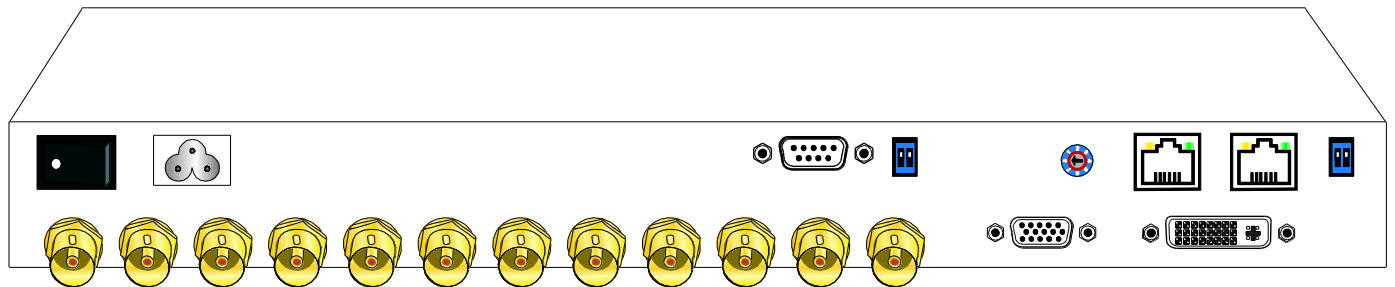




# 3G/HD/SD-SDI Quad-view Video Processor



P/N: AV-GM08K3-S1S



## Safety and Notice

The **AV-GM08K3-S1S Professional 3G-SDI Quad-View Video Processor** has been tested for conformity to safety regulations and requirements, and has been certified for international use. However, like all electronic equipments, the AV-GM08K3-S1S 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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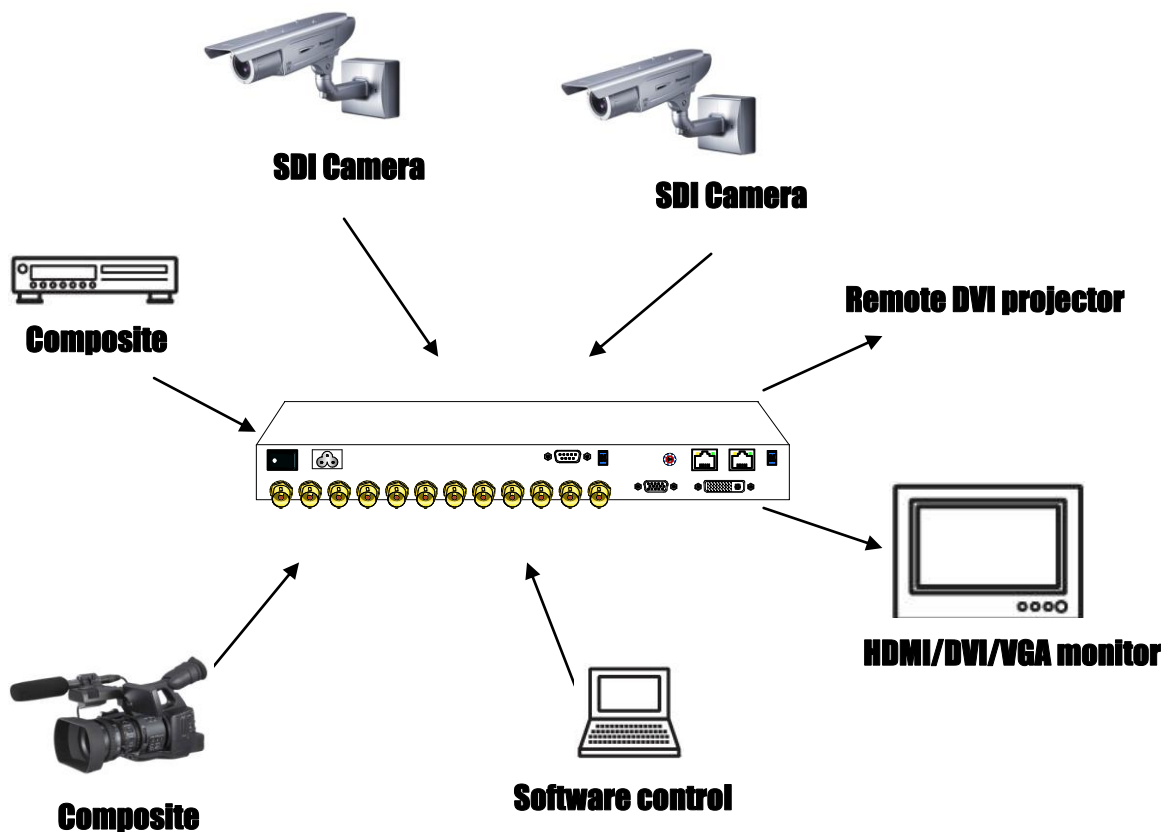
## General

