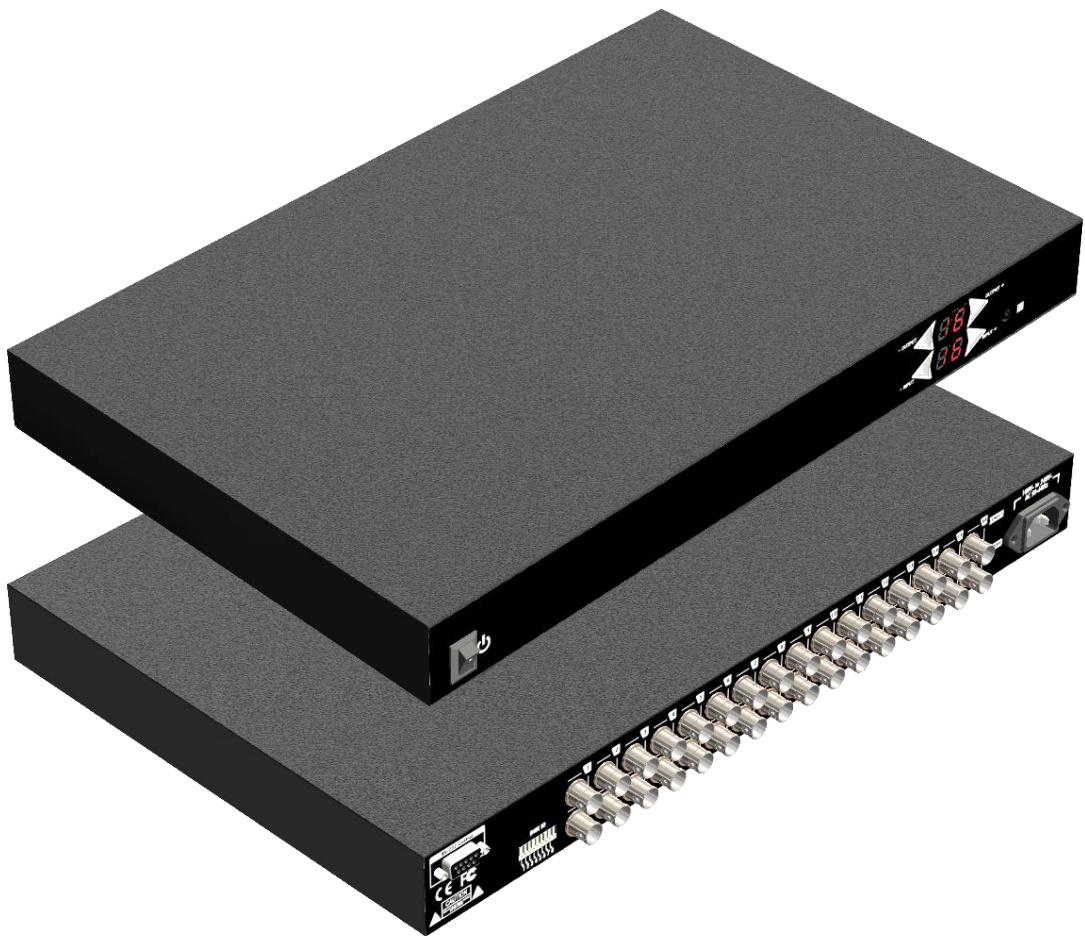




16x16 3G/HD/SD-SDI Matrix



P/N: AV-GM0703-S1



Safety and Notice

The AV-GM0703-S1 16x16 3G/HD/SD-SDI Matrix has been tested for conformance to safety regulations and requirements, and has been certified for international use. However, like all electronic equipments, the AV-GM0703-S1 should be used with care. Please read and follow the safety instructions to protect yourself from possible injury and to minimize the risk of damage to the unit.

