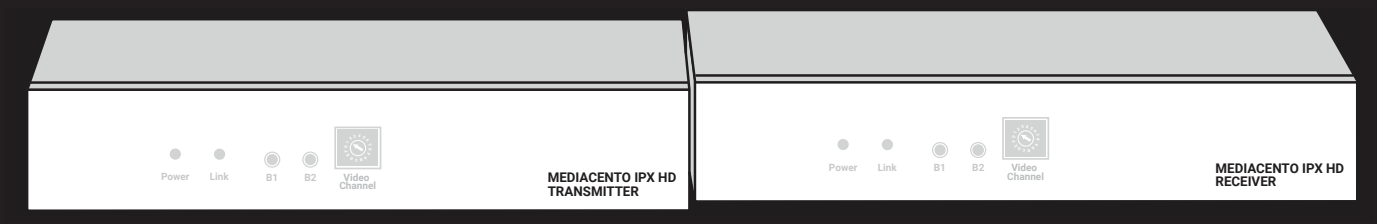
# USER MANUAL

**VX-HDMI-HDIP-TX, VX-HDMI-HDIP-RX**

# MEDIACENTO IPX HD

**24/7 TECHNICAL SUPPORT AT 1.877.877.2269 OR VISIT BLACKBOX.COM**

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# CHAPTER 1: SPECIFICATIONS

TABLE 1-1. SPECIFICATIONS

| SPECIFICATION | DESCRIPTION |
|---|---|
| **Connectors** | |
| Transmitter | Video Input: (1) HDMI female<br>Network Port: RJ-45 Ethernet |
| Receiver | Video Output: (1) HDMI female<br>Network Port: RJ-45 Ethernet |
| **Audio Support** | |
| Transmitter and Receiver | Supports high-definition audio (HD) 5.1/6.1/7.1 surround sound:<br>Dolby TrueHD, DTS-HD Master Audio<br>LPCM channels up to 7.1 channels 192 kHz |
| **User Controls** | |
| Hardware Switches | B1: Set/Reset Pushbutton<br>B2: Function Selection Pushbutton<br>Rotary switch: Select from 16 Video Channels (HEX 0–F), Paired TX and RX units must use the same channel |
| **Indicators** | |
| Transmitter | Status LEDs: Power (blue), Link (blue) |
| Receiver | Status LEDs: Power (blue), Link (blue) |

TABLE 1-1 (CONTINUED). SPECIFICATIONS

| SPECIFICATION | DESCRIPTION |
|---|---|
| **Additonal Specs** | |
| DDC Supported | DDC, DDC2, DDC2B |
| Extension Cable Type and Length | Ethernet, CAT5e/6 up to 328 ft. (100 m) |
| Maximum Video Resolution | 1080p |
| OS Compatibility | OS independent |
| **Power** | |
| Power Supply | Each unit: (1) External 5 VDC, 3 A |
| Power over Ethernet (PoE) | Complies with IEEE 802.3at standard, Class 4;<br>Power: Normal input: 48 VDC;<br>Input Range: 36 to 57 VDC;<br>Consumption: 10.5 W, CAT6, 328 ft. (100 m) |
| **Environmental** | |
| Operating Temperature | 32 to 122° F (0 to 50° C) |
| Storage Temperature | -4 to +140° F (-20 to +60° C) |
| Humidity | 0 to 80% relative humidity |
| **Mechanical** | |
| Dimensions | Each unit: 1.26" H x 3.86" W x 7.09" D (3.2 x 9.8 x 18 cm) |
| Weight | Each unit: 1.04 lb. (0.47 kg) |
| Housing Material | Metal Chassis |

# CHAPTER 2: OVERVIEW

## 2.1 INTRODUCTION

The MediaCento IPX HD extends HDMI over IP via CATx cable, further repeating and distributing over a Gigabit Ethernet switch. The transmitters and receivers support multicasting. They can be connected in a crosspoint matrix architecture. A built-in Web-UI is included for convenient operation.

## 2.2 FEATURES

- Requires only one UTP/STP CAT5e/6 cable
- Uses a visually lossless compression algorithm
- Extends HDMI Digital Audio/Videoup to 330 feet (100 meters) between Transmitter and Receiver (point-to-point)
- Supports Full HD 1080p video
- Supports all 3D image formats
- Allows video to be repeated or distributed in a point-to-point or a matrix application through a Gigabit Ethernet switch.
- Maps different Transmitter sources to channels and allows each Receiver to be assigned to a corresponding video channel
- Mounts on the wall or in a rack
- Supports Interlaced and Progressive Display Modes
- Features DDC, Hot-Plug Detection (HPD) and HDCP
- Uses Default EDID and EDID copy function for optimal PC-to-Screen performance
- Works as a Powered Device (PD) of Power over Ethernet (PoE)
- Use the rotary switch to select 16 video channels (HEX 0–F) for link routing

## 2.3 WHAT'S INCLUDED

Your package should include the following items. If anything is missing or damaged, contact Black Box Technical Support at 877-877-2269 or info@blackbox.com

**MediaCento IPX HD Transmitter (VX-HDMI-HDIP-TX) includes:**

- (1) MediaCento IPX HD Transmitter
- (1) 5-VDC, 3-A power supply
- (1) Quick Start Guide

**MediaCento IPX HD Receiver (VX-HDMI-HDIP-RX) includes:**

- (1) MediaCento IPX HD Receiver
- (1) 5-VDC, 3-A power supply
- (1) Quick Start Guide

## 2.4 HARDWARE DESCRIPTION

The MediaCento IPX 4K consists of a Transmitter unit and a Receiver unit.

### 2.4.1 TRANSMITTER

Figures 2-1 and 2-2 show the front and back panels of the transmitter. Table 2-1 describes its components.

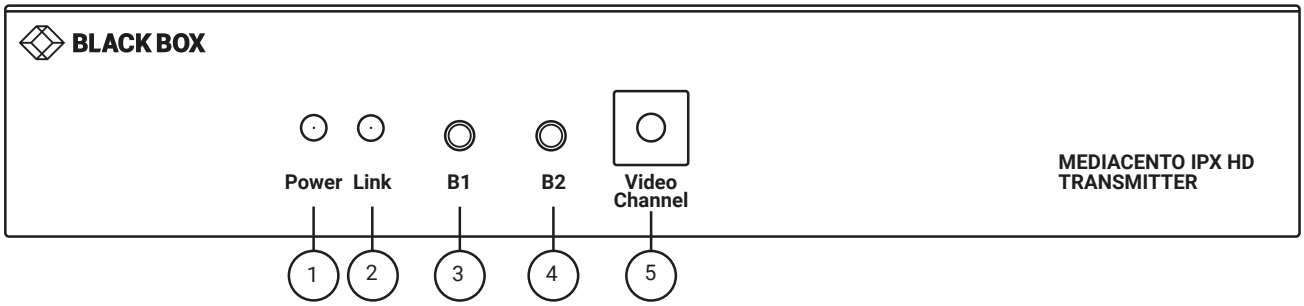


FIGURE 2-1. TRANSMITTER FRONT PANEL

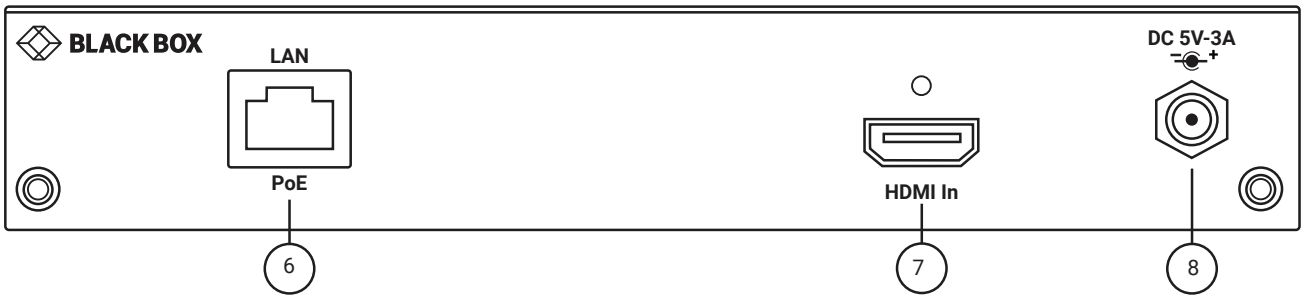


FIGURE 2-2. TRANSMITTER BACK PANEL

TABLE 2-1. TRANSMITTER COMPONENTS

| NUMBER IN FIGURE 2-1 OR 2-2 | COMPONENT | DESCRIPTION |
|---|---|---|
| 1 | Power On status LED | Lights steady when power on sequence is completed |
| 2 | Link LED for LAN link status | • Goes out when LAN link between Transmitter and Receiver/Gigabit Ethernet Switch is off<br>• Blinks when LAN link between Transmitter and Receiver/Gigabit Ethernet Switch is on and there is no image data stream on the LAN link<br>• Lights steady ON when LAN link between Transmitter and Receiver/Gigabit Ethernet Switch is on and there is an image data stream on the LAN link |
| 3 | B1: Set/Reset button | Press for 1 second for Link/Unlink connection<br>Follow instructions below to reset the box to factory defaults:<br>1. Press and hold the B1 button.<br>2. Apply power to the unit.<br>3. Release right after Link LED stats blinking.<br>4. Power cycle the unit. |
| 4 | B2: Function/Select button | Press for 1 second to toggle between graphics and video mode.<br>Press for 5 seconds to change anti-dithering mode. |
| 5 | Rotary Switch | Use to set video channel |
| 6 | RJ-45 connector | Used for LAN Link between transmitter and receiver/Gigabit Ethernet switch |
| 7 | HDMI In connector | Connects to HDMI source for the source signal of HDMI extension over IP |
| 8 | 5-VDC jack | Links to 5-VDC power supply |

## 2.4.2 RECEIVER

Figures 2-3 and 2-4 show the front and back panels of the receiver. Table 2-2 describes its components.