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The AV-GM08K3-S1S Professional 3G-SDI Quad-View Video Processor is an advanced video processor for multimedia presentations. It is an ideal solution for some applications such as surveillance, where up to four SDI/CVBS video signals must be displayed on a single display. It supports up to 4 SDI/CVBS video inputs, of which four can be outputted simultaneously with the desired display layout through software control. AV-GM08K3-S1S can automatically detect 3G/HD/SD SDI or CVBS from the inputs and the advanced video processor allows you to manipulate output images, wherever positions and whatever sizes you want for viewing two computers or two video signals or a combination.

The embedded processor converts signals from input sources to match the native resolution of monitors, flat panel displays, projectors as well as user-selectable output settings up to WUXGA (1920x1200). Dual outputs are provided in both analog (VGA) and digital (DVI) format, one is connected to remote display and the other is connected to on-site display for real time monitoring.

**Figure 1: Configuration Diagram**



# Features

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- Supports 3G/HD/SD SDI video formats
- Input resolutions support interlaced or progressive video under SMPTE.
- Dual outputs (DVI / VGA), 640x480 to 1920x1200.
- Each SDI channel has 2 re-clocked SDI loop-outs for cascading.
- Adjustable size& position through software.
- Dynamic transition for video sizing and positioning
- Titles, borders and colored backgrounds.
- Resize, position, zoom& pan and blend output video.
- Image parameters and layouts are automatically saved in flash memory and can be recalled for later use.
- Several Image parameters and layouts can be saved in computers and can be loaded for later use.
- Video parameters adjustable (brightness, contrast, color temperature, etc.).
- User-selectable output settings, up to 1920x1200.
- Perfectly as a video screen splitter, a video converter and a video switcher.
- Firmware upgradable for support of new features and technology enhancements.
- Software control through RS-232/RS-485 over Cat.X.
- Can be cascaded to obtain more images using RS-485 control path
- Control protocol available for customer proprietary design
- 1U size.

# Specifications

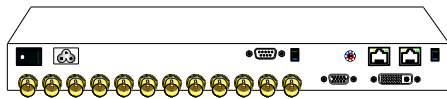
Model Name		AV-GM08K3-S1S	AV-GM08K3-S1P
<b>Technical</b>			
Role of usage		Multiplexer / video processor	
Dual output support		Yes [DVI & VGA]	
Background video input		No	Yes
HDCP compliance		Yes	
Video bandwidth		Composite [13.5MHz] SDI [2.97Gpbs & 2.97/1.001Gpbs]	DVI/HDMI[Single-link 4.95Gbps] VGA[165MHz] Component [30MHz] Composite [13.5MHz] S-Video [13.5MHz]
Video support		480i / 576i / 720p / 1080i / 1080p	480i / 480p / 720p / 1080i / 1080p60 / 1920x1200@75 / 1600x1200@60
Audio support		No	
Control		RS-232 and RS-485	
Embedded video mixer		Yes	
Cascadable		Yes	
Input TMDs signal		N/A	1.2 Volts [peak-to-peak]
ESD protection		Human body model — ±19kV [air-gap discharge] & ±12kV [contact discharge]	
PCB stack-up		6-layer board [impedance control — differential 100Ω; single 50Ω]	
Input		4x SDI or CVBS + 1x RS-232 + 1x RS-485	4x VGA + 4x DVI + 4x component + 4x composite + 4x S-Video + 1x RS-232 + 1x RS-485
Output		8 x SDI Loop-out + 1x DVI + 1x VGA	1x DVI + 1x VGA
DVI connector		DVI-I [femal,29-pin]	
BNC connector		75Ω inter-locked socket	
S-Video connector		9 pin	
VGA connector		HD-15 [15-pin D-sub female]	
RS-232 connector		DE-9 [9-pin D-sub female]	
RCA connector		75Ω female	
RJ-45 connector		WE/SS 8P8C with 2 LED indicators	
<b>Mechanical</b>			
Housing		Metal enclosure	
Dimensions (L x W x H)	Model	300 x 440 x 44mm [11.8" x 1'5.3" x 1.7"]	
	Package	528 x 398 x 130mm [1'9" x 1'4" x 5.1"]	
	Carton	548 x 422 x 282mm [1'10" x 1'5" x 11.1"]	
Weight	Model	3800g [8.4 lbs]	3847g [8.5 lbs]
	Package	5900g [13.0 lbs]	5000g [11 lbs]
Fixedness		1RU rack-mount with ears	
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]	
Package Contents	1x AV-GM08K3-S1S 1x USB to RS-232 cable 2x 1U rack mounting-ear 1x Installation software CD 1x UL AC power cord 1x User Manual	1xAV-GM08K3-S1P 4x DVI to DVI&VGA breakout cable 4x VGA to component breakout cable 4x DVI to VGA adapter 1x USB to RS-232 cable 2x 1U rack mounting-ear 1x Installation software CD 1x UL AC power cord 1x User Manual

