


Crestron **MP-AMP40-70/100V**
Media Presentation Audio Amplifier

Operations & Installation Guide





Important Safety Instructions

- Read these instructions.
- Keep these instructions.
- Heed all warnings.
- Follow all instructions.
- Do not use this apparatus near water.
- Clean only with dry cloth.
- Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
- Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
- Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding-type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
- Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
- Only use attachments/accessories specified by the manufacturer.
- Use only with the cart, stand, tripod, bracket or table specified by the manufacturer or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over. 
- Unplug this apparatus during lightning storms or when unused for long periods of time.
- Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
- Disconnect power prior to connecting or disconnecting equipment.
- Do not install in direct sunlight.
- The apparatus must be installed in a way that the power cord can be removed either from the wall outlet or from the device itself in order to disconnect the mains power.
- Prevent foreign objects from entering the device.

WARNING:

TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPARATUS TO RAIN OR MOISTURE. THE APPARATUS SHALL NOT BE EXPOSED TO DRIPPING OR SPLASHING. OBJECTS FILLED WITH LIQUIDS, SUCH AS VASES, SHOULD NOT BE PLACED ON THE APPARATUS.

WARNING:

TO PREVENT ELECTRIC SHOCK, DO NOT REMOVE COVER. THERE ARE NO USER SERVICEABLE PARTS INSIDE. ONLY QUALIFIED SERVICE PERSONNEL SHOULD PERFORM SERVICE.



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

WARNING:

THIS IS AN APPARATUS WITH CLASS I POWER SUPPLY CONSTRUCTION. IT SHALL BE CONNECTED TO AN ELECTRICAL OUTLET WITH AN EARTHING GROUND TERMINAL.

IMPORTANT:

This device can be used with Class 2 output wiring.

The marking label is attached on the bottom of the unit.

Regulatory Compliance

This product is Listed to applicable UL Standards and requirements by Underwriters Laboratories Inc.



This product conforms to UL STD 962A; certified to CSA STD C22.2 No. 21.



As of the date of manufacture, the MP-AMP40-70V and MP-AMP40-100V have been tested and found to comply with specifications for CE marking and standards per EMC and Radiocommunications Compliance Labelling.



Federal Communications Commission (FCC) Compliance Statement

CAUTION: Changes or modifications not expressly approved by the manufacturer responsible for compliance could void the user's authority to operate the equipment.

NOTE: 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

Industry Canada (IC) Compliance Statement

CAN ICES-3(B)/NMB-3(B)

The specific patents that cover Crestron products are listed at patents.crestron.com

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Media Presentation Audio Amplifier: MP-AMP40-70/100V

Introduction

The Crestron® MP-AMP40 series offers a choice of 70 V or 100 V audio amplifiers, each designed to provide a convenient, low-cost amplifier solution for a variety of applications. These amplifiers are ENERGY STAR® qualified to enable organizations to fulfill their green initiatives without compromising on audio performance.¹ Each model is equipped for shelf or surface-mounting to enable installation virtually anywhere without requiring an equipment rack. Each model meets the requirements of UL 2043 for installation in an environmental air-handling (plenum) space, such as above a suspended ceiling.²

Features and Functions

- Compact single-channel power amplifier
- ENERGY STAR qualified¹
- 40 watts at 70 or 100 volts (mono)
- Transformer isolated output
- High-efficiency Class D topology
- Energy saving design reduces power consumption when idle
- Convection cooled for noiseless operation
- Simple volume, bass, and treble adjustments
- Electronic short-circuit and overload protection
- Detachable terminal block speaker connection
- Balanced line input via detachable terminal block
- Unbalanced RCA line input, 3-foot (~0.9 meter) cable included
- Built-in stereo to mono summing
- Includes surface mounting brackets
- UL 2043 compliant for installation within a plenum-rated suspended ceiling²

1. The MP-AMP40-70V and MP-AMP40-100V are ENERGY STAR qualified only when using the included power pack. Power pack meets ENERGY STAR Version 2.0 Efficiency Level V standards in compliance with EISA Section 301 (US), CECP Tier 2 (China), MEPS Tier 2 (Australia), and CoC (EU).
2. The MP-AMP40-70V and MP-AMP40-100V are tested by an NRTL (Nationally Recognized Testing Laboratory) and comply to ANSI/UL2043 (Fire Test For Products Installed in Air-Handling Spaces). Full compliance requires plenum rated cables such as Crestron CBL-KAUDIO-RCAM2-L-P-50 audio cable, CBL-SPK-P-35 speaker cable, and CBL-PWR-EXT24V-P-6 DC power extension cable. Please note that the included power pack is not ANSI/UL2043 compliant, and thus cannot be installed in an air-handling space unless enclosed in a suitable plenum-rated enclosure.

