Crestron **IM-WCVI**

iMedia Wall Plate Computer Center with Video Interface

Operations & Installation Guide

CRESTRON®

This document was prepared and written by the Technical Documentation department at:

Crestron Electronics, Inc.
15 Volvo Drive
Rockleigh, NJ 07647
1-888-CRESTRON

Contents

iMedia Wall Plate Computer Center with Video Interface: IM-WCVI

Introduction

Features and Functions

- Separate interface panel for use IM-WCVP iMedia Wall Plate Computer Center with Video Control Panel[1]
- Connects to IM-WCVP to create IM-WCCV-S Wall Plate Computer Center with Video using CresCAT™-IM iMedia cable or other high quality CAT5 cable (up to 40 feet)[2]
- Connects PC and composite video (with audio) sources to iMedia systems
- Mounts in a standard, 2½ inch deep, double-gang electrical box

1. The IM-WCVI is part of the IM-WCCV-S. It must be used with the IM-WCVP.
2. For more information on CresCAT-IM cable, refer to "IM Wiring" on page 7.

The iMedia Transport

The iMedia transport utilizes a single CAT5e* type cable to transmit computer RGB, video, and stereo audio signals to a single projector or plasma display. A typical XGA signal (1024 X 768 pixels at 60Hz) can be transmitted up to 84 feet using iMedia, while higher resolutions up to 1600 x 1200 can be handled over shorter distances. Composite video signals can be transmitted up to 218 feet. Audio is transmitted digitally at 20-bit, 48 kHz resolution. Control and power signals are also contained on the same wire, eliminating the need for separate control or power cables.

* For iMedia use CresCAT-IM cable, or quality CAT5e/CAT6 cable having a maximum delay skew of 15ns per 100m.

2-Piece Wall Plate Multimedia Interface

The IM-WCCV-S is an iMedia (IM) transmitter featuring separate wall plates for interface and control. The interface panel (IM-WCVI) is designed to install in a

standard 2-gang electrical box, providing video, RGB, and stereo audio inputs for connection to the output of a computer or AV source. The control panel (IM-WCVP) is a separate 1-gang wall plate, which may be installed up to 40 feet from the interface panel.

Installing wiring for the IM-WCCV-S is extremely simple using CRESCAT-IM cable. Up to three IM-WCCV-S's, or other IM transmitters, may be installed as part of a complete system to provide multiple input locations within the room.

Foolproof Operation

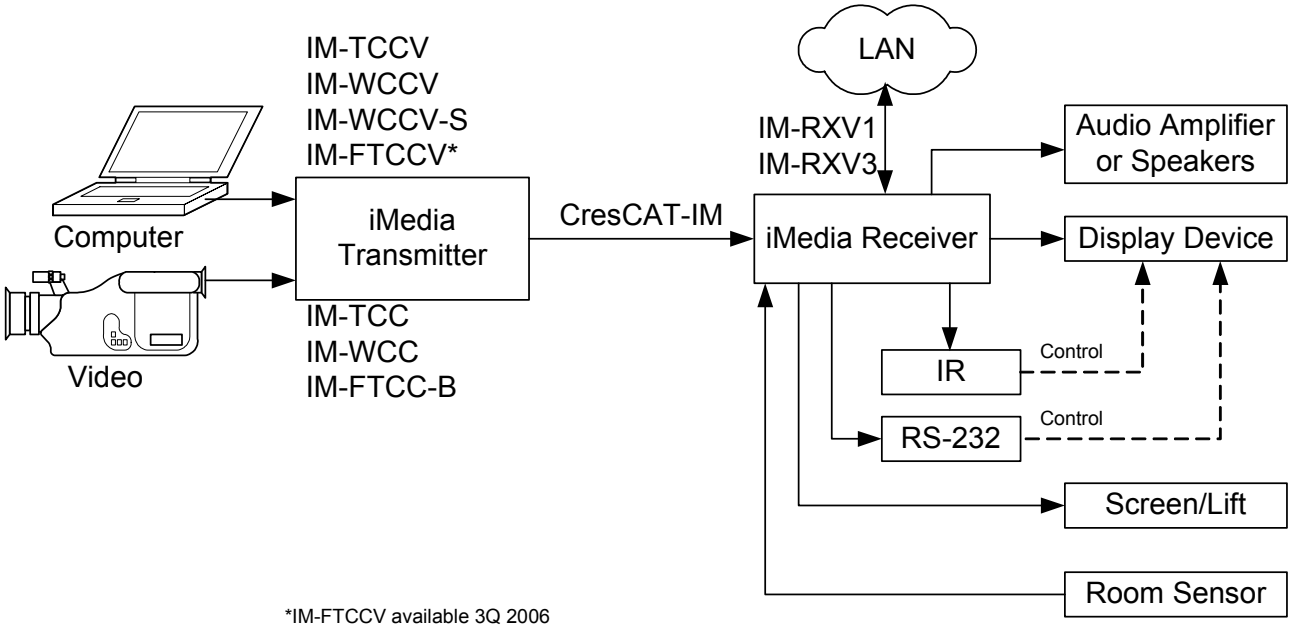
Every iMedia system is easy and intuitive to use. A simple press of the **VIDEO** or **PC** buttons on the control panel selects the appropriate input, turns on the projector (or plasma, etc.), lowers the screen or lift, and routes all the signals where they need to go. The volume control affords easy adjustment of the audio level, and the entire system can be turned off at any time by simply holding down either button for five seconds.

