DVI Passive Extender over Single Cat.X with Auto-EDID Learning

AV-GM03Z3-S1-TX

AV-GM03Z3-S1-RX

P/N: AV-GM03Z3-S1

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Safety and Notice

The **AV-GM03Z3-S1** DVI Passive Extender over Single Cat.X with Auto-EDID Learning has been tested for conformance to safety regulations and requirements, and has been certified for international use. However, like all electronic equipments, the **AV-GM03Z3-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-GM03Z3-S1** DVI Passive Extender over Single Cat.X with Auto-EDID Learning extend your PC DVI transmission distance up to 30m (100ft) with resolution 1024x768 @60Hz. With AV-GM03Z3-S1, users can transmit high quality digital video of PC applications through one cost effective CAT-5/5e LAN cable to the remote monitor or projector, instead of using short and expensive DVI cables. With embedded default EDID inside the extender and the advanced auto EDID learning feature, users do not need to worry about EDID compatibility issues! AV-GM03Z3-S1 can work make PC continue to send the digital video even when the monitor is not connected. The user can then disconnects the monitor, place it in a remote location and reconnect it without rebooting the operating system.

The AV-GM03Z3-S1 works perfect for short range DVI extension applications. The transmitting unit, AV-GM03Z3-S1, is connected to your PC DVI output and connected to the monitor or projector. The transmission distance between the transmitting and receiving units can be up to 30m (100ft) under XGA (1024x768@60Hz) or 15m (50ft) under UXGA (1600x1200@60Hz). With the USB connector built-in AV-GM03Z3-S1, the power issues can be effectively avoided whenever the transmitter or receiver cannot acquire enough power from PC or monitor. From time to time, this power issue may make the whole transmission failed or unstable! The decent design of AV-GM03Z3-S1 carefully put the power insufficiency into consideration, and overcame it with the most common USB interfaces any PC should have!

The AV-GM03Z3-S1 is also built with the most advanced EDID learning feature, which allows users to adapt any DVI equipped monitor to your PC sources. The graphics card might have different interpretation of EDID it connects to, and therefore to guarantee 100% compatibility, AV-GM03Z3-S1 can update EDID content simply by connecting AV-GM03Z3-S1-TX to any monitor users would like PC to be connected to! Only a few seconds, AV-GM03Z3-S1-TX can learn monitor's EDID and eliminate potential EDID problems easily.

Typical applications for AV-GM03Z3-S1 include education systems, digital signage, DVI distribution system, projector applications, and home theater systems.

FEATURES

- DVI 1.1 compliant

- Handy DVI-D to RJ-45 adapters with auto programmable EDID feature

- Extend the transmission length from the sources up to 30m (100ft) under XGA (1024x768@60Hz) or 15m (50ft) under UXGA (1600x1200@60Hz)

- Extra USB power plug in AV-GM03Z3-S1-TX for spare power supply

- Easy to install.

- Compact size

- Direct plug-in

- Perfectly integrated with other DVI over CAT5 series products

The length depends on the characteristics and quality of the cables. Higher resolutions and longer transmission distances require low skew cables (<25ns/100m) for best performance. Unshielded CAT6 with metal RJ45 connectors is recommended.

PACKAGE CONTENTS

- 1x AV-GM03Z3-S1[TX & RX]
- 1x User Manual

SPECIFICATIONS

Model Name	AV-GM03Z3-S1		CV-117	
Technical				
Role of usage	Transmitter [TX]	Receiver [RX]	Transmitter [TX]	Receiver [RX]
DVI compliance	DVI 1.1			
HDCP compliance	No			
Auto EDID Learning	Yes	No	No	
USB spare power	Yes	No	No	
Video bandwidth	Single-link 165MHz [4.95Gbps]			
Video support	Up to WUXGA [1920x1200@60Hz] & UXGA [1600x1200@60Hz]			
Transmission over CAT5e	1920x1200@60Hz – 15m [50ft] 1024x768@60Hz – 25m [80ft]			
Audio support	No audio for DVI signal			
Equalization	None			
Input TMDS signal	1.2 Volts [peak-to-peak]			
Input DDC signal	5 Volts [peak-to-peak, TTL]			
PCB stack-up	4-layer board [impedance control — differential 100Ω; single 50Ω]			
Input	1x DVI + 1xUSB	1x RJ-45 + 1xUSB	1x DVI	1x RJ-45
Output	1x RJ-45	1x DVI	1x RJ-45	1x DVI
DVI connector	DVI-I [29-pin male digital only]	DVI-I [29-pin female digital only]	DVI-I [29-pin male digital only]	
RJ-45 connector	WE/SS 8P8C with 2 LED indicators			
USB connector	Mini USB	No	No	
Mechanical	AV-GM03Z3-S1		CV-117	
Housing	Plastic mold			
Dimensions [L x W x H] — Model	TX/RX] 50x40x20mm [2" x 1.6" x 0.8"]		[TX/RX] 50x40x20mm [2" x 1.6" x 0.8"]	
Dimensions [L x W x H] — Package	170 x 115 x 40mm [6.7" x 4.5" x 1.6"]		170 x 115 x 40mm [6.7" x 4.5" x 1.6"]	
Dimensions [L x W x H] — Carton	450 x 370 x 300mm [1'6" x 1'3" x 11.8"]			
Weight — Model	[TX/RX] – 50g [1.8 oz]		[TX/RX] – 50g [1.8 oz]	
Weight — Package	180g [6.3 oz]		180g [6.3 oz]	
Fixedness	Direct plug-in			
Power supply	None or USB	None	None	
Power consumption	0.5 Watt [max]			
Operation temperature	0~40°C [32~104°F]			
Storage temperature	-20~60°C [-4~140°F]			
Relative humidity	20~90% RH [no condensation]			

