MONOPRICE

Blackbird™ HDBaseT™ 5x1 Seamless Presentation Scaler/Switch

P/N 21875

User's Manual

CONTENTS

SAFETY WARNINGS AND GUIDELINES

Please read this entire manual before using this device, paying extra attention to these safety warnings and guidelines. Please keep this manual in a safe place for future reference.

- This device is intended for indoor use only.

- Do not expose this device to water or moisture of any kind. Do not place drinks or other containers with moisture on or near the device. If moisture does get in or on the device, immediately unplug it from the power outlet and allow it to fully dry before reapplying power.

- Do not touch the device, the power cord, or any other connected cables with wet hands.

- Do not expose this device to excessively high temperatures. Do not place it in, on, or near heat sources, such as a fireplace, stove, radiator, etc. Do not leave it in direct sunlight.

- Prior to operation, check the unit and power cord for physical damage. Do not use if physical damage has occurred.

- Before plugging the unit into a power outlet, ensure that the outlet provides the same type and level of power required by the device.

- Unplug this device from the power source when not in use.

- Take care to prevent damage to the power cord. Do not allow it to become crimped, pinched, walked on, or become tangled with other cords. Ensure that the power cord does not present a tripping hazard.

- Never unplug the unit by pulling on the power cord. Always grasp the connector head or adapter body.

- Ensure that power is turned off and disconnected before making any electrical connections.

- Clean using a soft, dry cloth only. Do not use chemical cleaners, solvents, or detergents. For stubborn deposits, moisten the cloth with warm water.

- This device has no user serviceable parts. Do not attempt to open, service, or modify this device.

INTRODUCTION

Thank you for purchasing this Blackbird™ HDBaseT™ 5x1 Seamless Presentation Scaler/Switch! This 5x1 Scaler/Switch features two standard HDMI® inputs, a combination HDMI/MHL® input, a DisplayPort input, and a combination VGA/Component/Composite video input. The DisplayPort and VGA inputs have corresponding 3.5mm stereo analog audio inputs, which the unit combines with the video for normal output of video and audio. It has a standard HDMI output and an HDBaseT output, both of which can be used at the same time. It scales any input up or down to the selected output and supports resolutions up to 1920x1200. It can transmit 1080p video to distances up to 229 feet (70 meters) over a single Cat6 Ethernet cable. It can be controlled using the front panel buttons, the included IR remote control, a web browser over a TCP/IP connection, or a computer using the RS232 control option.

FEATURES

- Two HDMI®, one HDMI/MHL®, one DisplayPort, and one combination VGA/Component/Composite video inputs

- Can transmit 1080p video signals to distances up to 229 feet (70 meters)

- HDMI and HDBaseT™ outputs, both of which can be used at the same time

- Scales video up or down to the selected resolution

- Supports eight different output resolutions (1920x1200, 1920x1080, 1600x1200, 1600x900, 1360x768, 1280x800, 1280x720, and 11024x768)

- Fully compliant with the HDMI 1.4 and HDCP 2.2 standards

- Balanced/unbalanced microphone input with optional +48V Phantom Power for use with dynamic and condenser mics, as well as line-level devices

- Bidirectional IR extender and RS232 control

- Supports front panel, IR remote control with built-in OSD, web-based GUI, and RS232 control options

- Supports CEC with commands to enable or disable it

PACKAGE CONTENTS

Please take an inventory of the package contents to ensure you have all the items listed below. If anything is missing or damaged, please contact Monoprice Customer Service for a replacement.

1x 5x1 HDBaseT™ scaler/switch

1x HDBaseT receiver

1x IR remote control

2x Short mounting brackets for scaler/switch

4x Short mounting bracket screws

2x Long mounting brackets for scaler/switch

6x Long mounting bracket screws

2x Mounting brackets for receiver

4x Receiver mounting bracket screws

1x AC power adapter (24 VDC, 2.71A)

1x VGA video cable

1x Video cable (VGA to 3x RCA)

1x RS232 cable (3-pin terminal block to DB9)

2x 3-pin terminal blocks

1x 5-pin terminal block

4x Plastic feet for scaler/switch

4x Plastic feet for receiver

1x IR transmitter

1x IR receiver

1x User's manual

CUSTOMER SERVICE

The Monoprice Customer Service department is dedicated to ensuring that your ordering, purchasing, and delivery experience is second to none. If you have any problem with your order, please give us an opportunity to make it right. You can contact a Monoprice Customer Service representative through the Live Chat link on our website **www.monoprice.com** during normal business hours (Mon-Fri: 5am-7pm PT, Sat-Sun: 9am-6pm PT) or via email at **support@monoprice.com**

PRODUCT OVERVIEW

Scaler/Switch Front Panel
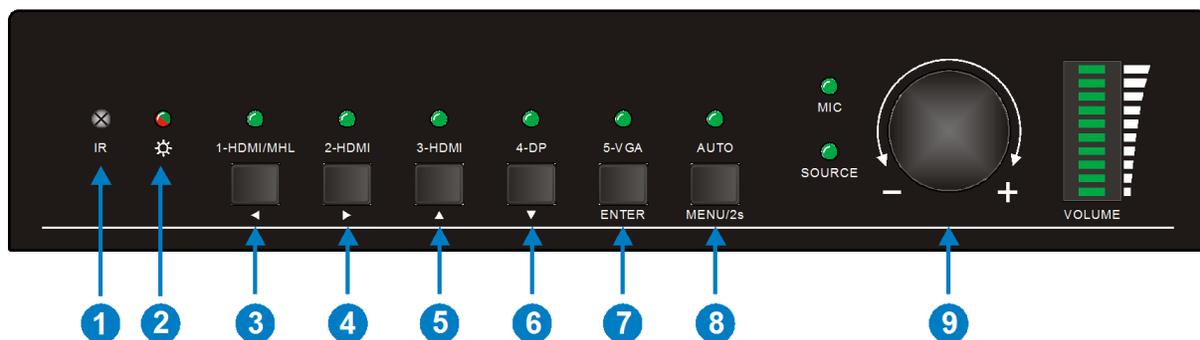
1. **IR:** IR receiver "eye".

2. **POWER LED:** The LED illuminates red when the unit is powered on. It illuminates red when in standby and is off when there is no power applied.

3. **HDMI/MHL/LEFT BUTTON AND LED:** Press the button to select the **1-HDMI/MHL** input. The LED will illuminate when the input is selected. The HDMI® input supports the MHL® feature, which allows the use of a passive MHL cable to connect an Android™ smartphone or tablet. When using the OSD menu, press the button to simulate the LEFT arrow button on the included remote control.

4. **HDMI/RIGHT BUTTON AND LED:** Press the button to select the **2-HDMI** input. The LED will illuminate when the input is selected. When using the OSD menu, press the button to simulate the RIGHT arrow button on the included remote control.

5. **HDMI/UP BUTTON AND LED:** Press the button to select the **3-HDMI** input. The LED will illuminate when the input is selected. When using the OSD menu, press the button to simulate the UP arrow button on the included remote control.

6. **DP/DOWN BUTTON AND LED:** Press the button to select the **4-DP** (DisplayPort) input. The LED will illuminate when the input is selected. When using the OSD menu, press the button to simulate the DOWN arrow button on the included remote control. Note that when this input is selected, the connected DisplayPort source may not be able to read the EDID capabilities of the connected display. If this occurs, disconnect then reconnect the DisplayPort cable.

7. **VGA/ENTER BUTTON AND LED:** Press the button to select the **5-VGA** input. The LED will illuminate when the input is selected. The 5-VGA input supports input from VGA sources, as well as Component (YPbPr) and Composite (CVBS) video sources. When using the OSD menu, press the button to simulate the **OK** button on the included remote control.

8. **AUTO SWITCHING/MENU BUTTON AND LED:** Press the button to enable or disable Auto Switching. Press and hold the button for about 2 seconds to activate the built-in OSD menu. The LED will illuminate when Auto Switching is enabled. Auto Switching mode cannot be selected when the VGA port is set for Component or Composite video input. When Auto Switching is enabled, the Scaler/Switch will perform as follows:

   - Whenever a new input signal is detected, it will automatically switch to that input.

   - If Auto Switching mode was enabled when power is lost, once power is reapplied, the unit will query all inputs from 1-5 for an available signal. It will then automatically switch to the first input found.

   - If the active input is removed, the unit will query all inputs from 1-5 for an available signal. It will then automatically switch to the first input found.

9. **VOLUME KNOB AND LEDS:** Turn the knob clockwise to increase the volume or counterclockwise to decrease the volume. The LEDs will illuminate to indicate the relative volume level.

Rear Panel
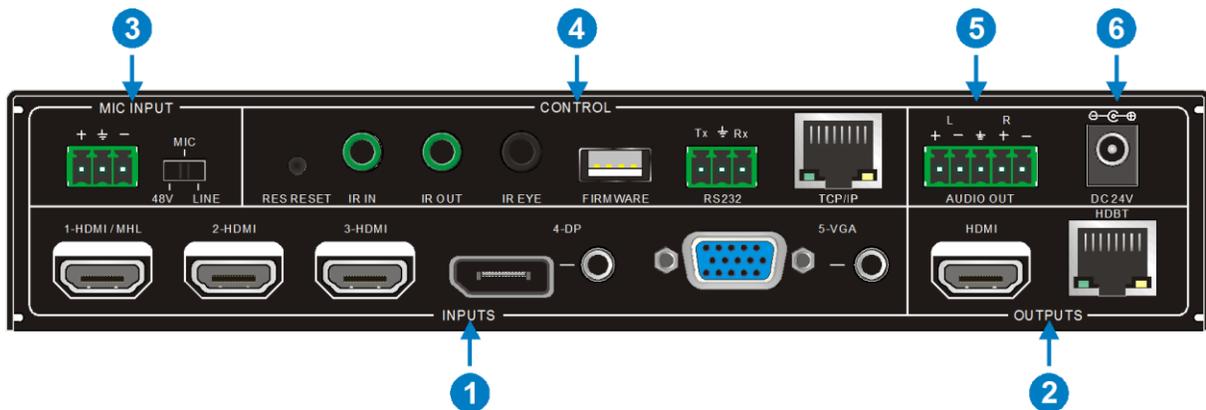
1. **INPUTS:** One **HDMI/MHL** video input, two **HDMI**® video inputs, a **DisplayPort (DP)** input with corresponding 3.5mm audio input, and a combination **VGA** video input with corresponding 3.5mm audio input. The VGA input supports Component (YPbPr) and Composite (CVBS) inputs using the included VGA to 3x RCA video cable.