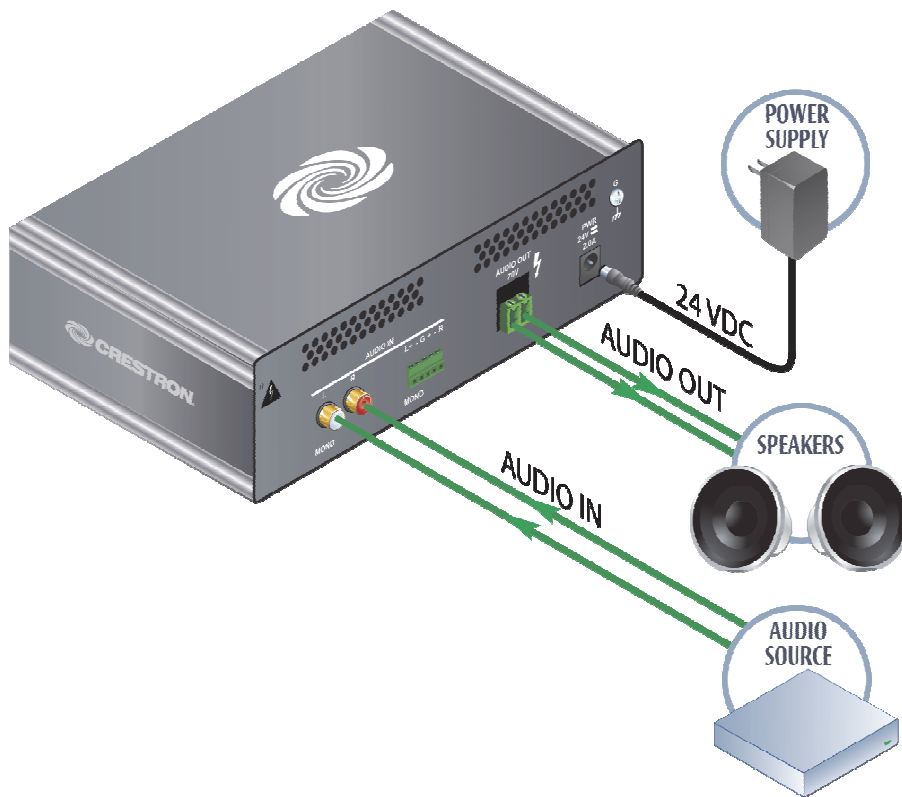
Two models are offered. The MP-AMP40-70V has a 70 volt output, and the MP-AMP40-100V has a 100 volt output. High-efficiency Class D circuitry delivers 40 watts to drive a distributed speaker system in a meeting room, classroom, or any other space. The output is transformer isolated to handle long and complex wire runs.

Refined, reliable operation is ensured thanks to pop-free turn-on circuitry and electronic short-circuit and overload protection. An energy-saving design achieves optimum efficiency under load, and the amplifier powers down automatically when no input signal is detected for more than 5 minutes, reducing overall power consumption and heat as part of a green system design. The amplifier quickly powers back on the instant an input signal is detected. Its extruded aluminum housing is both attractive and effective at dissipating heat, affording a silent running design without cooling fans.

Installation and setup is simple. A detachable output connector facilitates the termination of speaker wiring up to 12 gauge. Balanced and unbalanced inputs accommodate either a mono or stereo line-level source*, allowing for direct connection to the output of a video projector or display, audio processor, mixer, or AV switcher. Rotary controls provide for adjusting the overall output volume, as well as bass and treble.

Applications

The following diagram shows an MP-AMP40-70/100V in a typical application.



* Stereo input is internally summed to mono.

Specifications

Specifications for the Media Presentation Audio Amplifier are listed in the following table.

