Crestron **IM-WCCV**
iMedia Wall Plate Computer & Video Center
Operations & Installation Guide

CRESTRON®

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Contents

iMedia Wall Plate Computer & Video Center: IM-WCCV

Introduction

Features and Functions

- A simple, affordable wall plate multimedia interface

- Streamlined user controls for foolproof operation

- iMedia Transport for fast and easy single-cable installation

- Supports XGA resolution up to 84 feet (25.6 meters), UXGA maximum up to 34 feet (10.37 meters)

- Supports composite video signals

- Complete system setup in minutes using iMedia Wizard Software

The Crestron® iMedia products provide an extremely simple and affordable multimedia presentation solution for small conference rooms and training rooms. No comparable solution comes close to matching iMedia's speed and ease of installation, intuitive operation, and incredibly low cost.

The iMedia Transport

The iMedia transport utilizes a single CresCAT™ CAT5e type cable, CresCAT-IM, 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 (25.6 meters) using iMedia, while higher resolutions up to 1600 x 1200 can be handled over shorter distances. 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.

Wall Plate Multimedia Interface

The IM-WCCV is an iMedia (IM) transmitter designed to install in a standard three-gang electrical box, providing composite video, RGB, and stereo audio inputs for

connection to the output of a computer or AV source. Up to three IM-WCCVs, or other IM transmitters, may be installed as part of a complete system to provide multiple input locations within the room.