- Follow all instructions and warnings marked on this unit.
- Do not attempt to service this unit yourself, except where explained in this manual.
- Provide proper ventilation and air circulation and do not use near water.
- Keep objects that might damage the device and assure that the placement of this unit is on a stable surface.
- Use only the power adapter and power cords and connection cables designed for this unit.
- Do not use liquid or aerosol cleaners to clean this unit. Always unplug the power to the device before cleaning.



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INTRODUCTION

The **AV-GM0703-S1 16x16 3G/HD/SD-SDI Matrix** provides the most flexible and cost effective solution in the market to route 3Gbps high definition video sources from any of the sixteen SDI sources to the any eight SDI receivers at the same time. This solution is well suited for use in home theater, conference room presentation systems, or other similar setting or application.

FEATURES

- Inputs meet SMPTE 259M, 292M, 424M, 425M
- Allows any SDI display to view any SDI source at any time
- Auto-Reclocking
- The matrix master can switch every output channels to any SDI inputs by push-in button, IR remote controller or RS-232 control
- Easy installation with rack-mounting and wall-mounting designs for master and receiver respectively

PACKAGE CONTENTS

- 1x AV-GM0703-S1
- 1x BNC Terminator Plug
- 1x Rack-mounting ear set
- 1x Installation software CD
- 1x UL AC C13 power cord
- 1x IR Remote control
- 1x User Manual

SPECIFICATIONS

Model Name	AV-GM0703-S1	
Technical		
Role of usage	True 16x16 matrix	
Video bandwidth	2.97 & 2.97/1.001Gbps	
Video support	[3G] 1080p@50/59.94/60 (4:2:2) [HD] 720p50/59.94/60, 1080p24/30, 1035i50/59.94/60, 1080i50/59.94/60 [SD] NTSC@59.94Hz, PAL@50Hz	
Audio support	Yes	
Cable equalization	[3G] up to 100m(300ft) / [HD-SDI] up to 150m (500ft) / [SD-SDI] up to 300m (1000ft)	
Reclocking function	Yes	
PCB stack-up	4-layer board [impedance control — differential 100Ω; single 50Ω]	
Input	16x SDI BNC + 1x Synchronized BNC + 1x RS-232	
Output	16x SDI BNC + 1x Synchronized BNC loop-out	
SDI Input selection	Push button / IR remote / RS-232	
IR remote control	Electro-optical characteristics: $\tau = 25^\circ$ / Carrier frequency: 38kHz	
RS-232 connector	DE-9 [9-pin D-sub female]	
Mechanical		
Housing	Metal case	
Dimension s [L x W x H]	Model	440 x 280 x 42mm [1'5" x 0.9" x 1.3"]
	Package	513 x 456 x 144mm [1'7" x 1'5" x 5.6"]
	Carton	535 x 320 x 495mm [1'8" x 1' x 1'6"]
Weight	Model	4051g [8.9 lbs]
	Package	4900g [10.8 lbs]
Fixedness	Interlocking power supply	
Power supply	AC Power 100-240V	
Power consumption	35 Watts [max]	
Operation temperature	0~40°C [32~104°F]	
Storage temperature	-20~60°C [-4~140°F]	
Relative humidity	20~90% RH [no condensation]	

