

# Matrix Switcher



Model: **MAX-GA88A/P**



Model: **MAX-GA84A/P**

- With the 8 Input arrangements, any of the 8 video/audio sources can now be the selectively amplified and distributed with highly transparent even for high-resolution VGA modes like UXGA to any of the 8 display panels. It is ideal for presentation systems requiring 8 VGA sources with 8 difference display units.
- Compatible with all monitors, projectors, HDTV and flat panels displays.

rev.01112013

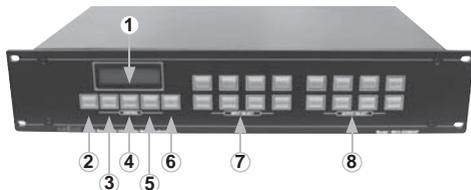
# User Operation Guide

## PRODUCT DESCRIPTION

The AbtUS **MAX-GA88A/P** Matrix is specially designed for computer and workstation applications. Up to 8 VGA/SVGA/XGA/UXGA graphic input can be split or route to any 1 or up to 8 output with no discernible signal degradation. State-of-the art power management circuitry makes MAX-GA88/AP the first choice signal distributor. With its high signal bandwidth of 900MHz identical high defined output can be achieved throughout.

### 1. FRONT PANEL VIEW

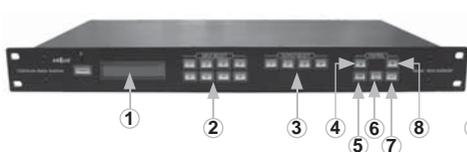
Model: **MAX-GA88A/P**



#### Item Description

1. LCD display which shows the current system status
2. "Fn" Function key, entering into setup menu
3. "Esc" selection
4. "Down" selection
5. "Enter" key
6. "Up" key
7. Input Channel Select, Selection of the input port 1 to 8
8. Output Channel Select, Selection of the output port 1 to 8

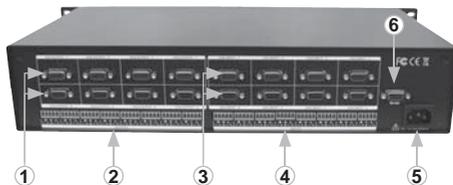
Model: **MAX-GA84A/P**



#### Item Description

1. LCD display which shows the current system status
2. Input Channel Select, Selection of the input port 1 to 8
3. Output Channel Select, Selection of the output port 1 to 4
4. "Fn" Function key, entering into setup menu
5. "Enter" selection
6. "Up" selection
7. "Down" key
8. "Esc" key

### 2. BACK PANEL VIEW



#### Item Description

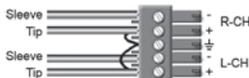
1. VGA 15pin Output port 1 to 8
2. Balanced/Unbalanced Audio Output port 1 to 8
3. VGA 15pin Input port 1 to 8
4. Balance/Unbalance Audio Input port 1 to 8
5. Power Input plug. Before plugging in the power, please check if power is AC 100~230V, 50/60Hz
6. RS-232 I/O control port



#### Item Description

1. Balance/Unbalance Audio Input port 1 to 8
2. Balanced/Unbalanced Audio Output port 1 to 4
3. VGA 15pin Output port 1 to 4
4. VGA 15pin Input port 1 to 8
5. RS-232 I/O control port
6. Power Input plug. Before plugging in the power, please check if power is AC 100~230V, 50/60Hz

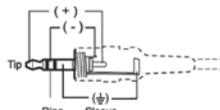
## BALANCED/ UNBALANCED AUDIO CONNECTIONS



Unbalanced Stereo Audio Input



Balanced Stereo Audio Input



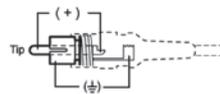
3.5mm Stereo Plug Connector



Unbalanced Stereo Audio Input



Balanced Stereo Audio Input



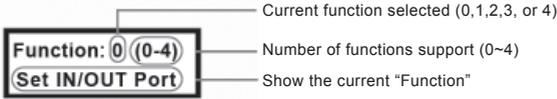
RCA Connector

## SYSTEM FUNCTION

### 3. FUNCTION: 0 FUNCTION MENU SETUP PAGE

#### (1) Entering "Setup Menu page"

To enter "Setup Menu" press the "Fn" button once, LCD Display will shows the function menu accordingly. Select the relevant function by using the "Up" and "Down" button and confirm selection by pressing the "Enter" button.



