

HDMI-88MTX

8x8 HDMI Matrix Switcher with either
HDMI or CATx Inputs / Outputs

INSTRUCTION MANUAL



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BEFORE YOU BEGIN

- Follow all instructions marked on the device during using.
- Do not attempt to maintain the device by yourself, any faults, please contact your vendor.
- Provide proper ventilation and air circulation and do not use near water.
- It is better to keep it in a dry environment.
- The system should be installed indoors only. Install either in a sturdy rack or on a desk in a well-ventilated place.
- Only using the power adaptor 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.

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MATRIX SYSTEM OVERVIEW

INTRODUCTION

The HDMI-88MTX is a fully customizable 8x8 HDMI Matrix Routing Switcher. It supports both CATx and/or HDMI for either Inputs or Outputs for a total of 64 different configurations. It offers the user full configuration ability to include field upgradable modules. For example, if you have HDMI output on one of the channels and later decide you need CATx, you order a single module and change it in the field. The HDMI-88MTX offers the best in customization with the most flexible and cost effective solution in the market to route high definition video sources plus multi-channel (up to 7.1-channel) digital audio from any of the eight (8) source devices to any of the eight (8) destination devices. Because it is a true matrix router, any input may be routed to any output; or the same input may be routed to all outputs or any combination all this using either HDMI cables or through low cost CAT5 / 5e / 6 LAN cables. Control is via the front panel push buttons, the included wireless remote control, RS-232 or the build-in LAN. Included is GUI software for remote control from any Windows based computer. You can even access the device thru the internet using standard browsers like Internet Explorer.

PACKAGE CONTENTS

HDMI Matrix Host



RS-232 Communication Connecting Cable



Power Cord



IR BOX



LAN Line



Remote Control



2 Rack-Mount Bracket



6 Screws (for Brackets)



2 -AAA Batteries



Resource CD



Users Guide



FEATURES & SPECIFICATIONS

FEATURES

HDMI 1.3b Compatible

3D Enabled

HDCP Compliant

RS-232 / Ethernet control

IR control

Internal universal power supply

1U rack

Available in 4x4, 4x8, 8x4, and 8x8 fixed I/O interfaces.

Built-in Daughter Card (Board) Interfaces (LAN card optional)

Mixed use either HDMI or CATx cables for import and output connection.

Computer video up to 1920*1200

HDTV up to 1080p

EDID management (Copy from OUT port 1)

SPECIFICATIONS

Input Connector: 8 x HDMI Type A or RJ-45

Output Connector: 8 x HDMI Type A or RJ-45

RS-232 Connector: DB9 Female

LAN Connector: RJ-45

Select Switch: 21

LCD Module: 1

Max. Resolution: 1080p

Highest TMDS Frequency: 225 MHz

HDMI Cable Distance: 32 feet (Max.)

CATx Cable Distance: 195 feet (Max.)

Power: 100~240VAC, 50~60Hz, internal

Housing: Metal

Weight: 5 lbs.

Dimensions (LxWxH): 17* x 13 x 1.5 in (* 19" in with Rack Mount)

HOST INSTALLATION/ FRONT/REAR PANELS

The HDMI Series Matrix Host has a black metallic housing. It can be placed on a sturdy desk directly or installed on a 19-in bracket. See Figure 1 below:



Figure 1: Mount the HDMI Matrix Host on a Standard Bracket

FRONT PANEL



Figure 2: HDMI-88MTX Front Panel

The **HDMI-88MTX** Matrix Switching System supports up to 8 Output / Input switching keys on the Front Panel allow you to switch signals quickly.

There are four module combinations:

Operation method No. 1: “Output Channel” + “Input Channel”

Select the Output button then select the Input button to set the combinations.

Operation method No. 2: “STO or RCL” + “Output Channel”

Select the **STO** or **RCL** button then select the Output button.

Operation method No. 3: Single operation

This example for **EDID** button, you can select the **EDID** button directly.

Operation method No. 4: “STO and RCL” + “Input Channel”

Select the **STO** and **RCL** button then select the Input button to set the combinations.

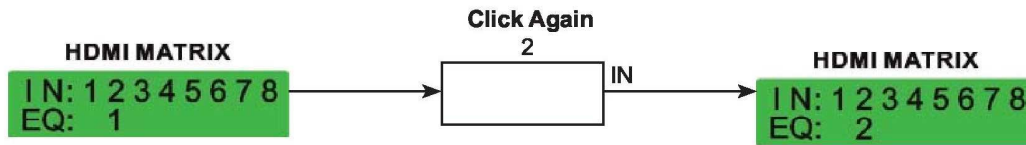
- **OUT1~8 keys (output channel):** Indicate the Channel 1~Channel 8 for signal Output to peripheral display. You can also use these keys to adjust the status or access the settings.
- **IN1~8 keys (input channel):** Indicate the Channel 1~Channel 8 for signal Input. You can use these keys to switch to the connection of the connected signal source channels.
- **IR1:** Infrared receiver.
- **All:** This key allows you to set single input channel to all output channels.
 - Press the “**All**” key.
 - Select one of the **IN 1~8** keys.
 - The selected **IN x** key will deliver the signal to all output channels.
 - You can also press the “**All**” key and then the “**OFF**” key to disable all outputs (video mute).
- **OFF:** Disable the special output channels. Press one of the **OUT x** keys that you want to disable the output, then press the **OFF** key. You can also press the “**All**” button and then the “**OFF**” button to disable all outputs channels (video mute).
- **STO:** The “**Store Key**” saves all current input / output corresponding relations.
 - Press the “**STO**” key. (Supports up to 8 sets of memories, you can select the memory location through OUT1~OUT8)
 - Arrange the Output and Input channel combinations (output channel key 1~8).
 - The relation between the Output and Input settings will be saved in the memory permanently.

