-Rx-P

KVM-IP-Tx-PL

- 1 x KVM-IP-Tx-PL

KVM-IP-Rx-P

- 1 x KVM-IP-Rx-P

2.0 Key Features

- Based on Gigabit Ethernet Technology (IGMP and Jumbo frame)
- Transmitter has built-in HDMI looping input with POE
- Receiver with POE
- Support up to 170 meters point to point extension over CAT6
- Supports up to 100 meters when used with a GigE switch
- Supports HDMI inputs and output signals
- Suports point to point (Unicast), point to multi-point (Multicast) for audio/video distribution
- Receivers has 4 USB ports that supports both HID and transparent USB (for storage and tablets)
- Supports bi-directional stereo audio. Both embedded HDMI as well as external stereo input
- Supports RS-232 commuication between Tx and Rx
- Built-in webpage for configuration
- Connection manager and video wall manager for Tx/Rx management
- Supports up to 4K/UHD@30Hz
- Advanced EDID management functionality. Built-in EDID, EDID ass through, copy EDID and sharing EDID
- Built-in Scaler
- LED status indicators
- Plug and Play

3.0 Panels and Connectors

KVM-IP-Tx-PL Transmittier (Tx)

Connector	Description	
1 Gigabit Ethernet	Connect to Gigabit Ethernet switch or directly to RX.	
2 HDMI in	Connect to HDMI Source, or use HDMI-to-DVI adapter cable for DVI source.	
3 HDMI Loopout	Connect to HDMI local monitor	
4 Line in	KVM-IP-Tx-PL supports both HDMI and 3.5mm audio. This 3.5mm input audio will be extended to the Line Out of RX.	
5 Line out	This 3.5mm Line Out audio is extended from Microphone Input of RX.	
6 USB-to-PC	Connect this USB-B to PC for USB 2.0 Virtual HUB extension.	
7 DC Power Input	DC9 ~ 32V Power input. KVM-IP-Tx-PL is equipped with POE. This is an optional power input.	
8 System LED (Green) Link LED (Amber)	**Green Blinking/Amber Off:** System is starting up. **Green On/Amber Off:** System is ready, but TX/RX not connected. **Green On/Amber Blinking:** TX/RX connected, but waiting for HDMI input. **Green On/Amber On:** TX/RX connected, HDMI input is ready.	
9 RS-232 (Phoenix)	Provide Serial-over-IP function. (Pin assignment: TxD-RxD-GND)	
10 IR Blaster	Connect to external IR Transmitter	
11 (Button 1)	Press and Hold at Power ON until **Green and Amber** LED blinking	1. Reset to the Factory default settings. 2. Enter Setup and Firmware upgrade mode in 192.168.0.88
12 (Button 2)	Short press	Set to Video/Graphic mode.
	Long press (3 sec.)	To Enable/Disable Anti-Dither. **Note:** For some ATI graphic cards with Dithering function enabled, enabling Anti-Dither achieves better video quality.

KVM-IP-Rx-P Receiver (Rx)

Connector	Description
1 Gigabit Ethernet	Connect to Gigabit Ethernet switch or directly to TX.
2 HDMI Out	This HDMI output connector supports HDMI 4K, 1080p output.
3 Mic. IN	Microphone Input; extended to Line Out of TX **when TX/RX in Unicast mode.**
4 Line OUT	KVM-IP-Rx-P supports both HDMI and 3.5mm audio. This 3.5mm Line Out can be set either from Line In or HDMI input source of TX.

