

Crestron **QM-WMIC**

Wall Plate Media Center Microphone Input

Operations & Installation Guide



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

<b>Wall Plate Media Center Microphone Input: QM-WMIC</b>	<b>1</b>
Introduction .....	1
Features and Functions .....	1
Specifications .....	3
Physical Description .....	5
Industry Compliance .....	7
Installation .....	8
Setup .....	11
Programming Software .....	11
Programming with Crestron SystemBuilder .....	12
Programming with SIMPL Windows .....	13
Programming with VisionTools Pro-e .....	17
Example Program .....	17
Adjusting the QM-WMIC .....	18
Definitions .....	18
Setting Microphone Gain .....	20
Setting the Gating Level .....	20
Problem Solving .....	22
Troubleshooting .....	22
Further Inquiries .....	24
Future Updates .....	24
Return and Warranty Policies .....	25
Merchandise Returns / Repair Service .....	25
CRESTRON Limited Warranty .....	25



# Wall Plate Media Center Microphone Input: QM-WMIC

---

## Introduction

### Features and Functions

The Wall Plate Media Center Microphone Input (QM-WMIC) is an optional part of the Crestron MediaManager™ line of network devices, room control systems, and signal routing solutions.

The QM-WMIC is a complementary accessory that can only be used when installed with a Crestron® QM-WMC Wall Plate Media Center. The QM-WMIC adds two Neutrik® Combo microphone connectors with software enabled phantom power to the A/V connections that are present on the QM-WMC. The microphone inputs feature adjustable gain and an integrated noise gate with adjustments for gating level, attack time, and decay time. The microphone signals are transmitted with the program audio over the Crestron QuickMedia transport.

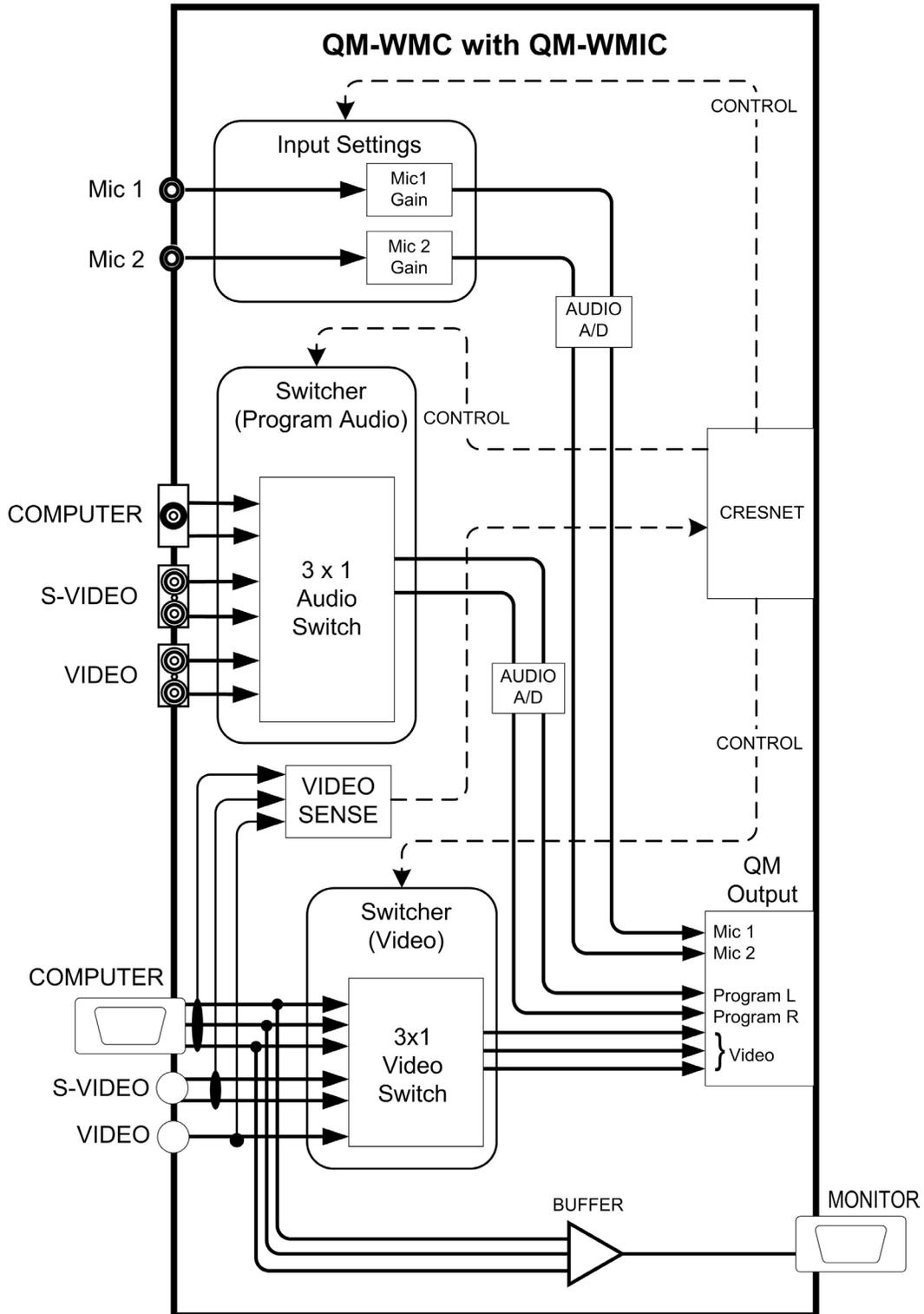
A QM-WMIC requires a QM-WMC, the far-right space in a 2½” deep, triple-gang electrical box and a Decora® style faceplate (sold by other) for installation.

### *Functional Summary*

- 3-gang Decora style (requires installation with QM-WMC)
- Two Neutrik Combo microphone connectors with muting and software switchable phantom power (48V @ 10mA) for condenser microphones
- Adjustable gain, noise gate levels, attack time, and decay time

The following block diagram illustrates the functional capabilities of a QM-WMC with the QM-WMIC installed.

