

# User Manual

## SC41T-CODEC

### 4K Scaler with Soft Codec



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Version: SC41T-CODEC\_2017V1.0

## Preface

Read this user manual carefully before using the product. Pictures shown in this manual is for reference only. Different models and specifications are subject to real product.

This manual is only for operation instruction only. The functions described in this version are updated till August 7, 2017. In the constant effort to improve our product, we reserve the right to make functions or parameters changes without notice or obligation. Please refer to the dealers for the latest details.

## FCC Statement

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. It 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 commercial installation.

Operation of this equipment in a residential area is likely to cause interference, in which case the user at their own expense will be required to take whatever measures may be necessary to correct the interference.

Any changes or modifications not expressly approved by the manufacture would void the user's authority to operate the equipment.



### SAFETY PRECAUTIONS

To insure the best from the product, please read all instructions carefully before using the device. Save this manual for further reference.

- Unpack the equipment carefully and save the original box and packing material for possible future shipment.
- Follow basic safety precautions to reduce the risk of fire, electrical shock and injury to persons.
- Do not dismantle the housing or modify the module. It may result in electrical shock or burn.
- Using supplies or parts not meeting the products' specifications may cause damage, deterioration or malfunction.
- Refer all servicing to qualified service personnel.
- To prevent fire or shock hazard, do not expose the unit to rain, moisture or install this product near water.
- Do not put any heavy items on the extension cable in case of extrusion.
- Do not remove the housing of the device as opening or removing housing may expose you to dangerous voltage or other hazards.
- Install the device in a place with fine ventilation to avoid damage caused by overheat.
- Keep the module away from liquids.
- Spillage into the housing may result in fire, electrical shock, or equipment damage. If an object or liquid falls or spills on to the housing, unplug the module immediately.
- Do not twist or pull by force ends of the optical cable. It can cause malfunction.
- Do not use liquid or aerosol cleaners to clean this unit. Always unplug the power to the device before cleaning.
- Unplug the power cord when left unused for a long period of time.
- Information on disposal for scrapped devices: do not burn or mix with general household waste, please treat them as normal electrical wastes.

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# 1. Introduction

## 1.1 Introduction to SC41T-CODEC

This SC41T-CODEC is a conferencing system codec kit supporting resolutions up to 4K@30Hz 4:4:4 and HDCP 2.2. It includes Transmitter and Receiver, providing AV switching, audio de-embedded, and USB extension, plus system control. All video, audio, control, USB and Ethernet signals can be transmitted over a single CATx cable up to 100m.

The kit provides four video inputs such as HDMI, VGA and DP. To simplify meeting room device management, the kit offers LAN for Ethernet and USB ports for devices extension, four on the transmitter and two on the receiver. It supports a variety of 2.0 USB devices like camera, microphone and keyboard as well as other HID devices.

It also allows users to control system functionality via WEB GUI, RS232 and CEC. Additionally, users can control the rise and fall of projector screen over relay port.

This is an ideal solution for meeting spaces using PC-based conferencing system codecs such as Skype®, WebEx® and GoToMeeting®, etc.

## 1.2 Feature

- Supports resolution converting ranging from 720p to 4k x 2k @ 30Hz 4:4:4.
- Provides a variety of interfaces to simplify room devices management.
- Supports PCs, USB devices like keyboard, webcam, MIC for conference system.
- Extends the transmission distance of USB signals.
- Two type B USB for connection to host, four type A USB for HID devices like webcam, mic and keyboard.
- Supports video source auto-switching function.
- HDBaseT technology extend Video, Audio, control command and Ethernet signal up to 100m.
- Ethernet can be imported from either Receiver or Transmitter, providing LAN accessibility for users.
- Audio can be de-embedded out from AUDIO OUTPUT.
- Allows connected displays to be controlled via CEC commands or front panel buttons.
- Ensures EDID communication between sources and display.
- Relay commands can be triggered to control relay devices such as projector.
- The Receiver provides video input port for working with BYOD-W (sold separately).

### 1.3 Package List

- |                    |  |
|--------------------|--|
| <b>Transmitter</b> | ▪ 1 x SC41T-CODEC-T Transmitter                    |
|                    | ▪ 2 x Mounting Ears with 4 Screws                  |
|                    | ▪ 4 x Plastic Cushions                             |
|                    | ▪ 1 x Power Adapter (24VDC,2.71A)                  |
|                    | ▪ 1 x RS232 Cable (3-pin phoenix connector to DB9) |
| <hr/>              |  |
| <b>Receiver</b>    | ▪ 1 x SC41T-CODEC-R Receiver                       |
|                    | ▪ 2 x Mounting Ears with 2 Screws                  |
|                    | ▪ 4 x Plastic Cushions                             |
|                    | ▪ 1 x 5-pin Phoenix Connector                      |
|                    | ▪ 1 x 7-pin Phoenix Connector                      |
| <hr/>              |  |
|                    | ▪ 1 x User Manual                                  |

**Note:** Please contact your distributor immediately if you found any damage or defect in the components.

## 2. Specification

### 2.1 Transmitter

<b>Video</b>	
Video Input	(2) HDMI; (1) DP; (1) VGA
Video Input Connector	(2) Female HDMI; (1) DisplayPort; (1) Female VGA (15-pin)
Video Output	(1) HDMI; (1) HDBaseT
Video Output Connector	(1) Female HDMI; (1) RJ45
Output Resolution	Supports 3840x2160@30Hz, 1920x1080, 1280x720
Standards	Compliant with HDMI 1.4 & HDCP2.2
<b>Audio</b>	
Audio Input	(1) AUDIO
Audio Input Connector	(1) 3.5mm Stereo jack
Audio Input Impedance	>10kΩ
<b>Control Part</b>	
Control port	(2) PC, (2) DEVICE; (1) RS232; (1) TCP/IP; (1) LAN
Control Connector	(2) Type-B USB; (2) Type-A USB; (1)3-pin phoenix connector; (2) RJ45
<b>General</b>	
Transmission Distance	Up to 100m
Operation Temperature	0 ~ +40°C
Storage Temperature	-10 ~ +55°C
Relative Humidity	10% ~ 90%
External Power Supply	Input: AC 100~240V, 50/60Hz; Output: 24VDC 2.71A
System Power Consumption	40w (Max)
Dimension (W*H*D)	220mm x 44mm x 120mm
Net Weight	617g

