



## VGA/Component Extender over Cat.X with Audio, RS-232, PS/2, and Bi-directional IR



P/N: AV-GM03T3-S1



## Safety and Notice

The **AV-GM03T3-S1 VGA/Component Extender over Cat.X with Audio, RS-232, PS/2, and Bi-directional IR** has been tested for conformance to safety regulations and requirements, and has been certified for international use. However, like all electronic equipments, the **AV-GM03T3-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.



### **TABLE OF CONTENTS**

INTRODUCTION.....	1
FEATURES.....	1
PACKAGE CONTENTS .....	1
SPECIFICATIONS .....	2
PANEL DESCRIPTIONS.....	3
Transmitting unit ► TX .....	3
Receiving unit ► RX.....	4
IR PASS-THROUGH.....	6
CONNECTION DIAGRAM .....	8
PIN DEFINITION.....	9
NOTICE .....	10
WARRANTY .....	11

# INTRODUCTION

With only one cost effective Cat-5/5e/6 cable, the AV-GM03T3-S1 lets you extend VGA (at WUXGA) or 720p component video, bi-directional IR control and half-duplex serial RS-232 at the same time to cover the distance up to 330m (1,000ft). The AV-GM03T3-S1 comes in a set of a transmitter and a receiver. The transmitting unit AV-GM03T3-S1-TX is installed near the signal source, and the receiving unit AV-GM03T3-S1-RX is placed near the desired VGA display. With the built-in equalization and signal gain control, the transmission path can be adjusted to adapt the cable quality and video bandwidth. With commonly obtainable VGA-component breakout cables connected to the VGA ports, the extender can support to transmit the component video for 330m (1,000ft) as well.

AV-GM03T3-S1 also can extend popular PS/2 keyboard and mouse signal up to 330m (1,000ft). With this computer control path, AV-GM03T3-S1 makes long range KVM applications more cost effective and with no video or audio compression!

## FEATURES

- Supports up to WUXGA [1920x1200@60] or UXGA [1600x1200@60] to 330m (1,000ft)
- Supports 720p component video signal to 330m (1,000ft)
- Supports RS-232 half-duplex & bi-directional IR pass-through
- Supports analog stereo audio and digital S/PDIF stereo audio
- Supports PS/2 keyboard and mouse extension
- Video and audio local out on transmitting unit for easy monitoring
- Adjustable equalization and gain control on receiving unit for signal tuning
- De-skew compensation available for RGB delay
- Wall mounting case & interlocked power jack for secure installation

## PACKAGE CONTENTS

- 1x AV-GM03T3-S1 [TX & RX]
- 1x IR receiver
- 1x IR blaster
- 2x DC 5V 2A power supply
- 1x User Manual