**Block Diagram of Wall Plate Media Center Microphone Input**



## Specifications

The following table provides specifications for the QM-WMIC.

### *Specifications for the QM-WMIC*

<b>SPECIFICATION</b>	<b>DETAILS</b>
Power Requirements Total QM-WMC & QM-WMIC	3 Watts (0.13 Amp @ 24 VDC) 8 Watts (0.33 Amp @ 24 VDC)
Control System Update Files <sup>1,2</sup> 2-Series Control System	Version 3.093.CUZ or later
Front Connectors Mic Inputs	(2) Neutrik Combo: XLR & ¼" phone per input
Rear Connectors QM-WMC	(1) Multi-pin ribbon connector for connecting to QM-WMC
Microphone XLR	Accepts microphones with 60 Ohm to 600 Ohm output impedance, balanced
Concentric ¼"	Accepts line level inputs, balanced (tip/ring/sleeve) or unbalanced (tip/sleeve)
Input Level Range XLR	-60 dBV to -20 dBV
¼"	-28 dBV to +12 dBV balanced (-30 dBu to +10 dBu) -28 dBV to +6 dBV unbalanced (-30 dBu to +4 dBu)
	Max. Input: 4 Vrms balanced 2 Vrms unbalanced

*(continued on next page)*

*Specifications for QM-WMIC (continued)*

SPECIFICATION	DETAILS
Microphone (continued)	
Input Impedance	XLR: 10 k $\Omega$ 1/4": 4 k $\Omega$ balanced 2 k $\Omega$ unbalanced
Level Monitoring	Provided for setup purposes. Nominal indication at 20 dB below input clip level. Clip indication reported at 6 dB below input clip level.
Noise Gate	Software enabled noise gating with adjustable level, attack time, and decay time (variable from 10 ms to 5 seconds).
Phantom Power (XLR only)	Software enabled <sup>3</sup>
Voltage	48 V
Current	10 mA (combined total)
Source Impedance	3.4 k $\Omega$
Operating Temperature and Humidity	41° to 104° F (5° to 40° C) 10 to 90% relative humidity (non-condensing)
Dimensions and Weight	Width: 1.77 in (4.49 cm) Height: 4.11 in (10.44 cm) Depth: 2.14 in (5.43 cm) Weight: 4.1 oz (0.12 kg)

1. The latest software versions can be obtained from the Downloads | Software Updates section of the Crestron website ([www.crestron.com](http://www.crestron.com)). Refer to the NOTE following these footnotes.
2. Crestron 2-Series control systems include the AV2, C2N-DVP4DI, CP2, CP2E, MC2E, MC2W, MP2, MP2E, PAC2, PRO2, QM-RMCRX, and RACK2.
3. Phantom power is applied to the XLR connectors of both microphone inputs. It cannot be enabled on an individual microphone input.

**NOTE:** Crestron software and any files on the website are for Authorized Crestron dealers and Crestron Authorized Independent Programmers (CAIP) only. New users may be required to register to obtain access to certain areas of the site (including the FTP site).

## Physical Description

The QM-WMIC features two Neutrik Combo XLR/¼” ports that allow for connection of up to two microphones. The XLR microphone connectors feature software switchable phantom power for use with condenser microphones. Microphone signals are transmitted along with the program audio and can be manipulated at the receiver.

---

**NOTE:** Phantom power is applied to the XLR connectors of both microphone inputs. It cannot be switched on an individual microphone input.

---

An LED on the front of the QM-WMIC indicates whether phantom power is enabled. The following illustration shows the QM-WMIC properly installed with a QM-WMC.

---

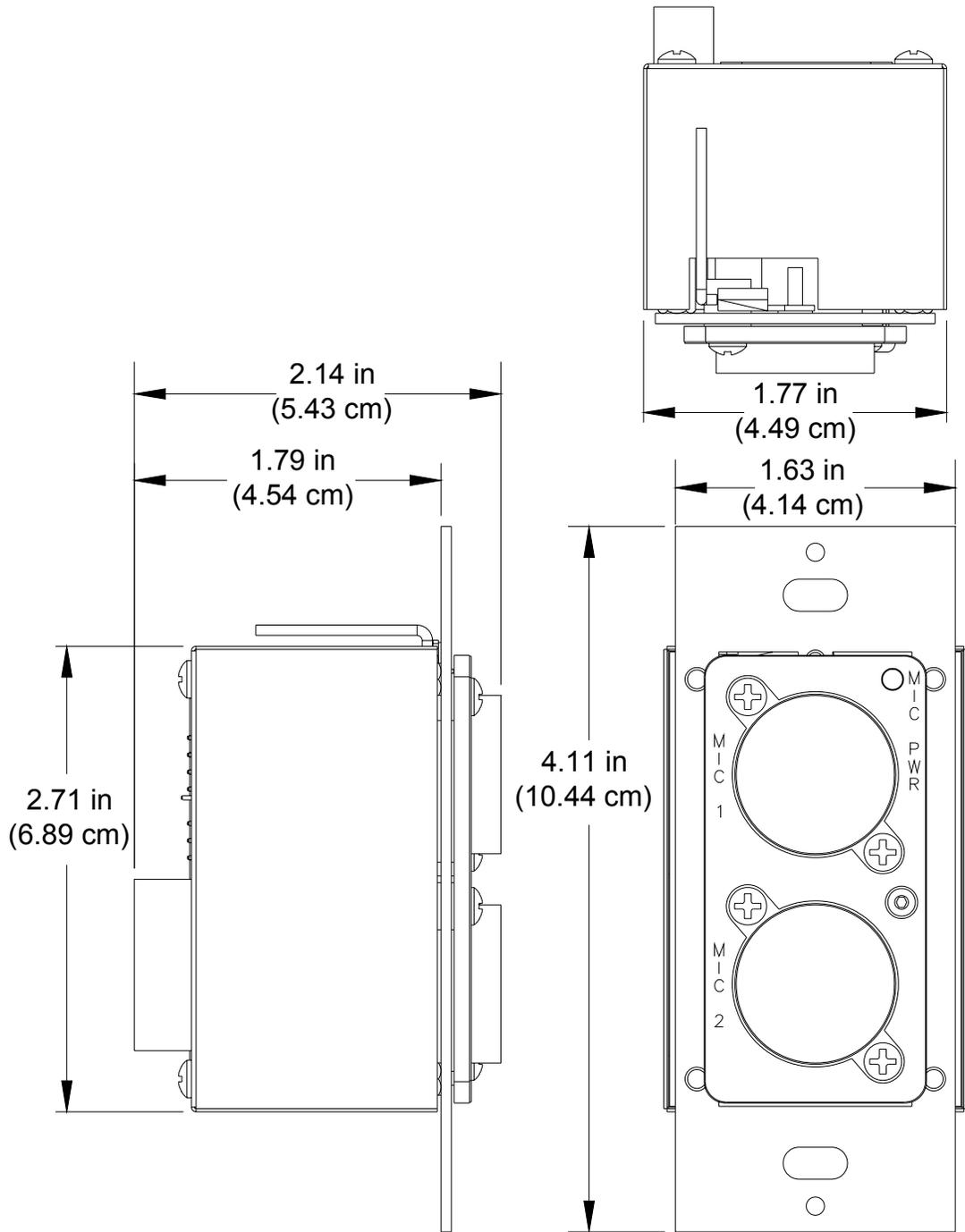
**NOTE:** Decorative faceplates, as shown in the following illustrations, are not supplied.