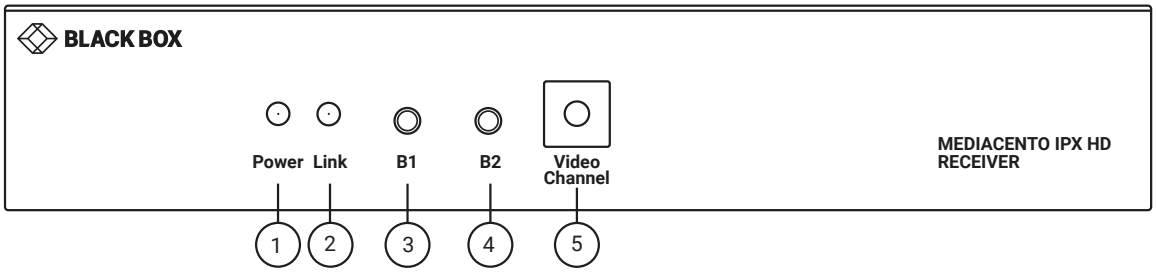


FIGURE 2-3. RECEIVER FRONT PANEL

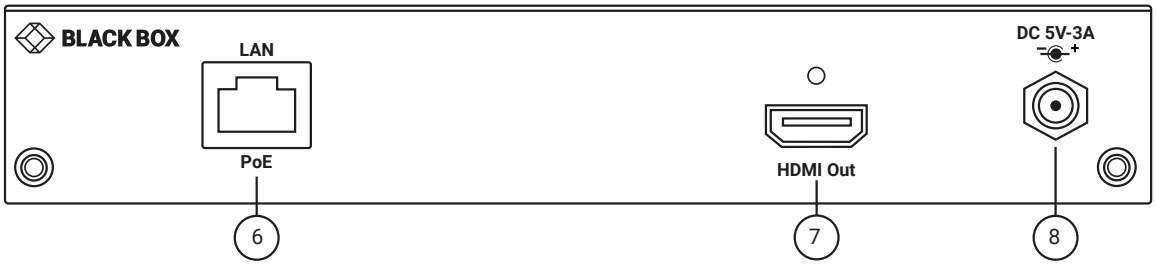


FIGURE 2-4. RECEIVER BACK PANEL

TABLE 2-2. RECEIVER COMPONENTS

| NUMBER IN FIGURE 2-3 OR 2-4 | COMPONENT | DESCRIPTION |
|---|---|---|
| 1 | Power On status LED | Lights steady when power on sequence is completed |
| 2 | Link LED for LAN link status | • Goes out when LAN link between Transmitter and Receiver/Gigabit Ethernet Switch is off<br>• Blinks when LAN link between Transmitter and Receiver/Gigabit Ethernet Switch is on and there is no image data stream on the LAN link<br>• Lights steady ON when LAN link between Transmitter and Receiver/Gigabit Ethernet Switch is on and there is an image data stream on the LAN link |
| 3 | B1: Set/Reset button | Press for 1 second for Link/Unlink connection<br>Follow instructions below to reset the box to factory defaults:<br>1. Press and hold the B1 button.<br>2. Apply power to the unit.<br>3. Release right after Link LED status blinking.<br>4. Power cycle the unit. |
| 4 | B2: Function/Select button | Press for 1 second to toggle between graphics and video mode<br>Follow instructions below for EDID copy:<br>1. Press and hold the B2 button.<br>2. Apply power to the receiver unit.<br>3. Release right after Link LED status blinking.<br>Press for 5 seconds to change anti-dithering mode. |
| 5 | Rotary Switch | Use to set video channel |
| 6 | RJ-45 connector | Used for LAN Link between transmitter and receiver/Gigabit Ethernet switch |
| 7 | HDMI Out connector | Connects to HDMI source for the sink signal of HDMI extension over IP |
| 8 | 5-VDC jack | Links to 5-VDC power supply |

## 3.1 POINT-TO-POINT EXTENSION

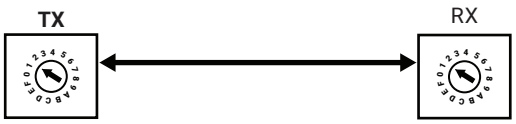


FIGURE 3-1. ROTARY SWITCH

For point-to-point extension, the TX and RX must be on the same video channel (16 channels ranging from 0 to F on the rotary switch).


NOTE: Copper cable is required and can be point-to-point or over an Ethernet network.

FIGURE 3-2. POINT-TO-POINT INSTALLATION

## 3.2 BROADCAST/CASCADE/MATRIX EXTENSION

For broadcast, cascade or matrix extension installations, you will need a Gigabit switch that supports IGMP V2 query and Jumbo Frame (at least 8K).

Each TX must be set to a unique video channel (one of 16 channels) ranging from 0 to F (HEX) via its rotary switch. Set each RX video channel to the channel that corresponds to the TX video channel. For larger installations, additional channels can be set via the CLI.

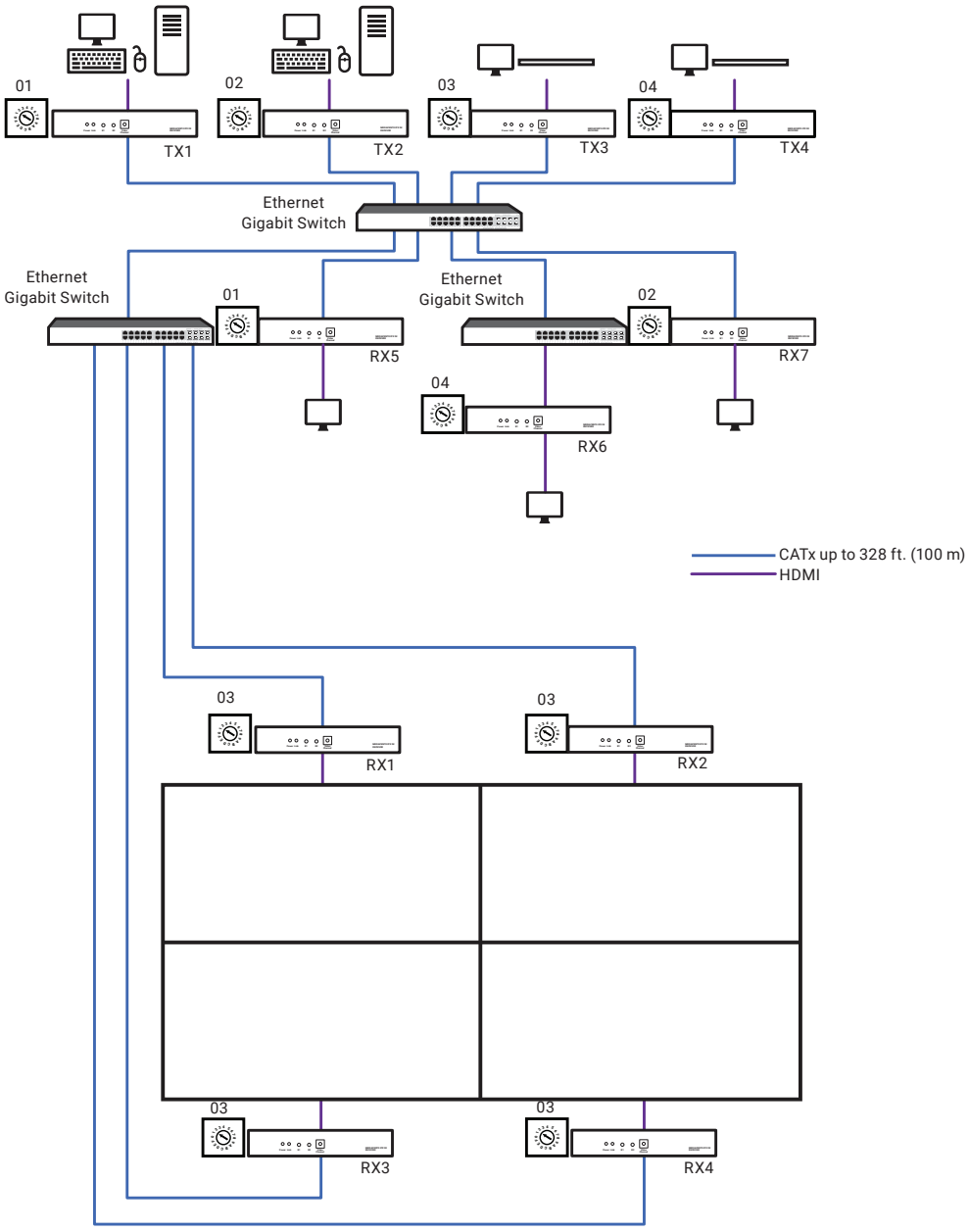


FIGURE 3-3. BROADCAST/CASCADE/MATRIX EXTENSION APPLICATION

# CHAPTER 4: NETWORK SETUP AND HARDWARE SWITCHING

1. Power on the Gigabit Switch and enable Jumbo Frame (8K) and IGMP v2.

2. Using CAT5e/6 cables, connect all transmitters and receivers to the Gigabit Switch.

3. Using HDMI Cables, connect all transmitters to their video sources, and all receivers to their displays/TVs.

4. Plug in the DC power adapter to all TX and RX. The units will power on.

5. Power on all Video Sources and start playing video.

6. Power on all Displays/TVs and select HDMI input. The displays will show video from the selected video channel.

7. To set the video channel of the transmitter, rotate the rotary switch on the transmitter from 0 to F and then follow the steps below to activate the setting.

7a. To unlink the transmitter, short-press the B1 button. The Link LED will go off.

7b. To link the transmitter, short-press B1 button until the Link LED blinks or constantly lights.

8. To connect to the different video channels (sources), change the receiver's video channel by rotating the rotary switch to select the video channel from channel 0 to F (HEX) and then follow the steps below to activate the connection.

8a. To unlink the receiver, short-press the B1 button. The Link LED will go off.

8b. To link the receiver, short-press B1 button until the Link LED blinks or constantly lights.

## 5.1 BUTTON SWITCHING FOR UNICAST MODE

Table 5-1 describes the button operation for unicast mode. The Items with asterisks (*) are described in Table 5-2.

### TABLE 5-1. BUTTON OPERATION FOR UNICAST MODE

| ACTION | BUTTON 1 | BUTTON 2 |
|---|---|---|
| **MEDIACENTO IPX HD TX** | | |
| Short Press | Link/Unlink | Video Mode (default)/Graphic Mode* |
| Long Press (3 sec) | N/A | Anti-Dither 1/2 or OFF (default) |
| Long Press when Ethernet Link is Off | N/A | Ethernet Jumbo Frame ON (default) or OFF* |
| Long Press on Boot (Press until Power LED Blinking) | Engineering Mode* | N/A |
| Long Press on Boot (Press until Power LED and Link LED Blinking) | Engineering Mode and Reset to default* | N/A |
| **MEDIACENTO IPX HD RX** | | |
| Short Press | Link/Unlink | Video Mode (default)/Graphic Mode* |
| Long Press (3 sec) | N/A | Anti-Dither 1/2 or OFF (default) |
| Long Press when Ethernet Link is Off | N/A | Ethernet Jumbo Frame ON (default) or OFF* |
| Long Press on Boot (Press until Power LED Blinking) | Engineering Mode* | N/A |
| Long Press on Boot (Press until Power LED and Link LED Blinking) | Engineering Mode and Reset to default* | N/A |

### TABLE 5-2. BUTTON DESCRIPTIONS

| STATE/FEATURE | DESCRIPTION |
|---|---|
| Video Mode/ Graphic Mode | User can select to change between Video Mode/Graphic Mode using this button. The button state will be saved to SPI flash, and will be retained after rebooting.<br>• Video Mode: FW will automatically trade-off between bandwidth and video quality to ensure a smooth video playing experience.<br>• Graphic Mode: Firmware will trade-off to ensure the best graphic/text viewing experience. |
| Anti-Dither (1/2/off) | Anti-Dithering Mode is designed to work with graphic cards that provide dithering output. Dithering output makes color looks better than its original color depth. It uses visual transients to create a half-tone effect. But this reduces the ability of Video Compression to maintain low bandwidth even if the source display seems static. This mode supports Anti-dithering for 1 bit, 2 bit, or off.<br>If the source content does not generate dithering output, and this feature is turned on, blocking may occur because the Video Engine is unable to detect pixel changes. To avoid this, turn this Anti-Dither to off. |
| Engineering Mode | 1. Static IP: 192.168.0.88<br>2. You can connect to http://192.168.0.88 webpage to update the firmware. |
| Reset to Default | 1. Reset Any changes in SPI flash setup flag.<br>2. After you Reset to Default, you MUST power cycle the device for the changes to take effect |
| Ethernet Jumbo Frame | 1. Enable/Disable Ethernet jumbo frame.<br>2. If the link LED is ON solid, then jumbo frame is enabled. If link LED is blinking, then jumbo frame is disabled. |

## 5.2 BUTTON SWITCHING FOR MULTICAST MODE

Table 5-3 describes the button operation for multicast mode. The Items with asterisks (*) are described in Table 5-4.