2. **OUTPUTS: HDMI** output for connection to a local display and **HDBT** output for connecting the included HDBaseT™ receiver. The green LED on the RJ45 jack blinks when power is applied, while the yellow LED illuminates when a successful connection with the remote HDBaseT receiver is detected. Both outputs are simultaneously active.

3. **MIC INPUT:** 3-pin terminal block for connecting a microphone or line-level audio device. Place the switch in the **48V** position if a condenser microphone that requires Phantom Power is connected. Place it in the **MIC** position when a dynamic microphone is connected and put it in the **LINE** position when a line-level audio device, such as a wireless microphone, is connected. The input supports both balanced and unbalanced connections.

4. **CONTROL:** Press the **RES RESET** button to reset the output video resolution to 1280x720p. Connect the included IR receiver to the **IR IN** jack if you want to control the remote display from the scaler/switch end. Connect the included IR transmitter to the **IR OUT** jack if you want to control the source devices from the remote location. Plug the included IR receiver into the **IR EYE** jack if the IR "eye" on the front panel is blocked, such as when the scaler/switch is in a closet or equipment cabinet. Plug a USB flash drive with a firmware update file into the **FIRMWARE** port in the

event that a firmware update is available. Connect the included RS232 cable to the **RS232** terminal block if you want to control the scaler/switch using your computer and a third party RS232 software. Connect an Ethernet cable to the **TCP/IP** RJ45 jack to a network router or switch if you want to control the scaler/switch using a web browser. You can also connect directly to the Ethernet port on your computer, but will need to configure your PC's network settings to communicate with the switch.

5. **AUDIO OUT:** 5-pin terminal block for connecting an amplifier, powered speakers, or a mixer. It supports both balanced and unbalanced connections.

6. **DC 24V:** DC barrel connector for connecting the included AC power adapter.

IR Remote Control

1. **STANDBY BUTTON:** Press the button to power the unit on or to put it into standby mode.

2. **INPUT BUTTONS:** Press the button corresponding to the desired input to switch to that input.

3. **AUTO BUTTON:** Press the button to enable or disable Auto Switching.

4. **MUTE BUTTON:** Press the button to enable or disable audio muting.

5. **VOL BUTTON:** Press the button to display the volume adjustment menu on the display, then press the **UP** and **DOWN** arrow buttons to adjust the volume.

6. **NAVIGATION BUTTONS:** Use the arrow buttons to navigate the OSD menu. Use the **UP** and **DOWN** arrow buttons to adjust the volume when the volume adjustment menu is displayed. Press the **OK** button to select the highlighted entry in the built-in OSD menu.
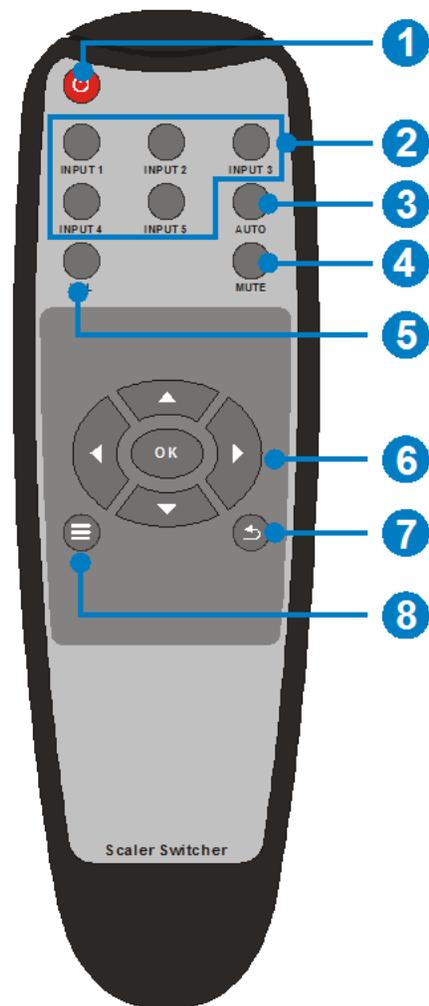
7. **EXIT BUTTON:** Press the button to exit the OSD menu or to cancel the current operation.

8. **MENU BUTTON:** Press the button to access the built-in OSD menu.

INSTALLATION

Perform the following steps to install the scaler/switch and HDBaseT™ receiver.
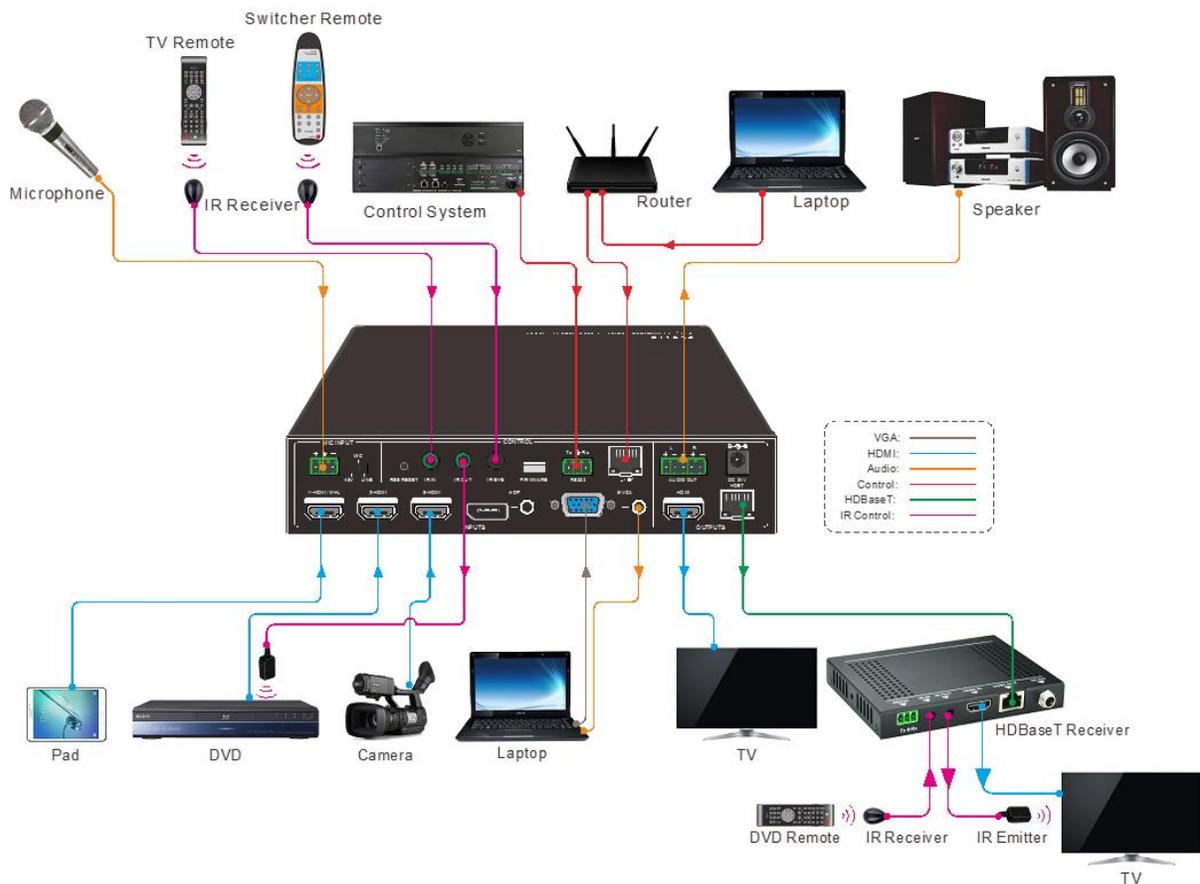
1. Ensure that all equipment to be connected is powered off and unplugged from its power source.

2. Place the scaler/switch and the HDBaseT™ receiver in their intended location. Use the mounting brackets as desired.

3. Using a High Speed HDMI® Cable (not included), plug one end into the HDMI input on your remote display, then plug the other end into the **HDMI** port on the HDBaseT receiver.

4. (Optional) If you want to control the video source devices from the remote location, plug the included IR receiver or another wideband IR receiver into the **IR IN** jack on the HDBaseT™ receiver.

5. (Optional) If you want to control the remote display from the scaler/switch end, plug the included IR transmitter or another wideband IR transmitter into the **IR OUT** jack on the HDBaseT™ receiver.

6. Using a High Speed HDMI® Cable (not included), plug one end into the HDMI input on your local display, then plug the other end into the **HDMI OUTPUT** port on the scaler/switch.

7. (Optional) If you want to control the video source devices from the remote location, plug the included IR transmitter or another wideband IR transmitter into the **IR OUT** jack on the scaler/switch.

8. (Optional) If you want to control the remote display from the scaler/switch location, plug the included IR receiver or another wideband IR receiver into the **IR IN** jack on the scaler/switch.

9. (Optional) If the IR "eye" on the front panel will be blocked or obscured, such as when the scaler/switch is installed in a closet or equipment cabinet, plug the included IR receiver or another wideband IR receiver into the **IR EYE** jack on the scaler/switch, then position the "eye" where it can receive IR signals from the included remote control.

10. Using a High Speed HDMI Cable (not included), plug one end into the **1-HDMI/MHL® INPUT** on the scaler/switch, then plug the other end into the HDMI output of your HDMI video source device (e.g., Blu-ray Disc™ Player, DVD player, Camera, etc.). Alternatively, using a passive MHL cable (not included), plug the HDMI end into the **1-HDMI/MHL INPUT**, then plug the other end into the micro USB port on an MHL-enabled Android™ smartphone or tablet.

11. Using a High Speed HDMI® Cable (not included), plug one end into the **2-HDMI INPUT**, then plug the other end into the HDMI output on your HDMI video source device.

12. Using a High Speed HDMI® Cable (not included), plug one end into the **3-HDMI INPUT**, then plug the other end into the HDMI output on your HDMI video source device.

13. Using a DisplayPort cable (not included), plug one end into the **4-DP INPUT**, then plug the other end into the DisplayPort output on your DisplayPort video source device.

14. Using a 3.5mm audio cable, plug one end into the 3.5mm audio jack associated with the **4-DP INPUT**, then plug the other end into the audio output on your DisplayPort video source device.

15. Using the included VGA cable, plug one end into the **5-VGA INPUT**, then plug the other end into the VGA output on your VGA video source device (e.g., computer). Alternatively, plug the included Video Cable into the **5-VGA INPUT**, then plug the red, green, and blue RCA plugs into the corresponding Component (YPbPr) RCA jacks on your Component video source device or plug the red RCA plug into the video RCA jack on your Composite (CVBS) video source device.