Simple Operation

Every IM system is easy and intuitive to use. A simple press of the **VIDEO** or **PC** buttons on the face of the IM-WCCV 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-WCCV is an IM transmitter. As shown in the following diagram, IM transmitters provide input points for video and PC sources on an IM receiver.
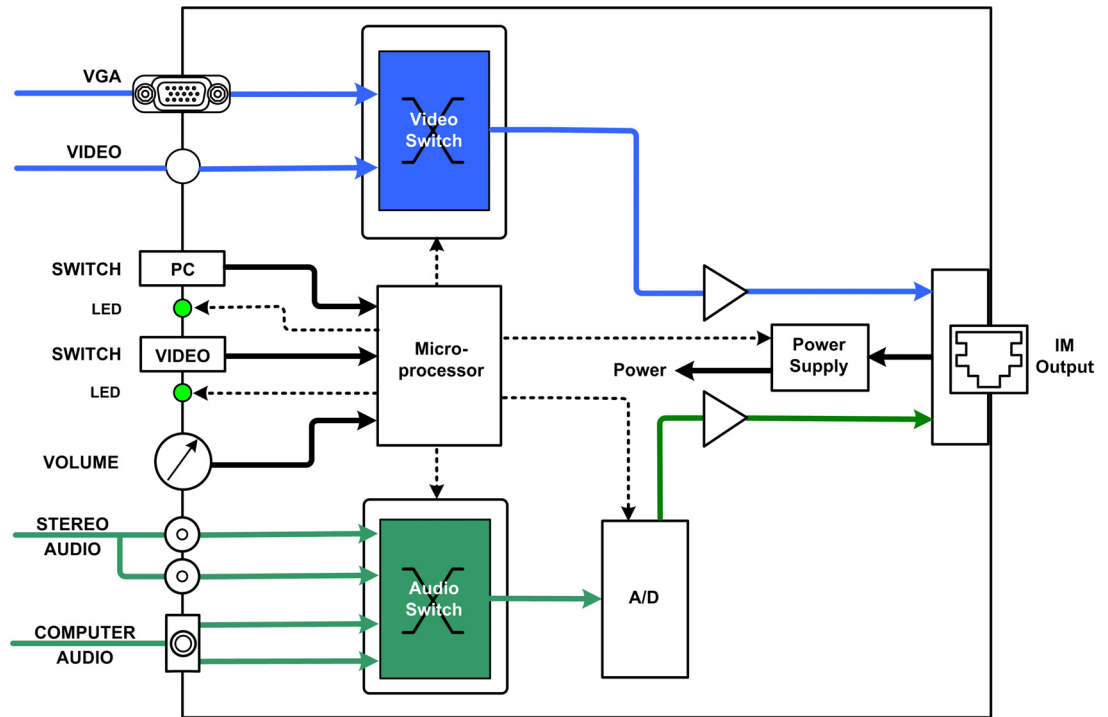
iMedia System Diagram
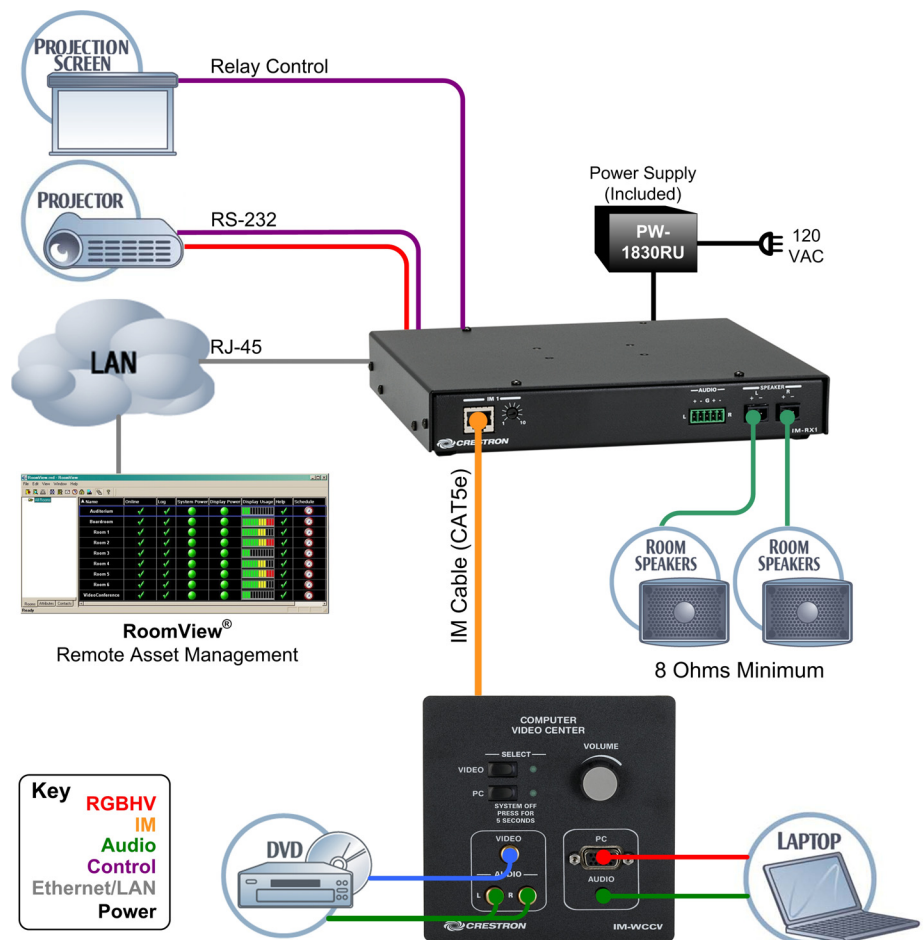
Internal Block Diagram

The following diagram represents the signal routing and functions of the IM-WCCV.

Internal Block Diagram of the IM-WCCV

Specifications

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

IM-WCCV Specifications

SPECIFICATION	DETAILS
RGB	
Gain	0dB (75 ohm termination)
Formats	RGBHV, RGBS, RG$_s$B
Resolution	1024 x 768 @ 60Hz with maximum cable length of 84 feet (25.6 meters), 1600 x 1200 @ 60Hz with maximum cable length of 34 feet (10.37 meters). Refer to "IM Wiring" on page 8 for other resolutions.
Video	
Gain	0dB (75 ohm termination)
Formats	480i (NTSC), 576i (PAL)
Audio	
A-D Conversion	20-bit, 48kHz
Frequency Response	20Hz to 20kHz ±1dB
Power Requirements	Power is provided by the IM receiver via the IM transport