#### (2) Setting up the I/O port



Enter the setup menu page and select "Set IN/OUT Port" function and press "Enter". LCD display will show "Select IN/OUT Port:" By using the "Up" and "Down" button select the desire switching mode. i.e. Video/Audio, Video Only or Audio Only and confirm by pressing the "Enter" button. The LCD display will then show "IN, OUT" and the "Input Select"

buttons will be blinking. Select the desire Input port number by pressing the respective buttons. Once selected the LCD will display the respective Input port number and the buttons back light will stay ON. Select the desired Input and Output ports by pressing the Input and Output Channel Selection buttons or deselect by pressing the same button again.

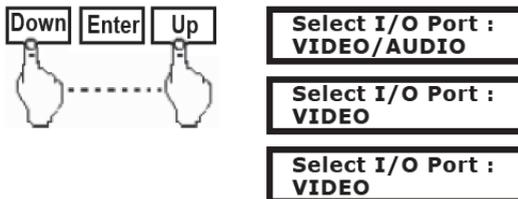
Steps are as followed:

#### ■ Example

1. Press "Fn" button to enter Setup Menu page, making use of the Up/Down button and move to "Set Input/Output Port" function and press "Enter"



2. Enter "Select I/O Port" function and again making use of the Up/Down button to select the Video and or Audio switching mode i.e. Video/Audio, Video Only or Audio Only.



3. The front panel "Input Select" buttons will be flashing waiting for selection.

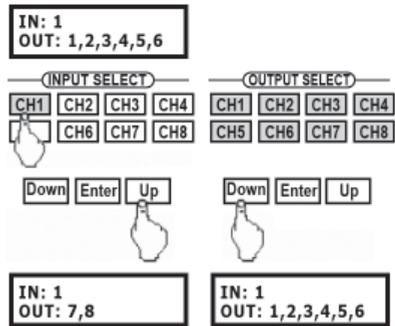


## SYSTEM FUNCTION

Assuming that the current setup is with Input port 1 routed to Output port 1 to 8.

Hence, if Input Select CH1 is pressed, all Output Port buttons from 1 to 8 will be lighted. And these Input/Output port number will also be shown on the LCD display accordingly.

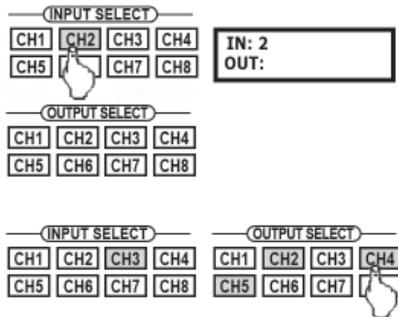
Therefore if any other Input Select Channel (Port 2 to Port 8) is selected the Output Select Buttons will NOT be lighted up. "Up" and "Down" can be used to scroll if Output select is more than 6



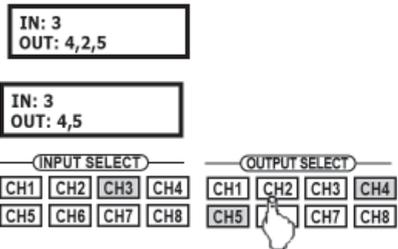
4. And NOW if Input Channel 2 is to be routed to Output port 2, 4, and 5. The settings up are as follows:

Select the "Input Select" button CH2 and select the "Output Select" Ch2, Ch4 and CH5. Back light for all selected buttons will stay ON.

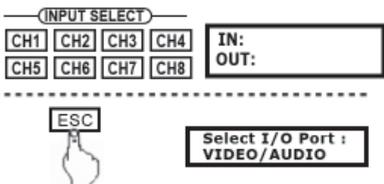
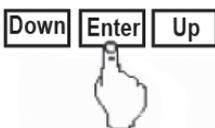
And these Input and Output port number will also be shown on the LCD display accordingly.



Press the respective button again to "Cancel" a selection when required, the respective button will go off together with the displayed port number on the LCD.



Then press the "Enter" button to confirm and store the setting. The LCD Menu display will then return to "IN, OUT" page and the "Input Select" buttons will now flashing waiting for selection. Repeat step number 3 to set another I/O routing or if different "Video" and or "Audio" channel switching model is required, press "Esc" to return to "Select I/O Port" page and repeat Step number 2.

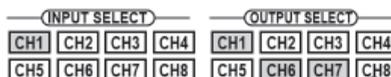
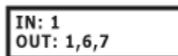


And just press the "Enter" button again if other I/O setting is required.