16. Using a 3.5mm audio cable (not included), plug one end into the 3.5mm audio jack associated with the **5-VGA INPUT**, then plug the other end into the 3.5mm audio output on your VGA source device. Alternatively, using a 3.5mm to stereo RCA cable (not included), plug the 3.5mm end into the 3.5mm audio jack associated with the **5-VGA INPUT**, then plug the stereo RCA jacks into the stereo RCA outputs on your Component (YPbPr) or Composite (CVBS) video source device.

17. Using a Cat6 Ethernet cable (not included), plug one end into the **HDBT** RJ45 jack on the HDBaseT™ receiver, then plug the other end into the **HDBT OUTPUT** on the scaler/switch.

18. (Optional) If you want to control the scaler/switch using your computer and third party RS232 control software, plug 3-pin terminal end of the included RS232 cable into the **RS232 CONTROL** terminal on the scaler/switch, then plug the DB9 connector into one of your computer's COM ports.

19. (Optional) If you want to control the scaler/switch using a web browser, plug one end of an Ethernet cable into the **TCP/IP CONTROL** RJ45 jack on the scaler/switch, then plug the other end into a router or Ethernet switch in your Ethernet network. Alternatively, you can connect directly to the Ethernet jack on your computer, but will need to configure its network settings to communicate with the scaler/switch.

20. (Optional) If you want to connect a separate amplifier or powered speakers, wire the included 5-pin terminal block to an appropriate audio cable (e.g., stereo RCA), then plug it into the **AUDIO OUT** terminal block on the scaler/switch. See the *AUDIO OUT CONNECTION* section for details on wiring the terminal block.

21. (Optional) If you want to connect a microphone or line-level audio device to the scaler/switch, wire one of the included 3-pin terminal blocks to the microphone or audio cable. Next, position the **MIC** switch to the **48V** position if connecting a condenser microphone, to the **MIC** position if connecting a dynamic microphone, or to the **LINE** position if connecting a line-level audio device. Finally, plug the microphone or audio cable into the **MIC INPUT** terminal block. See the *MICROPHONE CONNECTION* section for details on wiring the terminal block.

22. Plug the DC barrel connector on the included AC power adapter into the **DC 24V** jack on scaler/switch, then plug the adapter into a nearby AC power outlet.

23. Plug in and power on all connected equipment, then start video playback on each video input device. Verify that the video can be seen on both the remote and local displays and that you can switch between the connected video inputs.

CONFIGURING FOR TCP/IP CONTROL

If you connected the matrix/transmitter to an existing network, there is no special configuration required. However, if you connected your PC's network interface directly to the TCP/IP jack on the matrix/transmitter, you will need to configure your PC's network settings to communicate with the matrix/transmitter. The matrix/transmitter uses the following network settings:

IP Address: 192.168.0.178

Subnet Mask: 255.255.255.0

Gateway: 192.168.0.1

The default IP Address, Subnet Mask, and Gateway can be changed using the TCP/IP GUI interface.
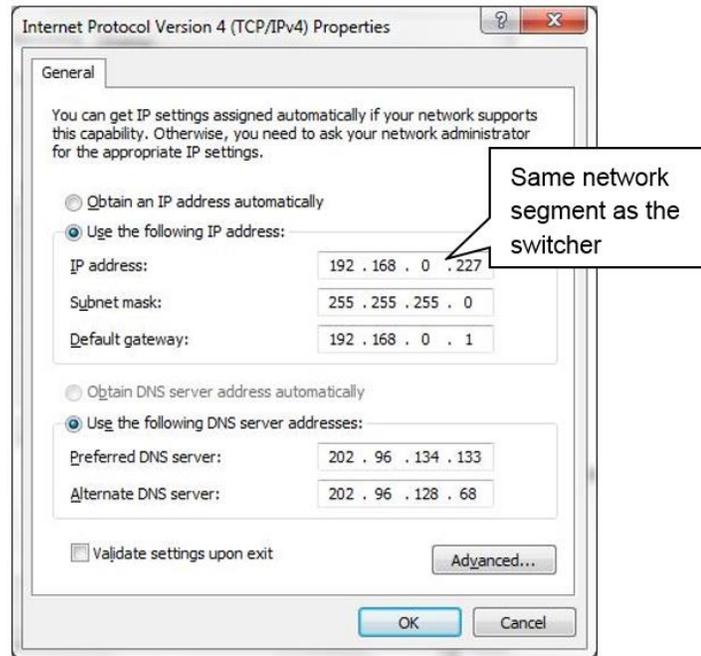
VGA INPUT

The VGA input can accept VGA, Component (YPbPr), and Composite (CVBS) video signals. The unit will automatically detect the input type and will convert and scale it to the HDMI® output.

- When connecting to a VGA input, use a standard HD15 VGA cable.

- When connecting to a Component (YPbPr) video source, connect the Red, Blue, and Green plugs to the corresponding video outputs on your Component source device.

- When connecting to a Composite (CVBS) video source, plug the red connector into the video output (normally yellow).
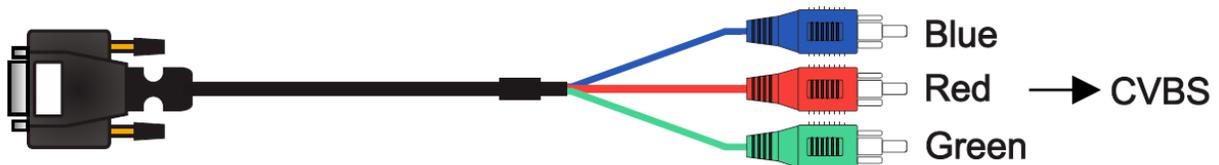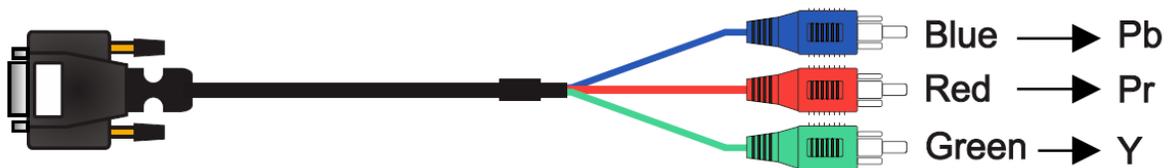
AUDIO OUT CONNECTION

- The AUDIO OUT terminal block features + and - terminals for each of the two channels (L and R), plus a common ground connection.

- If making an unbalanced connection, connect the + and - leads to the + and - terminals and leave the ground terminal unconnected.

- If making a balanced connection, connect the + and - leads to the + and - terminals, then connect each channel's ground to the common ground terminal.

MICROPHONE CONNECTION

Condenser Microphones

When using a condenser microphone, which requires +48V Phantom Power, slide the **MIC** switch to the **48V** position and wire the microphone to the 3-pin MIC terminal block as shown below:
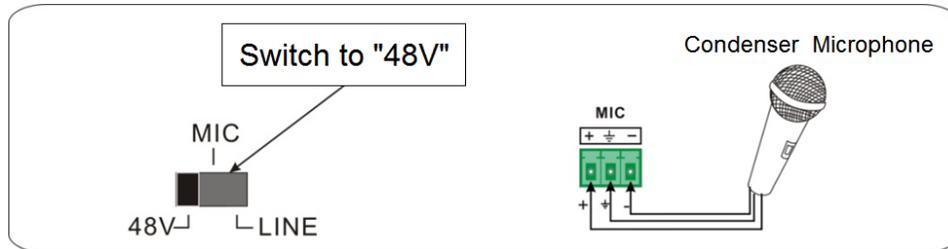
Dynamic Microphones

Dynamic microphones can be connected using an unbalanced or balanced type connection. When connecting a dynamic microphone, first slide the **MIC** switch to the **MIC** position, then wire the microphone as shown in one of the following diagrams.
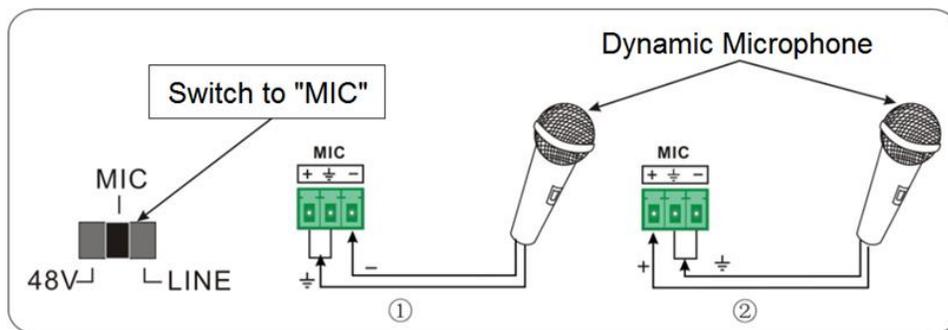
Unbalanced Connection
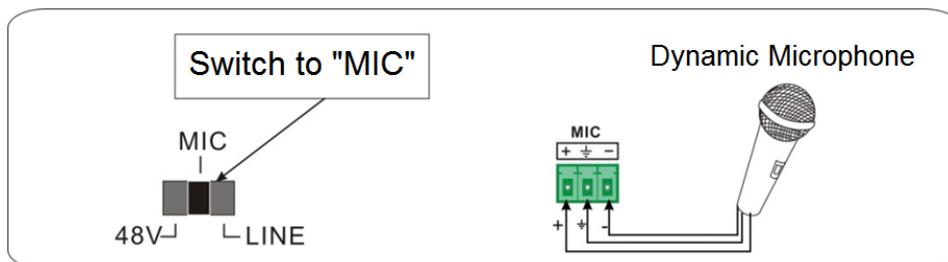
Balanced Connection

Line Connection

In addition to dynamic and condenser microphones, you can connect line level audio sources, such as a wireless microphone, a mixer, etc. Line level inputs can be made using unbalanced or balanced type connections. When using a line level connection, first slide the **MIC** switch to the **LINE** position, then wire the terminal block as shown in one of the following diagrams.
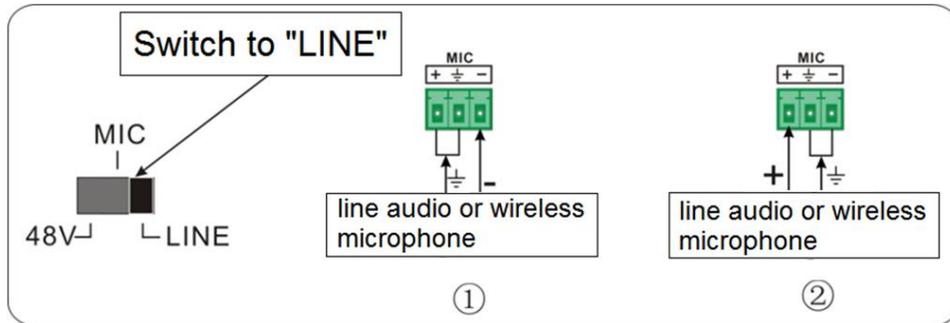
Unbalanced Connection
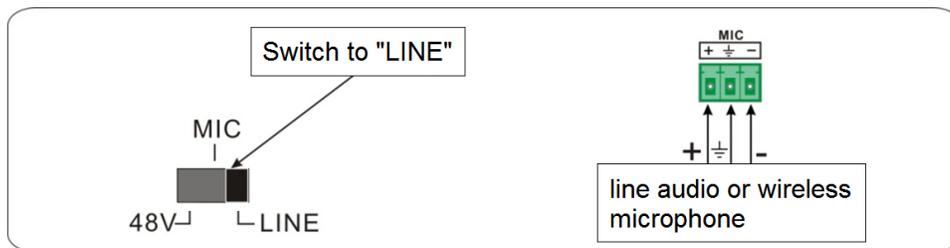
Balanced Connection

CEC FUNCTIONALITY

The scaler/switch supports the HDMI® CEC function, which allows connected HDMI® devices to be controlled using a single remote control. The CEC function can be turned on or off using RS232 control. To turn it on, send the command **50686%** and to turn it off send the command **50687%**. The scaler/switch responds as shown in the table below.