---

### *QM-WMIC Shown with QM-WMC*



*Physical Views of the QM-WMIC Wall Plate Media Center*

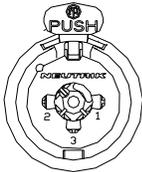


All microphone connections to the QM-WMIC are made through the connectors on the front panel. An LED on the front of the QM-WMIC indicates when phantom power is on. The connection to the QM-WMC is made on the rear of the unit. Refer to the illustrations and descriptions that follow.

**NOTE:** A ribbon cable for connecting to a QM-WMC is provided with the QM-WMIC.

**NOTE:** Images shown are for illustrative purposes only.

**MIC 1 / MIC 2**



Each MIC port is a Neutrik Combo connector that contains an XLR connector for use balanced condenser or dynamic microphones. The XLR connectors feature switchable phantom power. The 1/4” phone connector is for use with devices that provide line-level signals such as wireless microphone receivers or the output of a microphone mixer. For more information on the microphone input capabilities, refer to the “Specifications” section on page 3.

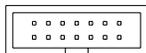
**NOTE:** Phantom power is not applied to the 1/4” inputs.

**Phantom Power Indicator**



The QM-WMIC has an LED that illuminates when phantom power is enabled on the XLR connectors.

**Connection for QM-WMC (not labeled)**



This 14-pin connector is used to connect the QM-WMIC to the QM-WMC.

**Industry Compliance**

As of the date of manufacture, the QM-WMIC has been tested and found to comply with specifications for CE marking and standards per EMC and Radiocommunications Compliance Labelling (N11785).



**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.

---

## Installation

The QM-WMIC is designed to connect to a dedicated connector on the rear of the QM-WMC Wall Plate Media Center.

The following tools/hardware are required for installation.

- Wire nut (not supplied)
- Phillips screwdriver (not supplied)
- Two ¾" pan head Phillips screws (supplied)

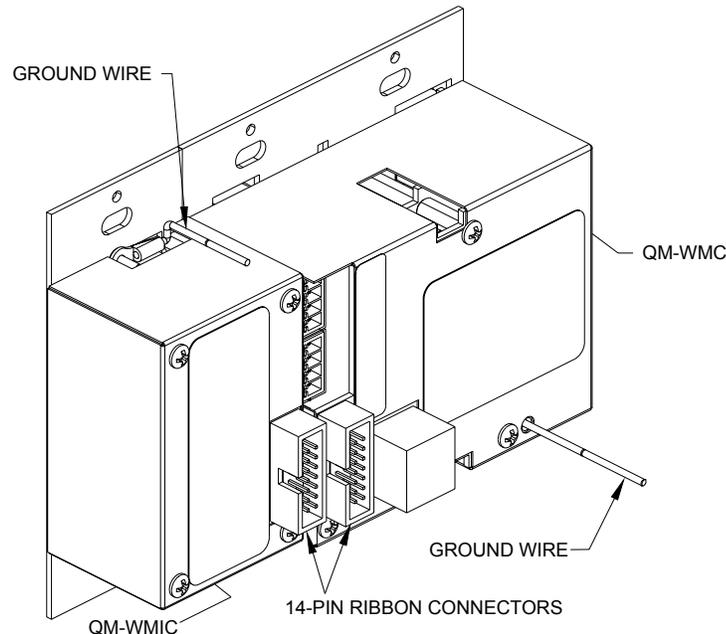
---

**NOTE:** The QM-WMIC can be installed when the QM-WMC is being installed or after the QM-WMC has been installed. The following procedure is written for a scenario where the QM-WMIC is being installed at the same time as a QM-WMC. Detailed installation instructions for the QM-WMC can be found in the latest revision of the QM-WMC Operations & Installation Guide (Doc. 6237) which can be downloaded from the Downloads | Product Manuals section of the Crestron website ([www.crestron.com](http://www.crestron.com)).

**NOTE:** If the QM-WMIC is to be installed into an existing QM-WMC installation, all electronic connections to the QM-WMC should be removed prior to removing the QM-WMC from its two-gang electrical wallbox. A three-gang box must replace the two-gang electrical wallbox.