TABLE 5-3. BUTTON OPERATION FOR MULTICAST MODE

| ACTION | BUTTON 1 | BUTTON 2 |
|---|---|---|
| **MEDIACENTO IPX HD TX** | | |
| Short Press | Link/Unlink | Video Mode (default)/Graphic Mode* |
| Long Press (3 sec) | N/A | Anti-Dither 1/2 or OFF (default) |
| Long Press when Ethernet Link is Off | N/A | Ethernet Jumbo Frame ON (default) or OFF* |
| Long Press on Boot (Press until Power LED Blinking) | Engineering Mode* | N/A |
| Long Press on Boot (Press until Power LED and Link LED Blinking) | Engineering Mode and Reset to default* | N/A |
| **MEDIACENTO IPX HD RX** | | |
| Short Press | Link/Unlink | Video Mode (default)/Graphic Mode* |
| Long Press (3 sec) | N/A | Anti-Dither 1/2 or OFF (default) |
| Long Press when Ethernet Link is Off | N/A | Ethernet Jumbo Frame ON (default) or OFF* |
| Long Press on Boot (Press until Power LED Blinking) | Engineering Mode* | Update EDID* |
| Long Press on Boot (Press until Power LED and Link LED Blinking) | Engineering Mode and Reset to default* | N/A |

TABLE 5-4. BUTTON DESCRIPTIONS

| STATE/FEATURE | DESCRIPTION |
|---|---|
| Video Mode/ Graphic Mode | User can select to change between Video Mode/Graphic Mode using this button. The button state will be saved to SPI flash, and will be retained after rebooting.<br>• Video Mode: FW will automatically trade-off between bandwidth and video quality to ensure a smooth video playing experience.<br>• Graphic Mode: Firmware will trade-off to ensure the best graphic/text viewing experience. |
| Anti-Dither (1/2/off) | Anti-Dithering Mode is designed to work with graphic cards that provide dithering output. Dithering output makes color looks better than its original color depth. It uses visual transients to create a half-tone effect. But this reduces the ability of Video Compression to maintain low bandwidth even if the source display seems static. This mode supports Anti-dithering for 1 bit, 2 bit, or off.<br>If the source content does not generate dithering output, and this feature is turned on, blocking may occur because the Video Engine is unable to detect pixel changes. To avoid this, turn this Anti-Dither to off. |
| Update EDID | While in Multicast mode, a monitor/TV might have a lower resolution than the source. For example, you might have one monitor/TV with 720p resolution but mostly 1080p. Select the monitor/TV with the lowest resolution to ensure that all can be displayed correctly.<br>If you are using one pair of TX/RX in Matrix mode, you must update EDID correctly. If not, it will cause compatibility issues.<br>Operation: Once the button event is triggered correctly at the client side, the system is setup correctly for Multicast. The selected EDID will be updated to the Host Side EEPROM.<br>In the system setup, the last EDID updated will stay in the EEPROM. If users set up this button many times, the last one triggered will be applied. |
| Engineering Mode | 1. Static IP: 192.168.0.88<br>2. You can connect to http://192.168.0.88 webpage to update the firmware. |
| Reset to Default | 1. Reset Any changes in SPI flash setup flag.<br>2. After you Reset to Default, you MUST power cycle the device for the changes to take effect |
| Ethernet Jumbo Frame | 1. Enable/Disable Ethernet jumbo frame.<br>2. If the link LED is ON solid, then jumbo frame is enabled. If link LED is blinking, then jumbo frame is disabled. |

# CHAPTER 6: ACCESS TO WEB UI

1. Power on the Gigabit Switch and enable Jumbo Frame and IGMP.
2. Connect all transmitters and receivers to the Gigabit Switch using CATx cable to set up the matrix extension network.
3. Using HDMI cables, connect all transmitters to video sources, and all receivers to displays/TVs/monitors.
4. To use the Web UI, you will need to connect a control PC to the Gigabit Switch using CATx cable.
5. If you are not using PoE power, plug in the DC power adapters to all transmitters and receivers. The units will power on.
6. Power on all Video Sources and start playing video.
7. To control the PC's IP setting: Select Internet Protocol Version 4 (TCP/IPv4) - IP address: 169.254.2.1 or another IP address within 169.254.XXX.XXX - Netmask: 255.255.0.0

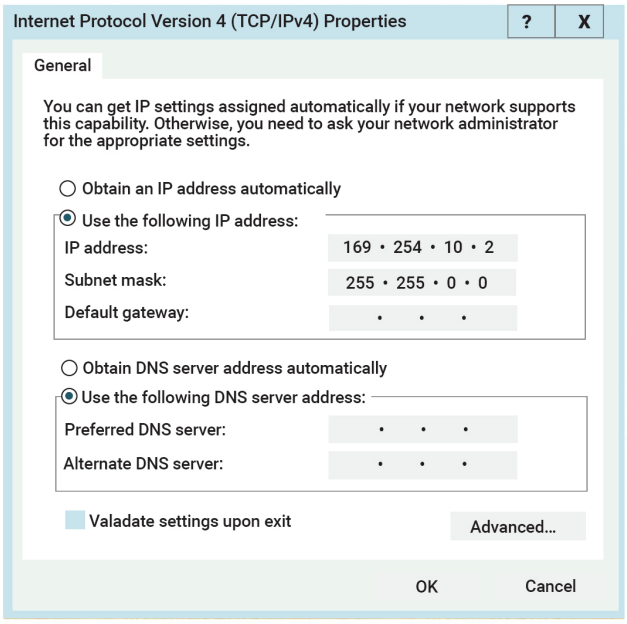


FIGURE 6-1. TCP/IPV4 GUI INTERFACE

8. To access the Web Interface Control Software:

8a. Select any receiver in the matrix extension network and unlink it by disconnecting its CATx cable.

8b. The OSD will immediately appear on the display connected to the selected receiver as follows. The selected receiver's IP and MAC address are shown in the OSD.

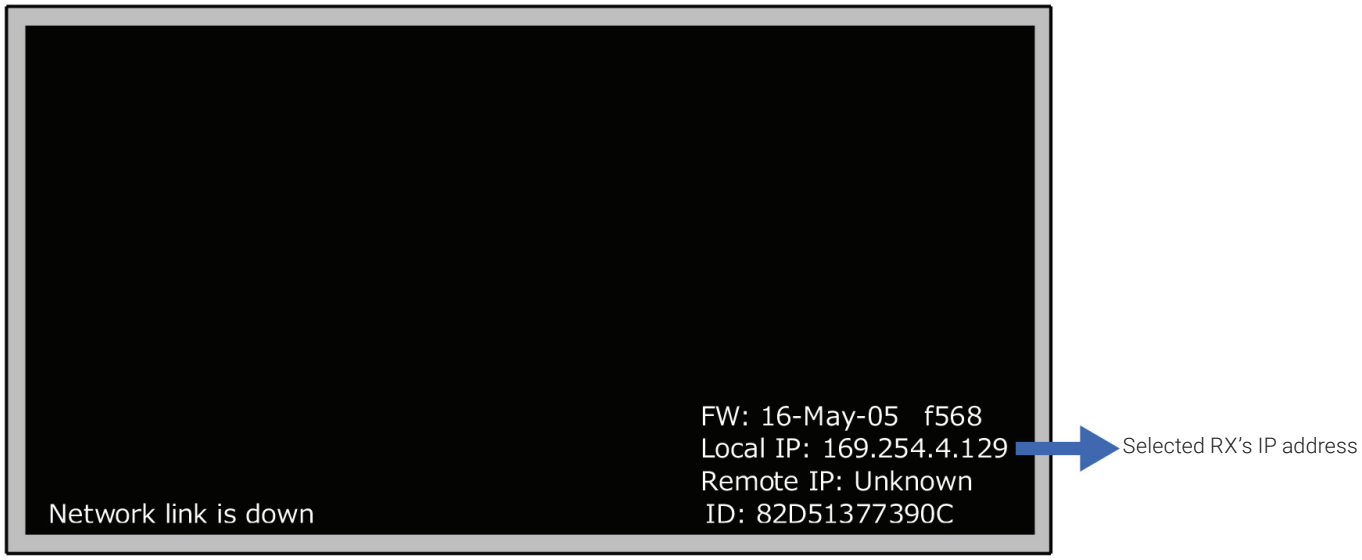


FIGURE 6-2. ON-SCREEN DISPLAY (OSD)

8c. Re-link the selected receiver to the matrix extension network by re-connecting the CATx cable.

8d. Access the Web browser via the control PC by using the selected receiver's IP address shown in the OSD ( http://169.254.XXX.XXX/ ).

8e. When the access is done, the home page of Web Interface Control Software will appear as follows.

