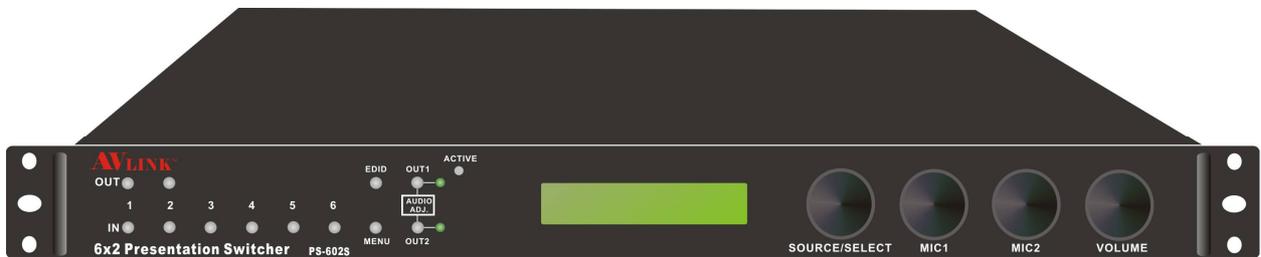




# User Manual



## Presentation Switcher

with HDMI and VGA solutions

6x2

**PS-602S**

V.2015PS-602S.00

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## **BEFORE YOU BEGIN**

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- Follow all instructions marked on the device during using.
- Provide proper ventilation and air circulation and do not use near water.
- It is better to keep it in a dry environment.
- Place the device on a stable surface (example cart, stand, table, etc.).
- The system should be installed indoor only. Install either on a sturdy rack or desk in a well-ventilated place.
- Make sure the rack is level and stable before extending a device from the rack.
- Make sure all equipments installed on the rack including power strips and other electrical connectors are properly grounded.
- Only use the power cord supported with the device.
- Do not use liquid or aerosol cleaners to clean the device.
- Always unplug the power to the device before cleaning.
- Unplug the power cord during lightning or after a prolonged period of non-use to avoid damage to the equipment.
- Do not stand on any device while installing the device to the rack.
- Do not attempt to maintain the device by yourself, any faults, please contact your vendor.
- Save this manual properly for future reference.

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# CHAPTER 1 SWITCHER SYSTEM OVERVIEW

## 1.1 Introduction

The Presentation Switcher is a high performance, zero-second latency switching equipment with 6x2 transmission interfaces. It is a switcher and also a converter means that it can handle virtually video/audio signals on its 6 inputs including HDMI and VGA. Split the HDMI signal and mix with the audio signal comes from the MIC1/2 input interface integrated the optical SPDIF or R/L stereo audio output signal. The built-in converter handles analog to digital conversion, as well as the signals conversion is virtually converted to any output equipments including any projector, TV or other audio amplifier. Built-in extender interfaces allowing you to integrate external extensible accessory devices to transmit data or to over long distances up to 70 meters.

The Switcher can be controlled in some ways; the front panel offers input/output selection and audio configured control, as well as an IR receiver connected to rear panel for user to control the PS-602S with a IR controller. The Switcher provides the utilize TCP/IP and RS232 rear panel allowing users to control the switcher through a browser on the PC.

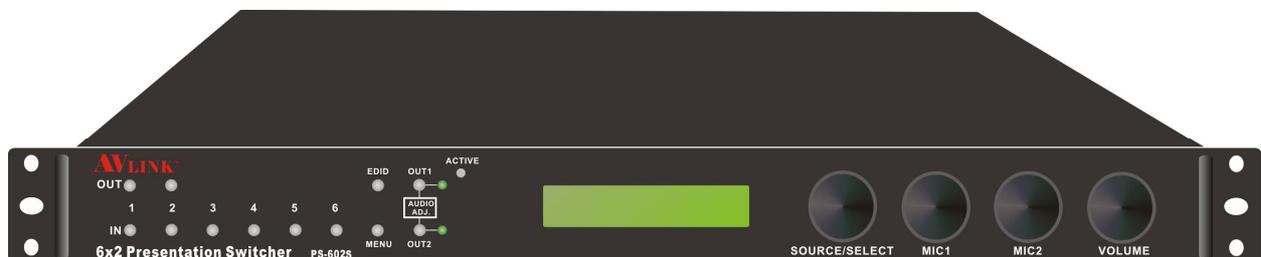


Figure 1-1 PS-602S Switcher

## 1.2 Packing

 A black, rack-mountable network switch with a green display screen and several ports on the front panel.	PS-602S Switcher *1
 A black power cord with a standard three-prong AC plug and a power connector for the device.	Power Cord *1
 A standard silver CD-ROM disc.	CD *1

## CHAPTER 2 FEATURES

---

- 3\*HDMI In (Up to 4K\*2K@30fps or YC<sub>B</sub> C<sub>R</sub> 4:2:0 4K\*2K@60fps)
- 3\*VGA In + 3\*3.5Ø Stereo Audio Inputs Associated with Each VGA Connection (VGA Support Resolution Shown Below)

VGA Input (Support Video Modes)	
60Hz	640*480, 800*600, 1024*768, 1152*864, 1280*600, 1280*720, 1280*768, 1280*800, 1280*960, 1280*1024, 1360*768, 1366*768, 1400*1050, 1440*900, 1600*900, 1600*1200, 1680*1050, 1920*1080
75Hz	640*480, 800*600, 1024*768, 1152*864, 1280*800, 1280*1024

- 2\*Microphone Input (XLR Connector)
- MIC inputs can be provided up to +48V phantom power
- 2\*HDMI Output (Different Displays) w/HDBaseT 70 Meters Output (Bypass Input Audio Only, None Microphone Mixer)
- Knob Adjustable for Source Volume, Microphone 1&2 Volume, Main Audio OUT Volume. (Press Knob Once for Mute)
- Microphone “Take-Over” Mode to Mix the Microphone Signal w/ the Source Audio Independent L/R Output, Coaxial Output, and TOSTLINK SPDIF Output (Source Audio is from 3.5Ø Stereo Audio or De-embed from HDMI Source)
- Support EDID Management
- LCD Display for Status Read Easily
- 8\*Front Panel Pushbuttons for Source Selection (Output \*2/Input \*6)
- Supports IR Remote/RS-232/Ethernet Control
- HDBaseT Technology, Use One CATx Cable to Install Easily
- Internal universal power supply
- 1U rack Unit Height

## CHAPTER 3 SPECIFICATIONS

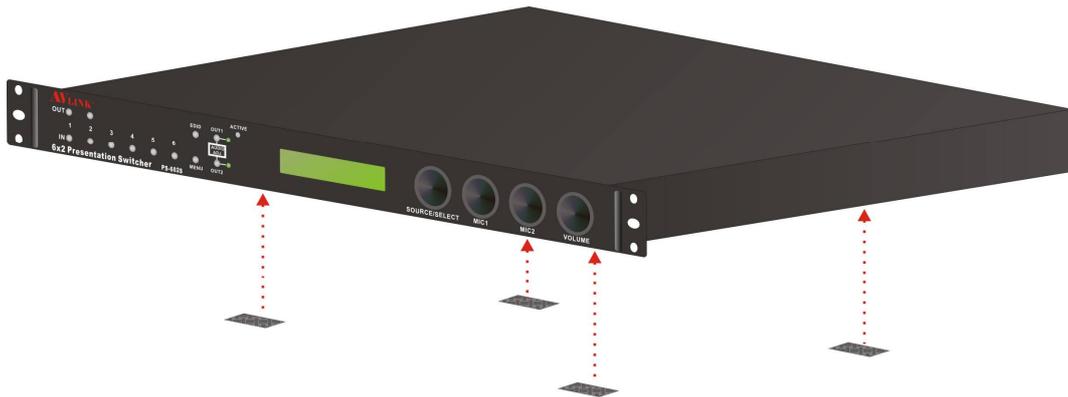
Hardware	
LCD Module	1
Pushbuttons	12
Knob	4
Input Connector	HDMI Type A*3/VGA*3
Output Connector	HDMI Type A*2 /RJ-45*2
IR IN	3.5Ø Phone Jack*2
IR OUT	3.5Ø Phone Jack*2
RS-232	3.5Ø Phone Jack*2
MIC Input	XLR Connector*2
Audio Input	3.5Ø Phone Jack*3
Audio Output	RCA Connector (R,L)*2 sets Digital Optical Toslink*2 RCA Digital Audio*2
LAN Connector	RJ-45*1
IR Ext.	1
3 pins Dip Switcher	1
Power	100VAC~240VAC, 50/60Hz, internal
Main Power Switch	1
Housing	Aluminum/Metal
Mounting	1U Rack mountable
Weight	3.6 kg
Dimensions (LxWxH)	482*357*45 mm
Control Information	
HDMI Cable Distance	10 meters (At least)
Cat.5e Cable Distance	70 Meters (Max.)
Baud Rate	9600 bps, 8 data bits, 1 stop bit, no parity
Ethernet Protocol	HTTP, DHCP, TCP/IP, Telnet
Serial Control Port	RS-232: 9 Pin Female D Type Connector
Remote Control	Remote Controller, IR Receiver Cable
Telnet Server	LAN

## CHAPTER 4 DEVICE INSTALLATION

---

The Switcher has a black metallic housing. It can be placed on a sturdy desk directly or installed on a rack.

Attach the rubber feet to the bottom of Switcher, Place the Switcher on a sturdy, level surface that can support Switcher's weight.



**Figure 4-1 Place the Switcher on a sturdy surface**

Or use the screws provided with the rack and a screw driver to firmly tighten the Switcher in the rack to prevent working lose due to vibration in the rack.



**Figure 4-2 Mount the Switcher in the rack**

## CHAPTER 5 FRONT/REAR PANELS

### 5.1 Front Panel



Figure 5-1 PS-602S Switcher Front Panel

The Switcher supports up to 8 switching keys (Input\*6/Output\*2) on the Front Panel. These keys allow you to configure the connected signal quickly and indicate the connection status clearly showing on the LCD display.

- **OUT1~2 keys** (output channel): Specifies the channel 1 and 2 for HDMI/HDBT/AUDIO signal output. You can use these keys to switch output channels.
- **IN1~6 keys** (input channel): Specifies the one of input channels that comes from HDMI 1~3 or VGA4~6 + AUD4~6 interface to output. These keys configure the signal sources of channel1~6. You can also use these keys to switch input channels.
- **EDID:** This feature provides you to get the best information for the best video and audio results come from input channels. And all of them will be held automatically within your switcher. Enabling your switcher to transfer the signals to your output channels so that ensuring the best compatibility and best video/audio results. **EDID Value: 108P, OUT1, OUT2, 01R, 02R, 720P**

EDID Value	0	1	2	3	4	5
Description	108P	OUT1	OUT2	01R	02R	720P
	Default	Local Output (HDMI)		Remote Output (HDBT)		Default

- **MENU:** Press this key to switch the configuration status showing on the LCD display.
- **OUT1 and OUT2:** Switch the output volume of adjustable audio set – AUD OUT 1 or AUD OUT 2 on the rear panel connection.
- **ACTIVE:** A clear LED indicator designed for reaction by pressing keys on the front panel.
- **LCD:** LCD display shows current switcher status and operation status. Press Menu key to switch the LCD display screen. When idling on the same screen for about 5 seconds, the system will return to main screen.

LCD Display	Description
<pre>01 02 VOL1 VOL2 EDID  2 1 17 25 720P</pre>	<ul style="list-style-type: none"> <li>* HDMI Output Channel 01: Specify the signal comes from Input Channel 2.</li> <li>* HDMI Output Channel 02: Specify the signal comes from Input Channel 1.</li> <li>* VOL1 and VOL2: Specify the sound output for AUD OUT 1 and 2 are level 17 and 25.</li> <li>* EDID Value: 720P (Default Value)</li> </ul>
<pre>P SRC MIC1 MIC2 VOL 1 0 3 0 17</pre>	<ul style="list-style-type: none"> <li>* P: Show you currently AUD OUT configuration is 1 or 2.</li> <li>* SRC: Specify the sound volume comes from connected input port (HDMI1~3 or VGA4~6). Value 0 means mute.</li> <li>* MIC 1 and MIC2: Specify the MIC1 and MIC2 volume are level 3 and 0.</li> <li>* VOL: Total output volume, namely the sound volume of mixed SRC, MIC1 and MIC2.</li> </ul>
<pre>MIC 1 2 Press TYPE LINE LINE &lt;IN&gt;</pre>	<p>Specify you the types of microphones are LINE in or 48V phantom power.</p>
<pre>ID: 0 Master:RS-232 IP: 192.168.0.3</pre>	<ul style="list-style-type: none"> <li>* ID: Specify the Switcher Static ID to 0.</li> <li>* Master: Specify the remote control interface is RS-232 or Line.</li> <li>* IP: Show the Switcher IP address (Default Value: 192.168.0.3)</li> </ul>

- **SOURCE/SELECT knob:** Adjusts the output volume, press the knob once to mute the output and press again to restore the volume.
- **MIC1/MIC2 knobs:** Adjusts the MIC1/MIC2 volume, press the knobs once to mute the MIC1/MIC2 and press again to restore the volume.
- **VOLUME knob:** Adjusts the mixed audio volume, press the knobs once to mute the mixed audio and press again to restore the volume.

☞ You can adjust the volume level from value 0 (mute) to value 30 (max.).

