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# Vertiv™ Avocent®

# HMX 3080T/HMX 3080R
# HMX 3080TP/HMX 3080RP
# HMX 4080T/HMX 4080R
# HMX 4080TP/HMX 4080RP

## User Manual

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## Technical Support Site

If you encounter any installation or operational issues with your product, check the pertinent section of this manual to see if the issue can be resolved by following outlined procedures.

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# 1 Important Safety Instructions

EMI Declaration: i.e. products that are EMC certified in the region or country shown will have the required marking or declaration on the product label. The applicable declaration for that country is listed below

China warns users that this is a Class A information product, which may cause radio frequency interference when used in indoor environments, in which case users need to take appropriate countermeasures to respond.

Technical Support Sites: If your product encounters any installation or operational issues, review the relevant sections of this manual to see if you can resolve the issue with the steps outlined in this manual. For additional assistance, visit https://www.vertiv.com/en-us/support/.

Thank you for purchasing the HMX 3080/4080 Series IP KVM Extenders. With our high-quality and reliable products, you can enjoy the convenience and benefits they bring to you.

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# 2 Product Introduction

The new generation HMX 3080/HMX 4080 series is an IP-based matrix KVM extender that allows users to transmit the computer's DVI remotely over a gigabit switched network USB, Analog audio, RS-232, and infrared signals. The HMX 3080/HMX 4080 series includes two main units, the transmitter unit, and the receiver unit. Those two units have their unique IP address so that they can transfer and receive KVM signals over the Gigabit network. In a Gigabit network, multiple transmitters and multiple receivers can be interleaved with each other to achieve IP matrix switching, depending on the network bandwidth and the network switch deployed, the maximum number of theoretical devices can reach 65,000.

**Figure 2.1 Avocent HMX 3080T/R and Avocent HMX 4080T/R**

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# 3 Product features

- Supports hot-swapping SFP optical module slots-2 Hot-plug SFP Optical Module Sockets.
- Specific Models support PoE (Power over Ethernet).
- Supports USB 2.0 over IP pass-through for KVM application.
- Supports transmitter DVI -D local loop-back outlet (local KVM interface).
- Supports high resolutions quality video streaming up to 1920x1200 @ 60Hz.
- Low latency time<1 frame/second (less than one frame per second).
- Supports uncompressed and loss-less multichannel audio formats.
- Supports Integrated RS232 serial port for distributed remote control (IP transmission).

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# 4 Package contents

The packaging list (Item that come along with the product) of HMX 3080 /HMX 4080 series are shown in the following tables.

**Table 4.1 The packaging list of HMX 3080T/HMX 3080R series**

| HMX 3080T (Transmitter) | Quantity | HMX 3080R (Receiver) | Quantity |
|---|---|---|---|
| Transmitter unit | 1 | Receiver unit | 1 |
| Power adapter | 1 | Power adapter | 1 |
| User's manual | 1 | User's manual | 1 |
| RS-232 male to female cable | 1 | DVI male-to-VGA female video adapter (Connect to VGA monitor) | 1 |
| USB Type-A-B/DVI-D/Audio/Mic male KVM cable set | 1 | | |

**Table 4.2 The packaging list of HMX 3080TP/HMX 3080RP series**

| HMX 3080TP (Transmitter) | Quantity | HMX 3080RP (Receiver) | Quantity |
|---|---|---|---|
| Transmitter unit | 1 | Receiver unit | 1 |
| Power adapter | 1 | Power adapter | 1 |
| User's manual | 1 | User's manual | 1 |
| RS-232 male to female cable | 1 | DVI male-to-VGA female video adapter (Connect to VGA monitor) | 1 |
| USB Type-A-B/DVI-D/Audio/Mic male KVM cable set | 1 | | |

### Table 4.3 The packaging list of HMX 4080T/HMX 4080R series

| HMX 4080T (Transmitter) | Quantity | HMX 4080R (Receiver) | Quantity |
|---|---|---|---|
| Transmitter unit | 1 | Receiver unit | 1 |
| Power adapter | 1 | Power adapter | 1 |
| User's manual | 1 | User's manual | 1 |
| RS-232 male to female cable | 1 | DVI male-to-VGA female video adapter (Connect to VGA monitor) | 2 |
| USB Type-A-B/DVI-D/Audio/Mic male KVM cable set | 1 | | |
| DVI-D male Cable (Connect to extended monitor) | 1 | -- | -- |

### Table 4.4 The packaging list of HMX 4080TP/HMX 4080RP series

| HMX 4080TP (Transmitter) | Quantity | HMX 4080RP (Receiver) | Quantity |
|---|---|---|---|
| Transmitter unit | 1 | Receiver unit | 1 |
| Power adapter | 1 | Power adapter | 1 |
| User's manual | 1 | User's manual | 1 |
| RS-232 male to female cable | 1 | DVI male-to-VGA female video adapter (Connect to VGA monitor) | 2 |
| USB Type-A-B/DVI-D/Audio/Mic male KVM cable set | 1 | | |
| DVI-D male Cable (Connect to extended monitor) | 1 | -- | -- |

## 4.1 Accessories (Optional)

The optional accessories available for HMX 3080/HMX 4080 series as follows:

1. IR Remote Control Unit Pack (Include: Wired Transmitter/Receiver)
2. VGA male-to-DVI female video conversion cable (Connect to VGA PC)
3. DVI male-to-VGA female video conversion cable (Connect to VGA Monitor)

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# 5 Product specifications

## 5.1 HMX 3080T/HMX 3080R Specification

**Table 5.1 HMX 3080T/HMX 3080R Specification**

| Model No. | HMX 3080T | Quantity | HMX 3080R | Quantity |
|---|---|---|---|---|
| Component Type | Transmitter | -- | Receiver | -- |
| Connector | USB Port (Type B) | 2 | USB Port (keyboard and mouse, Type A) | 2 |
| | DVI In Port | 1 | USB Port (Devices. Type A) | 2 |
| | DVI Out Port (Loop-back) | 1 | DVI Out Port | 1 |
| | IR Out Jack | 1 | IR Out Jack | 1 |
| | Mic. Jack (Front Panel/Rear Panel) | 2 | Mic. Jack (Rear Panel) | 1 |
| | Speaker Jack (Front Panel/Rear Panel | 2 | Speaker Jack (Rear Panel) | 1 |
| | RJ45 connector | 2 | RJ45 connector | 2 |
| | SFP Optical Module Socket | 2 | SFP Optical Module Socket | 2 |
| | RS-232 Female | 1 | RS-232 male | 1 |
| | Power Jack | 1 | Power Jack | 1 |
| Button | Functional button (LINK/MODE) | 2 | Functional button (LINK/MODE) | 2 |
| LED indicator | Red | 1 | Red | 1 |
| | Green | 1 | Green | 1 |
| | -- | -- | Yellow | 1 |
| Dimension (L x W x H) | 222 x 137 x 44 mm | -- | 222 x 137 x 44 mm | -- |
| Weight | 870g | -- | 862g | -- |
| Resolution | 1920 x 1200 @ 60Hz | | | -- |
| Power Adapter | DC 5V/3A | | | -- |
| Operation Temperature | 0°C ~ 40°C | | | -- |

**Table 5.1 HMX 3080T/HMX 3080R Specification (continued)**

| Model No. | HMX 3080T | Quantity | HMX 3080R | Quantity |
|---|---|---|---|---|
| Storage Temperature | -40°C ~ 70°C | | | -- |
| Humidity | 0~90% RH, Non-condensing | | | -- |
| Housing | Metal Enclosure | | | -- |
| Safety/Emission | CE, FCC | | | -- |

# 5.2 HMX 3080TP/HMX 3080RP Specification

**Table 5.2 HMX 3080TP/HMX 3080RP Specification**

| Model No. | HMX 3080TP | Quantity | HMX 3080RP | Quantity |
|---|---|---|---|---|
| Component Type | Transmitter | -- | Receiver | -- |
| Connector | USB Port (Type B) | 2 | USB Port (keyboard and mouse, Type A) | 2 |
| | DVI In Port | 1 | USB Port (Devices. Type A) | 2 |
| | DVI Out Port (Loop-back) | 1 | DVI Out Port | 1 |
| | IR Out Jack1 | 1 | IR In Jack | 1 |
| | Mic. Jack (Front Panel/Rear Panel) | 2 | Mic. Jack (Rear Panel) | 1 |
| | Speaker Jack (Front Panel/Rear Panel) | 2 | Speaker Jack (Rear Panel) | 1 |
| | RJ45 connector x 1; RJ45 (w/ PoE) connector | 1 | RJ45 connector x 1; RJ45 (w/ PoE) connector | 1 |
| | SFP Optical Module Socket x 2 | 2 | SFP Optical Module Socket | 2 |
| | RS-232 Female x 1 | 1 | RS-232 male | 1 |
| | Power Jack x 1 | 1 | Power Jack | 1 |
| Button | Functional button (LINK/MODE) | 2 | Functional button (LINK/MODE) | 2 |
| LED indicator | Red | 1 | Red | 1 |
| | Green | 1 | Green | 1 |
| | -- | -- | Yellow | 1 |
| Dimension (L x W x H) | 222 x 137 x 44 mm | -- | 222 x 137 x 44 mm | -- |
| Weight | 870g | -- | 862g | -- |
| Resolution | 1920 x 1200 @ 60Hz | | | -- |
| Power Adapter | DC 5V/3A | | | -- |

**Table 5.2 HMX 3080TP/HMX 3080RP Specification (continued)**

| Model No. | HMX 3080TP | Quantity | HMX 3080RP | Quantity |
|---|---|---|---|---|
| Operation Temperature | 0°C ~ 40°C | | | -- |
| Storage Temperature | -40°C ~ 70°C | | | -- |
| Humidity | 0~90% RH, Non-condensing | | | -- |
| Housing | Metal Enclosure | | | -- |
| Safety/Emission | CE, FCC | | | -- |

# 5.3 HMX 4080T/HMX 4080R Specification

**Table 5.3 HMX 4080T/HMX 4080R Specification**

| Model No. | HMX 4080T | Quantity | HMX 4080R | Quantity |
|---|---|---|---|---|
| Component Type | Transmitter | -- | Receiver | -- |
| Connector | USB Port (Type B) | 2 | USB Port (keyboard and mouse, Type A) | 2 |
| | DVI In Port | 2 | USB Port (Devices. Type A) | 2 |
| | DVI Out Port (Loop-back) | 2 | DVI Out Port | 2 |
| | IR Out Jack | 1 | IR In Jack | 1 |
| | Mic. Jack (Front Panel/Rear Panel) | 2 | Mic. Jack (Rear Panel) | |
| | Speaker Jack (Front Panel/Rear Panel) | 2 | Speaker Jack (Rear Panel) | 1 |
| | RJ45 connector | 2 | RJ45 connector | 2 |
| | SFP Optical Module Socket | 2 | SFP Optical Module Socket | 2 |
| | RS-232 Female | 1 | RS-232 male x 1 | 1 |
| | Power Jack | 1 | Power Jack x 1 | 1 |
| Button | Functional button (LINK/MODE) | 2 | Functional button (LINK/MODE) x 2 | 2 |
| LED indicator | Red | 1 | Red | 1 |
| | Green | 1 | Green | 1 |
| | -- | -- | Yellow | 1 |
| Dimension (L x W x H) | 222 x 137 x 44 mm | -- | 222 x 137 x 44 mm | -- |
| Weight | 937g | -- | 918g | -- |
| Resolution | 1920 x 1200 @ 60Hz | | | -- |
| Power Adapter | DC 5V/3A | | | -- |