---

1. Turn Cresnet system power **OFF**.
2. Place the QM-WMIC next to the QM-WMC as shown in the following diagram.

*Align QM-WMIC with QM-WMC*

3. Using the supplied ribbon cable, connect the 14-pin connectors on the rear of the QM-WMIC and QM-WMC.
  4. Remove the precut insulation from the ground wires.
  5. Using a wire nut, group the ground wires on the QM-WMIC and the QM-WMC and connect them to ground. Suitable grounding methods are:
    - Connect the grounding wire to the electrical box (the electrical box must be earth grounded) or a ground wire in the electrical box.
- OR**
- Connect the ground wires to the Cresnet shield and connect the Cresnet shield at the QM-RMCRX to the chassis of the QM-RMCRX. The QM-RMCRX chassis must be connected to an earth ground. In this instance, the Cresnet shield is not connected to Cresnet ground.

---

**NOTE:** When the Cresnet shield is used to connect QM-WMC/QM-WMIC assembly to the ground terminal of a PRO2, PAC2, AV2, or any other 2-Series control system where the chassis is already earth grounded, the grounding wire from the control system to earth ground is unnecessary.

---

6. Connect the network and QuickMedia cables to the rear of the QM-WMC.
7. Make sure the QM-WMC and QM-WMIC are properly oriented (labels are upright), and place it in the electrical box.

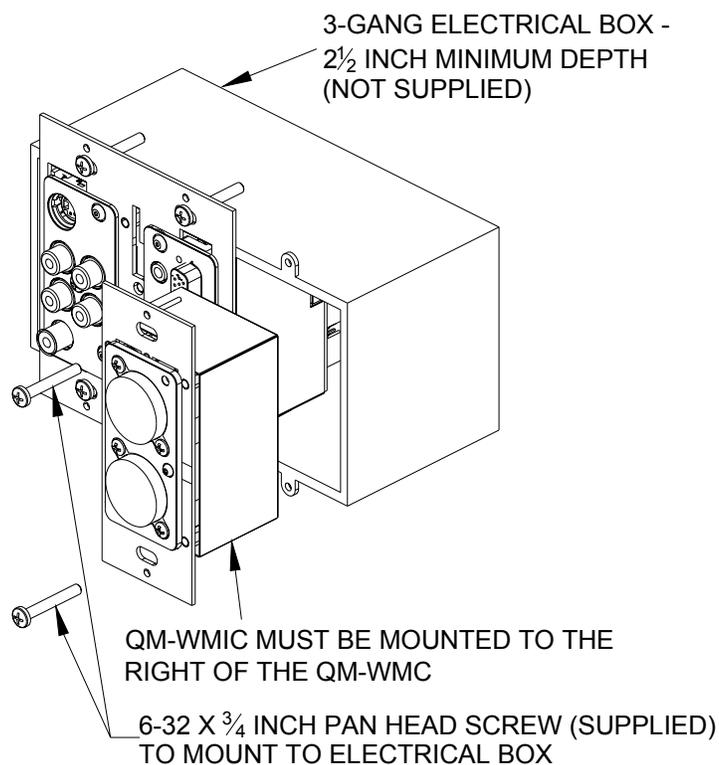
---

**CAUTION:** Excess wire that is pinched between the wall plate and electrical box could short out. Make sure that all excess wire is completely inside the electrical box and not between the box and the wall plate.

---

8. Attach the wall plate to the electrical box using the supplied  $\frac{3}{4}$ " pan-head screws as shown in the following diagram.

***Install Wall Plate into Wall Box***



9. Attach an appropriate Decora (or equivalent, not supplied) faceplate.
10. Turn Cresnet system power **ON**.

## Setup

A QM-WMC with the QM-WMIC is connected to a Cresnet network just like a standard QM-WMC. For instructions on connecting and addressing the QM-WMC in a Cresnet network, refer to the latest revision of the QM-WMC Operations & Installation Guide (Doc. 6237) which can be downloaded from the Downloads | Product Manuals section of the Crestron website ([www.crestron.com](http://www.crestron.com)).

---

## Programming Software

### Have a question or comment about Crestron software?

Answers to frequently asked questions (FAQs) can be viewed in the Online Help section of the Crestron website ([www.crestron.com](http://www.crestron.com)). Go to <http://www.crestron.com/accounts/login.asp> to post your own question or view questions you have submitted to Crestron's True Blue Support. First-time users will need to establish a user account.

**NOTE:** Since the QM-WMIC is integrated into the QM-WMC, this section will only cover topics that are specific to the QM-WMIC. For information on programming the QM-WMC, refer to the latest revision of the QM-WMC Operations & Installation Guide (Doc. 6237) which can be downloaded from the Downloads | Product Manuals section of the Crestron website ([www.crestron.com](http://www.crestron.com)).

---

Setup is easy thanks to Crestron's Windows<sup>®</sup>-based programming software. Crestron's SystemBuilder™ software creates a complete project, with no special programming required. SystemBuilder completes all necessary programming for a base system including all touchpanel screens and the control system program. The program output of SystemBuilder is a SIMPL Windows program with much of the functionality encapsulated in macros and templates. Once SystemBuilder creates the project, the system interfaces and program logic can be customized in SystemBuilder or can be easily modified with Crestron development tools (i.e., SIMPL Windows and Crestron VisionTools<sup>®</sup> Pro-e (VT Pro-e) software packages).

SystemBuilder comes with templates for all supported interfaces. If a user wishes to create a touchpanel project using templates with a

different look-and-feel, this can be accomplished by making a custom template. This custom template can then be used by SystemBuilder to create the final project files to be loaded into the panels. Alternatively, VT Pro-e can be used to tweak projects created with the SystemBuilder or develop original touchpanel screen designs.

Once the program created by SystemBuilder is loaded into the control system, Crestron's Digital Media Tools (DMT) software can be used to tune the system for optimal performance. DMT software can be used to test the quality of microphone signals as well as fine-tune microphone settings.

---

**NOTE:** Crestron recommends the use of SystemBuilder and Digital Media Tools software for creating and fine-tuning a QuickMedia system.

