

**INSTALLATION
AND
OPERATIONS
MANUAL**



LIMITED WARRANTY

Rose Electronics warrants the CrystalView USB2 to be in good working order for one year from the date of purchase from Rose Electronics or an authorized dealer. Should this product fail to be in good working order at any time during this one-year warranty period, Rose Electronics will, at its option, repair or replace the Unit as set forth below. Repair parts and replacement units will be either reconditioned or new. All replaced parts become the property of Rose Electronics. This limited warranty does not include service to repair damage to the Unit resulting from accident, disaster, abuse, or unauthorized modification of the Unit, including static discharge and power surges.

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INTRODUCTION

Disclaimer

While every precaution has been taken in the preparation of this manual, the manufacturer assumes no responsibility for errors or omissions. Neither does the manufacturer assume any liability for damages resulting from the use of the information contained herein. The manufacturer reserves the right to change the specifications, functions, or circuitry of the product without notice.

The manufacturer cannot accept liability for damages due to misuse of the product or other circumstances outside the manufacturer's control. The manufacturer will not be responsible for any loss, damage, or injury arising directly or indirectly from the use of this product.

System introduction

Thank you for choosing the Rose Electronics® CrystalView USB2™. The CrystalView USB2 is a very versatile CATx extender. Single, dual, and quad video, stereo audio (optional) and up to four USB devices can be extended up to 150 feet from a USB 2.0 compliant computer. A standard USB hub can be connected to increase the number of USB devices. All video signals are automatically adjusted for equalization, gain, and skew (optional). The CATx cable length is calculated and the video automatically adjusted for a crystal clear display regardless of the CATx cable type or cable length.

The system consists of two Units, a transmitter and a receiver. The transmitter connects to your CPU's video port(s) and USB port. The receiver connects directly to the remote video monitor(s) and to the USB devices. The transmitter and receiver are connected together with up to 150 feet of industry standard CATx cable.

When power is applied to the system, the CrystalView USB2 will calculate the video CATx cable length and automatically adjust the equalization and gain. The auto-skew model will automatically adjust the RGB video components to produce a perfect display. Special keyboard commands can be issued to fine tune the video gain and equalization but are rarely needed. Manual video adjustments may be required depending on the cable routing and if patch panels are used.

The CrystalView USB2 is available in single, dual, and quad video models. All models support USB 2.0 and video resolutions up to 1920 x 1200.

An AUX/KB USB or PS/2 connector is located on the receiver unit, one USB or PS/2 port for each video. This AUX/KB port is for video adjustments only.

Features

- Supports USB 1.1 (low/full speed) and USB 2.0 (high-speed) devices
- Extend single, dual, or quad video and USB 1.1 or 2.0 peripherals up to 150 ft (50m) from a USB 2.0 compliant CPU using CATx cable
- CD quality audio available on the single or dual video models
- Cable length compensation adjustments (Equalization and gain) are automatically performed
- Video equalization and gain can be fine tuned using simple keyboard commands
- Automatic video skew adjustments (optional)
- VESA enhanced DDC enables plug-and-play capability
- Supports:
 - SVGA, VGA, XGA, RGB video modes
 - Single, Dual, or Quad head VGA video models
 - USB or PS/2 keyboards and mice
 - USB 2.0 high-speed peripherals
 - Video resolutions up to 1920 x 1200 @ 60Hz
- Up to 500 ma of power is available at each USB port for powering high-power USB devices
- Operating system independent
- Made in USA

Cable Requirements

Video source to Transmitter	HD15M to HD15M
USB source to Transmitter	USB Type A M to USB Type B F
Transmitter to Receiver	CATx cable terminated with RJ45M

Compatibility

- Computer – EHCI (USB 2.0) host controller
OHCI/UHCI (USB 1.1) host controllers is not supported
- USB Devices – Most USB devices that comply with USB standards
- Monitors – SVGA, VGA, XGA, RGB

Package Contents

- Transmitter / Receiver Units
Power adapters (2)
Installation and Operations manual

Rose Electronics Web Site

Visit our web site at www.rose.com for additional information on the CrystalView USB2 and other products designed for data center applications, classroom environments, and many other applications. Register your product at www.rose.com/htm/online-registrationform.htm