## 5.2 Rear Panel

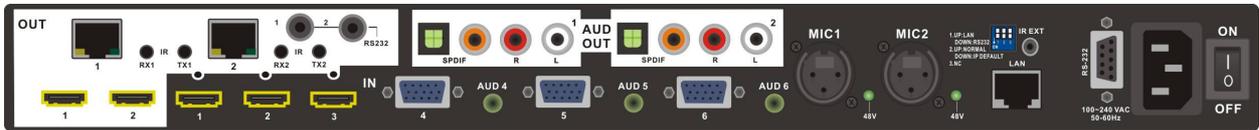
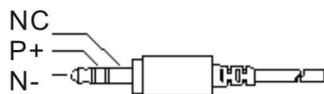


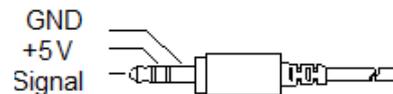
Figure 5-6 PS-602S Switcher Rear Panel

The Switcher supports up to 6 input jacks (HDMI x 3 VGA+Audio set x 3), MIC input port\*2 and multiple output interfaces on the rear panel. The input interfaces allowing you to connect to different equipments including CD/DVD players, Blue Ray player, PS3, Video Camera, STB and so on. The HDMI output can be connected to projectors, video recorders, multiplexers and other displays directly. Other output interfaces allowing you to connect to extensible accessory devices for over long connections with terminal display devices.

- **OUT1~2 (HDMI):** The Switcher Output connector is connected to the A/V, HDTVs or other output devices directly.
- **OUT1~2 (RJ45):** The Switcher Output connector is connected to the A/V, HDTVs or other output devices via an extensible accessory device for over long connection.
- **IR (RX1/RX2,TX1/TX2):** Through a IR Blaster/Receiver cable connection, you can extend the IR signals transmission between Switcher and Remote devices.

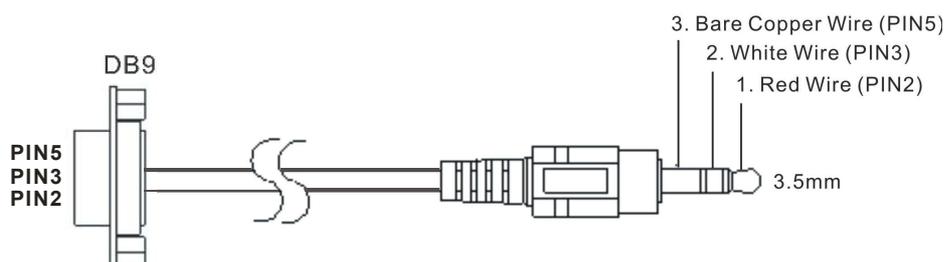


IR Blaster Pin Definitions



IR Receiver Pin Definitions

- **RS232 1~2 ports:** Through a 3.5mm to DB9 female RS232 cable for a long-distance serial data transmission.



- **AUD OUT 1~2 sets:** These ports are complied with SPDIF and R/L audio connectors that are connected to the audio output device.
  - **SPDIF ports:** The Switcher supports the signal transmitted over either a coaxial cable with RCA connectors or a fiber optic cable with Toslink connectors to keep the signal transmission fidelity in a short-distance.
  - **R/L ports:** The Switcher supports the stereo R/L analog audio output interface.



- **IN1~3 (HDMI):** These ports receive the HDMI signals through a HDMI cable comes from the input sources.

**HDMI Type A Connector host assignment:**

Pin #	Signal	Pin #	Signal
1	TMDS Data2+	11	TMDS Clock Shield
2	TMDS Data2 Shield	12	TMDS Clock-
3	TMDS Data2-	13	NC
4	TMDS Data1+	14	NC
5	TMDS Data1 Shield	15	DDC-SCL
6	TMDS Data1-	16	DDC-SDA
7	TMDS Data0+	17	DDC-Ground
8	TMDS Data0 Shield	18	+5V Power
9	TMDS Data0-	19	Hot Plug Detect
10	TMDS Clock+		

- **IN4~6 (VGA+Audio):** These ports receive the VGA and Audio signals through VGA and Audio cables come from the input sources.

**VGA Connector assignment:**

Pin #	Signal	Pin #	Signal
1	Red	9	NC
2	Green	10	Sync return
3	Blue	11	NC
4	NC	12	Bi-directional data (SDA)
5	Return (GND)	13	Horizontal sync
6	Red return	14	Vertical sync
7	Green return	15	Data clock (SCL)

8	Blue return		
---	-------------	--	--

- **MIC1, 2:** The Switcher supports at least 2 microphones connection.
  
- **48V LED:** The Switcher supports the microphone with 48V phantom power. When you want to connect a 48V Condenser microphone, you can press the **MENU** key on the front panel to switch the LCD screen to microphone configuration screen, then press **IN** key 1 or 2 to select microphone input port 1 or 2 for a 48V phantom power. Once the connection is successful, the 48V LED indicator turns to solid green.
  
- ☞ When using a 48V microphone (phantom power), make sure the MIC connector on the rear panel of your Switcher is connected to a 48V microphone in order to avoid the damage to non-48V type of microphone.
  
- **Switcher:** The switcher supports 3 pins DIP for connected configurations.
  - Pin 1: RS232/LAN
  - Pin 2: IP RESET
  - Pin 3: NC
  
- **IR EXT:** This is used for connecting the IR Receiver. Refer to [6.5 IR Pass-Through Connection](#).
  
- **LAN Port:** Use the RJ-45 connection cable to connect the Internet and the Switcher. The entire PC at the same network can control the Switcher through the LAN port. Refer to [6.4 Remote Control Connection](#)
  
- **RS-232 connector:** Uses a 9-pin RS-232 cable to connect both computer serial port (for example: COM1 or COM2) and the Switcher's RS-232 communication connector, refer to [6.7.1 RS-232](#). The computer can then be deployed to control the Switcher through a terminal session (command line) on your control PC. Refer to
  
- [Chapter 7 Remote Configurations](#) for more information.
  
- **Power port:** The Power Port is applicable for 100~240VAC, 50~60Hz connected to the outlet of power source. Refer to [6.6 Power Connection](#).
  
- **Power Switch:** To switch power ON or OFF the Switcher.

# CHAPTER 6 CONNECTIONS

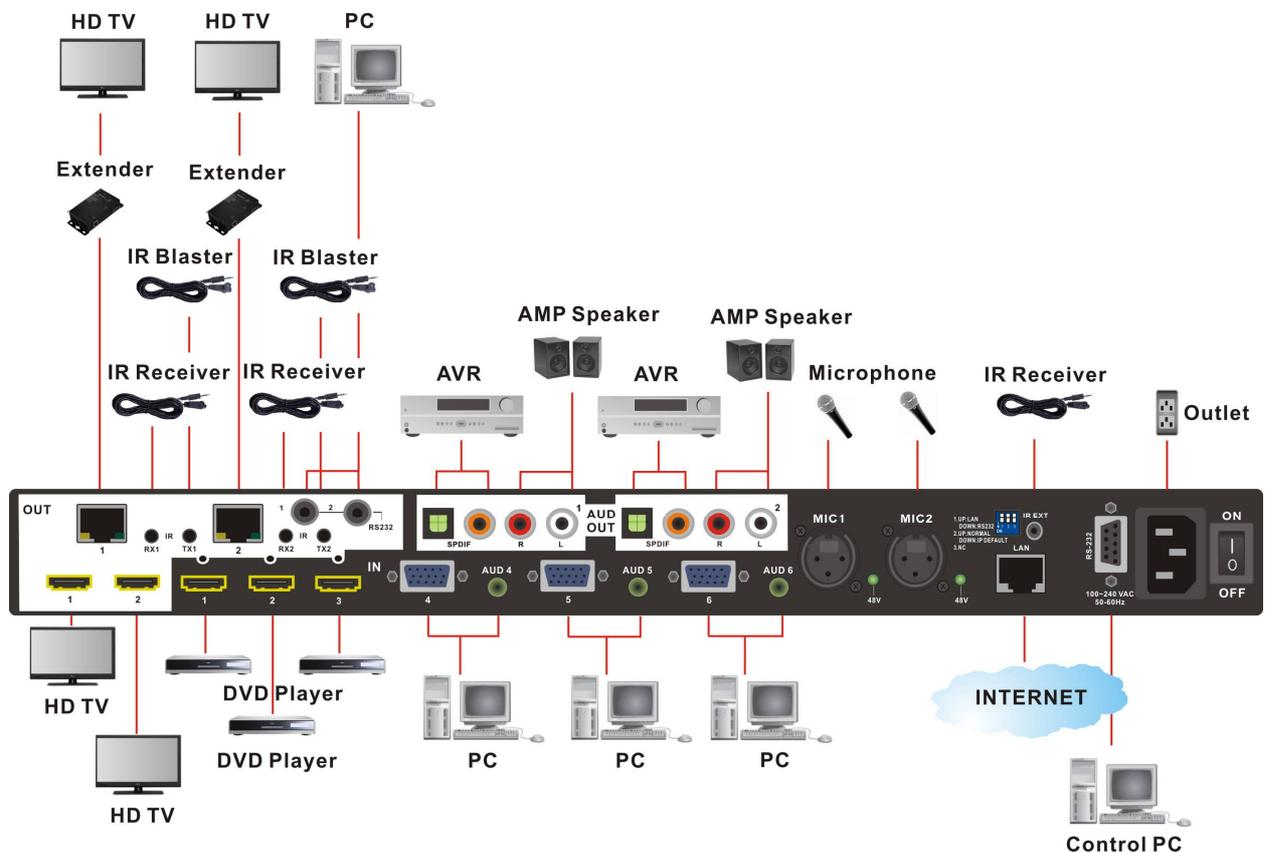


Figure 6-1 Switcher Connections

## 6.1 Input Connections

Use the HDMI/VGA+Audio connecting cable to connect the Input serial jack (IN1~3/ IN4~6) to the output source jack of the Blu-ray/DVD player displays/graphics workstations/PC.

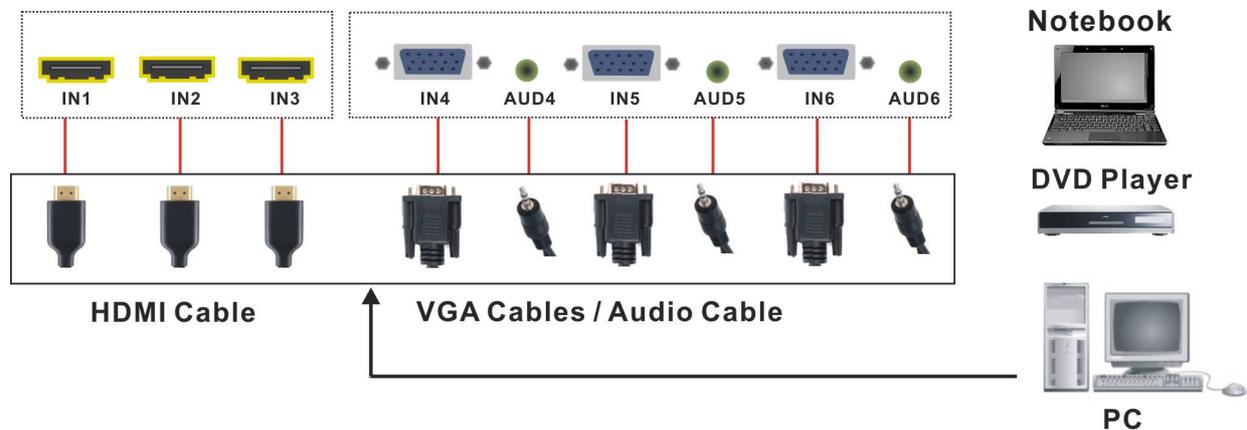


Figure 6-2 Input Connections

## 6.2 Output Connections

- Use the HDMI cable to connect the output jack (OUT1 ~ OUT2 with HDMI interface) on the rear panel to the input jack of the projector, video recorder, display, HD TV or multiplexer directly.
- Or use the Cat.5e cable to connect the output RJ-45 jack (OUT1 ~ OUT2 with RJ-45 interface) on the rear panel to the LINK IN jack of the Extender. Through the Extender, you can extend the transmission distance and over-long configuring the projector, video recorder, display or multiplexer to your Switcher.

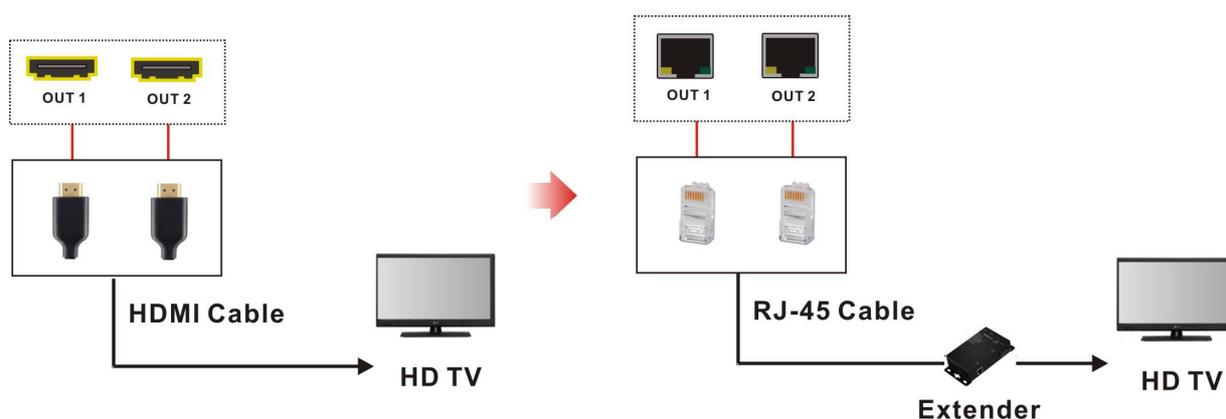


Figure 6-3 Output Connections

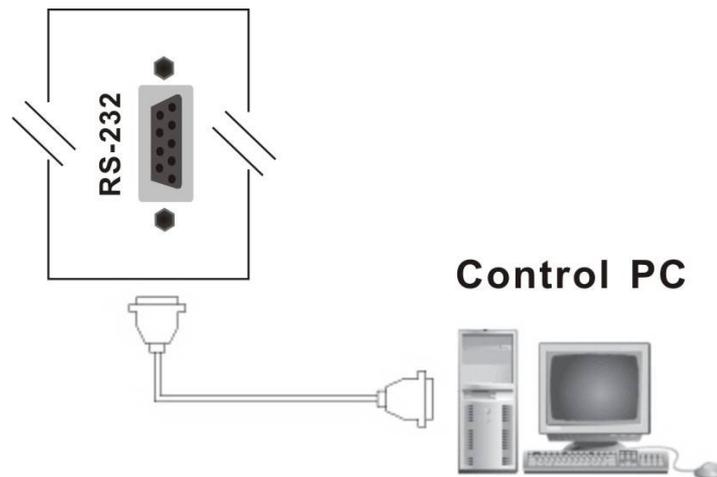
## 6.3 Multiple Connections

- MIC: Connected to the microphone.
- SPDIF: Uses the SPDIF cable with RCA or Toslink connector to connect the SPDIF port on the rear panel to the AVR device. Then, transmit signals through coaxial or fibre optic of SPDIF cable.
- R/L: Uses the R/L cable to connect the R/L output port to AMP speaker for audio connection.
- Use the RS232 cable with 3.5mm connector to connect the RS232 1~2 port on the rear panel to the RS-232 jack of PC.
- Use the IR Receiver and IR Blaster to connect the IR ports (RX1/RX2, TX1/TX2) on the real panel for remote control.