**Table 5.3 HMX 4080T/HMX 4080R Specification (continued)**

| Model No. | HMX 4080T | Quantity | HMX 4080R | Quantity |
|---|---|---|---|---|
| Operation Temperature | 0°C ~ 40°C | | | -- |
| Storage Temperature | -40°C ~ 70°C | | | -- |
| Humidity | 0~90% RH, Non-condensing | | | -- |
| Housing | Metal Enclosure | | | -- |
| Safety/Emission | CE, FCC | | | -- |

# 5.4 HMX 4080TP/HMX 4080RP Specification

**Table 5.4 HMX 4080TP/HMX 4080RP Specification**

| Model No. | HMX 4080TP | Quantity | HMX 4080RP | Quantity |
|---|---|---|---|---|
| Component Type | Transmitter | -- | Receiver | -- |
| Connector | USB Port (Type B) | 2 | USB Port (keyboard and mouse, Type A) | 2 |
| | DVI In Port | 2 | USB Port (Devices. Type A) | 2 |
| | DVI Out Port (Loop-back) | 2 | DVI Out Port | 2 |
| | IR Out Jack | 1 | IR In Jack | 1 |
| | Mic. Jack (Front Panel/Rear Panel) | 2 | Mic. Jack (Rear Panel) | 1 |
| | Speaker Jack (Front Panel/Rear Panel) | 2 | Speaker Jack (Rear Panel) | |
| | RJ45 connector; RJ45 (w/ PoE) connector | 1 | RJ45 connector x 1; RJ45 (w/ PoE) connector | 1 |
| | SFP Optical Module Socket | 2 | SFP Optical Module Socket | 2 |
| | RS-232 Female | 1 | RS-232 male | 1 |
| | Power Jack | 1 | Power Jack | 1 |
| Button | Functional button (LINK/MODE) | 2 | Functional button (LINK/MODE) | 2 |
| LED indicator | Red | 1 | Red | 1 |
| | Green | -- | Green | 1 |
| | -- | -- | Yellow | 1 |
| Dimension (L x W x H) | 222 x 137 x 44 mm | -- | 222 x 137 x 44 mm | -- |
| Weight | 937g | -- | 918g | -- |
| Resolution | 1920 x 1200 @ 60Hz | | | -- |
| Power Adapter | DC 5V/3A | | | -- |

**Table 5.4 HMX 4080TP/HMX 4080RP Specification (continued)**

| Model No. | HMX 4080TP | Quantity | HMX 4080RP | Quantity |
|---|---|---|---|---|
| Operation Temperature | 0°C ~ 40°C | | | -- |
| Storage Temperature | -40°C ~ 70°C | | | -- |
| Humidity | 0~90% RH, Non-condensing | | | -- |
| Housing | Metal Enclosure | | | -- |
| Safety/Emission | CE, FCC | | | -- |

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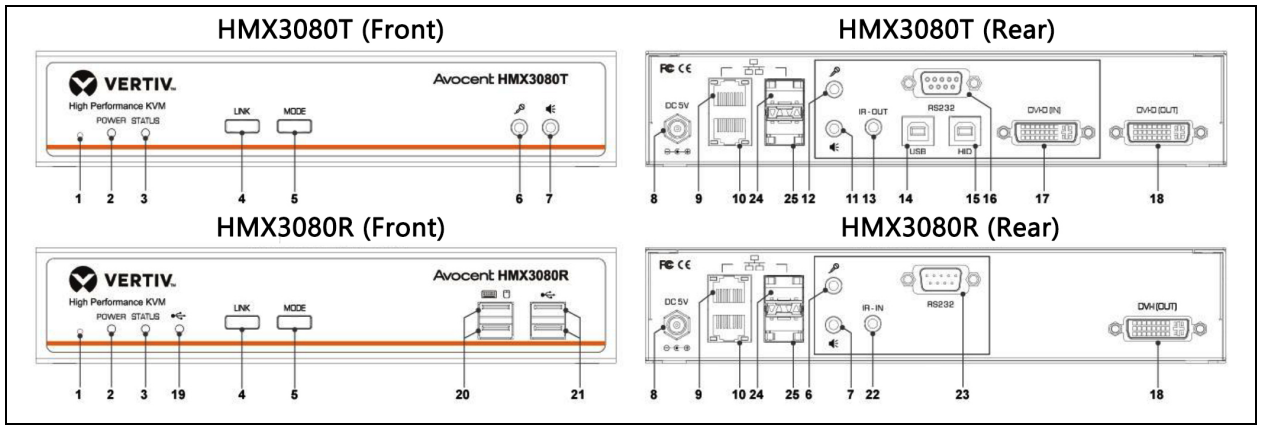
# 6 Product Overview

## 6.1 HMX 3080T/HMX 3080R

Figure 6.1 HMX 3080T/HMX 3080R Panels




## 6.2 HMX 3080TP/HMX 3080RP

Figure 6.2 HMX 3080TP/HMX 3080RP Panels

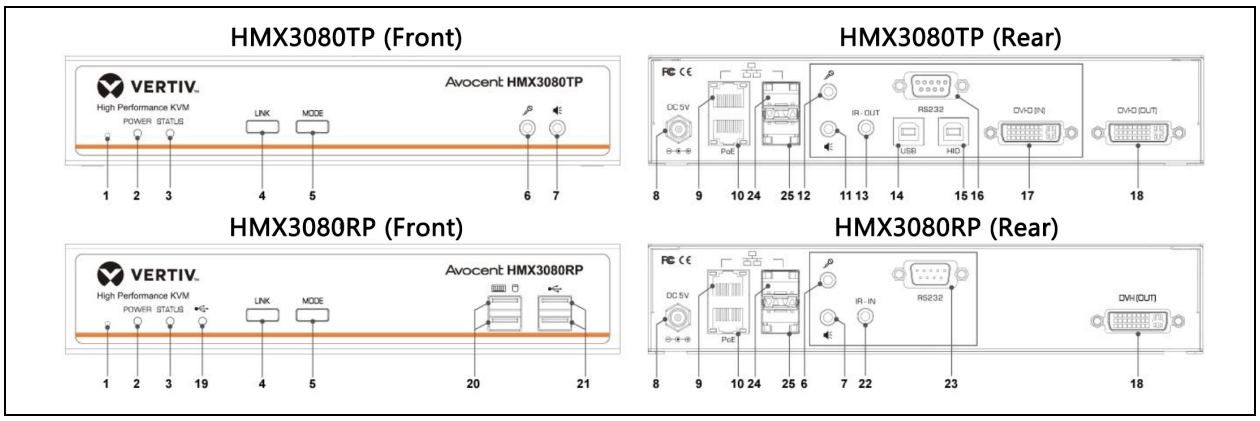


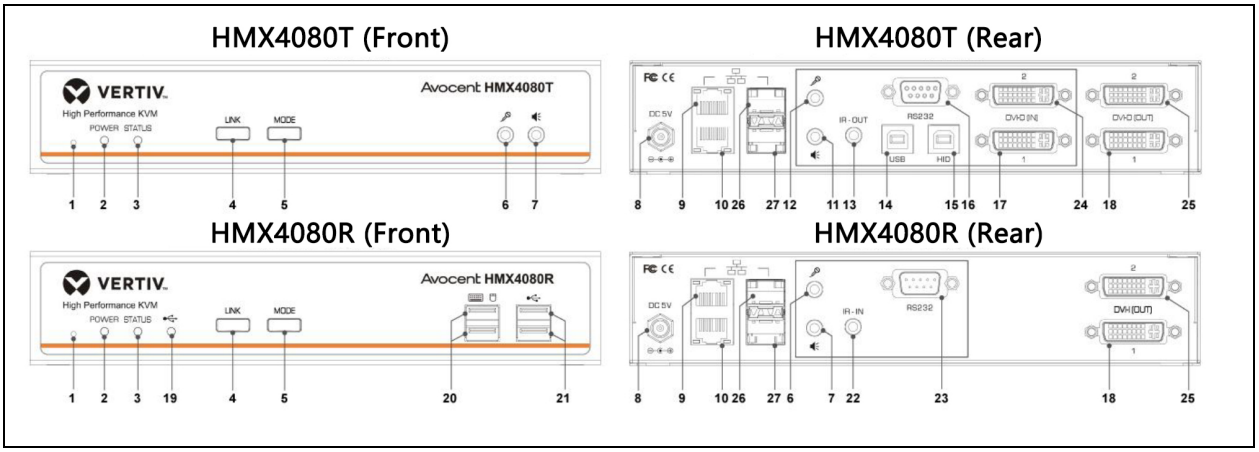
**Table 6.1 HMX 3080 Description**

| No. | Item | Description |
|---|---|---|
| 1 | Reset | Reset the unit. |
| 2 | Power indicator | Lights when power is on. |
| 3 | Status indicator | Lights when the connection between transmitter and receiver is active. |
| 4 | LINK button | Press to connect or disconnect between the transmitter and receiver. |
| 5 | MODE button | After using LINK button to disconnect TX/RX, use this button to set Jumbo Frames. |
| 6 | Mic. input jack | Connect to a microphone. |
| 7 | Audio output jack | Connect to a speaker. |
| 8 | Power jack | Connect to the power adapter. |
| 9 | LAN port 1 | Connect to the LAN port of TX, RX, or a Gigabit Ethernet Switch. |
| 10 | LAN port 2 | Connect to the LAN port of TX, RX, or a Gigabit Ethernet Switch.<br>(HMX 3080TP/HMX 3080RP Models are with PoE) |
| 11 | Audio input jack | Connect to the audio output jack of PC. |
| 12 | Mic. output jack | Connect to the mic. input jack of PC. |
| 13 | IR output jack | Connect to the IR emitter. |
| 14 | USB Type-B connector | Connect to the host PC. |
| 15 | HID connector | Reserved. |
| 16 | RS-232 connector | Connect to the RS-232 port of PC. |
| 17 | DVI input connector | Connect to the DVI output of PC (Video Content: DVI-D Digital Signal). |
| 18 | DVI output connector | Connect to a DVI monitor (Video Content: DVI-D Digital Signal). |
| 19 | USB indicator | Lights when a USB peripheral is connected. |
| 20 | USB Type-A connector | Connect to a USB keyboard and mouse. |
| 21 | USB Type-A connector | Connect to USB peripherals. |
| 22 | IR input jack | Connect to the IR receiver. |
| 23 | RS-232 connector | Connect to a RS-232 device |
| 24 | SFP Optical Module Socket 1 | Connect to a Fiber Cable via an optional Optical Module |
| 25 | SFP Optical Module Socket 2 | Connect to a Fiber Cable via an optional Optical Module |

Both LAN ports can be connected to the transmitter, receiver, Gigabit Ethernet Switch, or a device can be supported to connect to the Local Area Network using an RJ45 connector. Beware connection may become invalid if connecting both LAN ports to the same Gigabit Ethernet Switch.