Media Presentation Audio Amplifier Specifications

SPECIFICATION	DETAILS
Audio	
Input Volume Range	-60 dB to +15 dB
Bass Gain Range:	±10 dB @ 100 Hz
Treble Gain Range:	±12 dB @ 10 kHz
Frequency Response	80 Hz to 20 kHz ±2.5 dB
S/N Ratio	75 dB @ 80 Hz to 20 kHz A-weighted
THD+N	0.5% @ 1 kHz
Output Power (MP-AMP40-70V)	40 watts at 70 volts (Transformer isolated)
Output Power (MP-AMP40-100V)	40 watts at 100 volts (Transformer isolated)
Amplifier Protection	Electronic short-circuit and overload protection
Input Detection Threshold	<30 mVrms @ 1 kHz
Power Requirements	
Power Pack	2.0 amps @ 24 volts dc 100-240 volts ac, 50/60 Hz power pack, included ¹
Power Consumption	14 watts @ 1/8 output power 6.2 watts @ Idle 750 mW standby
Environmental	
Temperature	41° to 122° F (5° to 50° C)
Humidity	10% to 90% RH (non-condensing)
Heat Dissipation	26 Btu/h @ 1/8 output power
Enclosure	
Chassis	Aluminum with polycarbonate label overlay, vented rear, meets the requirements of UL 2043 for installation in an environmental air-handling (plenum) space ²
Faceplate	Plastic with polycarbonate label overlay
Mounting	Freestanding or surface mount (adhesive feet and mounting brackets included)
Dimensions	
Height	2.38 in (61 mm) with feet, 2.45 in (62 mm) with bracket
Width	8.12 in (207 mm), 9.40 (239 mm) with bracket
Depth	5.87 in (149 mm)
Weight	3.4 lb (1.6 kg)

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Media Presentation Audio Amplifier Specifications (Continued)

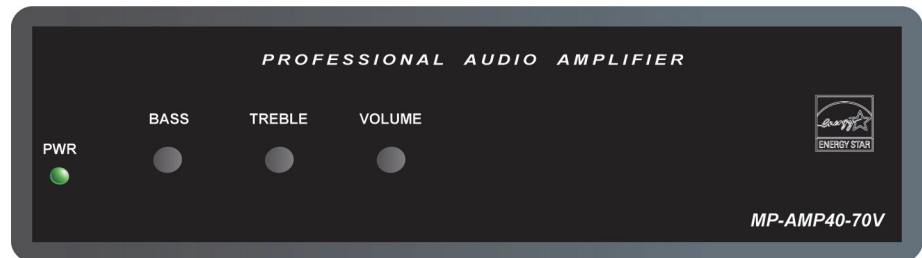
SPECIFICATION	DETAILS
Available Accessories	
CBL-RCA2	Crestron Certified RCA Stereo Audio Interface Cable
CBL-KAUDIO-RCAM2-L-P-50	RCA to Flying Lead Stereo Audio Cable, Plenum, 50 ft (~15 m)
CBL-PWR-EXT24V-P-6	DC Power Extension Cable, Plenum, 6 ft (~2 m)
MP-WP Series	Media Presentation Wall Plates
MPI-WP Series	Media Presentation Wall Plates – International Version

- 1 The MP-AMP40-70V and MP-AMP40-100V are ENERGY STAR qualified only when using the included power pack. Power pack meets ENERGY STAR Version 2.0 Efficiency Level V standards in compliance with EISA Section 301 (US), CECP Tier 2 (China), MEPS Tier 2 (Australia), and CoC (EU).
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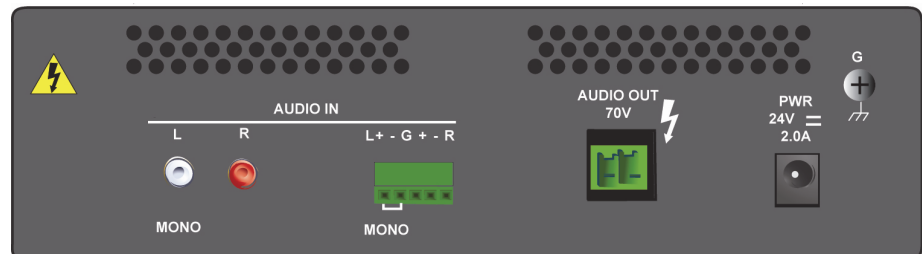
Physical Description

This section provides information on the connections, controls and indicators available on the MP-AMP40-70/100V.