**NOTE:** Crestron recommends that you use the latest software to take advantage of the most recently released features. The latest software is available from the Downloads | Software Updates section of the Crestron website ([www.crestron.com](http://www.crestron.com)).

---

The following are recommended software version requirements for the PC:

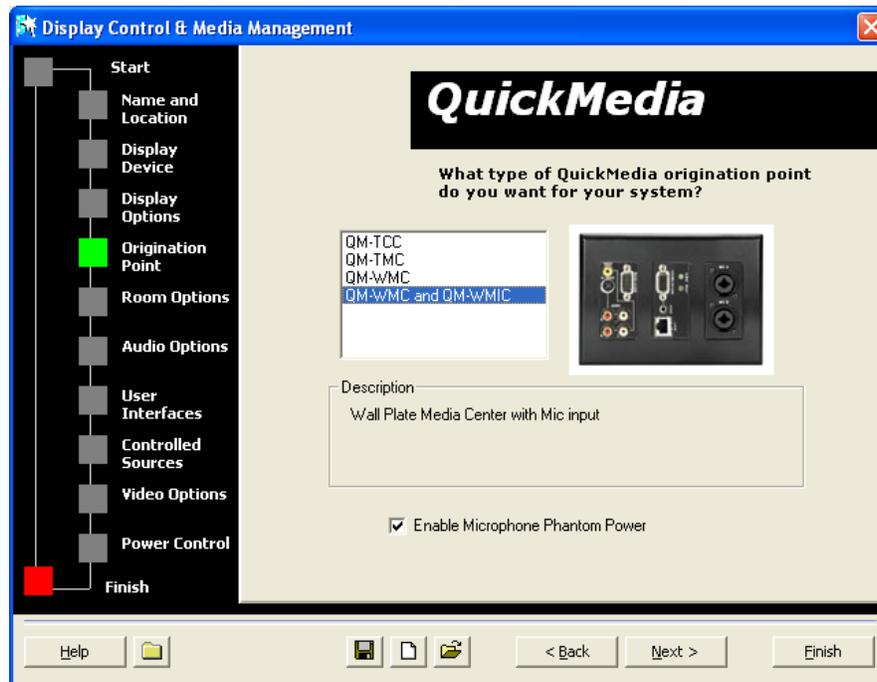
- (Optional) SystemBuilder (first release due in fourth quarter of 2003). Requires SIMPL Windows.
- SIMPL Windows version 2.05.08 or later. Requires SIMPL+<sup>®</sup> Cross Compiler version 1.1.
- Crestron Database version 16.0.5 or later. Required by SIMPL Windows.
- Digital Media Tools software version 3.00.00 or later.

## Programming with SystemBuilder

*The easiest method of programming, but does not offer as much flexibility as SIMPL Windows.*

SystemBuilder can automatically program MediaManager systems for residential and commercial applications such as meeting rooms, home theater, video conferencing, and lighting. The interface of this tool guides you through a few basic steps for specifying the control system, touchpanels, network devices, and functionality. SystemBuilder then programs the system, including all touchpanel projects and control system logic.

### *Selection of QM-WMC and QM-WMIC in SystemBuilder*



SystemBuilder integrates fully with Crestron's suite of software development tools, including SIMPL Windows, VT Pro-e, and the Crestron Database. SystemBuilder accesses these tools behind the scenes, enabling you to easily create robust systems.

## Programming with SIMPL Windows

The QM-WMC device in SIMPL Windows contains the symbols for the QM-WMC and the QM-WMIC. For instructions on adding a QM-WMC to a SIMPL Windows program, refer to the latest revision of the QM-WMC Operations & Installation Guide (Doc. 6237) which can be downloaded from the Downloads | Product Manuals section of the Crestron website ([www.crestron.com](http://www.crestron.com)).

---

**NOTE:** While SIMPL Windows can be used to program the QM-WMIC, it is recommended to use SystemBuilder and Digital Media Tools software for configuring and tuning a QuickMedia system.

**NOTE:** The following assumes that the reader has knowledge of SIMPL Windows. If not, refer to the extensive help information provided with the software.

---

**Locating the QM-WMIC Symbol**

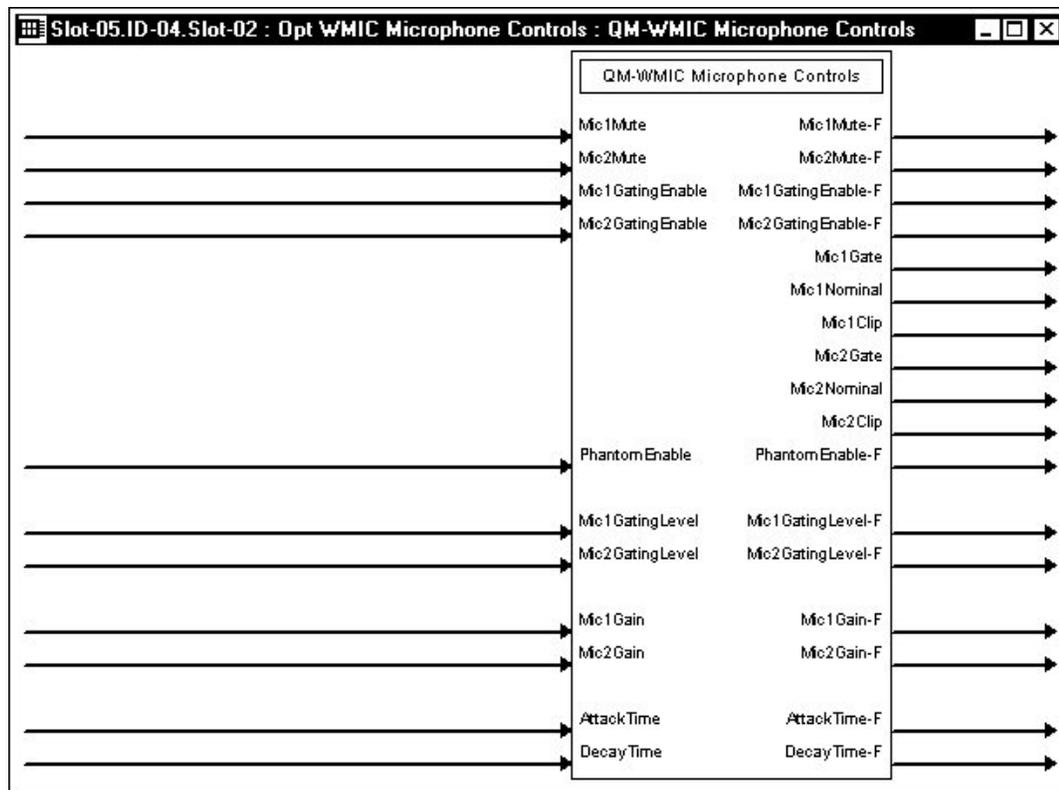
The QM-WMIC symbol is in Slot 2 of the QM-WMC symbol. Double-click **Slot 2** of the QM-WMC symbol to view the details of the QM-WMIC symbol.