☞ The Switcher integrates the IR RX/TX and RS232 input signals and outputs the signals via the RJ-45 port simultaneously. Through the extender, the output signals will be transmitted to the remote device.

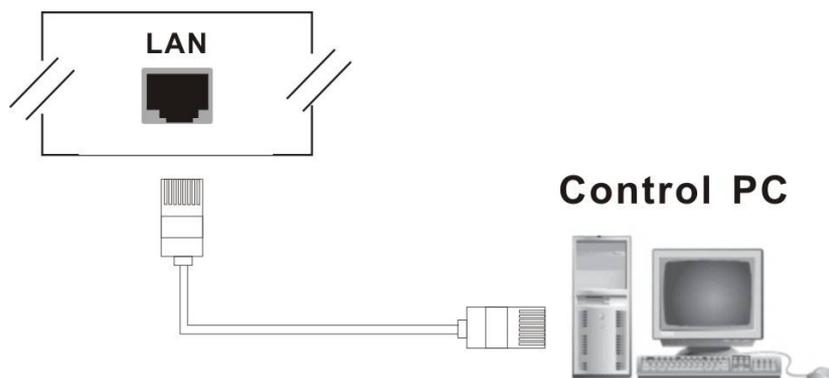
## 6.4 Remote Control Connection

Use the RS-232 connecting cable to connect the computer serial communication port (COM1 or COM2) to the RS-232 communication port of the Switcher. The computer can then be used to control the Switcher after installing of application software. Aside from using the front panel keys for switching operation, you are also permitted to use the RS-232 connection port for a remote operation.



**Figure 6-4 RS-232 and Control PC connection**

The Switcher also supports a LAN port allowing you to control all the series connection devices through PC Browser.



**Figure 6-5 LAN port and Control PC Connection**

☞ The Switcher supports RS-232 and LAN port on the rear panel for a remote control.

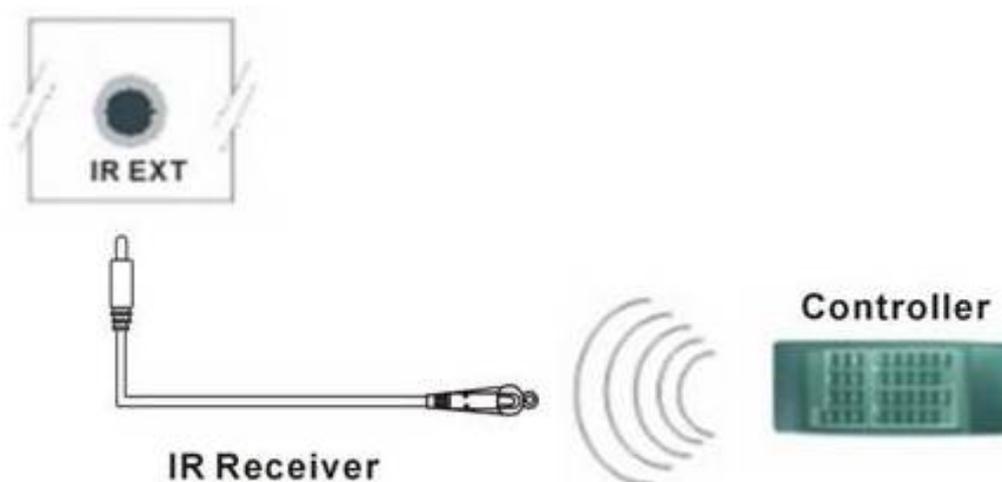
## 6.5 IR Pass-Through Connection

The Switcher provides an IR Receiver cable and IR Blaster cable accessories for IR pass-through; on the other hand, it also provides you an extended IR pass-through transmission through Extender.

- Supports you an IR channel to control the TV-end of your Switcher and Remote.
- Supports all kinds of IR frequency band

### 6.5.1 Normal IR Connection

The Switcher provides you an IR receiver for more convenient to react to the controller. Please connect the receiver to the IR port located on the rear panel for optional position.



**Figure 6-6 IR Extended Aiming**

☞ The package of this Switcher is not including the controller, the controller is optional.

## 6.5.2 Extended IR Connection

### Extended Connection:

You can extend the signal connection through the Extender described as below.

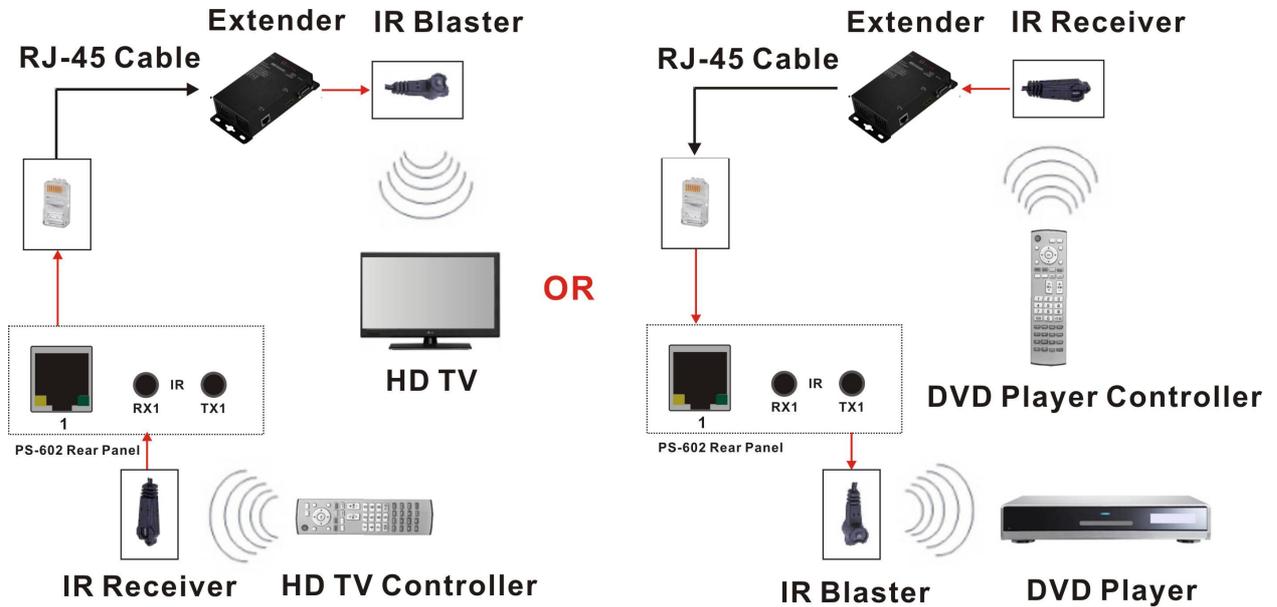


Figure 6-7 IR Extended Connection

## 6.6 Power Connection

Use the included power cord to connect from the power port on the rear panel of the Switcher to the outlet.

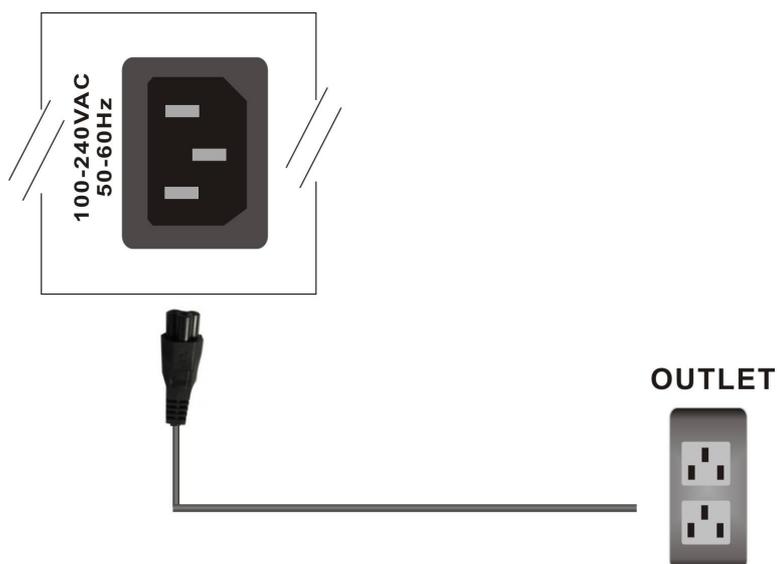


Figure 6-8 Power Connection

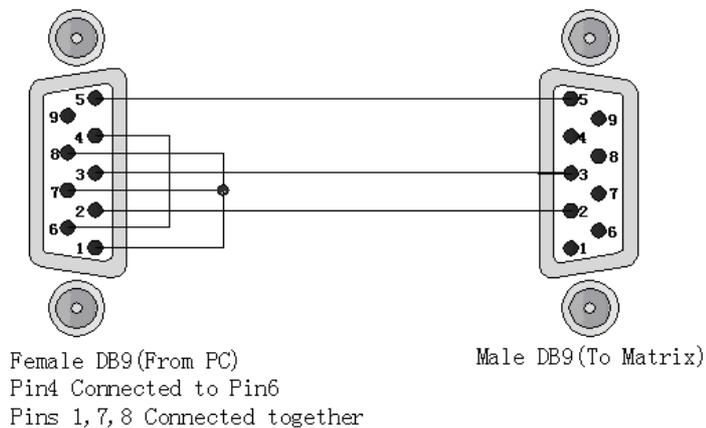
## 6.7 Ports and Switchers

The Switcher provides standard RS-232 serial communication port as well as LAN for remotely managing. Besides the front panel is ideally for the local switching, managing and setting operation, the Switcher also provides Dip switcher for locally settings.

### 6.7.1 RS-232

The RS-232 Pin functions are described as below:

Pin No.	Abbreviation	Description
1	N/u	Null
2	TXD	Send
3	RXD	Receive
4	N/u	Null
5	GND	Ground
6	N/u	Null
7	N/u	Null
8	N/u	Null
9	N/u	Null



**Figure 6-8 (a)**

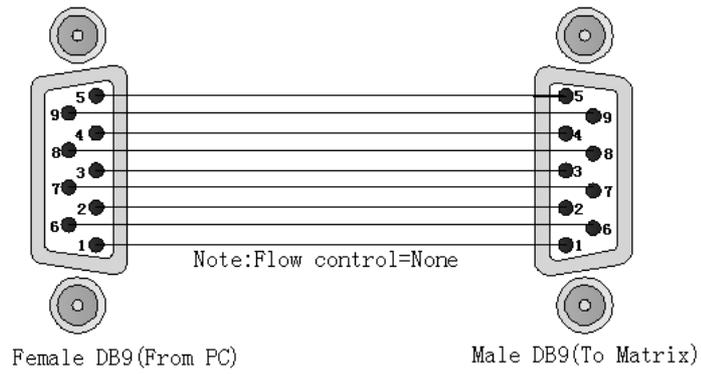


Figure 6-8 (b)

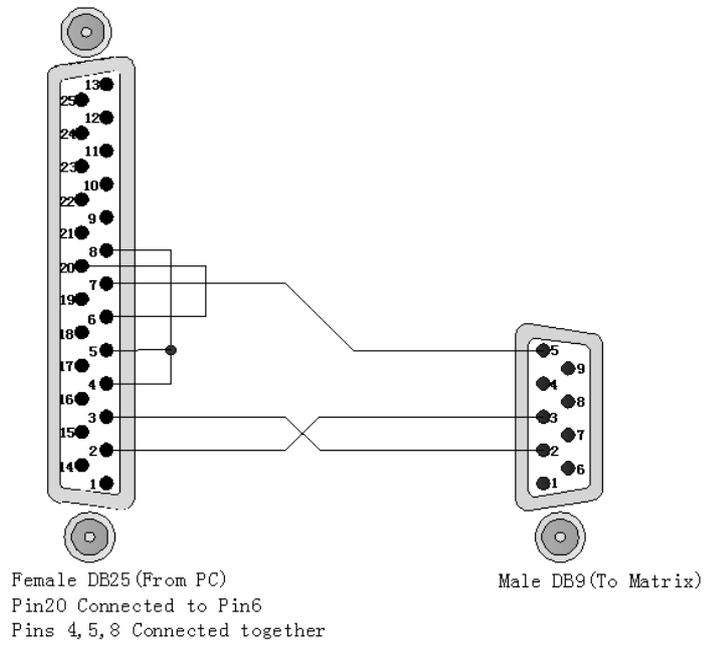


Figure 6-9

☞ The Switcher RS-232 port is defined by DCE.

