Crestron **IM-FTCC-M**
iMedia Fliptop Computer Center
Operations & Installation Guide

CRESTRON

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CRESTRON.

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Contents

iMedia FlipTop Computer Center: IM-FTCC-M

Introduction

Crestron's iMedia provides 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 IM-FTCC-M (120 VAC version) and the IMI-FTCC-M (220 VAC version) are functionally identical, except for the power requirements. References throughout the manual to the IM-FTCC-M apply equally to both units unless specified otherwise.

Features and Functions

- Flush-mount tabletop computer 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 m), UXGA maximum up to 34 feet (10.4 m)
- Easy pull-out cables and AC power outlet
- One iMedia RJ-45 output connector (on the bottom side)
- Power on/off **SELECT** button and indicator
- Rotary volume control adjusts local level as well as level for wireless microphone (wireless microphone input is located on the IM-RXV1-M or IM-RXV3-M)
- Lid flips open 180 degrees for easy access
- Includes cable management kit with VGA and audio cables
- Complete system setup in minutes using iMedia Wizard Software

The iMedia Transport

The iMedia (IM) 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 60 Hz) can be transmitted up to 84 feet (25.6 m) 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.

* For optimum performance, Crestron strongly recommends using CRESCAT-IM cable, available from Crestron. Other high-quality/low skew (15 ns per 100 m maximum) CAT5e/CAT6 wiring may also be used with varying performance.

FlipTop Computer Interface

The IM-FTCC-M is an iMedia transmitter designed to install flush in a tabletop surface to provide a convenient and low profile interface solution. Beneath the "FlipTop" lid, a recessed compartment contains easy pull out RGB and audio cables to facilitate the connection of a single computer source. The cables stow neatly within the compartment when not in use. Excess cable simply drops out of sight below the box through grommeted holes provided in the bottom plate. An additional hole is available to accommodate a third party LAN cable if needed.

For complete connectivity, the IM-FTCC-M also includes an AC power receptacle. Installing wiring for the IM-FTCC-M is extremely simple requiring just a single CresCAT-IM cable for audio and video. Up to three IM-FTCC-Ms, 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 single press of the large **SELECT** button inside the compartment lowers the screen or lift, turns on the projector (or plasma, etc.) and routes the connected computer signal to the appropriate input. The front panel volume control affords easy adjustment of the audio level, or wireless microphone level, and the entire system can be turned off at any time by simply holding the **SELECT** 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.

Applications

The IM-FTCC-B is an IM transmitter. As shown in the following diagram, IM transmitters provide input points for video and PC sources on an IM receiver.
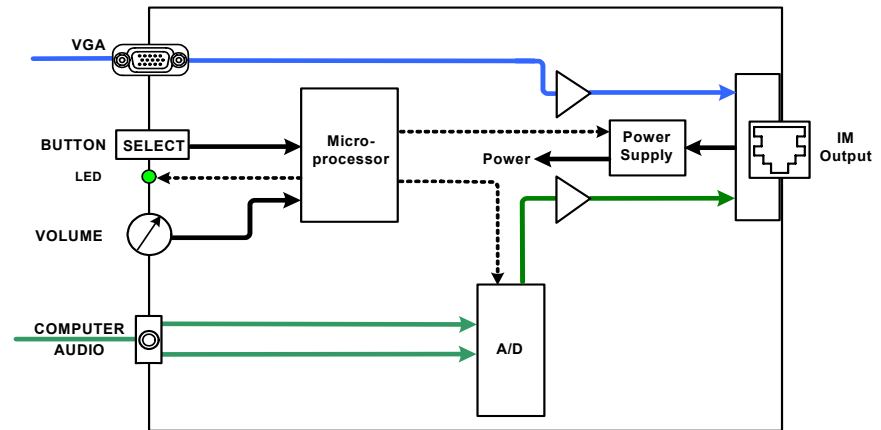
Typical Installation for Media Presentation (IM-FTCC-M is shown at Bottom)
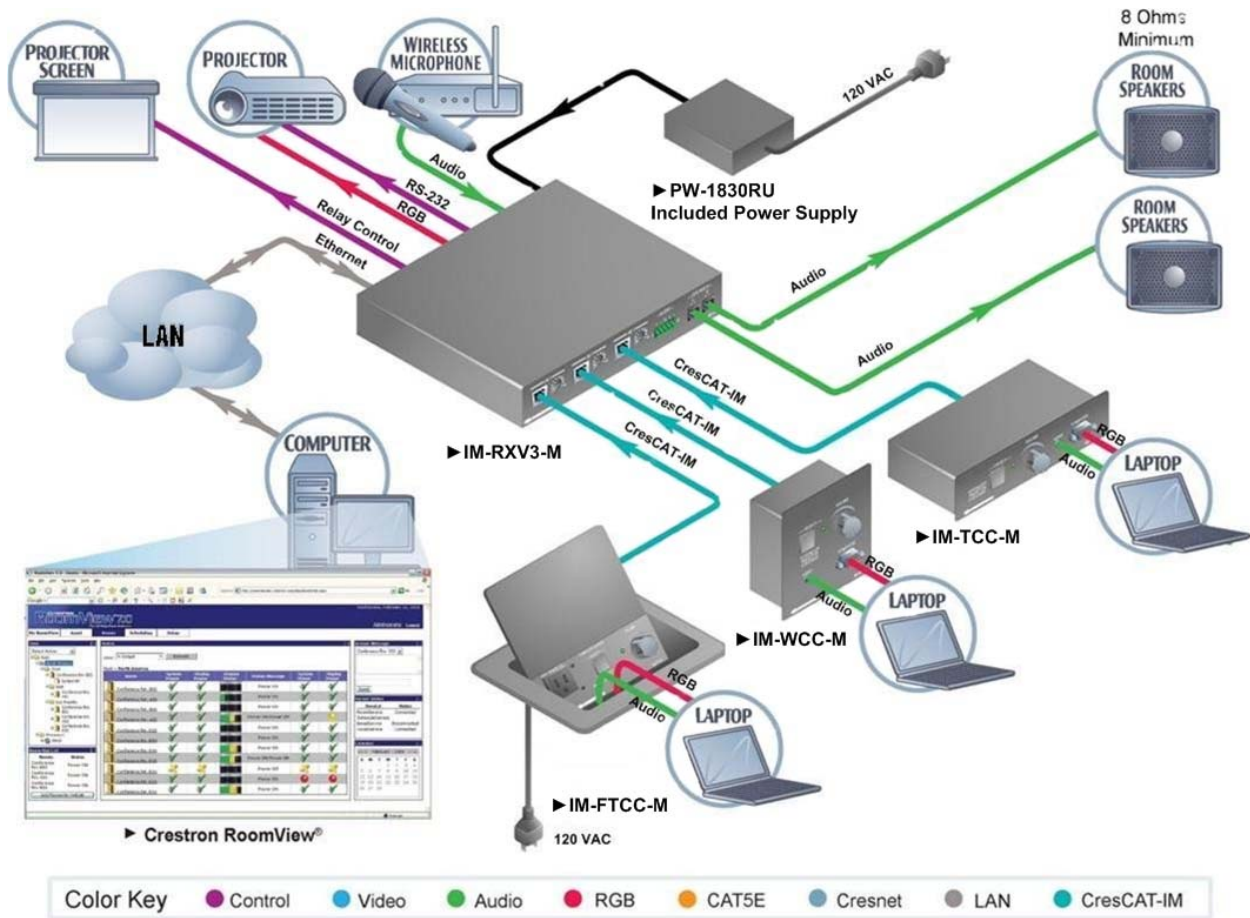
Internal Block Diagram

