

DVI over Single CAT5 Series

EX-G027

DVI over Single CAT5 Extender

User Manual





Safety and Notice

The **EX-G027 DVI over Single CAT5 Extender** has been tested for conformance to safety regulations and requirements, and has been certified for international use. However, like all electronic equipments, the EX-G027 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.

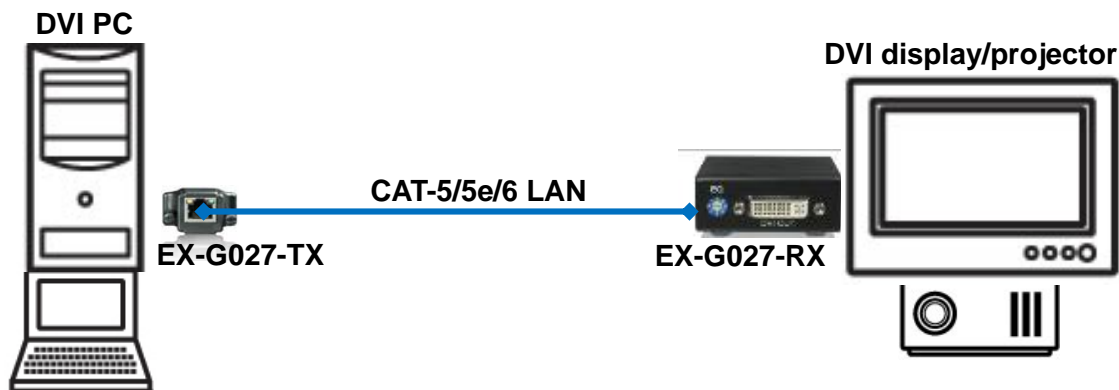
- Follow all instructions and warnings marked on this unit.
- Do not attempt to service this unit yourself, except where explained in this manual.
- Provide proper ventilation and air circulation and do not use near water.
- Keep objects that might damage the device and assure that the placement of this 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.



Introduction

The **EX-G027 DVI over Single CAT5 Extender** extends your PC DVI transmission distance up to 60m (200ft) with resolution 1024x768@60Hz. With EX-G027, users can transmit high quality digital video of PC applications through one cost effective CAT-5/5e LAN cables to the remote monitor or projector, instead of using short and expensive DVI cables. With embedded EDID inside the adapter, your PC will 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 EX-G027 includes two units: transmitting and receiving units. The transmitting unit is connected to your PC DVI output and the receiving unit is connected to the monitor. While successfully connected, the two LED lights on the RJ-45 connector will blink. The transmission distance between the sending (EX-G027-TX) and receiving units (EX-G027-RX) can be up to 60m (200ft) at XGA (1024x768@60Hz) and 30m (100ft) at UXGA (1600x1200@60Hz). With compact size, EX-G027 is the most cost effective choice for bringing your impressive digital video to the remote display.



Features

- DVI 1.1 compliant
- Handy DVI-D to RJ-45 adapter with programmable EDID feature
- Extends the transmission length from the sources up to 60m (200ft) at XGA (1024x768@60Hz) and 30m (100ft) at UXGA (1600x1200@60Hz)
- Minimize the cable skew by adjustable 8-level equalization control
- Supports 1080i/1080p HDTV resolutions & VESA standards
- Receiving unit can learn EDID information for DVI/HDMI enabled display device
- Allows cascable
- Direct plug-in at TX and wall-mounting with screws at RX
- 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 RJ-45 connectors is recommended.

DVI over Single CAT5 Series Lineup

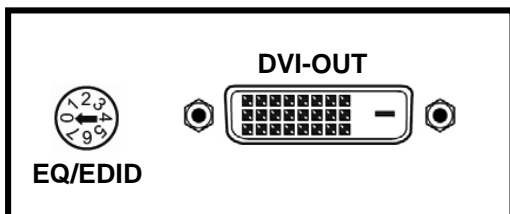
	EX-G025	EX-G027	EX-G026A	EX-G020
Output to display	HDMI	DVI	DVI	DVI
Transmission over CAT5 at 1024x768@60Hz	25m [80ft]	60m [200ft]	25m [80ft]	30m [100ft]
Transmission over CAT5 at 1920x1200@60Hz	15m [50ft]	40m [130ft]	15m [50ft]	15m [50ft]
Power requirement	No	TX-No / RX-Yes	No	No
Equalization	No	Yes	No	No