## SYSTEM FUNCTION

5. Now assuming that the setup is with Input Channel 1 routed to Output Channel 1, 3, 6, 7 and 8. To remove the output route "Output port" 3 and 8.

*Follows the steps as below:*



*Follows the steps as shown:*

6. Based on the above steps, press "Input Select" CH1 then followed by Output Select CH3 and CH8. The buttons will stay ON and LCD display will show the channel selected accordingly. Press "Enter" to confirm setting.

**Notes:** Setting will NOT be stored if "Fn" or "Esc" is pressed instead of "Enter". And all settings will remain as before.

### 4. FUNCTION 2: VOLUME ADJUST

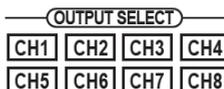
The Volume adjust function allows the user to set the Audio Output volume accordingly for every single port.

*Steps are as followed:*

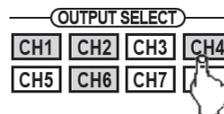
(1) Press "Fn" to enter Function Menu, making use of the Up/Down button and select "Volume Adjust" function and select Enter for confirmation.



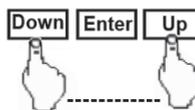
(2) In "Select Port:" Menu, "OUTPUT SELECT" buttons will be flashing, indicating that the system is waiting for a selection.



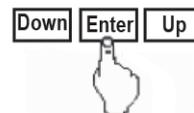
(3) Select the desired Output port by selecting from the OUTPUT SELECT buttons. Select 2→3→6→4 and press "Enter". The Output gain level will then be based on port 2 as reference.



(4) In the "Volume Level" Menu, use the Up/Down button and select the desired Volume level accordingly and press "Enter" once confirmed. The Volume level selected will then be stored accordingly.



The system will then return to "Select Port:" Menu and the "OUTPUT SELECT" buttons will be flashing again, indicating that the system is waiting for selection. Repeat step number 2 to select other ports.



To setup a new Volume Setting, returning to the "Volume Adjust:" function can be done by pressing "Esc" and repeat step number 2 accordingly.



**Notes:** Setting will NOT be stored if "Fn" or "Esc" is pressed instead of "Enter". And all settings will remain as before.

## SYSTEM FUNCTION

### 5. FUNCTION 3: SAVE PRESET

The "Save Preset" function allows user to store the Audio/Video routing configuration. A total of 10 different of such configuration can be stored which also has the availability of "Naming" each of these Preset accordingly.

Steps are as followed:

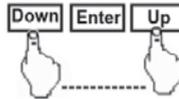
1. Press "Fn" to enter Function Menu, making use of the Up/Down button and select "Save Preset" function and select Enter for confirmation.



Function: 3 (0-4)  
Save Preset

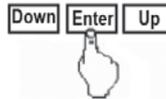
Function: 3 (0-4)  
Save Preset

2. In "Save to Preset" Menu, again making use of the Up/Down button and select the desired Preset number. The respective Preset number will be displayed on LCD display with "<empty>".



Save to Preset  
(1-10) : 1 <empty>

3. And press "Enter" to confirm the Preset Number selected. A cursor will appear flashing indicate that the system is waiting user to "Name" the Preset selected. A total of 5 characters can be entered accordingly with the use of the Up/Down button.



Save to Preset  
(1-10) : 1 █



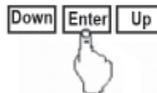
Save to Preset  
(1-10) : 1 R

Press "Fn" to back space when required



Save to Preset  
(1-10) : 1 R █

4. Last press "Enter" to confirm the Preset Name. the "Preset" will be stored and the system will return to the Main Menu page as shown.



Save to Preset  
(1-10) : 1 ROOM 1

Matrix VGA 8 X 8

## SYSTEM FUNCTION

### 6. FUNCTION 4: RECALL PRESET

The "Recall Preset" function allows user to recall a stored Audio/Video routing configuration preset. A total of 10 different of such configuration can be stored and recalled base on the setting which also make easy identification with its different "Naming" for each of these Preset accordingly.

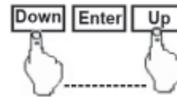
*Steps are as followed:*

1. Press "Fn" to enter Function Menu, making use of the Up/Down button and select "Recall Preset" function and select Enter for confirmation.



**Function: 4 (0-4)  
Recall Preset**

2. In "Load from Preset" Menu, making use of the Up/Down button and select the desire Preset number. The respective Preset number will be displayed on LCD display together with the Preset Name "e.g.ROOM1" accordingly. Press "Enter" to confirm selection.