**QM-WMIC Symbol in Programming Manager**

Programming Manager is where programmers “program” a Crestron control system by assigning signals to symbols. The following describes the QM-WMIC symbol in the SIMPL Windows Programming Manager.

**NOTE:** Many of the signals in the QM-WMIC symbol are used to adjust operating parameters such as gain, gating/gating level, attack time and decay time. For definitions and information on the effects of adjusting these parameters, refer to “Adjusting the QM-WMIC” on page 18.

**QM-WMIC symbol in SIMPL Windows Programming Manager**



The following tables list the symbol’s input and output signals, respectively, and their functional descriptions.

***QM-WMIC Digital Input Signal Descriptions***

<b>INPUT</b>	<b>DESCRIPTION</b>
Mic1Mute	Mutes the input signal from Mic 1 when high
Mic2Mute	Mutes the input signal from Mic 2 when high
Mic1GatingEnable	Enables automatic gating on Mic 1 when high
Mic2GatingEnable	Enables automatic gating on Mic 2 when high
PhantomEnable	Enables phantom power for both microphone inputs when high

**NOTE:** Phantom power is applied to the XLR connectors of both microphone inputs. It cannot be switched on an individual microphone input.

***QM-WMIC Analog Input Signal Descriptions***

<b>INPUT</b>	<b>DESCRIPTION</b>
Mic1GatingLevel	Specifies gating level for Mic 1 (0 to 100%)
Mic2GatingLevel	Specifies gating level for Mic 2 (0 to 100%)
Mic1Gain	Specifies gain level for Mic 1 (0 to 100%)
Mic2Gain	Specifies gain level for Mic 2 (0 to 100%)
AttackTime	Specifies attack time (10 to 100 ms)
DecayTime	Specifies decay time (10 to 5000 ms)

**NOTE:** AttackTime and DecayTime are applied to both microphone inputs.

***QM-WMIC Digital Output Signal Descriptions***

<b>OUTPUT</b>	<b>DESCRIPTION</b>
Mic1Mute-F	Indicates Mic 1 is muted
Mic2Mute-F	Indicates Mic 2 is muted
Mic1GatingEnable-F	Indicates automatic gating on Mic 1 enabled
Mic2GatingEnable-F	Indicates automatic gating on Mic 2 enabled
Mic1Gate	Indicates Mic 1 gating level has been reached
Mic1Nominal	Indicates Mic 1 at nominal level

*(continued on next page)*

***QM-WMIC Digital Output Signal Descriptions (continued)***

<b>OUTPUT</b>	<b>DESCRIPTION</b>
Mic1Clip	Indicates Mic 1 signal is at 6 dB below input clip level
Mic2Gate	Indicates Mic 2 gating level has been reached
Mic2Nominal	Indicates Mic 2 at nominal level
Mic2Clip	Indicates Mic 2 signal is at 6 dB below input clip level
PhantomEnable-F	Indicates when phantom power is enabled.

**NOTE:** The gating level indicators will still function even if the gating function is not enabled.

**NOTE:** Nominal indication is reported at 20 dB below input clip level. Clip indication is reported at 6 dB below input clip level.

***QM-WMIC Analog Output Signal Descriptions***

<b>OUTPUT</b>	<b>DESCRIPTION</b>
Mic1GatingLevel-F	Gating level feedback for Mic 1
Mic2GatingLevel-F	Gating level feedback for Mic 2
Mic1Gain-F	Gain level feedback for Mic 1
Mic2Gain-F	Gain level feedback for Mic 2
AttackTime-F	Attack time setting feedback
DecayTime-F	Decay time setting feedback

**NOTE:** Returned values match values that were selected for the *GatingLevel*, *Gain*, *AttackTime* and *DecayTime* inputs.

## Programming with VisionTools Pro-e

Touchpanel screens can be created in VT Pro-e to allow configuration of phantom power, gain levels, gating levels, attack times, and decay times. Digital Media Tools software already has these controls built in. Refer to the section “Adjusting the QM-WMIC” on page 18 for instructions.

## Example Program

An example program for the wall plate is available from the Crestron FTP site (<ftp://ftp.crestron.com/Examples>). Search for the file named QM-WMC\_QM-WMIC.ZIP.

---

## Adjusting the QM-WMIC

Once a QM-WMIC is installed and configured, settings for gain, gating level, attack time, and decay time must be set using the Realtime Mode in Digital Media Tools (version 3.00.00 or later). Digital Media Tools software can be started from the SystemBuilder application.

---

**NOTE:** Crestron recommends that you use the latest software to take advantage of the most recently released features. The latest software is available from the Downloads | Software Updates section of the Crestron website ([www.crestron.com](http://www.crestron.com)).

---

### Definitions

The QM-WMIC allows for adjustments to be made to microphone input signals. Following are definitions of terms that are commonly used when making adjustments to the QM-WMIC.