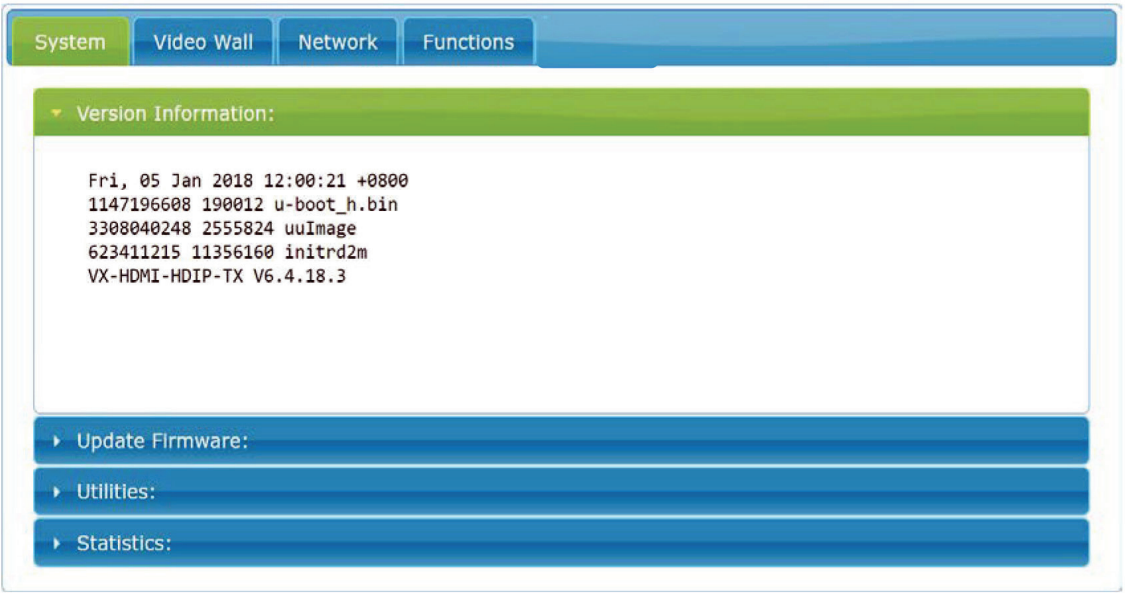


FIGURE 6-3. WEB INTERFACE CONTROL SOFTWARE HOME PAGE

## 7.1 CONFIGURING IP MODE

By default, the transmitter unit (TX) and the receiver unit (RX) are set to Auto IP Mode, automatically using IP addresses in the 169.254.xxx.xxx range with subnet mask 255.255.0.0. DHCP Mode and Static Mode can be selected for the related application. For Static Mode, you do not need to change the IP address and subnet mask unless you know what IP address you can assign to this device. To assign the static IP, all transmitters and receivers need to be in the same IP domain and corresponding subnet mask.

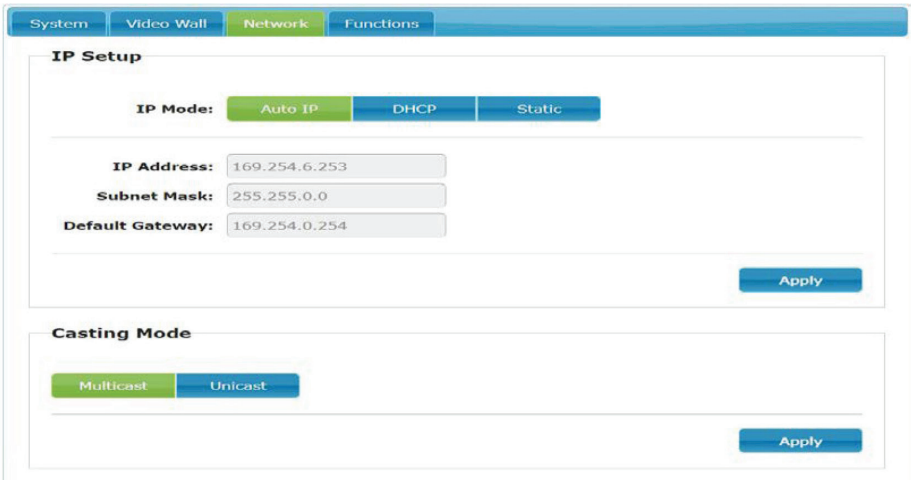


FIGURE 7-1. IP SETUP SCREEN

When you apply new settings, reboot the unit to take effect. To reboot the transmitter or receiver:

1. Power cycle the transmitter or receiver.
2. Click the Reboot button on the Web interface.

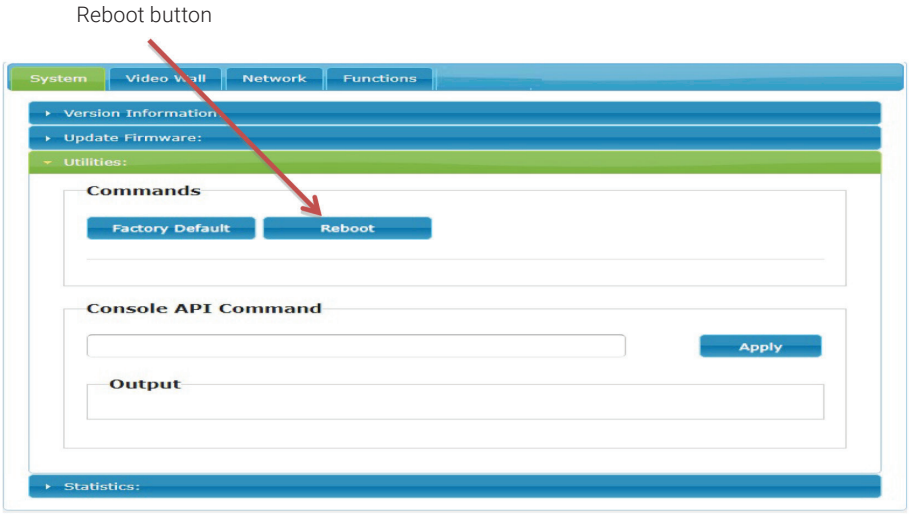


FIGURE 7-2. REBOOT BUTTON

## 7.2 CASTING MODE FOR EXTENSION APPLICATION

The Extension application has two casting modes: Multicast and Unicast. In Multicast mode, multiple Receiver (RX) units can receive signals from multiple (or a single) Transmitter (TX) units(s) in the same network. In Unicast mode, only a single Receiver (RX) unit can receive signals from a Transmitter (TX) unit with the same channel. By default, the Extension Application is configured to Multicast Mode.

### 7.2.1 HOW TO CHANGE TO UNICAST MODE

1. By default, the Casting Mode of the TX and RX unit is Multicast Mode.
2. Click the Network tab, then click the Unicast button. When selected, the Unicast button will be highlighted in green, and then click the Apply button.

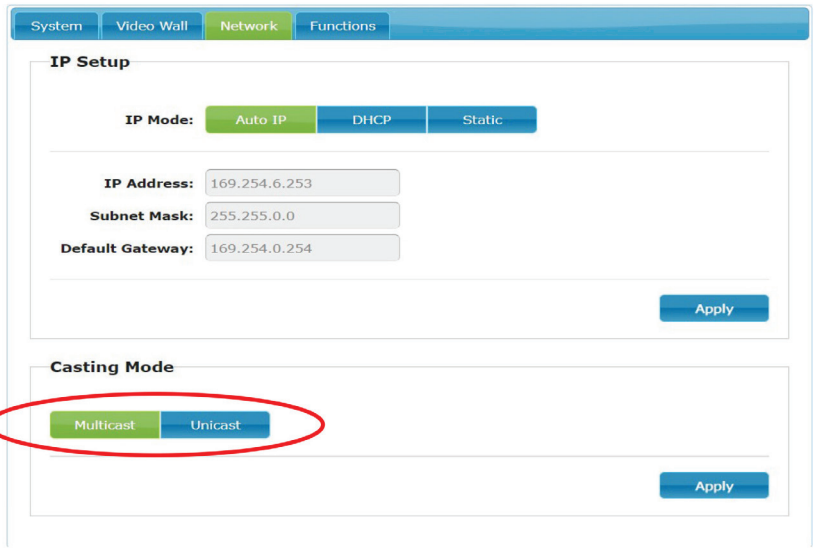


FIGURE 7-3. CASTING MODE BUTTONS

When you apply new settings, reboot the unit to take effect. To reboot the TX unit or RX unit:

1. Press the "SET/RESET" button on the unit for 3 seconds.

OR

2. Click the Reboot button on the Web interface.
3. A message will be displayed, indicating that the casting mode has been applied to the TX unit.

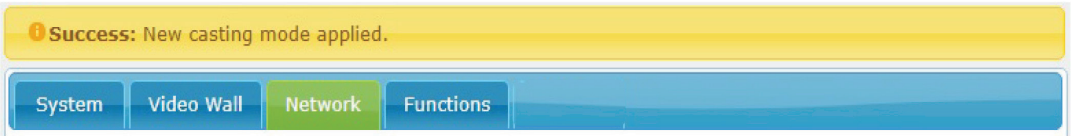


FIGURE 7-4. CASTING MODE APPLIED MESSAGE

4. After a few seconds, another message will be displayed stating that the TX unit must be rebooted for the new setting to take effect.

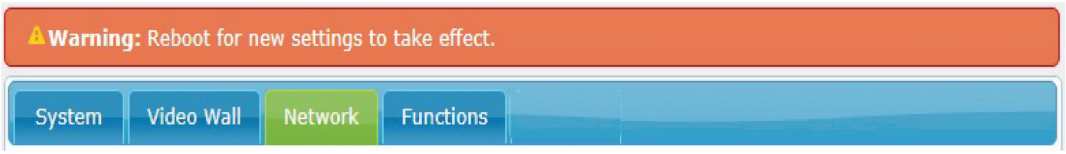


FIGURE 7-5. REBOOT MESSAGE

5. Reboot the TX unit by one of these methods:

• Power cycle the transmitter.

• Click the Reboot button on the Web interface.

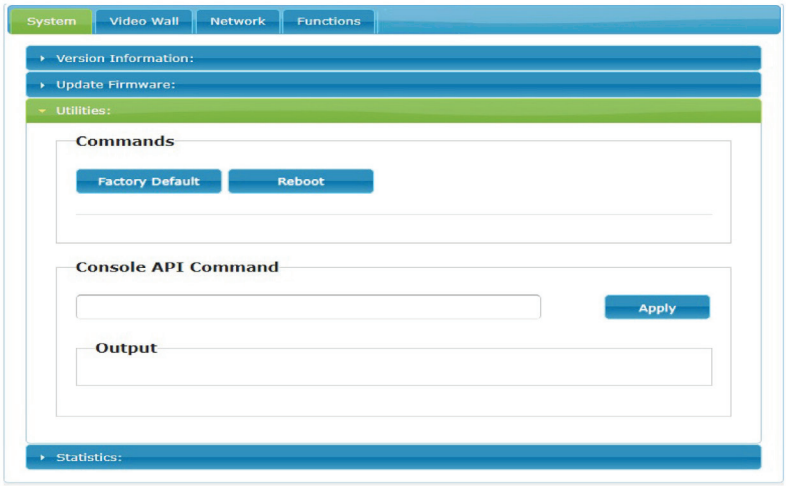


FIGURE 7-6. REBOOT BUTTON ON WEB UI

6. Repeat steps 1 through 5 in sequence for each TX and RX on the network.

## 7.2.2 HOW TO CHANGE TO MULTICAST MODE

Click the Network tab and click the Multicast button. When selected, the Multicast button will be highlighted in green, and then click the Apply button.

