# KanexPro®

# HDMX88-18G

## USER MANUAL



## 4K 8x8 HDMI2.0 Matrix Switcher

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**Version: HDMX88-18G_2017V1.2**

# Preface

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

This manual is only for operational instruction, not for any maintenance usage. The functions described in this version are updated till June 2017. Any changes of functions and parameters since then will be informed separately. Please refer to the dealers for the latest details.

**All product function is valid till 2017-6-2.**

# Trademarks

Product model and logo are trademarks. Any other trademarks mentioned in this manual are acknowledged as the properties of the trademark owner. No part of this publication may be copied or reproduced without the prior written consent.

# FCC Statement

This equipment can generate, use, and 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 of 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 ensure 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 or moisture. Do not install this product near water.
- Do not place 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 overheating.
- 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/pull by force the ends of the optical cable. It can cause malfunction.
- Do not use liquid or aerosol cleaners to clean this unit. Always unplug the power cord to the device before cleaning.
- Unplug the power cord when left unused for a long period.
- Information on disposal for scrapped devices: Do not burn or mix with general household waste; please treat the devices as normal electrical waste.

# Table of Contents

# 1. Introduction

## 1.1 Introduction to HDMX88-18G

The KanexPro HDMX88-18G is a professional 4K 8x8 HDMI2.0 Matrix Switcher with 8 HDMI inputs, 8 HDMI outputs, and 8 SPDIF audio outputs, which is designed for switching four HDMI2.0 and HDCP2.2 compliant signals. It also provides powerful EDID management to ensure reliable AV distribution and routing.

You can control the unit via the front panel, IR, RS232, TCP/IP and web-based GUI.

## 1.2 Features

- 8 SPDIF ports provide de-embedded HDMI audio output;
- Supports 4Kx2K@60Hz 4:4:4 & 1080p 3D signals;
- Supports HDMI 2.0, HDCP2.2 compatible, and is backward compatible to the earlier versions;
- Transmits 4Kx2K@60Hz 4:4:4 signal up to 16.4 feet (5m) via HDMI port;
- Provides powerful EDID management, built-in EDID can be invoked via DIP switcher on rear panel, RS232 command or web-based GUI;
- Controllable via front panel button, IR, RS232, TCP/IP or web-based GUI;
- LCD screen shows real-time I/O connection status;
- Convenient firmware upgrade through Micro USB port;
- Easy installation with rack-mounting design.

## 1.3 Package List

- 1 x 8x8 HDMI2.0 Matrix Switcher
- 6 x Screws
- 1 x RS232 cable (3-pin to DB9)
- 1 x IR remote
- 1 x User manual
- 2 x Mounting ears
- 4 x Plastic cushions
- 1 x IR receiver
- 1 x Power adaptor(DC 24V 2.71A)

**Notes**: If there are defective parts or parts are missing, please contact your local dealer(s).

## 2. Panel Description

**Front Panel**



**Figure 2- 1 Front Panel**

| No. | Name | Description |
|-----|------|-------------|
| ① | Firmware | Micro USB port for updating firmware. |
| ② | Power Indicator | • Illuminates red when power on;<br>• Turns green in standby mode;<br>• Blinks red when upgrading. |
| ③ | IR sensor | Built-in IR sensor, receive IR signal sent from IR remote. |
| ④ | LCD Screen | Displays real-time operation status. |
| ⑤ | INPUT selector button | Total 8 input selector buttons, press one of buttons to switch input source. |
| ⑥ | OUTPUT selector button | Total 8 output selector buttons, press the buttons to select output channel. |

**Rear Panel**



**Figure 2- 2 Rear Panel**

| No. | Name | Description |
|-----|------|-------------|
| ① | INPUTS | HDMI input ports, 8 in total, connect with HDMI sources. |
| ② | OUTPUTS | **SPDIF**: audio output ports for de-embedded HDMI audio, 8 in total. |

| | | HDMI: 8 in total, connect with HDMI displays. |
|---|---|---|
| ③ | Control | EDID: 4-pin EDID DIP switchers to set EDID data, "1" stands for "On", "0" stands for "Off". Refer to *4. 2 EDID Configurarion* for more detials. |
| | | RS232: Serial control port, connect with control device. |
| | | IR IN: Connects with external IR receiver for using the IR remote to control the Matrix Switcher. |
| | | TCP/IP: TCP/IP port for unit control. |
| ④ | DC 24V | Connect with 24VDC 2.71A power adaptor. |
| ⑤ | Ground | Connect to ground. |

📖   Pictures shown in this manual are only for reference.

# 3. System Connection

## 3.1 Usage Precautions

**1)** System should be installed in a clean environment, which should have a proper temperature and humidity.

**2)** All of the power switches, plugs, sockets and power cords should be insulated and safe.

**3)** All devices should be connected before powered on.

**4)** System Diagram shown in this manual is for reference only; more specific schemes depend on real-time applications.
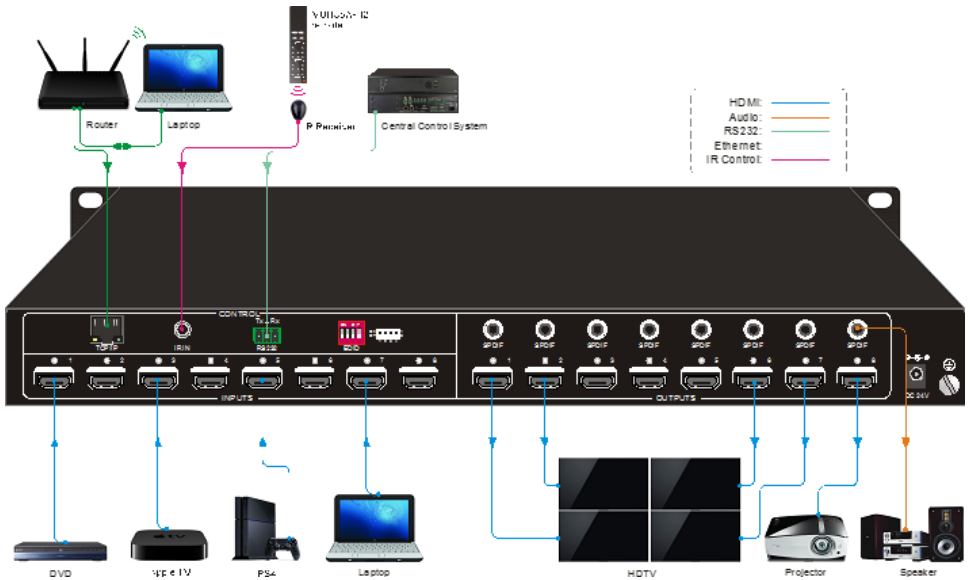
## 3.2 System Diagram



**Figure 3- 1 Connection diagram**

## 3.3 Connection Procedure

**Step1.** Connect HDMI sources (e.g. DVD/PS4/Laptop) to HDMI input ports with HDMI cables.

**Step2.** Connect HDMI displays (e.g. HDTV/Projector) to HDMI output ports with HDMI cables.

**Step3.** Connect speakers/ amplifiers to the SPDIF audio outputs with Toslink cables.

**Step4.** Connect the RS232 ports of the control device (e.g. Central Control System, PC) and the Matrix Switcher to enable serial control.