# 6.3 HMX 4080T/HMX 4080R

**Figure 6.3 HMX 4080T/HMX 4080R Panels**




# 6.4 HMX 4080TP/HMX 4080RP

**Figure 6.4 HMX 4080TP/HMX 4080RP Panels**

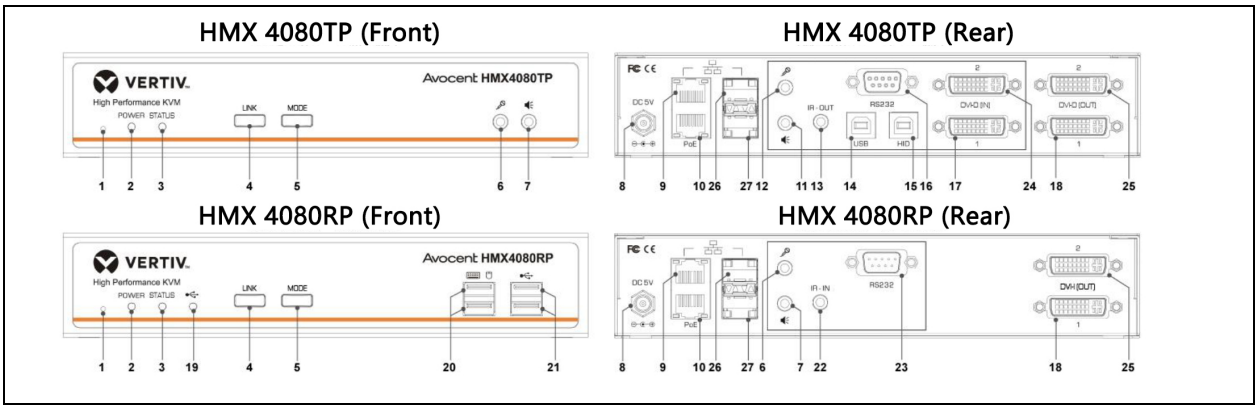



**Table 6.2 HMX 4080 Description**

| No. | Item | Description |
|---|---|---|
| 1 | Reset | Reset the unit. |
| 2 | Power indicator | Lights when power is on. |
| 3 | Status indicator | Lights when the connection between transmitter and receiver is active. |
| 4 | LINK button | Press to connect or disconnect between the transmitter and receiver. |
| 5 | MODE button | After using LINK button to disconnect TX/RX, use this button to set Jumbo Frames. |
| 6 | Mic. input jack | Connect to a microphone. |

**Table 6.2 HMX 4080 Description (continued)**

| No. | Item | Description |
|---|---|---|
| 7 | Audio output jack | Connect to a speaker. |
| 8 | Power jack | Connect to the power adapter. |
| 9 | LAN port 1 | Connect to the LAN port of TX, RX, or a Gigabit Ethernet Switch. |
| 10 | LAN port 2 | Connect to the LAN port of TX, RX, or a Gigabit Ethernet Switch.<br>(HMX 4080TP/HMX 4080RP Models are with PoE) |
| 11 | Audio input jack | Connect to the audio output jack of PC. |
| 12 | Mic. output jack | Connect to the mic. input jack of PC. |
| 13 | IR output jack | Connect to the IR emitter. |
| 14 | USB Type-B connector | Connect to the host PC. |
| 15 | HID connector | Reserved. |
| 16 | RS-232 connector | Connect to the RS-232 port of PC. |
| 17 | DVI input connector 1 | Connect to the DVI output of PC (Video Content: DVI-D Digital Signal). |
| 18 | DVI output connector 1 | Connect to a DVI monitor (Video Content: DVI-D Digital Signal). |
| 19 | USB indicator | Lights when a USB peripheral is connected. |
| 20 | USB Type-A connector | Connect to a USB keyboard and mouse. |
| 21 | USB Type-A connector | Connect to USB peripherals. |
| 22 | IR input jack | Connect to the IR receiver. |
| 23 | RS-232 connector | Connect to a RS-232 device. |
| 24 | DVI input connector 2 | Connect to the DVI output of PC (Video Content: DVI-D Digital Signal). |
| 25 | DVI output connector 2 | Connect to a DVI monitor (Video Content: DVI-D Digital Signal). |
| 26 | SFP Optical Module Socket 1 | Connect to a Fiber Cable via an optional Optical Module |
| 27 | SFP Optical Module Socket 2 | Connect to a Fiber Cable via an optional Optical Module |

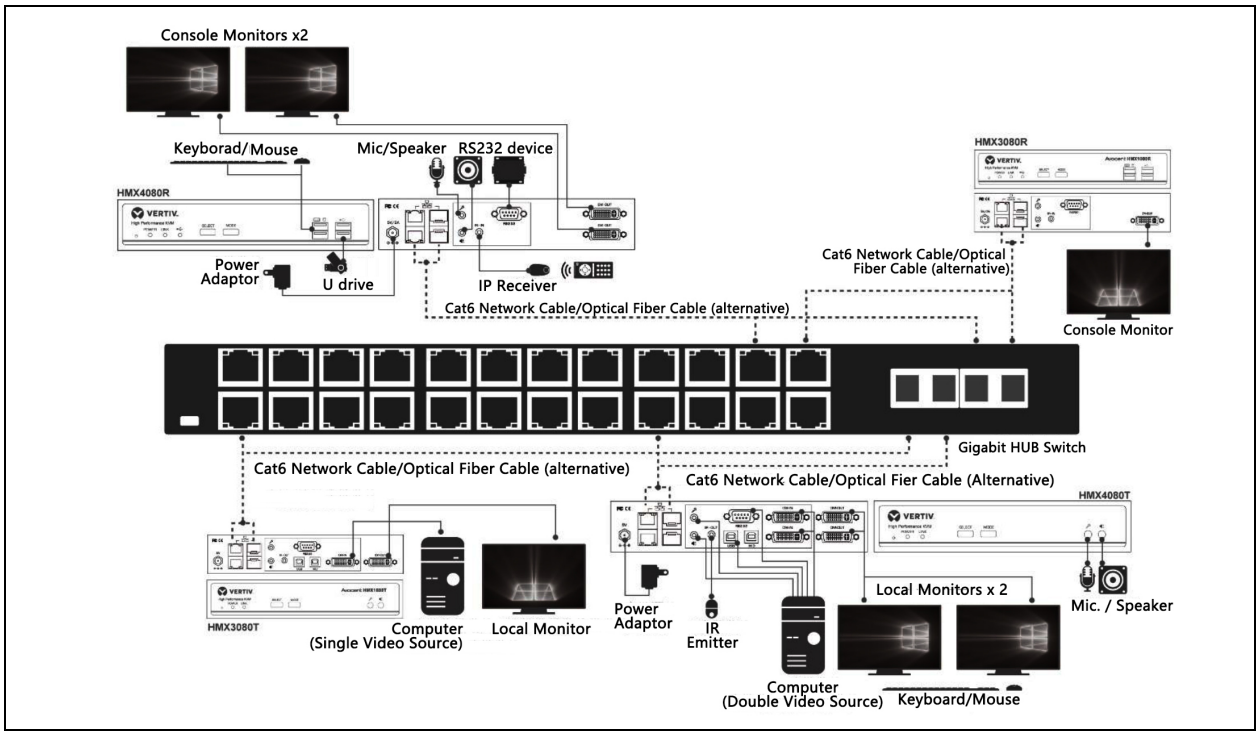
Both LAN ports can be connected to the transmitter, receiver, or Gigabit Ethernet Switch, or a device can be supported to connect to the Local Area Network using an RJ45 connector. Beware the connection may be invalid if connecting both LAN ports to the same Gigabit Ethernet Switch.

# 7 Connection Diagram

The diagrams illustrated here are examples of Virtual Matrix KVM over IP, the actual applications may vary. All illustrated computers, accessories, and monitors are not included in the package, it is for reference only. Make sure all the devices and peripherals are connected appropriately before using this unit.

Based on the same series, the mixed connection can be supported, for example, the HMX 3080 transmitter connects to the HMX 4080 receiver. Besides, you can select to install the KVM directly or via a Gigabit Ethernet Hub/Switch depending on your requirement.

**Figure 7.1 Connection diagram**



# 7.1 Before Connection

Before you install the Virtual Matrix KVM over IP, you should have these items on the checklist ready:

Plan the layout path and deploy the UTP cable for extension.

Plan the path through which the CAT5e/CAT6 UTP cable (or higher category network cable) will be deployed across the distance between the Transmitters and the Receivers. You should choose the layout path not only based on the shortest possible length consideration but also based on the least electromagnetic interference.

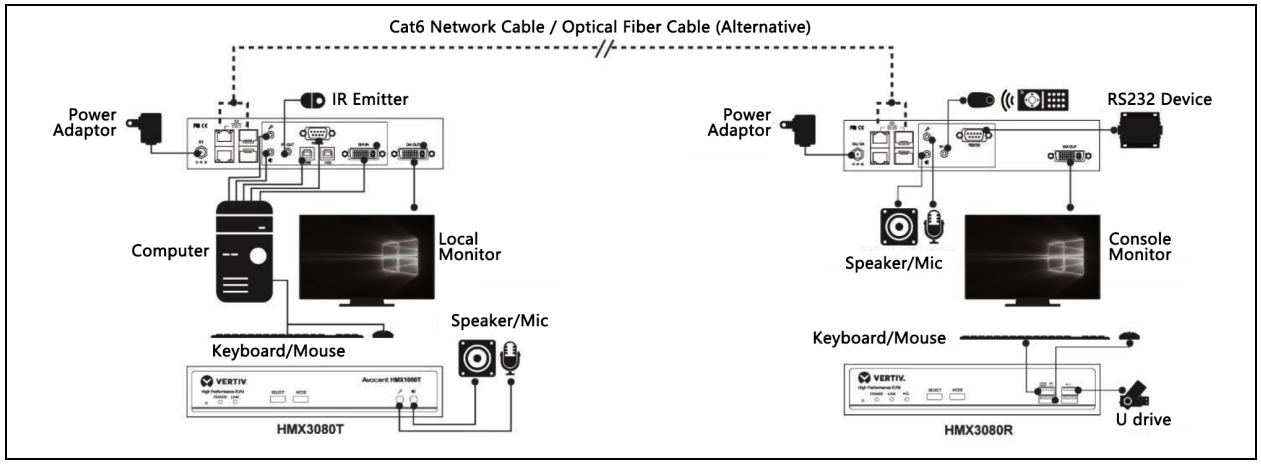
**NOTE: Using good quality CAT5e/CAT6 cable can be produced a better video outcome with a longer distance span. The ideal location for the power outlets is near where you located the extenders.**

# 7.2 Direct Connection

Basically, you can extend the signal using a connection of point-to-point via a CAT5e/CAT6 cable. Based on your requirement, you can also connect the transmitter to multiple receivers and vice versa. In direction connection deployment, please note that there will be a limitation of the transmitter counts (4 single-display transmitters or 2 dual-display transmitters).