### 6.7.2 HDBaseT Output Port

The Switcher supports RJ-45 registered jacks using 8P8C modular connector, which specifies the physical male and female connectors as well as the pin assignments of the wires in a LAN cable. (A common LAN cable is available.)

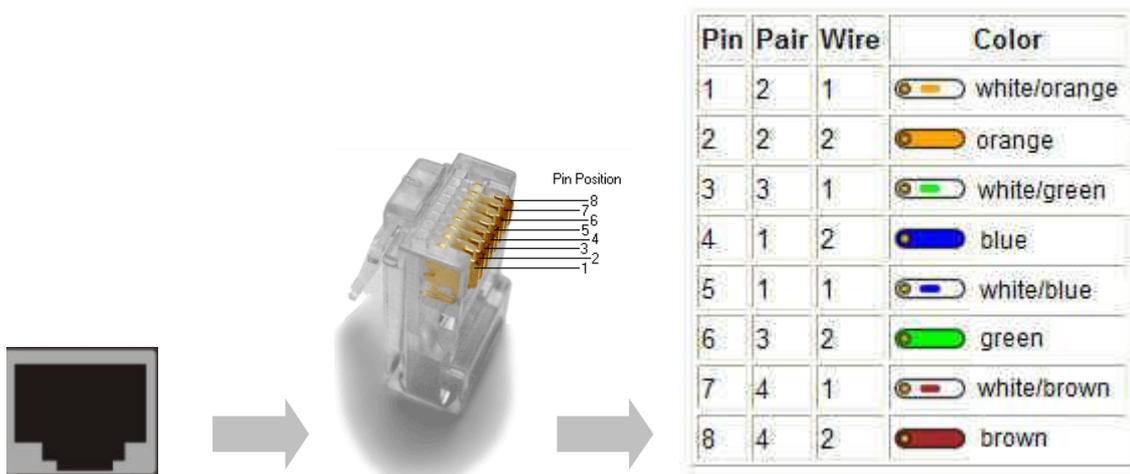


Figure 6-10 LAN (HDBT) Port

### 6.7.3 Output LED

The Switcher supports HDBaseT output for a long distance signal transmission. Output connector is RJ-45 jack with two LED indicators. The LED indicators show you the status of output transmission.



- \* The left of RJ-45 output jack is specified for HDCP LED (Yellow).
- \* The right of RJ-45 output jack is specified for LINK LED (Green).

The LED indicators are only designed for the Output – RJ-45 jack of the Switcher.

#### LED Indicators:

LED	Off	Blink	On
<b>LINK (Green)</b>	No Link	Low Power Mode	HDBaseT Link
<b>HDCP (Yellow)</b>	No HDMI Signals	No Encryption	HDCP Encryption

## 6.7.4 Output Cable

HDBaseT was designed to provide Full HD performance up to 100/70 meters of Cat.5e or superior cables. In a typical installation, the cable is stretched to its full length between the HDBaseT Transmitter device and the HDBaseT Receiver device. However sometimes, especially, in demonstrations or in a lab environment, the cable is rolled randomly in small turns for convenience. The randomly rolled UTP cable suffers additional signal impairments (compared to straight cable) and therefore the maximal operating reach might be reduced. When a Cat.5e cable is randomly rolled, it is recommended to limit its length to approximate 50 meters. Rolling a Cat.5e cable around a 70cm fixed diameter plastic drum has just a minor effect on the FEXT (Far End Cross Talk) when compared to a fully stretched cable.

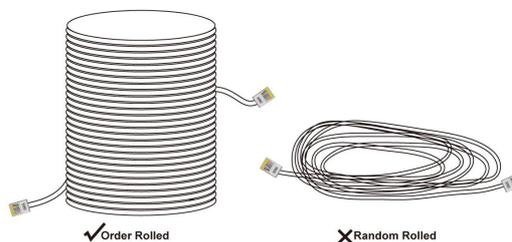


Figure 6-11 Output LAN Cable

**The VS010 family features the following:**

When the VS010 is in low power mode (LPPF1/2), the sample rate of the PDIF channel is reduced to 100 KHz. This implies that high data rates may not be used when the VS010 is in LPPF.

Enables 10.2 Gbps of HDMI 1.4 traffic (including HDCP) over a single LAN cable according to the following specifications:

Cable Type	Range	Supported Video
<b>CAT5e/CAT6</b>	60 meters	Most common full HD formats: - Up to 1080P, 60Hz, 36bpp - Data rates lower than 5.3 Gbps or below 225 MHz TMDS clock
<b>CAT6a/CAT7</b>	70 meters	
<b>CAT5e/CAT6</b>	35 meters	Ultra HD video formats: - Deep color: 1080P, 60Hz, 48bpp - 4K x 2K - Data rates higher than 5.3 Gbps or above 225MHz TMDS clock
<b>CAT6a/CAT7</b>	40 meters	

Full HD support: 1080P@60Hz@48b/pixels, 3D, 4K x 2K

## 6.7.5 DIP Switcher for 3 Pins

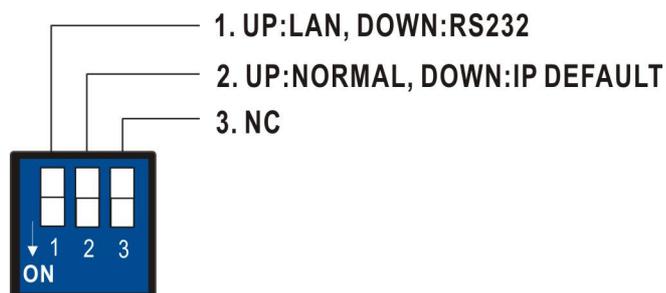


Figure 6-12 DIP Switcher for 3 Pins

**A. DIP Switcher Pin 1:** Switch between RS-232 port and LAN port connection. The default value is up specified “**UP (OFF)**” for LAN port connection.

**DOWN (ON):** RS232

**UP (OFF):** LAN

**B. DIP Switcher Pin 2:** Reset the web server IP address to **192.168.0.3**, the default value is up specified “**UP (OFF)**” for NORMAL IP configuration. For a normal operation, please adjust the Pin2 to **DOWN (ON)**, then power on the Switcher again. The IP address will be restored to the default value: **192.168.0.3**.

## CHAPTER 7 REMOTE CONFIGURATIONS

### 7.1 Telnet Commands

You can operate and configure the Switcher via a remote terminal session using Telnet. Follow the steps as below to log into the Switcher by means of a Telnet session:

1. Connect the Switcher to LAN port of your network with RJ-45 cable.
2. Power on both Switcher and control PC.
3. Open a terminal session (command line) on your control PC.
4. At the prompt, key in the Switcher's IP address as below:

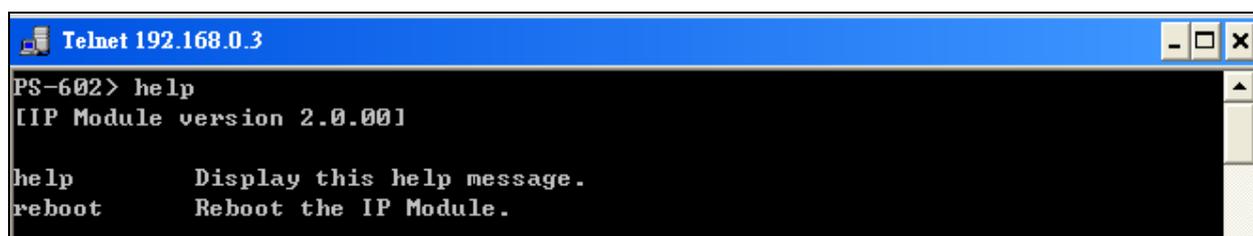
```
TELNET [IP Address]:192.168.0.3
```

5. Press **Enter**

☞ Please switch the DIP Switcher PIN 1 to UP (OFF) for LAN configuration.

#### 7.1.1 Command List and Reboot

Once the connection with Switcher is established, the PS-602 Telnet prompt screen will appear, type **help** [Enter] to show the command list.

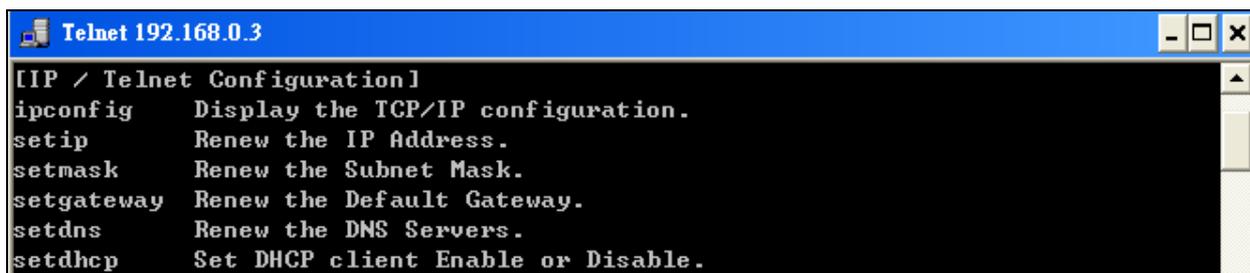


```
Telnet 192.168.0.3
PS-602> help
[IP Module version 2.0.00]

help      Display this help message.
reboot    Reboot the IP Module.
```

- **Display the command list.**  
PS-602> **help** [Enter]
- **Reboot the IP Module.**  
PS-602> **reboot** [Enter]

## 7.1.2 IP/Telnet Configuration



```
Telnet 192.168.0.3
[IP / Telnet Configuration]
ipconfig  Display the TCP/IP configuration.
setip     Renew the IP Address.
setmask   Renew the Subnet Mask.
setgateway Renew the Default Gateway.
setdns    Renew the DNS Servers.
setdhcp   Set DHCP client Enable or Disable.
```

- **Display the TCP/IP configuration**

```
PS-602> ipconfig [Enter]
Current IP: 192.168.0.3
Current IP Mask: 255.255.255.0
Current Gateway: 192.168.0.1
```

- **Renew the IP Address**

```
PS-602> setip [ip addr] [Enter]
```

*[ip addr]: xxx.xxx.xxx.xxx*

**Example:**

Set IP address: 192.168.0.2

```
PS-602> setip 192.168.0.2 [Enter]
PS-602> setip IP address: 192.168.0.2
```

- **Renew the Subnet Mask**

```
PS-602> setmask [netmask] [Enter]
```

*[netmask]: xxx.xxx.xxx.xxx*

**Example:**

Set subnet mask address: 255.255.255.0

```
PS-602> setmask 255.255.255.0 [Enter]
PS-602> setmask Subnet Mask: 255.255.255.0
```

- **Renew the Default Gateway**

```
PS-602> setgateway [ip addr] [Enter]
```

*[ip addr]: xxx.xxx.xxx.xxx*

**Example:**

Set gateway address: 192.168.0.1

```
PS-602> setgateway 192.168.0.1 [Enter]
PS-602> setgateway Gateway: 192.168.0.1
```

- **Renew the DNS Servers**

```
PS-602> setdns [ip addr] [Enter]
```

*[ip addr]: xxx.xxx.xxx.xxx*

**Example:**

Set DNS IP address: 192.168.0.1

```
PS-602> setdns 8.8.8.8 [Enter]
```

```
PS-602> setdns DNS IP:8.8.8.8
```

- **Set DHCP Enable or Disable**

```
PS-602> setdhcp [status] [Enter]
```

*[status]: 0: Disable 1: Enable*

**Example:**

Set DHCP to disable.

```
PS-602> setdhcp 0 [Enter]
```

```
PS-602> setdhcp DHCP Client: Disable
```

 Please reboot to make the new values take effect.

## 7.1.3 Device Configuration

```

Telnet 192.168.0.3
[Device Configuration]
route      Display route status and route configurations.
save       Save current settings to the selected preset number.
load       Load settings from the selected preset number.
link       Display the input and output link status.
mute       Audio Mute Settings.
vol        Audio Volume Settings.
edid       EDID Management.
default    Reset the device to factory default settings.
info       Display device information.
ver        Display version information.

```

### - Display current route status

```
PS-602> route [Enter]
Output 01: Input = 03
Output 02: Input = 05
```

### - Route configurations

```
PS-602> route [xx] [yy] [Enter]
```

*xx – select output port, 0: select all outputs*

*yy – select input port, 0: disconnect*

### Example:

1. Set the output 2 and input 5.

```
PS-602> route 2 5 [Enter]
Output 02: Input = 05
```

Display reset route status.

```
PS-602> route [Enter]
Output 01: Input = 03
Output 02: Input = 05
```

2. Set all outputs to accept signals come from input 4.

```
PS-602> route 0 4 [Enter]
Output 01: Input = 04
Output 02: Input = 04
```

3. Disconnect the input signal to output 1.

```
PS-602> route 1 0 [Enter]
Output 01: Input = 00
```

Display reset route status.

```
PS-602> route [Enter]
Output 01: Input = 00
Output 02: Input = 05
```

PS-602> route [yy] [Enter]

*Route all outputs to the specified input.*

**Example:**

Set all outputs to accept the signals come from input 5.

PS-602> route 6 [Enter]

Output 01: Input = 06

Output 02: Input = 06

PS-602> route [xx] [yy0] [yy1] ...[yyN] [Enter]

*Route output sequentially to the corresponding input.*

*Route output to the specified input yy0.*

*Route next 1 output to the specified input yy1.*

*Route next n output to the specified input yyn, n<=8*

**Example:**

Set output 1 and 2 sequentially to the corresponding input 3 and 4.