+

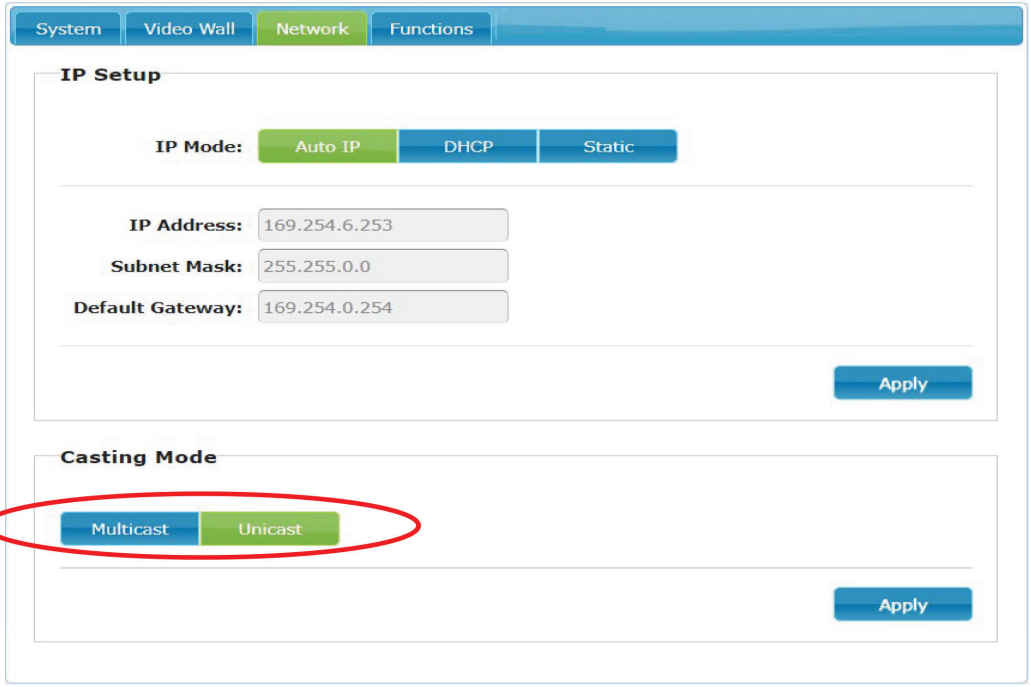


FIGURE 7-7. MULTICAST BUTTON

## 7.3 COMPATIBILITY MODE

For compatibility to work with the legacy TX or RX unit, both TX and RX units are built with “Compatibility Mode” configuration in the Web UI.

In Compatibility Mode, the Multicast Address of the TX and RX units will be changed as illustrated below, and some of the features that the legacy TX or RX units don’t support will be disabled.

The default of Compatibility Mode is OFF, which is also known as Full Feature Mode, because all features of TX and RX units can work under the default configuration.  The Multicast Address of the TX and RX units in Full Feature Mode as illustrated below is different from the one in Compatibility Mode.

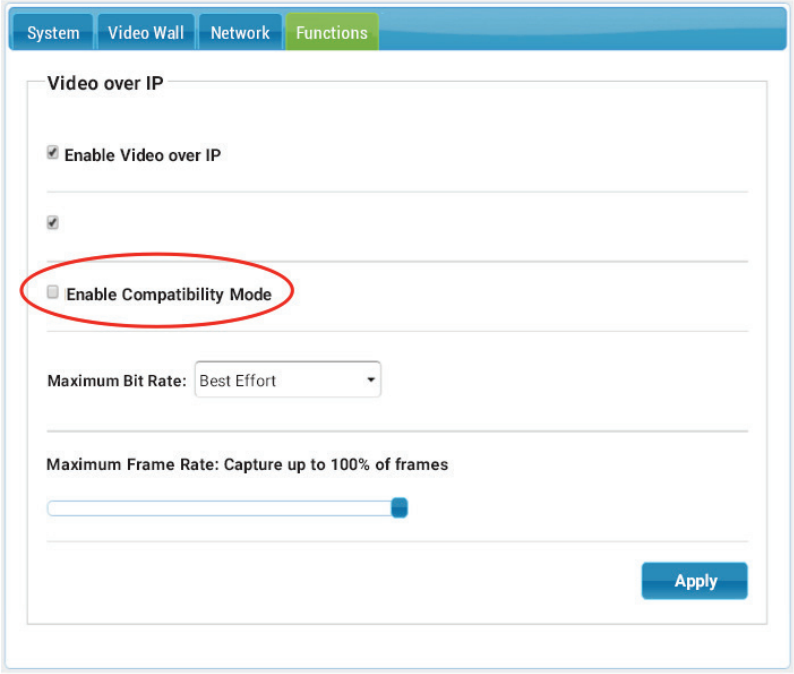


FIGURE 7-8. COMPATIBILITY MODE SCREEN

### TABLE 7-1. CHANNEL IDS AND MULTICAST ADDRESS FOR FULL FEATURE MODE VS. COMPATIBILITY MODE

| FULL FEATURE MODE | | COMPATIBILITY MODE | |
|---|---|---|---|
| CHANNEL IDS | MULTICAST ADDRESS | CHANNEL IDS | MULTICAST ADDRESS |
| 0 | 225.2.0.0 | 0 | 225.2.1.0 |
| 1 | 225.2.0.1 | 1 | 225.2.1.1 |
| 2 | 225.2.0.2 | 2 | 225.2.1.2 |
| 3 | 225.2.0.3 | 3 | 225.2.1.3 |
| 4 | 225.2.0.4 | 4 | 225.2.1.4 |
| 5 | 225.2.0.5 | 5 | 225.2.1.5 |
| 6 | 225.2.0.6 | 6 | 225.2.1.6 |
| 7 | 225.2.0.7 | 7 | 225.2.1.7 |
| 8 | 225.2.0.8 | 8 | 225.2.1.8 |
| 9 | 225.2.0.9 | 9 | 225.2.1.9 |
| A | 225.2.0.10 | A | 225.2.1.10 |
| B | 225.2.0.11 | B | 225.2.1.11 |
| C | 225.2.0.12 | C | 225.2.1.12 |
| D | 225.2.0.13 | D | 225.2.1.13 |
| E | 225.2.0.14 | E | 225.2.1.14 |
| F | 225.2.0.15 | F | 225.2.1.15 |

## 7.4 OUTPUT VIDEO SCALING IN RECEIVER

This function allows the specified receiver to scale its output video based on the resolution settings. The default setting is "Auto Detect (Per EDID)," which means the receiver's output video is automatically scaled up/down based on the EDID of the display connecting to the receiver. "Pass-Through" mode means the receiver directly outputs the video without any scaling.

Select the needed setting and click "Apply" to activate it.

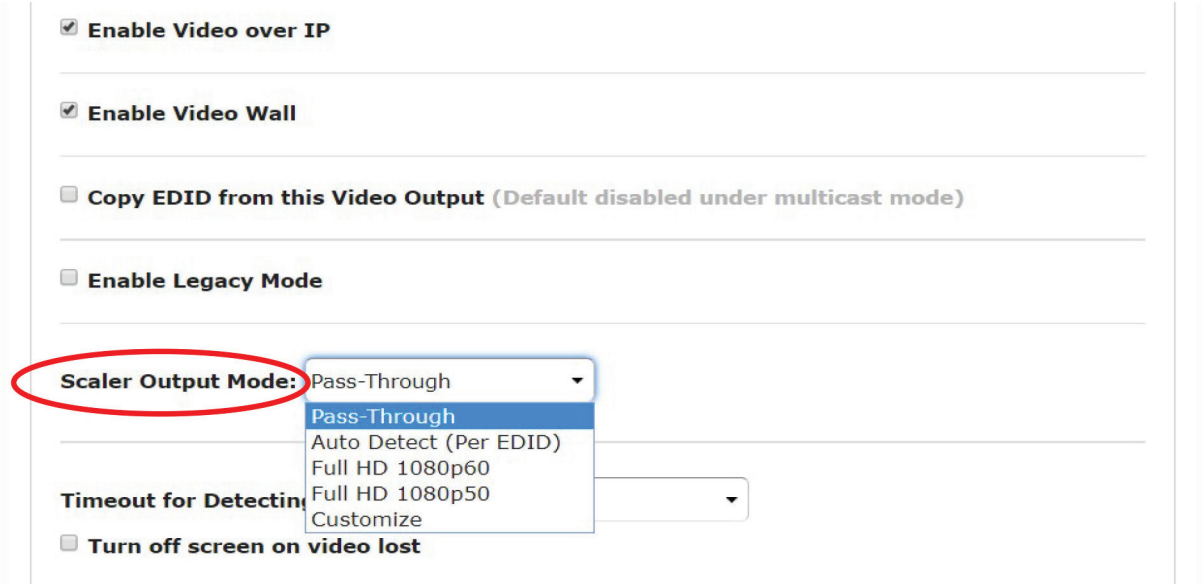


FIGURE 7-9. SCALER OUTPUT MODE SCREEN

## 7.5 LAST IMAGE OUTPUT TIME FOR SOURCE CONTENT LOST

When the transmitter's source content is lost, the receiver's video output will be frozen in the last image for a time period from 3 sec to 60 sec. Select the needed time and click "Apply" to activate it.

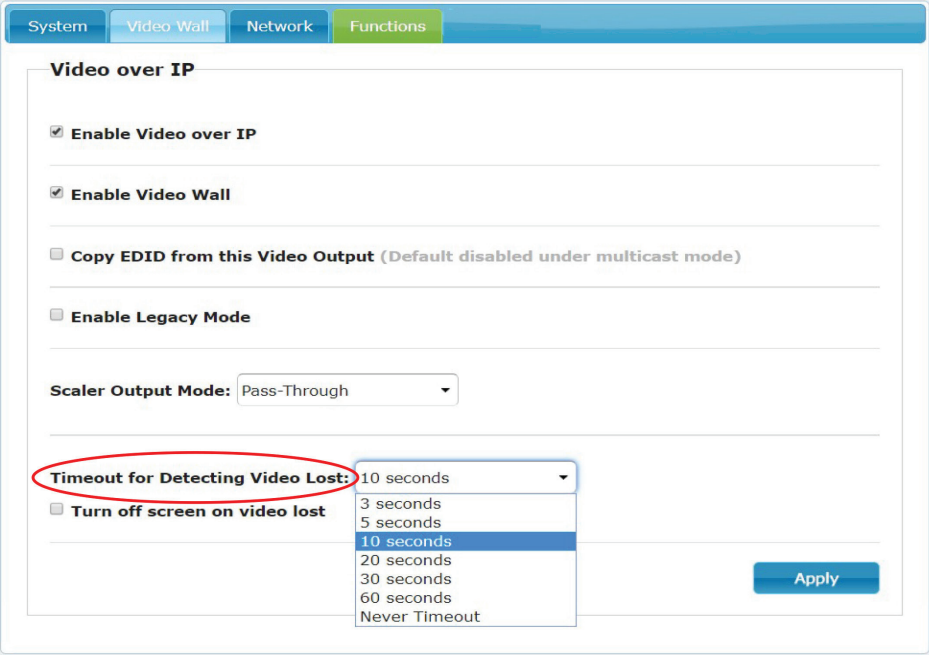


FIGURE 7-10. SELECT TIMEOUT SCREEN

## 7.6 VIDEO WALL

1. Set up a broadcast link of one transmitter and many receivers by using the Gigabit Switch (supporting IGMP, 8K jumbo frame) with CATx cable.
2. Also connect a PC to the same Gigabit Switch with CATx cable. Set this PC's IP domain and subnet mask to be 169.254.XXX.XXX and 255.255.0.0.
3. Make sure to set the transmitter's and receivers' Casting Mode to Multicast mode (default setting is Multicast mode).
4. Click "Video Wall" Tab in Web UI of the transmitter or receiver unit, and the video wall control panel will appear.