## Package Contents

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1. AV-GM08K3-S1S



2. RS-232 to USB Adapter



3. 1U Rack Mounting-Ear

4. UL AC power cord



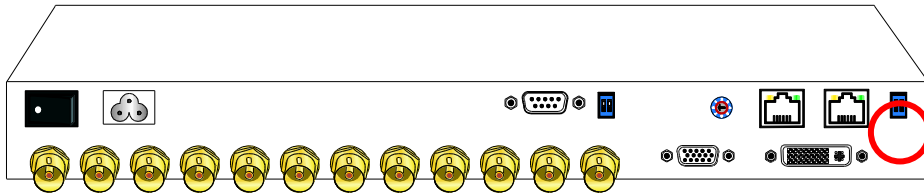
5. Installation CD

6. User Manual

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# Inputs and Outputs

The AV-GM08K3-S1S has 4 SDI or CVBS inputs and user can display four of them simultaneously on the same screen. Figure 2 shows the rear panel connectors of a AV-GM08K3-S1S and Table 1 illustrates how you can connect video devices and display to the AV-GM08K3-S1S.



**Figure 2: Rear Panel**



*\*Default: Turn on the AV-GM08K3-S1S then switch the circled DIP switch simultaneously up and down to factory default mode.*

*\*These IO ports support various resolutions from 480i up to 1920x1080p, for more details of the supported modes, please refer to the Appendix - Supported Resolution.*

**Table 1: Input/Output Connectors**

Input Connector	Video Source
CVBS-x	[1] SDI: SD/HD/3G
SDI-x	[2] CVBS — NTSC/PAL/SECAM
[x = 1~4]	
Output Connector	Display
DVI-I OUT	[1] DVI display
	[2] VGA display



## Safety Precautions

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- I. To prevent fire or shock hazards, do not expose this device to rain or moisture.
- II. When connecting other products such as DVD players, and personal computers, you should turn off the power of this product for protection against electric shocks.
- III. The product should be placed more than one foot away from heat sources such as radiators, heat registers, stoves, and other products (including amplifiers) that produce heat. In addition, do not cover any material or devices on the top of the device.
- IV. Do not use immediately after moving from a low temperature to high temperature, as this causes condensation,
- V. Do not place this product on an unstable cart, stand, or table. The product may fall, causing serious injury to a child or adult and serious damage to the product.
- VI. Unplug this product from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.
- VII. Do not allow the same still picture to be projected for a long time or an abnormally bright video picture to be projected. The video image could be burned in to the display device.

## Installation Procedures

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### Unpacking

Remove the AV-GM08K3-S1S from the shipping container and examine it for any signs of shipping damage or missing items (check with package contents above). All shipping items should be saved if the product is to be moved or returned for service. Shipping unit back to dealers for service not in the original box may result in voiding warranty or additional cost.

