

VideoSplitter CAT5™

with serial/audio option

INSTALLATION AND OPERATIONS MANUAL



10707 Stancliff Road
Houston, Texas 77099

Phone: (281) 933-7673
WWW.ROSE.COM

LIMITED WARRANTY

Rose Electronics® warrants the VideoSplitter CAT5™ 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.

Limited Warranty service may be obtained by delivering this unit during the one-year warranty period to Rose Electronics or an authorized repair center providing a proof of purchase date. If this Unit is delivered by mail, you agree to insure the Unit or assume the risk of loss or damage in transit, to prepay shipping charges to the warranty service location, and to use the original shipping container or its equivalent. You must call for a return authorization number first. Under no circumstances will a unit be accepted without a return authorization number. Contact an authorized repair center or Rose Electronics for further information.

ALL EXPRESS AND IMPLIED WARRANTIES FOR THIS PRODUCT INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE LIMITED IN DURATION TO A PERIOD OF ONE YEAR FROM THE DATE OF PURCHASE, AND NO WARRANTIES, WHETHER EXPRESS OR IMPLIED, WILL APPLY AFTER THIS PERIOD. SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU.

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NOTE: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

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**FEDERAL COMMUNICATIONS COMMISSION
AND INDUSTRY CANADA
RADIO-FREQUENCY INTERFERENCE STATEMENTS**

This equipment generates, uses and can radiate radio frequency energy and if not installed and used properly, that is in strict accordance with the manufacturer's instructions may cause interference to radio communication. It has been tested and found to comply with the limits for a Class B digital device in accordance with the specifications of Part 15 of FCC rules, which are designed to provide reasonable protection against such interference when the equipment is operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference, in which case the user at his own expense will be required to take whatever measures may be necessary to correct the interference.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. This digital apparatus does not exceed the Class A limits for radio noise emission from digital apparatus set out in the Radio Interference Regulation of Industry Canada.

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la classe A prescrites dans le Règlement sur le brouillage radioélectrique publié par Industrie Canada.

**EUROPEAN UNION DECLARATION OF CONFORMITY
ACCORDING TO COUNCIL DIRECTIVE 89/336EEC & 73/23EEC**



This equipment is in conformity with the protection requirements of the following Council Directives:

The EMC Directive 89/336/EEC

The Low Voltage Directive 73/23/EEC

The Declaration of Conformity is based upon compliance of the product with the following harmonized standards:

EN55022: 1994 EN61000-3-3: 1995

EN55024: 1998 EN61000-3-2: 1995

EN60950: 2000

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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® VideoSplitter CAT5™. The VideoSplitter CAT5 is the result of Rose Electronics commitment to providing state-of-the-art solutions for today's demanding workplace. The VideoSplitter CAT5 has proven to be a valuable investment for any business, big or small, that has a need to distribute a video source to multiple locations. The VideoSplitter CAT5 is available in a 6 port and 12 port model with serial and audio options. The serial and audio models distribute the video and audio signals to multiple sites. Serial support is supported on each individual module. Contact Rose Electronics support if serial distribution to the remote stations is needed..

The VideoSplitter CAT5 system consists of the 6 or 12 port VideoSplitter CAT5 Unit and the Remote Units. The VideoSplitter CAT5 unit connects to your computers video port using a DB25M to HD15M Rose UltraCable. Serial and audio models also connect to the audio in/out ports and the serial DB9 port on a computer. The VideoSplitter CAT5 unit and Remote Units are connected together with industry standard CAT5 shielded or unshielded, solid core twisted-pair cable terminated with RJ45 connectors. CAT5 cable can be ordered from Rose Electronics in 25-1,000 foot lengths.

Using the VideoSplitter CAT5 unit to distribute your video and optional audio has several applications that make it convenient for the users. You can locate up to 12 monitors 1,000 foot away from your computer.

Features

- Extend a single video source to 6 or 12 video monitors using CAT5 twisted pair, solid core cables (Up to 1,000 feet)
- Optionally extend full stereo audio to 6 or 12 remote stations using a single CAT5 cable
- Video resolutions up to:
 - 1600 x 1200 at 200 feet,
 - 1280 x 1024 at 300 feet,
 - 1024 x 768 at 1,000 feet(Video resolution will vary depending on the remote unit model used)
- Video brightness and sharpness controls on the Remote Unit adjust brightness and clarity (depending on remote model used).