HOST INSTALLATION/ FRONT/REAR PANELS CONT'D

There are four module combinations:

- **RCL:** The “Recall Key” retrieves the saved input / output corresponding relations.
 - Press the “RCL” key.
 - Then select one of output channel key 1~8.
 - The system will retrieve the saved input / output status and implement current status switching.
- **EDID: FIX** (fix mode) and **TV1** (access the first output channel) selection key.
 - **FIX mode:** The **ANI-88C5CU** will supply a set of fixed **EDID** values to support up to 1080p
 - **TV1 mode:** The **ANI-88C5CU** will access the **EDID** values the display device that is connected to the first output channel, and copy the **EDID** value to all the input channels.
- **LCD:** LCD display shows current HDMI matrix status and operation status.

☞ Press both the **STO** and **RCL** buttons to enter the **EQ** mode. This mode is only active under **RJ-45 Input** modules (**MX-RJ11_EQ mode**). For example as below, change the EQ value of input channel 2 from 1 to 2. Select the **IN** button 2 on the front panel again; the EQ value will become 2. Continue to select the **IN** button until the EQ value is 8, then the EQ value will return back to 1.



REAR PANEL

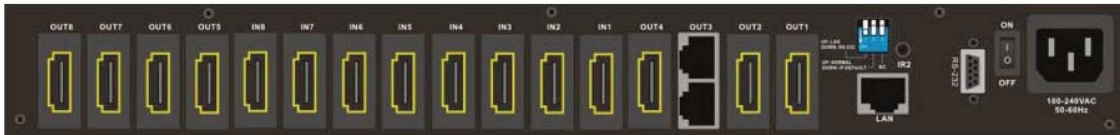


Figure 3: HDMI-88MTX Rear Panel

The **ANI-88C5CU** supports up to 8 input / output connectors (HDMI Type A or RJ-45) on the rear panel, each female terminals form the signal input / output connectors. The **ANI-88C5CU** signal input / output terminal channels are numbered from right to left as **OUT1~4 / IN1~8 / OUT5~8** channels.

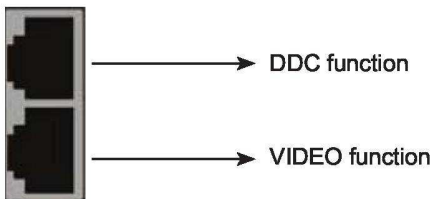
- **Power Port:** The Power Port is applicable for 100~240VAC, 50~60Hz connected to the power source.
- **Power Switch:** To switch power ON or OFF the HDMI matrix host.
- **RS-232:** Use the **RS-232** connection cable to connect the computer serial port (COM1 or COM2) to the RS-232 communication port of the HDMI matrix host. The computer can then be used to control the HDMI matrix after installation of application software. The **RS-232** port is a 9-pin female connector.
- **IR2:** Connect to the IR BOX.
- **Switcher:**
 - Pin1: Switch between RS-232 port and LAN port connection.
 - Pin2: This Pin allows you to reset the IP value to **192.168.0.3**.
The steps are as below:
 - a. Adjust pin2 down and re-start **HDMI-88MTX**
 - b. After the **HDMI-88MTX** starts (about 10 sec.). Then power down.
 - c. Adjust pin2 up, then power on **HDMI-88MTX** again
 - d. The IP address will be restored to the default value: **192.168.0.3**
 - Pin3: No definition.

Pin #	UP	DOWN
1	LAN	RS-232
2	NORMAL	IP DEFAULT
3	NC	NC

HOST INSTALLATION/ FRONT/REAR PANELS CONT'D

- **LAN Port:** Use the RJ-45 connection cable to connect the Internet and the HDMI matrix host. The entire PC at the same network can control the HDMI matrix host through the LAN port.
- **IN1~8:** Depending on the built-in modules, HDMI matrix host Input Channels are connected via HDMI or CAT5TX, for more information please refer to **Appendix A**.
- **OUT1~8:** Depending on the built-in modules, HDMI matrix host Output Channels are connected via HDMI or CAT5RXP OR CAT5RXNP, for more information please refer to **Appendix A**.

When using the extender port modules, up top is for DDC function, bottom port is for VIDEO function.



☞ For RJ-45 Connector daughter board modules equipment, the connection has a collocation with CAT5TX or RX; please refer to the **Appendix A** for more information.

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

HDMI MATRIX AND PERIPHERALS CONNECTION

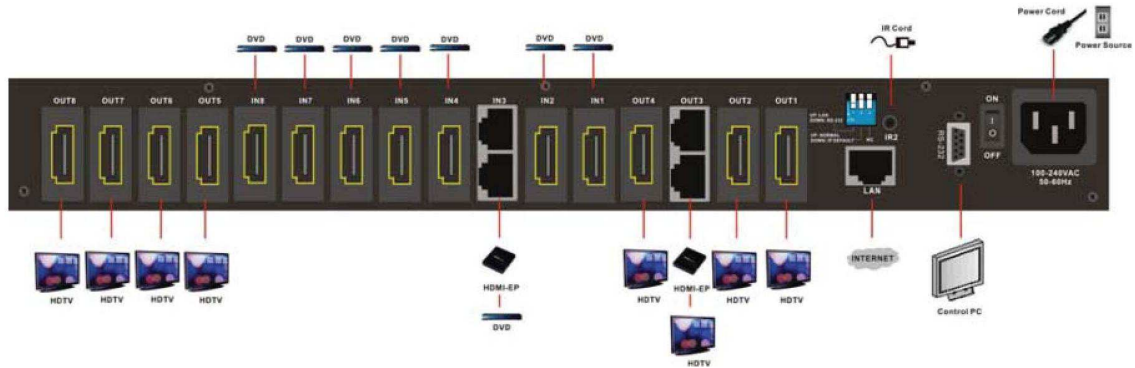
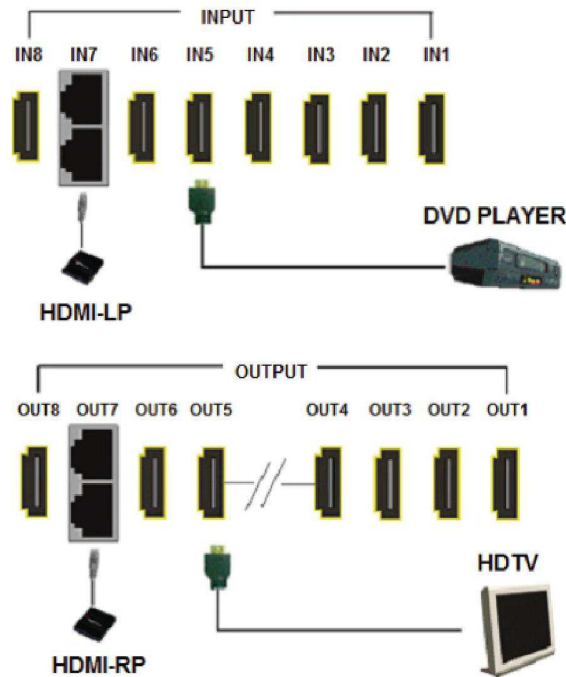


Figure 4: HDMI Matrix System Connections

☞ Use the CAT5TX or RX devices to extend the connection, please refers to the Appendix A.