5 DC Power Input	DC9 ~ 32V Power input. KVM-IP-Tx-PL is equipped with POE. This is an optional power input.	
6 System LED (Green) Link LED (Amber)	**Green Blinking/Amber Off:** System is starting up. **Green On/Amber Off:** System is ready, but TX/RX not connected. **Green On/Amber Blinking:** TX/RX connected, but waiting for HDMI input. **Green On/Amber On:** TX/RX connected, HDMI input is ready.	
7 IR Receiver	Remote Universal IR receiver (optional).	
8 RS-232 (Phoenix)	Provides Serial-over-IP function. (Pin assignment: TxD-RxD-GND)	
9 Mode button	Short press	Set to Video or Graphic mode.
	Long press (3 sec.)	Enable/Disable Anti-Dither. **Note:** For some ATI graphic cards with Dithering function enabled, enabling Anti-Dither achieves better video quality.
	Press and Hold at Power ON until **Green** LED are blinking	Get and Use this RX's EDID as the system EDID (update TX EDID)
10 Link button	Short press	To enter Transmitter List OSD menu, or TX/RX Setting OSD menu.
	Long press (3 sec.)	Gets USB access right.
	Press and Hold at Power ON until **Green and Amber** LED blinking	1. Reset to the Factory default. 2. Enter Setup and Firmware upgrade mode in 192.168.0.88
11 USB 1.1 Host	2 USB-A ports for USB 1.1 devices like Keyboard, Mouse, Printer, …	
12 USB 2.0 Host	2 USB-A ports for USB 2.0 devices like USB Disk, Touch Screen, …	

4.0 Configuraitons

The Tx/Rx units have built-in web pages for Setup and Operation configurations

4.1 Setup Mode

1. Press and Hold the TX/RX's **[Button 1]/[Link]** button and Power ON until **Green and Amber** LED blinking then release the button. This will force TX/RX enter Setup mode.
2. Directly connect TX/RX to PC LAN port, set PC IP to 192.168.0.1, Net Mask 255.255.255.0.
3. Open PC's Web Browser (we recommend Chrome) and enter **192.168.0.88** <Enter>
4. The Setup Mode Web page contains [System] tab with sub-tabs for [Version Information], [Update Firmware], [Utilities], and [Statistics].

➢ **Reset to factory default (Setup Mode)**

If the device settings are lost, you can reset the device back to the factory default:

1. Enter Setup Mode Web page **[System]** ---> [**Utilities**] ---> [**Factory Default**]

(The Factory default settings are shown on the label of the unit)

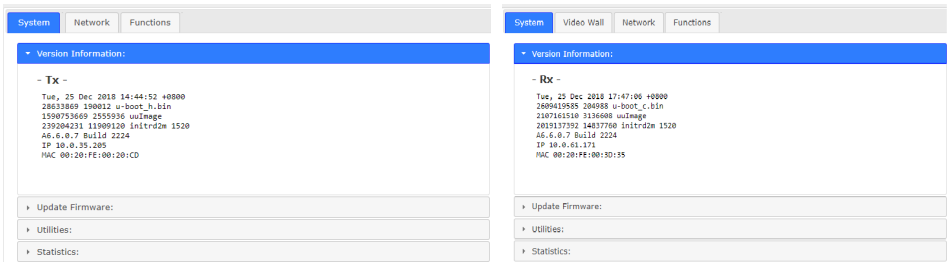
➢ **Firmware Upgrade (Setup Mode)**

1. Enter Setup Mode Web page **[System]** ---> [**Update Firmware**] ---> navigate to the firmware file (.bin) then click [**Upload**] to start firmware upgrade.
2. The firmware upgrade takes about 3 minutes, it will display "DONE Rebooting…" to indicate the unit has been upgraded and rebooted.