**Step5.** Insert an IR receiver to the IR IN port to control this switcher via IR Remote.

**Step6.** Connect the TCP/IP ports of the control device (e.g. Laptop) and the Matrix Switcher to enable TCP/IP control.

**Step7.** Plug a 24VDC power adapter to the DC24V power port.

**Please Note:**

1) When connecting to HDMI2.0 sources, make sure the HDMI cable is compliant with HDMI2.0 to ensure reliable transmission.

2) Connect amplifiers that are capable to decode HDMI audio to the SPDIF ports, or there will be no output on the amplifiers.

## 3.4  System Applications

The KanexPro HDMX88-18G matrix switcher is ideal for numerous commercial applications such as military, medical and government audio-video environments, where swift, reliable switching and distribution of high-resolution HDMI signal is critical to meet pixel-by-pixel needs.

The Matrix Switcher can be widely used in computer realm, monitoring, large screen displaying, conference system, television education and bank securities institutions etc.

# 4. Panel Button Control

## 4.1 I/O Connection Switching

The front panel features eight input selection buttons and eight output selection buttons for switching I/O connection.

1. **To convert one input to an output:**

   Example: Input 1 to Output 3

   → Press INPUTS 1 + OUTPUTS 3

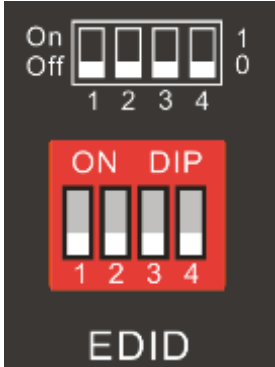2. **To convert an input to several outputs:**

   Example: Convert Input 2 to Output 3 and 4

   → Press INPUTS 2 + OUTPUTS 3 + OUTPUTS 4

**NOTE:** Indicators of the pressed buttons will blink green three times if the conversion is done, then it will turn off. If the conversion failed, they will turn off immediately.

## 4.2 EDID Configuration

The rear panel boasts a 4-pin EDID DIP switcher to manage EDID. The EDID data and its corresponding DIP switcher status are shown in the below list.

| | NO. | Status | EDID |
|---|---|---|---|
| | 0 | 0000 | Pass though (default) |
| | 1 | 0001 | 720P 2D Pass though CH |
| | 2 | 0010 | 720P 3D Pass though CH |
| | 3 | 0011 | 1080P 2D Pass though CH |
| | 4 | 0100 | 1080P 3D Pass though CH |
| | 5 | 0101 | 4K@30HZ Pass though CH |
| | 6 | 0110 | 4K@30HZ 2.0CH |
| | 7 | 0111 | 4K@30HZ 7.1CH |
| | 8 | 1000 | 4K@60HZ 4:2:0 Pass though CH |
| | 9 | 1001 | 4K@60HZ 4:2:0 7.1CH |
| DIP Switcher | 10 | 1010 | 4K@60HZ 4:4:4 Pass though CH |
| | 11 | 1011 | 4K@60HZ 4:4:4 7.1CH |
| | | 1111 | Enable Software EDID management mode: RS232 control or Web-based GUI control |

## 4.3 I/O Connection Inquiry

Press OUTPUTS button 1, 2, 3, 4,5,6,7 or 8 to inquiry its corresponding input, and then the indicator of the input button will turn green.

# 5. IR Control

The Matrix Switcher features one built-in IR receiver to receive IR signal from IR remote to enable IR control. If the external IR receiver or other IR control device need to be used, the IR IN port on rear panel can be connected.

Here is a brief introduction to the IR remote:

①    Standby button, press it to enter/ exit standby mode.

②    INPUTS:

     Input channel selection buttons, same with the corresponding front panel buttons

③    OUTPUTS:

     Output channel selection buttons, same with the corresponding front panel buttons

④    Menu buttons: ALL, EDID, CLEAR and ENTER.

- **ALL**: Select all inputs/outputs.

  To convert an input to all outputs:

  Example: Input 1 to all Outputs:

  → Press INPUTS 1 + ALL + ENTER

- **EDID** management button:

  1) One input port learns the EDID data from one output port.

  Example: Input 2 learns EDID data from output 4:

  → Press EDID + INPUTS 2 + OUTPUTS 4+ ENTER

  2) All input ports learn EDID data from one output port.

  Example: All input ports learn EDID data from output 3:

  → Press EDID + ALL + OUTPUTS 3 + ENTER

- **CLEAR:** Withdraw button.

- **ENTER:** Confirm operation.

## 6.  RS232 Control

### 6.1 Installation/uninstallation of RS232 Control Software

- **Installation** Copy the control software file to the computer connected with the Matrix Switcher.

- **Uninstallation** Delete all the control software files in corresponding file path.