INPUT / OUTPUT CONNECTIONS

Use either CATx or HDMI cables to connect either inputs or outputs.



HDMI MATRIX / CONTROL COMPUTER CONNECTION

Use the RS-232 connecting cable to connect the computer serial port (COM1 or COM2) to the RS-232 communication port of the HDMI matrix host. The computer can then be used to control the HDMI matrix after installation 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 remote operation.

HDMI MATRIX AND PERIPHERALS CONNECTION CONT'D

INPUT / OUTPUT CONNECTIONS

Use either CATx or HDMI cables to connect either inputs or outputs.

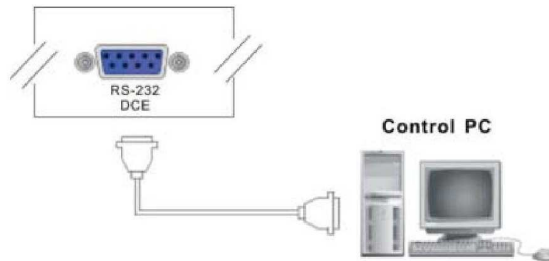


Figure 5(a): RS-232 and Control PC connection

HDMI-88MTX also supports a LAN port allowing you to control the equipment host through a PC Browser.

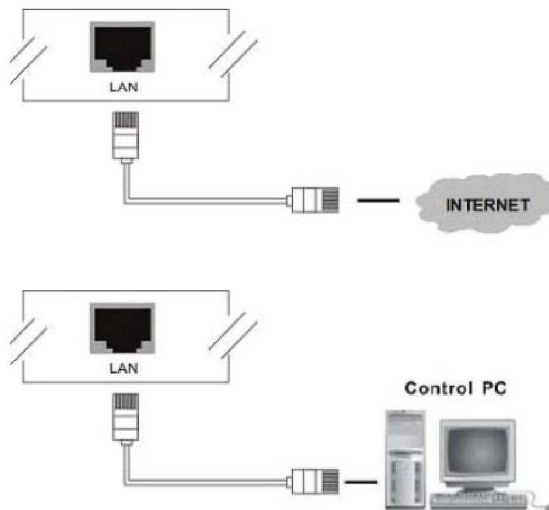


Figure 5(b): LAN port and Control PC Connection

The RS-232 Pin functions are described as below:

Pin No.	Leg	Description	Pin No.	Leg	Description	Pin No.	Leg	Description
1	N/u	Null	4	N/u	Null	7	N/u	Null
2	Tx	Send	5	Gnd	Ground	8	N/u	Null
3	Rx	Receive	6	N/u	Null	9	N/u	Null

HDMI MATRIX AND PERIPHERALS CONNECTION CONT'D

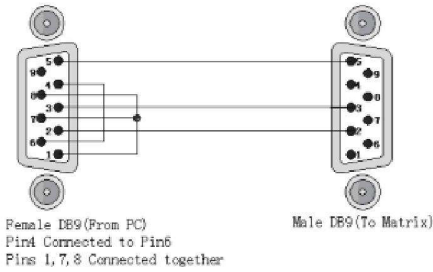


Figure 6

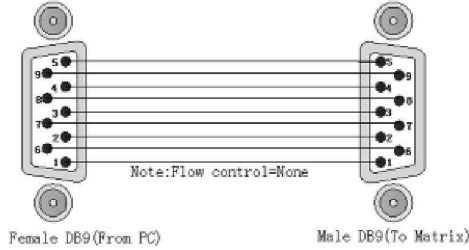


Figure 6(a)

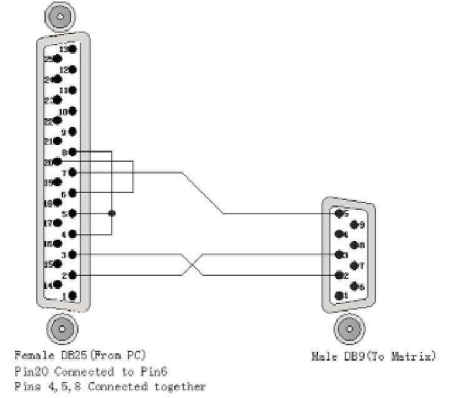


Figure 6(b)

☞ The Matrix RS-232 port is defined as DCE.

IR2 CONNECTION

The HDMI matrix provides you an IR BOX to extend the IR from the front panel to another location. Please connect the IR BOX to the IR2 port that is on the rear panel.

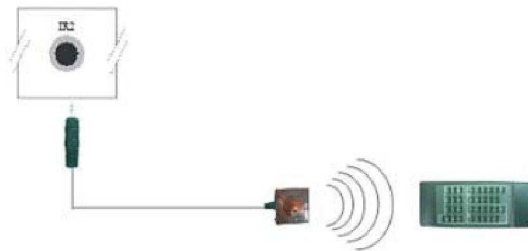


Figure 7: IR Connection

POWER CONNECTION

Use the included power cord to connect from the power port on the rear panel of HDMI matrix host to the outlet.