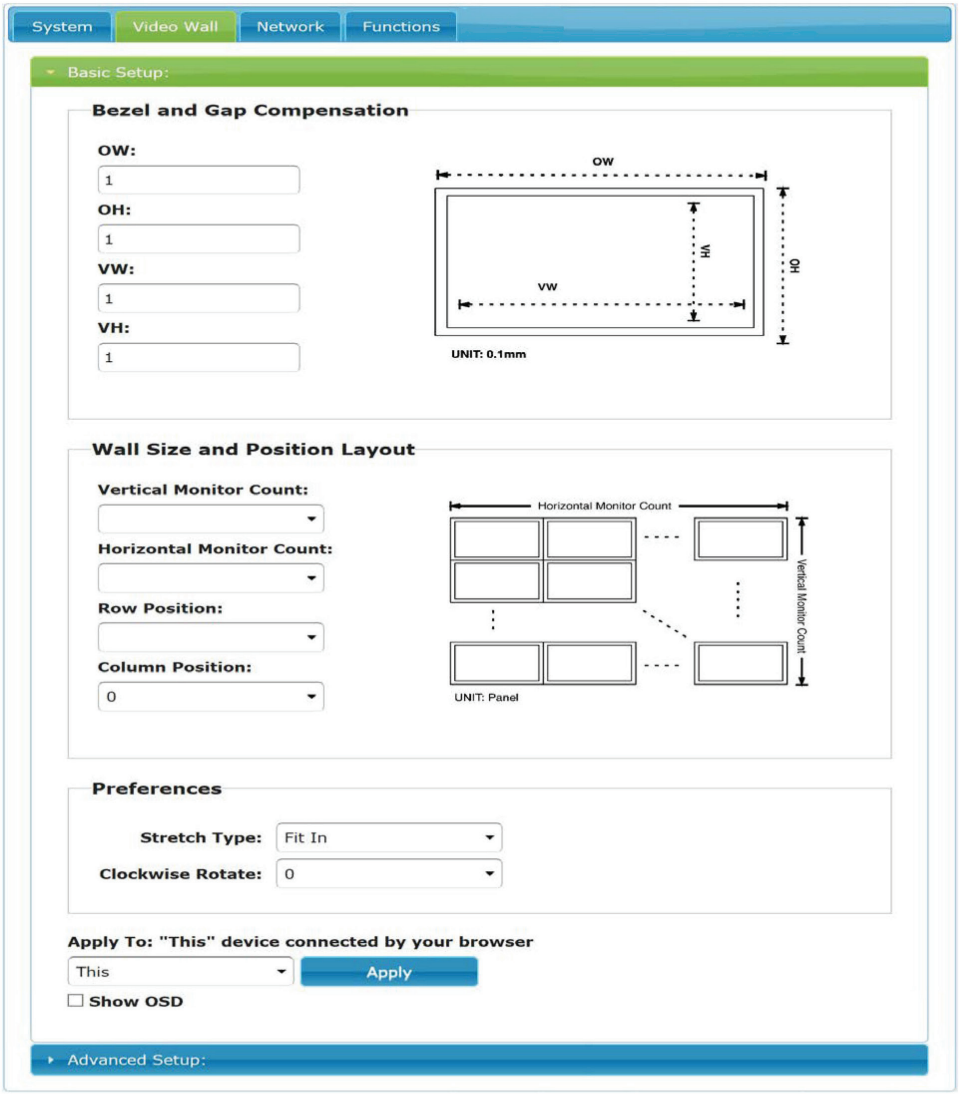


FIGURE 7-11. VIDEO WALL SETUP SCREEN

5. Follow these steps for set up the video wall:

STEP 1: Set common values of all devices.

1a. Set bezel and gap compensation:

• This step is used to configure the bezel and gap compensation. If user doesn't need this, just set all values to 0.

• Follow the picture and input the size of the monitor used. Note that is unit is 0.1 mm and the value MUST be an integer.

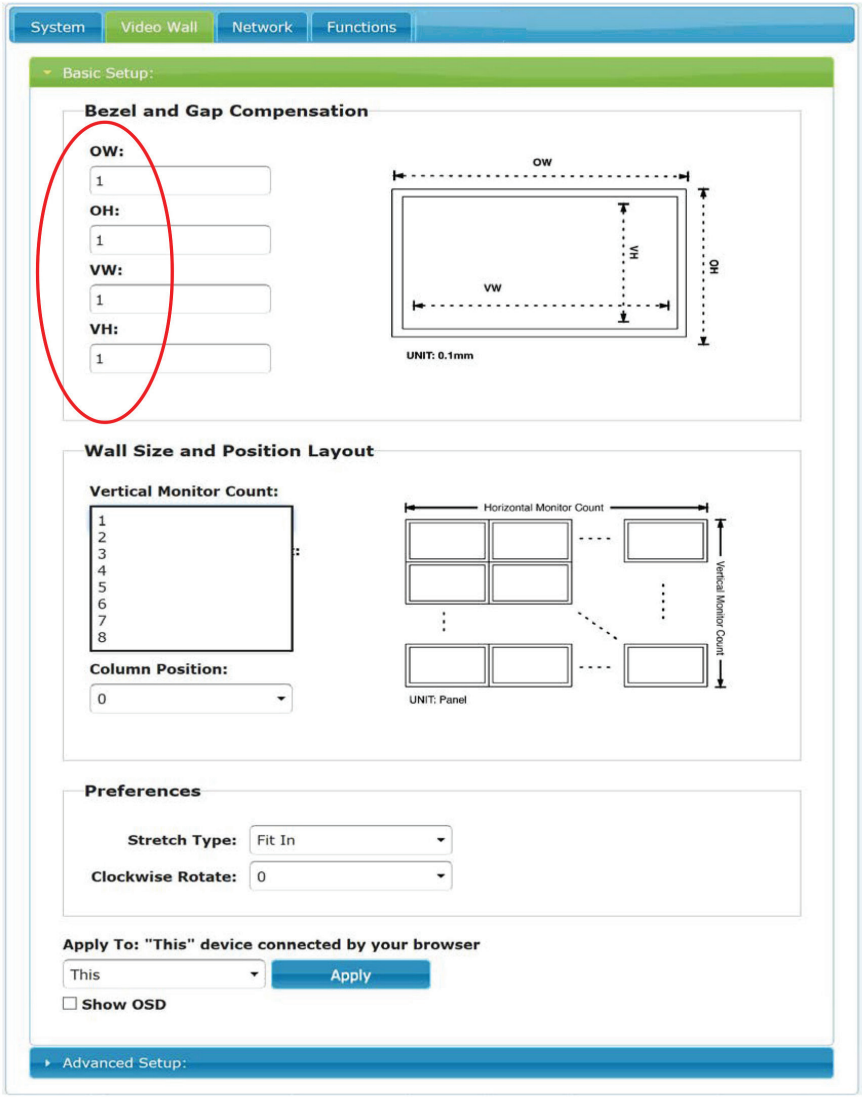


FIGURE 7-12. SET BEZEL AND GAP COMPENSATION

1b. Set Wall Size:

• Set “Vertical Monitor Count” from 1 to 8 based on the real application

• Set “Horizontal Monitor Count” from 1 to 16 based on the real application

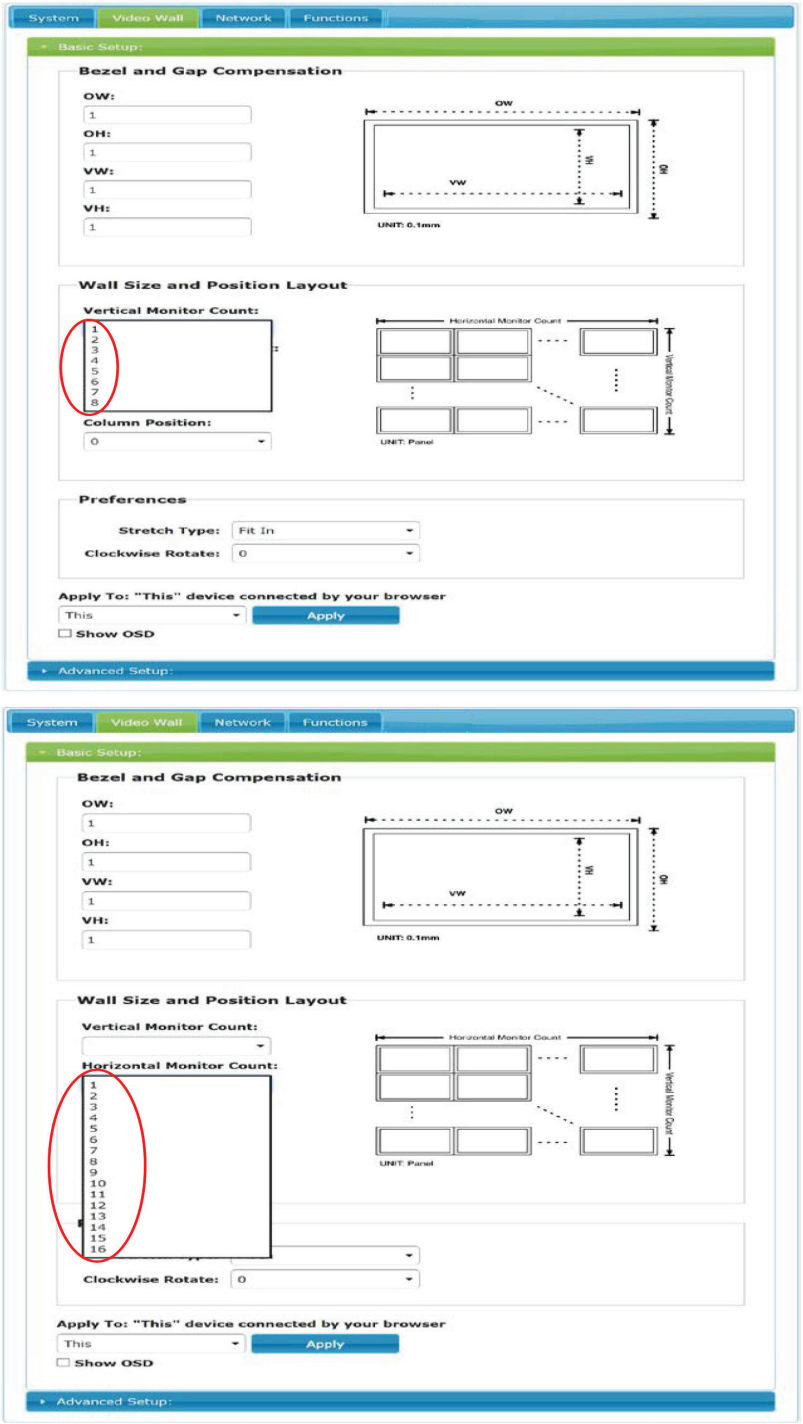


FIGURE 7-13. SET WALL SIZE

1c. Select “All” in “Apply To” list and press the “Apply” button.