**Function: 4 (0-4)  
Recall Preset**

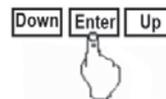
**Load from Preset  
(1-10) : 1 ROOM1**

When a "empty" shown with a Preset, this indicates that there is no Preset function stored in the selected Preset Number.



**Load from Preset  
(1-10) : 2 <empty>**

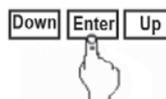
3. Press "Enter" once a selection is confirmed and the system will execute the function and display will return to it's main Menu as shown. If "Enter" is press within a "<empty>" Preset number, the system will ONLY sound with a beep tone indicating an error operation.



**Load from Preset  
(1-10) : 1 ROOM1**

**Matrix VGA 8 X 8**

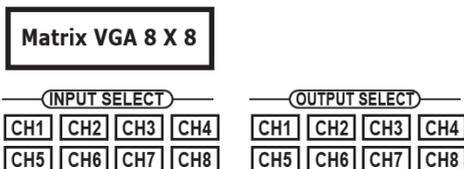
If "Enter" is press within a "<empty>" Preset number, the system will ONLY sound with a beep tone indicating an error operation.



**Load from Preset  
(1-10) : 2 <empty>**

## SYSTEM FUNCTION

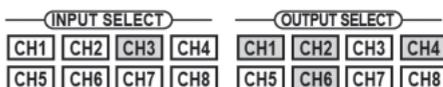
### 7. STATUS DISPLAY AND TEMPORALLY MUTING THE I/O ROUTING SETTING



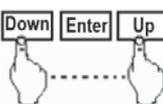
Steps are as followed:



- Assume that the current routing setting is Video/Audio Input port 3 to Video/Audio Output port 1, 2, 4 and 6. In the main Menu, Pressing the "INPUT SELECT" CH3 or "OUTPUT SELECT" CH1, CH2, CH4 or CH6 the status display will be shown accordingly and the respective button will stays ON



- In the main Menu, use the Up/Down button to select the "VIEW" function and press "Enter" to confirm



- Within the "VIEW" Menu, use the Up/Down button again to select the desired Video/Audio, Video ONLY or Audio ONLY channel to be "Viewed"

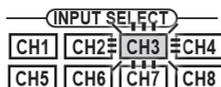
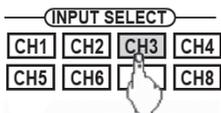


- If a temporally muting of routing is required. One can select the desired routing mode i.e. VIDEO/AUDIO for both Video and Audio channel together, VIDEO for Video ONLY or AUDIO for Audio ONLY by using the Up/Down button as above.

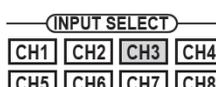
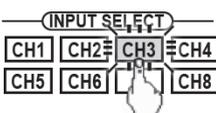
Then press and hold the desired Input or Output channel directly from the front panel "INPUT SELECT" or "OUTPUT SELECT" respectively for 1 to 2 sec. The respective channel will be temporary "MUTE" and the button will now stay flashing after two beeps.

#### Example:

To temporary "MUTE" the Video and Audio of the Input channel 3, in "VIEW" Menu select "VIDEO/AUDIO" mode. Then press and hold the "INPUT SELECT" button CH3 for 1 to 2 sec till a two beeps sound is heard. Now both the Video and Audio are temporary "MUTE" and the "INPUT SELECT" CH3 button will be flashing



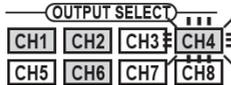
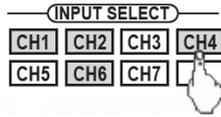
Cancellation of the "MUTE" can be done by press and hold the same button for 1 to 2 sec again till two beeps sound is heard. The button will stay ON



## SYSTEM FUNCTION

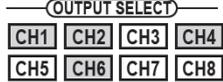
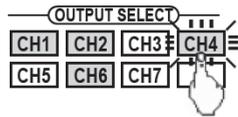
To temporary "MUTE" the Video/Audio of the Output channel 4, in "VIEW" Menu select "VIDEO/AUDIO" mode. Then press and hold the "OUTPUT SELECT" button CH4 for 1 to 2 sec till a two beep sound is heard. Now both the Video and Audio are temporary "MUTE" and the "OUTPUT SELECT" CH4 button will be flashing

**VIEW : VIDEO/AUDIO**  
Use Preset : --



Cancellation of the "MUTE" can be done by press and hold the same button for 1 to 2 sec again till two beeps sound is heard. The button will stay ON

**VIEW : VIDEO/AUDIO**  
Use Preset : --



**VIEW : VIDEO/AUDIO**  
Use Preset : --

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**VIEW : VIDEO/AUDIO**  
Use Preset : 2

The 'Use Preset :' within the "VIEW" Menu indicates that the system is set to rout according to the Preset stored.