4.2 Operation Mode

The TX/RX can be configured in Operation Mode through an Ethernet Switch or direct connection.
To enter Operation mode Web page:

1. Set PC IP 10.0.1.1, Net Mask 255.0.0.0.
2. Open Browser (we recommend Chrome) then enter TX/RX IP: 10.xx.xx.xx
3. The TX/RX Web page are shown below. The TX contains 3 tab menus [System], [Network], Functions], the RX contains 4 tab menus [System], [Video Wall], [Network], Functions]:



➢ Firmware Upgrade (Operation Mode)

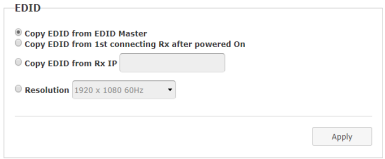
It is possible to do the firmware upgrade in Operation mode for TX/RX:

1. Enter Web page **[System]** ---> **[Update Firmware]** ---> navigate to the firmware file (.bin) then click [Upload] to start firmware upgrade.
2. The firmware upgrade takes about 3 minutes, it will display "DONE Rebooting…" to indicate the unit has been upgraded and rebooted.

➢ TX/RX Compatibility Mode

From version 6.6.0.2 up, you can set 9525 TX/RX to be backward compatible with 950 or 9510. Enter TX/RX Web page **[System]** ---> **[Utilities] ---> [Compatibility mode] --->** select the mode from drop-down menu: 1500 compatibility mode, 1510 compatibility mode, or 152x operation mode **(default).**

➢ TX EDID selection

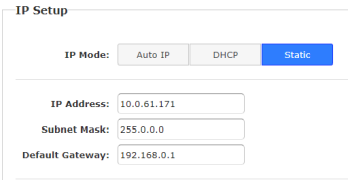


The TX provides flexible EDID selections:
Enter TX Web page **[System] ---> [Utilities] --->[EDID]** --->
select the EDID from the following 4 options:
Copy EDID from EDID Master. (Factory default)
(Enable this option will force the TX to get EDID from the RX with EDID Master setting.)
Copy EDID from 1st connecting RX after powered On.
(Enable this option will force the TX to get EDID from the 1st connected RX.)
Copy EDID from RX IP.
(Enable this option to force TX to get EDID from a specific RX, enter RX's IP here)
Resolution selection
You can also set TX with a specific Resolution from the drop-down menu.
The available resolutions are 1920 x 1200 60Hz, 1920 x 1080 60Hz, 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 EDID option will be overwritten by the RX EDID Master if:

1. **The TX is set on Unicast.**
2. **The RX connection method is set on Direct Connection.**

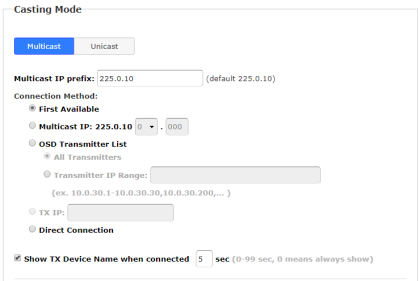
4.3 Network Configuration

The TX/RX provides the following Network settings:



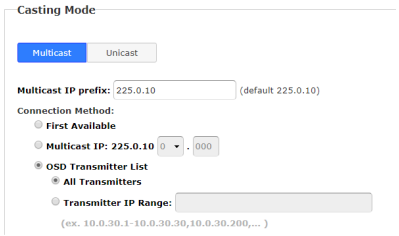
- IP Setup (TX/RX)
  Enter TX/RX Web page **[Network]** ---> **[IP Setup]:**
  Select Auto IP, DHCP, Static.
  Then enter device IP, Subnet Mask, Default Gateway.
  Click **[Apply]**.

- Casting Mode (TX) (default Multicast)
  TX can be set in Multicast or Unicast mode by entering TX Web page **[Network]** ---> **[Casting Mode]:**
  In Multicast mode, you can setup the following Multicast address:
  Multicast IP prefix (default 225.0.10)
  Multicast IP address (prefixed with 225.0.10x.x)



- Casting Mode Connection Methods (RX)

  (default Multicast)
  RX can be set in Multicast or Unicast mode by entering RX Web page **[Network]** ---> **[Casting Mode]**.
  In **Multicast mode**, you can setup the Multicast IP prefix and select the Connection Method from: First Available, 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 RX will connect to the first available TX when powered on.
  Multicast IP 225.0.10x.xxx: the RX will connect to the TX with the same Multicast IP address.
  OSD Transmitter List: the RX will display the available Transmitters in OSD menu for user to select.
  You can either select the "All Transmitters", or using "-" and "," for selecting TXs IP address range that are accessible for this RX as the right screenshot.
  TX IP: the RX will connect to this dedicated TX only.
  Direct Connection: this setting enables RX to connect TX by the same subnet, same 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) when connected. Default is enabled with 5 seconds.