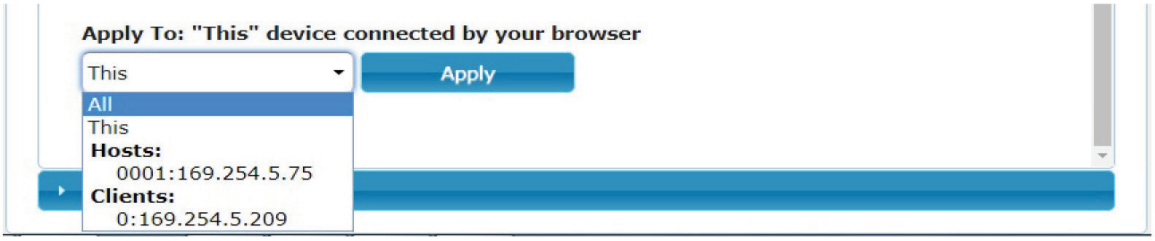


FIGURE 7-14. SELECT ALL AND PRESS APPLY BUTTON

• The video wall layout will be refreshed accordingly.

STEP 2: Set up the row and column position for each display attached to receivers.

2a. Check “Show OSD” to show the index number on each receiver’s display to identify each receiver.

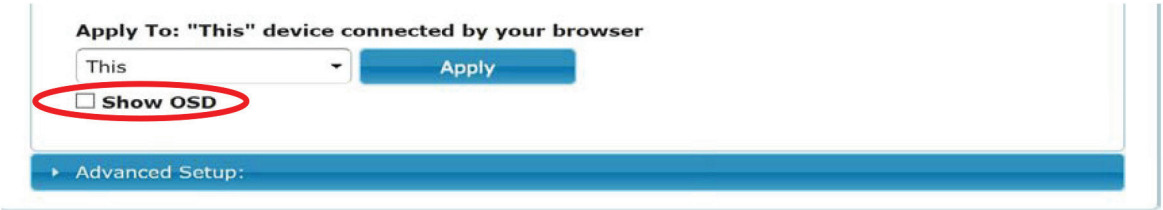


FIGURE 7-15. SHOW OSD BUTTON

2b. Go through all client (receiver) devices (in the “Apply To” list) one by one and set the corresponding “Row Position” (0–7) and “Column Position” (0–15), then click “Apply.”

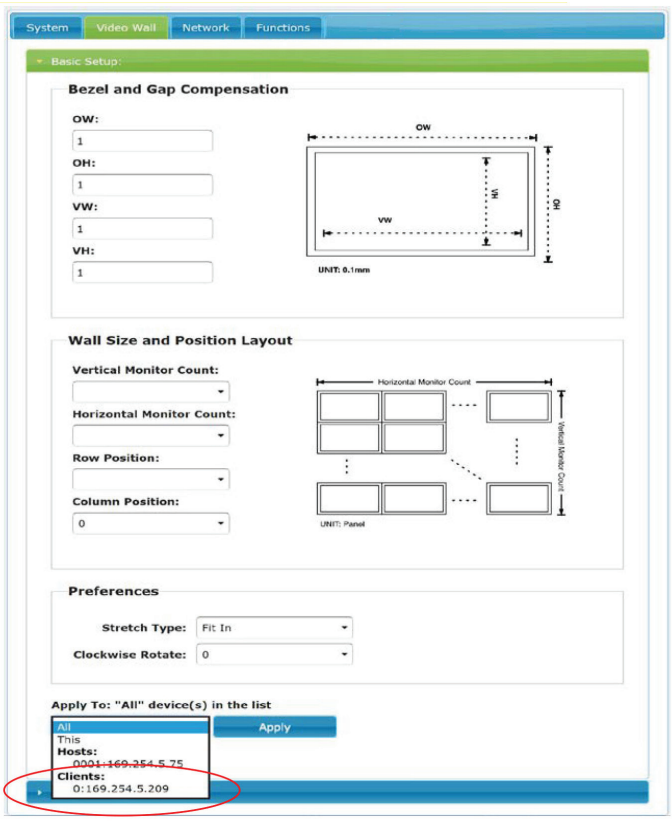


FIGURE 7-16.

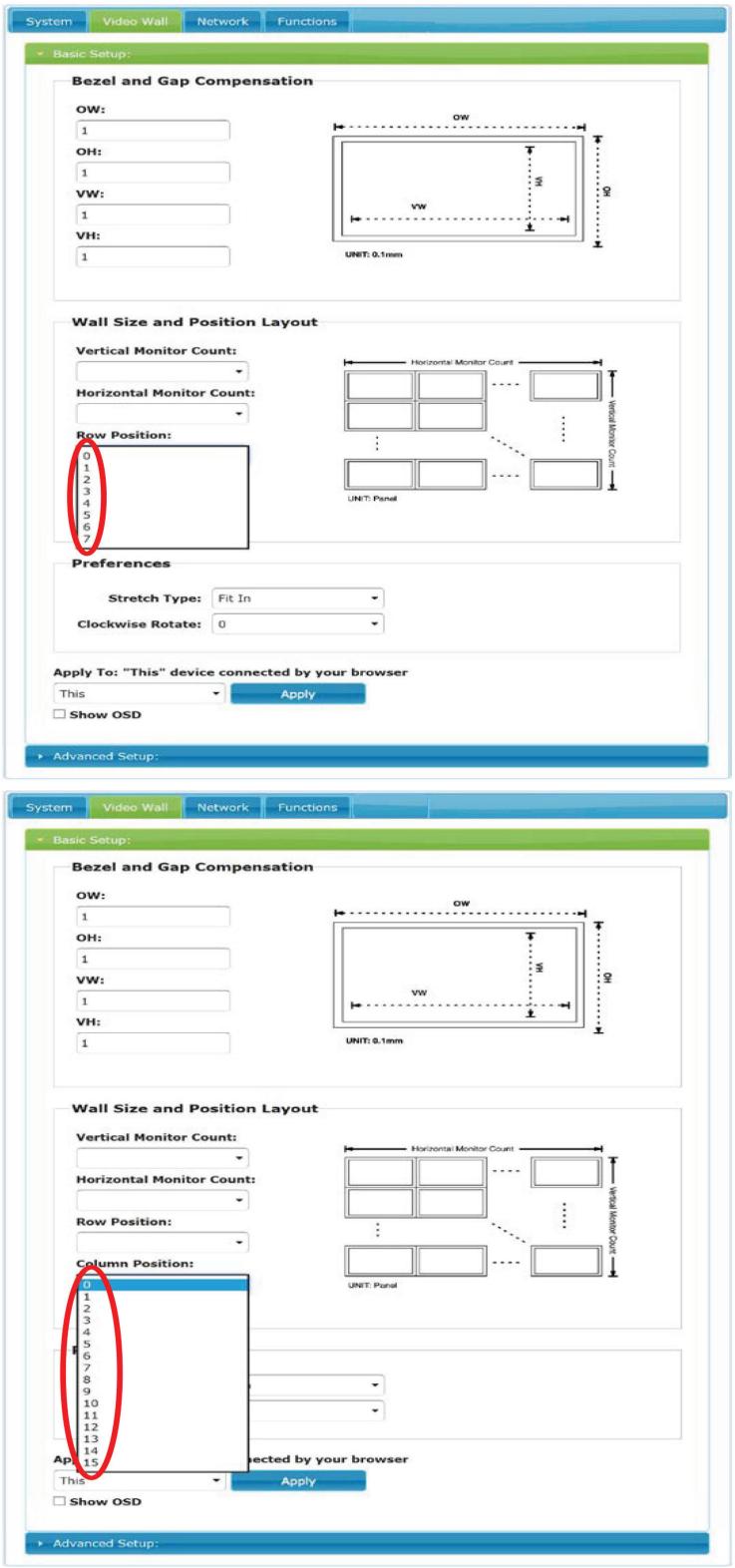


FIGURE 7-17.

2c. Un-check “Show OSD” when completed.

STEP 3: Basic Video Wall setup is completed

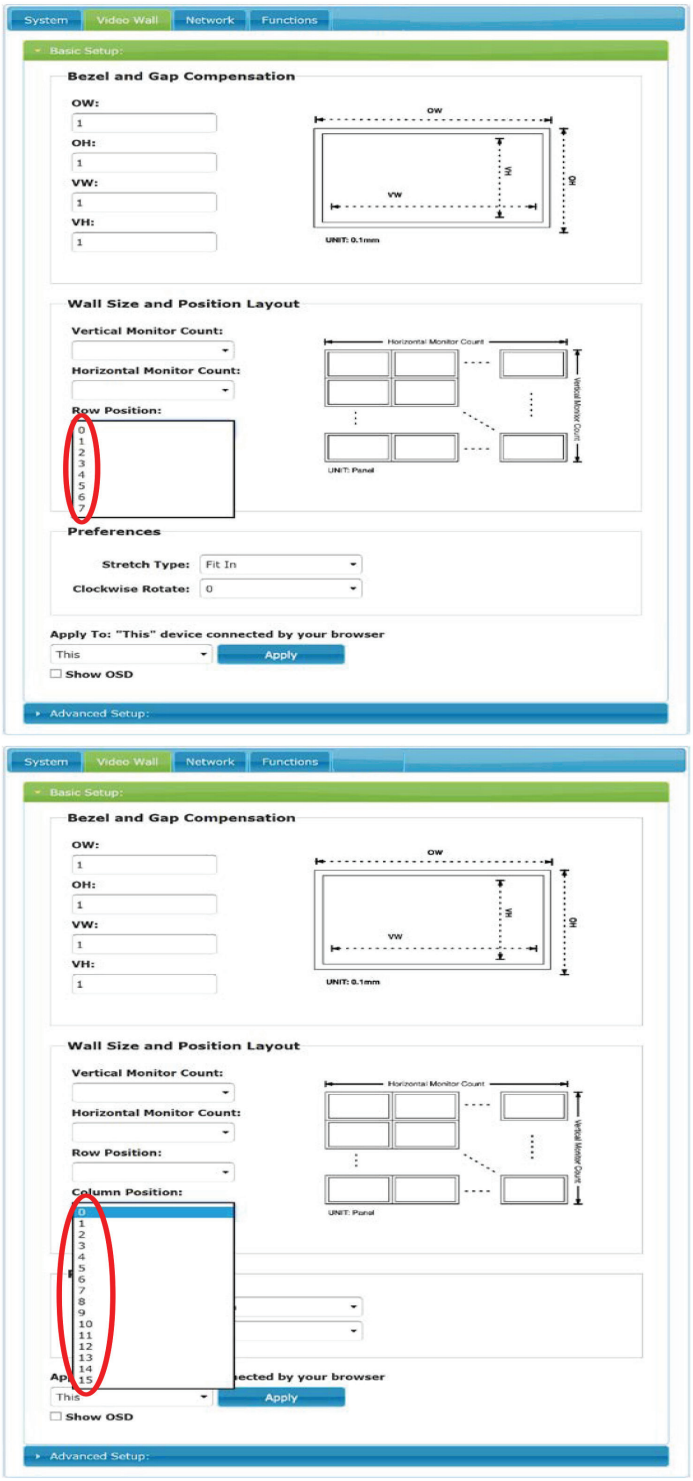


FIGURE 7-18.