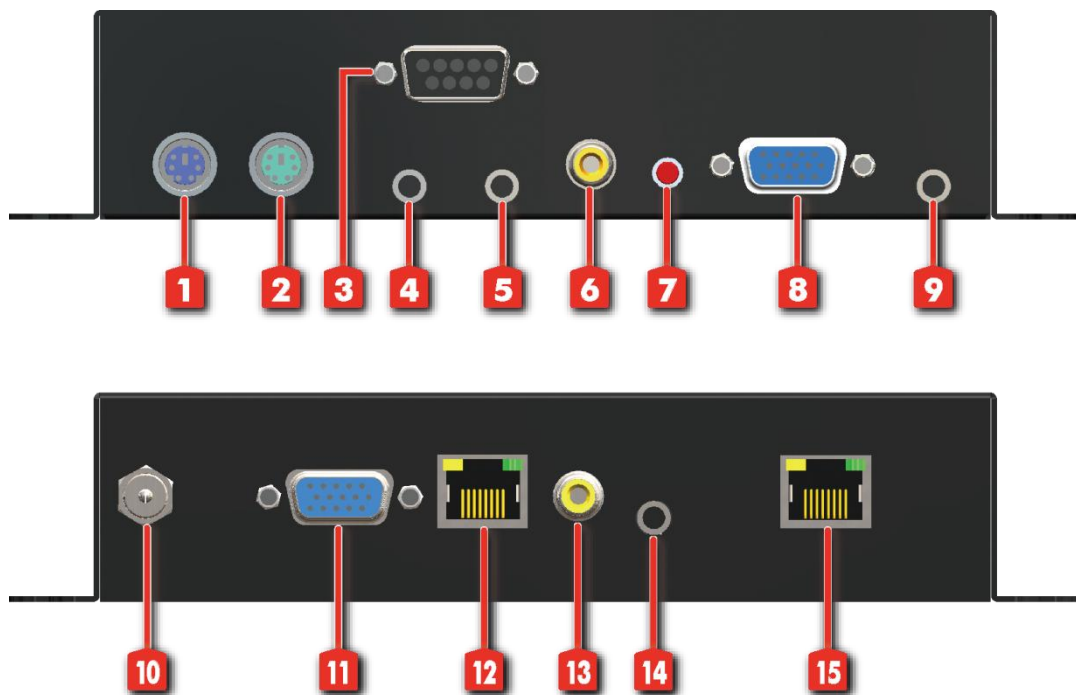
# SPECIFICATIONS

Model Name		AV-GM03T3-S1	
Technical		AV-GM03T3-S1[TX]	AV-GM03T3-S1[RX]
Role of usage		Transmitter [TX]	Receiver [RX]
Video bandwidth		350MHz	
Video support		VESA	
Transmission		WUXGA [1920x1200] / 720p — 330m (1,000ft) [CAT5e]	
Audio support		Stereo	
RS-232 signal type		Half-duplex	
Input video signal		1.2 Volts [peak-to-peak]	
Equalization		Continuous analog control	
RGB delay control		Yes	
Keyboard & Mouse control		Yes	
Loop-out		1 VGA local-out + 1 audio local-out at TX	
ESD protection		[1] Human body model — ±19kV [air-gap discharge] & ±12kV [contact discharge] [2] Core chipset — ±8kV	
Input		1x VGA + 1x RS-232 + 2x 3.5mm + 1x RCA + 1x RS-232	2x 3.5mm + 1xRJ-45
Output		2x RJ-45 + 1x VGA + 2x 3.5mm + 1x RCA	1x VGA + 1x RS-232 + 1x RCA + 1x 3.5mm
VGA connector		HD-15 [15-pin D-sub female]	
RJ-45 connector		WE/SS 8P8C with 2 LED indicators	
RS-232 connector		DE-9 [9-pin D-sub female]	
RCA connector		S/PDIF digital audio	
PS/2 connector		Mini DIN-6	
3.5mm connector		Earphone jack for analog stereo audio or IR cable	
Mechanical			
Housing		Metal enclosure	
Dimensions [L x W x H]	Model	TBA	
	Package	330 x 200 x 95mm [1'1" x 7.9" x 3.7"]	
	Carton	495 x 440 x 380mm [1'7" x 1'5" x 1'3"]	
Weight	Model	TBA	
	Package	TBA	
Fixedness		Wall-mounting case with screws	

Power supply	Inter-locked 5V 2A DC
Power consumption	6 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