- Jumbo Frame (TX/RX)

The TX/RX Jumbo Frame must be enabled for the 4K input and output. (Default is Enabled)
Enter TX/RX Web page ---> **[Network]** ---> **[Jumbo Frame]** ---> Enable/Disable ---> **[Apply]** ---> the unit will save the setting and reboot automatically.
Note: TX/RX and Ethernet Switch must have Jumbo Frame enabled (at least 8K) to work properly for 4K HDMI.

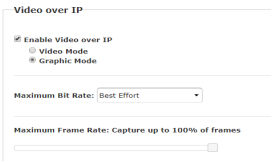
4.4 Function Configurations

- Device Name (TX/RX)
  To set TX/RX Device name, enter TX/RX Web page ---> [Functions] ---> [Device Name] ---> enter name (8 characters max) ---> [Apply] to save the Device Name.

- K/M over IP (TX) ; KMoIP ports (RX)
  The system supports both USB-over-IP and KM-over-IP for USB extension. The USB-over-IP works as a 5-port Virtual HUB when TX is connected to PC; it is compatible with most kinds of USB devices such as keyboard, mouse, Pen Drive, Touch Screen… etc.
  The KM-over-IP is an HID emulation built for multiple RXs to share keyboard/mouse for one PC, it takes one port of the 5 virtual ports. The KM-over-IP setting is different for TX and RX:
  For TX: enter TX Web page ---> [Functions] ---> [USB over IP] ---> [Compatibility Mode] ---> check/uncheck [K/M over IP] to Enable/Disable ---> [Apply] (default: enabled).
  For RX, enter RX Web page ---> [Functions] ---> [KMoIP ports] ---> check/uncheck 1, 2, 3, 4 to Enable/Disable KM-over-IP ports (default: all disabled) ---> [Apply].

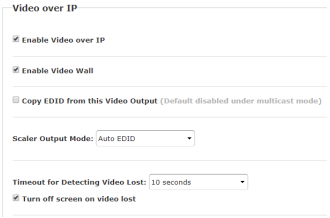
- Hotkey (RX)
  The RX supports Hotkey for OSD Menu. To choose the RX OSD Hotkey: enter RX Web page ---> [Functions] ---> [Hotkey] ---> select the Hotkey from the list: <Ctrl><Ctrl>, <Shift> <Shift>, <Alt> <Alt>, or <Scroll> <Scroll> (default: Ctrl Ctrl).

- Video over IP (TX)
  Enter TX Web page ---> [Functions] ---> [Video over IP] ---> check/uncheck the following options:



  [Enable Video over IP] (Default: Enabled)
  [Video/Graphic Mode]: Select [Video Mode] for play smoothly. Select [Graphic Mode] for static picture KVM application.
  [Maximum Bit Rate]: The TX provides options of "Best Effort", "200, 150, 100, 50, 10 Mbps for the TX bandwidth selection. (default: Best Effort).
  [Maximum Frame Rate]: This provides the maximum % of the TX frames rate capture up (default: 100%).