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

Internal Block Diagram of the IM-FTCC-M

Specifications

Specifications for the IM-FTCC-M are given in the following table.

IM-FTCC-M Specifications

SPECIFICATION	DETAILS
RGB 　Gain 　Formats 　Resolution	 0 dB (75 Ω termination) RGBHV, RGBS, or RG$_s$B 1024 x 768 @ 60 Hz with maximum cable length of 84 feet, 1600 x 1200 @ 60 Hz with maximum cable length of 34 feet; refer to "IM Wiring" on page 11 for other resolutions
Audio 　A-D Conversion 　Frequency Response	 20-bit, 48 kHz 20 Hz to 20 kHz ±1 dB
Power Requirements	Power is provided by the IM receiver via the IM transport
Environmental 　Temperature 　Humidty	 41º to 104º F (5º to 40º C) 10 to 90% RH (non-condensing)
Enclosure	Black metal; flush tabletop mountable

(Continued on following page)

IM-FTCC-M Specifications (Continued)

| SPECIFICATION	DETAILS
Dimensions	
IM-FTCC-M	
Height	4.63 in (11.76 cm) with lid closed
Width	6.84 in (17.38 cm)
Depth	5.62 in (14.28 cm) without mounting brackets
IMI-FTCC-M	
Height	5.43 in (13.79 cm) with lid closed
Width	8.34 in (21.19 cm)
Depth	6.20 in (15.74 cm) without mounting brackets
Weight	
IM-FTCC-M	3.65 lbs (1.66 kg) with cables
IMI-FTCC-M	4.42 lbs (2.01 kg) with cables
International Adaptors for IMI-FTCC-M Models	Refer to "Appendix: International Receptacles" on page 22

Physical Description

This section provides information on the connections, controls and indicators available on your IM-FTCC-M.
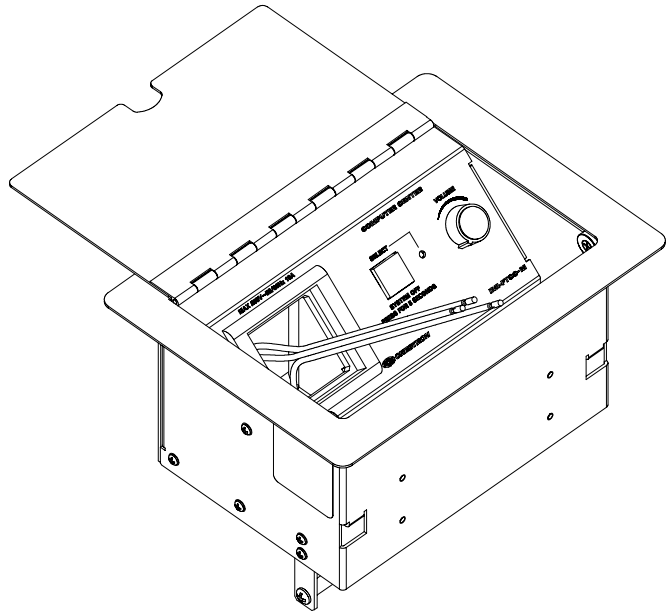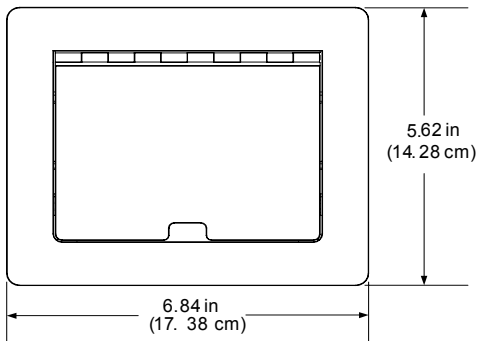
IM-FTCC-M Physical View
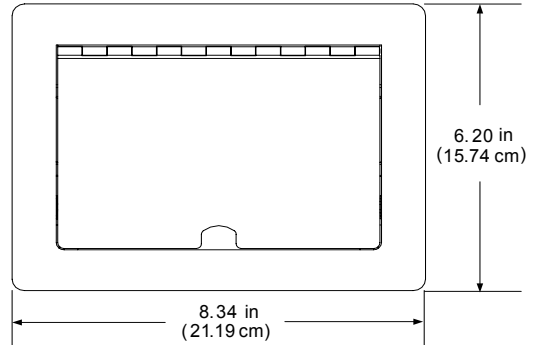
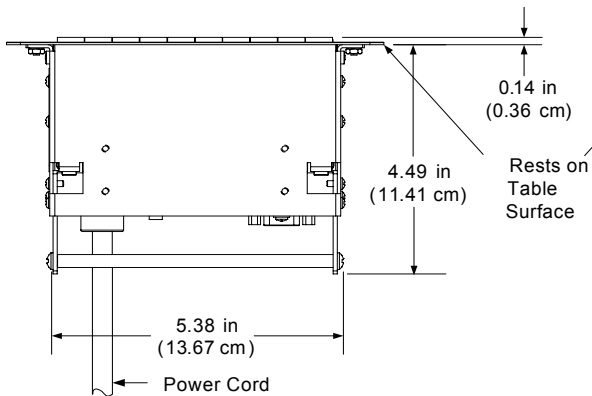*IM-FTCC-M Open Top View*
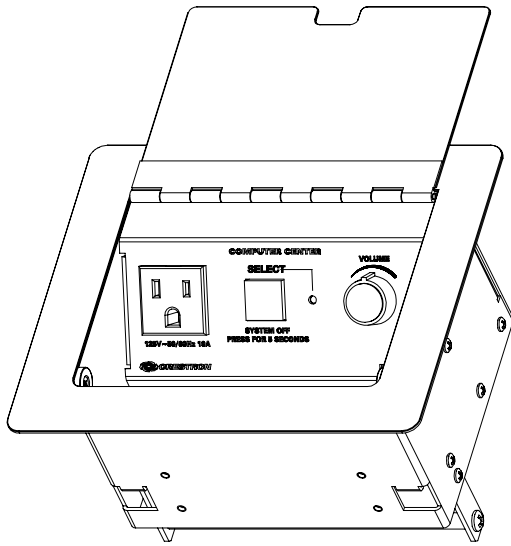
IMI-FTCC-M Open Top View

