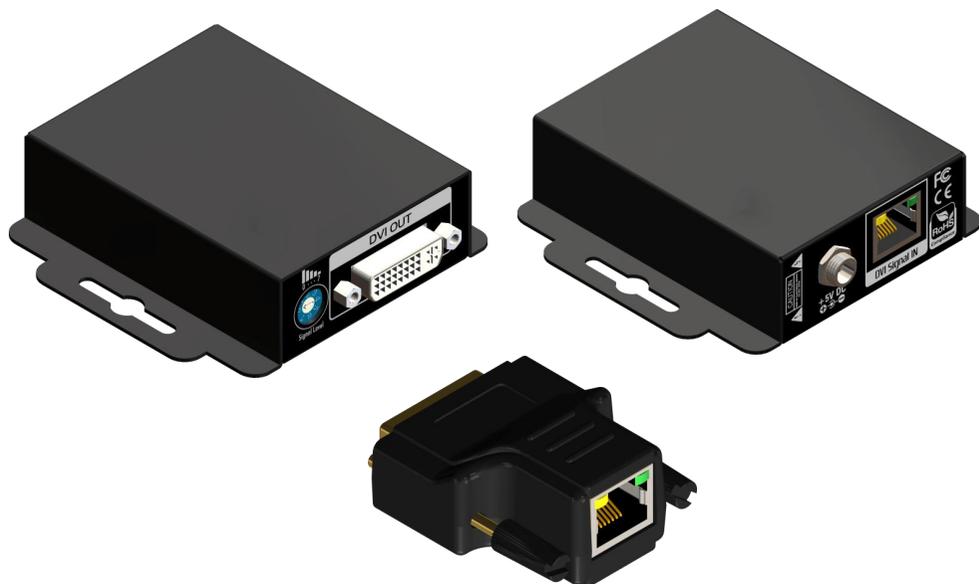


CV-17

DVI Extender over Single Cat.X

User Manual



Safety and Notice

The **CV-17 DVI Extender over Single Cat.X** has been tested for conformance to safety regulations and requirements, and has been certified for international use. However, like all electronic equipments, the **CV-17** 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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Made in Taiwan

INTRODUCTION

The **CV-17 DVI Extender over Single Cat.X** extends your PC DVI transmission distance up to 60m (200ft) with resolution 1024x768@60Hz. With CV-17, 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 CV-17 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 RJ45 connector will blink. The transmission distance between the sending (CV-17-TX) and receiving units (CV-17-RX) can be up to 60m (200ft) at XGA (1024x768@60Hz) and 30m (100ft) at UXGA (1600x1200@60Hz). With compact size, CV-17 is the most cost effective choice for bringing your impressive digital video to the remote display.

FEATURES

- DVI 1.0 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 WUXGA (1920x1200@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
- Direct plug-in at TX and wall-mounting with screws at RX
- Perfectly integrated with other DVI over Cat.X 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 CV-17 [TX & RX]
- 1x DC 5V 2A wall wart
- 1x User Manual

SPECIFICATIONS

| Model Name | | CV-17 | |
|--|---------|---|---------------------------------|
| Technical | | CV-17[TX] aka CV-117 | CV-17[RX] |
| Role of usage | | Transmitter [TX] | Receiver [RX] |
| DVI compliance | | DVI 1.0 | |
| HDCP compliance | | Single-link 165MHz [4.95Gbps] | |
| Video bandwidth | | Up to WUXGA [1920x1200@60Hz] & UXGA [1600x1200@60Hz] | |
| Video support | | 1920x1200@60Hz – 30m [100ft] 1024x768@60Hz – 60m [200ft] | |
| Video transmission over category cable | | No audio for DVI signal | |
| Equalization | | 8-level digital at RX | |
| 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 | | 4-layer board [impedance control — differential 100Ω; single 50Ω] | |
| Input | | 1x DVI | 1x RJ-45 |
| Output | | 1x RJ-45 | 1x DVI |
| DVI connector | | DVI [29-pin female digital only] | |
| RJ-45 connector | | WE/SS 8P8C with 2 LED indicators | |
| Rotary switch | | None | EQ |
| Mechanical | | | |
| Housing | | Plastic molding | Metal enclosure |
| Dimensions [L x W x H] | Model | 50 x 40 x 20mm [2" x 1.6" x 0.8"] | 82 x 62x24mm [3.2" x 2.4" x 1"] |
| | Package | 270 x 175 x 80mm [10.6" x 6.9" x 3.1"] | |
| | Carton | 450 x 370 x 300mm [1'6" x 1'3" x 11.8"] | |
| Weight | Model | 50g [1.8oz] | 182g [6.4oz] |
| | Package | 560g [1.2 lbs] | |
| Fixedness | | Direct plug-in | Wall-mount with screws |
| Power supply | | None | 5V 2A DC |
| Power consumption | | 1.5 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] | |

PANEL DESCRIPTIONS

Transmitting unit ▶ CV-17-TX aka CV-117

Front Panel



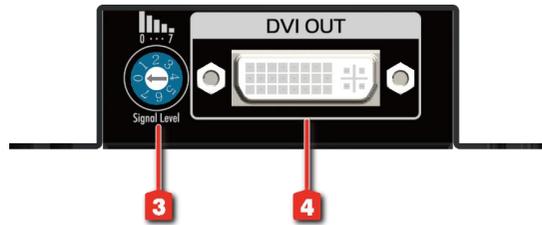
Rear Panel



- DVI-IN:** Connect to a DVI source device with a DVI male-male cable.
- RJ45-OUT:** Plug in a Cat-5/5e/6 cable and link it to the RJ45 port DVI IN CAT 5/6 on the receiving unit PRO-DVI-CAT-RX.