Compatibility

Computers	PCs with standard keyboards and PS/2 mice, 286, 386, 486, Pentium, etc.
Monitors	VGA, Super VGA, XGA, RGB (Sync-on-green)

Package contents

The package contents consists of the following:

- The VideoSplitter CAT5 unit
- Installation and operations manual.

CPU to VideoSplitter CAT5, audio, serial, and CAT5 cables are usually ordered separately. If the package contents are not correct, contact Rose Electronics or your reseller, so the problem can be quickly resolved.

Rose Electronics web site

Visit our web site at www.rose.com for additional information on the VideoSplitter CAT5 and other products that are designed for data center applications, classroom environments and other applications.

About this manual

This manual covers the installation and operation of the 6 and 12 port VideoSplitter CAT5 units

Models



6 port model

12 port model

Front View



Rear View (video splitter only)



Rear View (video, serial/audio splitter)

Figure 1. Models

Connectors:

Front

- 6 or 12 RJ45 – CAT5 cable connection.

Rear

- DB25F
- DB9F (6) Serial in
- 3.5mm (6) audio out, (1) audio in
- +5V power adapter jack

Cabling

Unit to CPU cable

A CPU cable connects from the VideoSplitter CAT5 Unit to a CPU's video monitor port. Serial and audio models also connect a stereo audio cable and DB9 serial cable to the CPU's audio in/out and serial port.

Max VideoSplitter CAT5 Unit to CPU cable length is 20 feet using standard cabling. Using coax cabling, this distance can be extended.

VideoSplitter CAT5 Unit to Remote Unit cable

The VideoSplitter CAT5 Unit is connected to the Remote Units with up to 1,000 feet of standard CAT5 UTP/STP "solid core" cable terminated with RJ45 connectors. Rose Electronics cable part number CAB-08UTPnnn.

Remote Units to video monitor cable

In most cases, the video monitors can connect directly to the remote receiver units HD15F connector. Serial and audio models also connect to a set of stereo audio speakers and a serial device.

NOTE: Serial functions are must be initialized properly for this function to operate properly.

Power adapter



The power adapter used with the VideoSplitter CAT5 is a 110V/220V to 5V DC regulated adapter. Use only the power adapter furnished

The VideoSplitter CAT5 Unit has been tested with all major makes of CAT5 cables, including BICC-VERO[®], Mohawk[®] and AT&T[®]. It has also been tested on CAT3 cable and on pairs within a 25-pair UTP trunk cable.

The video performance will vary with different cable types. For the best performance and video quality, Rose Electronics recommends that only CAT5 "Solid Core" cable be used.

Installation

Please refer to the safety section first before proceeding with any installation or configuration.

Installation of the VideoSplitter CAT5 Unit consists of the following easy steps.

1. Connect the unit to a computer's video port
2. Connect the audio and serial if applicable
3. Connect the unit to the remote receiver units
4. Connect the video monitors to the receiver units
5. Applying the power.
6. Adjust the video compensation (if needed).

When installing the VideoSplitter CAT5 Unit, locate it as close as possible to the CPU or video source. Keep the CPU cable as short as possible but still give some freedom of movement. Using shorter cables keeps the video noise to a minimum and reduces installation costs.

Wherever the units are located, they should be on a secure surface and free from obstructions and objects that may cause damage to the units.

Step 1 – Connecting the unit to a CPU video port

- Using the appropriate CPU to VideoSplitter CAT5 cable, connect the DB25M cable connector to the rear DB25F connector
- Connect the HD15F cable connector to the HD15M video port on a computer or video source

Step 2 – Connecting the unit to the serial and audio ports

- Using the appropriate stereo audio cable, connect the 3.5mm cable to the audio out/in ports on a computer and to the VideoSplitter audio in/out ports.
- Connect a DB9M cable to the DB9F serial port on a computer

Step 3 – Connecting the unit to the remote receiver units

- Connect a CAT5 cable from each RJ45 port on the VideoSplitter CAT5 to a receiver units RJ45 port.
(Note: If using Rose Electronics CRV-R receiver, set all dip switches to the "ON" position prior to applying power)