## **2.2 Receiver**

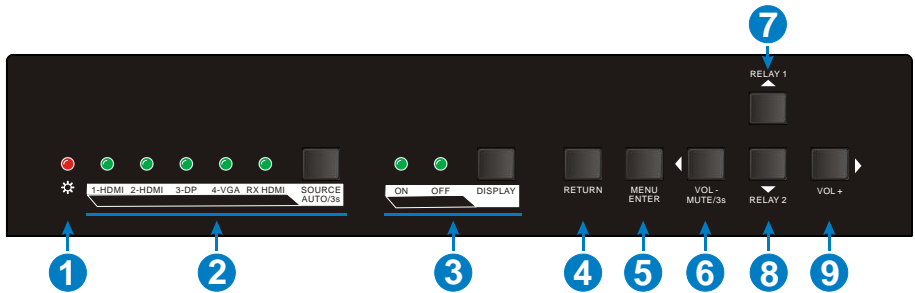
<b>Video</b>	
Video Input	(1) HDBT; (1) HDMI
Video Input Connector	(1) RJ45; (1) Female HDMI
Video Output	(1) HDMI
Video Output Connector	(1) Female HDMI
Output Resolution	Supports 3840x2160@30Hz, 1920x1080, 1280x720
Standards	Compliant with HDMI 1.4 & HDCP2.2
<b>Audio</b>	
Audio Output	(1) Stereo balanced L/R audio
Audio Output Connector	(1) 5-pin phoenix connector
Audio Output Impedance	70Ω
Frequency Response	20Hz~20K Hz
Stereo Channel Separation	>80dB @1KHz
<b>Control Part</b>	
Control port	(2) DEVICE; (1) RS232; (2) RELAY; (1) LAN
Control Connector	(2) Type-A USB; (1) 3-pin phoenix connector; (2) 2-pin phoenix connector; (1) RJ45
<b>General</b>	
Transmission Distance	Up to100m
Operation Temperature	0 ~ +40℃
Storage Temperature	-10 ~ +55℃
Relative Humidity	10% ~ 90%
External Power Supply	Powered by Transmitter
System Power Consumption	40w (Max)
Dimension (W*H*D)	205mm x 21.5mm x 95mm
Net Weight	358g



## 3. Panel Description

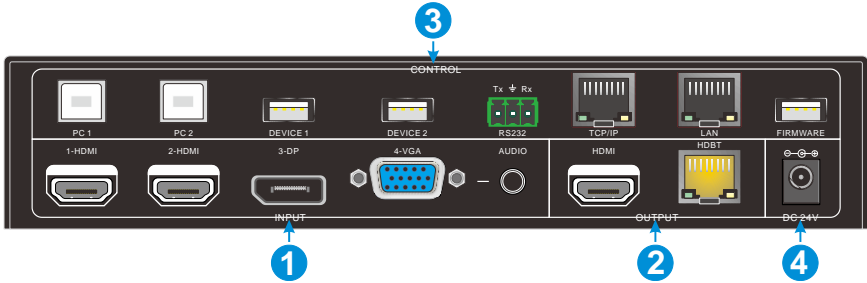
### 3.1 Transmitter

#### 3.1.1 Front Panel



- ① **POWER LED:** The LED illuminates red when power is applied, or orange when the auto-switching mode is chosen.
- ② **INPUT LED & SOURCE SELECTOR:**
  - **1-HDMI:** The LED illuminates green when 1-HDMI input signal is chosen.
  - **2-HDMI:** The LED illuminates green when 2-HDMI input signal is chosen.
  - **3-DP:** The LED illuminates green when 3-DP input signal is chosen.
  - **4-VGA:** The LED illuminates green when 4-VGA input signal is chosen.
  - **RX HDMI:** The LED illuminates green when the HDMI input signal on Receiver is chosen.
  - **SOURCE SELECTOR:** Press this button to select input source signal, or long-press for 3 seconds or more to enable auto-switching mode.  
For more details, please refer to the **5 Button Control**.
- ③ **DISPLAY CONTROL:** Press this button to turn on/off the displays, and then the activity LED ON/OFF will illuminates green.
- ④ **RETURN:** Return key for OSD.
- ⑤ **MENU/ENTER:** Menu or Enter key for OSD.
- ⑥ **VOL-/MUTE:** Press this button to turn down the audio output volume, or long-press 3 seconds or more to mute / Left key for OSD.
- ⑦ **RELAY 1:** Press this button to raise projector screen. / Up key for OSD.
- ⑧ **RELAY 2:** Press this button to lower projector screen. / Down key for OSD.
- ⑨ **VOL+:** Press this button to turn up the audio output volume. / Right key for OSD.

### 3.1.2 Rear Panel



#### ① INPUT:

- **VIDEO:** 2 HDMI inputs, 1 DP input and 1 VGA input.
- **AUDIO:** 1 VGA auxiliary audio input.

#### ② OUTPUT

- **HDMI:** HDMI video output port.
- **HDBT:** Support PoC. Connect with HDBaseT Receiver to transmit AV signal, IR or RS232 control signal.

#### ③ CONTROL

- **PC1&PC2:** Two Type-B USB ports, only one can be used to connect with PC, and the two priority: PC1>PC2.
- **DEVICE 1 & DEVICE 2:** Two Type-A USB ports, connect with USB HID devices.
- **RS232:** Serial port, 3-pin phoenix connector, connect with a control device (such as PC).
- **TCP/IP:** RJ45 connector, connect with PC to control this system via web-based GUI.
- **LAN:** Ethernet port for extending network signal.

*Note: Please notice warning signs. The LAN port can't be connected with HDBT port.*

- **FIRMWARE:** Type-A USB port for updating system firmware or loading customized EDID data.

#### ④ DC 24V: DC barrel connector for connecting the included power adapter.

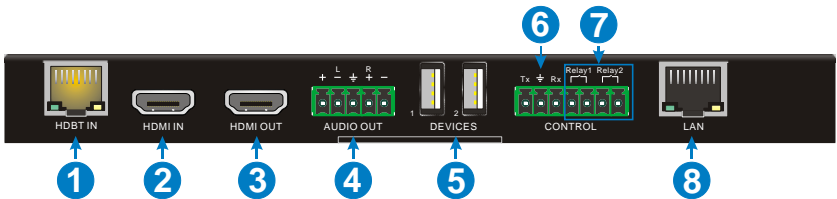
## 3.2 Receiver

### 3.2.1 Front Panel



- ① **POWER LED:** The LED illuminates red when power is applied.
- ② **HDBT LED:** The LED illuminates green when HDBT input signal present.
- ③ **HDMI LED:** The LED illuminates green when HDMI input signal present.
- ④ **FIRMWARE:** Type-A USB port for updating system firmware.

### 3.2.2 Rear Panel



- ① **HDBT IN:** Connect to the HDBT OUT port on Transmitter via CAT5e/6a/7 cable, support PoC technology.
- ② **HDMI IN:** HDMI input port.
- ③ **HDMI OUT:** HDMI output port.
- ④ **AUDIO OUT:** Stereo balanced L/R audio output port.
- ⑤ **DEVICES:** Two Type-A USB ports, connect with USB HID devices.
- ⑥ **RS232:** Serial port, 3-pin phoenix connector, connect with the display device (such as projector) needed to be control via RS232 commands.
- ⑦ **RELAY1 & RELAY2:** Connect with relay device (such as projector screen).
- ⑧ **LAN:** Ethernet port, work with the LAN port on Transmitter to extend network signal.