### 6.2 Basic Settings

Firstly, connect the Matrix Switcher with necessary input devices and output devices. Then, connect it with a PC installed 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:

**Figure 6- 1 Icon of CommWatch**

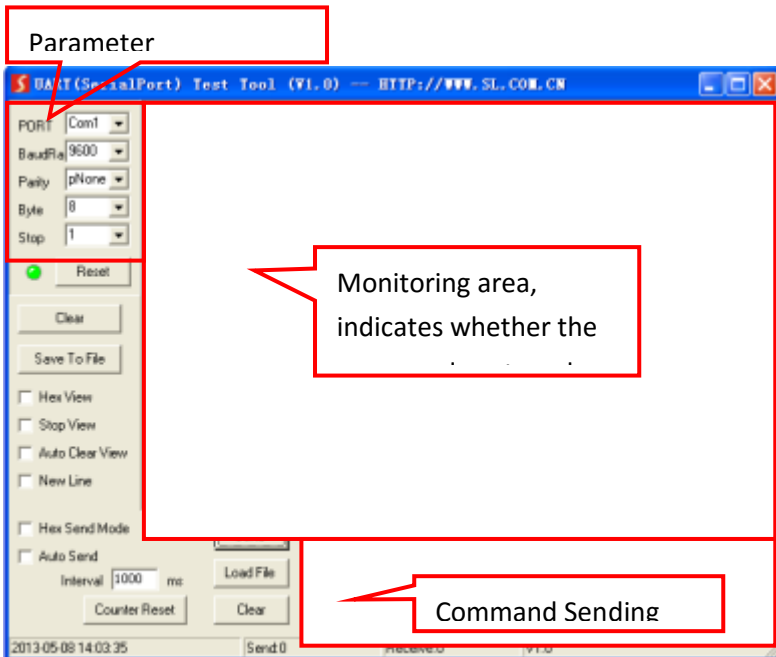The interface of the control software is showed as below:



**Figure 6- 2 Control Interface of CommWatch**

Set the parameters (baud rate, data bit, stop bit and parity bit) correctly to ensure

reliable RS232 control.

## 6.3 RS232 Communication Commands

1) Case-sensitive.

2) "[", "]" in the commands are for easy recognition only and not necessary in real operations. Other symbols including ".", ",", "/", "%", ";", "^". are parts of the commands.

3) Feedbacks listed in the column "Feedback Example" are only for reference, feedbacks may vary according to different operations.

4) Dial the EDID switcher to "1111" before sending commands pertaining to software EDID management (with grey background)

Baud rate: 9600          Data bit: 8          Stop bit: 1          Parity bit: none

## 6.3.1 System Commands

| Command | Function | Feedback Example |
|---|---|---|
| /*Type; | Query the model. | XXXXX |
| /^Version; | Query the version of firmware | VX.X.X |
| Demo. | Switch to the "demo" mode, convert input and output in turn like1B1, 1B2, …4B3, 4B4, 1B1… and so on .The switching interval is 2 seconds. | Demo Mode<br>AV:01->01<br>AV:01->02<br>AV:01->03<br>AV:01->04<br>AV:02->01<br>…<br>Normal Mode |
| Undo. | To cancel the current operation. | Undo Ok! |
| PWON. | Work in normal mode. | PWON |
| PWOFF. | Enter into standby mode, send the "PWON." to start. | PWOFF |
| STANDBY. | Enter into standby mode, press other buttons or send other commands to start.) | STANDBY |
| %9962. | Query the power status | STANDBY/PWOFF/ PWON |
| %9964. | Query the IP address. | IP:XXX.XXX.X.XXX |
| %0911. | Reset to factory default. | Factory Default |

## 6.3.2 Lock/Unlock Commands

| Command | Function | Feedback Example |
|---|---|---|
| /%Lock; | Lock the front panel buttons. | System Locked! |
| /%Unlock; | Unlock the front panel buttons. | System Unlock! |
| %9961. | Query the system locking status. | System Locked/ Unlock! |

## 6.3.3 Switching Commands

| Command | Function | Feedback Example |
|---|---|---|
| [x]All. | Transfer signals from the input channel [x] to all output channels | X To All. (X=01~08) |
| All#. | Transfer all input signals to the corresponding output channels respectively like 1->1, 2->2… | All Through. |
| All$. | Switch off all the output channels. | All Closed. |
| [x]#. | Transfer signals from the input channel [x] to the output channel [x]. | X Through. (X=01~08) |
| [x]$. | Switch off the output channel [x]. | X Closed. (X=01~08) |
| [x]@. | Switch on the output channel [x]. | X Open. (X=01~08) |
| All@. | Switch on all output channels. | All Open.<br><br>Out  01 02 03 04<br><br>In   01 01 01 01<br><br>Out  05 06 07 08<br><br>In   01 01 01 01 |
| [x1]V[x2]. | Switch the input channel [x1] to one or several output channels ([x2], separate output channels with comma). | AV: X1-> X2<br><br>(X1/X2=01~08) |

| Status[x]. | Query the I/O connection status of output [x] | AV: Y-> X<br>(X=01~08, Y=01~08) |
|---|---|---|
| Status. | Query the input channel to the output channels one by one. | AV:01->01<br>AV:01->02<br>AV:01->03<br>AV:01->04<br>AV:01->05<br>AV:01->06<br>AV:01->07<br>AV:01->08 |
| %9971. | Query the connection status of the inputs. | In  01 02 03 04<br>Connect  Y N Y Y<br>In  05 06 07 08<br>Connect  Y Y Y N |
| %9972. | Query the connection status of the outputs. | Out  01 02 03 04<br>Connect  Y Y Y Y<br>Out  05 06 07 08<br>Connect  Y Y Y Y |
| %9975. | Query the I/O connection status. | Out  01 02 03 04<br>In   03 03 03 03<br>Out  05 06 07 08<br>In   03 03 03 03 |
| %9976. | Query the output resolution. | Resolution<br>Out 1 3840x2160P<br>Out 2 3840x2160P<br>Out 3 3840x2160P<br>Out 4 3840x2160P<br>Out 5 3840x2160P<br>Out 6 3840x2160P<br>Out 7 3840x2160P<br>Out 8 3840x2160P |

**6.3.4 Scene Commands**

| Command | Function | Feedback Example |
|---------|----------|------------------|
| Save[Y]. | Save the present operation to the preset command [Y], ranges from 1 to 10. | Save To FY   (Y=1-10) |
| Recall[Y]. | Recall the preset command [Y]. | Recall From FY (Y=1-10) |
| Clear[Y]. | Clear the preset command [Y]. | Clear FY    (Y=1-10) |

**6.3.5 HDCP Compliance**

| Command | Function | Feedback Example |
|---------|----------|------------------|
| /%[Y]/[X]:[Z]. | HDCP management command.<br>Y=O is for output;<br>X=1~8 is the number of the port, if the X=ALL, it means all ports;<br>Z is for HDCP compliant status, the value may be 1 (HDCP compliant) or 0 (not HDCP compliant). | /%[Y]/[X]:[Z]. |
| %0801. | Auto HDCP management, activate carrier native mode | %0801 |
| %9973. | Query the HDCP status of the input signals. | In  01 02 03 04<br>HDCP Y N Y N<br>In  05 06 07 08<br>HDCP Y Y Y N |
| %9974. | Query the HDCP status of the output signals. | Out  01 02 03 04<br>HDCP Y Y Y Y<br>Out  05 06 07 08<br>HDCP Y Y Y Y |