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IM-WCCV Specifications (Continued)

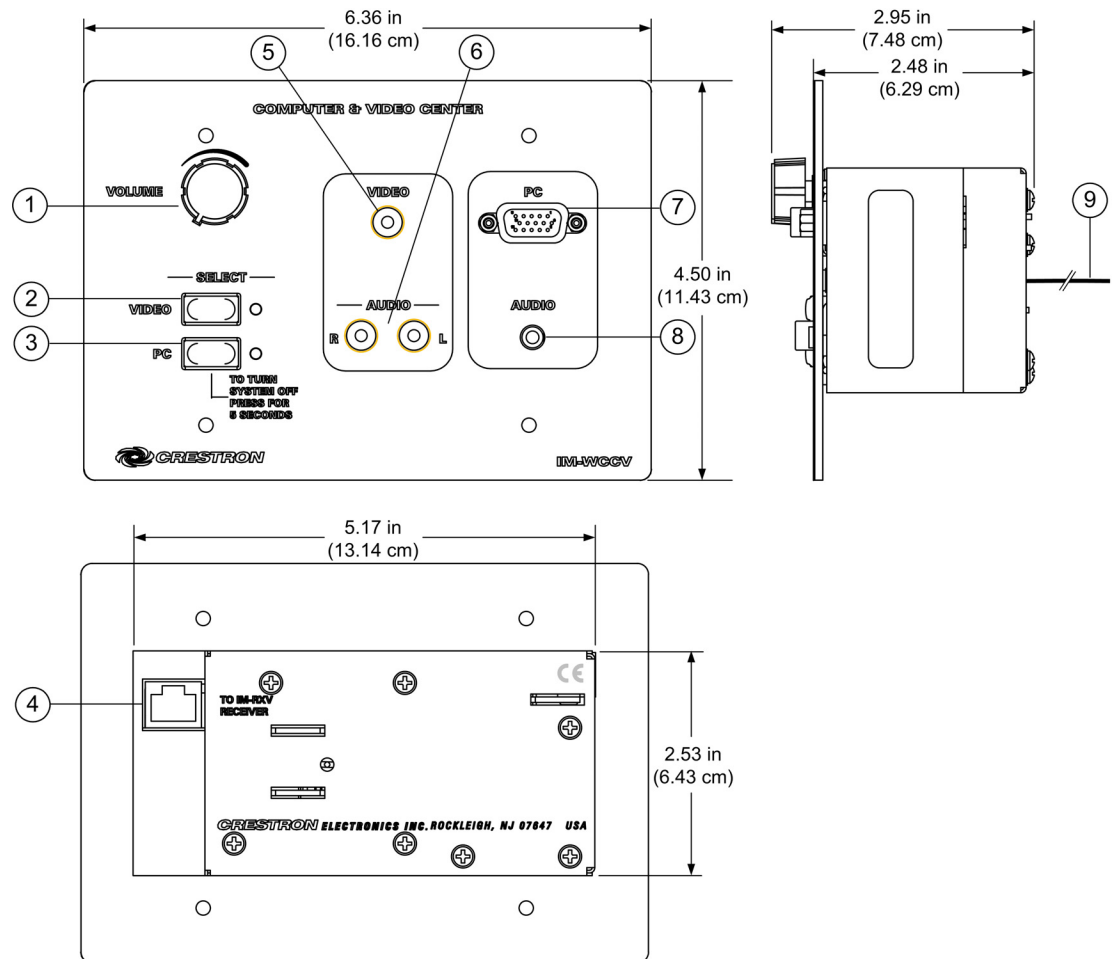| SPECIFICATION	DETAILS
Environmental	
Temperature	41° to 104°F (5° to 40°C)
Humidity	10% to 90% RH (non-condensing)
Enclosure	3-gang wall plate, mountable in a 2.5 in (6.35 cm) deep electrical box
Dimensions	
Height	4.50 in (11.43 cm)
Width	6.36 in (16.16 cm)
Depth	2.95 in (7.48 cm)
Weight	1.29 lbs (0.58 kg)