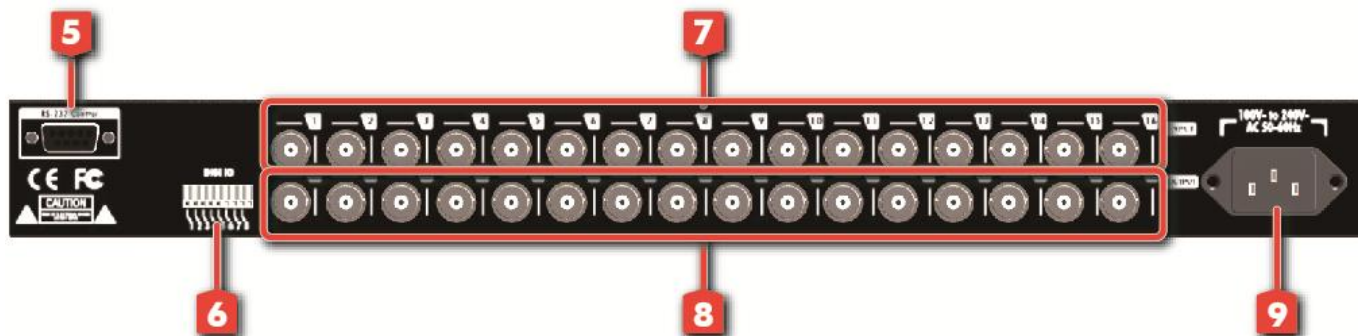
PANEL DESCRIPTIONS

Front Panel



1. **Power Switch:** Power ON/OFF switch
2. **Output Push Buttons & 7-segment LED Indicators:** Front panel push buttons used to select the number of display channel & LED display for output ports
3. **Input Push Buttons & 7-segment LED Indicators:** Front panel push buttons used to select the number of input source & LED display for input channels
4. **IR sensor:** IR sensor for receiving the IR commands from IR remote