## 7.2.1 Single Transmitter to Single Receivers

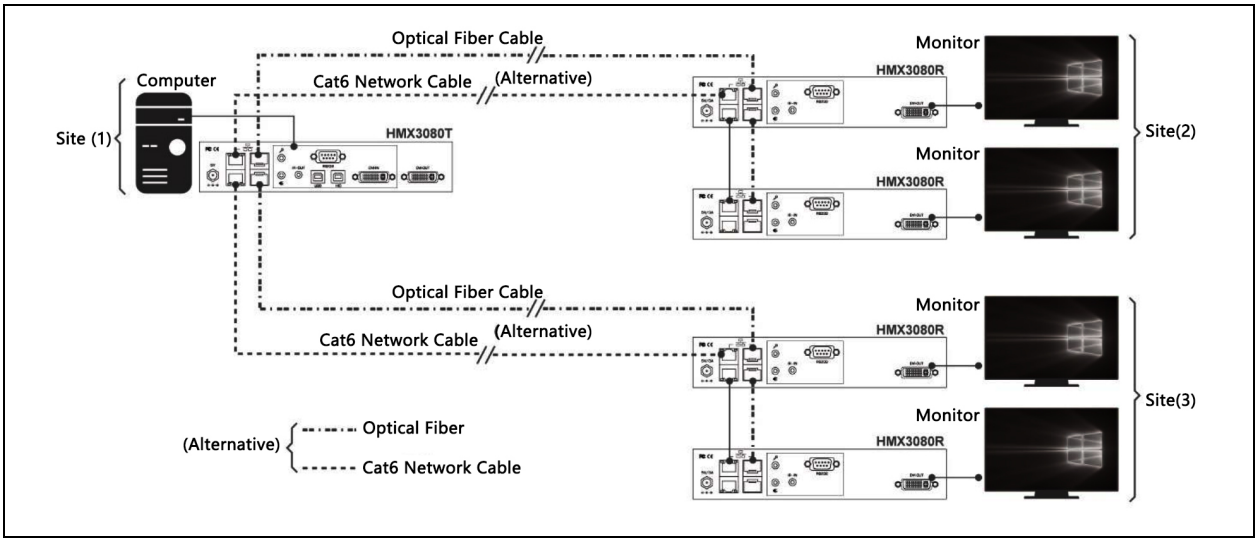
**Figure 7.2 One-to-one Control**



## 7.2.2 Single Transmitter to Multiple Receivers

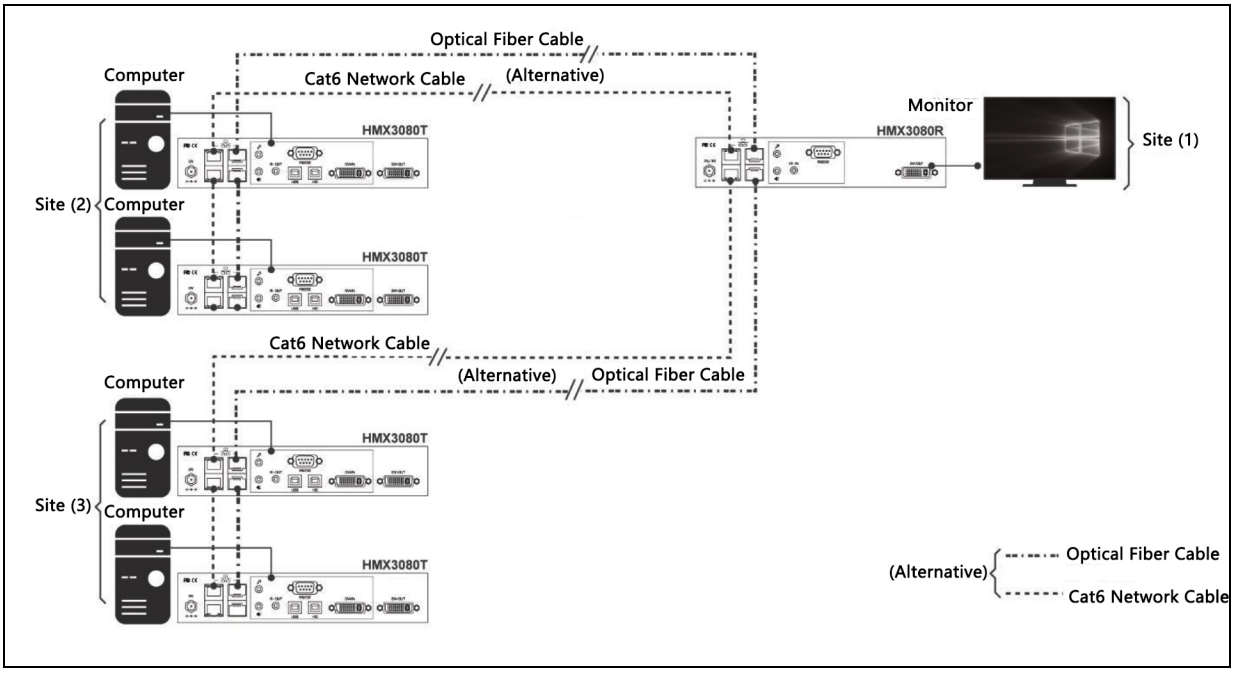
The illustration shown here is using HMX 3080 as an example and only highlighted the connection between the transmitter and receiver. To connect other peripherals, please refer to Figure 7.3 For the connection of HMX 4080, you may take a reference of HMX 3080.

**Figure 7.3 Multi-to-one Control**




## 7.2.3 Multiple Transmitters to Single Receiver

**Figure 7.4 One-to-Multi Control**



## 7.3 Connection via a Hub/Switch

A Gigabit Ethernet Switch/Hub is necessary if the Network structure is forward to the matrix and expected more than 4 transmitters/receivers will be connected. Under a usage scenario like this, make sure the requirements listed in the chapter of Requirement of Gigabit Ethernet Switch below must be supported by the Hub/Switch.

Requirement of Gigabit Ethernet Switch.

1. When grouping these units of Transmitter and Receiver, a Gigabit Ethernet Hub/Switch is necessary due to the requirement of bandwidth. To ensure a better quality of transmission, a reputable name-brand hub/switch is recommended.

2. Some features of Gigabit Ethernet Switch/HUB are required, for example, IGMP Snooping, Multicast Filtering, and Jumbo Frame, other specs like IGMP Querier, IGMP v2, and IGMP Fast Leave are strongly recommended. If more than one transmitter connects to the same network segment without the support of IGMP Querier by Switch/Hub, the Extender System may work incorrectly. The images below are examples of the settings, for more setting details, please refer to the Hub/Switch's instruction manual.

**Figure 7.5 IGMP Snooping**

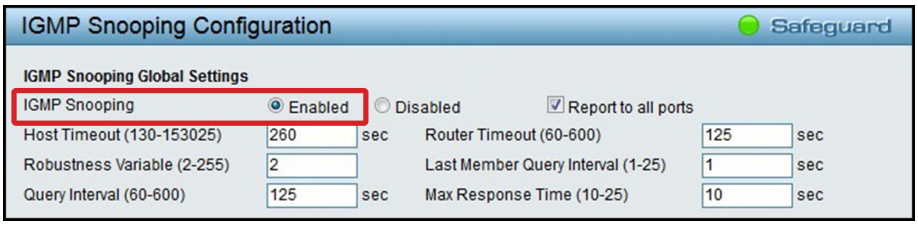
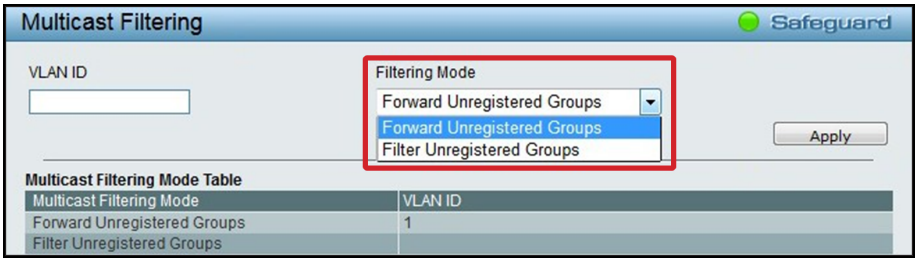



**Figure 7.6 Jumbo Frame**


**Figure 7.7 Multicast Filtering**




Make sure you have enough available bandwidth between switches if the Network you are connected to is a cascading architecture, otherwise, the quality of stream video may become poor.