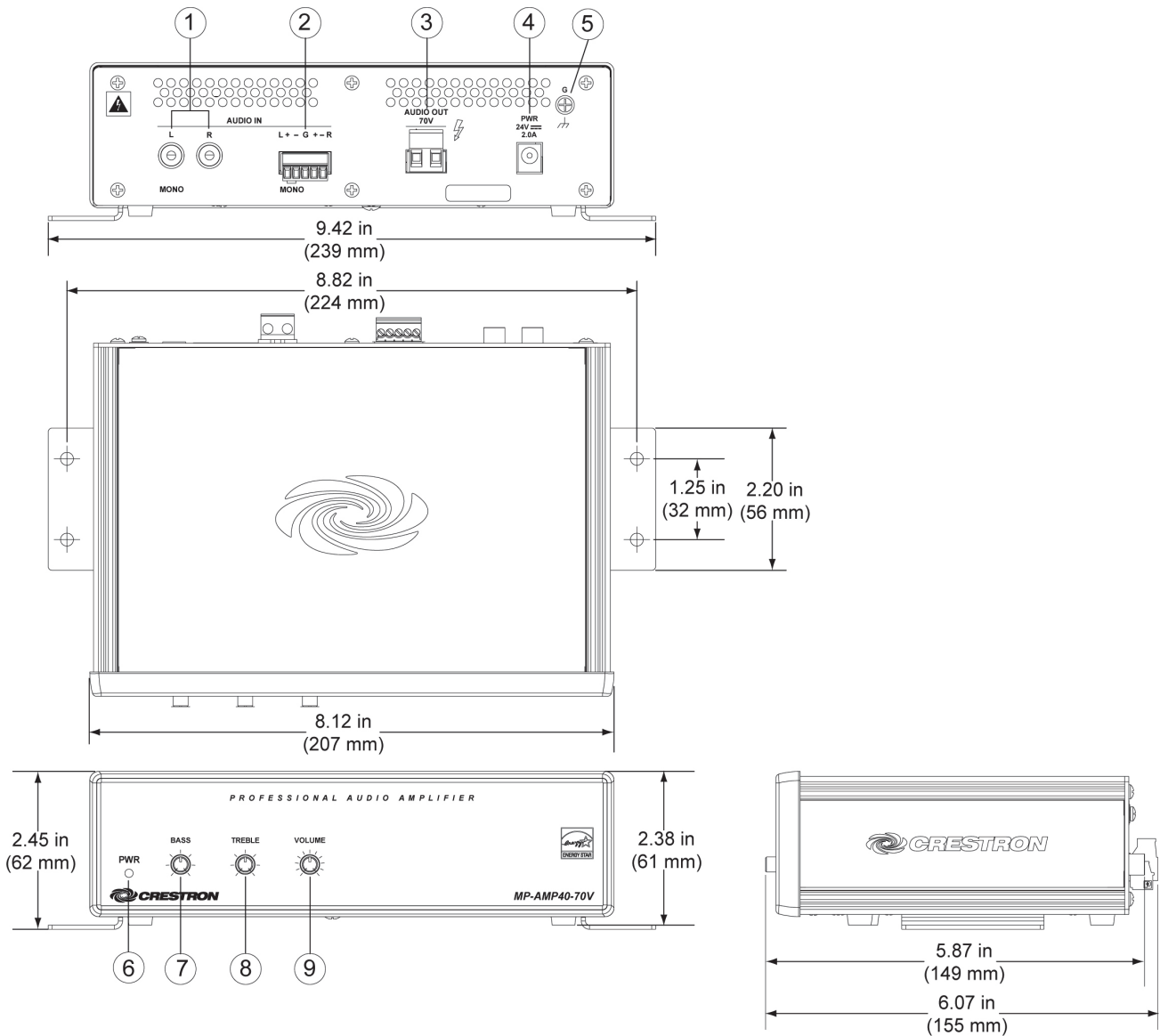
MP-AMP40-70 Front View



MP-AMP40-70 Rear View



MP-AMP40-70/100 Overall Dimensions (MP-AMP40-70 Shown)

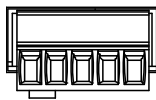
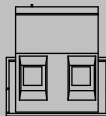
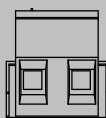





Connectors, Controls & Indicators

#	CONNECTORS ¹ , CONTROLS & INDICATORS	DESCRIPTION
1	<p>AUDIO IN</p> <p>L R</p> <p>MONO</p>	<p>AUDIO IN, L/MONO & R (unbalanced); (2) RCA female; Unbalanced stereo or mono line-level audio input²; Maximum Input Level: 2 Vrms MONO, 1 Vrms Stereo; Input Impedance: 15 kΩ; 3 ft (0.9 m) stereo RCA-RCA cable included</p>

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Connectors, Controls & Indicators (Continued)