### Placement

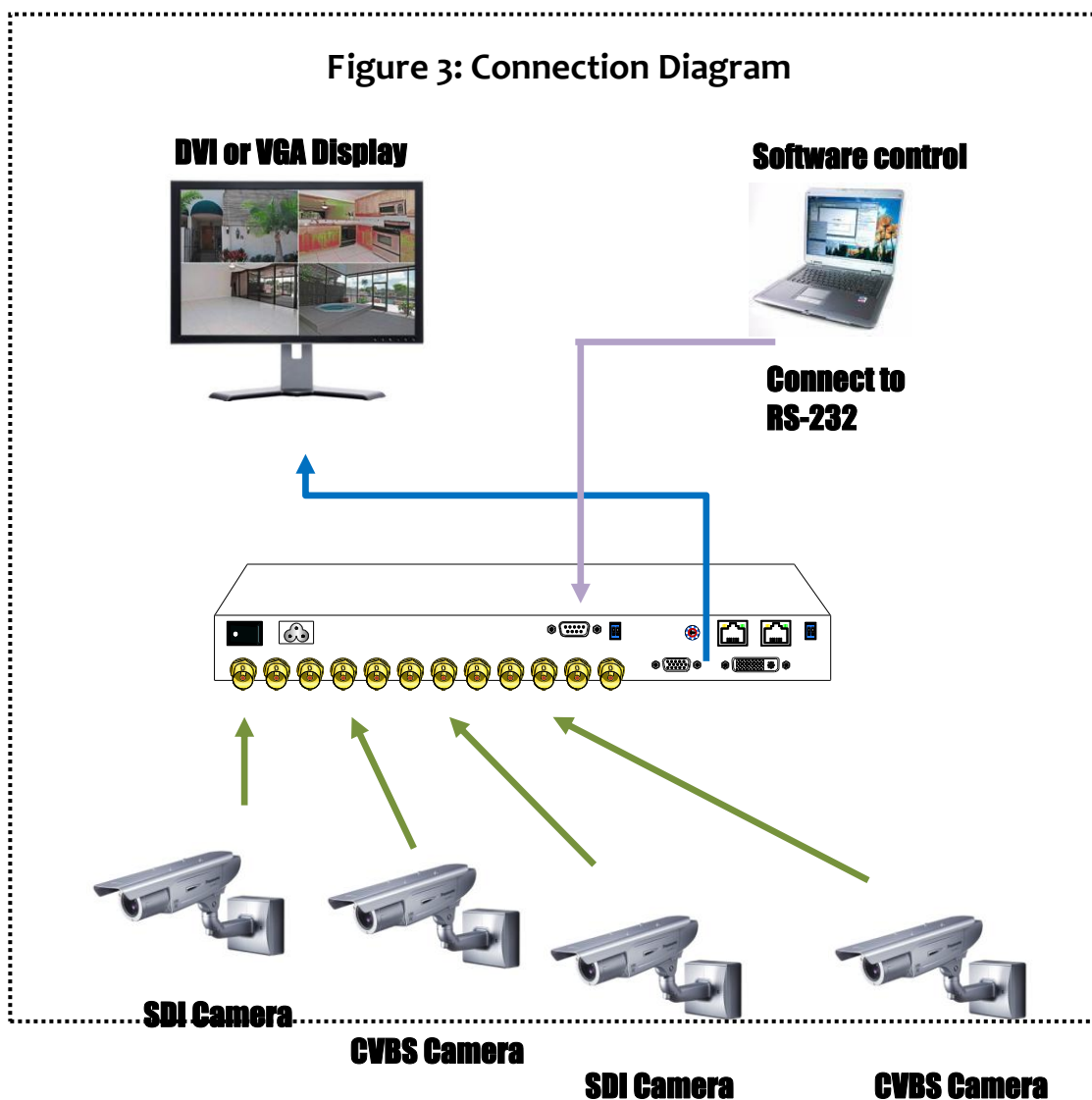
The unit uses convection to cool. A fan is not needed, so do not block the sides of this device or stack another device on the top or bottom of the AV-GM08K3-S1S.

### Connections

We recommend the highest quality cables for both input and output connections.

1. Switch off the AV-GM08K3-S1S and all devices that you want to connect.
2. Connect a monitor, a projector or other displays that comes with DVI / VGA inputs




3. Connect a device equipped with SDI output including SD/HD/3G to the BNC input connector of AV-GM08K3-S1S.
4. Connect a device equipped with composite video output to the BNC input connector of the AV-GM08K3-S1S.
5. Connect your computer with the AV-GM08K3-S1S by a 9-pin RS-232 cable and then install the software.
6. Plug in AD power cord into AC power socket.
7. Execute the control software and establish the connection between PC/Laptop and AV-GM08K3-S1S.
8. For detailed software control operation, please refer to the software instruction section.