## 7.4 Network Redundancy

HMX 3080/HMX 4080 Transmitter/Receiver Series supports Network Redundancy. Available configurations are shown below:

1. By connecting with two Gigabit Switches supporting STP (Spanning Tree Protocol)

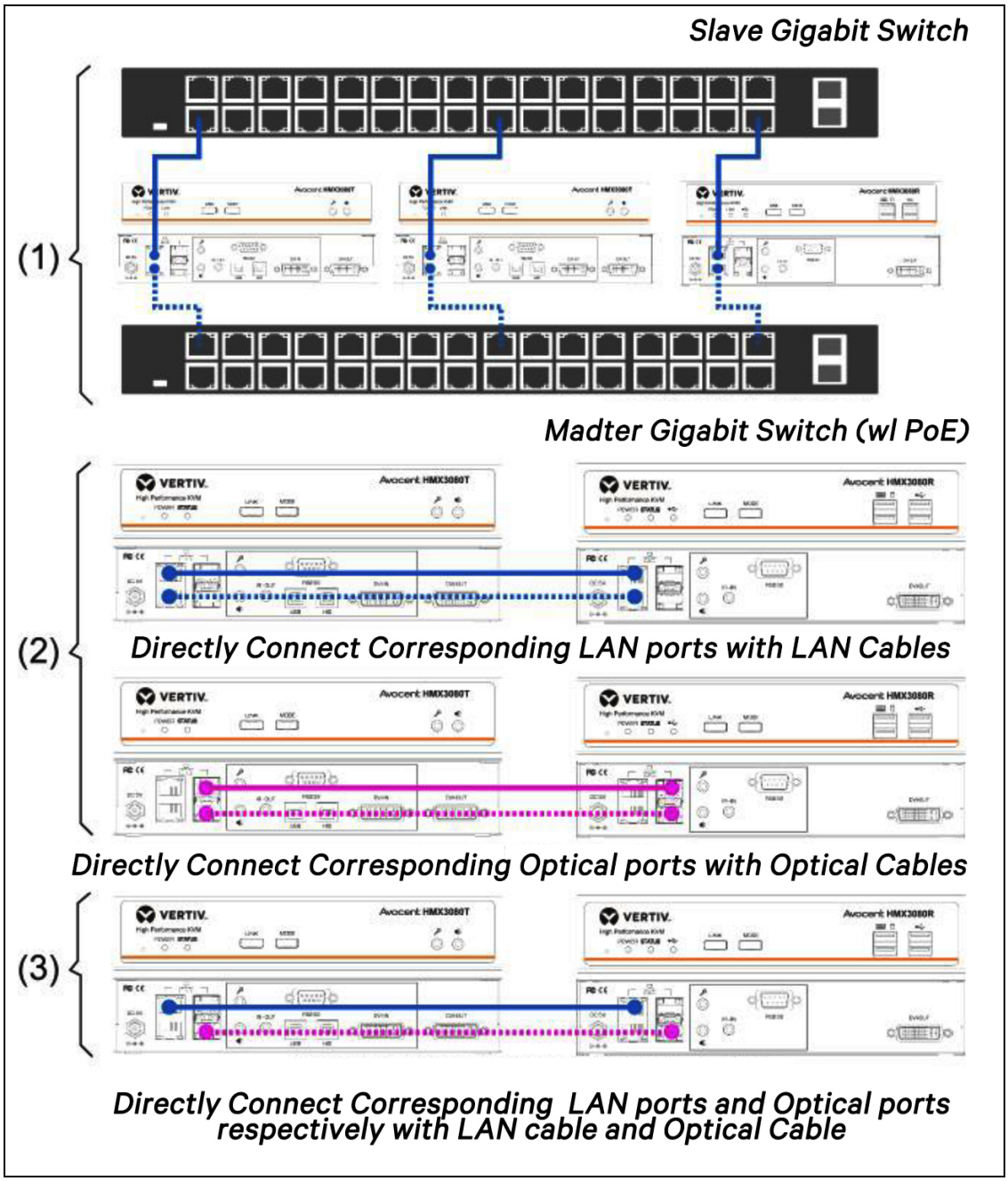
**NOTE: (1) As TP model transmitters/RP model receivers are deployed in this application, please must connect the TX/RX units to their included power adaptors. This is to avoid their power failure once the PoE switch disables its network ports with STP being enabled.**

**NOTE: (2) As the power supply of the TP model TX/RX units is available from both the PoE Gigabit switch and the power adaptor, the power adaptor will be the prioritized power source.**

2. By connecting corresponding ports (LAN ports or Optical ports) of Transmitters and Receivers with LAN cables or Optical cables

3. LAN cable and the Fiber cable connections are allowed to coexist. The LAN cable connection is in higher priority than the Fiber cable connection.

**Figure 7.8 Network Redundancy connection for HMX 3080/HM X4080 Transmitter/Receiver Series**



# 8 Operation

1. Power on the transmitters, receivers, and all the connected devices.

2. Long press (3 seconds) the LINK button on the front panels of transmitters or receivers to make the connection.

For more details, refer to the section description of 8.1 Front panel buttons.

**NOTE: Although this IP Matrix KVM allows multiple concurrent receiver users to access a single computer connected with a single transmitter, the access contention of the mouse/keyboard may happen if multiple users are accessing the same computer. To avoid contention, the access authority of the keyboard/mouse will only be granted to the first receiver user who accesses the computer first. If other users want to access the keyboard/mouse, a time-out time will start from the last moment the first user uses the keyboard/mouse to access the computer. As the time-out time elapses, the second user who first activates his keyboard/mouse will get the access authority and the first user will lose the same at the same time. With this rule, there will be only one user who can use the keyboard/mouse at any time.**

## 8.1 Front Panel Buttons and LED Indication

These buttons provide a simple and intuitive operation for users. It is easy to configure the transmitter/receiver by pressing the buttons directly.

### 8.1.1 Functions of LINK/MODE (Left/Right) Buttons

1. Connect/Disconnect Device: Long press the LINK button to make a connection or disconnection for transmitters/receivers.

2. Resume Factory Default Settings: Unplug the power jack. Long press and hold the LINK button then plug in the power jack again to power on, the red POWER LED and green STATUS LED will firstly light up and then extinguish at the same time. Next, the red POWER LED will start blinking. Keep the LINK button pressed until the green STATUS LED and red POWER LED turn constantly ON. Next, unplug and plug in the power jack again. The transmitter/receiver will be resumed to factory default settings.

3. Access USB devices: Long press the MODE button on the receiver front panel then connects the USB device. When multiple receivers are connected to the same transmitter, a user can press the MODE button and then insert his USB device to prioritize the USB device detection of the computer for this USB device.

4. Setup Jumbo Frames: Long press the LINK button of the transmitter or receiver to disconnect from the network. Next, long-press the MODE button and the STATUS LED lights up steadily which represents the Jumbo Frame is set as 8000. Otherwise, short press the MODE button, and the LED flashes which represent the Jumbo Frame are set as 1500. Note that the Jumbo Frame settings of the connected transmitter and receiver must be identical.

## 8.1.2 LED Indication

1. LED Indications after Power is ON (HMX 3080T/HMX 3080TP/HMX 4080T/HMX 4080TP Transmitter units.

**Table 8.1 LED Indication 1**

| TX Operation | Power Jack Inserted | Starting up | Start-up Completed | Not Connected Yet | Connection Completed |
|---|---|---|---|---|---|
| Red LED (POWER) | OFF | Blinking | Constantly ON | Constantly ON | Constantly ON |
| Green LED (STATUS) | OFF | OFF | OFF | Blinking | Constantly ON |

2. LED Indications after Power is ON (HMX 3080R/HMX 3080RP/HMX 4080R/HMX 4080RP Receiver units).

**Table 8.2 LED Indication 2**

| RX Operation | Power Jack Inserted | Starting up | Start-up Completed | Not Connected Yet | Connection Completed |
|---|---|---|---|---|---|
| Red LED (POWER) | OFF | Blinking | Constantly ON | Constantly ON | Constantly ON |
| Green LED (STATUS) | OFF | OFF | OFF | Blinking | Constantly ON |
| Orange LED (USB) | OFF | OFF | OFF | OFF | Constantly ON (When the current RX unit has acquired the highest priority to be detected) |

3. Ethernet Port LED Indications (HMX 3080/HMX 4080 Extender Series).

As HMX 3080T/HMX 4080T and HMX 3080R/HMX 4080R are connected successfully via the network connection, the Yellow LED is constantly ON and the Green LED is blinking.

### 8.1.3 Keyboard Hot-keys

To select different PCs connected to transmitters from the receiver console, the keyboard hot-keys are provided. Each keyboard hot-key consists of at least three specific keystrokes.

>>Hot-key sequence = <Scroll Lock, Scroll Lock, Command key(s)>

>>For detailed hot-key sequences and their corresponding functional commands, refer to the table below.

In addition, you can also define the desired hot-key instead of the Scroll Lock key if this key has been used in another program.

User-definable Keys = Scroll Lock key, Num Lock key, Caps Lock key, Left Ctrl key, or Right Ctrl key.

**Table 8.3 Keyboard hot-keys**

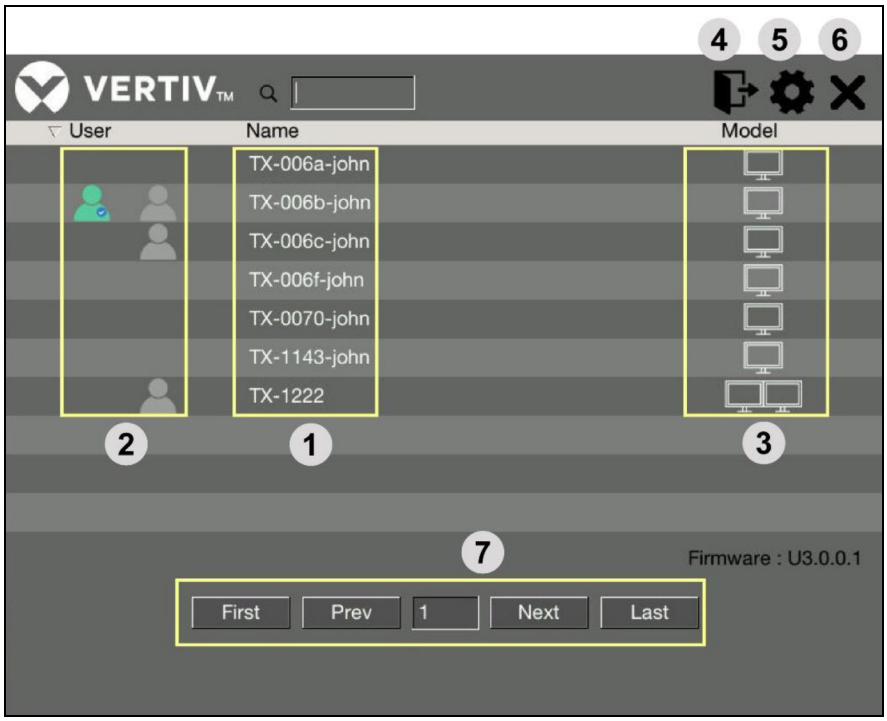
| Command and description | Hot-key Sequence |
|---|---|
| Switch to upper transmitter in the OSD menu | <The> of Roll Lock, Scroll Lock, Up |
| Switch to next transmitter in the OSD menu | <The Scroll Lock, Scroll Lock, Down> |
| Copy EDID to the selected transmitter | <Scroll Lock, Scroll Lock, M> |
| USB connection (device port) at the front panel of the receiver Switch among USB devices connected to different receivers | <The Scroll Lock, Scroll Lock, U> |
| Transmitter Direct Switching Directly switch to connect to the desired transmitter in any preset numbers. (Preset numbers must be defined in Advanced Setting at receiver OSD menu) | <Scroll Lock, Scroll Lock, Numbers, Enter> |
| Receiver Output Resolution setup Select the output resolution: F1 (Pass-through) Default; F2(Fixed 1920 x 1200); F3(Fixed 1920x1080) | < > of Roll Lock, Scroll Lock, F1/F2/F3 |
| Prefix key selection User can define the desired hot-key initial sequence, X key can be either Scroll Lock, Num Lock, Caps Lock, Left Alt or Right Alt. | <Scroll Lock, Scroll Lock, H, X> |
| Resume the connection with the previously connected transmitter | < > Of Roll Lock, Scroll Lock, Backspace |

**NOTE: For <Scroll Lock, Scroll Lock, U> hot-key, several USB devices may be plugged into different receiver consoles at the same time if the system is in a matrix structure. You may use this hot-key sequence to acquire the highest priority to be detected for the USB device connected to the current RX unit.**

## 8.2 OSD Menu

Once you have completed the connection (refer to the chapter on Connection Diagram), press <Roll Lock, Scroll Lock, Space>hot-key to enter the OSD menu from the receiver console. Note: Double press the left Ctrl key <Ctrl, Ctrl> to prompt the OSD menu quickly.