IM-FTCC-M Physical Dimensions – Top View
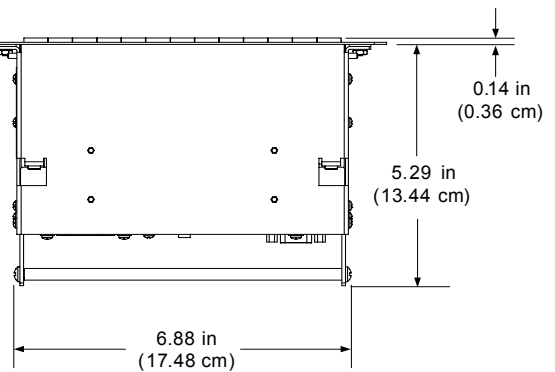
5.62 in
(14.28 cm)

6.84 in
(17. 38 cm)

IMI-FTCC-M Physical Dimensions – Top View

6.20 in
(15.74 cm)

8.34 in
(21.19 cm)

IM-FTCC-M Physical Dimensions – Front View

0.14 in
(0.36 cm)

4.49 in
(11.41 cm)

Rests on
Table
Surface

5.38 in
(13.67 cm)

Power Cord

IMI-FTCC-M Physical Dimensions – Front View

0.14 in
(0.36 cm)

5.29 in
(13.44 cm)

6.88 in
(17.48 cm)

IM-FTCC-M Physical Dimensions – Side View

4.19 in
(10.65 cm)

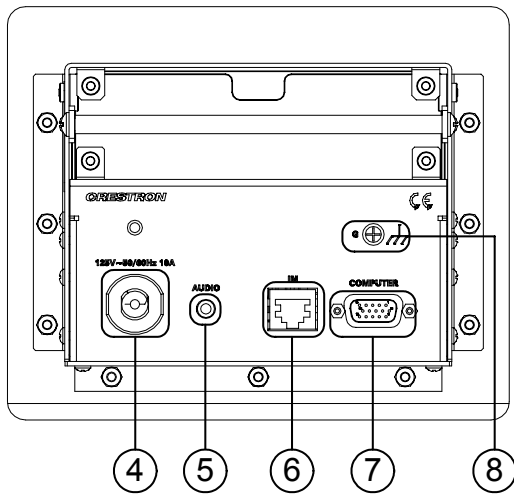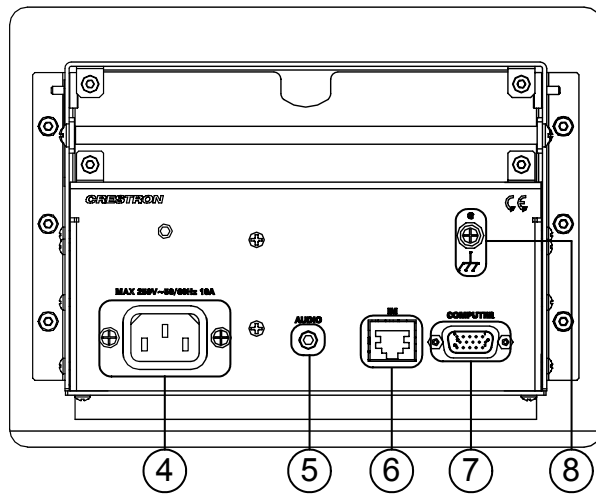Power Cord →