Physical Description

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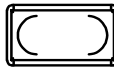
IM-WCCV Physical View

IM-WCCV Overall Dimensions
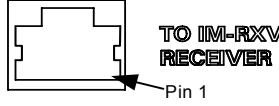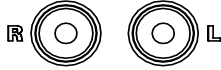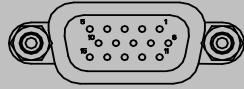
Connectors, Controls & Indicators

#	CONNECTORS, CONTROLS & INDICATORS	DESCRIPTION
1	VOLUME CONTROL KNOB	Turn clockwise to raise the volume of the selected input; turn counterclockwise to lower the volume of the selected input.
2	VIDEO	(1) Momentary pushbutton with green LED; Momentary press initiates "system power on" command and selects local **VIDEO** input; press and hold for five seconds or more initiates "system power off."
3	PC BUTTON	(1) Momentary pushbutton with green LED; Momentary press initiates "system power on" command and selects local **PC** input; press and hold for five seconds or more initiates "system power off."

(Continued on the following page)

Connectors, Controls & Indicators (Continued)

#	CONNECTORS, CONTROLS & INDICATORS	DESCRIPTION
4	TO IM-RXV RECEIVER TO IM-RXV RECEIVER Pin 1	(1) 8-wire female RJ-45 connector for iMedia connection to IM-RXV1 or IM-RXV3 receiver over CresCAT-IM cable[1].
	VIDEO	Input Impedance: 75 ohms; Maximum Input: 1 V_{p-p}
6	AUDIO (R-L) AUDIO R L	(2) RCA female; unbalanced stereo line-level audio input (linked with **VIDEO**); Maximum Input Level: 2 V_{rms}; Input Impedance: 10k ohms
7	PC	(1) DB15HD female, RGB (VGA) input; Formats: RGBHV, RGBS, RGsB; Input Impedance: 75 ohms; Sync Impedance: 1k ohms; Maximum Input Level: 1 Vp-p; Maximum Sync Level: 5 Vp-p[2]
8	AUDIO (PC) PC AUDIO	(1) 3.5mm TRS mini phone jack; Unbalanced stereo line-level audio input (linked with PC); Maximum Input Level: 2 Vrms; Input Impedance: 10k ohms
9	GROUND WIRE	Connect the flying lead to earth ground.

1. The eight-pin RJ-45 iMedia port accepts CresCAT-IM or CAT5E/CAT6 carrying video, audio, power and control signals. Refer to the following table for connector pinouts. Power is supplied to pins 4 and 5 from the IM receivers.

PIN	WIRE COLORS (EIA 568B)	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

2. This female DB15HD connector is used for connecting a computer's RGB video output to the display device. Refer to the following table for pin assignments:

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

Industry Compliance

As of the date of manufacture, the IM-WCCV 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 wiring 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.

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 meters is not exceeded.

NOTE: For proper operation 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 (640 X 480)	60	25.18	39.7	218.5
	72	31.50	31.7	174.6
	85	36.00	27.8	152.8
SVGA (800 X 600)	56	36.00	27.8	152.8
	72	50.00	20.0	110.0
	85	56.25	17.8	97.8
XGA (1024 X 768)	60	65.00	15.4	84.6
	70	75.00	13.3	73.3
	85	94.50	10.6	58.2
SXGA (1280 X 1024)	60	108.00	9.3	50.9
	75	135.00	7.4	40.7
	85	157.50	6.3	34.9

(Continued on following page)

Maximum Resolution and Cable Length (Continued)

RESOLUTION	REFRESH RATE (HZ)	PIXEL RATE (MHZ)	PIXEL TIME (NS)	MAX LENGTH (FEET)
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

For more information on CresCAT and other wire products, visit the Crestron website (http://www.crestron.com/downloads/pdf/product_line_overviews/overview-wire_and_cable.pdf).