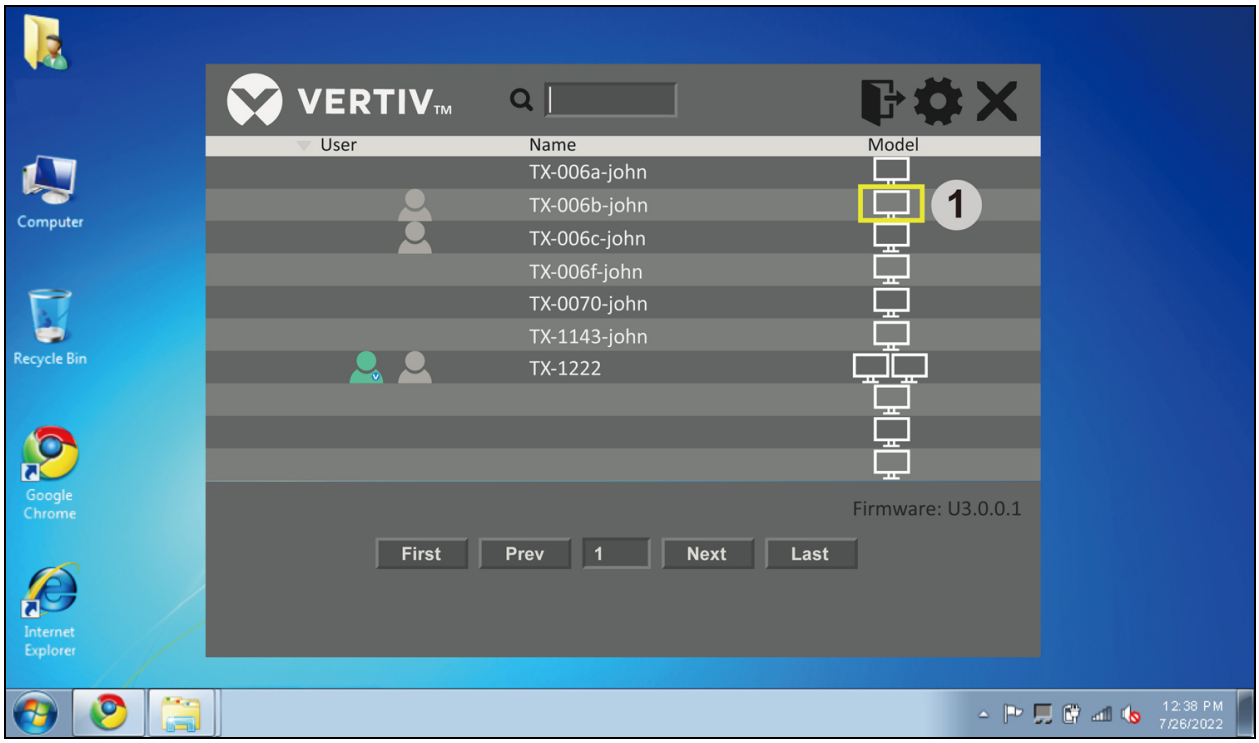
**Figure 8.1 OSD menu transmitter list page**




The annotations in the Figure 8.1 are as follows:

1. Double-click on any name on the transmitter list you want to connect. After the connection between the selected transmitter and the current receiver is established, the console monitor will display the video source from the computer connected to the selected transmitter. The OSD menu will adaptively adjust to a proportional size. (When the transmitter hasn't been connected yet, the OSD menu is in full-screen size).

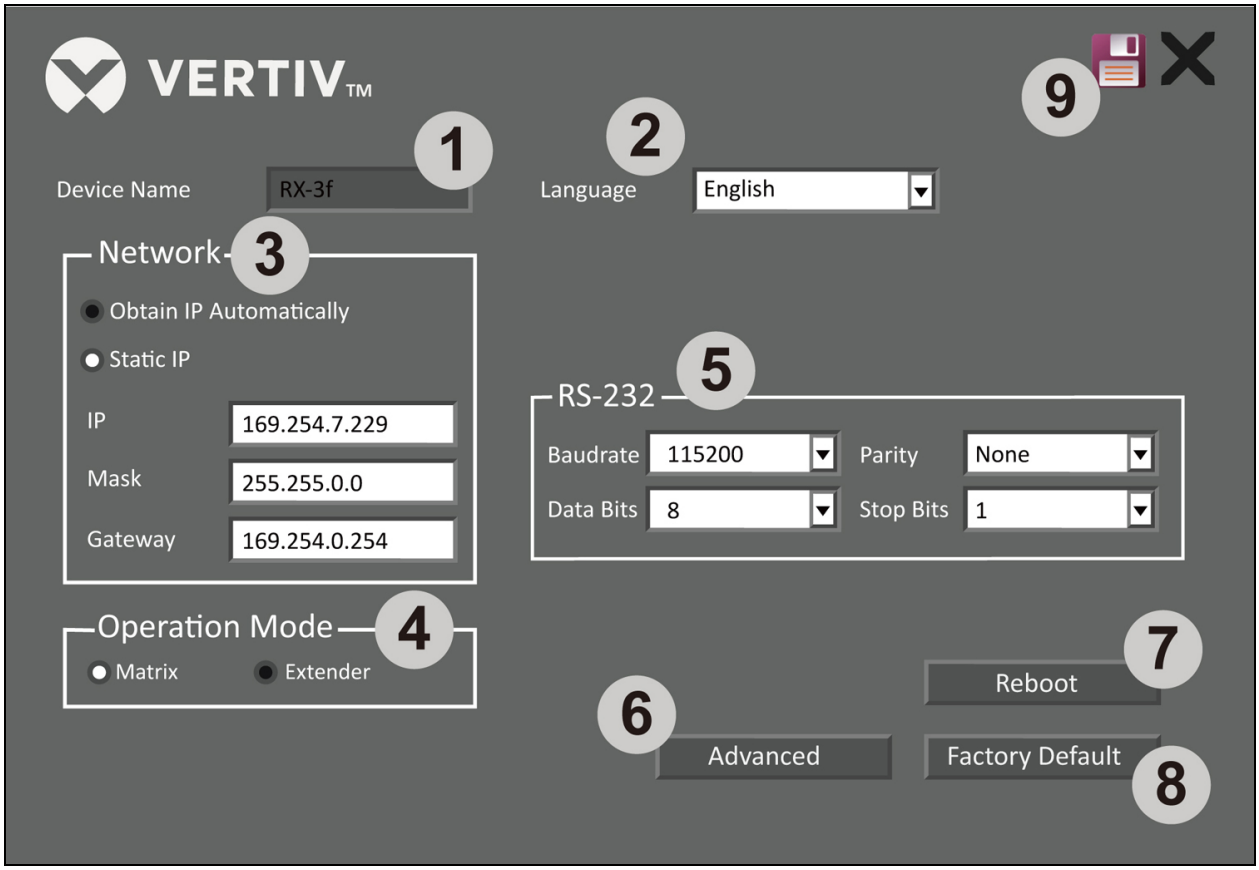
**Figure 8.2 Proportional size**




2. It shows the status of all users. The green user icon represents the user who is using the current receiver console. The grey user icons show other users connecting to those listed transmitters. Take the TX-006b-john transmitter, for example, the OSD menu shows it is being connected to two receivers (users).
3. Double-click on any monitor-icon to configure the transmitter. Refer to the chapter 8.4 .
4. Click to log out of the OSD menu.
5. Click the gear-icon to configure the receiver. Refer to chapter 8.3 Receiver Configuration.
6. Click to exit the OSD control page.
7. Find all listed transmitter devices page by page.

## 8.3 Receiver Configuration

**Figure 8.3 Receiver**




The annotations in the Figure 8.3 above are as follows:

1. **Device Name**: The user can change to a new receiver name for easy recognition.
2. **Language**: Drop down to select a preferred language.
3. **Network**: Select to obtain an IP automatically or select static IP to setup manually.
4. **Operation mode**: Select the desired mode according to your requirement. Make sure this option you selected is matched with the connected transmitter.
5. **RS-232**: Setup the serial parameters for the connected RS-232 device. Make sure these parameters must match the settings of transmitter and RS-232 device. By default, the system settings are as follows:

   **Baudrate**: 115200, **Data bits**: 8, **Parity**: None, **Stop bits**: 1.
6. **Advanced**: Refer to the chapter on Advanced settings for more details.
7. **Reboot**: Click to reboot the receiver, and then click OK to confirm.

8. **Factory default**: Click to restore the receiver to the factory default settings, and then click OK to confirm.
9. **Save**: Click to save the settings once you have changed them.

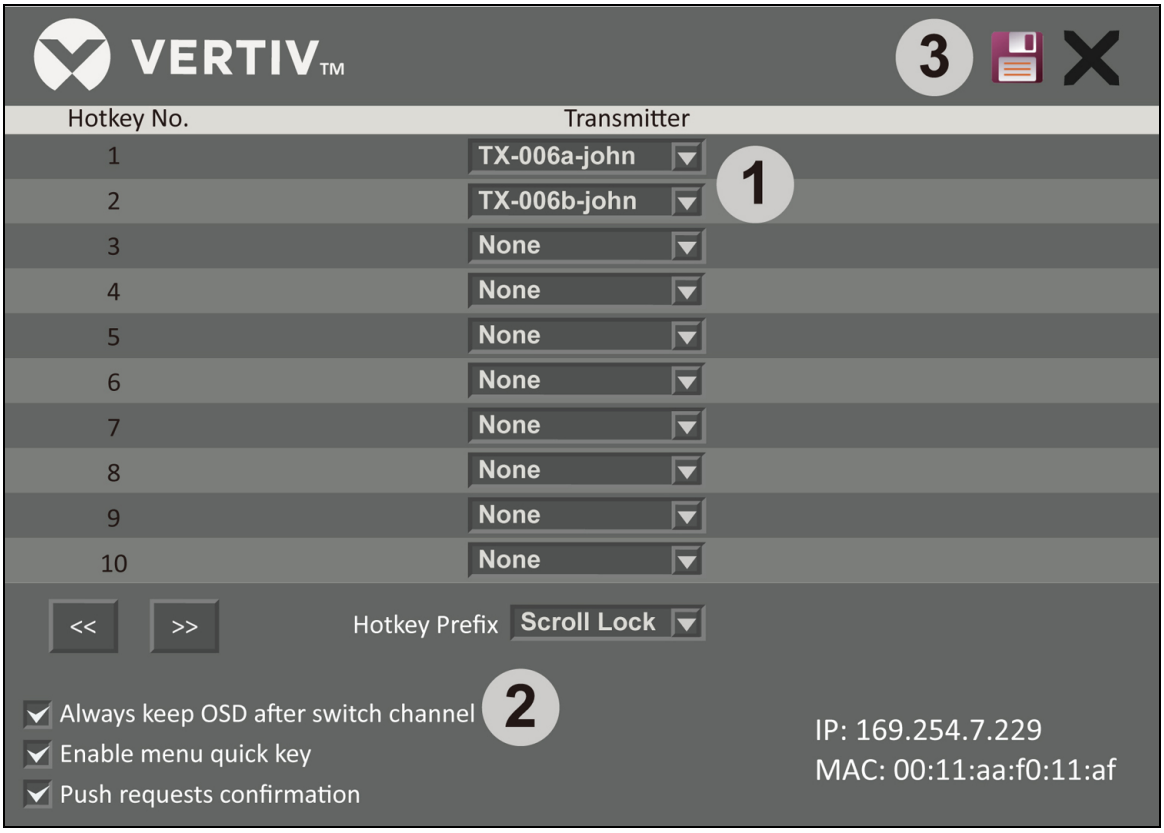
   **NOTE: (1) As you need to manually assign IP addresses for transmitter and receiver devices, please set up the TX device before setting up the RX device and make sure their IP addresses are in the same network segment.**