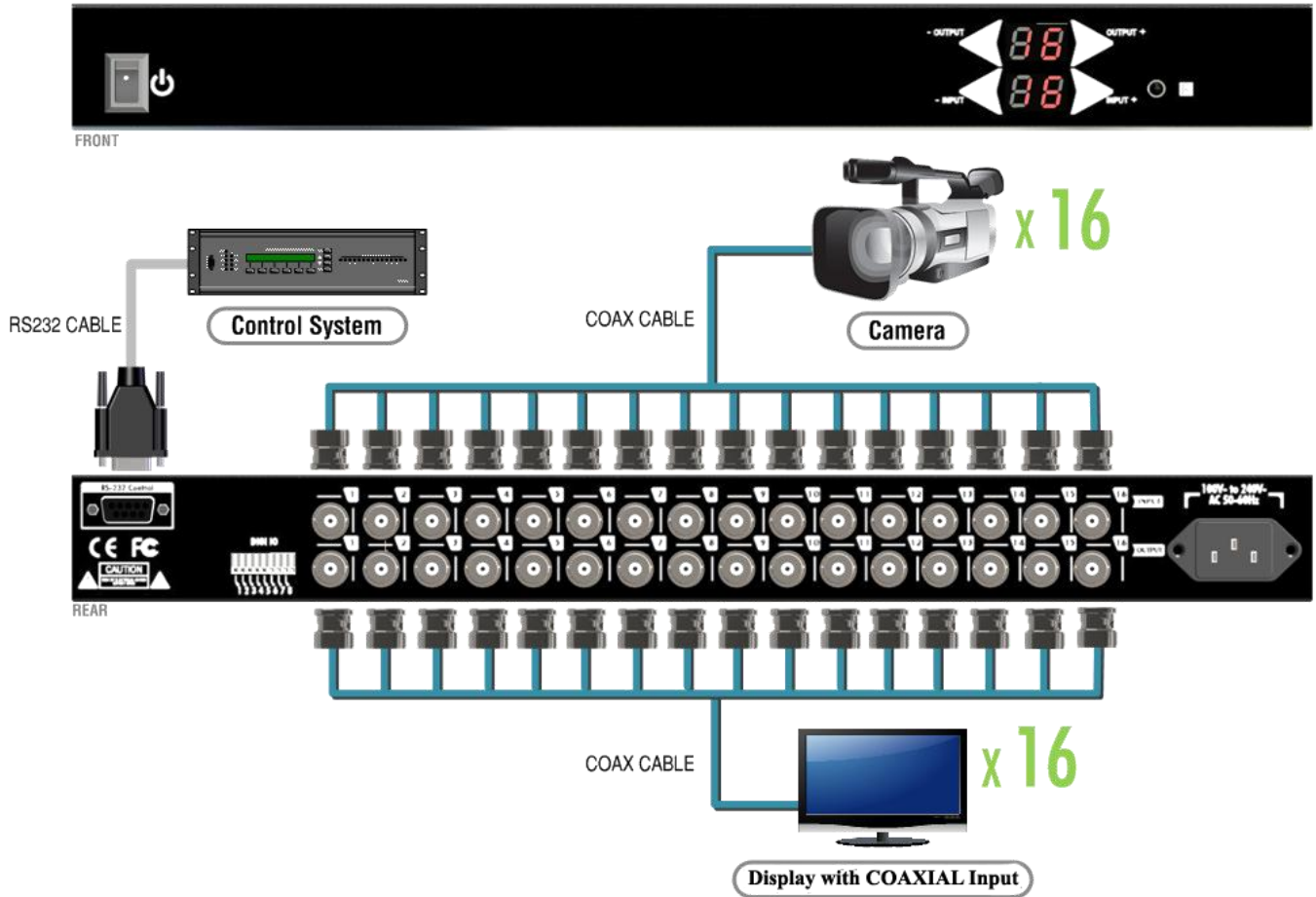
Rear Panel



5. **RS-232:** RS-232 control port
6. **Digital I/O:** Control signal
7. **INPUT PORT 1 –16:** SDI inputs
8. **OUPUT PORT 1–16:** SDI outputs
9. **AC Power:** 100-240V

CONNECTION DIAGRAM

➔ COAXIAL
➔ RS-232



HARDWARE INSTALLATION

AV-GM0703-S1

1. Connect all sources to SDI Inputs on the 16x16 SDI matrix
2. Connect all outputs to SDI Receiver
3. Connect the AC power supply to the 16x16 SDI matrix
4. Power on the 16x16 SDI matrix AV-GM0703-S1

OPERATION APPROACH

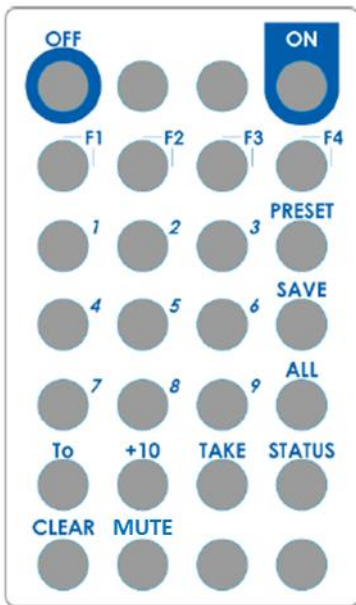
Method A: Push-in Button





➤ IN/OUT Mapping

- (1) Use the "+" or "-" output push button to select the number of display
 - (2) Use the "+" or "-" input push button to select the number of input source
 - "+": change selected input/output port in ascending order
 - "-": change selected input/output port in descending order
- After few seconds, the setting will be active.

Method B: IR Remote Control



Button	Function
ON	Mute off the video output
OFF	Mute the video output
F1, F2, F3, F4	Reserved Buttons
Route input to output	output port number + To + input port number + Take Select I/O 10, choos  Select I/O 11-16, choos  + (1-6)
Preset Mapping	Number + Preset + Take [Memory 6 sets of configuration]
Save Mapping	Number + Save + Take [Memory 6 sets of configuration]
ALL	Input Port number + To + All output port + Take
STATUS	Output port number + Status + Take
CLEAR	Clear the remote setting
Mute	Output port number + Mute + Take