"Use Preset : 2" means that there is a "Recall Preset" done and the system is now routing base of the stored preset number 2

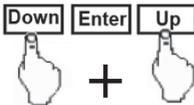
**Notes:** All "temporarily mute" setting will be reset once any of the following is performed:

1. Power reset
2. "Set IN/OUT" setting
3. "Gain Adjust"
4. "Volume Adjust"

## 8. PANEL LOCK AND UNLOCK

Panel lock, disable the use or control from all the front panel buttons. In Main Menu, press and hold both Up and Down button for 1 to 2 sec till two beep sound is heard. And a "Panel Lock" will be displayed accordingly as shown.

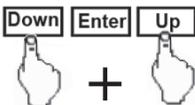
**Matrix VGA 8 X 8**



**Matrix VGA 8X8**  
Panel Lock

Cancellation of "Panel Lock" can be done by press and hold the Up/Down button again for 1 to 2 sec till two beeps sound is heard. The "Panel Lock" will go off accordingly.

**Matrix VGA 8X8**  
Panel Lock



**Matrix VGA 8 X 8**

**Notes:** The "Panel Lock" will also be disable once a power reset is performed

## SYSTEM FUNCTION

### 9. SYSTEM INITIAL

This will allow the system to be reset to factory preset mode.

**SYSTEM INITIAL**

*Steps are as followed:*

1. Remove the AC power source
2. Press and hold "INPUT SELECT" button CH1 and CH3
3. Then apply AC power source

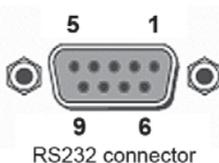
The LCD Display will show "SYSTEM INITIAL" indicating the system is now back to initial setting and it will then return to "Main Menu"

### RS-232 Protocol and Control Command

#### (1) Parameter setting

Baud Rate: 9600 bps  
 Data Length: 8 bits  
 Parity: Non parity  
 Stop bit: One bit  
 X on/off: None

#### (2) RS-232 Connection



Pin		Function
1	-	Not used
2	TX	Transmit data
3	RX	Receive data
4	-	Not used
5	Gnd	Signal ground
6	-	Not used
7	-	Not used
8	-	Not used
9	-	Not used

#### (3) RS-232 Command Code

Item	Function	Command Code	Return Code
1	Power on	SETC10P31	RETC10P31
2	Power off	SETC10P30	RETC10P30
3	Panel on	SETC10L31	RETC10L31
4	Panel off	SETC10L30	RETC10L30
5	Video Source Select.	SETC60S3xxxxyy xxx is input source. xxx = 001, 002,... yyy is output source. yyy = 001, 002,...	RETC60S3xxxxyy xxx is input source. xxx = 001, 002,... yyy is output source. yyy = 001, 002,...
6	Audio Source Select.	SETC60g3xxxxyy xxx is input source. xxx = 001, 002,... yyy is output source. yyy = 001, 002,...	RETC60g3xxxxyy xxx is input source. xxx = 001, 002,... yyy is output source. yyy = 001, 002,...
7	Video/Audio Source Select.	SETC60j3xxxxyy xxx is input source. xxx = 001, 002,... yyy is output source. yyy = 001, 002,...	RETC60j3xxxxyy xxx is input source. xxx = 001, 002,... yyy is output source. yyy = 001, 002,...
8	Turn off video channel	SETC40m3zxxx z is in/out port setting. z = 0, setting output z = 1, setting input xxx is port select. xxx = 001, 002,...	RETC40m3zxxx z is in/out port setting. z = 0, setting output z = 1, setting input xxx is port select. xxx = 001, 002,...