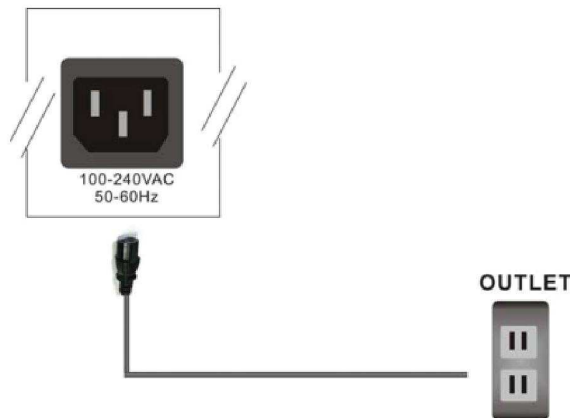


Figure 8: Power Connection

MATRIX APPLICATION SOFTWARE

SOFTWARE INTRODUCTION

The << AV Matrix >> Matrix control software applies to different input / output matrixes.

SOFTWARE DESCRIPTION

The software operation environment is as follows:

- Window98 / 2000 / 7 / NT / XP / Vista operating systems**
- 32M internal memory or above**
- 10M hard disk space or above**
- CD-ROM**
- At least one serial communication port**

SOFTWARE ACTIVATION

First, you must power off both the HDMI matrix and the computer. Then, connect the matrix RS-232 port to the PC RS-232 port with the bundled communication cable. (Refer to the previous section “HDMI Matrix and Control Computer Connection”.)

Power on the HDMI matrix and the computer:

Activate the AV Matrix.exe on the bundled CD-ROM in the control computer to enter the software configuration screen.

SOFTWARE CONFIGURATION

The software controls signal connection between the corresponding input port and output port as required. The RS-232 main configuration screen is as below:

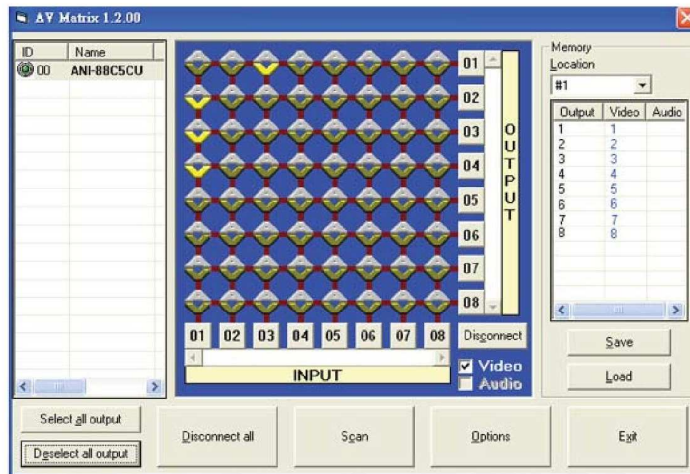


Figure 9: RS-232 Software Configuration Screen

(HDMI-88MTX is integrated Video / Audio switching equipment; please select the Video check box before you begin to operate the software.

Scroll on the left area of the main screen to view contents as shown.

	A/V	I/O	Memory
88	Both	8 / 8	8

MATRIX APPLICATION SOFTWARE CONT'D

RS-232 MAIN OPERATION INTERFACE

Refer to the main configuration screen as above, the marked blue area shows crossing matrix of output ports 01 - 08 and input ports 01 - 08. For the basic operation is described as below:

Examples for Selecting Matrix Switching Functions:

Example: Now there is an HDMI-88MTX matrix having all the input/output ports properly connected to the equipment. If you want to set channel 1 input to channel 2, 3 and 4 output; channel 3 inputs to channel 1 output. There are 2 ways to implement the switching. Please follow the ways and steps to finish the switching functions:

First way: Make sure you have selected "Video" check box (Video). Directly click on the corresponding icons on the matrix  to transform them into  to complete the switching operation.

Second way:

Step 1: Make sure you have selected "Video" check box (Video).

Step 2: First select the "Output" number keys 02, 03 and 04 to the right of the blue configuration area, and select the "Input" number key 01 to the bottom. Then, press consecutively the previously selected "Output" number keys 02, 03 and 04 (or you can press the "Deselect all output" key). This way, you have selected "Input" 01 and "Output" 02, 03 and 04 switching.

Step 3: First select the "Output" number key 01 to the right of the blue configuration area, and select the "Input" number key 03 to the bottom. Then, press the previously selected "Output" number key 01 (or you can press the "Deselect all output" key). This way, you have selected Input 03 and Output 01 switching.

Upon completion of the above 3 steps, you have actually completed the switching operation of having channel 1 input to channel 2, 3 and 4 output while at the same time successfully switched from channel 3 input to channel 1 output.

The main configuration screen also shows you some function buttons to easy operation:

Disconnect: To disable the connections. After you had configured the connection between input and output ports, you can click this button to disable the connections.

Select all output: Click this button to select all output ports including output 01~08.

Deselect all output: Click this button to cancel presently selected output ports. After you had configured a connected combination, please click this button firstly for next settings.

Disconnect all: To stop all the connections.

Scan: To search the host controlled by the RS-232 Software Configuration. When the host name located on the left of the main configuration screen is empty, you can click the Scan to research and update the host Name and ID.

Options: Allows you to configure the Port number and Baud rate.

Exit: Click this button to exit the configuration screen.

Save: Click this button to save the connected combinations both output ports and input ports.

Load: Click this button to retrieve the previously saved settings.

For more information and operations, please refer to next chapters.

MATRIX APPLICATION SOFTWARE CONT'D

DISCONNECT FUNCTION KEYS

Disable all the unused output ports.

A specific example of operation is described as below:

The present input and output relations are shown in Figure 10 below:

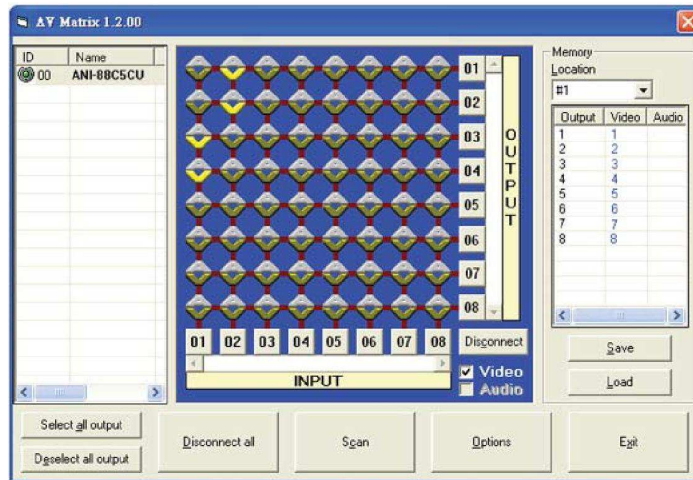


Figure 10

First you have to disable the output ports including port 03, 02, and 01.