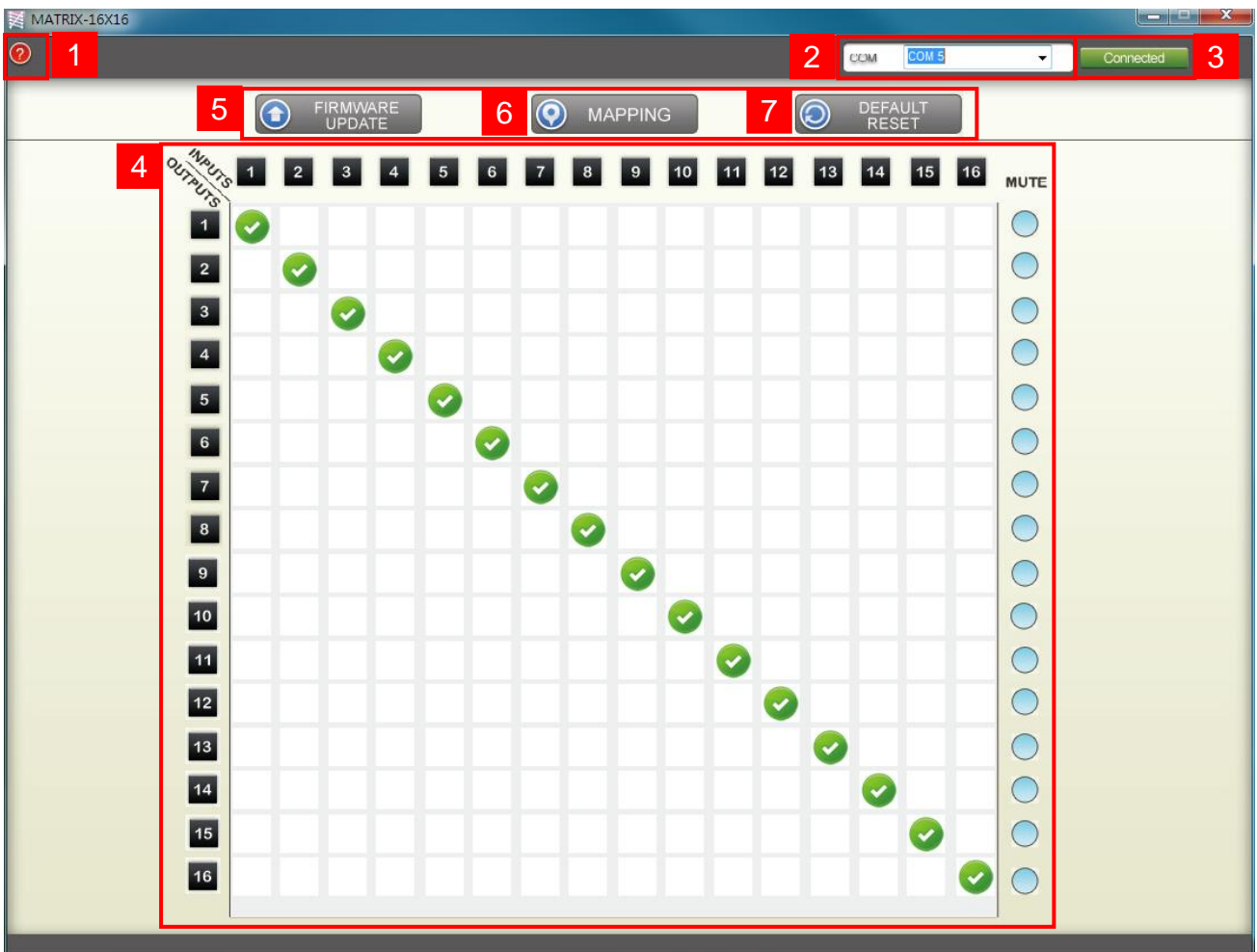
Method C: Software Control through RS-232 port

System Requirements and Precautions

1. Whenever power off AV-GM0703-S1, please stay unpowered at least 5 to 10 seconds to allow power capacitors to discharge.
2. The AV-GM0703-S1 provides software control program under Microsoft Windows XP, 7, 8 through the interface of RS-232 control port
3. Before you click on the icon of the software, make sure you have secured the connection between your computer RS-232 port and the AV-GM0703-S1.

Start the software control program

When clicking on the executable file, the following dialog will pop-up (under Microsoft Windows 7, please run as administrator).



Control Interface

1. Info
Read the software version.
2. COM Port selection
Use RS-232 cable to connect the port on device and computer. Select correct COM port and click the button.