IMI-FTCC-M Physical Dimensions – Side View

4.77 in
(12.11 cm)
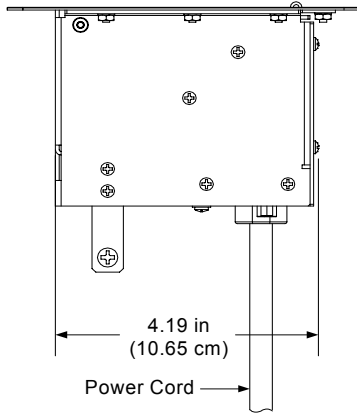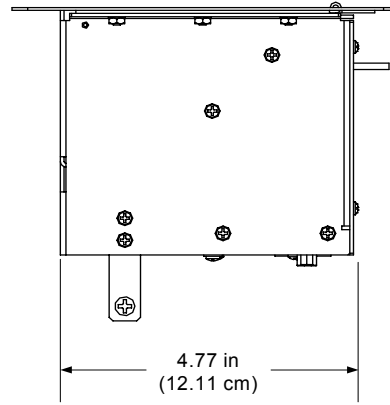
IM-FTCC-M Front Face View
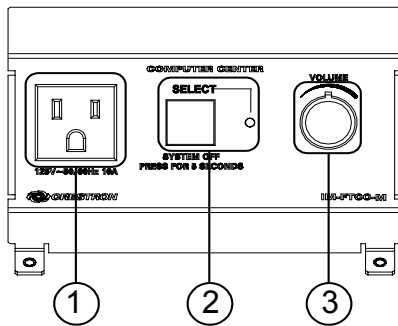
IMI-FTCC-M Front Face View
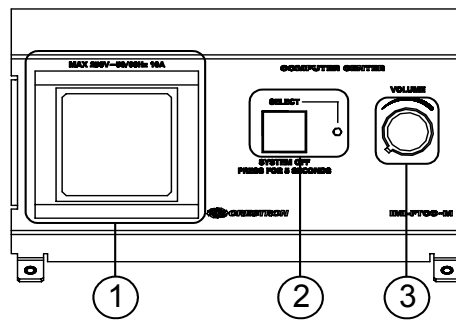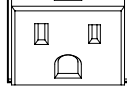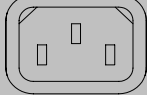
IM-FTCC-M Bottom View
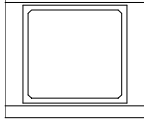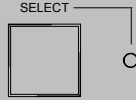
IMI-FTCC-M Bottom View
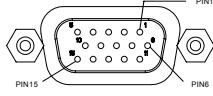
Connectors, Controls & Indicators

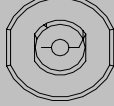| #	CONNECTORS, CONTROLS & INDICATORS	DESCRIPTION
1	125VAC 10A	(1) 3-prong grounded AC socket, AC power pass-thru outlet; Maximum Load: 10 Amps @ 125 Volts AC, 50/60 Hz.
	250V 10A	(1) 3-prong grounded AC socket, AC power pass-thru outlet; Specify socket type (refer to "Appendix: International Receptacles" on page 22); Maximum Load: 10 Amps @ 250 Volts AC, 50/60 Hz.
2	SELECT	(1) Pushbutton with green LED; Momentary press initiates "system power on" command and selects local **COMPUTER** input; press and hold for 5 seconds or more initiates "system power off".
3	VOLUME	(1) Rotary knob, adjusts audio levels for local input. Microphone level is adjusted by holding the **SELECT** button and turning the **VOLUME** knob.
4	125V	(1) 6 ft grounded AC line cord; Passes through to front panel AC power outlet.
	MAX 250V	(1) IEC socket; Passes through to front panel AC power outlet.
5	AUDIO	(1) 3.5mm TRS mini phone jack; Unbalanced stereo line-level audio input; Maximum input level: 2 V_{rms}; Input impedance: 10 kΩ; Connects to 6 ft mini-TRS audio patch cable (included).
6	IM[1, 2, 3]	(1) 8-wire RJ-45 female, iMedia output port; Connects to IM input port of an iMedia receiver via CresCAT-IM cable.

(Continued on following page)

Connectors, Controls & Indicators (Continued)

#	CONNECTORS, CONTROLS & INDICATORS	DESCRIPTION
7	COMPUTER	(1) DB15HD female, RGB(VGA) input; Formats: RGBHV, RGBS, RG$_s$B; Input impedance: 75 Ω; Sync impedance: 1 kΩ; Maximum input level: 1 V$_{p-p}$; Maximum sync level: 5 V$_{p-p}$; Connects to 6 ft VGA patch cable (included).

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		

#	CONNECTORS, CONTROLS & INDICATORS	DESCRIPTION
8	GROUND	(1) 6-32 screw, chassis ground lug[4].

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 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
8	BROWN	+ RGB BLUE

2. For optimum performance, Crestron strongly recommends using CRESCAT-IM cable, available from Crestron. Other high-quality/low skew (15 ns per 100 m maximum) CAT5e/CAT6 wiring may also be used with varying performance.

3. To determine which is pin 1 on the cable, hold the cable so that the end of the eight pin modular jack is facing away from you, with the clip down and copper side up. Pin 1 is on the far left.

4. Ensure that the unit is properly grounded.

Industry Compliance

As of the date of manufacture, the IM-FTCC-M 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.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.

- Increase the separation between the equipment and receiver.

- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

- Consult the dealer or an experienced radio/TV technician for help.

Setup

Network Wiring

When wiring the network, consider the following:

- Use Crestron Certified Wire.

- Use Crestron power supplies for Crestron equipment.

- Provide sufficient power to the system.

CAUTION: Insufficient power can lead to unpredictable results or damage to the 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 optimum performance, Crestron strongly recommends using CRESCAT-IM cable, available from Crestron. Other high-quality/low skew (15 ns per 100 m maximum) CAT5e/CAT6 wiring may also be used with varying performance.

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

(Continued on following page)

Maximum Resolution and Cable Length (Continued)

RESOLUTION	REFRESH RATE (HZ)	PIXEL RATE (MHZ)	PIXEL TIME (NS)	MAX LENGTH (FEET)
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
UXGA (1600 X 1200)	60	162.00	6.2	34.0
	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 (www.crestron.com/downloads/pdf/product_line_overviews/overview-wire_and_cable.pdf).

Installation

NOTE: 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, inside a closed desk or in a closed podium since the operating ambient temperature of these rack environments may be greater than the room ambient temperature. Contact with thermal insulating materials should be avoided on all sides of the unit.

Cable Management Kit

The IM-FTCC-M is shipped with a cable management kit that includes a cable management plate, a 6-foot VGA cable, a 6-foot audio cable, and associated hardware as listed in the following table.

Parts Supplied with Cable Management Kit

PART DESCRIPTION	QUANTITY
Small Cable Bushing, 5/16" ID, 0.5" OD	2
Large Cable Bushing, 0.55" ID, 0.80" OD	1
Cable Support Plate	1
4-40 x ¼ inch Phillips Head Screws	4
Computer RGB Cable, VGA to VGA, 6 ft long	1
Computer Audio Cable, 3.5 mm Stereo, 6 ft long	1
Tie Wraps	3

Complete the following instructions for installation.