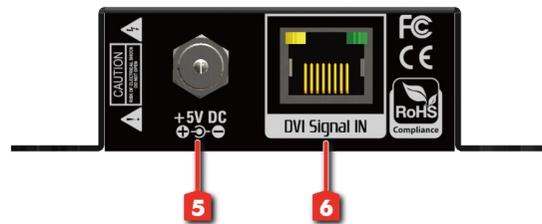
Receiving unit ▶ CV-17-RX

Front Panel



- EQ / EDID:** Adjust the 8-level equalization control to the received HDMI signals. 0 - 7 = strongest - weakest for respective transmission length [long to short]. It is recommended to switch from 7 to 0 to find the optimal visual experience.
- DVI-OUT:** Connect to a DVI display with a DVI male-male cable here.

Rear Panel



- +5V DV:** Connect to 5V DC power supply.
- RJ45-IN:** Plug in a Cat-5/5e/6 cable that needs to be linked to the RJ45 connector of the transmitter.

HARDWARE INSTALLATION

- Connect the mini-transmitter to your DVI source (PC).
- Connect the receiver to the remote DVI monitor.
- Make sure your CAT-5/5e/6 cable is tightly connected and not loose.
- Enjoy your high quality PC video on the screen.
- 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.

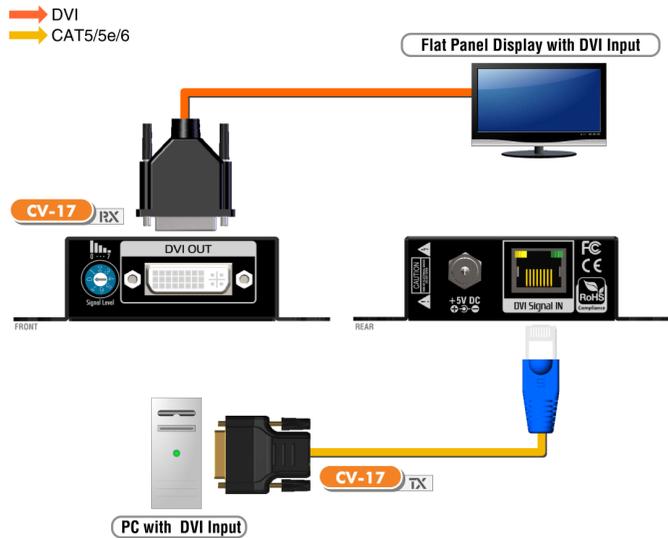
EDID LEARNING

- Plug in DVI male-male cable between DVI OUT and the monitor and power on the CV-17-RX.
- Turn EQ/EDID counterclockwise to 7. The LED on the RJ45 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.
- Unplug the DVI M-M cable from the monitor and connect it to the mini-transmitter CV-17-TX. The LED on the RJ45 connector will dim and light again in a few seconds, which indicates the monitor's EDID is transferred to the CV-17-TX.
- Unplug the DVI M-M cable from the mini-transmitter and reconnect it to the monitor. Connect the mini-transmitter CV-17-TX to the DVI source and enjoy the visual experience.
- To restore the EDID back to default value, please turn EQ/EDID clockwise from anywhere to 6. The LED on the RJ45 connector will dim and light again in a few seconds, which indicates the EDID is restored to default.

DVI OVER SINGLE CAT5 SERIES LINEUP

| | CV-15 | CV-17 | CV-117 | WP-117 |
|--|------------|----------------|------------|-------------|
| 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 |

CONNECTION DIAGRAM



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 EIA/TIA-568-B termination (T568B) at any time | | |

NOTICE

- When adjusting the signal level on the receiver unit, please dial the rotary control switch from 7 to 0 and stop turning the rotary switch whenever the audio/video is playing normally. Inappropriate signal level setting may cause overpowering issue that would shorten the product life significantly!
- If the DVI or HDMI device requires the EDID information, please use EDID Reader/Writer to retrieve and provide DVI/HDMI EDID information.
- All HDMI over CAT5 transmission distances are measured using Belden 1583A CAT5e 125MHz LAN cable and ASTRODESIGN Video Signal Generator VG-859C.
- 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.
- EIA/TIA-568-B termination (T568B) for LAN cables is recommended for better performance.
- 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.
- 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.

WARRANTY

The SELLER warrants the **CV-17 DVI Extender over Single Cat.X** 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-17** features and specifications is subject to change without further notice.