**6.3.6 EDID Configuration**

The DIP switcher status should be set as 1111 to enable Software EDID management mode: RS232 control or Web-based GUI control.

| Command | Function | Feedback Example |
|---------|----------|------------------|

| EDIDH[x]B[y]. | Input port [y] learns the EDID from output port [x].<br>If the EDID data is available and the audio part supports not only PCM mode, then force-set it to support PCM mode only. If the EDID data is not available, then set it as initialized EDID data. | EDIDH1B1 |
|---|---|---|
| EDIDPCM[x]. | Set the audio part of input port [x] to PCM format in EDID database. | EDIDPCM[x] |
| EDIDG[x]. | Get EDID data from output [x] and display the output port number. | Hexadecimal EDID data and carriage return character |
| EDIDMInit. | Restore the factory default EDID data for each input. | EDIDMInit. |
| EDIDM[X]B[Y]. | Manually EDID switching. Enable input [Y] to learn the EDID data of output [X]. If the EDID data is not available, then set it as initialized EDID data. | EDIDM3B1 |
| EDID/[x]/[y]. | Set the EDID data of input port [x] to built-in EDID No. [y]. [y] = 0~11, correspond to the 12 embedded EDID data separately. | EDID/[x]/[y] |
| EDIDUpgrade[x]. | Upgrade EDID data via the RS232 port.<br>X represents the input port, and x=5 represents all input ports.<br>When the switcher receives the command, it will show a message to prompt you to send EDID file (.bin file). Operations will be canceled after 10 seconds. | Please send the EDID file<br>EDID Upgrade OK! |
| GetInPortEDID[X] | Get the EDID data of input [x], [x]=1~4 | |
| %9979. | Get the DIP switcher status | EDID RS232 GUI CONTROL 1111 |

### 6.3.7 Enable/disable Digital Audio

| Command | Function | Feedback Example |
|---------|----------|------------------|
| DigitAudioON[x]. | Enable SPDIF audio output port x.<br><br>● X=1~8, enable the port x.<br>● X=9, enable all ports. | DigitAudio ON with [x]/ ALL Outputs |
| DigitAudioOFF[x]. | Disable SPDIF audio output port x.<br><br>● X=1~8, disable the port x.<br>● X=9, disable all ports. | DigitAudio OFF with [x]/ ALL Outputs |
| %9977. | Query the status of digital audio of output channels. | Out 01 02 03 04<br><br>Audio Y Y Y Y<br><br>Out 05 06 07 08<br><br>Audio Y Y Y Y |

# 7. TCP/IP Control

## 7.1 Control Modes

TCP/IP default settings: IP is 192.168.0.178, Gateway is 192.168.0.1, and Serial Port is 4001. IP can be changed as you need, Serial Port cannot be changed.

● **Controlled by single PC**

Connect a computer to the TCP/IP port of the Matrix Switcher, and set its network segment to the same as the default IP of the Matrix Switcher (192.168.0.178).
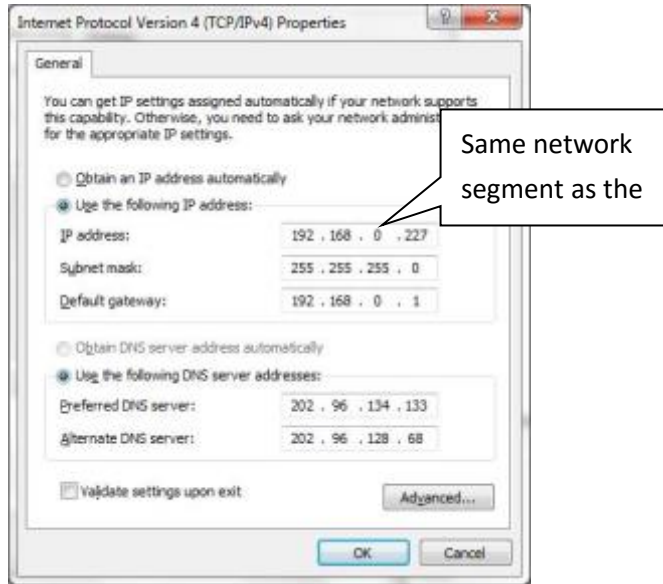
**Figure 7- 1 Modify the IP of PC**

● **Controlled by PC(s) in LAN**

The Matrix Switcher can be connected with a router to make up a LAN with the PC(s), this make it able to be controlled in a LAN. When control, just make sure the Matrix Switcher's network segment is the same with the router. Please connect as the following figure for LAN control.
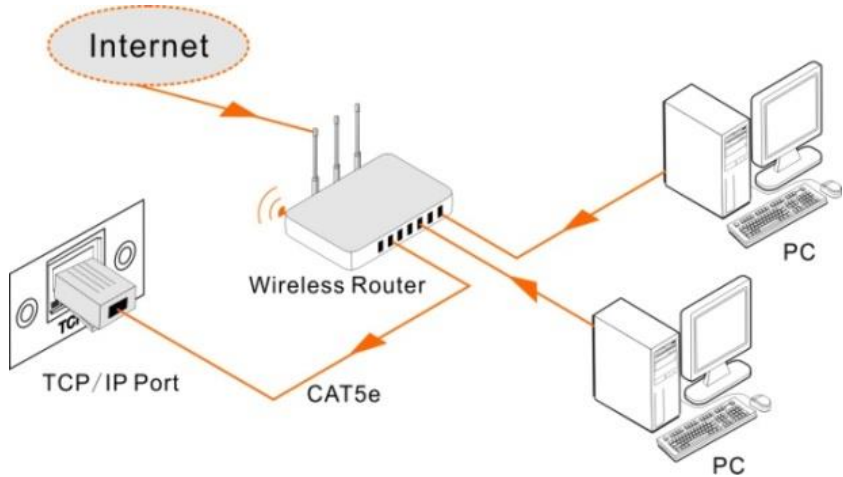
**Figure 7- 2 Connect to LAN**

**Step1.** Connect the TCP/IP port of the Matrix Switcher to Ethernet port of PC with twisted pair.

**Step2.** Set the PC's network segment to the same as the Matrix Switcher. Do please remember the PC's original network segment.