PS-602> route 1 3 4 [Enter]

Output 01: Input = 03

Output 02: Input = 04

- **Display the input and output link status**

PS-602> link [Enter]

Output 01: Connected

Output 02: Connected

Output 03: Not Connected

Output 04: Not Connected

 This command is used for HDMI Hot-Plug-Detect, when an HDMI signals is detected, the resulting hot-plug detection instantiates a start-up communication sequence. Output 01 and 02 are for local output (HDMI), Output 03 and 04 are for remote output (HDBT)

- **Display the mute status**

PS-602> mute [Enter]

Audio 01: Volume is unmuted

Audio 02: Volume is unmuted

Audio 03: Volume is unmuted

Audio 04: Volume is unmuted

Audio 05: Volume is unmuted

Audio 06: Volume is unmuted

Audio 07: Volume is unmuted

Audio 08: Volume is unmuted

☞ Audio 01, 03, 05 and 07 are specified for AUD OUT 1 (source/MIC1/MIC2/volume knob) and Audio 02, 04, 06 and 08 are specified for AUD OUT 2 (source/MIC1/MIC2/volume knob).

## - Audio mute settings

PS-602> mute [xx] [yy] [Enter]

*xx – select audio signal, 0: select all audio signals*

*yy – 1: mute, 0: unmute*

### Example:

1. Set audio 1 volume to mute.

```
PS-602> mute 1 1 [Enter]
Audio 01: Volume is muted
```

Display all audio volume status.

```
PS-602> mute [Enter]
Audio 01: Volume is muted
Audio 02: Volume is unmuted
Audio 03: Volume is unmuted
Audio 04: Volume is unmuted
Audio 05: Volume is unmuted
Audio 06: Volume is unmuted
Audio 07: Volume is unmuted
Audio 08: Volume is unmuted
```

2. Set all audio volume to mute.

```
PS-602> mute 0 1 [Enter]
Audio 01: Volume is muted
Audio 02: Volume is muted
Audio 03: Volume is muted
Audio 04: Volume is muted
Audio 05: Volume is muted
Audio 06: Volume is muted
Audio 07: Volume is muted
Audio 08: Volume is muted
```

3. Set all audio volume to unmute.

```
PS-602> mute 0 0 [Enter]
Audio 01: Volume is unmuted
Audio 02: Volume is unmuted
Audio 03: Volume is unmuted
Audio 04: Volume is unmuted
Audio 05: Volume is unmuted
Audio 06: Volume is unmuted
Audio 07: Volume is unmuted
```

Audio 08: Volume is unmuted

PS-602> `mute [yy]` [Enter]

*Set all audio volume to mute status*

**Example:**

Set all audio volume to mute.

```
PS-602> mute 1 [Enter]
Audio 01: Volume is muted
Audio 02: Volume is muted
Audio 03: Volume is muted
Audio 04: Volume is muted
Audio 05: Volume is muted
Audio 06: Volume is muted
Audio 07: Volume is muted
Audio 08: Volume is muted
```

PS-602> `mute [xx] [yy0] [yy1] ... [yyn]` [Enter]

*Set audio sequentially to the corresponding volume status*

*Set audio xx volume status to yy0*

*Set next 1 audio volume status to yy1*

*Set next n audio volume status to yyn, n <= 8*

**Example:**

Set specified audio volume to mute or unmute.

```
PS-602> mute 3 0 1 0 1 [Enter]
Audio 01: Volume is muted
Audio 02: Volume is muted
Audio 03: Volume is unmuted
Audio 04: Volume is muted
Audio 05: Volume is unmuted
Audio 06: Volume is muted
Audio 07: Volume is muted
Audio 08: Volume is muted
```

- **Display the volume status**

```
PS-602> vol [Enter]
Audio 01: Volume = 0
Audio 02: Volume = 0
Audio 03: Volume = 0
Audio 04: Volume = 0
Audio 05: Volume = 0
Audio 06: Volume = 0
Audio 07: Volume = 0
Audio 08: Volume = 0
```

☞ Audio 01, 03, 05 and 07 are specified for AUD OUT 1 (source/MIC1/MIC2/volume knob) and Audio 02, 04, 06 and 08 are specified for AUD OUT 2 (source/MIC1/MIC2/volume knob).

## - Audio volume settings

```
PS-602> vol [xx] [yy] [Enter]
```

*Set specified audio volume level*

*xx – select audio signal port, 0: select all signals index*

*yy – volume level, 0: mute*

### Example:

1. Set audio 2 volume level to 24.

```
PS-602> vol 2 24 [Enter]
Audio 02: Volume = 24
```

Display all audio volume level status.

```
PS-602> vol [Enter]
Audio 01: Volume = 0
Audio 02: Volume = 24
Audio 03: Volume = 0
Audio 04: Volume = 0
Audio 05: Volume = 0
Audio 06: Volume = 0
Audio 07: Volume = 0
Audio 08: Volume = 0
```

2. Set all audio volume level to 15.

```
PS-602> vol 0 15 [Enter]
Audio 01: Volume = 15
Audio 02: Volume = 15
Audio 03: Volume = 15
Audio 04: Volume = 15
Audio 05: Volume = 15
Audio 06: Volume = 15
Audio 07: Volume = 15
Audio 08: Volume = 15
```

3. Set audio 3 volume level to 0 (mute).

```
PS-602> vol 3 0 [Enter]
Audio 03: Volume = 0
```

Display all audio volume level status.

```
PS-602> vol [Enter]
Audio 01: Volume = 15
```

Audio 02: Volume = 15  
 Audio 03: Volume = 0  
 Audio 04: Volume = 15  
 Audio 05: Volume = 15  
 Audio 06: Volume = 15  
 Audio 07: Volume = 15  
 Audio 08: Volume = 15

PS-602> `vol [yy]` [Enter]

*Set all audio to the specified volume level*

**Example:**

Set all audio volume level to 20.

PS-602> `vol 20` [Enter]  
 Audio 02: Volume = 20

Display all audio volume status.

PS-602> `vol` [Enter]  
 Audio 01: Volume = 20  
 Audio 02: Volume = 20  
 Audio 03: Volume = 20  
 Audio 04: Volume = 20  
 Audio 05: Volume = 20  
 Audio 06: Volume = 20  
 Audio 07: Volume = 20  
 Audio 08: Volume = 20

PS-602> `vol [xx] [yy0] [yy1] ... [yyn]` [Enter]

*Set audio signal sequentially to the corresponding volume level*

*Set audio xx volume level to yy0*

*Set next 1 audio volume level to yy1*

*Set next n audio volume level to yyn, n <= 8*

**Example:**

Set the specified audio to specific volume level. Set the audio 2 volume level to 1 and others to specific values sequentially.

PS-602> `vol 2 1 2 3 4 5 6 7` [Enter]  
 Audio 01: Volume = 20  
 Audio 02: Volume = 1  
 Audio 03: Volume = 2  
 Audio 04: Volume = 3  
 Audio 05: Volume = 4  
 Audio 06: Volume = 5  
 Audio 07: Volume = 6  
 Audio 08: Volume = 7

- **Display EDID status**

```
PS-602> edid [Enter]
Input 01: EDID = 00
Input 02: EDID = 00
```

- **EDID management**

```
PS-602> edid <input> <edid> [Enter]
```

*<input>: select input port, 0: select all inputs*

*<edid>: select edid source, 0: default 1080P and 2ch audio*

☞ PS-602 does not support EDID adjustment of individual input port.

EDID Value	0	1	2	3	4	5
Description	1080P	OUT1	OUT2	OUT1	OUT2	720P
	Default	Local Output		Remote Output		Default

**Example:**

Set input 1 to use the EDID comes from local output 2.

```
PS-602> edid 1 2 [Enter]
Input 01: EDID = 02
```

Display all EDID status.

```
PS-602> edid [Enter]
Input 01: EDID = 02
Input 02: EDID = 02
```

☞ EDID values are from 0 up to 5 individual indicates the 1080P, OUT1 Local, OUT2 Local, OUT1 Remote, OUT2 Remote and 720P.

- **All inputs using the specified EDID**

```
PS-602> edid <edid> [Enter]
```

*<edid>: select edid source, 0: default 1080P and 2ch audio*

```
PS-602> edid <input> <edid 0> <edit 1> .... [Enter]
```

*Specified input using the specified EDID 0 sequentially*

*Specified next 1 input using the specified EDID 1*

*Specified next n input using the specified EDID n, n <= 8*

*<edid>: select edid source, 0: default 1080P and 2ch audio*

- **Reset the device to factory default settings**

```
PS-602> default [Enter]
```

Reset the device to factory default settings.

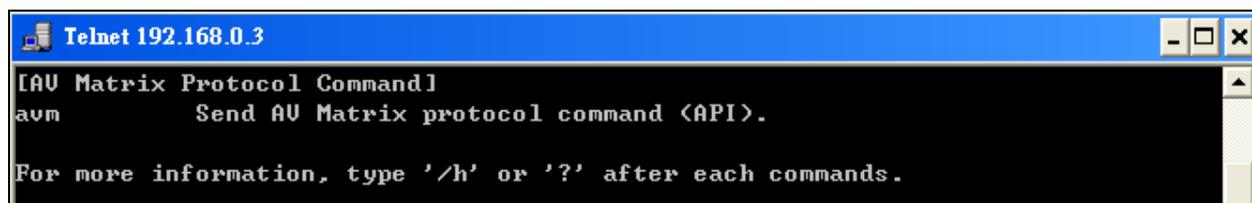
- **Display device information**

```
PS-602> info [Enter]
Device Name: PS-602
Output Total: 2
Input Total: 6
Memory Total: 0
Support Link Status: Output
Support EDID management
Support audio control
```

- **Display version information**

```
PS-602> ver [Enter]
IP Module version 2.0.00
AV Matrix Protocol <API> version 2.30
Device Firmware version 1.0.00
```

## 7.1.4 AV Matrix Protocol Command



The screenshot shows a Telnet window titled 'Telnet 192.168.0.3'. The terminal output displays the following text:

```
[AV Matrix Protocol Command]
avm          Send AV Matrix protocol command <API>.

For more information, type '/h' or '?' after each commands.
```

- **Send AV Matrix protocol command <API>**

```
PS-602> avm <instruction> <index> <value> [Enter]
```

*<instruction>: AVM Protocol Byte 2*

*<index>: AVM Protocol Byte 3*

*<value>: AVM Protocol Byte 4*

**Example:**

```
PS-602> avm 1 2 3 [Enter]
Response: ACK
```

## 7.2 RS-232 Commands

You can also operate and configure the Switcher via a remote terminal session using RS-232. Follow the steps as below to log into the Switcher by means of a RS-232 session (the example as below is for Hyper Terminal):

1. Connect the Switcher to your control PC with RS-232 cable.
2. Power on both Switcher and control PC.
3. Open the Hyper Terminal by clicking **Start | Programs | Accessories Communications | Hyper Terminal** on your control PC.
4. The **New Connection – Hyper Terminal** screen will appear. Input the connection name and select a representative icon. Then click **OK**.
5. Select the connecting port that you want to use, click **OK**. Default port is **COM1**.
6. Set the Bits per second to **9600**, Data Bits to **8** (Default), Parity to **None** (Default), Stop bits to **1** (Default) and flow control to **None** from the drop-down list, click **OK**.

☞ Please switch the DIP Switcher PIN 1 to DOWN (ON) for RS-232 configuration.

## 7.2.1 Commands List and Status

Once the connection with Switcher is established, type **help** in the Hyper Terminal screen to show the command list.