Installation

The IM-WCCV is designed to mount in a standard 2.5-inch (6.35 cm) deep, three-gang, electrical box.
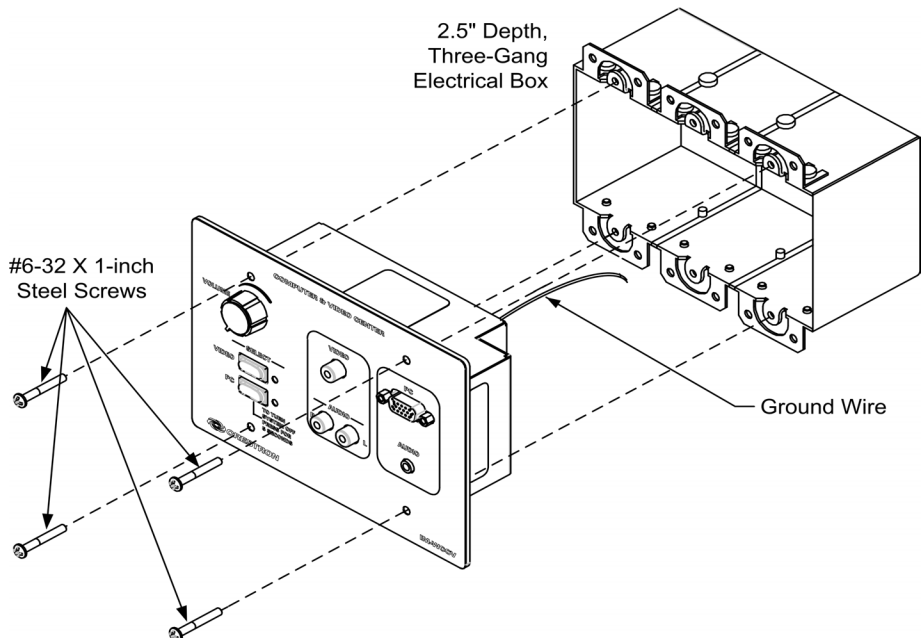
Required Tools:

- Phillips screwdriver

Mounting Parts Supplied with the IM-WCCV

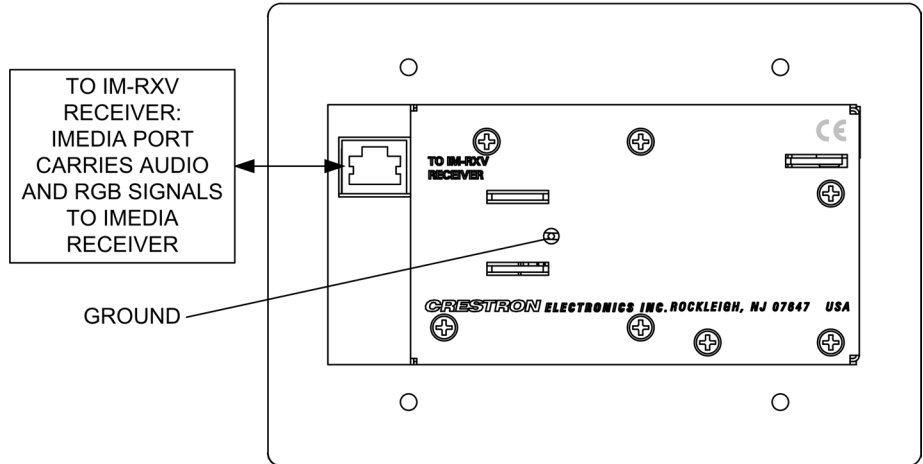| PART DESCRIPTION	QUANTITY
Screw #6-32 x 1 in, Pan Head, Phillips	4