HARDWARE INSTALLATION

1. Connect one of the AV-GM03Z3-S1-TX to your DVI source.

2. Connect the other AV-GM03Z3-S1-RX to your DVI display.

3. Make sure the CAT-5/5e/6 cable is tightly connected between the DVI source, AV-GM03Z3-S1 and the display.
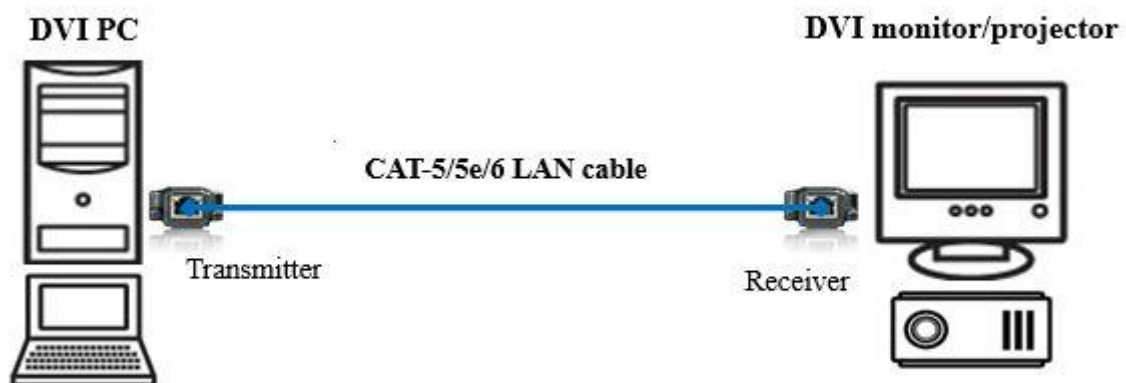
4. The installation is done.

> **i** Whenever EDID is necessary to be updated because of resolution compatibility issues, please connect AV-GM03Z3-S1-TX to the monitor planned to be used as a display! Wait until the end of LED blinking while AV-GM03Z3-S1-TX is updating the EDID! Repeat procedure 1 to 4 as above!

> **i** If EDID issues have been clarified and the transmission is still unsuccessful, more than often, the power insufficiency may be therefore handled. Please connect one USB cable from PC to AV-GM03Z3-S1-TX, and this extra USB connection will provide an alternative power source to satisfy the power consumption.

CONNECTION DIAGRAM

DVI OVER SINGLE CAT5 SERIES LINEUP

	CV-15	CV-17	CV-117	AV-GM03Z3-S1	WP-117A
Output to display	HDMI	DVI	DVI	DVI	DVI
Transmission over CAT5 at 1024x768@60Hz	25m [80ft]	60m [200ft]	25m [80ft]	25m [80ft]	30m [100ft]
Transmission over CAT5 at 1920x1200@60Hz	15m [50ft]	40m [130ft]	15m [50ft]	15m [50ft]	15m [50ft]
Power requirement	No	TX-No / RX-Yes	No	No or USB	No
Equalization	No	Yes	No	No	No
EDID learning	No	Yes	No	Yes	No

NOTICE

1. The AV-GM03Z3-S1 may not be compatible with the DVI sources and displays that feature resolutions not in the aspect ratio of 4:3, 16:9 and 16:10.

2. All DVI over CAT5 transmission distances are measured using Belden 1583A CAT5e 125MHz UTP cable and ASTRODESIGN Video Signal Generator VG-859C.

3. The transmission length is largely affected by the type of Cat-5/5e/6 cables, the type of HDMI sources, and the type of HDMI display. The testing result shows solid UTP cables (usually in the form of 300m [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 Cat-5e cable shows longer transmission range than stranded STP Cat-6 cable. For long extension applications, solid UTP/STP cables are the only viable choice.

4. EIA/TIA-568-B termination (T568B) for Cat-5/5e/6 cables is recommended for better performance.

5. To reduce the interference among the unshielded twisted pairs of wires in Cat-5/5e/6 cable, one can use shielded STP cables to improve EMI problems, which is worsen in long transmission.

6. 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 Cat-5/5e/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)	★★★	★★★★	★★★★★
Solid	Shielded (STP)	★★★	★★★	★★★★
Stranded	Unshielded (UTP)	★	★★	★★
Stranded	Shielded (STP)	★	★	★★
Termination		Please use **EIA/TIA-568-B** termination (**T568B**) at any time		

WARRANTY

The SELLER warrants the **AV-GM03Z3-S1** DVI Passive Extender over Single Cat.X with Auto-EDID Learning 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-GM03Z3-S1** features and specifications is subject to change without further notice.

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

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