Tools Required

- Phillips screwdriver

- Small flat blade screwdriver (for connecting the VGA cable)

The cable support plate must be installed before mounting the IM-FTCC-M to a surface. The cables are looped through the cable support plate.

1. Place the bushings on the cables (three bushings supplied). Use the large bushing for the VGA cable.

2. Thread the cables through the appropriate slots on the plate.

3. Snap the bushings into the plate slots.

4. Feed all the excess cable through the opening.

5. Attach the plate using the four #4-40 x ¼" black screws.

6. Connect the cables to the appropriate connectors on the bottom of the IM-FTCC-M.

7. The cables may be secured to the bottom bar using tie wraps.

Cable Plate Installation (IM-FTCC-M Shown)
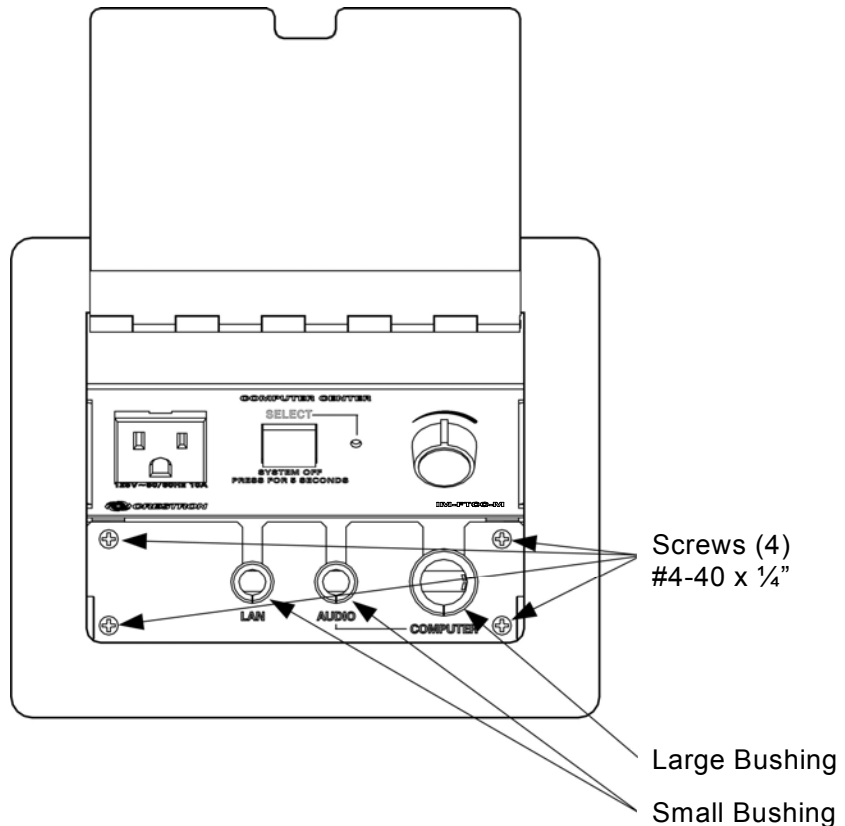
Cable Loops Through the Cable Plate (IM-FTCC-M Shown)

RGB Cable

Audio Cable

Power Cord

40 inches for cable clearence

Allow approximately
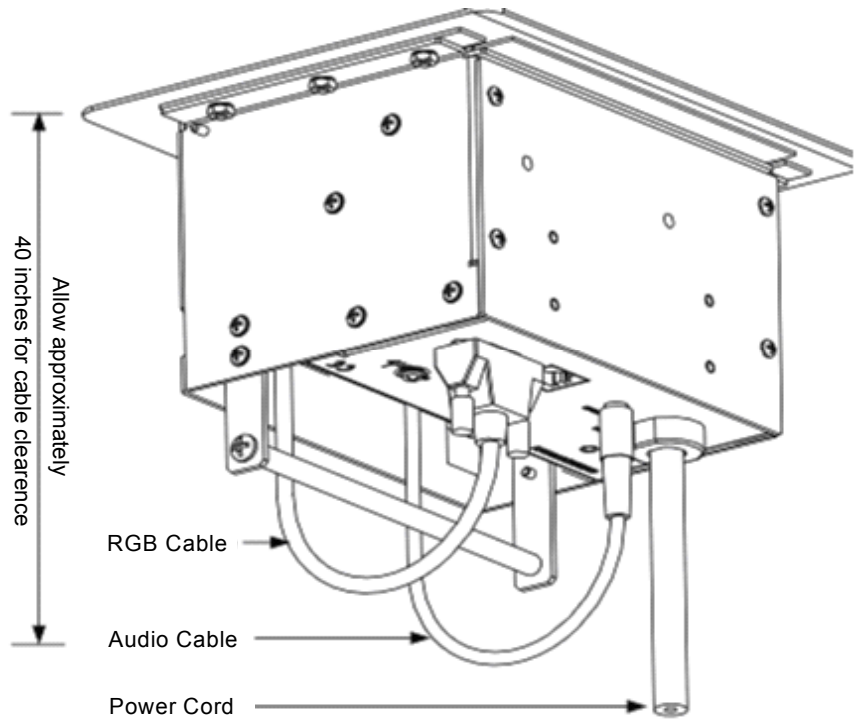
NOTE: Ensure that the cables have sufficient clearance to enable smooth movement. Allow approximately 40 inches (102 cm) from the top surface of the FlipTop box mounting to surface.

Mounting to Surface

The IM-FTCC-M is designed to mount in a horizontal surface, such as a desk top, lectern, or podium. The following diagram illustrates the required opening size to accommodate the IM-FTCC-M. Use the supplied template to make the cutout.