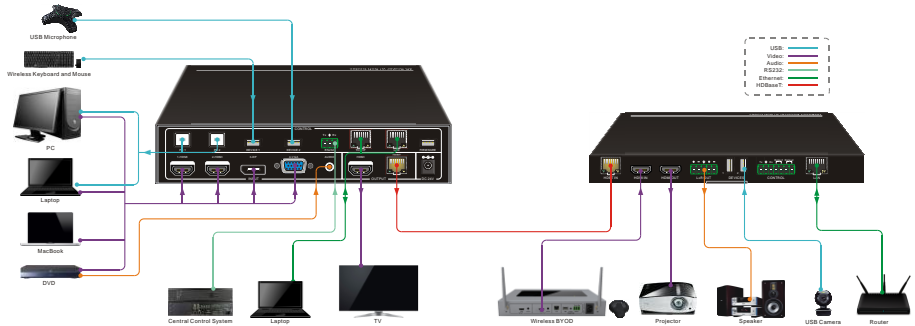
**Note:** Please notice warning signs. The LAN port can't be connected with HDBT port.

## 4. System Connection

### 4.1 Usage Precaution

- Verify all components and accessories included before installation.
- System should be installed in a clean environment with proper temperature and humidity.
- All of the power switches, plugs, sockets and power cords should be insulated and safe.
- All devices should be connected before power on.

### 4.2 System Diagram




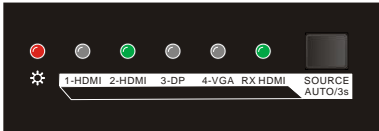
## 5. Button Control

Front panel buttons can be used for signal switching, OSD, volume adjusting.

### 5.1 Manual Switching

Press the **SOURCE/AUTO** button to select one input source for Transmitter, press again to select next source, switching sequentially between 1-HDMI, 2-HDMI, 3-DP and 4-VGA. The corresponding LED illuminates green.

The Receiver also features one HDMI input port, if you need to output the source signal via its HDMI output port. The following is an example.

	LED Status	Description
Status 1	 <p>The 1-HDMI LED illuminates green, other source LEDs are gone.</p>	<p>The 1-HDMI is selected as input source. The input signal will be transmitted to all video output ports of Transmitter and Receiver.</p>
Status 2	 <p>The 2-HDMI and RX HDMI LEDs illuminate green, other source LEDs are gone.</p>	<ul style="list-style-type: none"> <li>▪ The 2-HDMI is selected as input source for Transmitter. The input signal will be transmitted to all video output ports of Transmitter.</li> <li>▪ The HDMI input signal on Receiver will be only transmitted to the HDMI output port of Receiver.</li> </ul>

Follow the below steps to switch to the status 2 from status 1.

- ① Press the **SOURCE/AUTO** button once to select 2-HDMI, and then release this button.
- ② Press the SOURCE/AUTO button continuously until the RX HDMI LED illuminates green to select the HDMI input for Receiver.

### 5.2 Auto Switching

Long-press **SOURCE/AUTO** button for 3 seconds or more to enable auto-switching mode, and the auto-switching mode abides by the following principles:

- **New input**

Once detecting a new input signal, the Transmitter would switch to this new signal automatically.

Once connecting a source device to the HDMI IN port of Receiver, the Receiver will switch to this source to output HDMI signal via HDMI OUT port automatically.

- **Rebooting device**

The Transmitter have the ability to save the last configuration before losing power. If the last switching mode is auto-switching, once rebooted, the Transmitter will automatically enter auto-switching mode, then detect all inputs and memorize their connection status for future rebooting using. If the last displayed signal is still available, the unit will output the signal. If not, the unit will detect all the input signals with priority from 1-HDMI to 4-VGA. When detected the first signal, it will transfer to output.

- **Signal removing**

Once removing the current display signal, the Transmitter will detect all input signals with priority from 1-HDMI to 4-VGA. It will transfer the signal firstly detected to be available to output devices.

**Note:**

- *Auto-switching function works only when inputting new signal, removing a signal or power rebooting.*
- *The HDMI input source on Receive cannot be selected under auto-switching mode.*

### 5.3 Volume Adjustment

The Receiver features audio output ports for connecting speaker or AV amplifier.

Press the **VOL+** or **VOL-** button on Transmitter to turn up or turn down the volume. Meantime, it sends CEC commands to the display to turn up or down the display volume.

## 6. RS232 Control

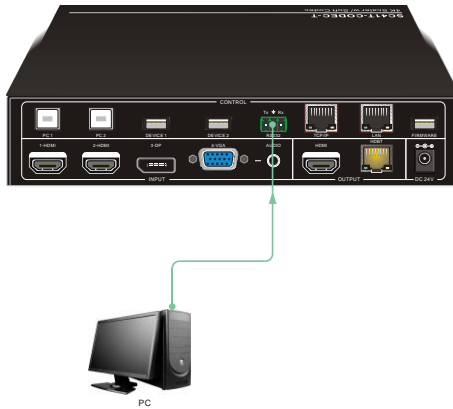
As RS232 commands can be transmitted to Receiver from the Transmitter, so it is able to control the Transmitter or the third-party device (such as projector) on Receiver from local.

The baud rate support 2400, 4800, 9600(default), 19200, 38400, 57600 or 115200.

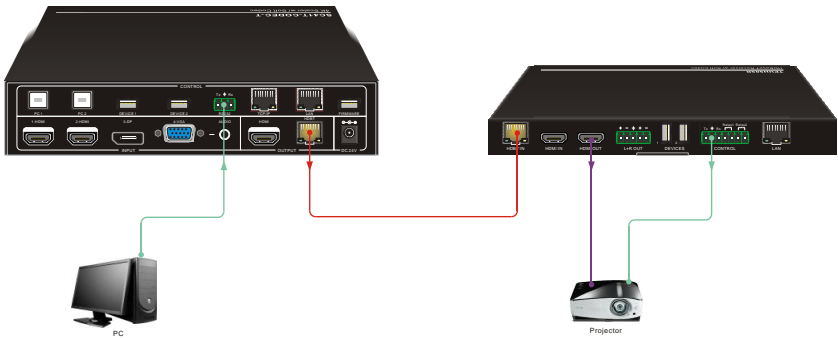
### 6.1 RS232 Connection

There are two RS232 control modes.