Condition	Functionality
CEC ON, Standby ON	Press the **Standby** button on the remote control to exit Standby mode. All connected HDMI® source devices and displays will also exit Standby mode.
CEC OFF, Standby ON	Press the **Standby** button on the remote control to exit Standby mode. All connected HDMI source devices and displays will remain in whichever mode they were in.
CEC ON, Standby OFF	Use the ▲, ▼, ◄, ►, and OK buttons on the remote control to control the connected HDMI® source devices. Press the **Standby** button on the remote control to enter Standby mode. All connected HDMI source devices and displays will also enter Standby mode.
CEC OFF, Standby OFF	The connected HDMI source devices cannot be controlled using the included remote control. Press the **Standby** button on the remote control to enter Standby mode. All connected HDMI source devices and displays will remain in whichever mode they were in.

OPERATION

Front Panel Controls

- Press the **1-HDMI/MHL**®, **2-HDMI**®, **3-HDMI**, **4-DP**, and **5-VGA** buttons to select that input. The corresponding LED will illuminate to indicate that it is active input.

- Press the **AUTO** button to toggle Auto Switching on or off. The LED will illuminate when Auto Switching is enabled.

- Press and hold the **AUTO** button for about 2 seconds to activate the built-in OSD menu.

- When the OSD menu is active, press the **1-HDMI/MHL** button to move the highlight left or to decrease the selected value.

- When the OSD menu is active, press the **2-HDMI** button to move the highlight right or to increase the selected value.

- When the OSD menu is active, press the **3-HDMI** button to move the highlight up.

- When the OSD menu is active, press the **4-DP** button to move the highlight down.

- When the OSD menu is active, press the **5-VGA** button to enter the highlighted submenu, to edit the highlighted entry, or to accept the edited value.

Remote Control

- Press the **STANDBY (1)** button to enter or exit Standby mode.

- Press one of the five **INPUT (2)** buttons to select that input.

- Press the **AUTO (3)** button to enable or disable Auto Switching.

- Press the **MUTE (4)** button to turn volume muting on or off.

- Press the **VOL (5)** button to activate the volume adjustment menu.

- Press the **"arrow" (6)** buttons to move the highlight when the OSD is displayed.

- Press the **OK (6)** button to enter the highlighted submenu, to edit the highlighted entry, or to accept the edited value.

- Press the **EXIT (7)** button to exit the displayed menu or to cancel the editing operation.

- Press the **MENU (8)** button to activate the built-in OSD menu.
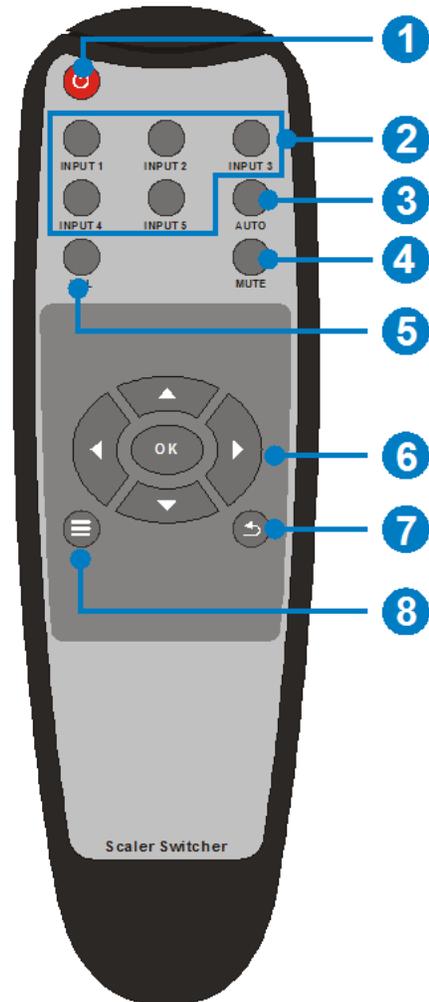
OSD Menu Control

The built-in OSD menu system allows you to control many of the basic parameters and system settings. Perform one of the following steps to access the built-in OSD menu system.

- Press the **MENU (▤)** button on the remote control.

- Press and hold the **AUTO/MENU** button on the front panel for about 2 seconds.

- Send the command **50616%** using either third party RS232 control software or from the **RS232 Control** screen in the **TCP/IP** menu system.

Use the **arrow** buttons on the included remote control or on the front panel to navigate the OSD menu system. Use the **OK** button on the remote control or the **ENTER** button on the front panel to confirm the selection.

Use the **Options** screen in the OSD system to adjust the following parameters and settings.
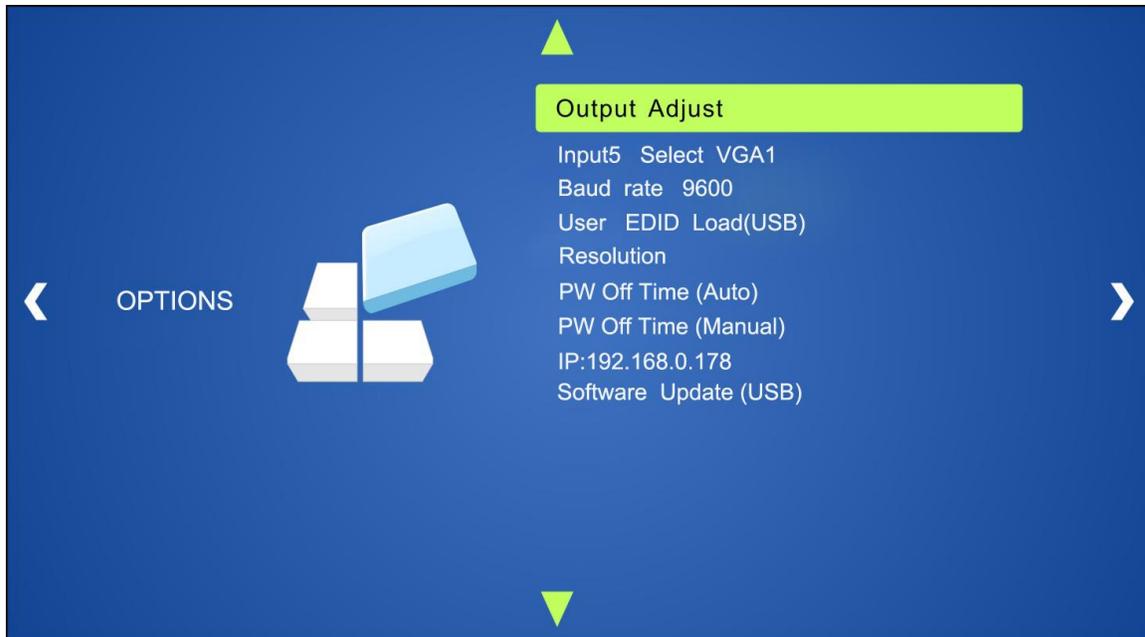
Output Adjust: Allows adjustment of the following elements:

- Image position X and Y

- Aspect ratio

- H Polarity and V Polarity

- HDMI output on/off

- HDBaseT output on/off

Input5 Select: Allows you to determine the type of video signal for Input5. You may set it to **VGA1** for VGA signal, **AV1** for composite video, or **YPbPr** for component video.

Baud Rate: Allows you to set the RS232 communication speed. You may set it to **2400, 4800, 9600, 19200, 38400, 57600,** or **115200.**

User EDID Load(USB): Allows you to update the EDID settings after inserting a flash drive with the update file into the **FIRMWARE** port on the rear panel.

Resolution: Allows you to set the output resolution. You may set it to **1920x1200, 1920x1080, 1600x1200, 1360x768, 1280x720,** or **1024x768.**

PW Off Time (Auto): Allows you to set the length of inactivity when Auto Switching mode is enabled before the scaler/switch automatically powers off. You may set it to **0, 1, 2, 5,** or **10** minutes. When set to **0** the scaler/switch will not automatically power off.

PW On Time (Manual): Allows you to set the length of inactivity when Auto Switching mode is disabled before the scaler/switch automatically powers off. You may set it to **0, 1, 2, 5,** or **10** minutes. When set to **0** the scaler/switch will not automatically power off.

IP: Displays the IP address.

Software Update (USB): Allows you to update the built-in OSD menu system.