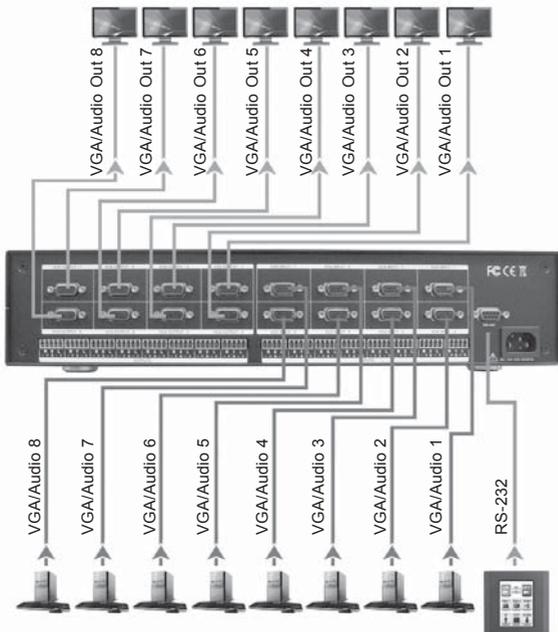
## SYSTEM FUNCTION

Item	Function	Command Code	Return Code
9	Turn off audio channel	SETC40n3zxxx z is in/out port setting. z = 0, setting output z = 1, setting input xxx is port select. xxx = 001, 002,...	RETC40n3zxxx z is in/out port setting. z = 0, setting output z = 1, setting input xxx is port select. xxx = 001, 002,...
10	Turn off video/audio channel	SETC40p3zxxx z is in/out port setting. z = 0, setting output z = 1, setting input xxx is port select.	RETC40p3zxxx z is in/out port setting. z = 0, setting output z = 1, setting input xxx is port select
11	Volume Level Setting	SETC70V30xxxyyy xxx is output port. xxx = 001,002,... yyy is volume level. yyy = 001,002,... if xxx = 000, indicates that Volume Level will take effect on all the Audio Output Port.	RETC70V30xxxyyy xxx is output port. xxx = 001,002,... yyy is volume level. yyy = 001,002,... if xxx = 000, indicates that Volume Level will take effect on all the Audio Output Port.
12	Volume Level Up/Down	SETC50r30xxxy xxx is output port. xxx = 001,002,... y is up/down setting. y = 0, Volume up y = 1, Volume down if xxx = 000, indicates that Volume Level will take effect on all the Audio Output Port.	RETC70V30xxxy xxx is output port. xxx = 001,002,... y is up/down setting. y = 0, Volume up y = 1, Volume down if xxx = 000, indicates that Volume Level will take effect on all the Audio Output Port.
13	Load Preset Item	SETCe3xxx xxx is load item. xxx = 001, 002,...	1. When there is the "Preset" stored. RETC30e3xxx xxx is load item xxx = 001, 002,...
			2. When there isn't any "Preset" stored. RETC0!
14	Factory reset	SETC00U0	RETC00U0
15	Get Power State.	SETC01P3	RETC11P3x x is power state x = 0, is power off x = 1, is power on.
16	Get Panel Lock state.	SETC01L3	RETC11L3x x is panel lock state x = 0, is panel unlock x = 1, is panel lock.
17	Get volume level.	SETC41V30xxx. xxx is port select. xxx = 001, 002,...	RETC71V30xxxyyy xxx is select port. xxx = 001, 002, ... yyy is volume level. yyy = 001, 002,...
18	RS-232 control code no support		RETC0!

## SPECIFICATIONS

<b>INPUT:</b>	8 × VGA D-Sub 15 pin Female connector, 8 × 3.5mm block connector for balance/ un-balance audio
<b>OUTPUT:</b>	8 × VGA D-Sub 15 pin Female connector, 8 × 3.5mm block connector for balance/ un-balance audio
<b>COM PORT:</b>	1 × 9 pin D-Sub Female connector
<b>BANDWIDTH:</b>	(-3dB) 900MHz
<b>MAX RESOLUTION:</b>	1600 × 1200
<b>SIGNAL TYPE:</b>	VGA, SVGA, XGA, UXGA, Multi sync
<b>CABLE LENGTH (INPUT):</b>	1 to 3 meter
<b>CABLE LENGTH (OUTPUT):</b>	1 to 50 meter (*Depending on cable rating)
<b>HOUSING:</b>	Metal
<b>ACCESSORIES:</b>	Power cord
<b>POWER SOURCE:</b>	100 to 240 VAC, 50/60Hz
<b>GROSS DIMENSION:</b>	570 x 390 x 230 mm
<b>GROSS WEIGHT:</b>	6 kg

Configuration Diagram:



ABtUS  
MAX-GA88A/P  
(back view)

**ABtUS**  
S I N G A P O R E

\*\* For details and updated RS-232 Command and Program Software, please visit and download from [www.abtussingapore.com](http://www.abtussingapore.com)