3. Connection Status

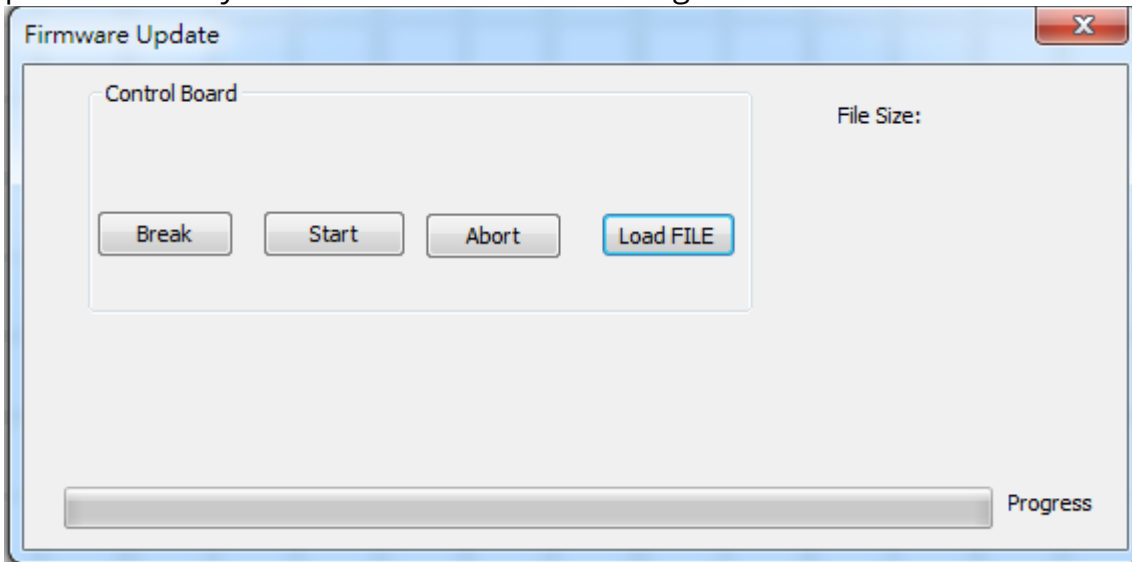
Show the connect status (Connected or Disconnected).

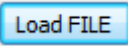
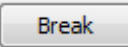

4. In/Out switch panel

For each output, you can assign arbitrary video source or mute output video here.

5. Firmware Update

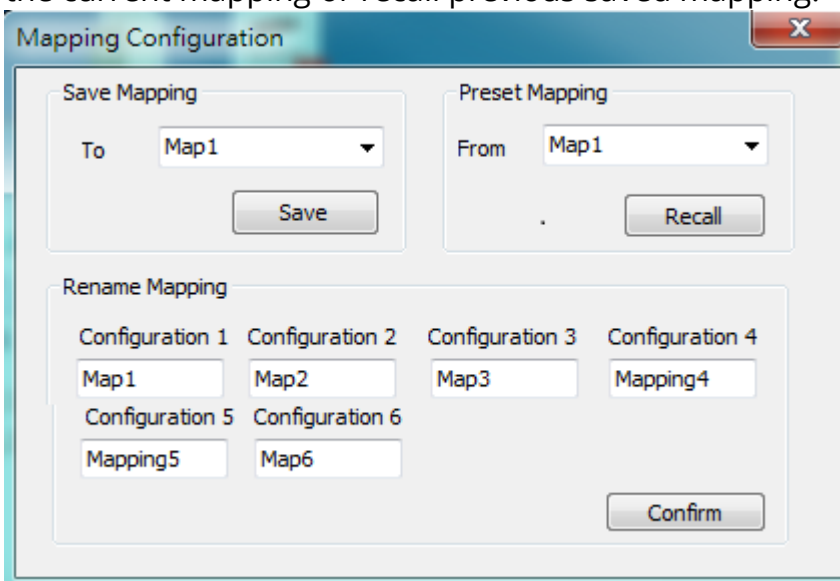
The "Firmware update" window shows up as below. Before firmware update process, please ensure your RS-232 cable is connecting and the status is "CONNECTED".