For systems having more than one IM transmitter, selecting an input at a given input location overrides the previously selected input at any other location. The audio level for each input location is controlled individually by its respective volume control.

Application

The IM-WCVI is part of the IM-WCCV-S iMedia transmitter. As shown in the following diagram, iMedia transmitters provide input points for video and PC sources on an iMedia receiver.

iMedia System Diagram



*IM-FTCCV available 3Q 2006

Specifications

Specifications for the IM-WCVI are listed in the following table.

IM-WCVI Specifications

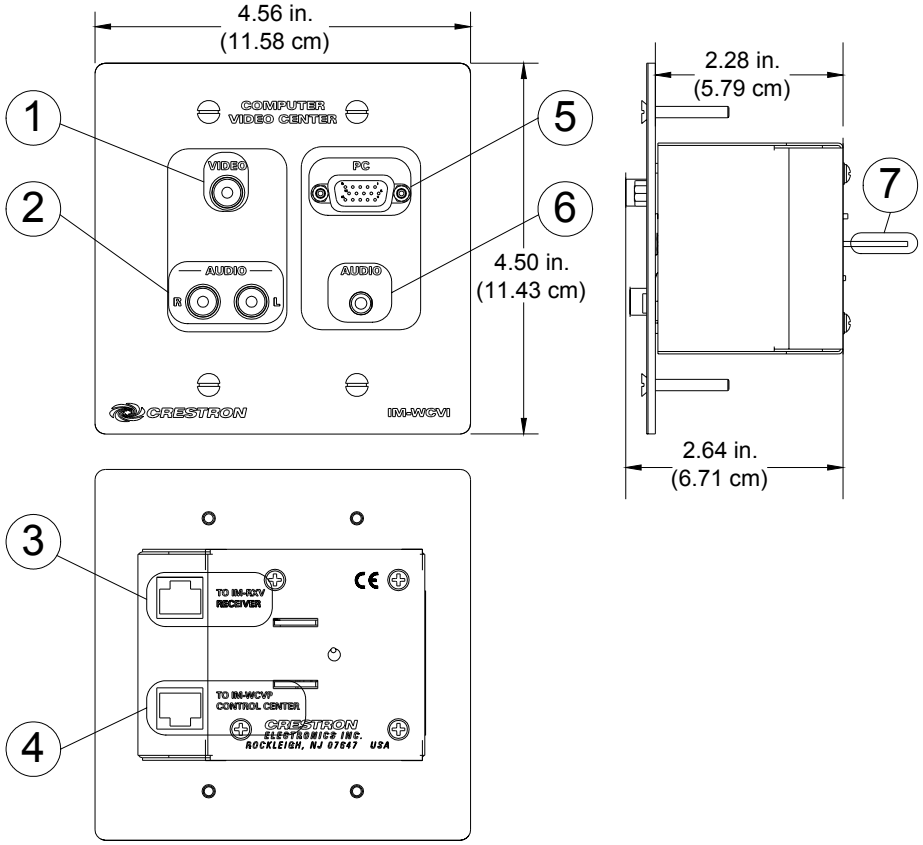
SPECIFICATION	DETAILS
Video Formats	RGBHV (VGA), RGBS, RGsB, composite
RGB Video	
Gain	R/G/B: 0 dB (unity gain, 75 ohm termination)
Max. Input Voltage	R/G/B: 1.0 V_{PP} H/V: 5 V_{PP}
Input Impedance	R/G/B: 75 Ohms H/V: 1k Ohms
Resolutions	Supports videos up to XGA @ 60 Hz vertical rate with maximum cable length of 84 feet and maximum compensation at receiver. For higher pixel resolutions (up to 1600 X 1200 pixels at 60 Hz vertical rate) refer to the chart on page 8.
Composite Video	
Gain	Composite: 0 dB (unity gain, 75 ohm termination)
Max. Input Voltage	1.0 V_{PP}
Input Impedance	75 Ohms
Bandwidth	> 100 MHz (-3 dB) at unity gain
Audio	
Max. Input Level	2 V_{RMS}
Input Impedance	10k Ohms
Audio Analog / Digital conversion	20-bit, 48 kHz
Frequency Response	20 Hz to 20 kHz
Power Requirements	Power is provided by the iMedia receiver via the IM transport
Environmental	
Temperature	41° to 104°F (5° to 40°C)
Humidity	10% to 90% RH (non-condensing)
Enclosure	Requires 2.5 inch deep double-gang electrical box
Dimensions	
Height	4.50 in. (11.43 cm)