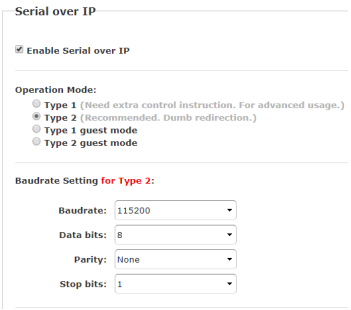
- Video over IP (RX)
  Enter RX Web page ---> [Functions] ---> [Video over IP] ---> check/uncheck the following options:



  [Enable Video over IP] (Default Enabled).
  [Enable Video Wall]: Enable this setting for the Video Wall output.
  [Copy EDID from this Video Output]: Enable this setting to assign this RX as the EDID Master.
  [Scaler Output Mode]: Select the option of "Auto EDID", "Pass Through", "1080p60", "1080p50", "1920x1200", "Customize" (default Auto EDID)
  [Timeout for detecting video lost]: Set the timeout period for the video lost detection (default 10 sec.)
  [Turn off screen on video lost]: Enable this setting to stop the video output when video lost (default Enabled)

- USB over IP (TX/RX)
  Enter TX/RX Web page ---> [Functions] ---> [USB over IP] ---> [Enable USB over IP] —> check/uncheck to Enable/Disable (default Enable).

- Serial over IP (TX/RX)

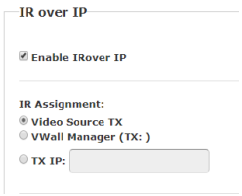


Enter TX/RX Web page ---> [Functions] ---> [Serial over IP] ---> Enable/Disable (default: Enable).
---> [Operation Mode]
Select options of Type 1, Type 2, Type 1 guest mode, Type 2 guest mode (default: Type 2).
Note: Type 1 is mainly for Unicast application where user can dynamically link with any target RX.
Type 2 is mainly for Multicast application where TX RS-232 will link with all of connected RXs (default).
Type 1 guest mode is similar to type 1 but using PC to link with RX's RS-232.
Type 2 guest mode is similar to type 2 but using PC to link with RX's RS-232.
For details, please refer to "How to Use RS232 over IP" manual.
---> [Baudrate Setting for Type 2]
Select Baudrate, Data bits, Parity, Stop bits. (default 115200, 8-n-1)

- Audio Output (RX)

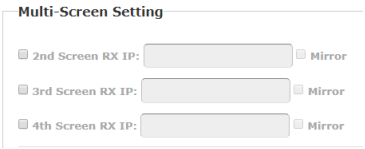
If the TX's input audio is in HDMI, you can route the audio output on Line Out of the RX: Enter RX Web page ---> [Functions] ---> [Audio Output] ---> check "HDMI Audio De-Embedder". Click [Apply] to save the setting and reboot. (default Disabled)

- IR over IP (RX)



It is possible to assign the IR signal routing path: Enter RX Web page ---> [Functions] ---> [IR over IP] ---> Enable IR over IP (default Enabled)
[IR Assignment]: Select IR routing path from the following 3
[Video Source TX]: Send the IR signals to the video source TX.
[VWall Manager (TX:)]: Send the IR signals to the TX which is assigned by the VWall Manager software.
[TX IP:]: Send the IR signals to the manually assigned TX.

- Multi-Screen Setting (TX/RX)



The system supports Multi-Screen feature. Each Main TX/RX can be assigned with 2nd, 3rd, 4th TX/RX IP. When the Main RX switches to a new Main TX, its associated RXs will also be switched to the new TX's associated TXs automatically.
Enter TX/RX Web page ---> [Functions] ---> [Multi-Screen Setting] ---> then enter IP address for the associated 2nd, 3rd, 4th TX/RX IP.

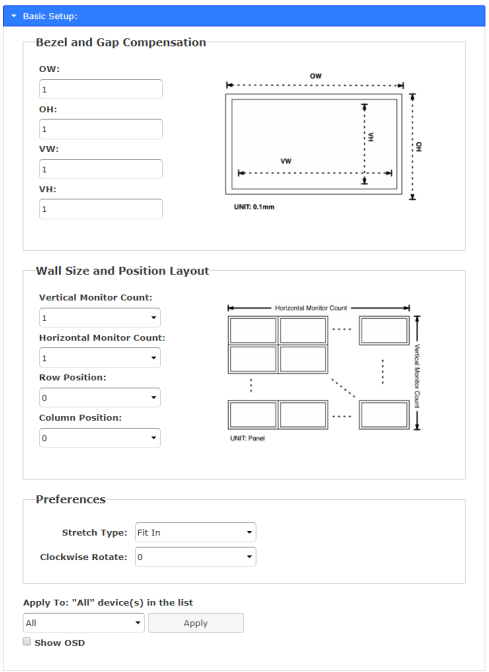
  - ★ Mirror (RX)