Step 1: First press down the output number keys 03, 02 and 01 to the right of the blue configuration area.

Step 2: Press the "Disconnect" key;

Step 3: Press the previously pressed output number keys 03, 02 and 01 (or press the "Deselect all output" key) to complete the operation.

The final results will be as shown in Figure 11 below:

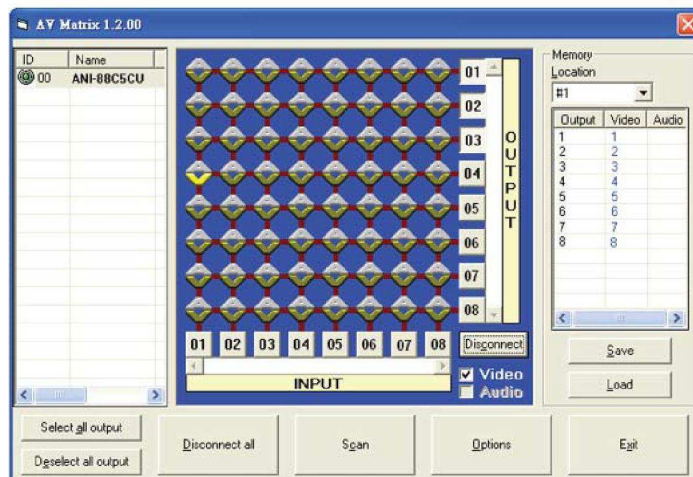


Figure 11

MATRIX APPLICATION SOFTWARE CONT'D



SELECT ALL OUTPUT, DESELECT ALL OUTPUT SWITCHING FUNCTIONS

(1) Select all output Function Description: You can use this function to select one all output ports for output to one input port.

A specific example of operation is described below:

Example: Now you have an HDMI-88MTX matrix with all input and output ports properly connected to the equipment. The needed input / output ports should be set to channel 1 input to all output-ports to output.

Make sure you have selected the “Video” check box (Video). Then, press the “Select all output” key and select the input number key 01.

Click on the matrix icons along the 01 row  to transform them into  to complete the command operation.
(2) Deselect all output Function Description: It is used to disable the “Select all output” function.

DISCONNECT ALL COMMAND

Function Description: To disable all the switching functions. Press the “Disconnect all” key to disable all the connections of input and output ports.

MEMORY FUNCTION

Function Description: To store and retrieve the settings.

Store Function Description: The Store Function saves all the present input / output switching relations to any Locations from #1 to #8 you desired.

A specific example of the Store Function is described:

Store all the present input / output switching relations to Location #1. First, select Location #1, as shown in the figure below. Then click the Save key to save all the present input / output switching relations to Location #1.

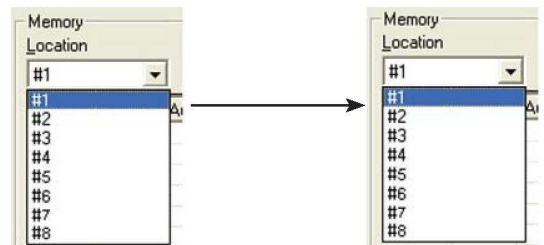


Figure 12

Retrieve Function Description: To retrieve the saved input / output switching relations.

Store Function Description: The Store Function saves all the present input / output switching relations to any Locations from #1 to #8 you desired.

A specific example of the Store Function is described below:

To retrieve the input / output corresponding relations saved in Location #1. First, select Location #1 as shown in the figure below. Then click the Load key to retrieve all the Input / output corresponding relations stored in Location #1.

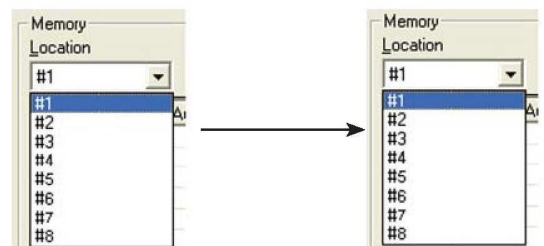


Figure 13

MATRIX APPLICATION SOFTWARE CONT'D

OPTIONS FUNCTION

Activation Function: In the main configuration menu, select Options to prop up the Options Window as shown in Figure 14(a)

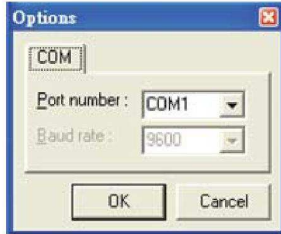


Figure 14(a)

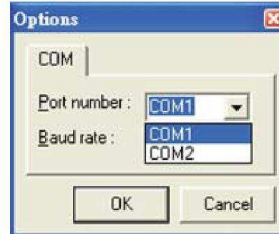


Figure 14(b)

Function Description:

Linking Methods: In "Port number" select either COM1 port or COM2 port as shown in Figure 14(b); in "Baud rate" select 9600 for signal transmission as shown in Figure 14(a).

OPTIONS FUNCTION

Displays the presently saved switching status as shown in Figure 15 below:

Output	Video	Audio
1	1	
2	2	
3	3	
4	4	
5	5	
6	6	
7	7	
8	8	

Figure 15

When input corresponding to Output is enabling, it shows the Output ports correspond to the Input ports; when they are disable it will show red "None" in the relative field.

COMMUNICATION PROTOCOL/CONTROL COMMAND CODE

Communication Protocol: Baud rate 9600bps, no odd or even calibration bit address, 8bit transmission address, 1bit stop address. Please refer to the "Command list.pdf" in the CD-ROM for more relative **Command Code** information.