Cutout Dimensions for IM-FTCC-M (4007291)

6 5/16 in
(161 mm)

4 11/16 in
(118 mm)

Radius
1/8 in
(4 mm) Max
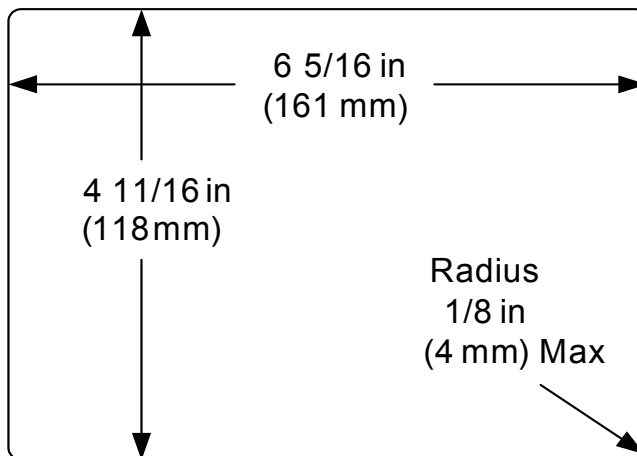
Cutout Dimensions for IMI-FTCC-M (4007909)

7 13/16 in
(198 mm)

5 1/8 in
(131 mm)

Radius
1/8 in
(4 mm)
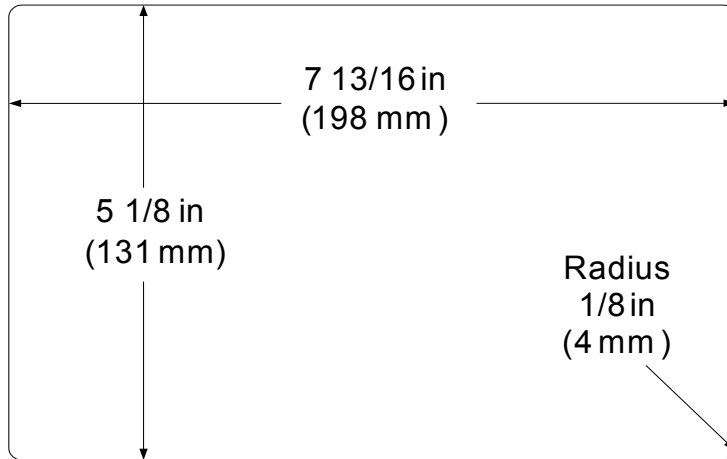
NOTE: Before inserting the IM-FTCC-M in the mounting hole, ensure that all required cables have been installed.

Mounting Parts Supplied with the IM-FTCC-M

PART DESCRIPTION	QUANTITY
Screw #6-32, Pan Head, Phillips	4
Screw #10-32, Pan Head, Phillips	4
Mounting Bracket	2

1. Install the four supplied #6-32 screws, but do not tighten (four screws on the rear are installed). All eight screws are used to secure the front and rear mounting brackets.

2. Position the IM-FTCC-M in the mounting hole.

Mounting Bracket Screw Locations

Screws (4)
#6-32 x 3/16"

Screws (4)
#6-32 x 3/16"

Surface
Cutout
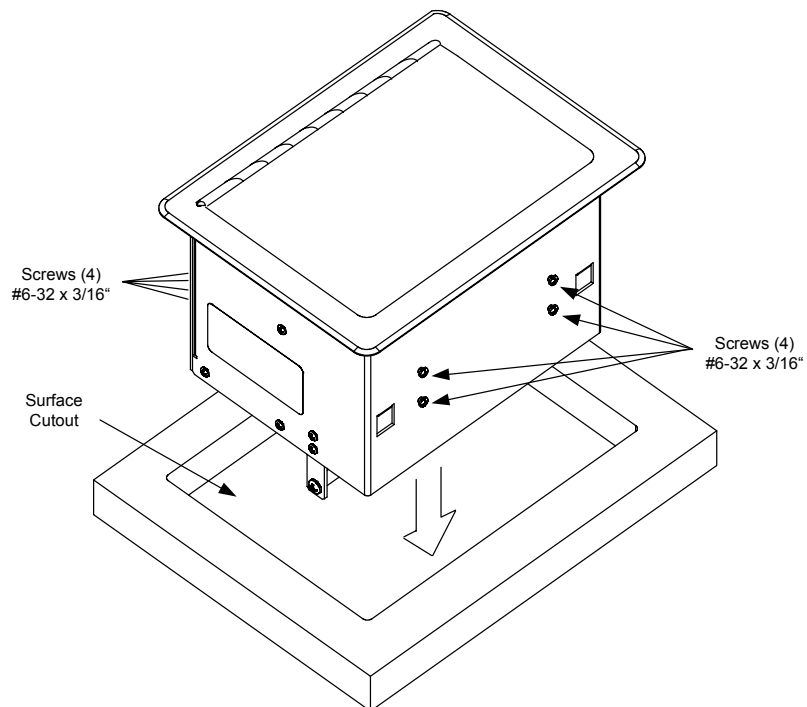
3. Install the four #10-32 screws in the mounting brackets (two screws per bracket). Refer to the following diagram.

4. Slide the mounting brackets over the #6-32 screws and tighten the #6-32 screws.

5. Turn the four #10 screws equally until they contact the underside of the mounting surface.

NOTE: Do not over-tighten the #10 screws as this may damage the surface and/or the unit.