- **Control Transmitter**



- **Control Display**



## 6.2 RS232 Control Software

### Installation/uninstallation

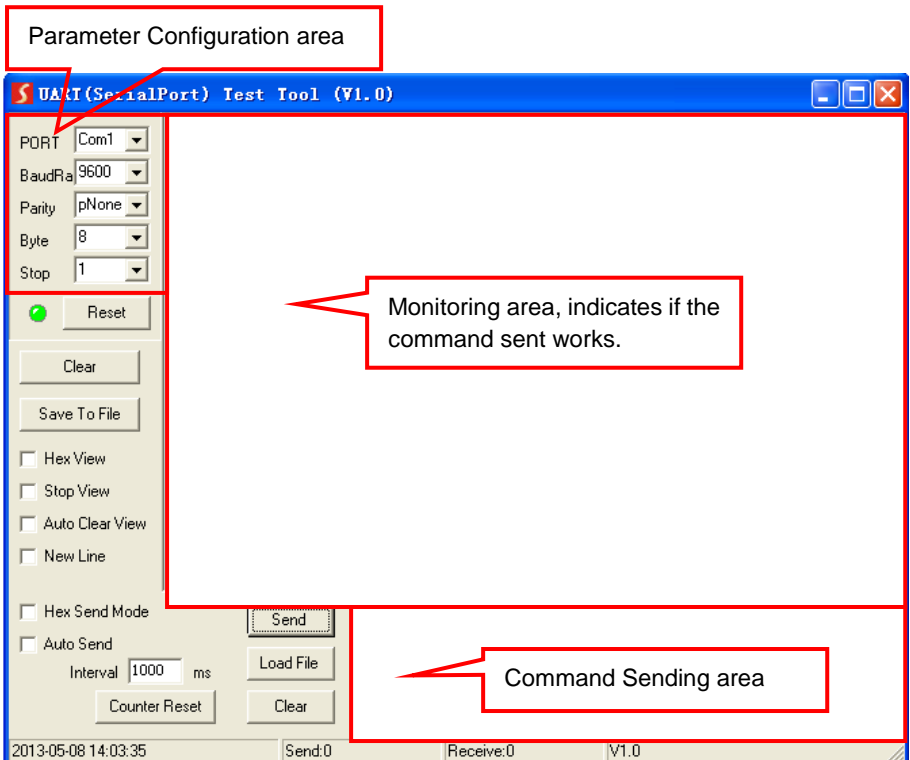
- ✓ **Installation** Copy the control software file to the computer connected with the Transmitter.
- ✓ **Uninstallation** Delete all the control software files in corresponding file path.

### Basic Settings

First to connect the Transmitter with all input devices and output devices needed, then to connect it with a PC which is installed with RS232 control software. Double-click the software icon to run this software. Here we take the software **CommWatch.exe** as example. The icon is showed as below:



The interface of the control software is showed as below:





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Please set the parameters of COM number, bound rate, data bit, stop bit and the parity bit correctly, and then you are able to send command in Command Sending Area.

### 6.3 RS232 Command

**Communication protocol:** RS232 Communication Protocol

Baud rate: 9600

Data bit: 8

Stop bit: 1

Parity bit: none

The end mark of command is "<CR><LF>".

#### 6.3.1 Source Switching

Command	Function	Feedback
<b>SWIN H1</b>	Switch to 1-HDMI input.	Switch to HDMI1
<b>SWIN H2</b>	Switch to 2-HDMI input.	Switch to HDMI2
<b>SWIN DP</b>	Switch to 3-DP input.	Switch to DP
<b>SWIN VG</b>	Switch to 4-VGA input.	Switch to VGA
<b>SWIN RXHDMI</b>	Switch to RX HDMI input.	Switch to RX HDMI
<b>AUTO 01</b>	Enable auto-switching.	Auto Switching
<b>AUTO 00</b>	Enable manual-switching.	Manual Switching
<b>?GET IN</b>	Get the input source of Transmitter. (HDMI1,HDMI2,DP,VGA)	TX Device Input: HDMI1
	Get the input source of Receiver. (HDMI,HDBT)	RX Device Input: HDMI
<b>?GET AUTO</b>	Get the switching mode.	Manual Switching/Auto Switching
<b>VGAA</b>	Auto-adjust the input parameter (VGA only).	VGA Input Auto

#### 6.3.2 Audio Adjustment

Command	Function	Feedback
<b>AUMT S1</b>	Mute source audio.	Audio Mute Source: Enable
<b>AUMT S0</b>	Unmute source audio.	Audio Mute Source: Disable

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Command	Function	Feedback
<b>AUMT V1</b>	Mute VGA auxiliary input audio.	Audio Mute VGA: Enable
<b>AUMT V0</b>	Unmute VGA auxiliary input audio.	Audio Mute VGA: Disable
<b>?GET AUMT</b>	Get the Source mute status.	Audio Mute Source: Enable
	Get the VGA auxiliary audio mute status.	Audio Mute VGA: Enable
<b>VOLS AP</b>	Turn up the source audio volume (xx=00~60).	Source Volume: xx
<b>VOLS AN</b>	Turn down the source audio volume (xx=00~60).	Source Volume: xx
<b>VOLV AP</b>	Turn up the VGA auxiliary audio volume (xx=00~60).	VGA Volume: xx
<b>VOLV AN</b>	Turn down the VGA auxiliary audio volume (xx=00~60).	VGA Volume: xx
<b>VOLS xx</b>	Set the source audio volume (xx=00~60).	Source Volume: xx
<b>VOLV xx</b>	Set the VGA auxiliary audio volume (xx=00~60).	VGA Volume: xx
<b>?GET VOL</b>	Get the source audio volume (xx=00~60).	Source Volume: xx
	Get the VGA auxiliary audio volume (xx=00~60).	VGA Volume: xx

### 6.3.3 Output Resolution

The default output resolution is 3840x2160@30Hz. Below is a list of the output resolutions the built-in scaler can output.

Command	Function	Feedback
<b>TRES 01</b>	Set the output resolution for Transmitter to 3840x2160@30Hz.	TX Device Resolution: 3840x2160
<b>TRES 02</b>	Set the output resolution for Transmitter to 1920x1080.	TX Device Resolution: 1920x1080
<b>TRES 03</b>	Set the output resolution for Transmitter to 1280x720.	TX Device Resolution: 1280x720
<b>RRES 01</b>	Set the output resolution for Receiver to 3840x2160@30Hz.	RX Device Resolution: 3840x2160
<b>RRES 02</b>	Set the output resolution for Receiver to	RX Device Resolution:

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Command	Function	Feedback
	1920x1080.	1920x1080
<b>RRES 03</b>	Set the output resolution for Receiver to 1280x720.	RX Device Resolution: 1280x720
<b>?GET RES</b>	Get the output resolution for Transmitter.	Tx Device Resolution: 1920x1080
	Get the output resolution for Receiver.	Tx Device Resolution: 1920x1080

#### 6.3.4 Auto Power-off Setup

Command	Function	Feedback
<b>?GET TIME</b>	Check the auto power-off mode.	Auto Switch Mode no input to shutdown time: Disable
		Manual Switch Mode no input to shutdown time: Disable
<b>TIME AD</b>	Auto Switch Mode: Disable the auto power-off function.	Auto Switch Mode no input to shutdown time: Disable
<b>TIME A1</b>	Auto Switch Mode: Set the auto power-off time to 1 minute when No signal input.	Auto Switch Mode no input to shutdown time: 1 minutes
<b>TIME A2</b>	Auto Switch Mode: Set the auto power-off time to 2 minute when No signal input.	Auto Switch Mode no input to shutdown time: 2 minutes
<b>TIME A3</b>	Auto Switch Mode: Set the auto power-off time to 5 minute when No signal input.	Auto Switch Mode no input to shutdown time: 5 minutes
<b>TIME A4</b>	Auto Switch Mode: Set the auto power-off time to 10 minute when No signal input.	Auto Switch Mode no input to shutdown time: 10 minutes
<b>TIME MD</b>	Manual Switch Mode: Disable auto power-off time function.	Manual Switch Mode no input to shutdown time: Disable