   **NOTE: (2) New settings will only be activated after the receiver reboots.**

### 8.3.1 Advanced settings

This IP Matrix KVM system not only supports connecting a desired transmitter on the OSD menu but also supports switching transmitter connections using keyboard hot-keys. Each keyboard hot-key consists of three keystrokes, such as <Scroll Lock, Scroll Lock, Number key> Users can also define the desired hot-key prefix other than the Scroll Lock key.

**Figure 8.4 Advanced Settings**




1. Click to drop down the transmitter list and select the desired transmitter.
2. **Always keep OSD after switch channel**: Check to continue displaying the OSD menu after switching to a new transmitter.
3. **Save**: Click to save the settings.

### 8.3.2 Console Collaboration

HMX 3080R(RP)/HMX 4080R(RP) Receiver Unit Series supports the Console Collaboration function. With intuitive push/pull actions on the OSD, users can share a transmitter signal source that is being connected from a first receiver unit to a second receiver unit. Such that the second receiver unit can access the computer that is being connected to the transmitter unit, as the first receiver unit does. Refer to more details in the Console Collaboration chapter in the HMXCC1 user manual.

### 8.3.3 Mouse Roaming Function

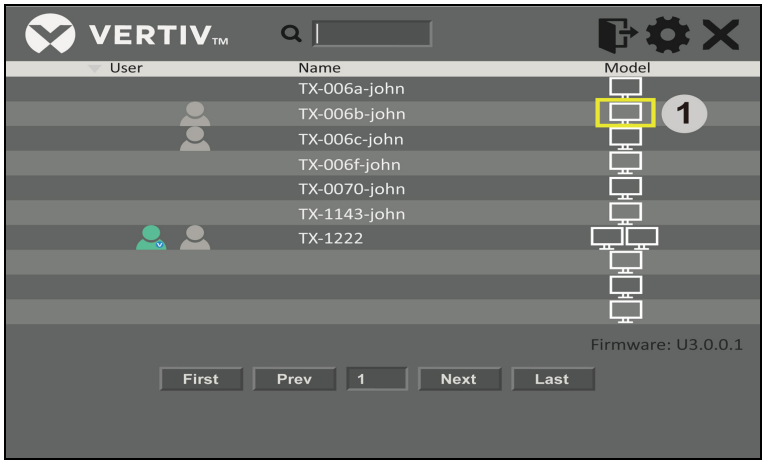
HMX 3080R(RP)/HMX 4080R(RP) Receiver Unit Series supports the Mouse Roaming function. Users can assign a Mouse-roaming task to group multiple receiver units. As the Mouse-roaming task takes effect, users can use just one mouse and move its cursor over the monitor displayable region of the target computer and then directly access it. This has eliminated the inconvenience of using different mouses attached to receiver units to control different computers attached to transmitter units.

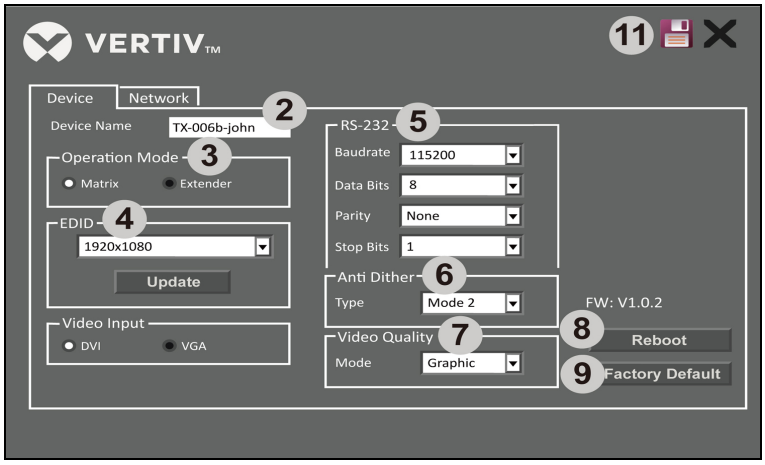
### 8.3.4 Video Wall Function

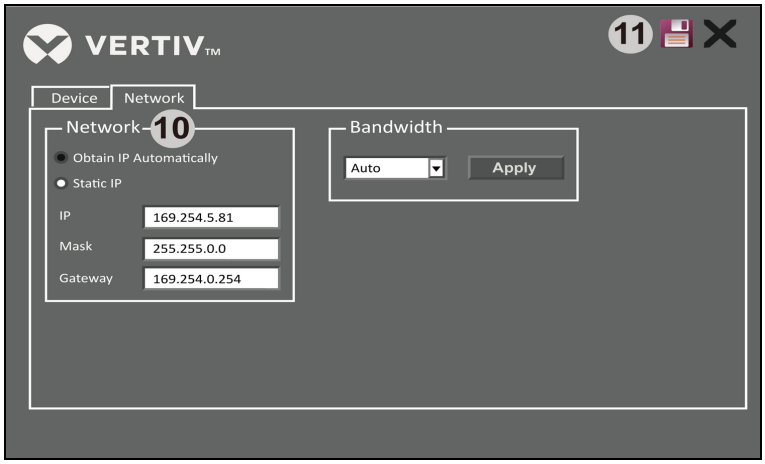
HMX 3080R(RP)/HMX 4080R(RP) Receiver Unit Series supports the Video Wall function. Users can assign a Video-wall task to group multiple receiver units. As the Video-wall task takes effect, a plurality of monitors connected to those Video-wall receiver units can collaborate to show a video signal from a single transmitter unit. Refer to more details in the Video Wall chapter in the HMXCC1 user manual.

# 8.4 Transmitter Configuration

**Figure 8.5 Transmitter**



The annotations in Figure 8.5 on the previous page are as follows:

1. Double-click on the monitor-icon of any desired transmitter to enter the setting page.
2. Device Name: The user can change to a new transmitter name for easy recognition.
3. Operation mode: Select the desired mode according to your requirement. Make sure this option you selected is matched with the connected receiver.
4. **EDID**: Select the output resolution of the image source, or you can click the <Update> button to upload the EDID of monitor
5. **RS-232**: Setup the serial parameters for the connected RS-232 device. Make sure these parameters must match the settings of the receiver and RS-232 device. By default, the system settings are as follows:

   **Baudrate**: 115200; Data bits: 8; **Parity**: NoneStop bits: 1.
6. **Reboot**: Click to reboot the transmitter, and then click OK to confirm.
7. **Factory default**: Click to restore the transmitter to the factory default settings, and then click OK to confirm.
8. **Network**: Select to obtain an IP automatically or select static IP to setup manually.
9. **Save**: Click to save the settings once you have changed

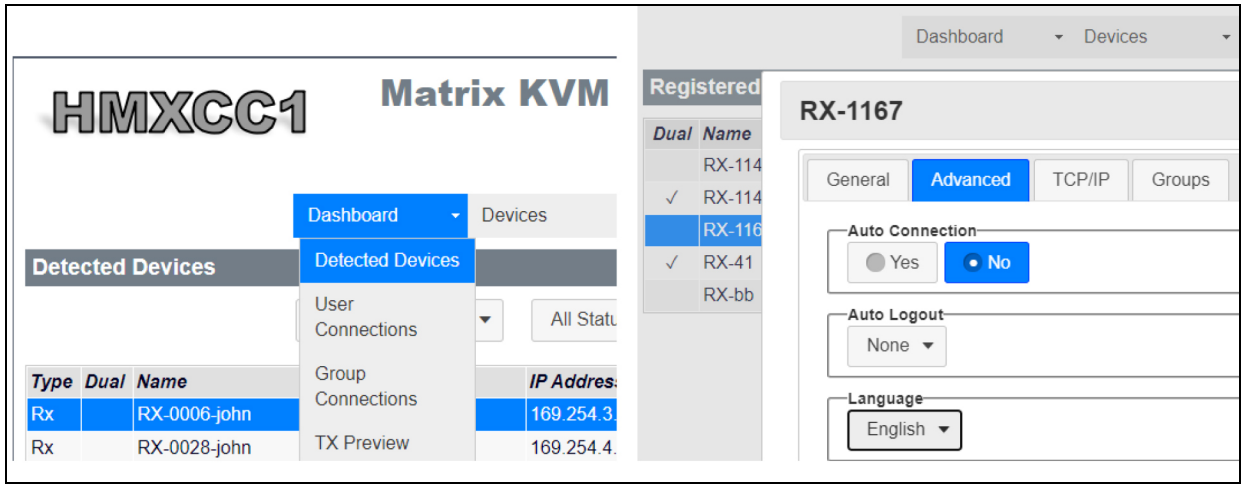
**NOTE: New settings will only be activated after the transmitter reboots.**

## 8.5 Administrator's OSD Menu

Register devices under the HMXCC1 management interface:

Go to Dashboard>Detected Devices to register one device. Select the device and click "+" symbol below to register it.

**Figure 8.6 Device Registration/ Device Language**




Once the HMX 3080R/HMX 4080R receivers have been registered, input the following administrator username and password to log in the receiver OSD menu.