**Step3.** Set the Matrix Switcher's network segment to the same as the router.

**Step4.** Set the PC's network segment to the original one.

**Step5.** Connect the Matrix Switcher and PC(s) to the router. In the same LAN, each PC is able to control the Matrix Switcher asynchronously.

Then it is able to control the device via a TCP/IP communication software.

### 7.2 TCP/IP Communication Software Control

(Exampled by TCPUDP software)

1) Connect a computer with TCPUDP software to the Matrix Switcher. Open the TCPUDP software (or any other TCP/IP communication software) and create a connection, enter the IP address and port of the Matrix Switcher (default IP: 192.168.0.178, port:4001):
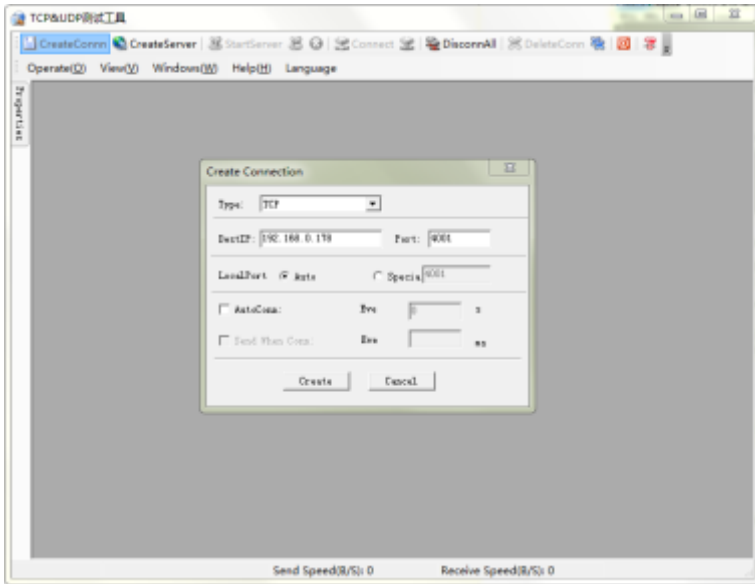
**Figure 7- 3 Connect to TCPUDP**

**2)** Enter commands in designed area to control the Matrix Switcher, see as below:



Enter your command here.

Commands are the same with RS232 commands listed in *6.3 RS232*

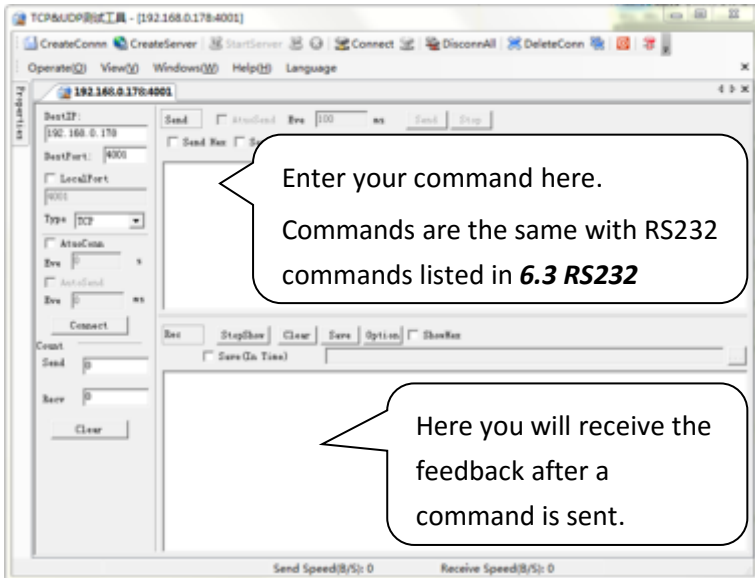Here you will receive the feedback after a command is sent.

**Figure 7- 4 Control interface of TCPUDP**

## 7.3 Web-Based GUI Control

The Matrix Switcher provides with built-in GUI for convenient TCP/IP control. GUI allows users to interact with the Matrix Switcher through graphical icons and visual indicators.

Access GUI interface through any one of the following methods:

1.  Access through web browser: Type the default IP *__192.168.0.178__* in the browser at first login. The IP address also can be found via sending "%9964." on RS232 control software.

2.  Access through UPnP: Go to My Network Place in your PC, and click the icon as below:
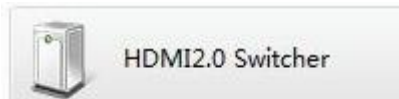


📖 PCs running Windows XP system may occur issues in finding UPnP icon, follow these steps to switch on UPnP protocol:

1)  Add UPnP component: go to "**Control Panel**" -> double-click "**Add/ Delete Programs**" -> double-click "Add/ Delete windows component" ->tick "UPnP" -> click "Next" -> click "OK"

2)  Enable Windows Firewall: go to "**Control Panel**" -> double-click "**Windows Firewall**" -> click "Others" -> tick "UPnP framework"

3)  Enable UPnP auto-starting: go to "**Control Panel**" -> double-click "**Administrative Tools** " -> double-click "Services" -> find and click **SSDP Discovery Servic** and **Universal Plug and Play Device Host** -> click "OK"

    UPnP will now automatically start when you turn on your computer.

4)  Reboot the device.


Type **__192.168.0.178__** in your browser, it will enter the log-in interface shown as below:

**Figure 7- 5 Login GUI**

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.

### 7.3.1 Scene Setting

Type the user name: admin, password: admin, and then click **LOGIN**, it will show the
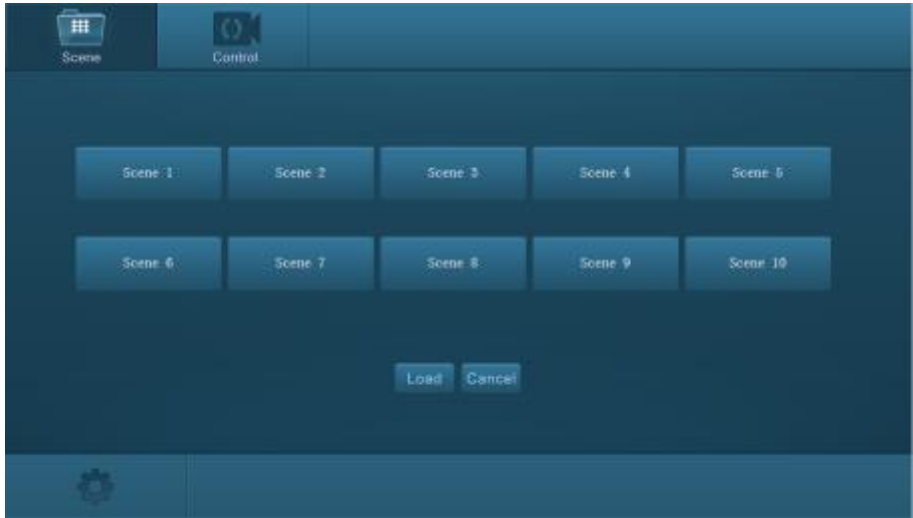
Scene menu as shown below:

**Figure 7- 6 Scene Menu**

All ten scenes are shown in above interface.