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Command	Function	Feedback
<b>TIME M1</b>	Manual Switch Mode: Set the power-off time to 1 minute.	Manual Switch Mode no input to shutdown time: 1 minutes
<b>TIME M2</b>	Manual Switch Mode: Set the power-off time to 2 minute.	Manual Switch Mode no input to shutdown time: 2 minutes
<b>TIME M3</b>	Manual Switch Mode: Set the power-off time to 5 minute.	Manual Switch Mode no input to shutdown time: 5 minutes
<b>TIME M4</b>	Manual Switch Mode: Set the power-off time to 10 minute.	Manual Switch Mode no input to shutdown time: 10 minutes

### 6.3.5 CEC Command

Command	Function	Feedback
<b>CECS P0</b>	Turn off the source device by using CEC way.	CEC: Turn Source off
<b>CECS P1</b>	Turn on the source device by using CEC way.	CEC: Turn Source on
<b>CECD P0</b>	Turn off the display device by using CEC way.	CEC: Turn Display off
<b>CECD P1</b>	Turn on the display device by using CEC way.	CEC: Turn Display on

### 6.3.6 Relay Control

Command	Function	Feedback
<b>RLY1 ON</b>	Turn on the Relay 1.	Relay 1 on
<b>RLY1 OFF</b>	Turn off the Relay 1.	Relay 1 off
<b>RLY2 ON</b>	Turn on the Relay 2.	Relay 2 on
<b>RLY2 OFF</b>	Turn off the Relay 2.	Relay 2 off

### 6.3.7 EDID Configuration

Command	Function	Feedback
<b>EDID DF</b>	The source device obtains the default EDID 3840x2160@30Hz.	EDID: Initial
<b>EDID US</b>	Load customize EDID data from U-disk.	EDID: User
<b>?GET EDID</b>	Get EDID status.	EDID: Initial/ User

### 6.3.8 HDCP Compliance

Command	Function	Feedback
<b>HDCP 01</b>	HDCP pass-through mode.	HDCP: ON
<b>HDCP 00</b>	Disable HDCP.	HDCP: OFF
<b>?GET HDCP</b>	Get HDCP status.	HDCP: ON /OFF

### 6.3.9 Device Setup

Command	Function	Feedback
<b>SFUD TX</b>	Update the software of Transmitter.	TX Device Software Update
<b>SFUD RX</b>	Update the software of Receiver.	RX Device Software Update
<b>?GET REV</b>	Get the system version.	Vx.x.x
<b>FRST</b>	Restore to factory defaults.	Factor Reset
<b>WAKE</b>	Wake up the system.	Wake Up
<b>STBY</b>	Let this system enter in standby mode.	Go To Standby
<b>?GET IP</b>	Get the IP address.	192.168.0.178!

## 7. OSD Control

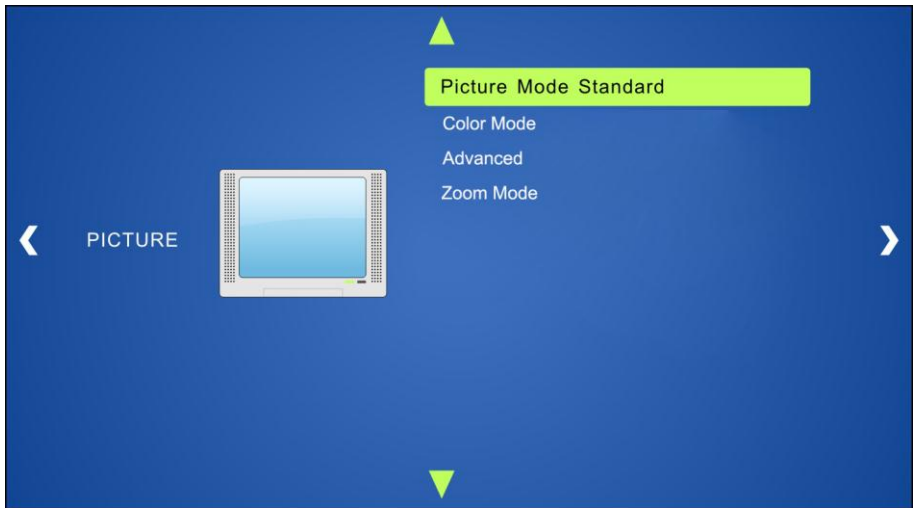
The system provides a powerful OSD operation menu, including picture settings and system setup.

### Operation:

- Press the button **MENU/ENTER** to enter OSD menu.
- Press direction buttons (**Left/Right/Up/ down**) to select function on OSD menu.
- Press **MENU/ENTER** button to confirm the selected function.

### 7.1 Picture

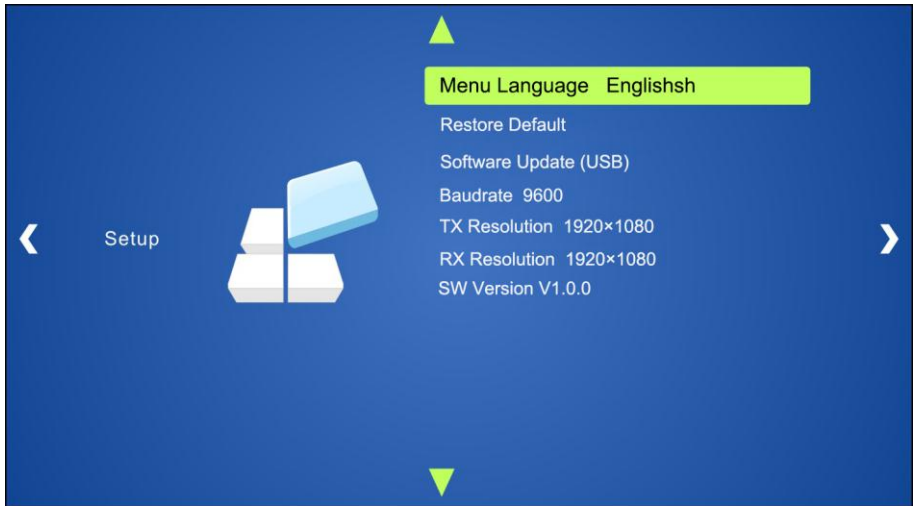
Including Picture Mode, Color Mode, Advanced and Zoom Mode.



- **Picture mode:** Including Dynamic, Standard, Mild, and User. Only in User mode, will it be able to set the image contrast, brightness, color and sharpness.
- **Color Mode:** Including Cool, Medium, Warm and User. And only in User mode, it is able to set values for Red, Green and Blue (RGB).
- **Advanced:** Including H-Pos, V-Pos, Clock, Phase, and Auto.
- **Zoom Mode:** Including Normal, Zoom, Cinema, Wide, Point to Point.