Width	4.56 in. (11.58 cm)
Depth	2.64 in. (6.71 cm)
Weight	14.7 oz. (417 g)

Physical Description

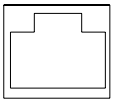
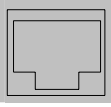
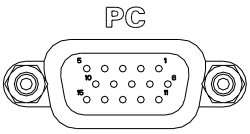
This section provides information on the connections, controls, and indicators available on your IM-WCVI.

IM-WCVI Physical View

IM-WCVI Overall Dimensions



Connectors, Controls, & Indicators

#	CONNECTORS, CONTROLS, & INDICATORS	DESCRIPTION
1	VIDEO 	(1) RCA-type female connector for composite video input.
2	AUDIO (R-L) 	(1) Pair of RCA-type female connectors for audio feed of composite video input.
3	TO IM-RXV RECEIVER 	(1) Female RJ-45 connector for iMedia connection to IM-RXV1 or IM-RXV3 receiver over CresCAT-IM cable or other high-quality CAT5 wire. For iMedia pin assignments, refer to the chart on page 8.
4	TO IM-WCVP CONTROL CENTER 	Female RJ-45 port to connect to IM-WCVP over CresCAT-IM wire or other high-quality CAT5 wire (40 feet maximum).
5	PC 	(1) Female DB15HD connector is used for connecting a computer's RGB video output to the display device. The following table lists pin assignments:
6	AUDIO (PC) 	(1) 3.5mm female mini-jack connects to audio output of PC.
7	GROUND WIRE	Connect the flying lead to earth ground.

PIN	FUNCTION	PIN	FUNCTION
1	Red Video	9	No Connect
2	Green Video	10	Ground
3	Blue Video	11	No Connect
4	Reserved	12	Monitor Sense 1
5	Ground	13	Horizontal Sync
6	Red Ground	14	Vertical Sync
7	Green Ground	15	Monitor Sense 2
8	Blue Ground		

Industry Compliance

As of the date of manufacture, the IM-WCVI has been tested and found to comply with specifications for CE marking and standards per EMC and Radiocommunications Compliance Labelling.