Use the **Picture** screen in the OSD system to adjust the following parameters and settings.
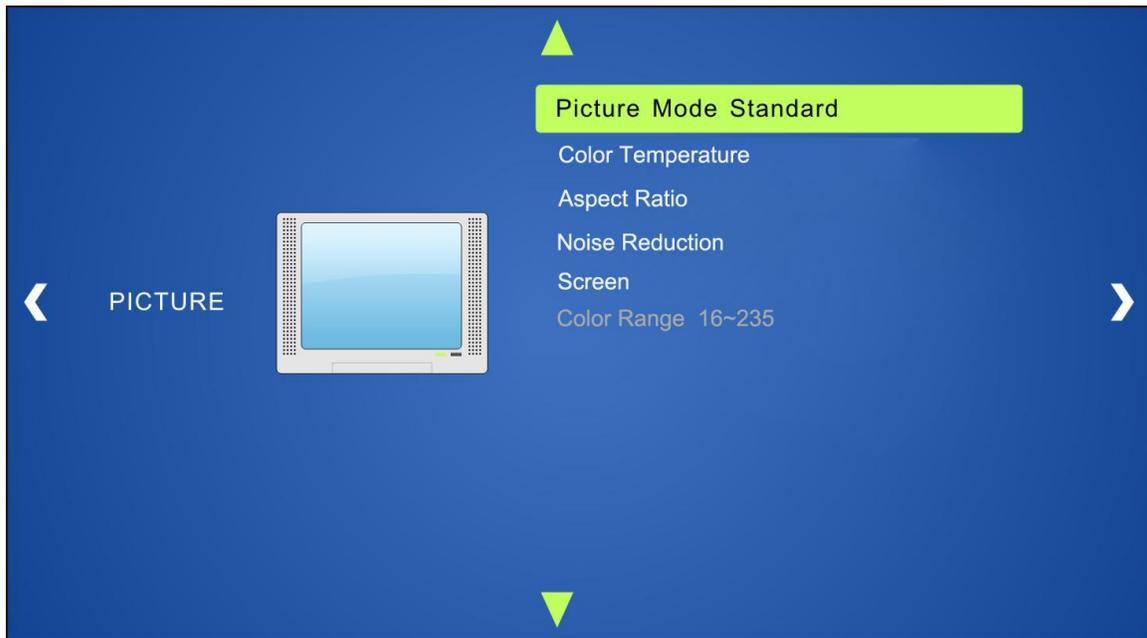
Picture Mode: Allows you to select one of the image mode presets or to set the individual settings directly. The available options are **Dynamic, Standard, Mild,** and **User.** When set to **User,** you can set the individual image **Contrast, Brightness, Color,** and **Sharpness.**

Color Temperature: Allows you to select one of the color balance presets or to set the individual color values directly. You may select **Cool, Medium, Warm,** and **User.** When set to **User,** you may set the individual amounts of the **Red, Green,** and **Blue** colors.

Aspect Ratio: Allows you to set the image aspect ratio. You may set it to **Native, 4:3, 16:9, Zoom1, Zoom2, Just Scan,** and **Panorama.** When using a VGA input signal you may only select **4:3, 16:9,** or **Panorama.**

Noise Reduction: Allows you to set the amount of Noise Reduction used. You can set it to **Off, Low, Middle, High,** and **Default.** This option is not supported when using a VGA input signal.

Screen: Allows you to adjust non-HDMI screen parameters. You may choose **Auto Adjust** or may manually set the **Horizontal Size, Vertical Size,** and **Phase.**

Use the **Setup** screen in the OSD system to adjust the following parameters and settings.
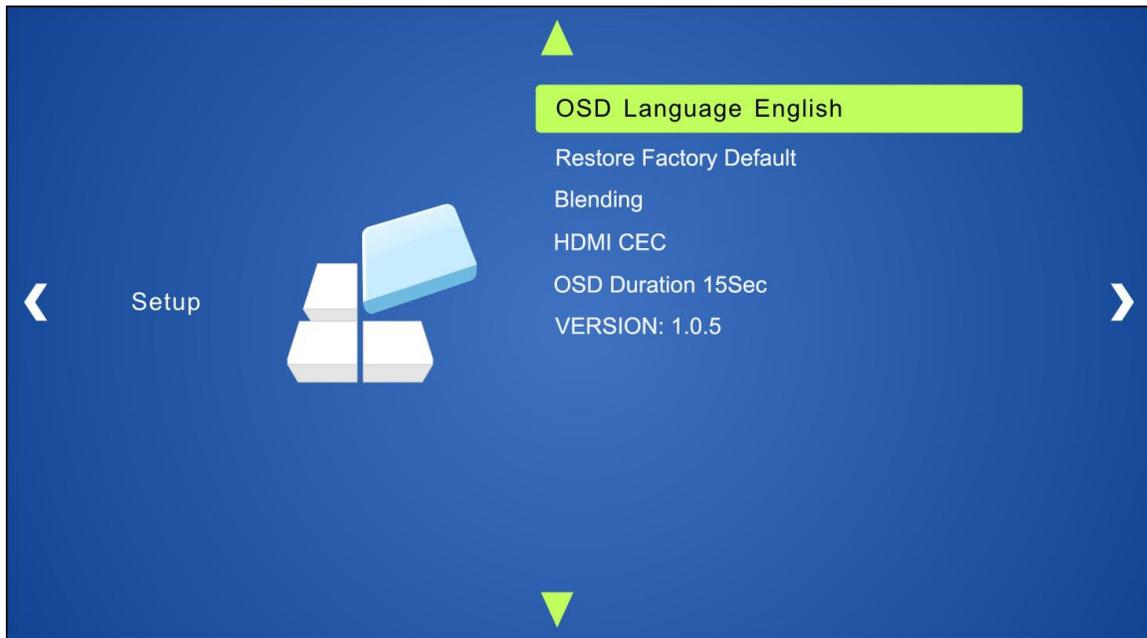
OSD Language: Allows you to select one of the 7 languages used in the OSD menu
system.

Restore Factory Default: Select this option to restore all settings to their factory default
values. You will be asked to confirm the operation.

Blending: You may set it to **Low, Middle, High,** and **Off.**

HDMI CEC: Allows you to enable or disable the HDMI CEC function.

OSD Duration: Allows you to set the amount of time the OSD menu will be displayed
without any input activity before it automatically exits menu screen. You may
set it to **Off, 5 Sec, 10 Sec,** and **15 Sec.** When set to **Off,** the menu will not
automatically exit.

Version: Displays the software version number.

TCP/IP Control

If you have connected the matrix/transmitter to your Ethernet network or if you connected your PC's network card directly to the TCP/IP port on the matrix/transmitter, you can access the built-in TCP/IP Graphical User Interface (GUI) by opening your internet browser and typing the IP address into the address field. The default IP address is:

192.168.0.178

After pressing **ENTER,** you will be presented with the **Login** screen.
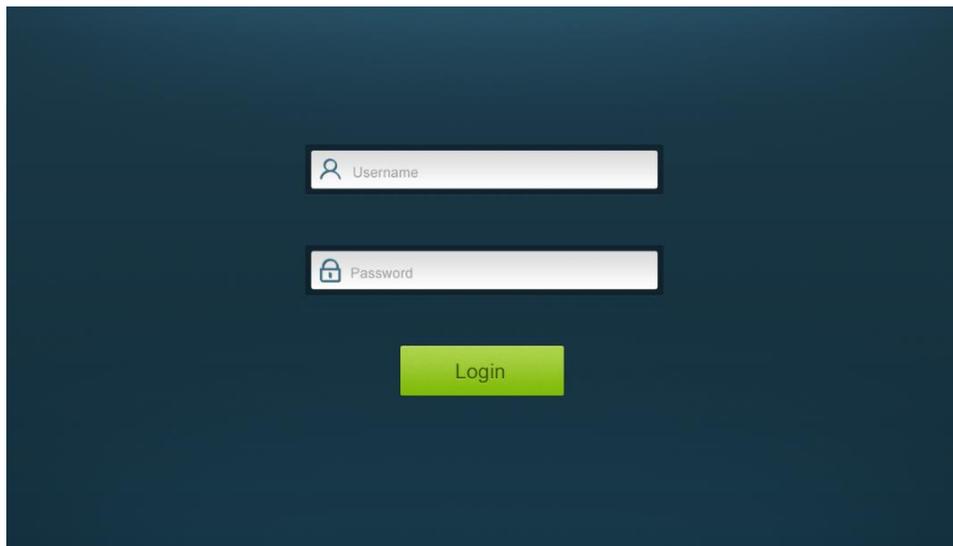
Type the **username** and **password** into the appropriate fields, then click the **Login** button. The default username and password is:

Username	Password
user	user

Once you have logged in, you will be presented with the **Control** screen.

Source: Click the **1-HDMI/MHL**®, **2-HDMI**®, **3-HDMI**, **4-DP,** and **5-VGA** buttons to select that input.

AUTO: Click the **AUTO** button to enable or disable Auto Switching.

VGA Adjust: Click the **VGA Adjust** button to adjust the positioning of the VGA image on screen.

DP Audio: Click the **DP Audio** to enable or disable DisplayPort external audio.

Source Power: Click the **Source Power** button to turn the selected source device on or off.

Display Power: Click the **Display Power** button to turn the connected display on or off.

Local Power: Click the **Local Power** button to put the scaler/switch into Standby mode.

MIC Volume: Drag the slider or click the **-** and **+** buttons to set the volume level for the microphone. Click the **MIC Mute** button to turn microphone muting on or off.

Source Volume: Drag the slider or click the **-** and **+** buttons to set the volume level for the source devices. Click the **Source Mute** button to turn microphone muting on or off.

🛠: Click the 🛠 button to access the **Configuration Setting** menu.

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Click the ⚙ button on the Control menu to access the **Configuration Setting** menu.

Network: Click the **Network** radio button to display the **Network Configuration** screen.

Source Label: Click the **Source Label** radio button to display the **Source Label Configuration** screen.

Output Resolution: Click one of the radio buttons next to the desired resolution, then click the **Confirm** button to make the change.

EDID Update: Insert a USB flash drive with the EDID update file into the **FIRMWARE** port on the scaler/switch, then click the **EDID Update** button to perform the update.

Firmware Update: Insert a USB flash drive with the firmware update file into the **FIRMWARE** port on the scaler/switch, then click the **Firmware Update** button to perform the update.

Shutdown Timer (No Input): Use the pull-down list boxes to set the amount of time the scaler/switch is inactive with no video input before it shuts down for both **AUTO** and **MANU**al switching modes. The amount of time can be set to **None** (no shutdown), **1 Minute**, **2 Minutes**, **5 Minutes**, or **10 Minutes**.

⟲: Click the ⟲ icon to display the **Control** screen.