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

4.5 Video Wall Configuration (Rx)

The HDMI over IP Receiver comes with Video-Wall feature for broadcasting one video stream to multiple screens in a grid. You can setup the Video-Wall either by using OSD (On Screen Display) or the Web page.
For the OSD setup and operation, please refer to "**HDMI over IP Video-Wall OSD Quick Setup Guide**".
The following section provides information for the Web page setup.

- **Video-Wall Basic Setup**
  Enter RX Web page ---> **[Video Wall]** ---> **[Basic** Setup].
- **Bezel and Gap Compensation**
  Enter the value for OW (Outside Width), OH (Outside Height), VW (View Width), VH (View Height) in 0.1mm unit ---> **[Apply]**.

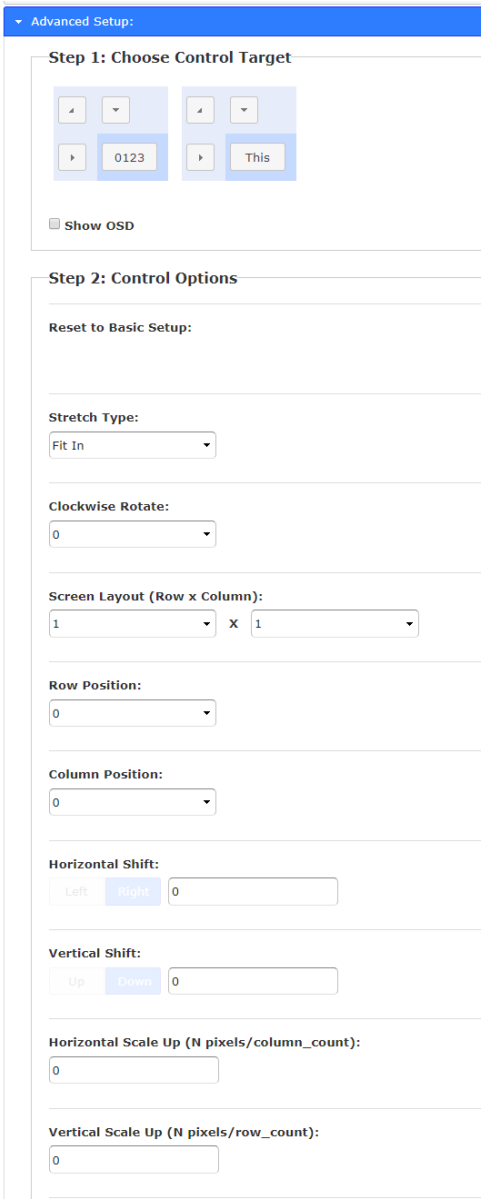


- **Wall Size and Position Layout**
  Select the value for Vertical Monitor Count, Horizontal Monitor Count, Row Position, Column Position from the drop-down menu ---> **[Apply]**.

- **Stretch and Rotation Preferences**
  [Preferences] ---> **[Stretch Type]:** Select "Fit In" or "Stretch Out" ---> **[Apply]**
  [Clockwise Rotate]: Select 0, 180, 270 --> **[Apply]**
  Note:
  Fit In: Stretches or compresses the broadcast screen to fill the whole wall.
  Keep Aspect: keeps strict picture aspect ratio. If there is a mismatch, some image may fall beyond screen edges.

- **Show OSD**
  To identify the screen, check the "Show OSD" and select the device then click **[Apply]** button.