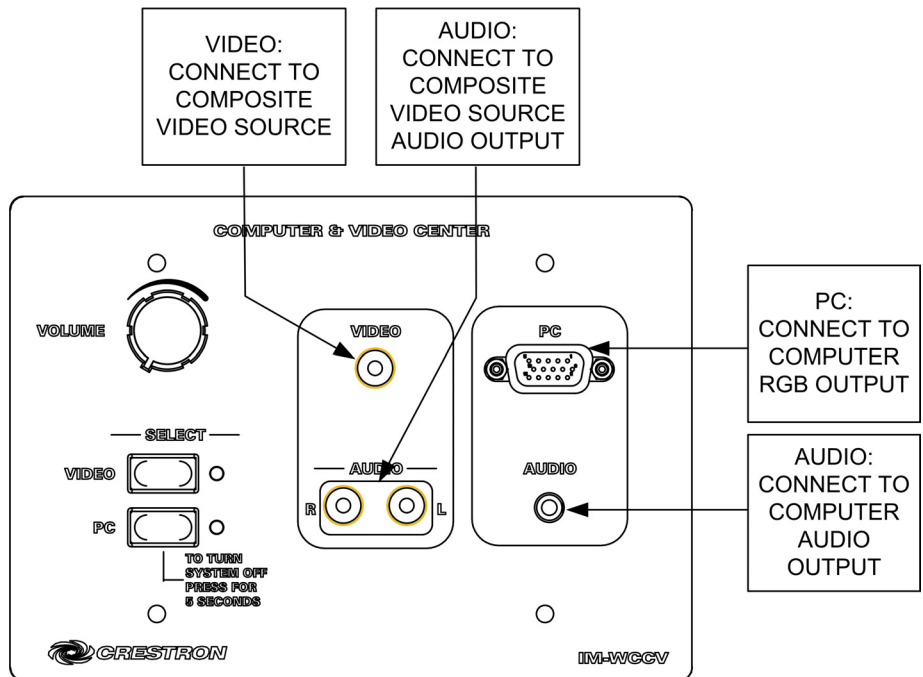*Installation in a Three-Gang Electrical Box*

Hardware Hookup

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-WCCV (Rear)

TO IM-RXV RECEIVER: IMEDIA PORT CARRIES AUDIO AND RGB SIGNALS TO IMEDIA RECEIVER

TO IM-RXV RECEIVER

GROUND

CRESTRON ELECTRONICS INC. ROCKLEIGH, NJ 07647   USA

Hardware Connections for the IM-WCCV (Front)

VIDEO: CONNECT TO COMPOSITE VIDEO SOURCE

AUDIO: CONNECT TO COMPOSITE VIDEO SOURCE AUDIO OUTPUT

COMPUTER & VIDEO CENTER

VOLUME

VIDEO

PC

PC: CONNECT TO COMPUTER RGB OUTPUT

SELECT

VIDEO

AUDIO

AUDIO

AUDIO: CONNECT TO COMPUTER AUDIO OUTPUT

PC

R   L

TO TURN SYSTEM OFF PRESS FOR 5 SECONDS

CRESTRON   IM-WCCV

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

The IM-WCCV can be used to turn a system on or off, select a source, or adjust volume.

Turn on the System

Press the **PC** button to turn on the system with the PC signals routed to the IM receiver or press the **VIDEO** button to turn on the system with the video signals routed to the IM receiver. The associated LED will light to indicate the selected source.

Select a Source

Press the **PC** button to route PC signals to the IM receiver or press the **VIDEO** button to route video signals to the IM receiver. The associated LED will light to indicate the selected source.

Adjust Volume

Turn the volume knob clockwise to raise the volume of the selected input; turn counterclockwise to lower the volume of the selected input.

Turn off the System

Press and hold the selected source button for five seconds. The source button LED will flash and then turn off.

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-WCCV Troubleshooting

TROUBLE	POSSIBLE CAUSE(S)	CORRECTIVE ACTION
Source LED does not illuminate.	Not receiving power.	Verify that the iMedia cable is connected to the IM-WCCV and the IM-WCCV is connected to the iMedia receiver.
	Incorrect power supply.	Only use Crestron power supplies.
	Source is not selected.	Push a source button to select a source.
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-WCCV 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 Documents

DOCUMENT TITLE
IM-RXV1 & IM-RXV3 iMedia Receiver/Processor with Video

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-WCCV, 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.

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