

# CV-17V

## DVI Extender over Single Cat.X with RS-232 & Audio (HDBaseT Interface)

### User Manual



rev: 12062828  
Made in Taiwan



## **Safety and Notice**

The CV-17V DVI Extender over Single Cat.X with RS-232 & Audio has been tested for conformance to safety regulations and requirements, and has been certified for international use. However, like all electronic equipments, the CV-17V 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 ▶ CV-17V-TX.....	3
Receiving unit ▶ CV-17V-RX.....	3
HARDWARE INSTALLATION.....	4
CONNECTION DIAGRAM.....	4
NOTICE.....	5
WARRANTY.....	6

# INTRODUCTION

The **CV-17V DVI Extender over Single Cat.X with RS-232 & Audio** extends your PC DVI transmission distance up to 100m (330ft) with resolution 1024x768@60Hz or 720p@60Hz. With CV-17V, 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. Furthermore, CV-17V is equipped with a popular serial control path RS-232. With high definition digital PC signal and serial control, CV-17V makes your digital signage application with the upmost performance in pure digital domain.

The CV-17V includes two units: transmitting and receiving units. The transmitting unit is connected to your PC DVI output and serial port, such as COM1, and the receiving unit is connected to the monitor with serial control such as touch panels. While successfully connected, the two LED lights on the RJ45 connector will blink. The transmission distance between the sending (CV-17V-TX) and receiving units (CV-17V-RX) can be up to 100m (330ft) at XGA (1024x768@60Hz) and at UXGA (1600x1200@60Hz). With compact size, CV-17V is the most cost effective choice for bringing your impressive digital video to the remote display.

# FEATURES

- DVI 1.0 compliant
- EDID & HDCP Bypass
- Extends the transmission length from the sources up to 100m (330ft) at XGA (1024x768@60Hz) and UXGA (1600x1200@60Hz)
- Auto equalization
- Supports HDTV resolutions & VESA standards
- Supports serial port RS-232 [TXD & RXD] control
- Direct plug-in at TX and wall-mounting with screws at RX



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

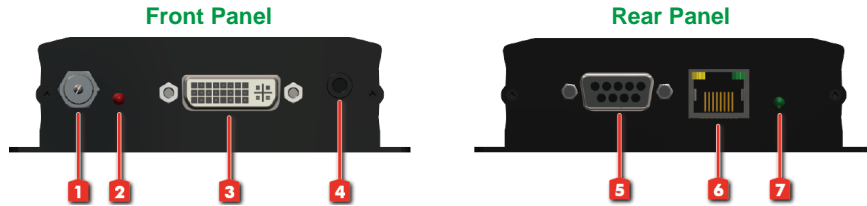
- 1x CV-17V [TX & RX]
- 2x 5V power supply unit
- 1x User Manual

# SPECIFICATIONS

Model Name	CV-17V	
Technical	CV-17V-TX	CV-17-RX
Role of usage	Transmitter [TX]	Receiver [RX]
HDMI compliance	DVI 1.1	
HDCP compliance	Yes	
Video bandwidth	340MHz [10.2Gbps]	
Video support	480p / 720p / 1080p60/ 1920x1200 @60 / 1600x1200 @60	
DVI over UTP	1080p@60 100m (330ft) [CAT5e]	
Audio support	Stereo 2 channel audio	
Equalization	Auto	
Input TMDS signal	1.2 Volts [peak-to-peak]	
Input DDC signal	5 Volts [peak-to-peak, TTL]	
ESD protection	[1] Human body model —±19kV [air-gap discharge] & ±12kV [contact discharge] [2] Core chipset — ±8kV	
PCB stack-up	6-layer board [impedance control — differential 100Ω; single 50Ω]	
IR pass-thru	No	
RS-232 support	Host	Device
Input	1x DVI + 1 x 3.5mm	1x RJ45
Output	1x RJ45	1x DV + 1x 3.5mm
In / Out	1x DIN9	1x DIN9
DVI connector	DVI-I [29-pin female digital only]	
RS-232 connector	DE-9 [9-pin D-sub female]	DE-9 [9-pin D-sub male]
RJ45 connector	WE/SS 8P8C with 2 LED indicators	
Rotary switch	None	
3.5mm connector	Audio input	Audio output
Mechanical	CV-17V-TX	CV-17-RX
Housing	Metal enclosure	
Dimensions [L x W x H]	Model	TBA
	Package	TBA
	Carton	TBA
Weight	Model	TBA
	Package	TBA
Fixedness	Wall-mount with screws	
Power supply	5V 2A DC	
Power consumption	2.2 Watts [max]	4.5 Watts [max]
Operation temperature	0~80°C [32~176°F]	
Storage temperature	-20~80°C [-4~176°F]	
Relative humidity	20~90% RH [no condensation]	