MATRIX APPLICATION SOFTWARE CONT'D

LAN WEB CONFIGURATION

Open the Browser, key in the default IP address: **http://192.168.0.3** to login the **AV MATRIX** Control configuration screen. Once the default IP address is changed, please use the changed IP to login.

The software controls signal connection between the corresponding input port and output port as required. The LAN main configuration screen is as below:

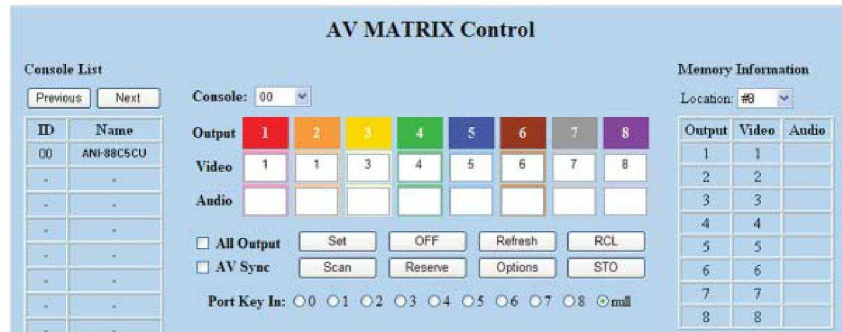


Figure 15

☞ HDMI is integrated Video/Audio switching equipment, please only key in the Output Channel No. into the **Video** field, the **Audio** field value will default on the Video value automatically.

Scan: To search the host controlled by the LAN Web Configuration. When the Console List content is empty, you can click the Scan to research and update the Console List.

Options: Allows you to configure the IP address.

Set: Click this button to set the connected combinations both output and input ports.

Refresh: To refresh the values of the configuration screen. Any changed settings directly on the **ANI-88C5CU** equipment will not respond to the AV Matrix operating interface, you have to click the **Refresh** button to refresh the configuration screen so that showing the changed values.

OFF: Disable the entire output channels.

STO: The “Store Key” saves all current input / output corresponding relations.

RCL: The “Retriever Key” retrieves the saved input / output corresponding relations.

☞ For more information, please refer to **the Front Panel**.

All Output: A Hot Key for you to set the same value to all output channel. Select the **All Output** check box, then key in example “5” value in the channel 1 output. Click anywhere on the screen, the all channel output will become “5” value.



Figure 16

MATRIX APPLICATION SOFTWARE CONT'D

LAN MAIN OPERATION INTERFACE

Refer to the main configuration screen as above, for the basic operation is described as below:.

Example: Now there is an HDMI-88MTX matrix having all the input / output ports properly connected to the equipment. If you want to set channel 1 input to channel 2, 3 and 4 output; channel 3 inputs to channel 1 output.

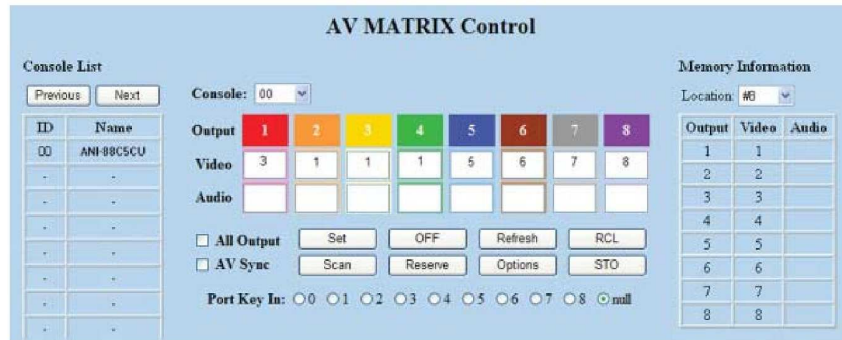


Figure 17: LAN Web Configuration Screen

Step 1: For channel 2, 3, 4 Output, please key in the value “1” in the Video fields.

Step 2: For channel 1 Output, please key in the value “3” in the Video fields.

Step 3: Click “Set” button.

Upon completion of the above 3 steps, you have actually completed the switching operation of having channel 1 input to channel 2, 3 and 4 output while at the same time successfully switched from channel 3 input to channel 1 output.

LAN MEMORY FUNCTION

Function Description: To store and retrieve the settings.

Store Function Description (STO): The Store Function saves all the present input / output switching relations to any locations from #1 to #8 you desired.

A specific example of the Store Function is described below:

Store the present input / output switching relations to Location #2. First, select Location #2, as shown in the figure below. Then click the STO button to save the present input / output switching relations to Location #2.

Retrieve Function Description (RCL): To retrieve the saved input / output switching relations.

A specific example of the Retrieve Function is described:

To retrieve the input / output corresponding relations saved in Location #1. Select the Location #1 as shown in the figure below. The input / output corresponding relations stored in Location #1 will be showed directly.



Figure 18



Figure 19

MATRIX APPLICATION SOFTWARE CONT'D

LAN IP FUNCTION

Activation Function: In the main configuration menu, select Options button to prop up the Windows Internet Explorer dialog box, click "OK" to show the IP configuration screen as shown in Figure 20.

Network Settings

Enable DHCP

Static IP Address: 192.168.0.3

Static Subnet Mask: 255.255.255.0

Static Default Gateway: 192.168.0.1

Static DNS Server: 192.168.0.1

Physical Address: e4-46-bd-03-02-04

Apply Default Reboot

Figure 20

In the **Network Settings** configuration, you can set the IP information by yourself (Fix IP) or click the **Enable DHCP** check box to get the IP from the DHCP (Float IP).

☞ Click the **Default** button to restore to default IP address. After changing the IP, you have to restart (power off then power on) the Host to make the changed values take effectively.

☞ You can also use the blue **Switcher** on the rear panel of the Host to reset the ignored IP.

OTHER APPLICATION

The software utility will show you at least 32 unit host ID and Name. You can click the Console down list to select which Host that you want to configure output / input values as Figure 21. The entire connected Host name will be showed on the Console List as Figure 22. For this model, the software utility only shows an ID:00 for the Name: **HDMI-88MTX**

☞ When the Console List is empty, please pay attention to the location of switch 1 on the rear panel of Host is correctly. Then, click Scan to research the configured Host. For **HDMI-88MTX**, only have to make the Console down list value to "00".