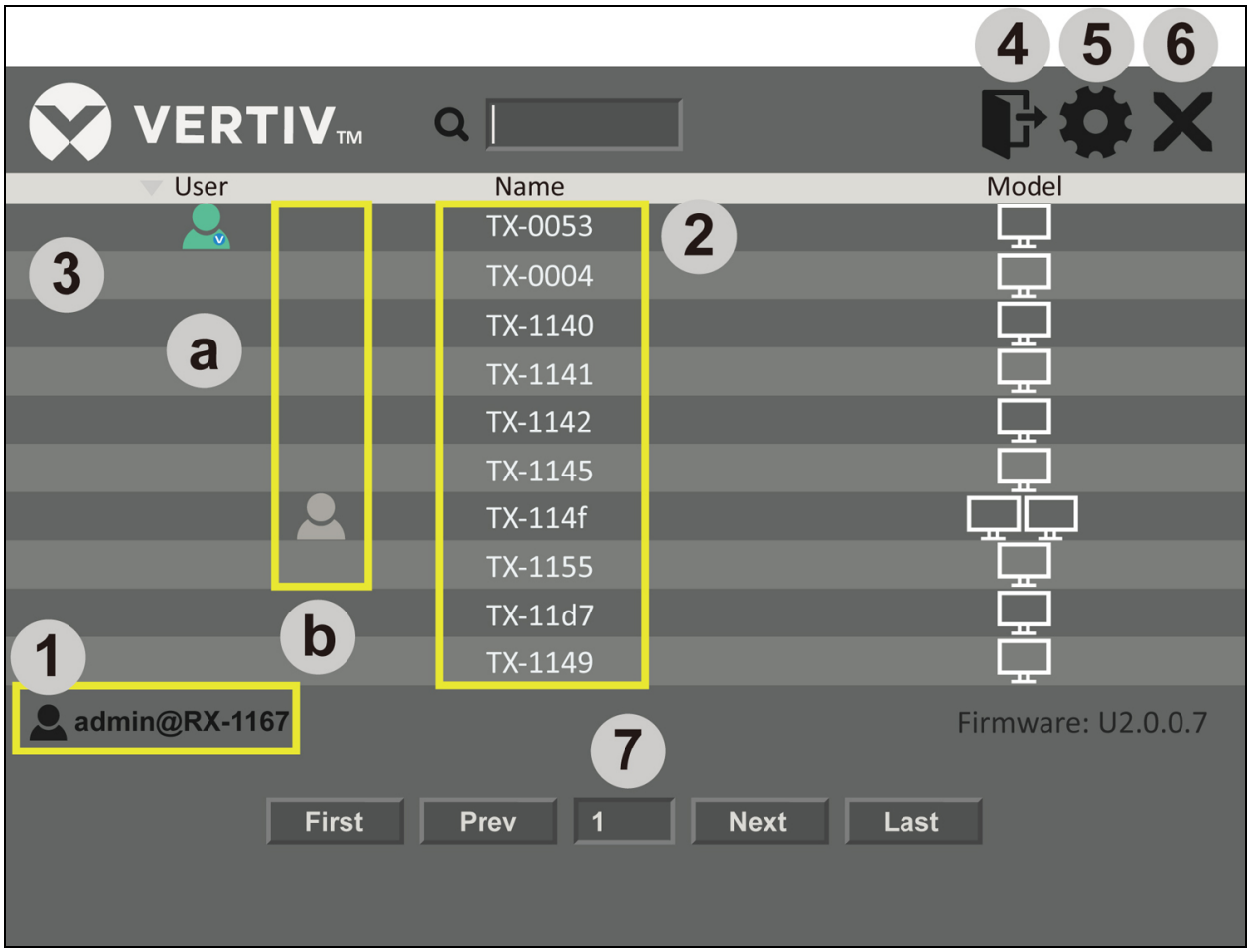
Username: admin

Password: adminpass

Next, press<Scroll Lock, Scroll Lock, Space>to prompt the OSD menu or double press the left Ctrl key<Ctrl, Ctrl>to prompt the OSD menu quickly. In HMXCC1 management interface, go to Devices>Receivers>Set up Receiver>Advanced, the user can change the language interface of the receiver OSD menu.

**Figure 8.7 Administrator's OSD Login**

**Figure 8.8 Administrator's OSD Menu**




The receiver OSD menu of the administrator account as shown above will be described as follows:

All the transmitters connected to the network will be displayed in this list. The administrator can search them page-by-page.

1. Display the administrator is now using the current receiver (RX-1167).
2. Double click on any transmitter name to connect the current receiver to it.
3. Display the transmitter connection status of the receiver that the users are using.
    a. Green user icon shows the connection between the current receiver and the transmitter shown in the same row (e.g. TX-0053).
    b. Grey user icon shows the connection between another receiver and the transmitter shown in the same row (e.g. TX-0114f).
4. Click to log out of the OSD menu.
5. Click to review the transmitter switching hotkeys that the administrator had set at HMXCC1 web-based management interface. Each switching hotkey includes 3 keystrokes such as <Scroll Lock, Scroll Lock, Number Key> Beside the default command key Scroll Lock, the user can also assign any other preferred command key to this page.

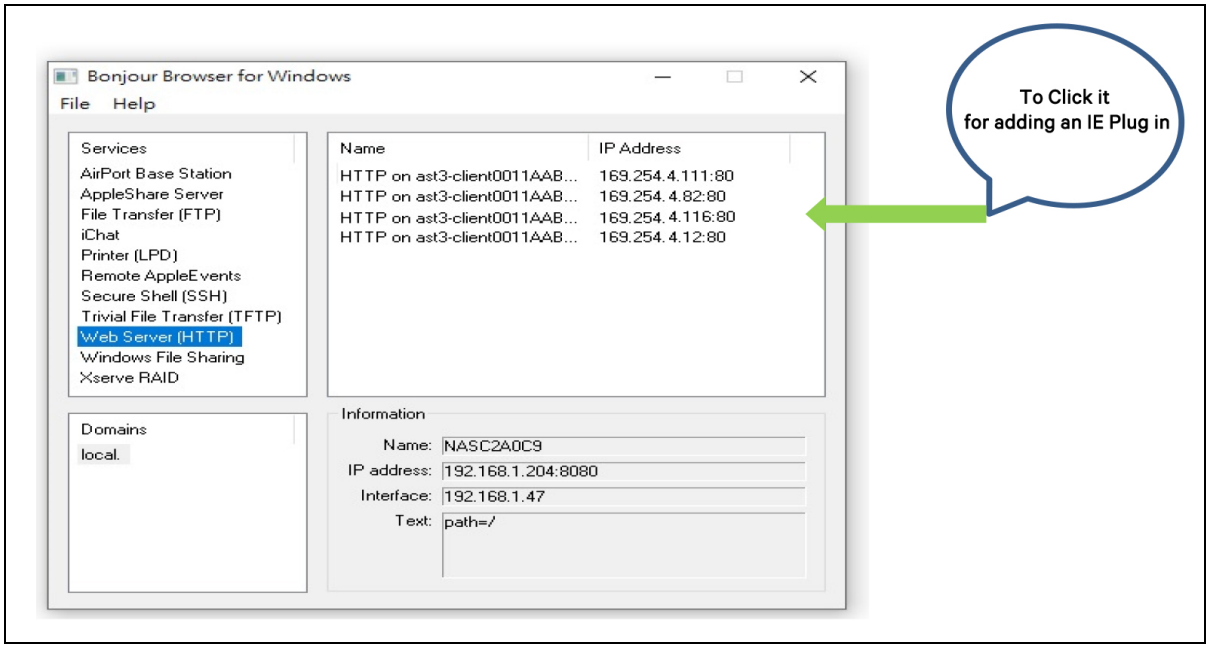
6. Click to close the OSD menu.
7. Search all available transmitters page-by-page.

# 9 System Upgrade

To update the system, a web user interface is provided. Users can easily access and configure what they need. Please follow the steps below for more operations. Contact authorized service, local dealer, or distributor for more support if you have trouble to update.

1. Download “Bonjour Print Services for Windows” from the internet. (Please refer to https://support.apple.com/kb/dl999?locale=zh_TW).
2. Connect a PC to the same network of the KVM system.
3. Launch Bonjour tool kit and select Web Server (HTTP) to get the IP address list of KVM as below example windows.

**Figure 9.1 System Upgrade**




4. To click an IP address for adding an IE plug in and entering the following WEB page of Updated Firmware.
5. Repeating item 4 upgrade process to the other KVM IP address respectively.

### Upgrade

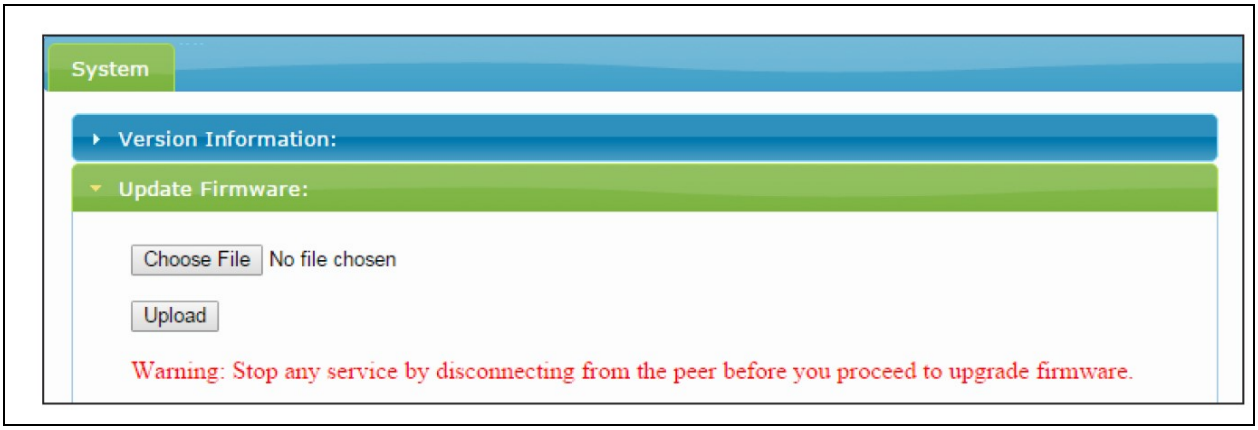
It’s recommended to check the firmware version by clicking the tab of Version Information before updating the system.

If you have latest firmware, follow the procedures below.

**Figure 9.2 Firmware Update**


1. Click **Update Firmware** to drop down more options.
2. Click **Choose File** to select the desired file, and then click **Upload.**
3. Please repeat the same upgrade procedure to other extender devices.

**Figure 9.3 Firmware Update**



# 10 Technical Support

Please contact your local distributor for more information or technical support.




P/N: 30-191-HMX3080X-01-VTV-10

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# 11 FCC CE Statements

FCC Statement: This equipment has been tested and found to comply with the regulations for a Class B digital device, according to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with this User Guide, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case, the user will be required to correct the interference at his/her own expense.

CE Statement: This is a Class B product in a domestic environment, this product may cause radio interference, in which case the user may be required to take adequate measures.

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