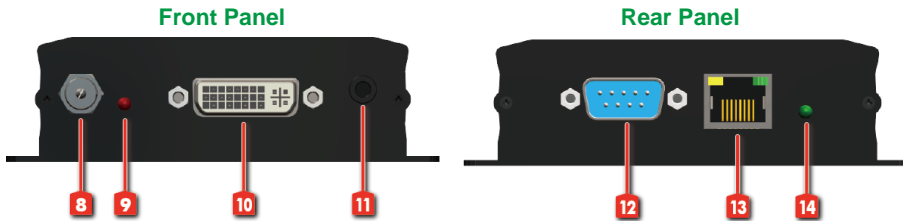
# PANEL DESCRIPTIONS

## Transmitting unit ► CV-17V-TX



1. **+5V DC:** Connect to 5V DC power supply.
2. **LED:** Power indicator
3. **DVI-D INPUT:** Connect to a DVI source with a DVI female-male cable here
4. **Audio Input**
5. **RS-232 INPUT:** Connect to PC serial port with a DSUB-9 female-male cable here
6. **RJ45:** Plug in a Cat-5/5e/6 cable that needs to be linked to the receiving unit CV-17V-RX
7. **LED:** TX/RX link indicator

## Receiving unit ► CV-17V-RX

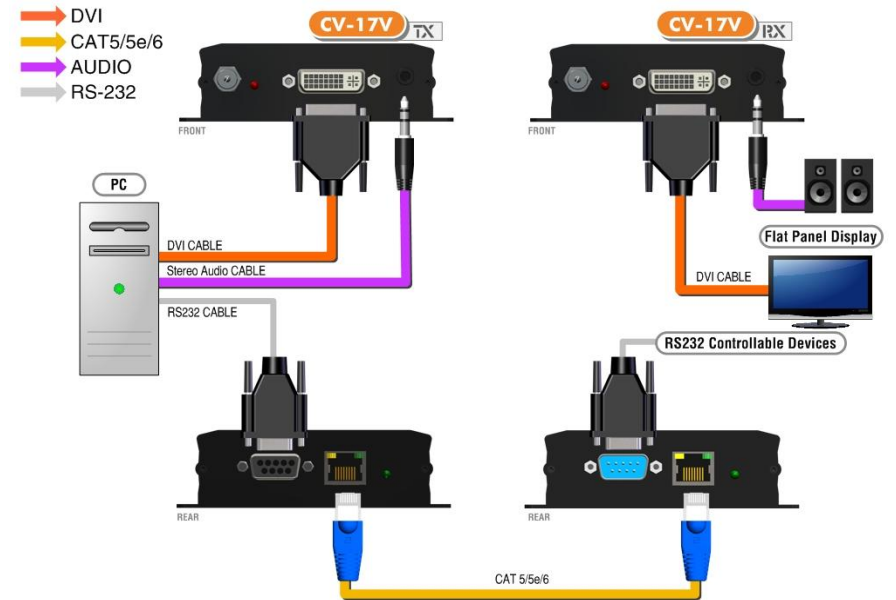


8. **+5V DC:** Connect to 5V DC power supply
9. **LED:** Power indicator
10. **DVI-D OUTPUT:** Connect to a DVI display with a DVI male-male cable here.
11. **Audio Output**
12. **RS-232 OUTPUT:** Connect to a RS-232 enable device or Touch panel with serial port control
13. **RJ45:** Plug in a Cat-5/5e/6 cable that needs to be linked to the transmitting unit CV-17V-TX.
14. **LED:** TX/RX link indicator

# HARDWARE INSTALLATION

1. Connect the transmitter to your DVI source (PC).
2. Connect the transmitter to your serial controlled device.
3. Connect the receiver to the remote DVI monitor.
4. Connect the receiver to the serial control device or monitor.
5. Make sure your CAT-5/5e/6 cable is tightly connected and not loose.
6. Enjoy your high quality PC video on the screen.

# CONNECTION DIAGRAM



## NOTICE

1. All HDMI over CAT5 transmission distances are measured using Belden 1583A CAT5e 125MHz LAN cable and Qutumdata.
2. 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.
3. EIA/TIA-568-B termination (T568B) for LAN cables is recommended for better performance.
4. 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.
5. 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 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 **CV-17V DVI Extender over Single Cat.X with RS-232 & Audio** 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 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 **CV-17V** features and specifications is subject to change without further notice.