MODELS

CrystalView USB2 Models

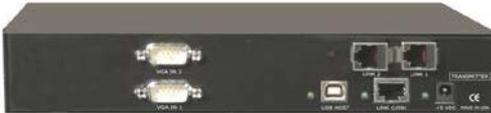


Transmitter



Receiver

Single Video Model

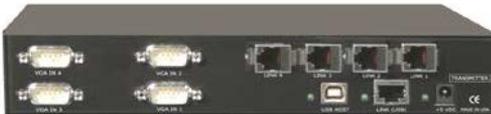


Transmitter



Receiver

Dual Video Model



Transmitter



Receiver

Quad Video Model

Connectors

Transmitter

VGA IN	HD15M
LINK x	RJ45F
LINK USB	RJ45F
LINK HOST	USB TYPE B
Audio	3.5mm
POWER	+5VDC

Receiver

VGA OUT	HD15F
LINK x	RJ45F
LINK USB	RJ45F
USB DEVICES	USB TYPE A
Audio	3.5mm
AUX / KB	USB TYPE A
POWER	+5VDC

INSTALLATION

Installation

Please refer to the safety section first before proceeding with any installation or configuration of the CrystalView USB2. It is recommended that the following installation procedure be followed to assure proper cable connections, power up sequencing, and accurate monitor DDC table information is obtained from the connected video monitors. Also all equipment should be powered off until all cabling is connected.

Figure 1 shows a typical configuration using the single video model. The dual and quad video models are installed and configured in the same manner with 2 or 4 PC video ports connected to the transmitter unit and 2 or 4 video monitors connected to the receiver unit.

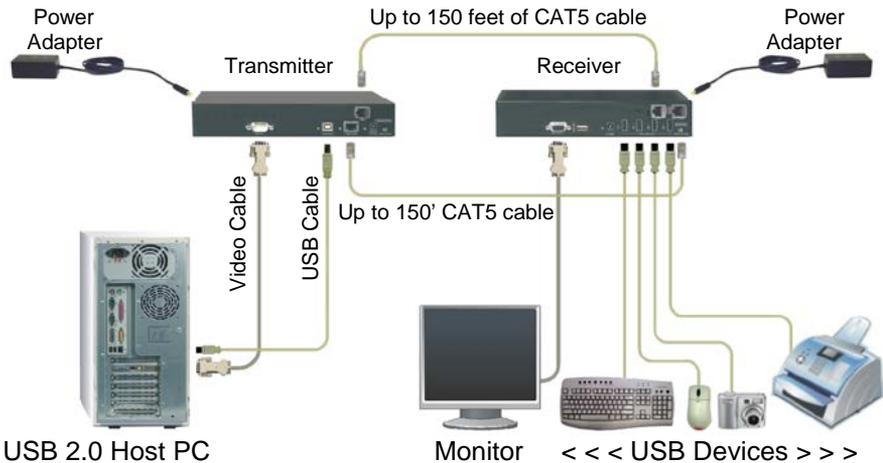


Figure 1 - Typical Configuration

NOTE: The maximum length of the Category 5 UTP cable must not exceed 50m. If Cat-5 patch cable is used, total length should not exceed 10m (EIA/TIA-568 specification).

NOTE: All references to Category 5 UTP solid core cable in this document represent the minimum requirement. Category 5E, Category 6 or better UTP or STP cable may be substituted.

NOTE: All units in the system should be tied to a common EARTH ground for proper operation

Transmitter installation

Refer to Figure 1 for transmitter installation

1. Locate the transmitter near the host computer
2. Connect the power adapter to the transmitter (Do not apply power)
3. Connect a video extender cable from the transmitters HD15M connector to the host computers HD15F video output port and an audio cable (optional)
4. Connect a USB cable from the Type B USB port on the transmitter to the Type A USB port on the host computer

NOTE: The host computer must be equipped with an EHCI host controller (USB 2.0). OHCI / UHCI (USB 1.1) host controllers are not supported. Video and USB cable lengths should not exceed 6.6'

Receiver Installation

Refer to Figure 1 for receiver installation

1. Locate the receiver near the USB devices and video monitor
2. Connect the power adapter to the transmitter (Do not apply power)
3. Connect a video monitor to the receivers HD15F connector and audio cable (optional)
4. Connect the USB devices to the USB ports on the receiver

Transmitter to Receiver installation (see note on page 5)

Refer to Figure 1 for transmitter to Receiver cable installation

1. Connect up to feet of CAT5 cable from the transmitters LINK 1 RJ45 connector to the receivers LINK 1 RJ45 connector and from the transmitters LINK USB (1-4) RJ45 connectors to the receivers LINK USB (1-4) RJ45 connectors.