#### **Attack Time**

The time it takes (in milliseconds) from when an input signal rises above the gating level until the microphone output signal is enabled.

#### **Clipping**

A condition in which a signal level exceeds the maximum level (the clipping level) a circuit can handle. This is usually caused by improper gating parameters and gain settings.

#### **Decay Time**

The time (in milliseconds) from when an input signal falls below the gating level until the microphone output signal is muted.

#### **Gain**

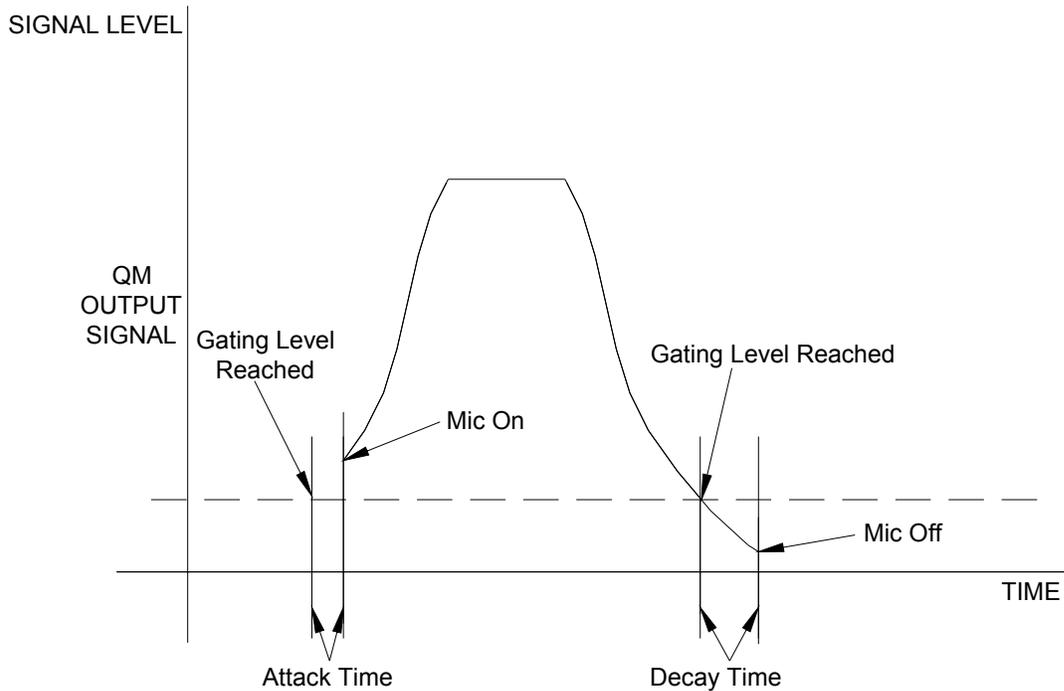
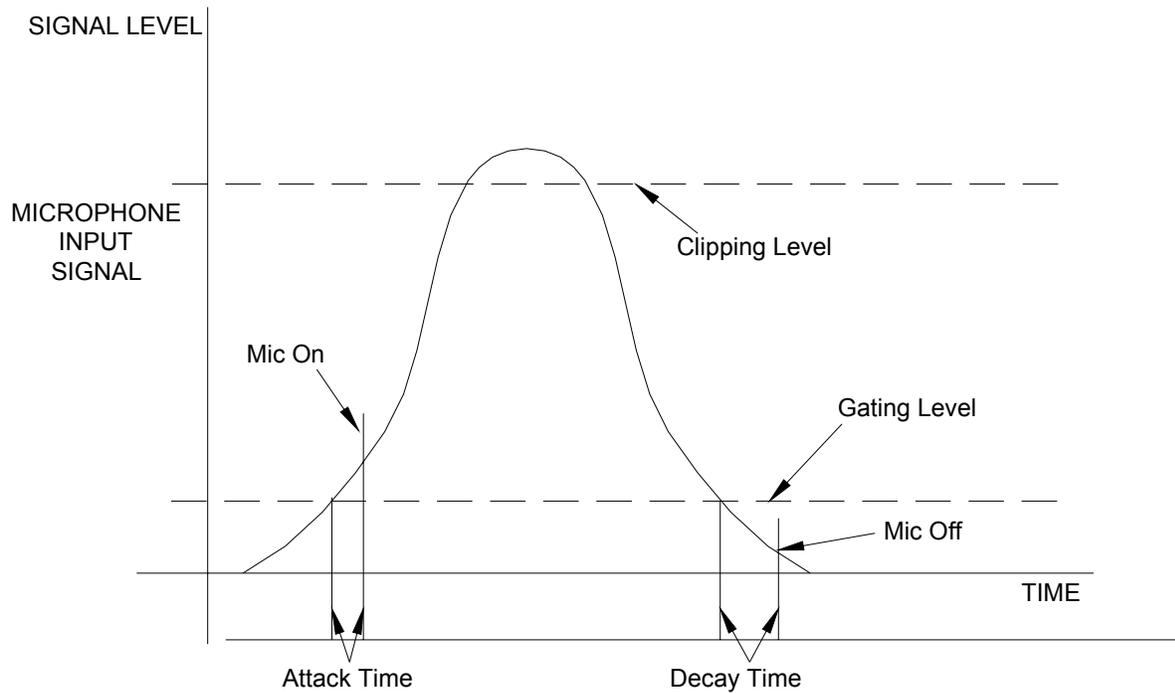
An adjustable amplification to accommodate varying input signal levels.

#### **Gating**

A function that mutes a microphone signal when the input sound level is below a user-set threshold (Gating Level).

The following diagram demonstrates Clipping, Attack Time, Decay Time, and Gating level.

**Visual Representation of Gating Level, Clipping Level, Attack Time, and Decay Time**



## Setting Microphone Gain

The QM-WMIC provides variable gain on the XLR and ¼” microphone inputs. The following procedure is used to set the optimal gain for a microphone input.