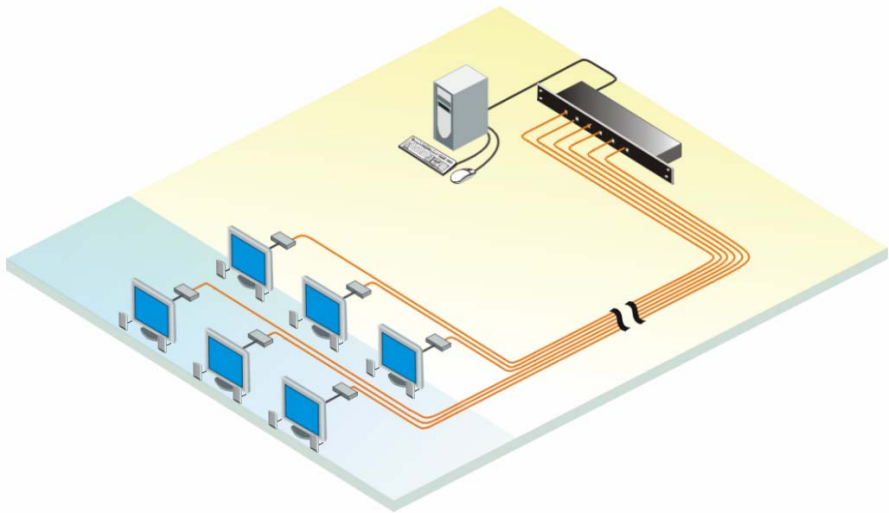
Step 3 – Connecting the remote receiver units to a video monitor

- Connect the video monitor's HD15M cable directly to the HD15F connector on the remote receiver units. Optional stereo speakers.

Step 4 – Applying power

- Connect the power adapter to a 110/220 volt source and to the VideoSplitter CAT5 unit's power input jack
- Connect the appropriate power adapter (if needed) to the remote receiver units
- Power on the all remote units prior to powering on the VideoSplitter unit.
- Apply power to the computer connected to the VideoSplitter CAT5 or other video sources power

When all connections have been made and the computer booted, the video from the computer will display on all remote monitors. Depending on the model used for the remote receiver, some video adjustments may be needed due to differences in cable length, type of monitors used, CAT5 cable routing, or other factors. Refer to the users manual for the remote receiver units for the video adjustment procedures.



You can mount the VideoSplitter CAT5 Unit in a CPU rack. When mounting the VideoSplitter CAT5 Unit in a rack, follow the instructions in Appendix C. Assure that the operating temperature does not exceed the maximum ratings. Provide adequate air circulation to assure that the maximum operating temperature is not exceeded.

Operating instructions- All models

Operating the VideoSplitter CAT5 is virtually transparent to the user. Once setup, the video produced from the computer or video source is sent to the VideoSplitter CAT5, split into 6 or 12 video paths and routed via CAT5 cable to the receiver units. The receiver units send the video source to the connected monitors. Full stereo audio is sent to the connected speakers on the serial/audio model. Touchscreen functions depend on the will vary depending on the applications and features needed.

Typical applications

The VideoSplitter CAT5 is ideal for any application where a single video source needs to be distributed to multiple monitors. Company information, slide show presentations, stock reports, airline schedules, building directories and many more applications can be made available to multiple locations.

Serial Function

For the serial feature to function properly, the remote CrystalView units that are connected to each computer via CAT5 cable must be connected and powered on prior to applying power to the Video Splitter.

Each remote CrystalView unit connects to one of the RJ45 inputs on the Video Splitter. The serial loop cable used to connect each serial connector together should only be connected to the modules being used. For example, if you connect the remote CrystalView units to module #1, #2, #3, and #6 on the Video Splitter, only connect the loop cable to serial ports #1, #2, #3, and #6. Do not connect the loop cable to serial ports #4 and #5.

Troubleshooting

The troubleshooting section is used as a guide to understanding the capabilities of the VideoSplitter CAT5 and for general troubleshooting. If you have any problems or questions concerning the installation, operation or usage of the VideoSplitter CAT5 that is not covered in this manual, please contact Rose Electronics for technical support.

Video picture is not sharp or is smeared.

- Video compensation is incorrectly set. See the appropriate section of the receivers installation manual for adjusting the video.
- The UTP/STP interconnection cable is wired incorrectly.
- Check that the UTP/STP cable is solid and not a stranded cable and all connectors and patch cables are correct.

Monitor occasionally loses sync causing it to go blank for a few seconds.

- This occurs if your electrical power system is very noisy, particularly the ground. Do not run the interconnection cables near power line

No picture appears.

- The probable cause is that the VideoSplitter CAT5 unit or the receiver unit is not powered on. Check the power adapter connections at the 110V source and the rear power connector on the VideoSplitter CAT5 or receiver unit.