### 7.2 Setup

Including Menu Language, Restore Default, Software Update, Baudrate, TX Resolution, RX Resolution and SW Version.

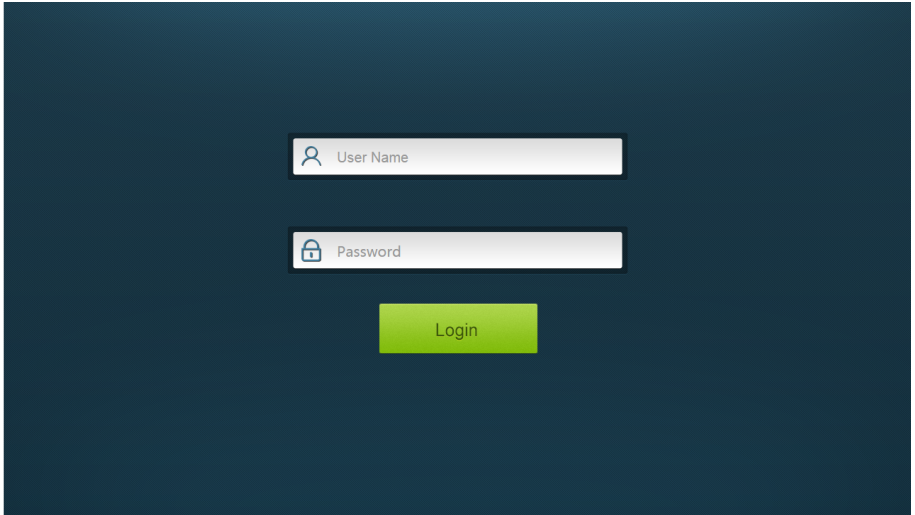


- **Menu Language:** Supports 7 languages, including English (default), Chinese etc.
- **Restore Default:** Restores to original system state.
- **Software Update (USB):** Insert the USB flash disk with updating file to the FIRMWARE port of the Scaler Switcher, to update the software through this menu.
- **Baudrate:** Set the baud rate for RS232 control, and it support 2400、4800、9600、19200、38400、57600、115200.
- **TX Resolution:** Set the output resolutions for Transmitter, and it support 3840x2160@30Hz, 1920x1080, 1280x720.
- **RX Resolution:** Set the output resolutions for Receiver, and it support 3840x2160@30Hz, 1920x1080, 1280x720.
- **SW Version:** Software version.

### 8. GUI Control

In addition to control the system via front panel button and RS232 control software. The system can be controlled via web-based GUI. It allows users to interact with the system through graphical icons and visual indicators.

Type **192.168.0.178** in your browser, it will enter the log-in interface shown as below:



This system divides into administrator and user mode.

- **Administrator mode:** User name: admin; Password: admin (default setting)
- **User mode:** **User name:** user; Password: user (default setting)

**Note:** Log in as admin can access more configuration interfaces than user. Here is a brief introduction to the interfaces.



### 8.1 Control Menu

Type the default user name and password, and then click **Login** to enter the control menu shown as below:




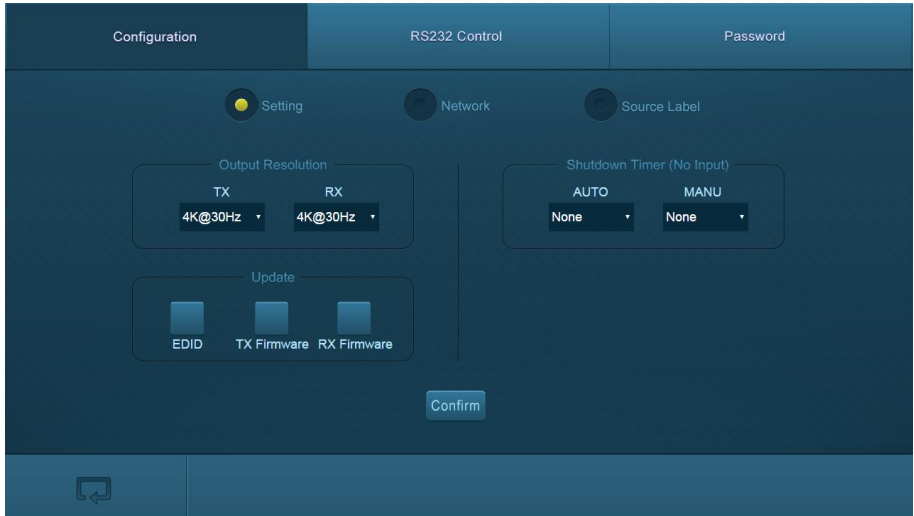
- **Sources:**
  - ✓ Click the corresponding button (**1-HDMI**, **2-HDMI**, **3-DP**, **4-VGA** and **RX HDMI**) to select video input source.
  - ✓ Click **AUTO** button to enter auto-switching mode.
- **VGA Audio:** Click this button to turn on/off the VGA auxiliary audio input.
- **Relay1:** Click this button to raise projector screen.
- **Relay2:** Click this button to lower projector screen.
- **Source:** Click this button to turn on/off source device.
- **Display:** Click this button to turn on/off output display device.
- **Unit:** Click this button to turn on/off the Transmitter and Receiver.
- **TX Volume:** Click +/- button or drag the volume bar to adjust volume.

### 8.2 Configuration Menu

#### ① Setting



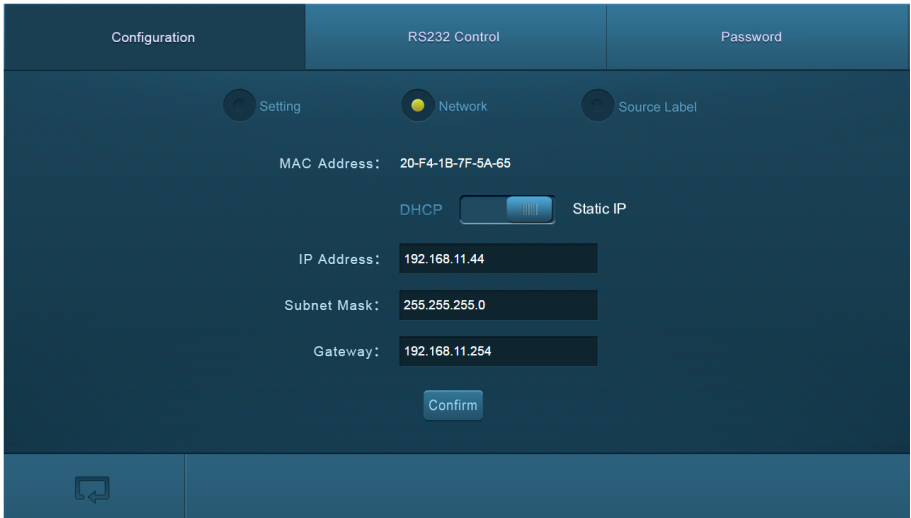
Click  on control menu to enter configuration menu shown as below:



- **Output Resolution:** Select the output resolution for Transmitter or Receiver.
- **Update:**
  - ✓ **EDID:** Insert the USB flash disk with EDID file to the FIRMWARE port of Transmitter, and then click **EDID** button to start update procedure.
  - ✓ **TX Firmware:** Insert the USB flash disk with software updating file to the FIRMWARE port of Transmitter, and then click **TX Firmware** button to start update procedure.
  - ✓ **RX Firmware:** Insert the USB flash disk with software updating file to the FIRMWARE port of Receiver, and then click **RX Firmware** button to start update procedure.
- **Shutdown Time (NO Input):** Set the auto power-off time or manual power-off time, including none, 1 minute, 2minutes, 5minutes and 10 Minutes. If the system can't detect video source input, it will automatically shut down after a preset interval.