Use the Realtime Mode in Digital Media Tools to control phantom power, gain and gate settings, and to monitor the gate, normal, and clip level indicators. For information on using Digital Media Tools software, refer to the extensive help information provided with the software.

---

**NOTE:** The input gain is independent of the system’s output volume level.

---

1. To adjust the input gain, set the gain and noise gate to their lowest settings. Disable the “Mute” function by removing the check from the *Mute* checkbox.
2. Connect a microphone and enable phantom power if required.
3. Increase the gain while providing a “normal” sound level input to the microphone. When the “Norm” indicator shows fairly consistent activity, you’ve reached a good signal level for the QM-WMIC.

---

**NOTE:** The "clip" indicator shows that the signal is clipping. Let your ears be the judge, but when the clip indicator is active, you are approaching or have reached distortion in your QM-WMIC signal. Occasional clip indications on loud input are expected, but constant clip indicator activity is a sign that the gain may be set too high.

---

4. Set the system output volume to a desirable listening level and verify the gain settings by listening to the system output. Some minor gain adjustment may be required for the “best sound” in any specific configuration.

## Setting the Gating Level

The QM-WMIC provides an input level gating function that will mute a microphone signal when the input sound level is below a user-set threshold. This function can be enabled or disabled via software commands.

Use the Realtime Mode in Digital Media Tools to control phantom power, gain and gate settings, and to monitor the gate, normal, and clip level indicators. For information on using Digital Media Tools software, refer to the extensive help information provided with the software.

The following procedure sets the optimal “gate level” for the microphone inputs:

1. Follow the “Setting Microphone Gain” procedure on page 20 to set the gain for each microphone input.
2. Set the noise gate level, attack and decay times to minimum. Disable the “Mute” function by removing the check from the *Mute* checkbox.
3. While providing a level to the microphone that is equivalent to the background noise that should be gated out, increase the noise gate level until the *Gated* indicator turns off. When the input sound levels are at or below the established noise gate level, the microphone output signal will be gated off.
4. Set the “attack time” to the minimum level and the “decay time” to the maximum level. These settings provide the shortest time to enable the microphone output when an input is above the gating level, and the longest time before disabling the microphone after such an input.

---

**NOTE:** The “attack” and “decay times” are applied to both microphone inputs.

---

5. Set the system output volume to a desirable listening level. While providing realistic voice input and background noise levels, adjust the gating level and attack/decay times to eliminate undesired input while providing the best content quality.

## Problem Solving

### Troubleshooting

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

#### *QM-WMIC Media Center Microphone Input Troubleshooting*

<b>TROUBLE</b>	<b>POSSIBLE CAUSE(S)</b>	<b>CORRECTIVE ACTION</b>
QM-WMIC is not functioning.	QM-WMIC is not receiving power.	Check wiring connections to QM-WMC and QM-WMIC.
	QM-WMC Net ID is not correct.	In Viewport, poll the network to verify the Net ID of the QM-WMC.
	QM-WMC Net ID is not set to match the Net ID specified in SIMPL Windows.	Verify SIMPL Windows program for setting Net ID.
	QM-WMC Net ID is the same as another device's Net ID.	Assign a different Net ID for the QM-WMC to match the Net ID specified in the SIMPL Windows program.
Microphone does not produce sound.	Microphone requires phantom power or cannot use phantom power.	Enable or disable phantom power as necessary using controls created in the SystemBuilder project.
	Incorrect gain, gating level, attack time or decay time settings.	Adjust gain, gating level, attack time, or decay time settings as required.

*(continued on next page)*

*QM-WMIC Media Center Microphone Input Troubleshooting  
(continued)*

<b>TROUBLE</b>	<b>POSSIBLE CAUSE(S)</b>	<b>CORRECTIVE ACTION</b>
Microphone does not produce sound.	Incorrect volume and/or mixer settings on QM-RMCRX.	Adjust volume and/or mixer settings on QM-RMCRX as required.
Intermittent microphone output.	Incorrect peak setting.	Adjust QM-RMCRX peak control until audio is restored. For more information refer to the latest revision of the QM-RMCRX Operations and Installation Guide (Doc. 6236).
	Poor cable connection.	Verify all cable connections.
Microphone produces harsh, distorted sound.	Input gain is set too high.	Lower microphone input gain.
“Hum” in microphone audio.	QM device is improperly grounded.	Ensure that all devices in the system are properly grounded.

## Further Inquiries

If, after reviewing this Operations and Installation Guide for the wall plates, you cannot locate specific information or have questions, please take advantage of Crestron's award winning customer service team in your area. Dial one of the following numbers.

- In the US and Canada, call Crestron's corporate headquarters at 1-888-CRESTRON [1-888-273-7876].
- In Europe, call Crestron International at +32-15-50-99-50.
- In Asia, call Crestron Asia at +852-2341-2016.
- In Latin America, call Crestron Latin America at +5255-5093-2160.
- In Australia and New Zealand, call Crestron Control Solutions at +61-2-9737-8203.

You can also log onto the online help section of the Crestron website ([www.crestron.com](http://www.crestron.com)) 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 QM-WMIC, 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 ([www.crestron.com](http://www.crestron.com)) periodically for manual update availability and its relevance. Updates are available from the Downloads | Product Manuals section and 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 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 supercedes all previous warranties.

#### **Trademark Information**

*All brand names, product names, and trademarks are the sole property of their respective owners. Windows is a registered trademark of Microsoft Corporation. Windows95/98/Me/XP and WindowsNT/2000 are trademarks of Microsoft Corporation.*

This page is intentionally left blank.

This page is intentionally left blank.



**Crestron Electronics, Inc.**  
15 Volvo Drive Rockleigh, NJ 07647  
Tel: 888.CRESTRON  
Fax: 201.767.7576  
[www.crestron.com](http://www.crestron.com)

---

**Operations & Installation Guide - DOC. 6245**  
**12.03**

Specifications subject to  
change without notice.