#	CONNECTORS ¹ , CONTROLS & INDICATORS	DESCRIPTION
2	AUDIO IN L + - G + - R  MONO	AUDIO IN, L/MONO & R (balanced); (1) 5-pin 3.5 mm detachable terminal strip; Balanced/unbalanced stereo or mono line-level audio input ² ; Maximum Input Level: 2 Vrms mono, or 1 Vrms stereo; Input Impedance: 15 kΩ
3	AUDIO OUT 70V 	(MP-AMP40-70 only) (1) 2-pin 5 mm detachable terminal block; 70 V speaker-level audio output; Wire Size: Connector accepts 12 AWG maximum; Output Power: 40 watts @ 70 V
	AUDIO OUT 100V 	(MP-AMP40-100 only) (1) 2-pin 5 mm detachable terminal block; 100 V speaker-level audio output Wire Size: Connector accepts 12 AWG maximum Output Power: 40 watts @ 100 V
4	PWR 24V  2.0A 	(1) 2.1 x 5.5 mm dc power connector 24 volt dc power input (power pack included)
5	G 	(1) 6-32 screw, chassis ground lug
6	PWR O	(1) green LED, indicates operating power supplied from external power pack
7	BASS	Rotary low frequency boost/cut adjustment, flat at center detent
8	TREBLE	Rotary high frequency boost/cut adjustment, flat at center detent
9	VOLUME	Rotary input level adjustment

1. Interface connectors for **AUDIO IN**, and **AUDIO OUT** ports are provided with the unit.
2. Stereo input is internally summed to mono.

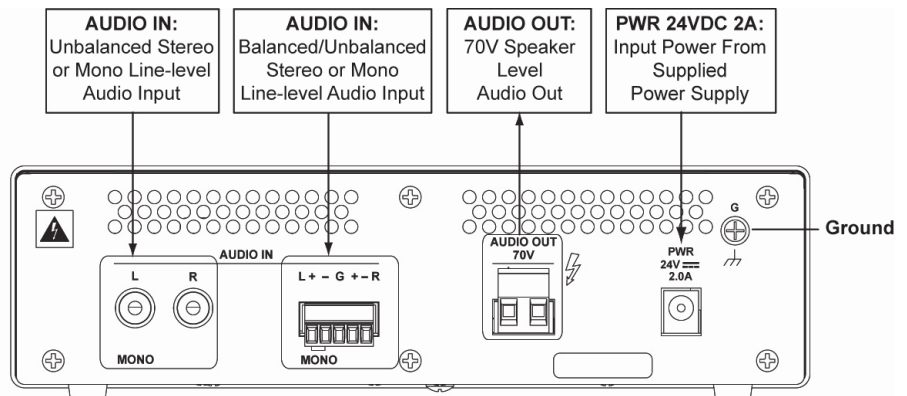
Setup

Installation

Mount the MP-AMP40 to a flat surface near the audio source equipment, using included adhesive feet or mounting brackets (screws not supplied).

Hardware Hookup

Hardware Connections for the MP-AMP40-70/100V (MP-AMP40-70 Shown)



Before applying power, do the following:

1. Connect all input and output cables (refer to the above illustration).
2. Set the **BASS** and **TREBLE** controls to their default center detent positions, and set the **VOLUME** control to a low (counterclockwise) position.

Apply power and verify operation as follows:

1. With the 24 Vdc power source connected, the green LED should be illuminated.
2. Slowly turn the **VOLUME** control clockwise until the audio is at a comfortable level.
3. Adjust the **TREBLE** and **BASS** controls to suit personal preference.

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.

MP-AMP40-70/100 Troubleshooting

TROUBLE	POSSIBLE CAUSE(S)	CORRECTIVE ACTION
Power LED does not illuminate.	MP-AMP40-70/100 is not receiving power.	Verify that the power supply is connected and turned on.
Audio is distorted or not present at speakers.	Audio input or speaker cables are loose or not connected.	Verify that all cables are securely and correctly connected at both ends.
Audio not present at either left or right channel	Speaker was momentarily disconnected or shorted.	Reconnect speaker and re-apply power.

NOTE: Any momentary short, misconnection, or overload causes the protective circuits to turn the unit off. Once the fault is cleared, the unit should automatically recover. Should it not, recycling power ensures full recovery.

Further Inquiries

To locate specific information or to resolve questions after reviewing this guide, contact Crestron's True Blue Support at 1-888-CRESTRON [1-888-273-7876] or refer to the listing of Crestron worldwide offices on the Crestron Web site (www.crestron.com/offices) for assistance within a particular geographic region.

To post a question about Crestron products, log onto the Online Help section of the Crestron Web site (www.crestron.com/onlinehelp). First-time users must 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 MP-AMP40-70/100, 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 Web site 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; touch screen 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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Specifications subject to
change without notice.