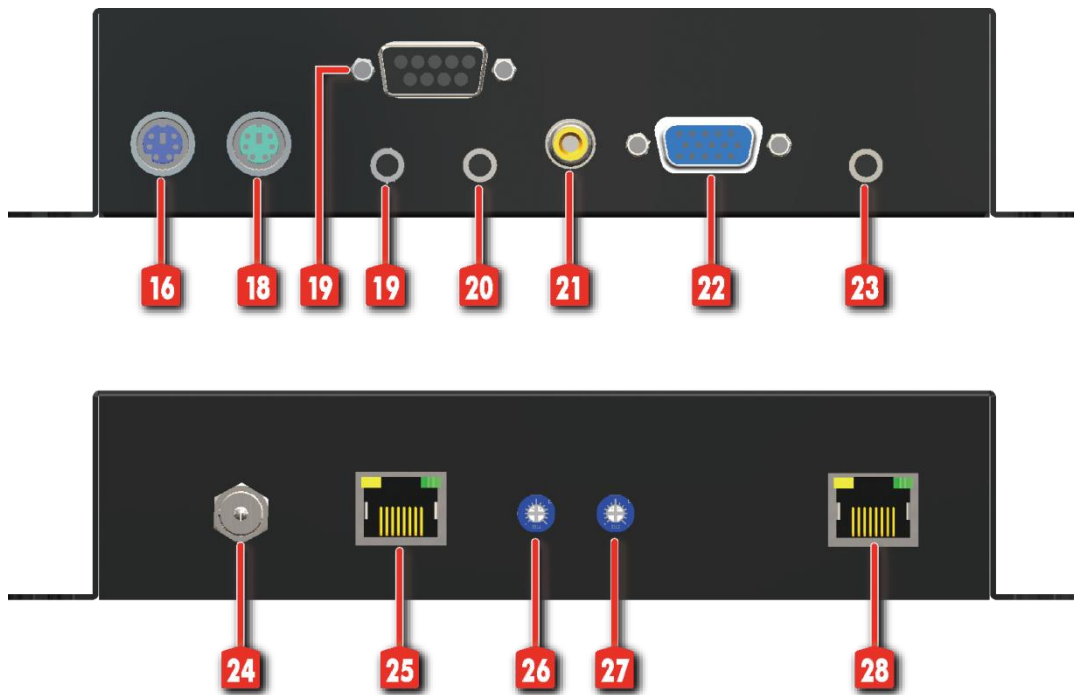
### Transmitting unit ▶ AV-GM03T3-S1-TX



#	Connector	Function
1	PS/2	Mouse input
2	PS/2	Keyboard input
3	RS-232	Serial channel
4	3.5mm	IR sender
5	3.5mm	Stereo audio input
6	RCA	S/PDIF audio input
7	Push button	Audio selection
8	VGA	VGA input
9	IR	IR receiver

10	Power	+5V DC latch-locking
11	VGA	Local VGA output
12	RJ45	Cat.X output
13	RCA	Local S/PDIF audio output
14	3.5mm	Local stereo audio output
15	RJ45	Cat.X output

### Receiving unit ► AV-GM03T3-S1-RX



#	Connector	Function
16	PS/2	Mouse output
17	PS/2	Keyboard output
18	RS-232	Serial channel
19	3.5mm	IR receiver
20	3.5mm	Stereo audio output
21	RCA	S/PDIF audio output

22	VGA	VGA output
23	3.5mm	IR sender
24	Power	+5VDC latch-locking
25	RJ45	Cat.X input
26	Rotary control	EQ
27	Rotary control	Gain
28	RJ45	Cat.X input

# IR PASS-THROUGH

## IR Extenders

IR Blaster



IR Receiver



## IR Sockets

**IR BLASTER:** plug in the IR blaster to emit all IR command signals received from the IR receiver from the other end to control the devices corresponding to the IR signals.

**IR RECEIVER:** plug in the IR receiver to receive all IR command signals from the IR remote controls of the corresponding devices.

### **CAUTION!**

*Incorrect placement of IR Blaster and Receiver may result in the failure of the IR extenders. Please check carefully before plugging in the IR extender to the respective IR sockets. Warranty will not cover the damage.*