- **Video-Wall Advanced Setup**
  The Advanced Setup can be used for special effects which are not included in Basic Setup. There are two steps in advanced setup:
  Step 1: Choose one or more target RXs to apply setup to.
  Step 2: After the targets are selected, changes can be applied in Step 2.



- **Reset to Basic Setup:**
  Reset the target(s) to the setting of "Basic Setup".

- **Stretch Type:**
  Fit In: Stretch the full screen to the whole wall.
  Keep Aspect: keeps picture aspect ratio; some image may spill off screen if needed.

- **Clockwise Rotate:**
  0: No rotate
  180: clockwise rotate 180 degrees
  270: clockwise rotate 270 degrees

- **Screen Layout (Row x Column):**
  Define the Video Wall size, select the Row and Column count from the drop-down menu.

- **Row Position:**
  Set the Row position for the selected target RX. (Rows start from 0)

- **Column Position:**
  Set the Column position for the selected target RX. (Columns start from 0)

- **Horizontal Shift (Left, Right):**
  Shift target screen horizontal to left or right in 1 pixel units.

- **Vertical Shift (Left, Right):**
  Shift target screen vertically up or down in 1 pixel units.

- **Horizontal Scale Up**
  Scale up the target screen horizontally, by pixels (1/column count).

- **Vertical Scale Up**
  Scale up the target screen vertically (1/row count).

5.0 Installation

1. The factory default Connection Method for RX is "First Available", and TX is in Multicast mode with its default Multicast IP (shown on the label). This means all TXs will send packets with their default Multicast IP (225.0.10x.xxx), and all RXs will find the first available TX for connection.

2. Use a CAT6 UTP cable (straight, EIA 568B) to directly connect TX/RX as a pair connection, or connect to IGMP enabled Gigabit Ethernet switch for many-TXs-to-many RXs installation.
   Note: Each TX comes with individual factory default Multicast IP which is shown on the unit label.

3. Connect TX/RX to video source/screen by HDMI cable.

4. The TX factory default setting for EDID is **"Copy EDID from EDID Master",** please use either step 4.1 or 4.2 to assign a RX as the EDID Master.
   You can change TX to use the EDID from the 1st connected RX, or from a specific RX by step 4.3 or 4.4.
   Or you can use the TX built-in EDID as step 4.5:
   4.1 Press and hold the [Mode] button of the specific RX unit and power ON until Green LED blinking then releasing the [Mode] button, this RX will be assigned as EDID Master (RX's Green LED will blink, then steady ON, and Amber LED Off to indicate it is ready and waiting for connecting with TX). Then power ON other RX units sequentially.
   4.2 Refer page 7, enable "Copy EDID from this Video Output" to assign a specific RX as EDID Master.
   4.3 Refer page 5, enable "Copy EDID from 1st connecting RX" to set TX EDID from the first connected RX.
   4.4 Refer page 5, enable "Copy EDID from RX IP" to set TX EDID from a specific RX.
   4.5 To use TX built-in EDID for specific Resolution, refer to page 5 "Resolution Selection".

5. The following start-up messages will be displayed during RX powered on:
   FW: 02-Jan-2019 A6.6.0.7 (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. If the input source is 4K, please refer to page 6 to enable TX/RX Jumbo Frame setting, and set Ethernet Switch Jumbo Frame with minimum 8K bytes to get the best video quality.

7. Attach HDMI/DVI source to the TX's HDMI In. Then power ON the TX unit, the Green LED will blink then go steady ON to indicate ready and waiting for connecting with RX.

8. As long as TX/RX connection established, both TX and RX Amber LED will start to blink, indicating waiting for video input source (Green LED is ON).

9. If you are using PC as video source, check that the correct screen EDID is shown on PC graphic control panel.

10. Activate video with audio source, then check if all RXs are correctly displaying. In this step, both Green and Amber LED should be ON to indicate the unit is ready and video source is also ready.