### - Show the command list

```

help
-----
--                               PS-602 Systems HELP                               --
-----
-- PS-602           F/W Version : 1.0.00           --
--
-- help      : Help
-- status    : Show Global System Status
--
-- HDMI Output Setup Command
--   x = [1-2], y = [1-6]
--
-- route x y   : Set Output x to Input y
--
-- EDID Setup Command
--   x = [0-5], (0: 1080P, 1-2: HDMI, 3-4: HDBT, 5: 720P)
-- edid x      : HDMI Input Copy EDID from Output x
--
-- Audio Mute Command
--   x = [1-8], y = [0-1] (0: Unmute, 1: Mute)
--   x - Audio Index
--   1: Audio Out 1           2: Audio Out 2
--   3: Source 1             4: Source 2
--   5: Mic 1 to Audio Out 1 6: Mic 1 to Audio Out 2
--   7: Mic 2 to Audio Out 1 8: Mic 2 to Audio Out 2
-- mute x y   : Set x to mute On/Off
--
-- Audio Volume Command
--   x = [1-8], y = [0-30]
-- volume x y : Set x to volume y
--
-- Restore Default Command
-- default    : Restore to factory default settings

```

### - Show the Status of Your Switcher

```

PS-602> status
PS-602 F/W Version 1.0.00

HDMI Input : EDID = 0, Default EDID 1080P

Output 01 : Input = 05
Output 02 : Input = 02

Audio Out 01 : Volume = 00, Source = 00, Mic 1 = 00, Mic 2 = 00
Audio Out 02 : Volume = 00, Source = 00, Mic 1 = 00, Mic 2 = 00

```

## 7.2.2 HDMI Command

### - HDMI Output Setup Command

```
-- HDMI Output Setup Command          --  
--   x = [1-2], y = [1-6]             --  
-- route x y   : Set Output x to Input y --
```

#### Example:

Set output 1 signal comes from input 5.

```
PS-602> route 1 5  
Output 01 : Input = 05  
  
PS-602> status  
PS-602 F/W Version 1.0.00  
  
HDMI Input : EDID = 0, Default EDID 1080P  
  
Output 01 : Input = 05  
Output 02 : Input = 02  
  
Audio Out 01 : Volume = 00, Source = 00, Mic 1 = 00, Mic 2 = 00  
Audio Out 02 : Volume = 00, Source = 00, Mic 1 = 00, Mic 2 = 00
```

## 7.2.3 EDID Command

### - EDID Setup Command

```
-- EDID Setup Command --
-- x = [0-5], (0: 1080P, 1-2: HDMI, 3-4: HDBT, 5: 720P) --
-- edid x : HDMI Input Copy EDID from Output x --
```

#### Example:

Set resolution copied from EDID output 2. For EDID value configurations, please refer to [7.1.3 Device Configuration](#).

```
PS-602> edid 2
HDMI Input : EDID = 2, Copy from OUT 2

PS-602> status
PS-602 F/W Version 1.0.00

HDMI Input : EDID = 2, Copy from OUT 2

Output 01 : Input = 05
Output 02 : Input = 02

Audio Out 01 : Volume = 00, Source = 00, Mic 1 = 00, Mic 2 = 00
Audio Out 02 : Volume = 00, Source = 00, Mic 1 = 00, Mic 2 = 00
```

## 7.2.4 Audio Commands

### - Audio Mute Command

```
-- Audio Mute Command --
-- x = [1-8], y = [0-1] (0: Unmute, 1: Mute) --
-- x - Audio Index --
-- 1: Audio Out 1 2: Audio Out 2 --
-- 3: Source 1 4: Source 2 --
-- 5: Mic 1 to Audio Out 1 6: Mic 1 to Audio Out 2 --
-- 7: Mic 2 to Audio Out 1 8: Mic 2 to Audio Out 2 --
-- mute x y : Set x to mute On/Off --
```

#### Example:

Set audio out 1 (audio out integrated status) to mute. The audio out 1 will show you the integrated volume status is mute.

```

PS-602> mute 1 1
Audio Out 01 : Volume = Mute

PS-602> status
PS-602 F/W Version 1.0.00

HDMI Input : EDID = 2, Copy from OUT 2

Output 01 : Input = 05
Output 02 : Input = 02

Audio Out 01 : Volume = Mute, Source = 00, Mic 1 = 00, Mic 2 = 00
Audio Out 02 : Volume = 00, Source = 00, Mic 1 = 00, Mic 2 = 00

```

**Example:**

Set audio out 2 (source status) to unmute. The audio out 2 will show you the source volume level presently.

```

PS-602> mute 4 0
Audio Out 02 : Source = Unmute

PS-602> status
PS-602 F/W Version 1.0.00

HDMI Input : EDID = 2, Copy from OUT 2

Output 01 : Input = 05
Output 02 : Input = 02

Audio Out 01 : Volume = Mute, Source = 00, Mic 1 = 00, Mic 2 = 00
Audio Out 02 : Volume = 00, Source = 00, Mic 1 = 00, Mic 2 = 00

```

**- Audio Volume Command**

```

-- Audio Volume Command --
-- x = [1,-8], y = [0-30] --
-- volume x y : Set x to volume y --

```

**Example:**

Set audio out 2 volume level (audio out integrated volume) to 30.

```

PS-602> volume 2 30
Audio Out 02 : Volume = 30

PS-602> status
PS-602 F/W Version 1.0.00

HDMI Input : EDID = 2, Copy from OUT 2

Output 01 : Input = 05
Output 02 : Input = 02

Audio Out 01 : Volume = Mute, Source = 00, Mic 1 = 00, Mic 2 = 00
Audio Out 02 : Volume = 30, Source = 00, Mic 1 = 00, Mic 2 = 00

```

**Example:**

Set the MIC1 volume level for audio out 2 to 25. (Input source: MIC1 volume level=30, Output port: audio out 2)

```
PS-602> volume 6 25
Audio Out 02 : Mic 1 = 25

PS-602> status
PS-602 F/W Version 1.0.00

HDMI Input : EDID = 2, Copy from OUT 2

Output 01 : Input = 05
Output 02 : Input = 02

Audio Out 01 : Volume = Mute, Source = 00, Mic 1 = 00, Mic 2 = 00
Audio Out 02 : Volume = 30, Source = 00, Mic 1 = 25, Mic 2 = 00
```

## 7.2.5 Restore Default Command

### - Restore to Factory Default Settings

```
PS-602> default
Reset the device to factory default settings.

PS-602> status
PS-602 F/W Version 1.0.00

HDMI Input : EDID = 0, Default EDID 1080P

Output 01 : Input = 01
Output 02 : Input = 02

Audio Out 01 : Volume = 00, Source = 00, Mic 1 = 00, Mic 2 = 00
Audio Out 02 : Volume = 00, Source = 00, Mic 1 = 00, Mic 2 = 00
```

## CHAPTER 8 TROUBLESHOOTING

---

1. What to do if LCD is fail in display?

**Answer:** Check the connection of power cord is not loosening and the power cord is in a good status having no any damage. Check the power source is normally.

2. What to do if the Switcher front panel keys switching not responsive?

**Answer:** The Switcher front panel keys employ scanning testing and require longer response time. Press the keys for 2 seconds and then release. This way, key switching will be responsive in operation.

3. What to do if the serial port (usually refer to the computer serial port) fails to control the Switcher?

**Answer:** Check that the communication port set by the control software is correctly connected to the corresponding serial port of the equipment. Also, check if the computer communication port is in good order. Check the ID address and DIP Switcher is configured correctly. Refer to [6.7.5 DIP Switcher for 3 Pins](#).

4. What to do if the corresponding audio signal fails to output during Switcher switching?

**Answer:**

(1) Check if there is signal on the input end. If there is no input signal, it could be that the input connection cable is broken or the connector gets loosen. You are advised to replace the connection cable.

(2) Check if there is signal on the output end. If there is no output signal, it could be that the cable is broken or the connector gets loosen. You are advised to replace the connection cable.

(3) Check if the output port number is the same as the controlled port number.

(4) Check the connections of input and output ports are correctly.

(5) If none of the above circumstances happen, it could be internal failure of the product itself. You must send for repair by qualified technical engineers.

5. What to do if you sense the power leakage during plugging or unplugging of the input/output ports?

**Answer:** It could be that the equipment power is not properly grounded. You must properly ground your equipment; otherwise product life can easily be shortened.

6. What to do if the Switcher panel keys and communication ports are out of order?

**Answer:** Check if the equipment power input is in good contact and the computer communication ports are in good order. If yes, it could be some internal failure of the product, please send for repair by qualified technical engineer.

7. What to do if operation and function failure occurred?

**Answer:** Check if the equipment and the Switcher system are in proper connection. If the problem persists, send the product to the maintenance center for repair.

8. How to avoid the equipment failure due to the high temperature?

**Answer:** Place the equipment in a ventilate location. If it is still not to be improved, please check with the build-in fan whether is damaged. Or contact your agency for helping.

9. What to do if IR function failure occurred?

**Answer:** Check the battery of remote controller is NOT running low and the IR connector is not loosening. Check whether the remote controller is aiming at the IR receiver accurately.

## APPENDIX A HDBASET FIRMWARE UPGRADE

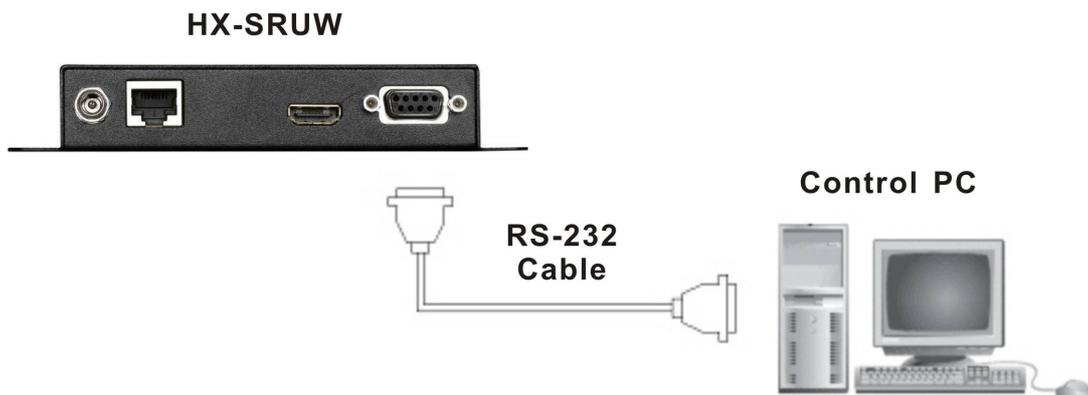
Process the Update TX\_xxx.bat or UpdateRX\_xxx.bat file to upgrade firmware. (xxx is specified for firmware version) These files are used for upgrading the VS010TX/VS010RX IC in your devices.

- The UpdateTX\_xxx.bat file is used to upgrade the Switcher or D.A system (the VS010TX IC in your Switcher) firmware.
- The UpdateRX\_xxx.bat file is used to upgrade the Extender (the VS010RX IC in your HX-SRUW) firmware.

### HX-SRUW HDBaseT F/W Upgrade

Follow the steps as below to upgrade the Extender firmware:

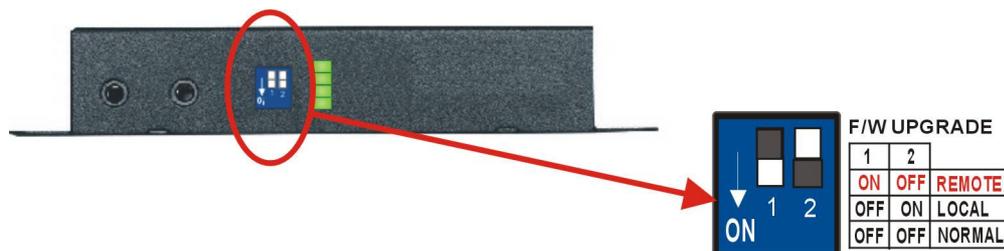
1. Connect the control PC and HX-SRUW with a RS-232 cable.



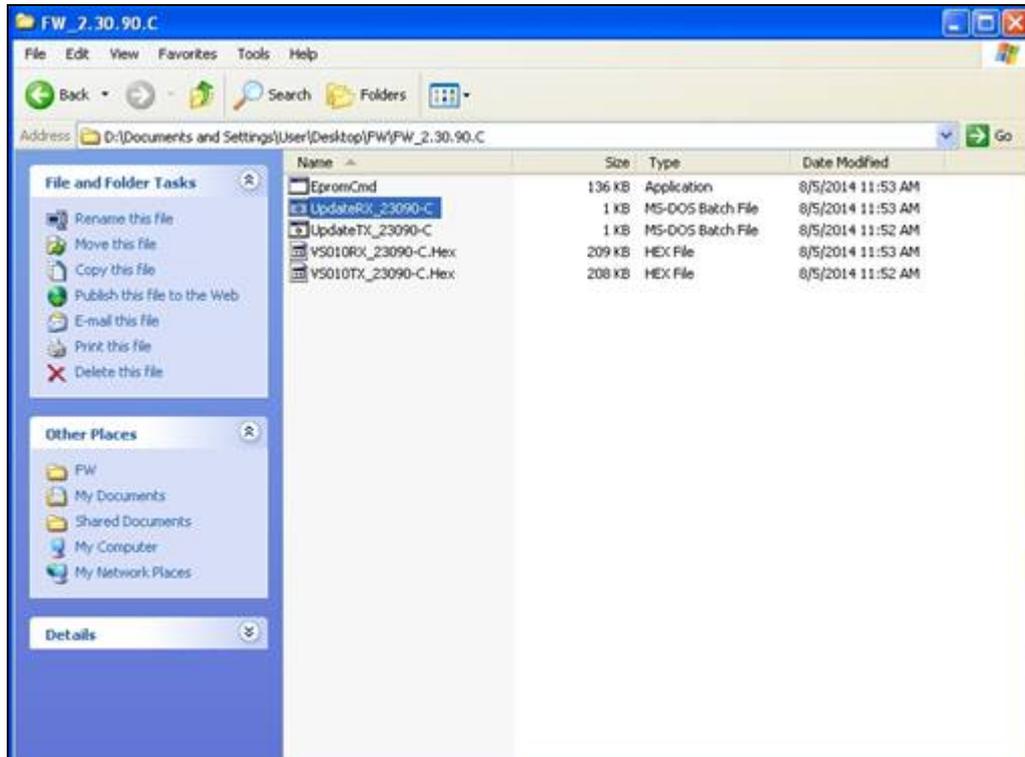
2. Connect the DC 12V adapter
3. Adjust the F/W DIP switch on the Extender.

Remote (Receiver) Firmware Upgrade

	Pin 1	Pin 2
<b>REMOTE</b>	ON	OFF



4. On the control PC, process the UpdateRX\_23090-C.bat file to upgrade firmware.  
(The update file name is only for reference, it will be different based on version.)