Connecting monitor(s) and USB Devices

1. Connect a video monitor to the receivers HD15F connector
2. Connect the USB devices to the USB ports on the receiver

Installing the dual and quad video models follows the same procedure. For the dual model, connect two video sources to the transmitter and two video monitors to the receiver. For the quad model connect four video sources to the transmitter and four video monitors to the receiver.

First time power up sequence

The first time the system is powered up or a monitor is changed, the below power up sequence should be followed

1. Turn on all video monitors
2. Apply power to the CrystalView USB2 Receiver
3. Apply power to the CrystalView USB2 Transmitter
4. Boot the PCs
5. Turn on all USB devices

Operating procedure

Operation of your system is no different than having your keyboard, monitor, mouse, speakers, and USB devices connected directly to a PC. The only difference is they can be up to 150 feet away. You can operate your system normally, programs can be executed, maintenance can be performed, and any operation normally performed can be done with no derogation in video quality and performance.

The video signal on all models can be fine tuned using simple keyboard commands. This is normally not needed but sometimes cable routing and patch panels can degrade the video signal. Next to each video in port (HD15M) on the receiver there is a USB Type A port labeled AUX/KBD. To execute the keyboard commands, connect a USB keyboard to the appropriate AUX/KBD port. The AUX/KBD port is for video adjustments only. Once the video has been adjusted perform the keyboard command Left Ctrl, Left Shift, k to save the information.

Keyboard Commands

Command	Description
Left Ctrl, Left Shift, e:	Perform a cable length measurement
Left Ctrl, Left Shift, keyboard +:	Increase the video gain by 1
Left Ctrl, Left Shift, keyboard -:	Decrease the video gain by 1.
Left Ctrl, Left Shift, keypad +:	increase the video equalization by 1
Left Ctrl, Left Shift, keypad -:	Decrease the video equalization by 1
Left Ctrl, Left Shift, k	Saves any changes made

Table 1 - Keyboard Commands

LED Indicator Descriptions

	LED "ON"
Transmitter "Host" LED	USB connection to computer OK
Transmitter "Link" LED	CAT5 link from receiver to transmitter OK
Transmitter "Power" LED	Power applied to transmitter OK
Receiver "Link" LED	CAT5 link from transmitter to receiver OK
Receiver "Device" LED	USB Device connections OK
Receiver "Power" LED	Power applied to receiver OK

Table 2 - LED Indicators

Troubleshooting

The troubleshooting section is used as a guide to understanding the capabilities of the ViewLink CATx and for general troubleshooting. If you have any problems or questions concerning the installation, operation or usage of the ViewLink CATx that is not covered in this manual, please contact Rose Electronics for technical support.

- **No video on the receiver monitor**
 - Check CATx connection at the receiver, transmitter, patch panels (if applicable)
 - Check HD15 video connection at the receiver and transmitter
 - Verify video is present at the video card output

- **All LEDs on the receiver and transmitter are off**
 - Check power adapter connection to the units
 - Check AC power input to the adapter

- **The Link LED on the transmitter is on, the Host LED is off**
 - The transmitter is not connected to the computer
 - The computer does not support USB 2.0 hubs
 - Verify that the Device Manager recognizes the CrystalView USB2 as a generic USB hub

- **USB device connected to the receiver but “Device” LED is off**
 - The USB device is not functioning properly
 - The computer does not recognize the USB device
 - The Device application software is not operating

Maintenance and Repair

This Unit does not contain any internal user-serviceable parts. In the event a Unit needs repair or maintenance, you must first obtain a Return Authorization (RA) number from Rose Electronics or an authorized repair center. This Return Authorization number must appear on the outside of the shipping container.