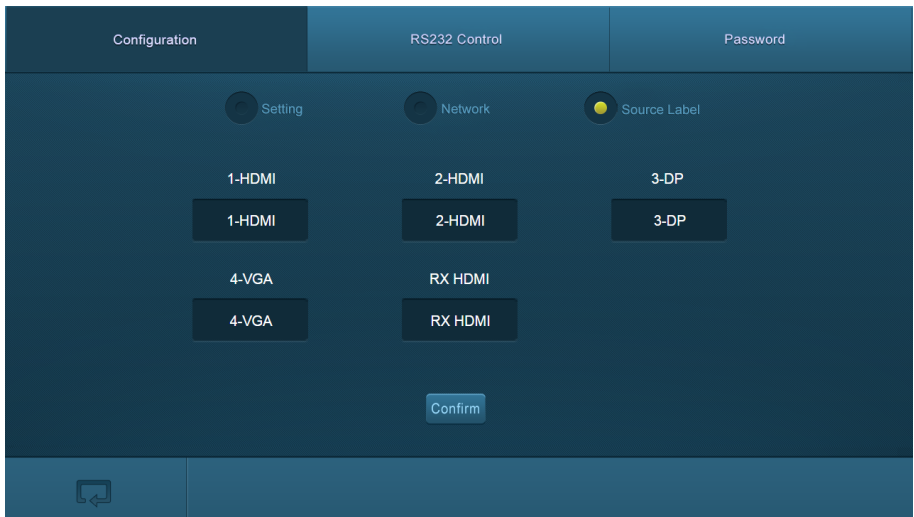
### ② Network

Click **Network** to enter the below menu to select the dynamic or static mode. Under static mode, then IP address, subnet mask and gateway can be reset.



### ③ Source

Click **Source Label** to enter the below menu to rename the input selection buttons.



### 8.3 RS232 Control Menu

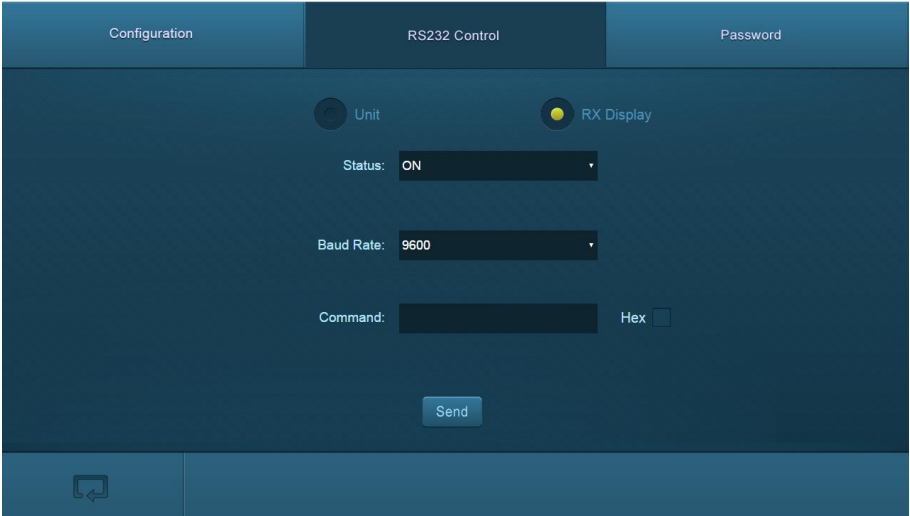
- 1 Click **RS232 Control** on the top of interface to enter the below menu to send commands to control far-end third-party device.

The screenshot shows the RS232 Control menu with the following elements:

- Navigation tabs: Configuration, RS232 Control (active), Password
- Unit selection: Unit (selected), RX Display
- Status: Local (dropdown)
- Baud Rate: 9600 (dropdown)
- Command: [Input field]
- Hex:
- Send button
- Home icon in the bottom left corner

- **Status:**
  - ✓ **Local:** Refers to the RS232 port of the Transmitter.
  - ✓ **HDBT:** Refers to the RS232 port of the Receiver.
- **Baud Rate:** The baud rate of local port is 9600, but for HDBT port, it support 2400、4800、9600、19200、38400、57600、115200.
- **Command:** Typing commands in this box to control the third-party device (such as integrated control system) connected to Transmitter, or the far-end third-party device (such as projector) connected to Receiver. If check the “Hex”, you can type RS232 commands with hexadecimal value in the box.

- ② Click **RX DISPLAY** to enter the below menu to set the **ON/OFF** button function to turn on/ off the display device (such as projector).



The screenshot shows a web interface with three tabs: Configuration, RS232 Control (selected), and Password. The RS232 Control tab contains the following settings:

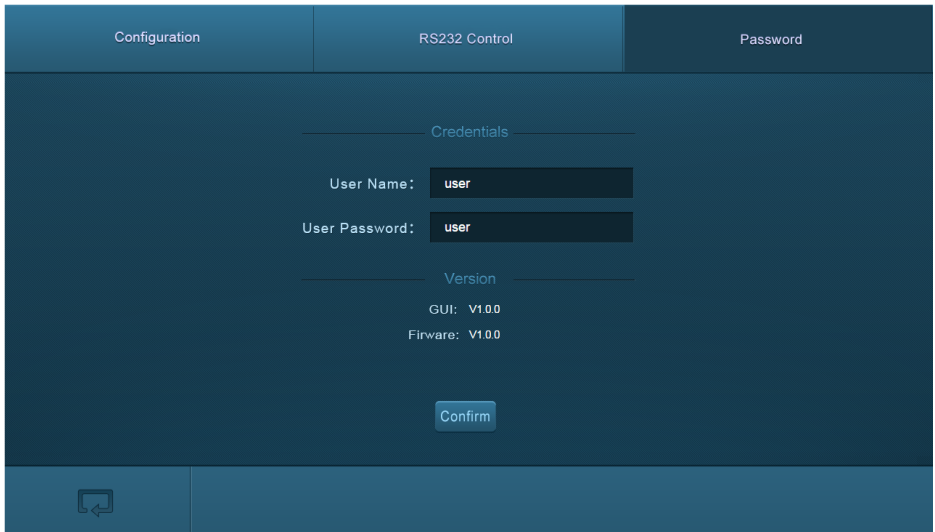
- Unit:** A radio button labeled "Unit" is selected, and a radio button labeled "RX Display" is unselected.
- Status:** A dropdown menu is set to "ON".
- Baud Rate:** A dropdown menu is set to "9600".
- Command:** An empty text input field.
- Hex:** A checkbox that is currently unchecked.
- Send:** A button to submit the configuration.