Mounting Bracket Installation
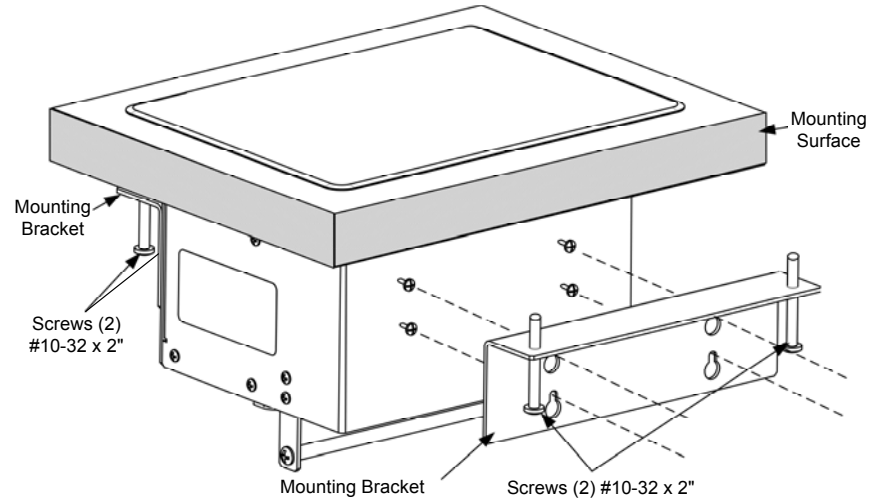
Mounting Brackets Installed - IM-FTCC-M
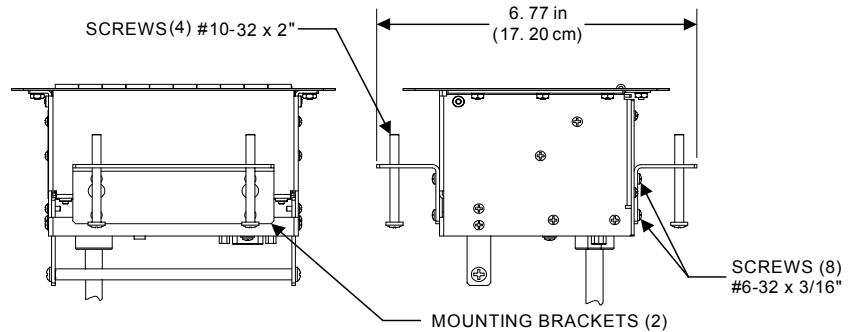
Mounting Brackets Installed - IMI-FTCC-M
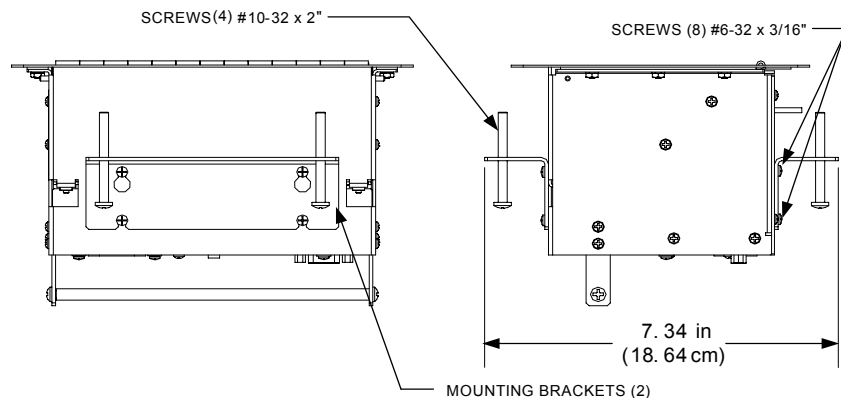
Hardware Hookup

Make the necessary connections as called out in the illustration that follows this paragraph. Apply power after all connections have been made.

When making connections to the IM-FTCC-M, consider the following:

- Use Crestron power supplies for Crestron equipment.

- The included cable cannot be extended.

Underside Connections (IM-FTCC-M Shown)
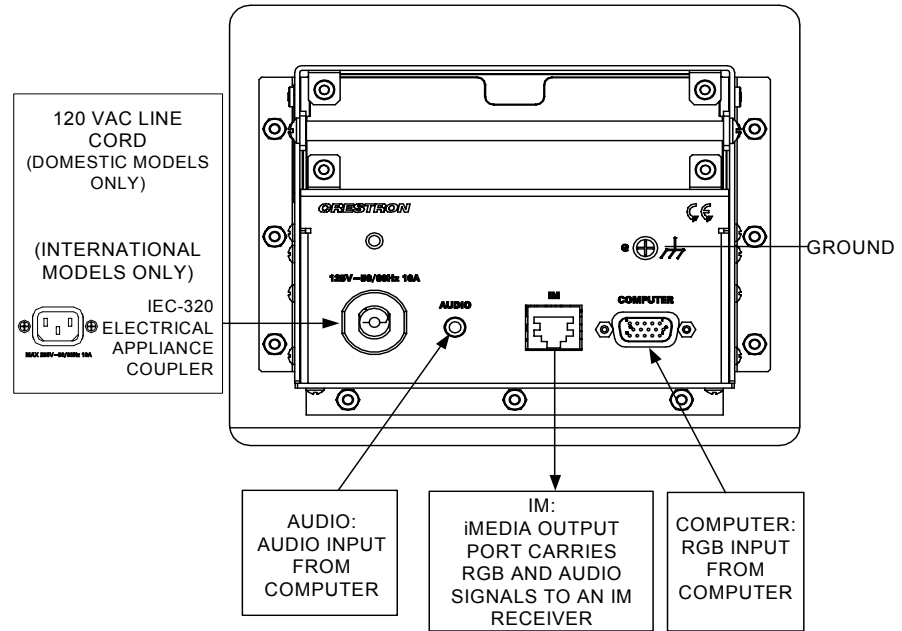
Computer Connections (IM-FTCC-M Shown)
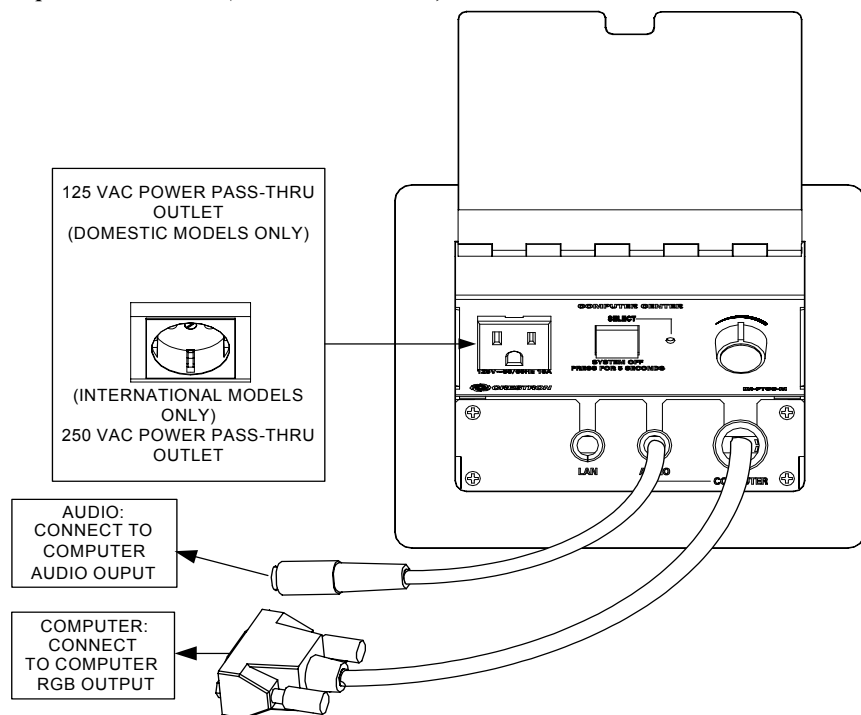
> **NOTE:** For optimum performance, Crestron strongly recommends using CresCAT-IM cables, available from Crestron. Other high-quality/low skew CAT5e/CAT6 wiring may also be used with varying performance.