5.1 USB and KM IP Installation

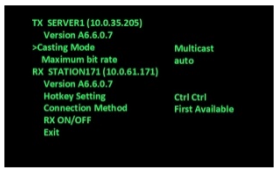
11. Connects TX USB-B to PC, OS will detect a Generic USB 2.0 Virtual Hub Device.

12. The system can support both "USB-over-IP" and "KM-over-IP".
    The USB-over-IP works as a Virtual 5-port HUB when connected to TX, it is compatible with most kinds of USB devices such as keyboard, mouse, Pen Drive, Touch Screen, etc.
    The KM-over-IP means the USB port will work as an HID device only for keyboard/mouse emulation. It is not necessary to gain USB access right for the KM-over-IP port. The TX (PC) can be shared with multiple RXs for keyboard/mouse access in KM-over-IP mode.

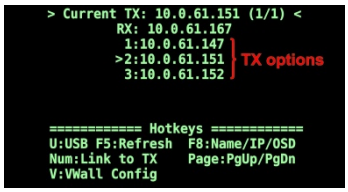
13. There are 4 USB-A ports on the RX. The factory default setting for the TX is both USB-over-IP and KM-over-IP enabled, all 4 RX USB ports are USB-over-IP enabled and KM-over-IP disabled.

14. There are 2 methods to gain the access rights for a USB-over-IP port:
    14.1 Long press (3 sec.) the RX **[Link button].**
    14.2 Press "U" key to toggle during Transmitter List OSD menu.
    The RX display "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".

- RX OSD Transmitter List by [Link] button
  The RX supports OSD Transmitter List menu by short-pressing the RX's **[Link]** button as the below left screenshot. Short press the button to move the highlight arrow to select the TX, the RX will connect to the selected TX after 3 seconds.
  Long-pressing the [Link] button for 3 seconds will enter Simple Configuration OSD menu as the below right screenshot. Press the [Link] button to move the highlight arrow to the setting to change. You can change Casting Mode, Maximum bit rate for TX, and Hotkey Setting, Connection Method and ON/OFF for RX:



- RX OSD Transmitter List by Hotkey
  The RX supports OSD Transmitter List menu by pressing <hotkey> <hotkey> with maximum 8 Transmitters will be shown, as shown in the screenshot on the right. The top 2 lines are the current TX and RX IP or name. You can select the TX using the↑↓keys and <Enter>, or 1 ~ 8 key to immediately connect to the target TX.



  Press U to request (or 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.
  Press W to send the current display to other RX or RXs with VWall ID. To end the OSD, press <ESC>

- RX OSD Hotkey selection Sub-Menu
  From the Simple Configuration OSD menu, press **[Link]** button to move the highlight arrow to [Hotkey Setting]. Wait a few seconds, the sub-menu will show up with 4 possible selections: "Ctrl Ctrl", "Shift Shift", "Alt Alt", or "Scroll Scroll". Press **[Link]** button again to move the highlight arrow to the desired selection. The RX unit will be re-booted.

- RX OSD Connection Method Sub-Menu
  From the Simple Configuration OSD menu, press **[Link]** button to move the highlight arrow to

[Connection Method]. Wait a few seconds, either **Multicast** or **Unicast Connection Method** sub-menu will show up depending on the RX's Casting mode.
The **Multicast RX** supports 4 possible connection methods: First Available, Multicast IP, OSD Transmitter List, and Direct Connection.
The **Unicast RX** supports 4 possible connection methods: First Available, OSD Transmitter List, Dedicated TX IP, and Direct Connection.
Press the **[Link]** button to move the highlight arrow to the desired Connection Method and wait a while to confirm the selection.

6.0 External Software

The system provides Windows-based Connection Manager and Video-Wall Manager software for the TX/RX connection and Video-Wall management. Please refer to the Connection Manager and Video Wall Manager Guide for further details.