## Definition of IR Earphone Jack

IR Blaster



IR Receiver





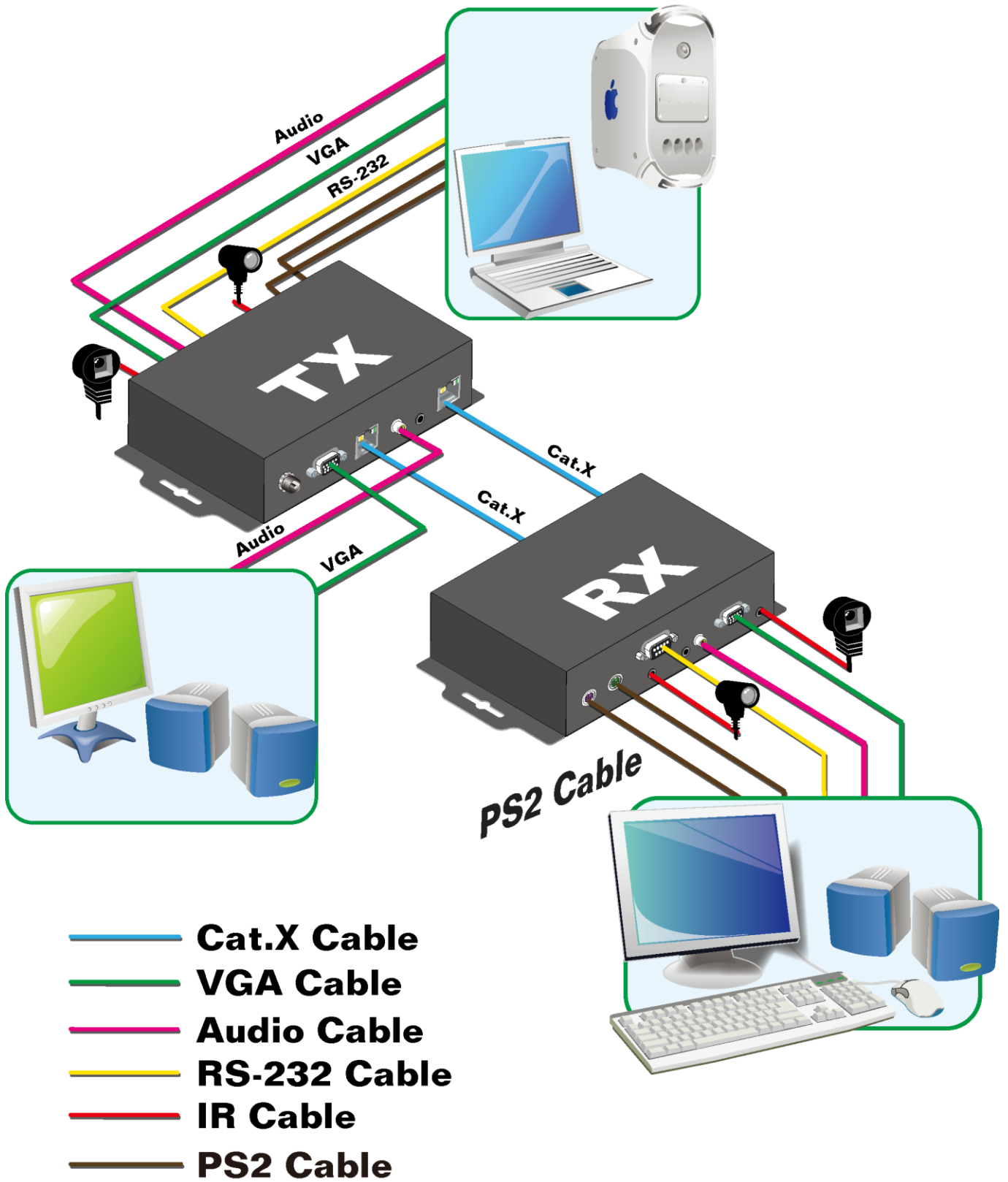


You can buy any IR extension cables in the market that are compatible to the definition of the IR sockets for the matrix if necessary for replacement use. However, IR cables longer than 2m (6-ft) may not work.