At the bottom left of the interface, there is a small icon of a speech bubble with a return arrow.

- **Status:** **ON** or **OFF** can be chosen.
- **Baud Rate:** Supports 2400、4800、9600、19200、38400、57600、115200.
- **Command:** Typing the control command of display device, and then click **Send**, the command will be sent to **DISPLAY ON/OFF** button.

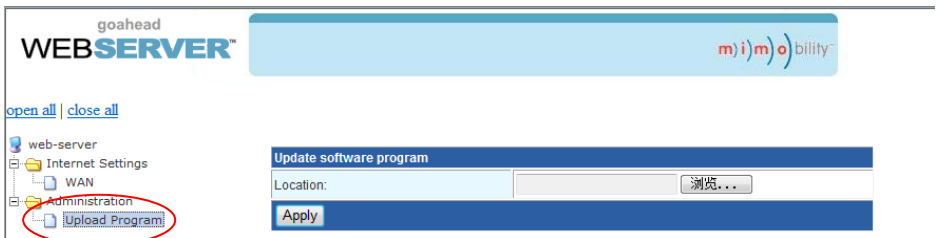
### 8.4 Password Menu

Click **Password** on the top of interface to enter the below menu to reset the username and password.



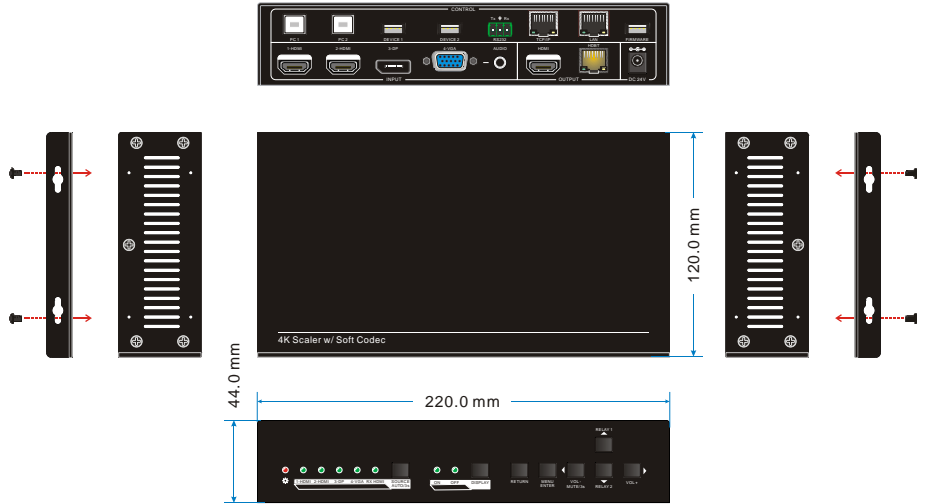
### 8.5 GUI Update

Web-based GUI for the Scaler Switcher supports online update in <http://192.168.0.178:100>. Type the username and password (the same as the GUI log-in settings, modified password will be available only after rebooting) to log in the configuration interface. After that, click **Administration** at the source menu to get to **Upload Program** as shown below:

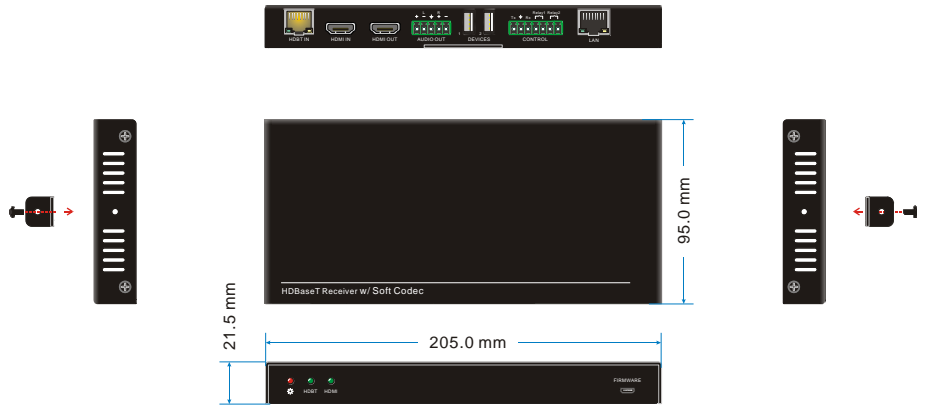


Select the desired update file and press Apply, it will start upgrading then.

## 9. Panel Drawing



9-1 Transmitter



9-2 Receiver

## 10. Troubleshooting & Maintenance

Problems	Potential Causes	Solutions
Output image with snowflake	Bad quality of the connecting cable	Try another high quality cable.
	Fail or loose connection	Make sure the connection is good
No output image when switching	No signal at the input / output end	Check with oscilloscope or multimeter if there is any signal at the input/output end.
	Fail or loose connection	Make sure the connection is good
	The switcher is broken	Send it to authorized dealer for repairing.
<b>POWER</b> indicator doesn't work or no respond to any operation	Fail connection of power cord.	Make sure the power cord connection is good.
Cannot control the device by control device (e.g. a PC) through RS232 port	Wrong RS232 communication parameters	Type in correct RS232 communication parameters.
	Broken RS232 port	Send it to authorized dealer for checking.

If your problem persists after following the above troubleshooting steps, seek further help from authorized dealer or our technical support.



## 11. Customer Service

The return of a product to our Customer Service implies the full agreement of the terms and conditions hereinafter. These terms and conditions may be changed without prior notice.

### ① **Warranty**

The limited warranty period of the product is fixed 3 (three) years. The warranty period runs from the date purchase indicated on the invoice.

### ② **Scope**

These terms and conditions of Customer Service apply to the customer service provided for the products or any other items sold by authorized distributor only.

### ③ **Warranty Exclusions:**

Warranty expiration.

Factory applied serial number has been altered or removed from the product.

Damage, deterioration or malfunction caused by:

- ✓ Normal wear and tear.
- ✓ Use of supplies or parts not meeting our specifications
- ✓ No certificate or invoice as the proof of warranty.
- ✓ The product model showed on the warranty card does not match with the model of the product for repairing or had been altered.
- ✓ Damage caused by force majeure.
- ✓ Servicing not authorized by distributor.
- ✓ Any other causes which does not relate to a product defect.

Shipping fees, installation or labor charges for installation or setup of the product.

### ④ **Documentation:**

Customer Service will accept defective product(s) in the scope of warranty coverage at the sole condition that the defect has been clearly defined, and upon reception of the documents or copy of invoice, indicating the date of purchase, the type of product, the serial number, and the name of distributor.

**Remarks:** For further assistance or solutions, please contact your local distributor.