5. Final, the update is finished as below.

```

D:\WINDOWS\system32\cmd.exe
D:\Documents and Settings\User\Desktop\FW\FW_2.30.90.C>EpronCmd ua BU US010RX_23
090-C.Hex
Ver 1.0.0.28
Found sink on port 5
Autodetect platform: full
Detected SPI serial flash.
Autodetect size: 128k
Hex mode
Burning file US010RX_23090-C.Hex, total lines: 2773
Erasing serial flash....Done.
progress: 100%
Total bytes: 88672. Total time: 149.360000 seconds
Burn succeeded.

Hex mode
Verifying file US010RX_23090-C.Hex, total lines: 2773
progress: 100%
Total bytes: 88672. Total time: 132.953000 seconds
Verification succeeded!!! :->

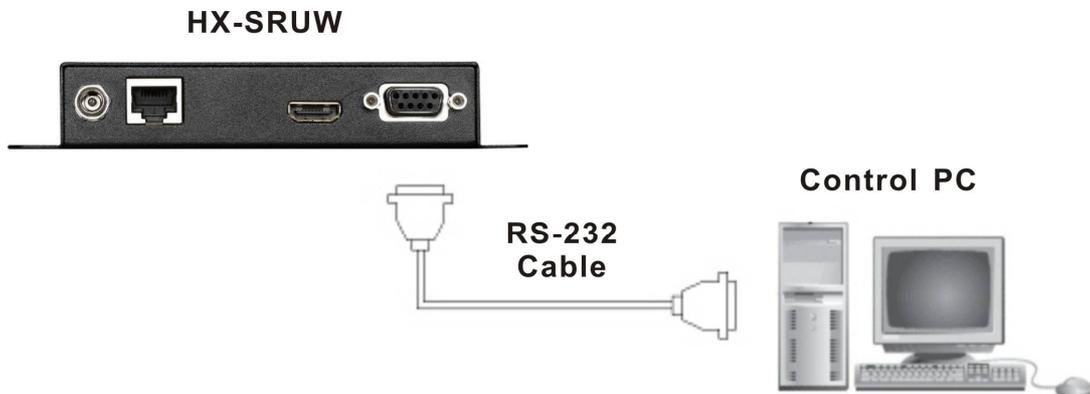
D:\Documents and Settings\User\Desktop\FW\FW_2.30.90.C>pause
Press any key to continue . . .

```

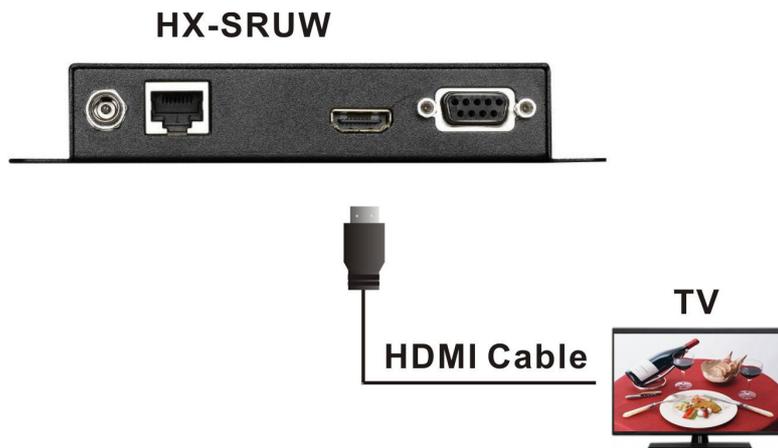
## Switcher HDBaseT F/W Upgrade

Follow the steps as below to upgrade the Switcher firmware:

1. Connect the control PC and HX-SRUW with a RS-232 cable.



2. Connect the TV and HX-SRUW with a HDMI cable.



3. Connect the DVD Player and Switcher with a HDMI cable.



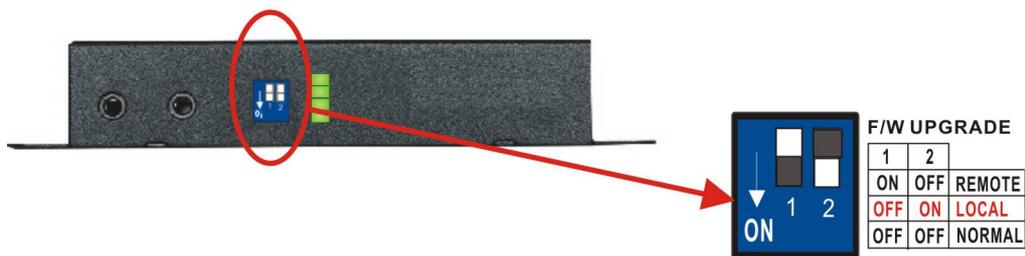
4. Connect the LAN cable to the LINK IN port on the panel of Switcher. The other end of the LAN cable connected to the OUTPUT port of Switcher.



5. Connect the DC 12V adapter.
6. Enable the Switcher, TV and DVD player power, and play the video comes from the DVD Player.
7. Adjust the HX-SRUW F/W Upgrade switcher to LOCAL mode.

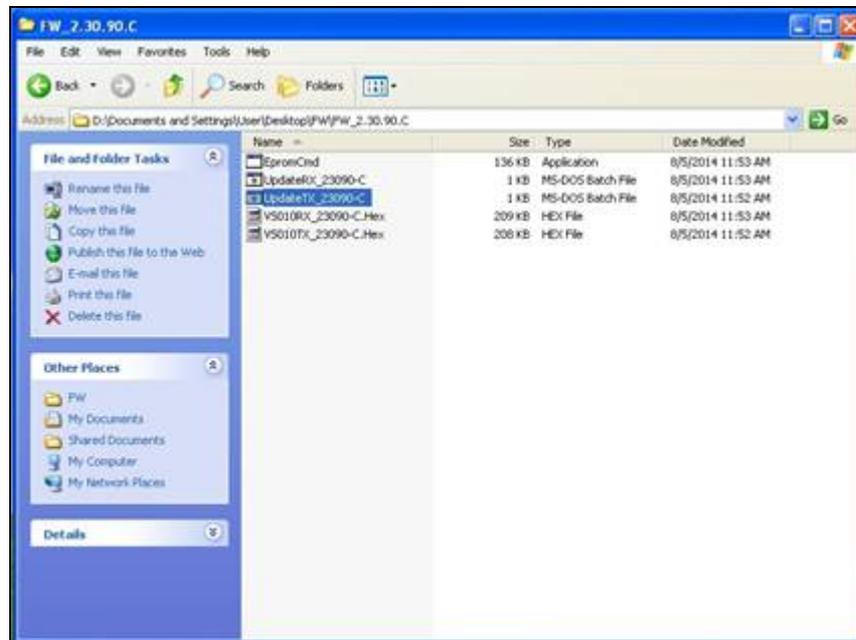
Local (Switcher) Firmware Upgrade

	Pin 1	Pin 2
<b>LOCAL</b>	OFF	ON



F/W UPGRADE		
1	2	
ON	OFF	REMOTE
OFF	ON	LOCAL
OFF	OFF	NORMAL

8. On the control PC, process the UpdateTX\_23090-C.bat file to upgrade firmware. (The update file name is only for reference, it will be different based on version.)



9. Final, the update is finish as below.

```
D:\WINDOWS\system32\cmd.exe
D:\Documents and Settings\User\Desktop\FW\FW_2.30.90.C>EpronCnd ua BU US010TX_23090-C.Hex
Ver 1.0.0.28
Found source on port 5
Autodetect platform: Source
Detected SPI serial flash.
Autodetect size: 128k
Hex mode
Burning file US010TX_23090-C.Hex, total lines: 2755
Erasing serial flash...Done.
progress: 100%
Total bytes: 88096. Total time: 148.844000 seconds
Burn succeeded.

Hex mode
Verifying file US010TX_23090-C.Hex, total lines: 2755
progress: 100%
Total bytes: 88096. Total time: 132.203000 seconds
Verification succeeded!!! :->

D:\Documents and Settings\User\Desktop\FW\FW_2.30.90.C>pause
Press any key to continue . . .
```

10. Each procedure only updates one port; please follow the same procedures to update other OUT ports.

☞ Implementation of the Switcher HDBaseT F/W Upgrade should be at the active status (the video playing on TV is normal display). Otherwise, it will enter power-saving mode.

## APPENDIX B EXTENDER

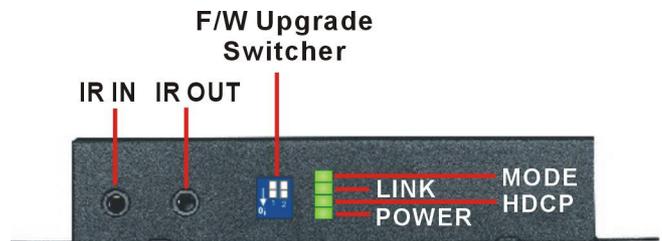
---

The extension of HDMI video signal device supports up to 70 meters away by using an Extender and Cat.5e cable.

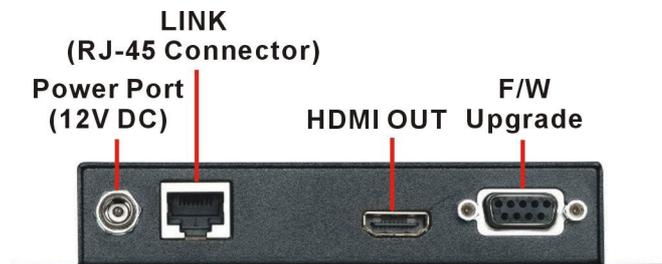
### HDMI Extender is ideal for:

- Test bench facilities
- Data Center
- Help desks

### HX-SRUW Extender



Side View



Side View

**LED Indicators (Green):**

LED	Off	Blink	On
<b>MODE</b>	-	Power Connected	-
<b>LINK</b>	No Link	Low Power Mode	HDBaseT Link
<b>HDCP</b>	No HDMI Signals	No Encryption	HDCP Encryption
<b>POWER</b>	Power Off	-	Power On

**HX-SRUW Extender: F/W Upgrade Switcher (2-Pin)**

	Pin 1	Pin 2	Description
<b>REMOTE</b>	ON	OFF	Through the RS-232 connection to upgrade Receiver unit.
<b>LOCAL</b>	OFF	ON	Through the LAN Connection to upgrade Transmitter (PS-602S).
<b>NORMAL</b>	OFF	OFF	Extend the RS-232 Signal Transmission

**Features**

- Through the Extender, you can use the output of the Switcher to display identical image and extension of HDMI signal up to 70 meters on HDTV
- HDCP Compliant
- Supports F/W Upgrade (Optional)
- Supports 3D pass-through
- Supports all frequency band IR pass-through
- Supports IR/RS-232 extension function.
- One Cat.5e cable extension
- Supports resolution up to 4K x 2K
- HDBaseT technology
- Use Cat.5e cable to install easily

## Specifications

Hardware	
HDMI OUT	HDMI A-Type Female x 1
LINK	RJ-45 Connector x 1
IR OUT	3.5ψ Stereo Jack x 1
IR IN	3.5ψ Stereo Jack x 1
2 Pins Dip Switch	F/W Upgrade Setting
RS-232 Connector	DB9 Female x 1 (For F/W Upgrade)
LED indicators	MODE/LINK/HDCP/POWER
Power Supply	DC 12V with Lock
Housing	Metal
Weight	308g
Dimensions (LxWxH)	150x80x35mm
Multimedia	
Max. Resolution	4K x 2K@30Hz, 8-bit
Highest TMDS Frequency	300MHz
Control Information	
HDMI Cable Distance	10 meters (At least)
Cat.5e Cable Distance	70 meters (Max.)
Remote Control	IR Receiver, IR Blaster

## IR Receiver Cable Directions

Put IR Receiver cable into the Receiver “IR IN” port and place the IR Receiver Cable, so that you can aim at it easily with your IR remote controller.

### IR Receiver Cable:



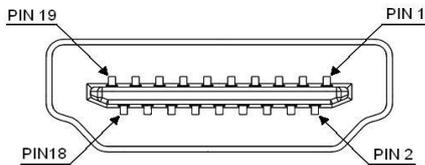
## IR Blaster Cable Directions

Plug IR Blaster cable into Receiver “IR OUT” port located on the front-panel.

### IR Blaster Cable:



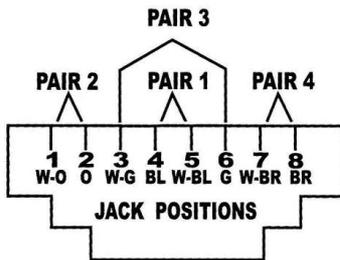
## HDMI Output Connector



### HDMI Type A Connector host assignment:

Pin #	Signal	Pin #	Signal
1	TMDS Data 2+	11	TMDS Clock Shield
2	TMDS Data 2 Shield	12	TMDS Clock -
3	TMDS Data 2-	13	NC
4	TMDS Data 1+	14	NC
5	TMDS Data 1 Shield	15	DDC SCL
6	TMDS Data 1-	16	DDC SDA
7	TMDS Data 0+	17	DDC/CEC Ground
8	TMDS Data 0 Shield	18	+5V Power
9	TMDS Data 0-	19	Hot Plug Detect
10	TMDS Clock+		

## Wiring Information for Link Connector



You can also refer to [6.7.2 HDBaseT Output Port](#)

Conductor Identification	RJ-45 Pin Assignment	Color Code for Conductor
<b>Pair 1</b>	5	White-Blue
	4	Blue
<b>Pair 2</b>	1	White-Orange
	2	Orange
<b>Pair 3</b>	3	White-Green
	6	Green
<b>Pair 4</b>	7	White-Brown
	8	Brown

## APPENDIX C FIRMWARE UPGRADE

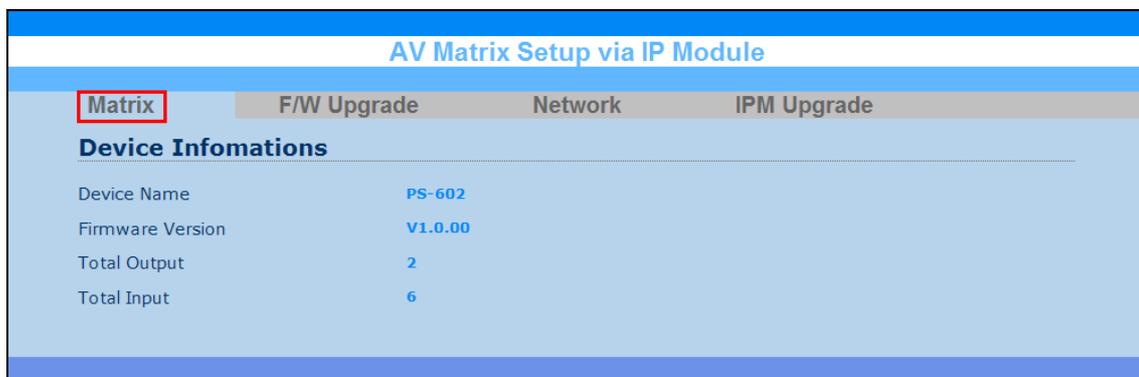
This Chapter will introduce you how to upgrade firmware on your web browser. For firmware upgrade, you have to upload the firmware file to your web server and then renew it to your device from web server.