> **NOTE:** Ensure that the unit is properly grounded.

> **NOTE:** The maximum continuous current from equipment under any external load conditions shall not exceed a current limit that is suitable for the minimum wire gauge used in interconnecting cables. The ratings on the connecting unit's supply input should be considered to prevent overloading the wiring.

System Configuration

Refer to the latest version of the IM-RXV1 & IM-RXV3 guide (Doc. 6478), or the IM-RXV1-M & IM-RXV3-M guide (Doc. 6593), available from the Crestron website (www.crestron.com/manuals) for iMedia system configuration instructions.

Operation

The IM-FTCC-M can be used to turn a system on or off, adjust volume, or adjust the microphone level.

Turn on the System

Press the **SELECT** button to turn on the system with the signals routed to the IM receiver. The associated LED will light.

Adjust Volume

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

Adjust Microphone Level

The microphone level is adjusted by holding the **SELECT** button and turning the rotary **VOLUME** knob.

When the **SELECT** button is released after adjusting the microphone volume level, the source will remain at the same volume level it had prior to the adjustment of the microphone volume.

Control over the computer audio volume level is regained by adjusting the rotary **VOLUME** knob without holding down the **SELECT** button. The source volume level will gradually ramp up or down to the level set by the rotary **VOLUME** knob.

Turn off the System

Press and hold the **SELECT** 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-FTCC-M Troubleshooting

TROUBLE	POSSIBLE CAUSE(S)	CORRECTIVE ACTION
SELECT LED does not illuminate when **SELECT** button is pressed.	Not receiving power.	Verify that the iMedia cable is properly attached.
No video output displayed.	Incorrect cable connection.	Verify computer cable connection.
		Verify iMedia output cable connection is secure.
No audio output.	Incorrect cable connection.	Verify computer audio cable connection.
No Microphone output.	Microphone level is incorrectly set.	Set microphone level as described on page 19.
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 IM receiver.
Button does not function when pressed.	Incorrect cable connection.	Verify that the iMedia output cable connection is secure.
Loss of functionality due to electrostatic discharge.	Improper grounding.	Verify that all ground connections have been made properly.
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 (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
IM-RXV1-M & IM-RXV3-M iMedia Receiver/Processor with Video and Mic Input

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 (www.crestron.com/offices) for a listing of Crestron worldwide offices.

You can also log onto the online help section of the Crestron website (www.crestron.com/onlinehelp) 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-FTCC-M, 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.

Appendix: International Receptacles

PART NUMBER	DESCRIPTION	COUNTRIES
6003287 6501271	PWR-AU-B POWER RECEPTACLE, AUSTRALIA, 250V, 10A, BLK	Australia, Fiji, New Zealand, Papua New Guinea
6003288 6501272	PWR-EU-B POWER RECEPTACLE, EUROPE "SCHUKO", 250V, 16A, BLK	Austria, Azerbaijan, Belarus, Bosnia and Herzegovina, Brunei, Bulgaria, Burundi, Cape Verde, Chad, Croatia, Czech Republic, Egypt, Eritrea, Finland, Georgia, Germany, Greece, Greenland, Guinea-Bissau, Hungary, Iceland, Jordan, Kazakhstan, Korea (South), Kyrgyzstan, Liechtenstein, Luxemburg, Macedonia, Monaco, Montserrat, Morocco, Mozambique, Netherlands, Netherlands Antilles, New Caledonia, Norway, Poland, Portugal, Reunion, Romania, Russia, San Marino, Senegal, Serbia and Montenegro, Slovenia, Spain, Suriname, Sweden, Syria, Tunisia, Turkey, Ukraine, Vietnam
6003289 6500643	PWR-IT-B POWER RECEPTACLE, ITALY, 250V, 16A, BLK	Chile, Ethiopia, Italy, Libya
6003290 6501273	PWR-UK-B POWER RECEPTACLE, UK, 250V, 13A, BLK	Anguilla, Bahrain, Botswana, Burma (Myanmar), Cyprus, Dominica, Falkland Islands (Malvinas), Gambia, Ghana, Gibraltar, Hong Kong, Iraq, Ireland, Kenya, Kuwait, Liberia, Malawi, Malaysia, Malta, Mauritius, Nigeria, Northern Ireland, Oman, Qatar, St. Kitts-Nevis, St. Lucia, St. Vincent, Seychelles, Sierra Leone, Singapore, Sudan, Tanzania, Uganda, United Arab Emirates, United Kingdom, Yemen, Zambia, Zimbabwe
6003291 6501274	PWR-FR-B POWER RECEPTACLE, FRANCE, 250V, 16A, BLK	Algeria, Belgium, Cameroon, Central African Republic, Comoros, Congo Democratic Republic, Djibouti, France, French Guiana, Gabon, Guadeloupe, Guinea, Indonesia, Madagascar, Mali, Martinique, Togo

NOTE: Installation instructions are included with all receptacles listed above.

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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