NOTE: This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Setup

Network Wiring

When wiring the network, consider the following:

- Use Crestron Certified Wire.
- Use Crestron power supplies for Crestron equipment.

IM Wiring

Using a proprietary signal routing solution, RGBHV, audio, power and control signals are all transported using a single cable solution called iMedia.

The iMedia transport system port is capable of managing computer RGB and audio signals simultaneously through one CresCAT-IM cable, simplifying installations.

Routing CresCAT-IM cable (low-skew CAT5e) is less expensive and a much simpler solution for the wiring of iMedia systems than routing multi-colored, multi-conductor coax cable. All Crestron products using the iMedia transport system are capable of sending and receiving iMedia signals via CresCAT-IM cable. Installation of any iMedia device is as simple as installing one iMedia cable from output to input. Installations are affordable, and fast.

Quantity and Packaging

- CRESCAT-IM-P-B500 is a low-skew CAT5e cable, plenum-rated, available in a 500 foot box
- CRESCAT-IM-P-SP500is a low-skew CAT5e cable, plenum-rated, available in a 500 foot spool
- CRESCAT-IM-P-SP1000 is a low-skew CAT5e cable, plenum-rated, available is a 1000 foot spool

For more information on CresCAT and other wire products, visit the Crestron website (www.crestron.com/features/wire).

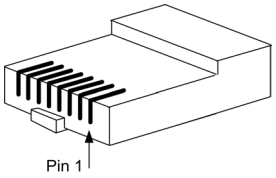
Pin Assignments

The pin assignment is based on the EIA/TIA 568B RJ-45 Jack standard.

Power is supplied to the IM transmitters via the audio circuit.

To determine which pin is number 1, hold the cable so that the end of the eight pin modular jack is facing you, with clip down and copper side up. When looking down at the copper connections, pin 1 is on the far right.

iMedia Pin Assignment

RJ-45 Male Connector	RJ-45 Pin Number	Wire Colors	iMedia Assignment RGB, Composite and Audio
	1	White/Orange	- RGB Red
	2	Orange	+ RGB Red
	3	White/Green	- RGB Green
	4	Blue	+ Audio/Power
	5	White/Blue	- Audio/Power
	6	Green	+ RGB Green
	7	White/Brown	- RGB Blue / Composite
	8	Brown	+ RGB Blue / Composite

NOTE: Power is supplied to pins 4 and 5 from the IM receivers.

Signal Selection

The RGB signal connected to the IM transmitter is delivered to the display device (e.g., projector) via the RGBHV output of an IM receiver. The composite video signal connected to the IM transmitter is delivered to the display device (e.g., projector) via the composite video output of an IM receiver. Each IM transmitter possesses a **SELECT** button (IM transmitters with video have two **SELECT** buttons) that activates an input. The receiver automatically routes the last activated input to the RGB or composite video output and deactivates any prior selection. In addition, the display's power and input selection commands can be controlled via the IR or COM port.

Video Resolution and Cable Length

The receiver can accomplish frequency compensation on each input to achieve correct operation. This compensation scheme is effective for CresCAT-IM cables as long as the maximum skew of 15 ns per 100 m is not exceeded.

NOTE: For proper operations and performance of every iMedia system, always use CresCAT-IM cable.

Maximum Resolution and Cable Length

RESOLUTION	REFRESH RATE (HZ)	PIXEL RATE (MHZ)	PIXEL TIME (NS)	MAX LENGTH (FEET)
VGA	60	25.18	39.7	218.5
(640 X 480)	72	31.50	31.7	174.6
	85	36.00	27.8	152.8
SVGA	56	36.00	27.8	152.8
(800 X 600)	72	50.00	20.0	110.0
	85	56.25	17.8	97.8

(Continued on following page)

Maximum Resolution and Cable Length (Continued)