Select a scene and then click "**Load**" can invoke the selected scene.

Click "**Cancel**" to cancel the current operation.


**7.3.2 I/O connection switching**

Click  to enter the following interface, it provide intuitive I/O connection switching.

**Figure 7- 7 Control Menu**

The button matrix displays every possible connection between every input and output; users can carry on the connections by clicking corresponding button.

Buttons 1~8 at the right-bottom corner provides quick saving and recall for overall connection status. For example:

**Step1:** Select button1 at INPUT column

**Step2:** Select button 2, 3 and 4 at OUTPUT column (If all OUTPUT ports in needed, you only need to click "All".)

**Step3:** Choose a scene that you want to save.

**Step4:** Click "**Confirm**" to save the setting or Click "**Clear**" to clear set up.


**7.3.3 EDID Configuration**

1.    Click setting button 🎛 to enter the below interface: User can select EDID in

       accordance with actual needs.

**Figure 7- 8 Embedded EDID**

All embedded EDID of the Matrix Switcher are shown in the above interface. User can select EDID in accordance with actual needs.

2.    Select "**EDID Copy"** to enter the below interface:



**Figure 7- 9 Copy EDID**

The EDID of INPUT device can be gained from OUTPUT devices.

**Step1:** Select one OUTPUT device that you want to copy its EDID.

**Step2:** Select one or more input devices that need to gain EDID. When select To All inputs, all input devices will copy the EDID from output device.

**Step3:** Click "**Confirm**" to save the setting or click "**Cancel**" to cancel operation.

### 7.3.4 Audio Out

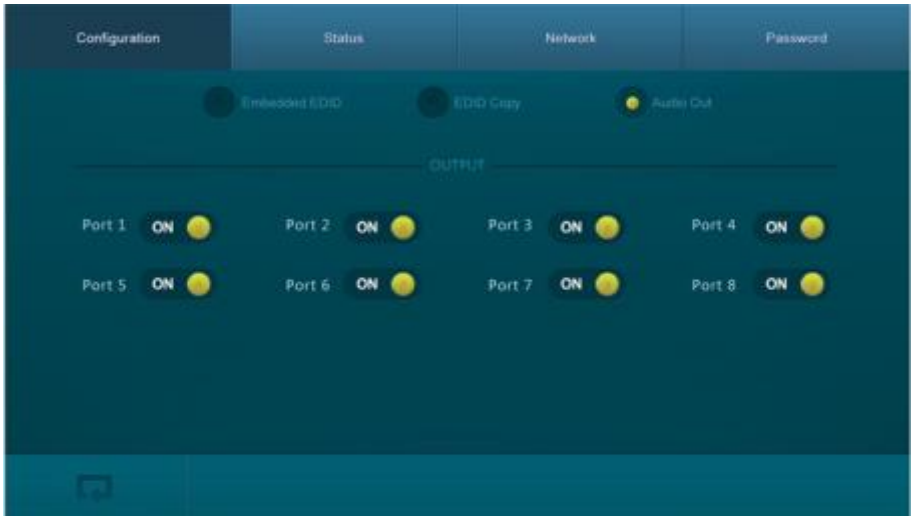Select "**Audio Out**" to enter the following interface to turn on/off the Audio Output passage.



**Figure 7- 10 Audio EDID**

### 7.3.5 Status Setting

● **Product Name& Model:**

Click "**Status**" to enter the following interface to modify the product name and its model, and then they will be display in LCD screen.

**Figure 7- 11 Status- LCD**

● **Button label:**

Select "**Button**" to enter the following interface to modify the name of buttons.
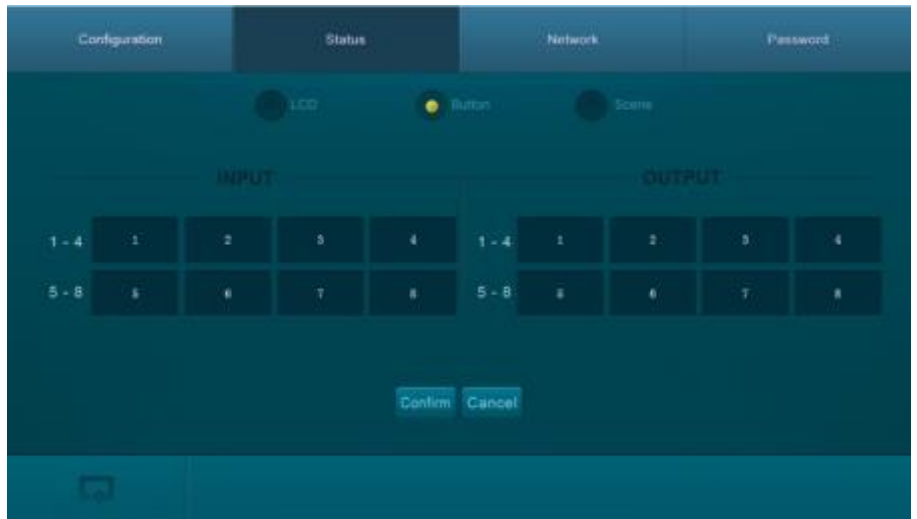


**Figure 7- 12 Status- Button**

● **Scene name:**

Select "**Scene**" to enter the following interface to modify the name of scenes.