Open the **Browser** on your PC, key in the default IP address: <http://192.168.0.3> to login the AV MATRIX Setup configuration menu.



### Matrix

Click “**Matrix**” to display the device information including Device Name, Firmware Version, Total Output and Total Input. Then reboot your Switcher to take the new settings effect and renew the information.



## F/W Upgrade

The Switcher allows you to upgrade firmware General, Module and Manual.

Besides, the firmware upgrade will not stop even though the web connection is fail suddenly. Please check with the LCD screen to confirm the firmware upgrade has been finished successfully or wait at least 2 minutes then power off to restart your PC.

## General Upgrade

1. Click **"F/W Upgrade"** to enter the F/W Upgrade menu.

The screenshot shows the 'AV Matrix Setup via IP Module' web interface. At the top, there are four tabs: 'Matrix', 'F/W Upgrade', 'Network', and 'IPM Upgrade'. The 'F/W Upgrade' tab is selected and highlighted with a red box. Below the tabs, the page title is 'Firmware Upgrade'. There are three numbered steps: '1. File Open' with a text input field and a 'Browser' button, '2. Upload' with a button, and '3. Upgrade' with a button. Below the steps, there is a paragraph of text: 'For firmware upgrade, you must upload the firmware file to IP Module and then upgrade the selected device by IP Module.' followed by a 'Note of Firmware Upgrade:' section with six numbered instructions.

2. Click **"Browser"** to select upgraded .gen firmware, then click **"Upload"** to upload the firmware to web server.

This screenshot is similar to the previous one, but the 'F/W Upgrade' tab is now selected. In the '1. File Open' step, the text input field contains 'D:\xxxx.gen' and the 'Browser' button is visible. The '2. Upload' button is highlighted with a red box, indicating it is the next step to be taken.

- When the upload is successful, the following information will appear. Click “OK” to continue.

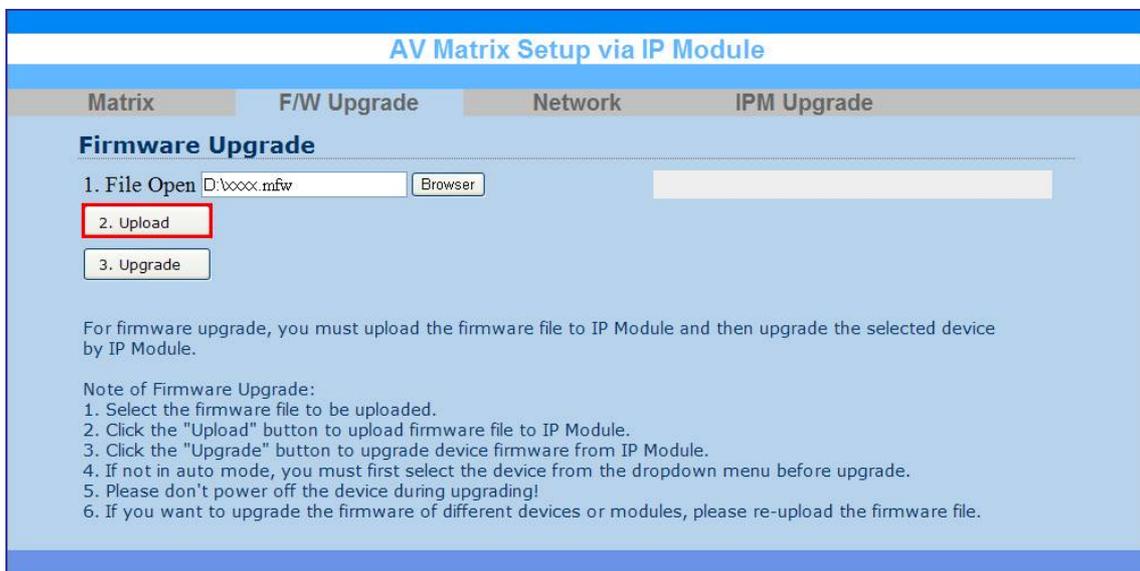


- Click “Upgrade” to upgrade. When the upgrade is successful, the following information will appear, Click “OK” to complete the upgrade.



## Module Upgrade

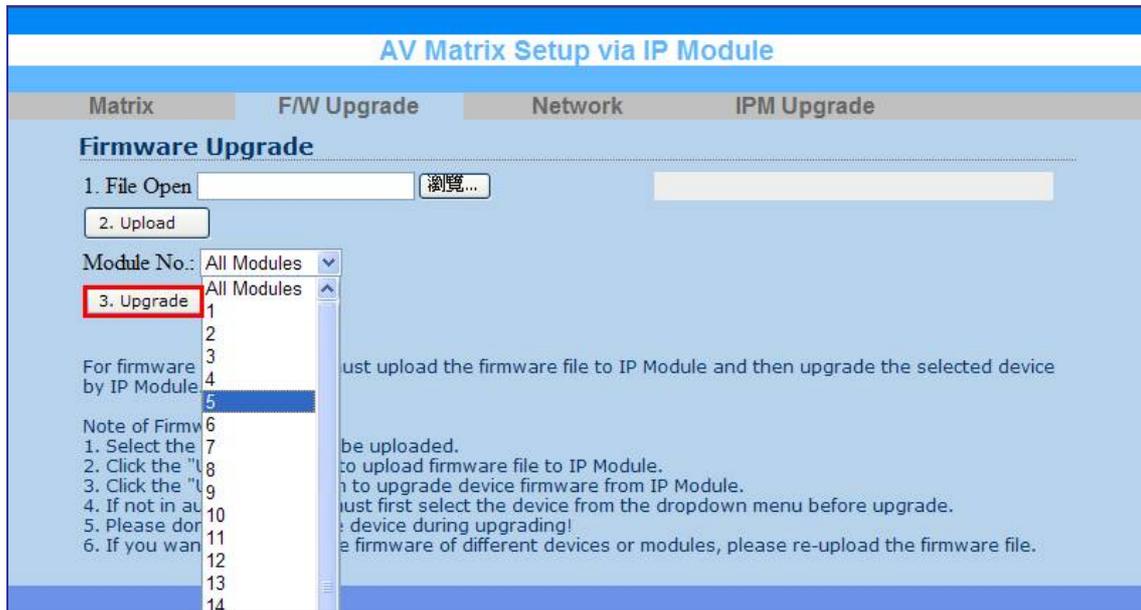
- Click “F/W Upgrade” to enter the F/W Upgrade menu. Click “Browser” to select upgraded .mfw firmware, then click “Upload” to upload the firmware to web server.



- Click “OK” to continue.



3. Select the suitable Module No. from the drop-down menu. Click **“Upgrade”** to upgrade.



4. Click **“Upgrade”** to upgrade. When the upgrade is successful, the following information will appear, Click **“OK”** to complete the upgrade.



## Manual Upgrade

1. Click **“F/W Upgrade”** to enter the F/W Upgrade menu. Click **“Browser”** to select upgraded .bin or .enc firmware, then click **“Upload”** to upload the firmware to web server.

The screenshot shows the 'AV Matrix Setup via IP Module' web interface. At the top, there are four tabs: 'Matrix', 'F/W Upgrade', 'Network', and 'IPM Upgrade'. The 'F/W Upgrade' tab is selected. Below the tabs, the section is titled 'Firmware Upgrade'. It contains three steps: '1. File Open' with a text input field containing 'D:\xxxx.bin' and a 'Browser' button; '2. Upload' with a red-bordered button; and '3. Upgrade' with a button. Below the steps, there is a paragraph of text: 'For firmware upgrade, you must upload the firmware file to IP Module and then upgrade the selected device by IP Module.' followed by a 'Note of Firmware Upgrade:' section with six numbered instructions.

2. Click **“OK”** to continue.

The screenshot shows a dialog box titled 'IP Module : status message'. The background is light gray. The text inside reads: 'Upload Firmware to website success.' in red, followed by 'Please click "ok" to continue.' in black. At the bottom center, there is an 'OK' button with a red border.

3. Select the 0: General or 1: Module from the drop-down menu. Click **“Upgrade”** to upgrade.
  - 0: General:** Select this item will hide the Module No. option. Refer to [General Upgrade](#).
  - 1: Module:** Select this item will allow you to upgrade the firmware of module; you have to select the suitable Module No. from the drop-down list. Click **“Upgrade”** to upgrade. Refer to [Module Upgrade](#).

**AV Matrix Setup via IP Module**

Matrix
F/W Upgrade
Network
IPM Upgrade

**Firmware Upgrade**

1. File Open

2. Upload

0: General 
 0: General
   
 1: Module

For firmware upgrade, you must upload the firmware file to IP Module and then upgrade the selected device by IP Module.

Note of Firmware Upgrade:

1. Select the firmware file to be uploaded.
2. Click the "Upload" button to upload firmware file to IP Module.
3. Click the "Upgrade" button to upgrade device firmware from IP Module.
4. If not in auto mode, you must first select the device from the dropdown menu before upgrade.
5. Please don't power off the device during upgrading!
6. If you want to upgrade the firmware of different devices or modules, please re-upload the firmware file.

4. Click **“Upgrade”** to upgrade. When the upgrade is successful, the following information will appear, Click **“OK”** to complete the upgrade.

**IP Module : status message**

**Firmware Upgrade to Device Success.**

Please click "ok" to continue.

## Network

1. Click **“Network”** to enter the Network Settings information menu. After renewing the relative network settings, click **“Apply”** to save, and then click **“Reboot”** to take new settings effect.

The screenshot shows the 'AV Matrix Setup via IP Module' interface. At the top, there are four tabs: 'Matrix', 'F/W Upgrade', 'Network', and 'IPM Upgrade'. The 'Network' tab is selected. Below the tabs, the 'Network Settings' section is displayed. It includes the following fields and values:

DHCP Client	Disable
Static IP Address	192.168.0.3
Static Subnet Mask	255.255.255.0
Static Default Gateway	192.168.0.1
Static DNS Server	8.8.8.8

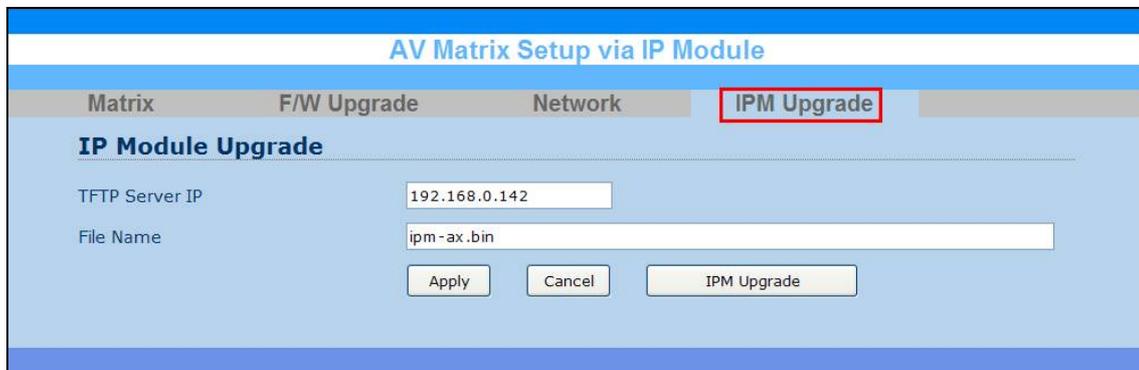
At the bottom of the settings area, there are four buttons: 'Apply', 'Cancel', 'Restore default', and 'Reboot'. The 'Apply' and 'Reboot' buttons are highlighted with red boxes.

2. Or click **“Restore default”** to restore all settings to the factory default values.

This screenshot is identical to the one above, showing the 'AV Matrix Setup via IP Module' interface with the 'Network' tab selected. The 'Network Settings' section is the same. However, in this screenshot, the 'Restore default' button is highlighted with a red box, while the 'Apply' and 'Reboot' buttons are not.

## IPM Upgrade

Click **“Upgrade”** to enter the IP Module Upgrade menu. Enter the TFTP Server IP and upgrade File Name, click **“Apply”** to save and then click **“IPM Upgrade”** to take the settings effect.



The screenshot displays the 'AV Matrix Setup via IP Module' web interface. At the top, there is a navigation menu with tabs for 'Matrix', 'F/W Upgrade', 'Network', and 'IPM Upgrade'. The 'IPM Upgrade' tab is selected and highlighted with a red border. Below the navigation, the main content area is titled 'IP Module Upgrade'. It contains two input fields: 'TFTP Server IP' with the value '192.168.0.142' and 'File Name' with the value 'ipm-ax.bin'. At the bottom of the form, there are three buttons: 'Apply', 'Cancel', and 'IPM Upgrade'.

⚠ Before upgrading the IP module, you can use the existed TFTP Server or set up a TFTP Server by yourself to put the Firmware file on. Then, enable your TFTP Server.