## Supported IR Data Format









Data Format	Suitable	Not Recommended
NEC	<input type="checkbox"/>	
RC5	<input type="checkbox"/>	
TOSHIBA MICOM CODE	<input type="checkbox"/>	
GRUNDIG CODE	<input type="checkbox"/>	
SONY 12 BIT CODE	<input type="checkbox"/>	
SONY 15 BIT CODE	<input type="checkbox"/>	
SONY 20 BIT CODE	<input type="checkbox"/>	
RCA CODE		<input type="checkbox"/>
RCM CODE		<input type="checkbox"/>
MATSUSHITA CODE		<input type="checkbox"/>
MITSUBISHI CODE	<input type="checkbox"/>	
ZENITH CODE	<input type="checkbox"/>	
JVC CODE	<input type="checkbox"/>	
M50560-001P	<input type="checkbox"/>	
MN6125H	<input type="checkbox"/>	
MN6125L	<input type="checkbox"/>	
MN6014_C5D7	<input type="checkbox"/>	
MN6014-C6D6	<input type="checkbox"/>	
MC14457P	<input type="checkbox"/>	
LC7464(AHEA)	<input type="checkbox"/>	
GEMINI_CM	<input type="checkbox"/>	

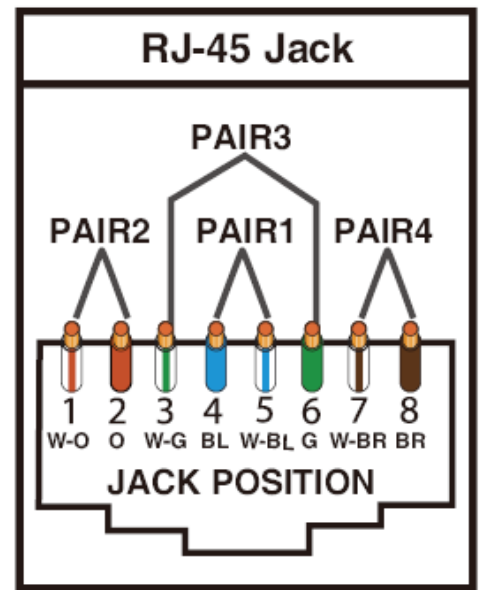
# CONNECTION DIAGRAM



# PIN DEFINITION

## CAT5 [RJ45]

Data Link TIA/EIA-568-B		
PIN	Color	Function
1	 W-O	TX0-
2	 O	TX0+
3	 W-G	TX1-
4	 BL	TX2-
5	 W-BL	TX2+
6	 G	TX1+
7	 W-BR	TXC-
8	 BR	TXC+



# NOTICE

1. All transmission distances are measured using Belden 1583A CAT5e 125MHz Solid UTP cable and ASTRODESIGN Video Signal Generator VG-859C. The transmission distance is defined as the distance between the video source and the VGA display.
2. The transmission length is largely affected by the type of CAT5/6 cables, the type of VGA sources, and the type of VGA display. The testing result shows solid UTP cables (usually in the form of 300m or 1,000ft bulk cables) can transmit a lot longer signals than stranded UTP cables (usually in the form of fixed length patch cords). Shielded STP cables are better suited than unshielded UTP cables. A solid UTP CAT5e cable shows longer transmission range than stranded STP CAT6 cable. For long extension users, solid UTP/STP cables are the only viable choice.
3. To reduce the interference among the unshielded twisted pairs of wires in UTP cable, you can use shielded STP cables to improve EMI problems, which is worsen in long transmission.
4. Because the quality of the CAT5/6 cables has the major effect on how long the transmission limit can achieve and how good is the received picture quality, the actual transmission range is subject to one's choice of CAT5/6 cables. For desired resolutions greater than 1080i or 1280x1024, a Cat-6 cable is recommended.



## Performance Guide for HDMI over Category Cable Transmission

Performance rating		Type of category cable		
Wiring	Shielding	CAT5	CAT5e	CAT6
Solid	Unshielded (UTP)	★★★	★★★★	★★★★★
	Shielded (STP)	★★★	★★★	★★★★★
Stranded	Unshielded (UTP)	★	★★	★★
	Shielded (STP)	★	★	★★
Termination		Please use <b>EIA/TIA-568-B</b> termination ( <b>T568B</b> ) at any time		

# WARRANTY

The SELLER warrants the **AV-GM03T3-S1 VGA/Component Extender over Cat.X with Audio, RS-232, PS/2, and Bi-directional IR** 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-GM03T3-S1** features and specifications is subject to change without further notice.

## Support

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