RESOLUTION	REFRESH RATE (HZ)	PIXEL RATE (MHZ)	PIXEL TIME (NS)	MAX LENGTH (FEET)
XGA	60	65.00	15.4	84.6
(1024 X 768)	70	75.00	13.3	73.3
	85	94.50	10.6	58.2
SXGA	60	108.00	9.3	50.9
(1280 X 1024)	75	135.00	7.4	40.7
	85	157.50	6.3	34.9
UXGA	60	162.00	6.2	34.0
(1600 X 1200)	70	189.00	5.3	29.1
	85	229.50	4.4	24.0
COMPOSITE VIDEO				218.5

Installation

The IM-WCVI is designed to mount in a standard 2.5-inch (6.35 cm) deep, double-gang, electrical box.

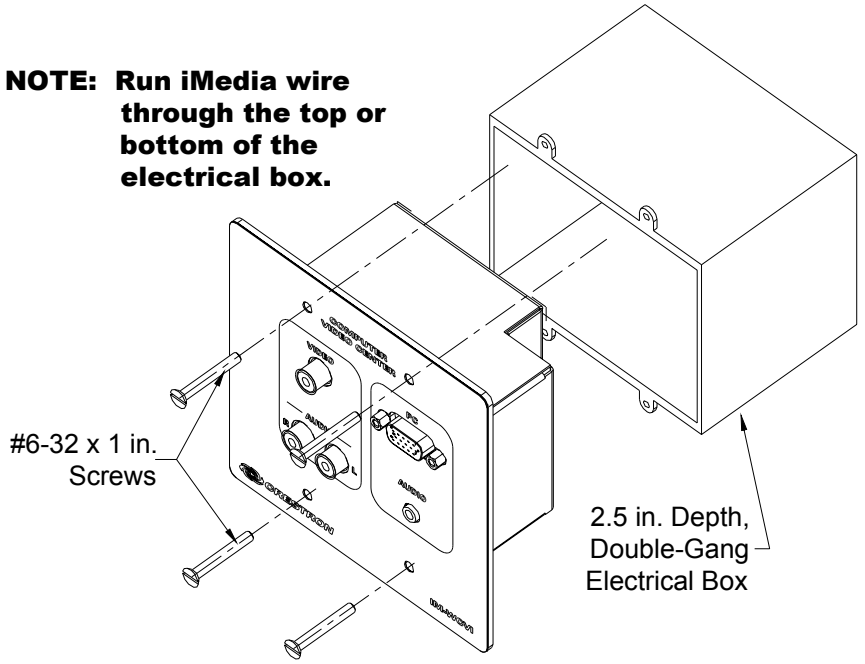
Required Tools:

- Phillips screwdriver

Mounting Parts Supplied with the IM-WCVI

PART DESCRIPTION	QUANTITY
Screw #6-32 x 1 in, Flat Head, Phillips	4

Installation in a Double-Gang Electrical Box



Hardware Hookup

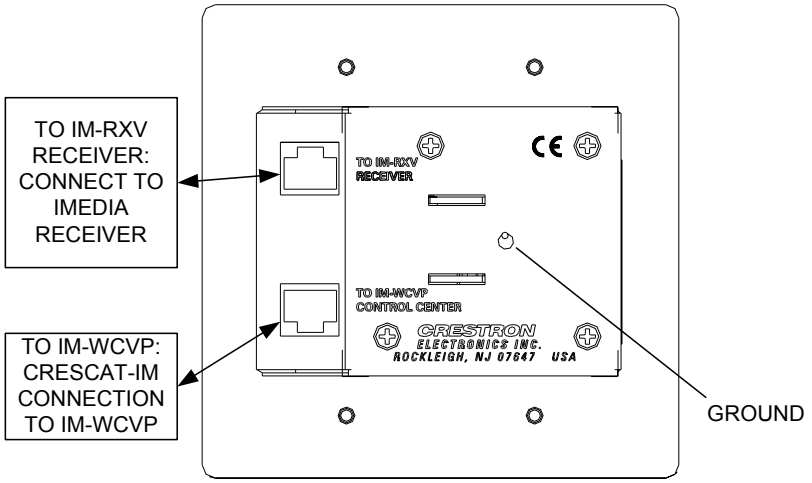
Ventilation

To prevent overheating, do not operate this product in an area that exceeds the environmental temperature range listed in the table of specifications. Consideration must be given if installed in a closed or multi-unit rack assembly since the operating ambient temperature of the rack environment may be greater than the room ambient. Contact with thermal insulating materials should be avoided on all sides of the unit.