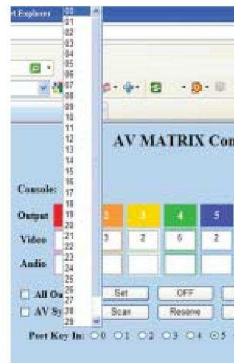


Figure 18

Console List	
Previous Next	
ID	Name
00	ANI-88C5CU
-	-
-	-
-	-
-	-
-	-
-	-
-	-
-	-

Figure 19

OPERATION EXAMPLES

LAN IP FUNCTION

Example 1: Switch the **NO.1** input signal to the **NO.2** output channel.

Key	LCD	Display Operation
	<p>HDMI MATRIX</p> <pre> OUT 1 2 3 4 5 6 7 8 EDID IN 0 0 0 0 0 0 0 0 FIX </pre>	1. Press the NO.2 key of the output channel, then the input channels will begin to flicker.
	<p>HDMI MATRIX</p> <pre> OUT 1 2 3 4 5 6 7 8 EDID IN 0 1 0 0 0 0 0 0 FIX </pre>	2. Press the NO.1 key of the Input channel.

Example 2: Switch the **NO.1** and **NO.2** input signals to each **NO.1** and **NO.2** output channels.

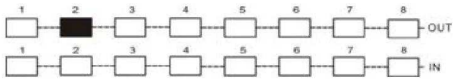
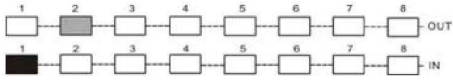

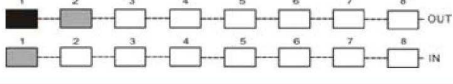


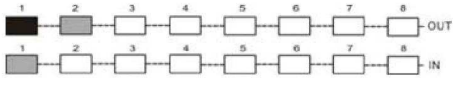
Key	LCD	Display Operation
	<p>HDMI MATRIX</p> <pre> OUT 1 2 3 4 5 6 7 8 EDID IN 0 0 0 0 0 0 0 0 FIX </pre>	1. Press the NO.1 key of the output channel, then the input channels will begin to flicker.
	<p>HDMI MATRIX</p> <pre> OUT 1 2 3 4 5 6 7 8 EDID IN 1 0 0 0 0 0 0 0 FIX </pre>	2. Press the NO.1 key of the Input channel.
	<p>HDMI MATRIX</p> <pre> OUT 1 2 3 4 5 6 7 8 EDID IN 1 0 0 0 0 0 0 0 FIX </pre>	3. Press the NO.2 key of the output channel, then the input channels will begin to flicker.
	<p>HDMI MATRIX</p> <pre> OUT 1 2 3 4 5 6 7 8 EDID IN 1 2 0 0 0 0 0 0 FIX </pre>	4. Press the NO.2 key of the Input channel.

Example 2: Switch the **NO.1** and **NO.2** input signals to each **NO.1** and **NO.2** output channels.

Key	LCD	Display Operation
	<p>HDMI MATRIX</p> <pre> OUT 1 2 3 4 5 6 7 8 EDID IN 0 0 0 0 0 0 0 0 FIX </pre>	1. Press the NO.2 key of the output channel, then the input channels will begin to flicker.
	<p>HDMI MATRIX</p> <pre> OUT 1 2 3 4 5 6 7 8 EDID IN 0 1 0 0 0 0 0 0 FIX </pre>	2. Press the NO.1 key of the Input channel.
<p>ALL → OFF</p>	<p>HDMI MATRIX</p> <pre> OUT 1 2 3 4 5 6 7 8 EDID IN 0 0 0 0 0 0 0 0 FIX </pre>	3. Press the ALL key on the front panel, and then press the OFF key to cancel all the settings.

OPERATION EXAMPLES CONT'D

Example 4: "STO" and "RCL" functions.

Key	LCD	Display Operation
	<pre> HDMI MATRIX OUT 1 2 3 4 5 6 7 8 EDID IN 0 0 0 0 0 0 0 0 FIX </pre>	1. Press the NO.2 key of the output channel, then the input channels will begin to flicker.
	<pre> HDMI MATRIX OUT 1 2 3 4 5 6 7 8 EDID IN 0 1 0 0 0 0 0 0 FIX </pre>	2. Press the NO.1 key of the Input channel.
STO 	<pre> HDMI MATRIX OUT Store Memory: EDID IN 1 2 3 4 5 6 7 8 FIX </pre>	3. Press the STO key on the front panel. The Store Memory begins to flicker about 8 seconds.
	<pre> HDMI MATRIX OUT Store Memory: EDID IN Save to 1 FIX </pre>	4. Press the NO.1 key of the output channel to save the setting in the NO.1 channel.
ALL → OFF 	<pre> HDMI MATRIX OUT 1 2 3 4 5 6 7 8 EDID IN 0 0 0 0 0 0 0 0 FIX </pre>	5. Press the ALL key on the front panel, and then press the OFF key to cancel the setting.
RCL 	<pre> HDMI MATRIX OUT Recall Memory: EDID IN 1 2 3 4 5 6 7 8 FIX </pre>	6. Press the RCL key on the front panel, The Recall Memory begins to flicker about 8 seconds.
	<pre> HDMI MATRIX OUT Recall Memory: EDID IN Load from 1 FIX </pre>	7. Press the NO.1 key of the output channel to Load the previously saving.

TROUBLESHOOTING

1. What to do if the HDMI matrix front panel keys are not responsive?

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

2. What to do if matrix does not display or color display is abnormal after hot plug?

Answer: Switching of the matrix system goes through the IC chips. If the voltage difference between the input signal equipment and the matrix equipment is too large, hot plug could easily cause damage to the IC chips. Please turn off power to the system before plugging or unplugging.

3. What to do if loss of color reproduction happens or no video signal output?

Answer: Please check if connectors at both ends of the HDMI signal cable are correctly connected.