The Advanced Setup in the web UI is used to perform special effects that are not included in Basic Setup. For most cases, Advanced Setup is never used. There are two steps in advanced setup:

- Step 1: Choose the target(s) to apply the setup to.
- Step 2: Apply setup.

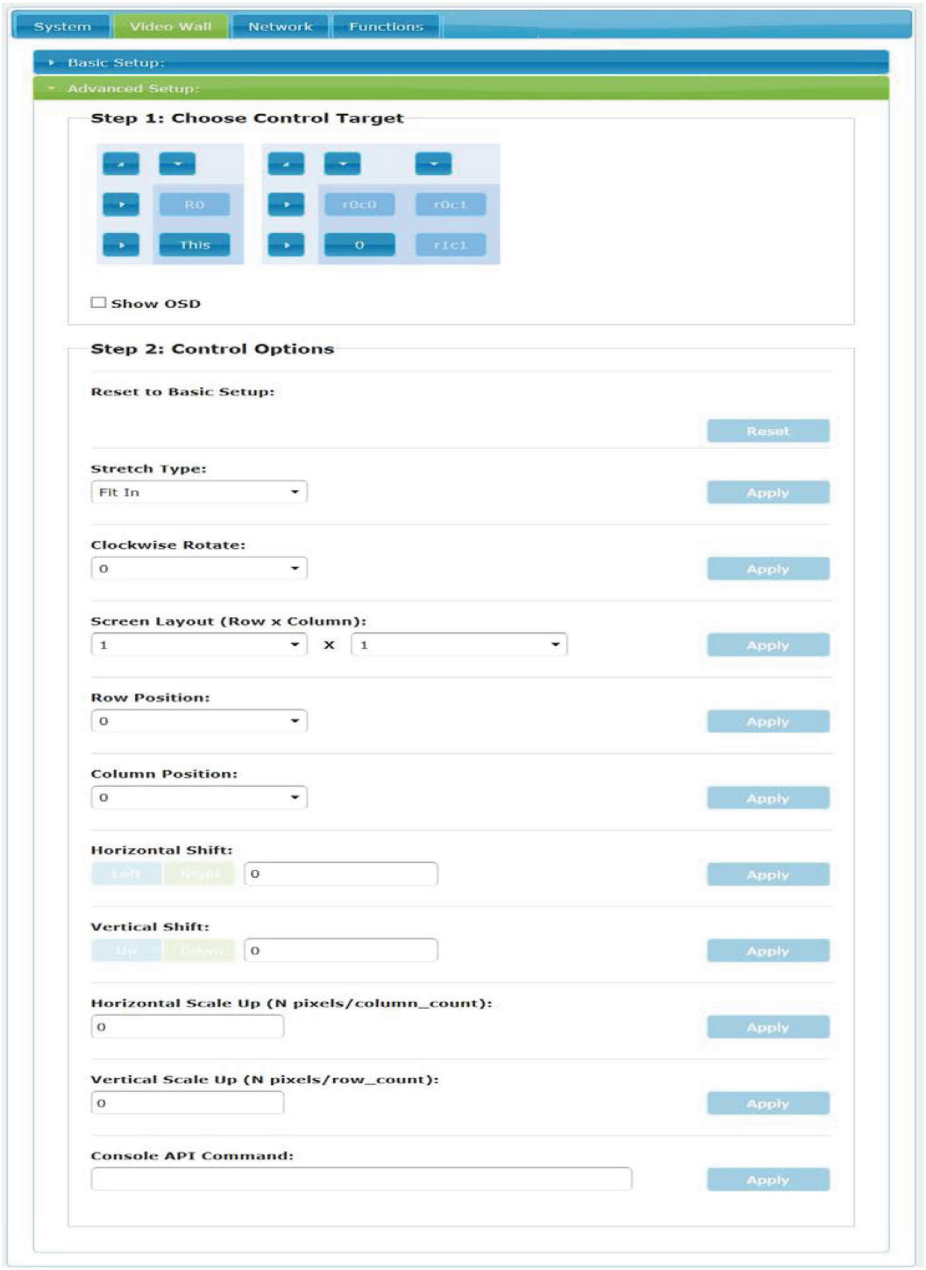


FIGURE 8-1. ADVANCED SETUP SCREEN

From Step 1, user can choose one or more targets to apply the changes to. After the targets are selected, changes can be applied in Step 2.

Following is the explanation of Step 2:

- Reset to Basic Setup
  - Reset the target to the setting of "Basic Setup"
  - Apply to: host (TX), client (RX)
- Stretch Type
  - Fit In: Try to stretch the full screen to the whole wall.
  - Stretch Out: Keep the picture aspect ratio and stretch out the screen if needed.
- Apply to: client (RX)
- Rotate Clockwise:
  - 0: No rotate
  -180: rotate clockwise 180 degree
  - 270: rotate clockwise 270 degree
- Screen Layout (Row x Column)
  - Change the screen layout
  - Apply to: host (TX), client (RX)
- Row Position
  - Change the row position of the target
  - Apply to: host (TX), client (RX)
- Column Position
  - Change the column position of target 28
- Apply to: client (RX)
- Horizontal Shift
  - Horizontal shift target screen to left or right
- Apply to:
  - Client (RX)
  - Shift unit: 1 pixel

NOTE: You can't shift right when the screen touches the left edge.

- Vertical Shift
  - Vertical shift target screen to up or down
  - Apply to:
    — host (TX): in 1 pixel unit
    — client (RX): in 1 pixel unit

NOTE: You can't shift down when the screen touches the top edge.

- Horizontal Scale Up
  - Horizontal scale up target
  - Apply to: client (RX)
  - Unit: (1/column count) pixel

- Vertical Scale Up
  - Vertical Scale up target
  - Apply to: client (RX)
  - Unit: (1/row count) pixel
- Console API Command
  - Used to fire a console command to a selected target.
  - Apply to: host (TX), client (RX)

# APPENDIX A: REGULATORY INFORMATION

## A.1 CE AND ROHS2

This product complies with CE and ROHS2 certifications.

# APPENDIX A: REGULATORY INFORMATION

## A.2 NOM STATEMENT

1. Todas las instrucciones de seguridad y operación deberán ser leídas antes de que el aparato eléctrico sea operado.
2. Las instrucciones de seguridad y operación deberán ser guardadas para referencia futura.
3. Todas las advertencias en el aparato eléctrico y en sus instrucciones de operación deben ser respetadas.
4. Todas las instrucciones de operación y uso deben ser seguidas.
5. El aparato eléctrico no deberá ser usado cerca del agua—por ejemplo, cerca de la tina de baño, lavabo, sótano mojado o cerca de una alberca, etc.
6. El aparato eléctrico debe ser usado únicamente con carritos o pedestales que sean recomendados por el fabricante.
7. El aparato eléctrico debe ser montado a la pared o al techo sólo como sea recomendado por el fabricante.
8. Servicio—El usuario no debe intentar dar servicio al equipo eléctrico más allá a lo descrito en las instrucciones de operación. Todo otro servicio deberá ser referido a personal de servicio calificado.
9. El aparato eléctrico debe ser situado de tal manera que su posición no interfiera su uso. La colocación del aparato eléctrico sobre una cama, sofá, alfombra o superficie similar puede bloquea la ventilación, no se debe colocar en libreros o gabinetes que impidan el flujo de aire por los orificios de ventilación.
10. El equipo eléctrico deber ser situado fuera del alcance de fuentes de calor como radiadores, registros de calor, estufas u otros aparatos (incluyendo amplificadores) que producen calor.
11. El aparato eléctrico deberá ser connectado a una fuente de poder sólo del tipo descrito en el instructivo de operación, o como se indique en el aparato.
12. Precaución debe ser tomada de tal manera que la tierra fisica y la polarización del equipo no sea eliminada.
13. Los cables de la fuente de poder deben ser guiados de tal manera que no sean pisados ni pellizcados por objetos colocados sobre o contra ellos, poniendo particular atención a los contactos y receptáculos donde salen del aparato.
14. El equipo eléctrico debe ser limpiado únicamente de acuerdo a las recomendaciones del fabricante.
15. En caso de existir, una antena externa deberá ser localizada lejos de las lineas de energia.
16. El cable de corriente deberá ser desconectado del cuando el equipo no sea usado por un largo periodo de tiempo.
17. Cuidado debe ser tomado de tal manera que objectos liquidos no sean derramados sobre la cubierta u orificios de ventilación.
18. Servicio por personal calificado deberá ser provisto cuando:
    A: El cable de poder o el contacto ha sido dañado; u
    B: Objectos han caído o líquido ha sido derramado dentro del aparato; o
    C: El aparato ha sido expuesto a la lluvia; o
    D: El aparato parece no operar normalmente o muestra un cambio en su desempeño; o
    E: El aparato ha sido tirado o su cubierta ha sido dañada.

# APPENDIX B: DISCLAIMER/TRADEMARKS

## B.1 DISCLAIMER

Black Box Corporation shall not be liable for damages of any kind, including, but not limited to, punitive, consequential or cost of cover damages, resulting from any errors in the product information or specifications set forth in this document and Black Box Corporation may revise this document at any time without notice.

## B.2 TRADEMARKS USED IN THIS MANUAL

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# NOTES

# NOTES

# NOTES

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