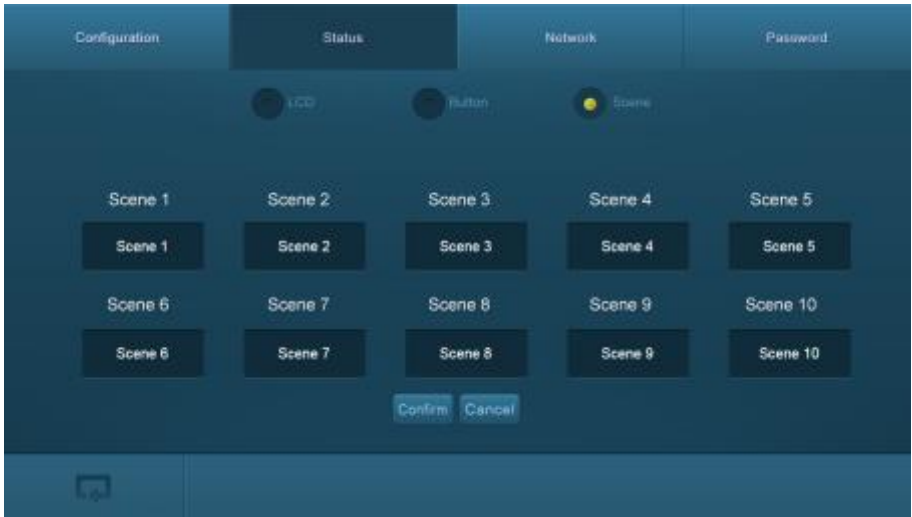**Figure 7- 13 Status-Scene**

### 7.3.6 Network Configuration

Click "**Network**" to enter the below interface to inquire and configure network settings including MAC address, IP address, subnet mask, and Gateway.

**Figure 7- 14 Network**

### 7.3.7 Password Modification

Click "**Password**" to enter the below interface to inquire and modify the admin or user password.



**Figure 7- 15 Password**

In the above interface, turn on the Front Panel to lock all buttons of machine, they cannot be operated.

## 7.4 TCP/IP Port Configuration

IP address, subnet mask, and Gateway of the Matrix Switcher can be modified via GUI from the above description, but beyond that users can configure the IP port, including IP reset, password reset, and IP module firmware update on the WebServer.

Type the designed website (Default: 192.168.0.178:100, changeable) in your browser. Enter correct username and password to log in the WebServer:

**Username**: admin; **Password**: admin

Here is the main configuration interface of the WebServer:
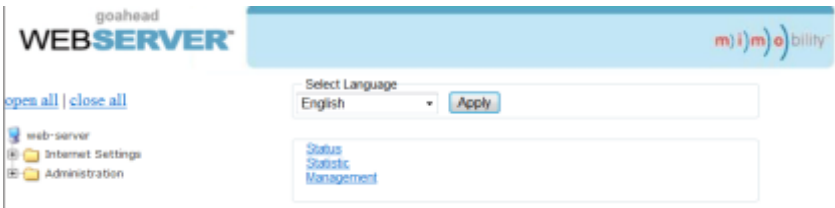


**Figure 7- 16 TCP/IP Configuration**

## 7.5 GUI Update

GUI for the Matrix 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:
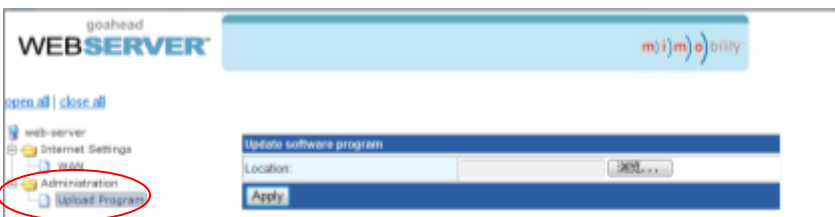


**Figure 7- 17 GUI Update**

# 8. Firmware Upgrade through USB port

The Matrix Switcher boasts a USB port for firmware upgrade on the rear panel.

**Preparation:** copy the upgrade software DfuSe Demonstration& upgrade file (.dfu) to control PC.

**Steps to upgrade the device:**

**Step1.** Connect the control PC to the USB port of the Matrix Switcher.

**Step2.** Reboot the Matrix Switcher to enter upgrade mode. Press and hold button **2**& **3** when rebooting. The power indicator will keep blinking in upgrade mode.

**Step3.** Double-click the icon of upgrade software DfuSe Demonstration (see the figure below).



**Figure** Error! No text of specified style in document.**-1 Icon of DfuSe Demonstration**
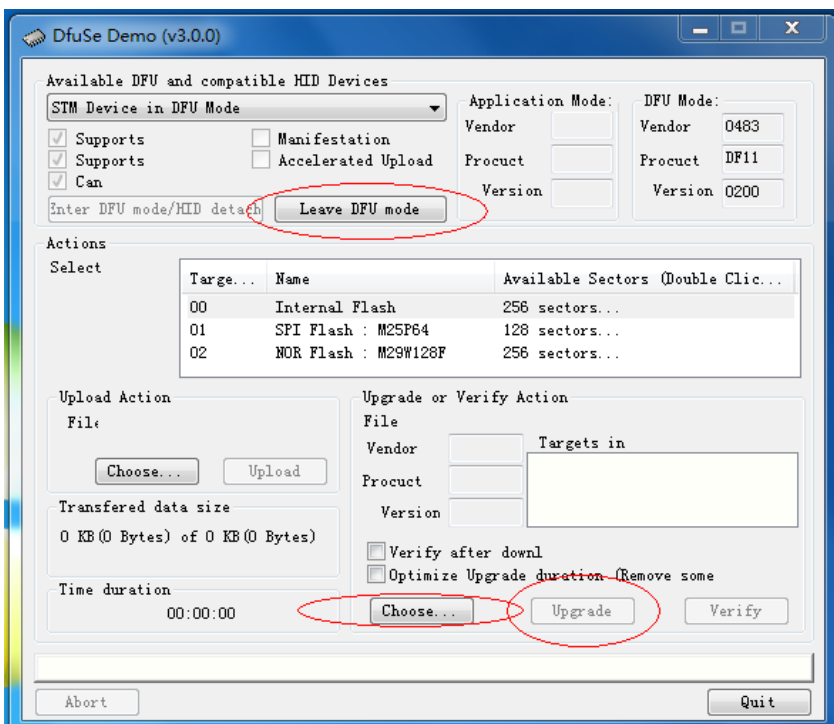
It will pop up the following window:



**Figure** Error! No text of specified style in document.**-2 Upgrade firmware via DfuSe**

**Demonstration**

**Step4.** Click **Choose…** to load desired upgrade file (.dfu).

**Step5.** Click **Upgrade** to start.

📖 Make sure the button **Leave DFU mode** is available to ensure control PC and the Matrix Switcher are connected successfully.