Connect the Device

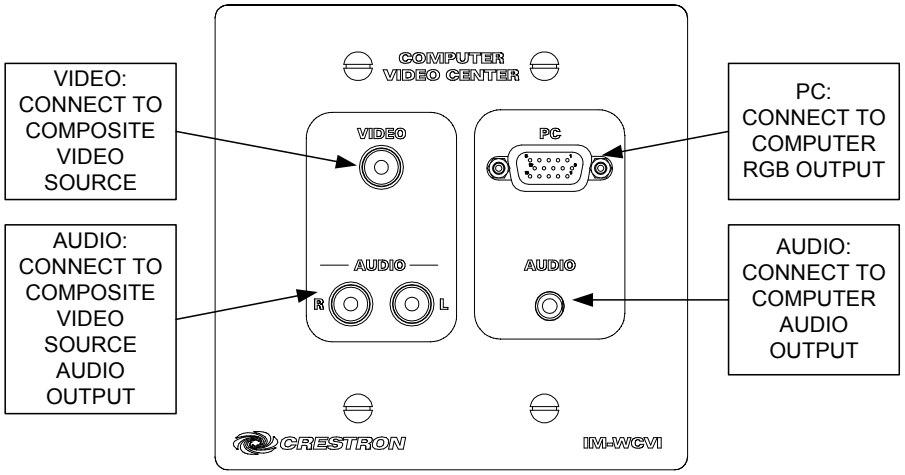
Make the necessary connections as called out in the illustration that follows this paragraph. Turn on the system only after all connections have been made.

Hardware Connections for the IM-WCVI (Rear)



NOTE: For optimum performance, Crestron strongly recommends using CRESCAT-IM cable, available from Crestron. Other high-quality/low skew CAT5e/CAT6 wiring may also be used with varying performance. The maximum cable length between the IM-WCVP and the IM-WCVI is 40 feet.

Hardware Connections for the IM-WCVI (Front)



System Configuration

Refer to the latest version of the IM-RXV1 & IM-RXV3 guide (Doc. 6478), available from the Crestron website (http://www.crestron.com/manuals) for iMedia system configuration instructions.

Operation

For operation instructions, refer to the latest version of the IM-WCVP guide (Doc. 6489) which is available for download from the Crestron website.

Problem Solving

Troubleshooting

The following table provides corrective action for possible trouble situations. If further assistance is required, please contact a Crestron customer service representative.

IM-WCVI Troubleshooting

TROUBLE	POSSIBLE CAUSE(S)	CORRECTIVE ACTION
No video output displayed.	Incorrect cable connection.	Verify computer cable connection.
		Verify video cable connection.
		Verify iMedia output cable connection is secure.
No audio output.	Incorrect cable connection.	Verify computer audio cable connection.
		Verify video input's audio cable connection.
Video from RGB source is garbled or no output.	Incorrect cable connections.	Verify 15-pin computer cable connection. Verify iMedia output cable connections.
		Verify maximum iMedia cable length. Adjust delay on iMedia receiver.
Button does not function when pressed.	Incorrect cable connection.	Verify that the iMedia output cable connection from the IM-WCVI to the iMedia receiver is secure.
Other functions operate, but does not control the projector.	Incorrect connections to projector.	Verify cable wiring and connections between receiver and projector.

Reference Documents

The latest version of all documents mentioned within the guide can be obtained from the Crestron website (http://www.crestron.com/manuals). This link will provide a list of product manuals arranged in alphabetical order by model number.