Click the **Network** radio button from one of the other **Configuration** screens to display the **Network Configuration** screen.
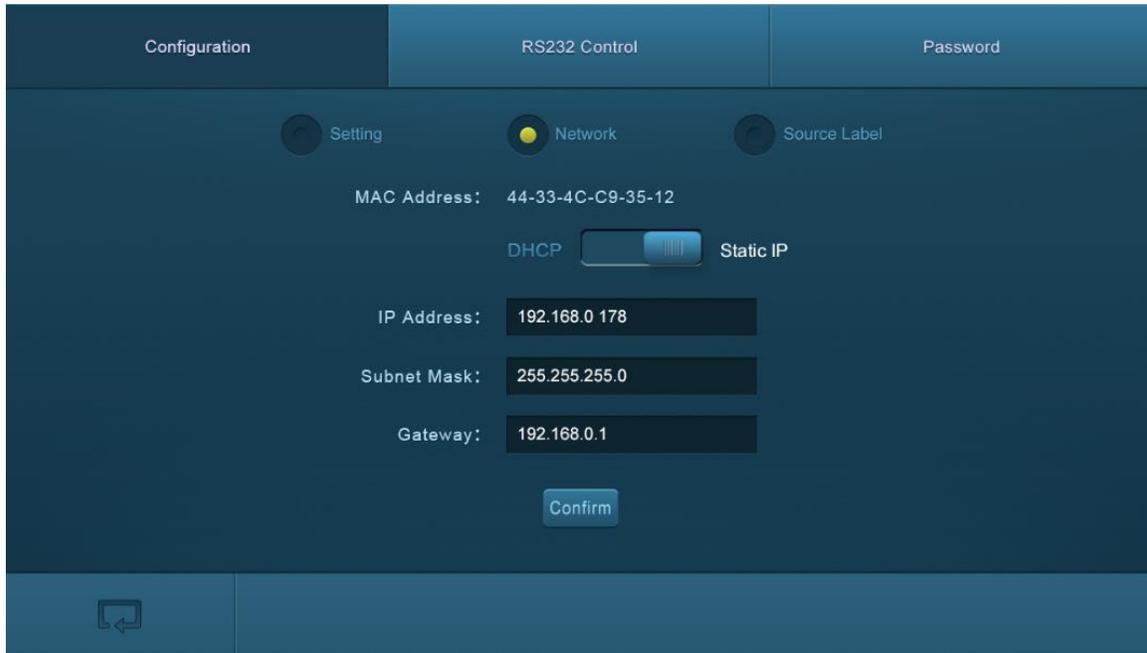
Setting: Click the **Setting** radio button to display the **Setting Configuration** screen.

Source Label: Click the **Source Label** radio button to display the **Source Label Configuration** screen.

MAC Address: Displays the MAC address for the scaler/switch.

DHCP/Static IP: Slide the switch to the **DHCP** position to use a dynamically assigned IP address or to the **Static IP** position to use a fixed IP address.

IP Address: Displays and allows editing of the IP address. The default value is 192.168.0.178.

Subnet Mask: Displays and allows editing of the Subnet Mask. The default value is 255.255.255.0.

Gateway: Displays and allows editing of the Gateway. The default value is 192.168.0.1.

Confirm: Click the **Confirm** button to save any changes.

: Click the icon to display the **Control** screen.

Click the **Source Label** radio button from one of the other **Configuration** screens to display the **Source Label Configuration** screen.
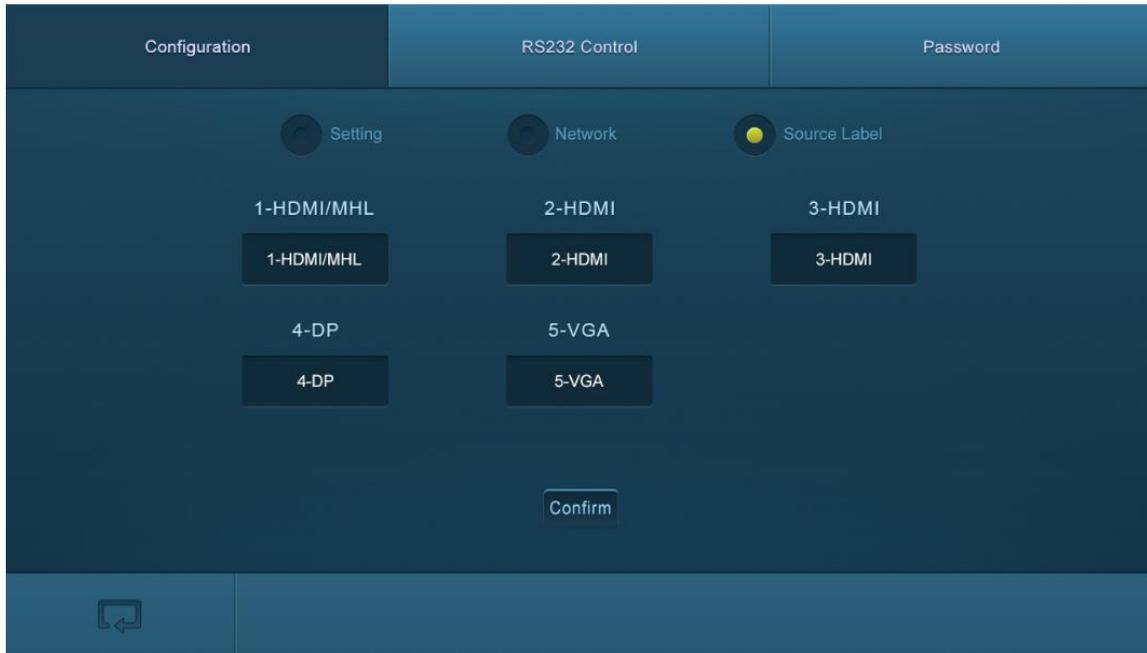
Setting: Click the **Setting** radio button to display the **Setting Configuration** screen.

Network: Click the **Network** radio button to display the **Network Configuration** screen.

1-HDMI/MHL: Click inside the **1-HDMI/MHL®** text field to edit the label used on screen for INPUT 1.

2-HDMI: Click inside the **2-HDMI®** text field to edit the label used on screen for INPUT 2.

3-HDMI: Click inside the **3-HDMI** text field to edit the label used on screen for INPUT 3.

4-DP: Click inside the **4-DP** text field to edit the label used on screen for INPUT 4.

5-VGA: Click inside the **5-VGA** text field to edit the label used on screen for INPUT 5.

Confirm: Click the **Confirm** button to save any changes.

: Click the icon to display the **Control** screen.

Click the **RS232 Control** tab to display the **RS232 Control** screen.
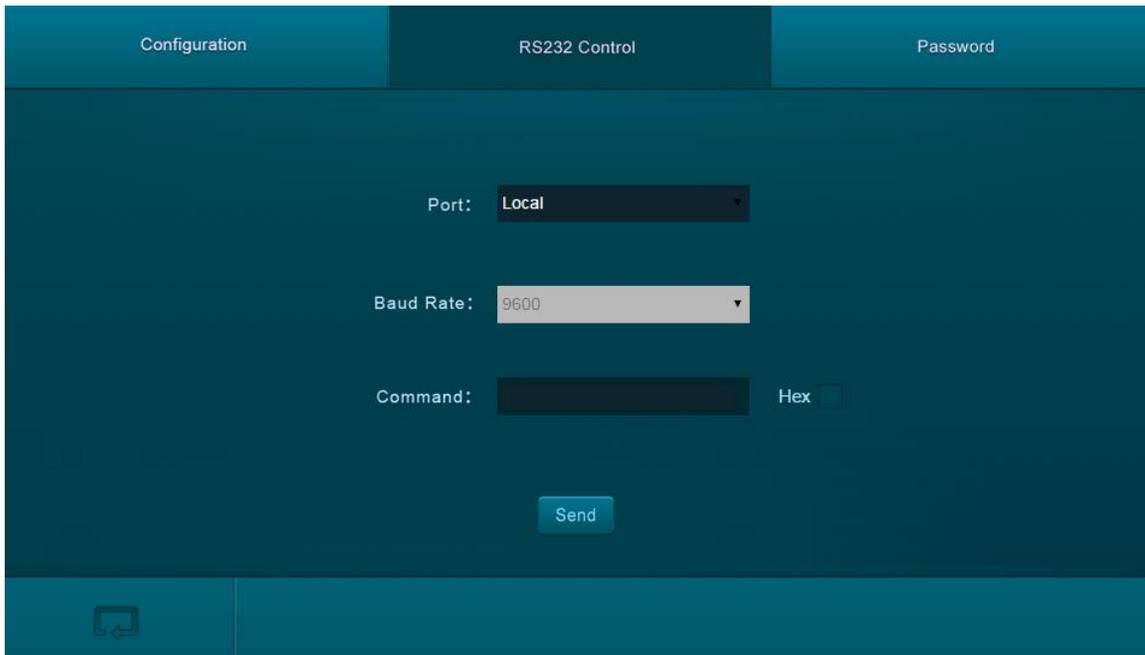
Port: Use the pull-down list box to select **Local**, which refers to the RS232 port of the scaler/switch, or **HDBT**, which refers to the RS232 port of the HDBaseT™ receiver.

Baud Rate: Use the pull-down list box to set the baud rate. The baud rate for the Local port is fixed at 9600, but the HDBaseT receiver can accept other baud rates. The available baud rates for the receiver are **2400, 4800, 9600, 19200, 38400, 57600, and 115200**.

Command: Type the desired RS232 command in to the text field.

Hex: Check the **Hex** checkbox if the RS232 command is in hexadecimal format. Leave it unchecked if the command is in decimal form.

Send: Click the Send button to send the RS232 command to the selected RS232 port.

: Click the icon to display the **Control** screen.

Click the **Password** tab to display the **Password** screen.
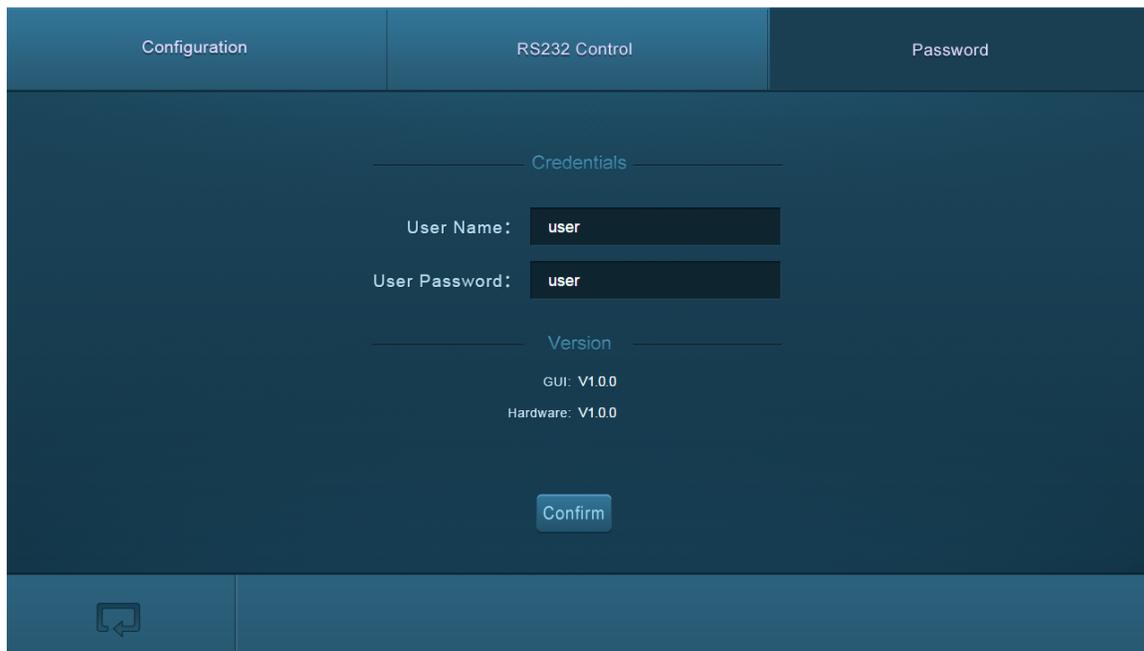
User Name: Displays and allows editing of the default username. The default is username is **user**.