- Click  button to select the firmware file which you want to update.
- Click  button.
- Recycle power.
- Click  button and the firmware will start to update.

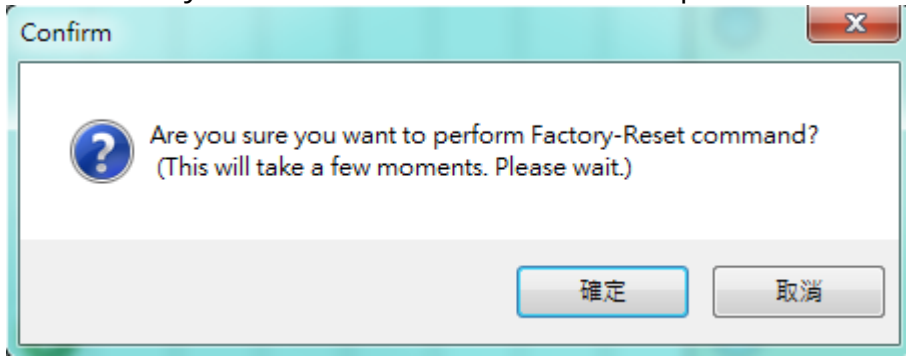
6. Mapping

Save/Recall the Mapping Configuration. In this part, you can rename the mapping, save the current mapping or recall previous saved mapping.



7. Default Reset

To do factory default reset. This default reset process will take about 10 seconds.



Method D: Terminal control:

Baud rate: 9600

Data length: 8bit

Parity check: No

Stop bit: 1

Command Set:

COMMAND	ACTION
ST + 0x0d	Show all mapping
PON + 0x0d	Power on the device
POFF + 0x0d	Power off the device
MUTE + number (ASCII) + 0x0d	Mute output video
VR + 0x0d	Show the firmware version
P + number (ASCII) + I + number (ASCII) + 0x0d	Switch I/O mapping
SMAP + number (ASCII) + 0x0d	Save mapping
LMAP + number (ASCII) + 0x0d	Recall mapping
WHO + 0x0d	Show the model no.
FSET## + 0x0d	Factory reset

LIMITED WARRANTY

The SELLER warrants the **AV-GM0703-S1 16x16 3G/HD/SD-SDI Matrix** to be free from defects in the material and workmanship for 3 years from the date of purchase from the SELLER or an authorized dealer. Should this product fail to be in good working order within 3 years warranty period, the SELLER, at its option, repair or replace the unit, provided that the unit has not been subjected to accident, disaster, abuse or any unauthorized modifications including static discharge and power surge. This warranty is offered by the SELLER for its BUYER with direct transaction only. This warranty is void if the warranty seal on the metal housing is broken.

Unit that fails under conditions other than those covered will be repaired at the current price of parts and labor in effect at the time of repair. Such repairs are warranted for 90 days from the day of reshipment to the BUYER. If the unit is delivered by mail, customers agree to insure the unit or assume the risk of loss or damage in transit. Under no circumstances will a unit be accepted without a return authorization number.

The warranty is in lieu of all other warranties expressed or implied, including without limitations, any other implied warranty or fitness or merchantability for any particular purpose, all of which are expressly disclaimed.

Proof of sale may be required in order to claim warranty. Customers outside Taiwan are responsible for shipping charges to and from the SELLER. Cables and power adapters are limited to a 30 day warranty and must be free from any markings, scratches, and neatly coiled.

The content of this manual has been carefully checked and is believed to be accurate. However, The SELLER assumes no responsibility for any inaccuracies that may be contained in this manual. The SELLER will NOT be liable for direct, indirect, incidental, special, or consequential damages resulting from any defect or omission in this manual, even if advised of the possibility of such damages. **Also, the technical information contained herein regarding the AV-GM0703-S1 v1.2/v1.3 features and specifications is subject to change without further notice.**

Support

For more info or tech support
<http://www.siig.com/support>