Picture on monitor is black and white, not color.

- The video cable was not attached to the PC when it was booted. Reboot the PC.

A constant vertical wobble appears down the screen.

- The CAT5 cable connecting the VideoSplitter CAT5 and Remote Units could be located too close to a strong power source. Reroute the cabling if possible.
- If interference is from strong signals from a nearby broadcast transmitter, a beat pattern will appear. Change the vertical refresh rate on the monitor slightly, such as from 60Hz to 70Hz.

Service Information

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 VideoSplitter CAT5, consult the appropriate sections of this manual or the receiver unit's 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 VideoSplitter CAT5 has been tested for conformance to safety regulations and requirements, and has been certified for international use. Like all electronic equipment, the VideoSplitter CAT5 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.
- Assure that the placement of this Unit is on a stable surface or rack mounted.
- 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, power adapter and connection cables designed for this Unit.
- Use only a grounded (three-wire) electrical outlet.
- Use only the power adapter provided with the Unit
- 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 is 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.

Safety and EMC Regulatory Statements

Safety information



Documentation reference symbol. If the product is marked with this symbol, refer to the product documentation to get more information about the product.

WARNING A WARNING in the manual denotes a hazard that can cause injury or death.

CAUTION A CAUTION in the manual denotes a hazard that can damage equipment.

Do not proceed beyond a WARNING or CAUTION notice until you have understood the hazardous conditions and have taken appropriate steps.

Grounding

These are Safety Class I products and have protective earthing terminals. There must be an un-interruptible safety earth ground from the main power source to the product's input wiring terminals, power cord, or supplied power cord set. Whenever it is likely that the protection has been impaired, disconnect the power cord until the ground has been restored.

Servicing

There are no user-serviceable parts inside these products. Only service-trained personnel must perform any servicing, maintenance, or repair.

The user may adjust only items mentioned in this manual.

Appendix A. General Specifications

Video bandwidth (-3db)	Local Unit: 150 MHz	
Maximum resolution	< 200' 1600 x 1200 200' – 300' 1280 x 1024 300' – 1,000' 1024 x 768	
Video compatibility	SVGA, VGA, XGA, RGB	
Video levels	0.7V P-P	
Video compensation	3-Stage continuously variable	
Video coupling	DC	
Sync type	Separate/composite TTL level sync polarity is preserved.	
Power	5V, 1,000 ma. Regulated	
Connectors	Unit to PC – DB25M to HD15M Interconnect: CAT5 solid UTP/STP EIA/TIA 568 cable wiring with RJ45 connectors.	
Temp/Humidity	32° F-113° F / 0° C-45° C / 0% to 80% RH	
Dimensions	6-port model	12-port model
W	17.0 in	17.0 in
D	4.2 in	4.2 in
H	1.75 in	3.5 in
Weight	3.75 – 4.00 lbs	5.00 – 5.5 lbs

Appendix B. Parts and cables

Part Number	Description
CRV-6SLP-VS	6 port VideoSplitter unit
CRV-12SLP-VS	12 port VideoSplitter unit
CAB-08UTPnnn*	CAT5 UTP cable**
CAB-D9F6XD9M	1-DB9F to 6-DB9M (Serial loop cable)
/AUD	Suffix = serial/audio option
CAB-CX0000Cnnn*	VideoSplitter CAT5 to CPU (DB25M to HD15F)

* nnn = 5, 10, 20 feet.

** CAT5 cable available from 25 to 1,000 feet.

Appendix C. Rack mount instructions

To rack mount your VideoSplitter CAT5, secure the mounting brackets to the rack using the appropriate size bolts, nuts and lock washers.

The following guidelines should be observed when installing.

- a). Do not exceed the operating temperature of 0° C to 45° C.
- b). Do not block power supply vents or restrict airflow.
- c). Mechanical loading of the rack should be considered to prevent instability and possible tipping over.
- d). Tighten all connectors securely and provide adequate strain relief for all cables.
- e). Provide a grounded power source to all Units. Pay special attention to overall branch circuit load ratings before connecting equipment to this source. Overloaded circuits are potential fire hazards and can cause equipment failures or poor performance.





Server Management



Solutions

株式会社 **サイバネテック**

〒104-0028 東京都中央区八重洲2-11-4
TEL : 03-3272-8503 FAX : 03-3274-9550
[https : //www.cybernetech.co.jp](https://www.cybernetech.co.jp)