User Password: Displays and allows editing of the default password. The default password is **user**.

GUI: Displays the GUI version number.

Hardware: Displays the hardware version number.

Confirm: Click the **Confirm** button to save any changes.

: Click the icon to display the **Control** screen.

RS232 Control

If you wish to control the matrix/transmitter from your PC using an RS232 connection, you will need to use a third party RS232 control software package, such as CommWatch.exe, whose interface is depicted below.
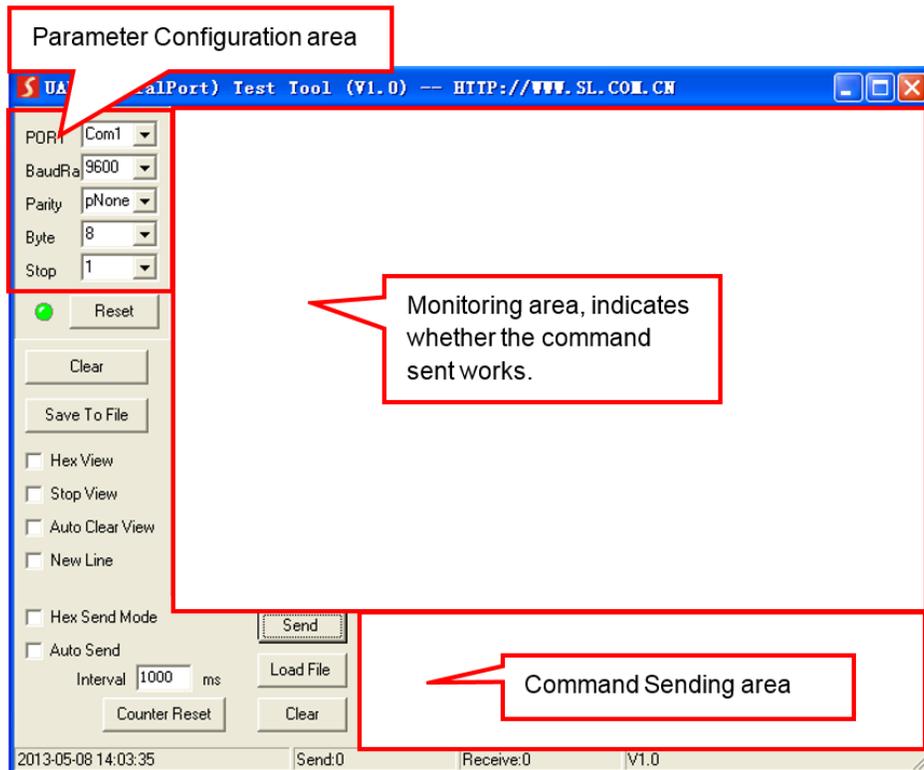
Set the communications parameters to the following:

Baud Rate: 9600

Data Bits: 8

Stop Bits: 1

Parity Bits: None

Command	Function	Feedback Example
Switching Commands		
50701%	Switches to the 1-HDMI/MHL® input.	Switch to HDMI 1
50702%	Switches to the 2-HDMI® input.	Switch to HDMI 2
50703%	Switches to the 3-HDMI input.	Switch to HDMI 3
50704%	Switches to the 4-DP input.	Switch to DP
50705%	Switches to the 5-VGA input.	Switch to VGA1 (or AV1 or YPbPr1)
50683%	Sets the 5-VGA input to accept VGA signals, then switches to the 5-VGA input.	Input 5 Set & Switch to VGA
50684%	Sets the 5-VGA input to accept Component (YPbPr) signals, then switches to the 5-VGA input.	Input 5 Set & Switch to YPbPr
50685%	Sets the 5-VGA input to accept Composite (CVBS) signals, then switches to the 5-VGA input.	Input 5 Set & Switch to AV
50785%	Enables Auto Switching.	Auto Switching
50786%	Disables Auto Switching.	Manual Switching
Audio Commands		
50600%	Enables source audio muting.	Source Mute
50601%	Disables source audio muting.	Source Unmute
50602%	Increases the volume level of the source audio.	Source Volume: xx (xx=00~60)
50603%	Decreases the volume level of the source audio.	Source Volume: xx (xx=00~60)
510xx%	Directly sets the volume level of the source audio to xx. (xx=00~60)	Source Volume: xx (xx=00~60)

Command	Function	Feedback Example
50722%	Enables microphone audio muting.	MIC Mute
50723%	Disables microphone audio muting.	MIC Unmute
50726%	Enables VGA audio muting.	VGA audio Mute
50727%	Disables VGA audio muting.	VGA audio Unmute
50728%	Enables DisplayPort audio muting.	DP audio Mute
50729%	Disables DisplayPort audio muting	DP audio Unmute
50724%	Increases the volume level of the microphone audio.	Source Volume: xx (xx=00~60)
50725%	Decreases the volume level of the microphone audio.	Source Volume: xx (xx=00~60)
508xx%	Directly sets the volume level of the microphone audio to xx. (xx=00~60)	Source Volume: xx (xx=00~60)
50706%	Sets the DisplayPort input to use embedded audio.	DP Audio from Embedded
50707%	Sets the DisplayPort input to use audio from the 3.5mm external audio input.	DP Audio from External
Resolution Commands		
50619%	Sets the output resolution to 1360x768.	Resolution: 1360x768
50626%	Sets the output resolution to 1024x768.	Resolution: 1024x768
50627%	Sets the output resolution to 1280x720.	Resolution: 1280x720
50628%	Sets the output resolution to 1280x800.	Resolution: 1280x800
50629%	Sets the output resolution to 1920x1080.	Resolution: 1920x1080
50620%	Sets the output resolution to 1920x1200.	Resolution: 1920x1200
50621%	Sets the output resolution to 1600x1200.	Resolution: 1600x1200
50624%	Sets the output resolution to 1600x900.	Resolution: 1600x900

Command	Function	Feedback Example
Setup Commands		
50604%	Locks the front panel buttons.	Front Panel lock
50605%	Unlocks the front panel buttons.	Front Panel Unlock
502xx%	Sets the brightness to xx. (xx=00~ 99)	Brightness: xx (xx=00~99)
503xx%	Sets the contrast to xx. (xx=00~99)	Contrast: xx (xx=00~99)
504xx%	Sets the saturation to xx. (xx=00~99)	Saturation: xx (xx=00~99)
505xx%	Sets the sharpness to xx. (xx=00~99)	Sharpness: xx (xx=00~99)
50607%	Cycles to the next color temperature setting (Cool, Medium, Warm, User).	Color Temperature: xx (xx=Cool, Medium, Warm, or User)
50608%	Cycles to the next aspect ratio setting (16:9, 4:3, Auto).	Aspect Ratio: xx (xx=16:9, 4:3, auto)
50614%	Cycles to the next picture mode (Dynamic, Standard, Mild, User).	Picture Mode: xx (xx=Dynamic, Standard, Mild, User)
50655%	Freezes the output image.	Freeze: enable
50656%	Cancels the freezing of the output image.	Freeze: disable
50646%	Enables display of the MIC Volume Icon display.	Volume Icon: enable
50647%	Disables display of the MIC Volume Icon display.	Volume Icon: disable
50761%	Disables display of the mute icon of the source audio.	Source Mute Icon: disable
50762%	Enables display of the mute icon of the source audio.	Source Mute Icon: enable

Command	Function	Feedback Example
50763%	Disables display of the mute icon of the MIC audio.	MIC Mute Icon: disable
50764%	Enables display of the mute icon of the MIC audio.	MIC Mute Icon: enable
50765%	Enables display of the freeze icon.	Freeze Icon: enable
50766%	Disables display of the freeze icon.	Freeze Icon: disable
50644%	Enables display of the channel status.	Input Icon: enable
50645%	Disables display of the channel status.	Input Icon: disable
50650%	Displays the channel status.	Input Icon: xx
50606%	Auto-adjusts the screen image (VGA input only).	VGA Input Auto
50699%	Displays the system version.	Version Vx.x.x
50688%	Enable MIC noise detecting.	MIC detect: enable
50689%	Disable MIC noise detecting.	MIC detect: disable
50690%	Displays the MIC noise detecting status.	MIC detect: xxxx
50791%	HDCP Active mode.	HDCP Active
50792%	HDCP Manual mode.	HDCP Manual
50793%	Enable HDCP output.	HDCP ON
50794%	Disable HDCP output.	HDCP OFF
50795%	Inquire HDCP / Manual HDCP	HCDP Manual HDCP ON/OFF
50767%	Restore the default EDID settings.	EDID: initial
50768%	Bypass EDID data from output to input.	EDID: bypass

Command	Function	Feedback Example
50769%	Upload custom EDID data to the scaler/switch.	EDID: user
50770%	Query the EDID status.	EDID: xxxx (xxxx=initial, bypass, or user)
50782%	EDID management. Copies the resolution data of the connected display to the HDMI® inputs.	EDID manage Resolution: xx (xx=1920x1200, 1920x1080, 1600x1200, 1360x768, 1280x720, or 1024x768)
50787%	Enables serial control mode 1: controls the scaler/switch and the HDBaseT™ receiver from the RS232 port on the scaler/switch.	RS232 Mode 1: RS232 Control Scaler & Remote
50788%	Enables serial control mode 2: controls the scaler/switch from the RS232 port on the scaler/switch or the one on the HDBaseT receiver.	RS232 Mode 2: RS232 Control Scaler.
50174%	Auto Switch Mode: Disables the automatic power off function.	Auto Switch Mode: Set no input to power off function: Disable
50715%	Auto Switch Mode: Sets the automatic power off time with no input to 1 minute.	Auto Switch Mode: Set no input to power off time: 1 minute
50716%	Auto Switch Mode: Sets the automatic power off time with no input to 2 minutes.	Auto Switch Mode: Set no input to power off time: 2 minute
50717%	Auto Switch Mode: Sets the automatic power off time with no input to 5 minutes.	Auto Switch Mode: Set no input to power off time: 5 minute

Command	Function	Feedback Example
50718%	Auto Switch Mode: Sets the automatic power off time with no input to 10 minutes.	Auto Switch Mode: Set no input to power off time: 10 minute
50719%	Displays the automatic power off time/status.	Auto Switch Mode: Set no input to power off time: X minutes (X=1, 2, 5, or 10) OR Manual Switch Mode: Set no input to power off function: Disable
50740%	Manual Switch Mode: Disables the automatic power off function.	Manual Switch Mode: Set no input to power off time: 0 minutes
50741%	Manual Switch Mode: Sets the power off time to 1 minute.	Manual Switch Mode: Set no input to power off time: 1 minute
50742%	Manual Switch Mode: Sets the power off time to 2 minutes.	Manual Switch Mode: Set no input to power off time: 2 minutes
50743%	Manual Switch Mode: Sets the power off time to 5 minutes.	Manual Switch Mode: Set no input to power off time: 5 minutes
50744%	Manual Switch Mode: Sets the power off time to 10 minutes.	Manual Switch Mode: Set no input to power off time: 10 minutes
50697%	Exit standby mode.	Wake up!
50797%	Enter standby mode.	Go to standby!