Specifications & Package Contents

Model Name		EX-G027		EX-G026A	
Technical		EX-G027-TX aka EX-G026A	EX-G027-RX	EX-G026A	EX-G026A
Role of usage		Transmitter [TX]	Receiver [RX]	Transmitter [TX]	Receiver [RX]
DVI compliance		DVI 1.1			
HDCP compliance		No			
Video bandwidth		Single-link 165MHz [4.95Gbps]			
Video support		Up to WUXGA [1920x1200@60Hz] & UXGA [1600x1200@60Hz]			
Transmission over CAT5e		1920x1200@60Hz – 30m [100ft] 1024x768@60Hz – 60m [200ft]		1920x1200@60Hz – 15m [50ft] 1024x768@60Hz – 25m [80ft]	
Audio support		No audio for DVI signal			
Equalization		8-level digital at RX		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	1x RJ-45	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			
Rotary switch		None	EQ	None	
Mechanical		EX-G027		EX-G026A	
Housing		Plastic mold	Metal case	Plastic mold	
Dimensions [L x W x H]	Model	[TX]: 50 x 40 x 20mm [2"x1.6"x0.8"] [RX]: 80 x 60 x 25mm [3.2"x2.4"x1"]		[TX/RX] 50x40x20mm [2"x1.6"x0.8"]	
	Package	270 x 175 x 80mm [10.6"x6.9"x3.2"]		170 x 115 x 40mm [6.7"x4.5"x1.6"]	
	Carton	450 x 370 x 300mm [1'5.7"x1'2.6"x11.8"]			
Weight	Model			46g [1.7 oz]	
	Package			164g [5.8 oz]	
Fixedness		TX: Direct plug-in RX: Wall-mount with screws		Direct plug-in	
Power supply		None	5V 2A DC	None	
Power consumption		1 Watt [max]		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]			
Package Contents		1x EX-G027 [TX & RX] 1x 5V power adapter 1x User Manual		2x EX-G026A 1x User Manual	

Panel Descriptions

Front Panel — Receiving Unit EX-G027-RX



DVI-OUT: Connect to a DVI display with a DVI M-M cable here.

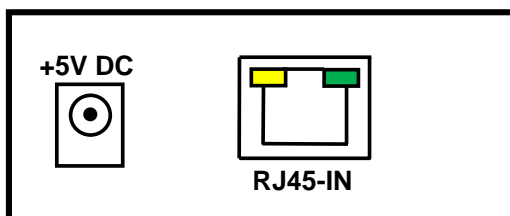
EQ/EDID: Adjust the 8-level equalization control knob to the received HDMI signals. 0 – 7 = strongest – weakest. It is recommended to switch from 7 to 0 to find the optimal visual experience.

Note for EDID (Extended Display Identification Data) learning



1. Plug in DVI M-M cable between DVI-OUT and the monitor and power on the EX-G027-RX.
2. Turn EQ/EDID counterclockwise to 7. The LED on the RJ-45 connector will dim and light again in a few seconds, which indicates the monitor's EDID is retrieved. DO NOT let the rotary arrow pass 6 which will erase the EDID just learned and set back to default EDID.
3. Unplug the DVI M-M cable from the monitor and connect it to the mini-transmitter EX-G027-TX. The LED on the RJ-45 connector will dim and light again in a few seconds, which indicates the monitor's EDID is transferred to the EX-G027-TX.
4. Unplug the DVI M-M cable from the mini-transmitter and reconnect it to the monitor. Connect the mini-transmitter EX-G027-TX to the DVI source and enjoy the visual experience.
5. To restore the EDID back to default value, please turn EQ/EDID clockwise from anywhere to 6. The LED

Rear Panel — Receiving Unit EX-G027-RX



RJ45-IN: Plug in a CAT5/5e/6 cable that needs to be linked to the RJ-45 connector of the transmitter.

+5V DV: Connect to 5V DC power supply.

Hardware Installation

1. Connect the mini-transmitter to your DVI source (PC).
2. Connect the receiver to the remote DVI monitor.
3. Make sure your CAT-5/5e/6 cable is tightly connected and not loose.
4. Enjoy your high quality PC video on the screen.
5. **If a flickering or a blinking image is seen, try to adjust the rotational switch to improve the cable skew. 0 stands for the strongest EQ while 7 stands for the weakest. Try adjusting the EQ from 7 to 0.**

1. If the DVI or HDMI device requires the EDID information, please use EDID Reader/Writer to retrieve and provide DVI/HDMI EDID information.
2. All HDMI over CAT5 transmission distances are measured using Belden 1583A CAT5e 125MHz LAN cable and ASTRODESIGN Video Signal Generator VG-859C.
3. The transmission length is largely affected by the type of LAN cables, the type of HDMI sources, and the type of HDMI display. The testing result shows solid LAN cables (usually in bulk cable 300m/1000ft form) can transmit a lot longer signals than stranded LAN cables (usually in patch cord form). Shielded STP cables are better suit than unshielded UTP cables. A solid UTP CAT5e cable shows longer transmission length than stranded STP CAT6 cable. For long extension users, solid LAN cables are your only choice.
4. EIA/TIA-568-B termination (T568B) for LAN cables is recommended for better performance.
5. To reduce the interference among the unshielded twisted pairs of wires in LAN cable, you can use shielded LAN cables to improve EMI problems, which is worsen in long transmission.
6. Because the quality of the LAN cables has the major effects in how long transmission distance will be made and how good is the received display, the actual transmission length is subject to your LAN cables. For resolution greater than 1080i or 1280x1024, a CAT6 cable is recommended.



Performance Guide for DVI over LAN Cable Transmission

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

Limited Warranty

The SELLER warrants the **EX-G027 DVI over Single CAT5 Extender** to be free from defects in the material and workmanship for 1 year from the date of purchase from the SELLER or an authorized dealer. Should this product fail to be in good working order within 1 year 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 EX-G027 features and specifications is subject to change without further notice.