List of Related Reference

DOCUMENT TITLE
IM-RXV1 & IM-RXV3 iMedia Receiver/Processor with Video
IM-WCVP iMedia Wall Plate Control Panel

Further Inquiries

If you cannot locate specific information or have questions after reviewing this guide, please take advantage of Crestron's award winning customer service team by calling the Crestron corporate headquarters at 1-888-CRESTRON [1-888-273-7876]. For assistance in your local time zone, refer to the Crestron website (http://www.crestron.com/) for a listing of Crestron worldwide offices.

You can also log onto the online help section of the Crestron website to ask questions about Crestron products. First-time users will need to establish a user account to fully benefit from all available features.

Future Updates

As Crestron improves functions, adds new features, and extends the capabilities of the IM-WCVI, additional information may be made available as manual updates. These updates are solely electronic and serve as intermediary supplements prior to the release of a complete technical documentation revision.

Check the Crestron website periodically for manual update availability and its relevance. Updates are identified as an “Addendum” in the Download column.

Return and Warranty Policies

Merchandise Returns / Repair Service

1. No merchandise may be returned for credit, exchange, or service without prior authorization from CRESTRON. To obtain warranty service for CRESTRON products, contact an authorized CRESTRON dealer. Only authorized CRESTRON dealers may contact the factory and request an RMA (Return Merchandise Authorization) number. Enclose a note specifying the nature of the problem, name and phone number of contact person, RMA number, and return address.
2. Products may be returned for credit, exchange, or service with a CRESTRON Return Merchandise Authorization (RMA) number. Authorized returns must be shipped freight prepaid to CRESTRON, 6 Volvo Drive, Rockleigh, N.J. or its authorized subsidiaries, with RMA number clearly marked on the outside of all cartons. Shipments arriving freight collect or without an RMA number shall be subject to refusal. CRESTRON reserves the right in its sole and absolute discretion to charge a 15% restocking fee, plus shipping costs, on any products returned with an RMA.
3. Return freight charges following repair of items under warranty shall be paid by CRESTRON, shipping by standard ground carrier. In the event repairs are found to be non-warranty, return freight costs shall be paid by the purchaser.

CRESTRON Limited Warranty

CRESTRON ELECTRONICS, Inc. warrants its products to be free from manufacturing defects in materials and workmanship under normal use for a period of three (3) years from the date of purchase from CRESTRON, with the following exceptions: disk drives and any other moving or rotating mechanical parts, pan/tilt heads and power supplies are covered for a period of one (1) year; touchscreen display and overlay components are covered for 90 days; batteries and incandescent lamps are not covered.

This warranty extends to products purchased directly from CRESTRON or an authorized CRESTRON dealer. Purchasers should inquire of the dealer regarding the nature and extent of the dealer's warranty, if any.

CRESTRON shall not be liable to honor the terms of this warranty if the product has been used in any application other than that for which it was intended, or if it has been subjected to misuse, accidental damage, modification, or improper installation procedures. Furthermore, this warranty does not cover any product that has had the serial number altered, defaced, or removed.

This warranty shall be the sole and exclusive remedy to the original purchaser. In no event shall CRESTRON be liable for incidental or consequential damages of any kind (property or economic damages inclusive) arising from the sale or use of this equipment. CRESTRON is not liable for any claim made by a third party or made by the purchaser for a third party.

CRESTRON shall, at its option, repair or replace any product found defective, without charge for parts or labor. Repaired or replaced equipment and parts supplied under this warranty shall be covered only by the unexpired portion of the warranty.

Except as expressly set forth in this warranty, CRESTRON makes no other warranties, expressed or implied, nor authorizes any other party to offer any warranty, including any implied warranties of merchantability or fitness for a particular purpose. Any implied warranties that may be imposed by law are limited to the terms of this limited warranty. This warranty statement supersedes all previous warranties.

Crestron Electronics, Inc.
15 Volvo Drive Rockleigh, NJ 07647
Tel: 888.CRESTRON
Fax: 201.767.7576
www.crestron.com

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