Command	Function	Feedback Example
50698%	Performs a software update using an update file on a flash drive plugged into the FIRMWARE port.	Software update
50617%	Resets all settings on the scaler/switch to their factory default values.	Factory Reset
Menu Commands		
50609%	Simulates pressing the OK button on the remote control.	Key: ok
50610%	Simulates pressing the LEFT arrow button on the remote control.	Key: left
50611%	Simulates pressing the RIGHT arrow button on the remote control.	Key: right
50612%	Simulates pressing the UP arrow button on the remote control.	Key: up
50613%	Simulates pressing the DOWN arrow button on the remote control.	Key: down
50616%	Simulates pressing the MENU button on the remote control.	OSD: Enter
50618%	Simulates pressing the EXIT button on the remote control.	OSD: Exit
Inquiry Commands		
50630%	Displays the volume levels.	Source Volume: xx MIC Volume: xx (xx=00~60)
50631%	Displays the selected input.	Input: xx (xx=HDMI®1, HDMI2, HDMI3, DP, VGA, YPbPr, or AV)

Command	Function	Feedback Example
50632%	Displays the output resolution.	Resolution: xx (xx=1920x1200, 1920x1080, 1600x1200, 1360x768, 1280x720, or 1024x768)
50633%	Displays the image picture mode.	Picture Mode: xx (xx=Dynamic, Standard, Mild, or User)
50635%	Displays the image aspect ratio.	Aspect Ratio: xx (xx=16:9, 4:3, or auto)
50636%	Displays the brightness setting.	Brightness: xx (xx=00~99)
50637%	Displays the contrast setting.	Contrast: xx (xx=00~99)
50638%	Displays the saturation setting.	Saturation: xx (xx=00~99)
50639%	Displays the sharpness setting.	Sharpness: xx (xx=00~99)
50640%	Displays the color temperature setting.	Color Temperature: xx (xx=Cool, Medium, Warm, or User)
50651%	Displays the Volume Icon display status.	Volume Icon: xxxx
50712%	Displays the audio source for the DisplayPort input.	DP Audio from xx (xx=Embedded or External)
50751%	Displays the mute status of the source audio.	Source xx (xx=Mute or Unmute)
50752%	Displays the mute status of the MIC audio.	MIC xx (xx=Mute or Unmute)

Command	Function	Feedback Example
50753%	Displays the freeze status.	Freeze: xx (xx=enable or disable)
50754%	Displays the panel lock status.	Front Panel xx (xx=Lock or Unlock)
50783%	Displays the status of several settings.	Source Volume: xx MIC Volume: xx Input: xxxx Resolution: yyyy LINE: yy MIC: yy Switch status: zzzz VGA: yy DP: yy DP Audio from zz (xx=00~60) (yy=Mute or Unmute) (zz=Embedded or External) (xxxx=HDMI®1, HDMI2, HDMI3, DP, VGA, YPbPr, or AV) (yyyy=1920x1200, 1920x1080, 1600x1200, 1360x768, 1280x720, or 1024x768)
50657%	Displays the IP address.	192.168.0.178!
50712%	Displays the audio source for the DisplayPort input.	DP Audio from xx (xx=Embedded or External)

Command	Function	Feedback Example
Adjustment Commands		
50678%	Enables screen output adjusting.	Enter output Position Adjust
50679%	Disables screen output adjusting.	Exit Output Position Adjust
50670%	Moves the image to the left.	Output Position Adjust X xx
50671%	Moves the image to the right.	Output Position Adjust X xx
50672%	Moves the image up.	Output Position Adjust Y xx
50673%	Moves the image down.	Output Position Adjust Y xx
50674%	Increases the image width by stretching left from the left side.	Output Width Adjust xx
50675%	Decreases the image width by pulling to the right from the left side.	Output Width Adjust xx
50676%	Decreases the image height by pulling up from the bottom.	Output Height Adjust xx
50677%	Increases the image height by stretching down from the bottom.	Output Height Adjust xx
50730%	Disables the HDMI® output port on the scaler/switch.	HDMI power off
50731%	Enables the HDMI output port on the scaler/switch.	HDMI power on
50732%	Disables the HDBT output on the scaler/switch.	HDBT off
50733%	Enables the HDBT output on the scaler/switch.	HDBT on
50734%	Enables both the HDMI output port and the HDBT output on the scaler/switch.	HDMI HDBT power on

Command	Function	Feedback Example
	CEC Commands	
50686%	Enables HDMI® CEC functionality.	HDMI CEC ON
50687%	Disables HDMI CEC functionality.	HDMI CEC OFF
50901%	Sends the CEC Play/Pause command.	CEC: cmd: play&pause
50902%	Sends the CEC Stop command.	CEC: cmd: stop
50903%	Sends the CEC Menu command.	CEC: cmd: menu
50904%	Sends the CEC Reverse command.	CEC: cmd: rev
50905%	Sends the CEC Forward command.	CEC: cmd: fwd
50906%	Sends the CEC Up command.	CEC: cmd: up
50907%	Sends the CEC Down command.	CEC: cmd: down
50908%	Sends the CEC Left command.	CEC: cmd: left
50909%	Sends the CEC Right command.	CEC: cmd: right
50910%	Sends the CEC Select/Confirm command.	CEC: cmd: select
50911%	Sends the CEC Exit command.	CEC: cmd: exit
50913%	Sends the CEC command to power the source devices on.	Source power on
50914%	Sends the CEC command to power the source devices off.	Source power off
50915%	Sends the CEC command to power the displays on.	Display power on
50916%	Sends the CEC command to power the displays off.	Display power off

Notes:

- The CEC commands with a gray background are only functional when CEC is enabled.

- The screen output adjustment commands are only functional when screen output adjusting is enabled. Send the command **50678%** to enable screen output adjusting.

WEB-BASED GUI UPDATING

Perform the following steps to update the web-based GUI, in the event that an update is made available.
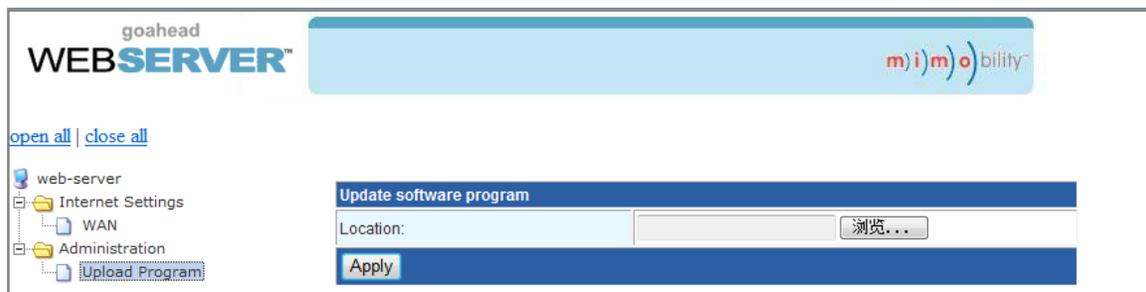
1. Open your PC's web browser and type the following address into the address bar:

    http://192.168.0.178:100

2. Type in the username and password (default **user** and **user**).

3. Click the **Administration** entry on the left

4. Click the **Upload Program** entry.

5. Click the **Browse** button, then locate the update file on your PC.

6. Click the **Apply** button, then follow the on-screen instructions.

TECHNICAL SUPPORT

Monoprice is pleased to provide free, live, online technical support to assist you with any questions you may have about installation, setup, troubleshooting, or product recommendations. If you ever need assistance with your new product, please come online to talk to one of our friendly and knowledgeable Tech Support Associates. Technical support is available through the online chat button on our website **www.monoprice.com** during regular business hours, 7 days a week. You can also get assistance through email by sending a message to **tech@monoprice.com**

SPECIFICATIONS

Model	21875
Video Inputs	1x HDMI/MHL®, 2x HDMI®, 1x DisplayPort, 1x VGA/YPbPr/CVBS
Video Outputs	1x HDMI, 1x HDBaseT™
Supported Video Resolutions	1920x1200, 1920x1080, 1600x1200, 1600x900, 1360x768, 1280x800, 1280x720, 1024x768
Supported HDMI Version	1.4 with HDCP 2.2
Audio Inputs	2x 3.5mm analog stereo for DP and VGA inputs
Audio Outputs	1x 5-pin terminal block
Audio Frequency Response	20 Hz ~ 20 kHz
Audio Input Impedance	> 10 kilohms
Audio Output Impedance	75 ohms
Stereo Channel Separation	> 80dB @1kHz
Transmission Standard	HDBaseT™
Maximum Transmission Distance	up to 229 feet (70 meters)
Input Power	24 VDC, 2.71A
AC Adapter Input Power	100 ~ 240 VAC, 50/60 Hz
Maximum Power Consumption	27 watts
Operating Temperature	+32 ~ +122°F (0 ~ +50°C)
Operating Humidity	10 ~ 90% RH, non-condensing
Dimensions	8.7" x 6.8" x 1.7" (220 x 173 x 44 mm)
Weight	1.8 lbs. (0.8 kg)

REGULATORY COMPLIANCE

Notice for FCC

This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Modifying the equipment without Monoprice's authorization may result in the equipment no longer complying with FCC requirements for Class B digital devices. In that event, your right to use the equipment may be limited by FCC regulations, and you may be required to correct any interference to radio or television communications at your own expense.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Notice for Industry Canada

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.