# 9. Specifications

| | |
|---|---|
| Input Signal | 8 HDMI |
| Input Connector | Female Type-A HDMI |
| Output Signal | 8 HDMI; 8 SPDIF audio |
| Output Connector | Female Type-A HDMI; 3.5mm mini jack |
| Control Signal | 1 IR IN; 1 TCP/IP; 1 RS232 |
| Control Connector | 3.5mm mini jack; female RJ45; 3-pin pluggable terminal block |
| Video Signal | HDMI2.0& HDCP2.2 |
| Audio Signal | Dolby Digital, DTS, DTS-HD |
| **General** | |
| EDID Management | In-built EDID data and manual EDID management |
| Resolution Range | 640x480@60Hz ~ 4Kx2K@60Hz 4:4:4, 1080P 3D |
| HDMI Cable Length | ≤5m |
| Power Supply | 24VDC, 2.71A |
| Power Consumption | 21W |
| Dimension (W*H*D) | 437mm × 44mm × 236.5mm |
| Weight | 1.82Kg |
| Temperature | -10℃~ 55℃ |
| Reference Humidity | 10% ~ 90% |

## 10. Panel Drawing
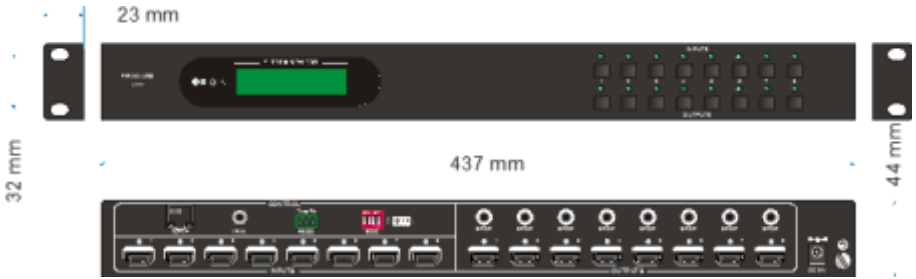
# 11. Troubleshooting & Maintenance

| Problems | Causes | Solutions |
|---|---|---|
| Color losing or no video signal output | The connecting cables may not be connected correctly or it may be broken. | Check whether the cables are connected correctly and in working condition. |
| | 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 |
| | Input source is with HDCP while the HDCP compliance is switched off. | Send command /%[x]:[1]. to change HDCP compliance status. |
| | The display doesn't support the input resolution. | Switch for another input source or enable the display to learn the EDID data of the input. |
| No output on the amplifiers connected to audio output ports | The amplifiers are not able to decode HDMI audio | Change for amplifiers that are capable to decode HDMI audio. |
| Cannot control the device via front panel buttons | Front panel buttons are locked. | Send command /%Unlock; to unlock. |
| Cannot control the device via IR remote | The battery has run off. | Change for new battery. |
| | The IR remote is broken. | Send it to authorized dealer for repairing. |
| | Beyond the effective range of the IR signal or not pointing at the IR receiver | Adjust the distance and angle and point right at the IR receiver. |
| Power Indicator remains off when powered on | Fail or loose power connection | Check whether the cables are connected correctly. |

| EDID management does not work normally | The HDMI cable is broken at the output end. | Change for another HDMI cable which is in good working condition. |
|---|---|---|
| There is a blank screen on the display when switching | The display does not support the resolution of the video source. | Switch again. |
| | | Manage the EDID data manually to make the resolution of the video source automatically compliant with the output resolution. |
| Cannot control the device by control device (e.g. a PC) through RS232 port | Wrong connection | Check to ensure the connection between the control device and the unit. |
| | Wrong RS232 communication parameters | Type in correct RS232 communication parameters: Baud rate: 9600; Data bit: 8; Stop bit: 1; Parity bit: none. |
| | Broken RS232 port | Send it to authorized dealer for checking. |
| Static becomes stronger when connecting the video connectors | Bad grounding | Check the grounding and make sure it is connected well. |
| Cannot control the device by RS232 / IR remote / front panel buttons | The device has already been broken. | Send it to authorized dealer for repairing. |

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

## 12. After-sales Service

If problems arise when operating the device, please refer to this user manual. Any transport costs are borne by the users during the warranty.

1) **Product Limited Warranty:** We warrant that products will be free from defects in materials and workmanship for **three years,** which starts from the first day the product exits warehouse. (Make note of the serial number on the product)

   Proof of purchase in the form of a bill of sale or receipted invoice MUST be presented to obtain warranty service.

2) **What the warranty does not cover:**
   - 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
     - Any other causes which does not relate to a product defect
   - Delivery, installation or labor charges for installation or setup of the product

3) **Technical Support:** Email or call our after-sales department if there are any problems or any unanswered questions. Please inform us the following information about your cases:
   - Product version and name.
   - Detailed failure situations.
   - The formation of the cases.

**Remarks:** For any questions or problems, please try to get help from your local distributor or contact kanexpro.com or call us at 888-975-1368 for further support.

# 13. Warranty

## A. LIMITED WARRANTY

KanexPro ™ warrants that (a) its products (the "Product") will perform greatly in agreement with the accompanying written materials for a period of 36 months (3 full years) from the date of receipt and (b) that the product will be free from defects in materials and workmanship under normal use and service for a period of 3 years.

## B. CUSTOMER REMEDIES

KanexPro's entire liability and Customer's exclusive remedy shall be, at KanexPro option, either return of the price paid for the product, or repair or replacement of the Product that does not meet this Limited Warranty and which is returned to KanexPro with a copy of customers' receipt. This Limited Warranty is void if failure of the Product has resulted from accident, abuse, or misapplication. Any replacement Product will be warranted for the remainder of the original warranty period of 3 years, whichever is longer.

## C. NO OTHER WARRANTIES

To the maximum extent permitted by applicable law, KanexPro disclaims all other warranties, either express or implied, including, but not limited to implied warranties of merchantability and fitness for a particular purpose, with regard to the product and any related written materials. This limited warranty gives customers specific legal rights. Customers may have other rights depending on the jurisdiction.

## D. NO LIABILITY FOR DAMAGES

To the maximum extent permitted by applicable law, in no event shall KanexPro be liable for any damages whatsoever (including without limitation, special, incidental, consequential, or indirect damages for personal injury, loss of business profits, business interruption, loss of business information, or any other pecuniary loss) arising out of the use of or inability to use this product, even if KanexPro has been advised of the possibility of such damages.

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