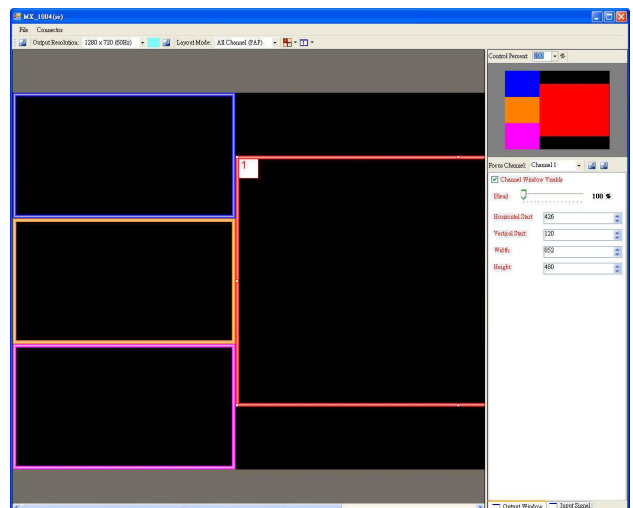
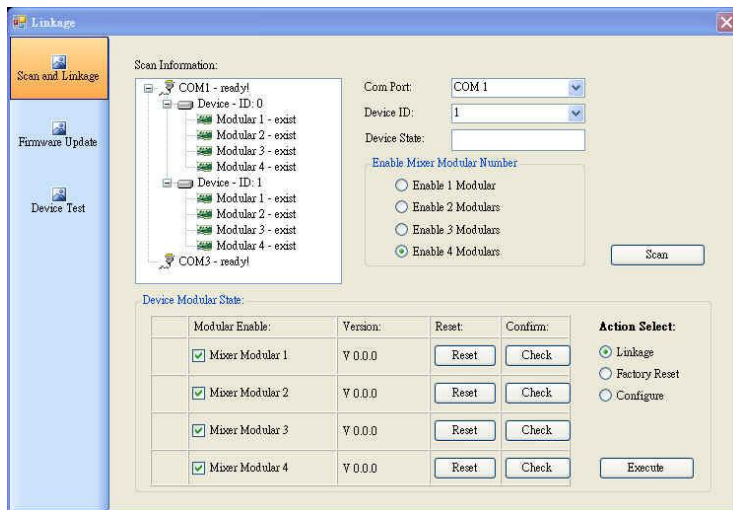