4. What to do if the serial port (usually refer to the computer serial port) fails to control the HDMI matrix?

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.

5. What to do if the corresponding graphics fail to output during HDMI matrix 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) 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.

6. 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.

7. What to do if the LCD displays normally and the communication port has return code but no image output?

Answer:

- (1) It could be that the output/input connectors got loosen. Simply replace the connectors.
- (2) It could be the connection cable short-circuited. Simply replace the cable.
- (3) It could be the connection cable is broken. Simply replace the cable.

8. What to do if the HDMI matrix 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.

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

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

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

Answer: The equipment supports hot reaction function, when the inner temperature is over high, the equipment will shut down most of power automatically to avoid the damage happening until the temperature becomes suitable and implements continuity. This is only a preventive way to avoid the damage that comes from the bad fan and high temperature. The hot reaction function will not be enabled in normal situation.

HDMI CAT5 TRANSMITTER AND RECEIVERS



CAT5TX



**CAT5RXP
CAT5RXNP**

CAT5 TX AND RX FEATURES

- Support 480p / 720p / 1080i / 1080p
- HDTV resolution up to 1080p (8bit) / 95 ft. (CAT5)
- HDTV resolution up to 1080p (12bit) / 65 ft. (CAT6e)
- Compliant with the specification of HDMI 1.3.
- Support DDC & HDCP.
- Use CAT5 cable to install easily.

CAT5 TX AND RX SPECIFICATIONS

Function	CAT5TX	CAT5RXP	CAT5RXNP
Input Connector	1 HDMI A-Type Female	2 RJ-45 Female	2 RJ-45 Female
Output Connector	2 RJ-45 Female	1 HDMI A-Type Female	1 HDMI A-Type Female
Max. Resolution	1080p (12bit)		
Cable Distance	195 ft. (Max.)		
Power Adapter	DC 5V		NONE POWERED
Housing	Metal		
Weight	5 oz.		
Dimensions (LxWxH)	2.75 x 2 x 1 in.		

CAT5 TX AND RX INSTALLATION

1. Turn off the **SOURCE** and **DISPLAY**.
2. Connect the HDMI extension cable between the **SOURCE** and the "HDMI In" port of CAT5TX.
3. Connect the HDMI extension cable between the **DISPLAY** and the "HDMI Out" port of CAT5RX.
4. Connect the CAT5 cables between the CAT5TX "CAT5" DDC port and the CAT5RX "CAT5" DDC port of extender.
5. Connect the CAT5 cables between the CAT5TX "CAT5" Video port and the CAT5RX "CAT5" Video port of extender.
6. Connect the power cord and turn on the extender.
7. Turn on the **SOURCE** and **DISPLAY**.

HDMI CAT5 TRANSMITTER AND RECEIVERS CONT'D

CAT5 TX AND RX DIP SWITCH SETTINGS

Local SW Pin1, Pin2	De-Emphasis Level in mVpp	De-Emphasis Level in dB
On, On	1200	0
On, Off	850	-3
Off, On	600	-6
Off, Off	426	-9

Pin3: Equalization
 On: Enables
 Off: Disables

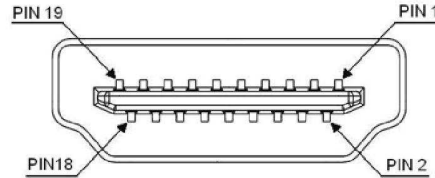
Remote SW Pin1, Pin2, Pin3	EQ (dB)
On, On, On	9
On, On, Off	14
On, Off, On	18
On, Off, Off	21
Off, On, On	24
Off, On, Off	26
Off, Off, On	28
Off, Off, Off	30

480p / 720p / 1080i 12bit (CAT5e)		
Cable Distance	Local SW : Pin1, Pin2, Pin3	Remote SW : Pin1, Pin2, Pin3
< 130 ft.	Off, Off, Off	On, Off, Off
> 130 ft.	Off, Off, On	Off, Off, On
1080p 12bit (CAT6e)		
50 ft.	On, On, On	On, On, On

EIA640 x 480p @ 60 8bit (CAT5e)		
Cable Distance	Local SW : Pin1, Pin2, Pin3	Remote SW : Pin1, Pin2, Pin3
195 ft.	On, On, On	Off, Off, Off
EIA1280 x 720p @ 60 8bit / EIA1920 x 1080i @ 60 8bit (CAT5e)		
Cable Distance	Local SW : Pin1, Pin2, Pin3	Remote SW : Pin1, Pin2, Pin3
< 130ft.	Off, Off, Off	On, Off, Off
> 130 ft.	Off, Off, Off	Off, Off, Off
EIA1280 x 720p @ 60 8bit / EIA1920 x 1080i @ 60 8bit (CAT5e)		
Cable Distance	Local SW : Pin1, Pin2, Pin3	Remote SW : Pin1, Pin2, Pin3
30 ft.	On, On, Off	On, On, On
65 ft.	On, On, Off	On, On, Off
130 ft.	On, On, On	On, Off, Off

HDMI CAT5 TRANSMITTER AND RECEIVERS CONT'D

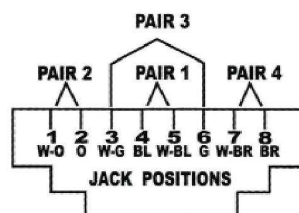
INPUT / OUTPUT SIGNAL



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	CEC
4	TMDS Data 1+	14	Reserved (N.C. on device)
5	TMDS Data 1 Shield	15	SCL
6	TMDS Data 1-	16	SDA
7	TMDS Data 0+	17	DDC/CEC Ground
8	TMDS Data 0 Shield	18	+5 Power
9	TMDS Data 0-	19	Hot Plug Detect
10	TMDS Clock+		

WIRING INFORMATION & CODING

Conductor Identification	RJ45 Pin Assignment	Color Code for Conductor
Pair 1	5	White-Blue
	4	Blue
Pair 2	1	White-Orange
	2	Orange
Pair 3	3	White-Green
	6	Green
Pair 4	7	White-Brown
	8	Brown



END OF DOCUMENT