See Limited Warranty for more information.

When returning a Unit, it should be double-packed in the original container or equivalent, insured and shipped to:

Rose Electronics
Attn: RA _____
10707 Stancliff Road
Houston, Texas 77099 USA

Technical Support

If you are experiencing problems, or need assistance in setting up, configuring, or operating your CrystalView USB2, consult the appropriate sections of this manual. If, however, you require additional information or assistance, please contact the Rose Electronics Technical Support Department at:

Phone: (281) 933-7673
E-Mail: TechSupport@rose.com
Web: www.rose.com

Technical Support hours are from: 8:00 am to 6:00 pm CST (USA), Monday through Friday.

Please report any malfunctions in the operation of this Unit or any discrepancies in this manual to the Rose Electronics Technical Support Department.

Safety

The CrystalView USB2 USB and video extender has been tested for conformance to safety regulations and requirements, and has been certified for international use. Like all electronic equipment, the CrystalView USB2 should be used with care. To protect yourself from possible injury and to minimize the risk of damage to the Unit, read and follow these safety instructions.

- Follow all instructions and warnings marked on this Unit.
- Except where explained in this manual, do not attempt to service this Unit yourself.
- Do not use this Unit near water.
- Provide proper ventilation and air circulation.
- Keep power cord and connection cables clear of obstructions that might cause damage to them.
- Use only power cords and connection cables designed for this Unit.
- Use only a grounded (three-wire) electrical outlet.
- Use only the power adapter provided with the CrystalView USB2 .
- Keep objects that might damage this Unit and liquids that may spill, clear from this Unit. Liquids and foreign objects might come in contact with voltage points that could create a risk of fire or electrical shock.
- Operate this Unit only when the cover is in place.
- Do not use liquid or aerosol cleaners to clean this Unit. Always unplug this Unit from its electrical outlet before cleaning.
- Unplug this Unit from the electrical outlet and refer servicing to a qualified service center if any of the following conditions occur:
 - The power cord or connection cables are damaged or frayed.
 - The Unit has been exposed to any liquids.
 - The Unit does not operate normally when all operating instructions have been followed.
 - The Unit has been dropped or the case has been damaged.
 - The Unit exhibits a distinct change in performance, indicating a need for service.

Appendix A. General Specifications

Part Number	Description
CRK-1VH4U2TP-150	Single Video / USB 2.0
CRK-2VH4U2TP-150	Dual Video / USB 2.0
CRK-4VH4U2TP-150	Quad Video / USB 2.0
CRK-1VP4U2TP-150	Single Video / USB 2.0 AUX – PS/2
CRK-2VP4U2TP-150	Dual Video / USB 2.0 AUX – PS/2
CRK-4VP4U2TP-150	Quad Video / USB 2.0 AUX – PS/2
TFR-05D500FSUB-2.1	5V / 5A Universal Power Adapter

/W suffix = Automatic skew Adjustment option

/A1 suffix = uni-directional Audio option (single and dual models only)

/A2 suffix = bi-directional Audio option (single and dual models only)

Dimensions	Width	Depth	Height	Weight
Transmitter (in / cm)	8.8 / 22.4	5.6 / 14.2	1.75 / 4.45	3.3lb / 1.5kg
Receiver (in / cm)	8.8 / 22.4	5.6 / 14.2	1.75 / 4.45	3.3lb / 1.5kg

Distance 150 feet (50 m)

Resolution 1920 x 1200 @ 60 Hz

Compatibility SVGA, VGA, XGA, RGB
USB 1.1 (low and full speed) /
USB 2.0 (high-speed)

Levels: 0.7V p-p

Sync type Separate / composite TTL level

Receiver output 500ma per USB output port
power at each USB port

Audio Data:

Signal level 5V p-p

Impedance 47KΩ

Connectors 3.5mm stereo jack

Transmission 16 bit, 38.4KHz Digitized audio

Speakers Powered

Environment Operating Temp. 32°F-113°F (0°C-45°C)

Humidity 0% - 80% non-condensing



Server Management



Solutions