## System Requirement and Precautions

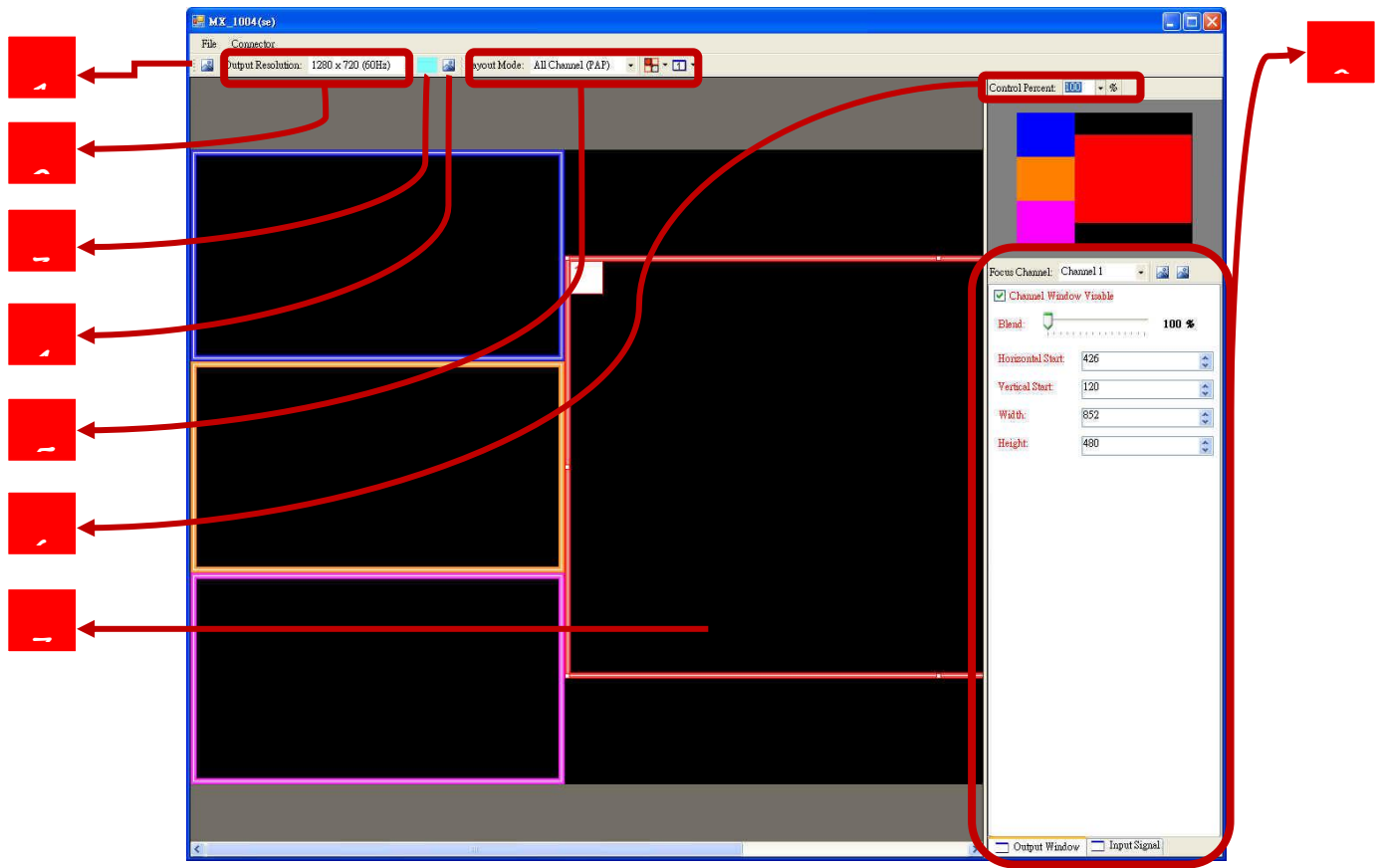
1. The AV-GM08K3-S1S provides a software control program, Quartet, which runs under Microsoft Windows 98, 2000, XP, Vista through the interface of RS-232 serial control.
2. Before you click on the icon of the software, make sure you have secured the connection between your computer COM port and the AV-GM08K3-S1S and switched on the AV-GM08K3-S1S with green LED light.

## Instruction of Software Connection

1. Power up the AV-GM08K3-S1S and you can see VFD on the front panel blink. Make sure the serial port mode is right for your setting. RS-232 mode: , RS-485 mode:  or .
2. The first step after running the software is to automatically link (By last COM port setting) if the device responses correctly through RS-232, it will start application normally, otherwise the dialog will show up. You can click the “scan” button to get detail information. The information will help you choose the correct COM port and Device ID. After set the correct COM port and ID, you can select “Linkage” and click “Execute” button. When the AV-GM08K3-S1S is correctly connected, you can close the Linkage dialog. If the serial connection is well established, you can see work main control console as below.



# Definitions of Menu Buttons and Icons



## Fast Linkage

This button will update software GUI for device state.



## Output Resolution:

Supported Mode	Resolution	Supported Mode	Resolution
(HDTV) 720p	1280x720 @60Hz	VESA	1280x768 @60Hz
(HDTV) 1080p	1920x1080 @60Hz	VESA	1366x768 @60Hz
VESA	800x600 @60Hz	VESA	1400x1050 @60Hz
VESA	1024x768 @60Hz	VESA	1600x1200 @60Hz
VESA	1280x1024 @60Hz	VESA	1920x1200 @60Hz

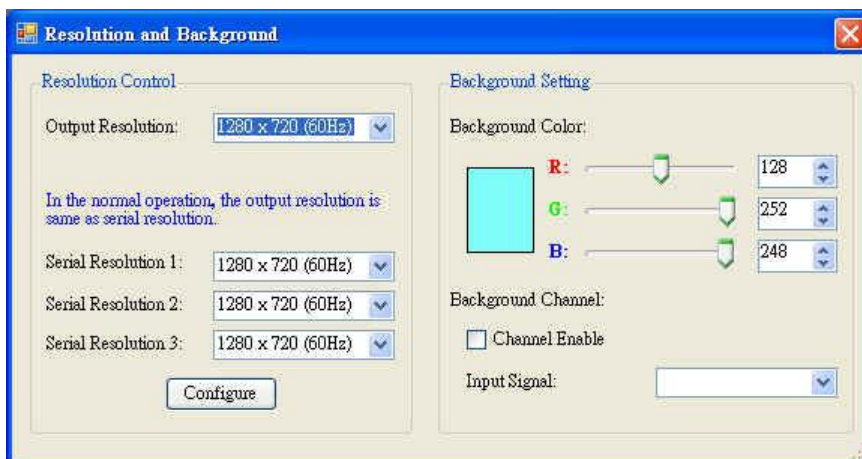


## Background Color

Click on this button will show the color dialog for background color adjustment.

## Background Setting

AV-GM08K3-S1S offers the video background to make this advanced unit actually working like 5 channel video mixer! The default background video must work as full screen! Users can choose between color and video background through the following control window. Click on this button will show the dialog for output resolution, background color and background channel setting.



## Display / Layout Mode

Set signal channel full screen or all channel Notice that the input sources will not be changed. Only positions and sizes will be affected.

## Layout Control Size

Set layout control size by percent.

## Layout Control

Set Channel size and position.



## Channel Control Panel

Output Window Panel: Channel visible, blend, size, position

.Input Signal Panel: Input signal type selection, signal stable, input format.

Focus Channel: Channel 4

Channel Window Visible

Blend: 100 %

Horizontal Start: 0

Vertical Start: 480

Width: 426

Height: 240

Output Window  Input Signal

Focus Channel: Channel 4

Input Signal: DVI / HDMI

Signal State: No Signal

**Original Input:**

Horizontal Start: 0

Vertical Start: 0

Width: 720

Height: 240

**Capture Input:**

Horizontal Start: 50

Vertical Start: 50

Width: 1280

Height: 720

Output Window  Input Signal

Problem	Recommendations
No power	<ul style="list-style-type: none"><li>✓ Check if you correctly and firmly plug AC power core into AV-GM08K3-S1S.</li><li>✓ If you are recovering from power outage, accidentally unplug the power core or other power surge conditions, leave the device off for a while and then power it on again.</li></ul>
No/ Erratic video	<ul style="list-style-type: none"><li>✓ Make sure all cables are in good working condition and properly connected to the AV-GM08K3-S1S and displays.</li><li>✓ Configure the output video resolution so that it doesn't exceed the native resolution of the display. ( in this case, the message of "out of range" is usually showed on your screen)</li><li>✓ Make sure video sources are accurately selected to the right channels.</li></ul>
Poor quality	<ul style="list-style-type: none"><li>✓ We suggest that don't use T-connectors to split your video source into to images displayed on two different screens. That will lower output video quality. Use a distribution amplifier instead of T-connectors.</li><li>✓ Make sure the video source is not compressed and maintains the highest native resolution.</li></ul>
Wrong color	<ul style="list-style-type: none"><li>✓ Use color balance or auto configuration.</li></ul>





The SELLER warrants the **AV-GM08K3-S1S 3G/HD/SD-SDI Quad-view Video Processor** 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 surges.

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 are limited to a 30 day warranty and cable 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-GM08K3-S1S features and specifications is subject to change without further notice.

## Support

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

## [SDI-x (x = 1~4)] Socket

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Supported Mode	Resolution
NTSC/480I/525I	720x240 @60Hz
PAL/576I/625I	720x288 @50Hz
(HD) 720p	1280x720 @23.98Hz
(HD) 720p	1280x720 @24Hz
(HD) 720p	1280x720 @25Hz
(HD) 720p	1280x720 @30Hz
(HD) 1080i	1920x540@50Hz
(HD) 1080i	1920x540 @59.94Hz
(HD) 1080i	1920x540 @60Hz
(HD) 1080p	1920x1080 @25Hz
(HD) 1080p	1920x1080 @29.97Hz
(HD) 1080p	1920x1080 @30Hz
(3G) 1080p	1920x1080 @50Hz
(3G) 1080p	1920x1080 @59.94Hz
(3G) 1080p	1920x1080 @60Hz

## [DVI-I OUT] Socket

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Supported Mode	Resolution
(HDTV) 720p	1280x720 @60Hz
(HDTV) 1080p	1920x1080 @60Hz
VESA	800x600 @60Hz
VESA	1024x768 @60Hz
VESA	1280x1024 @60Hz
VESA	1280x768 @60Hz
VESA	1400x1050 @60Hz
VESA	1400x1050 @50Hz
VESA	1600x1200 @60Hz
VESA	1920x1200 @60Hz