COMMERCIAL SPEAKERS

Owners Manual

Introduction

Congratulations on your purchase of an RBH Commercial 70 Volt speaker! Your speaker is the result of many years of research and development dedicated to producing high quality products for home audio and audio/video systems.

This manual contains features, installation procedures and specifications for the Commercial 70 Volt speaker. We recommend that you thoroughly read through the material contained in this manual before connecting your speaker. This will ensure that you have an understanding of how to install the speaker for optimum performance.

Commercial Speakers

MC-615-70

A-615-70

Break-in Period

Allow 10-15 hours of listening time to adequately break-in the speaker. As the speaker breaks-in, the driver suspension will loosen. The result of break-in will be an increase in low frequency response, improved definition, and increased clarity and detail.

Care and Cleaning

To maintain speaker appearance, we recommend wiping them down with a clean damp soft cloth. To clean dust from the grille cloth, use a vacuum with a brush attachment.

Features

The RBH Commercial speaker consist of two models, the MC-615-70 and the A-615-70 Both models incorporate metal enclosures to reinforce bass frequencies allowing a deeper and more controlled bass response. Both models also utilize an acoustic suspension design and offer operation in either 8 Ohm or 70 volt modes.

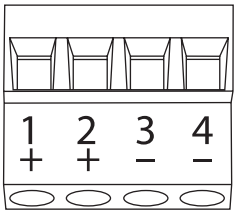
A powerful magnet, extended voice coil and bumped back plate give the bass/midrange drivers high excursion capability. This ensures accurate dynamic reproduction. The MC-615-70 uses a proprietary aluminum woofer and tweeter. The special aluminum cone material combines stiffness, low mass and self damping properties in a manner that allows virtually uncolored presentation of program material. Both tweeters feature Ferro Fluid™ liquid cooling to allow greater power handling.

Steep acoustic slope crossovers are used to integrate drivers. The use of steep crossover slopes allows high power handling, minimizes driver interaction anomalies, and maximizes the clarity with which each driver is able to produce its respective frequency band. Sophisticated computer modeling techniques are used extensively in the RBH speaker design process.

A switch connected to the tweeter allows you to custom tailor the sound of your speaker. This switch is located next to the woofer on the front baffle of the speaker and has three positions: +3dB, 0, and -3dB. The +3 position increases output of the tweeter, the -3 position decreases the output of the tweeter relative to the woofer. The 0 position is the factory setting and generally provides the most natural response from the speaker.

The use of a 70 volt transformer allows many speakers to be used together by running a connecting wire from one speaker to the next, without concern for the impedance seen by the amplifier. A 70 volt amplifier must be used to accomplish this. Please refer to the following pages for instruction and wiring diagrams to properly install a 70 volt system.

The Removal Connector



This connector detaches from the main housing of the speaker for ease in connecting the speaker wire. The bare wire must be inserted and securely fastened by tightening the screws. The connector has 4 terminals as shown in the diagram below.

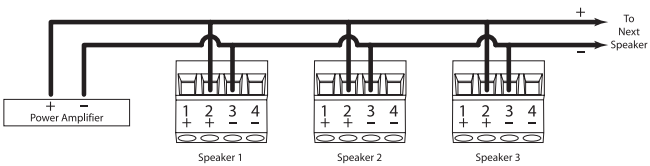
Positions 2 and 3 are inputs from either the amplifier or a previous speaker. They are the same inputs used for 8 Ohm operation. Positions 1 and 4 are outputs to succeeding speakers in 70 volt operation. We suggest carefully reading the Wiring Diagrams section of this manual to determine the best wiring scheme for your particular installation.

This removable connector will accept a maximum wire gauge of 14 AWG and a minimum wire gauge of 18 AWG. Please refer to the NEC (National Electrical Code) for further information regarding the permissible wire size.

Wiring Diagrams

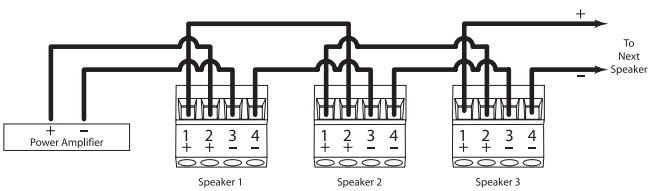
Parallel Connection

Connect the speaker wire going to succeeding speakers to positions 2 and 3 as shown in the diagram below. If needing to service system, this will allow the removable connector to be removed from the speaker with all other speakers in the line continuing to play and operate normally.



Loop Thru

Positions 1 and 4 are internally connected to positions 2 and 3 as shown in the below diagram. This allows connections to succeeding speakers using positions 1 and 4. If the system needs, removing the removable connector from one speaker will cause all succeeding speakers to stop playing.



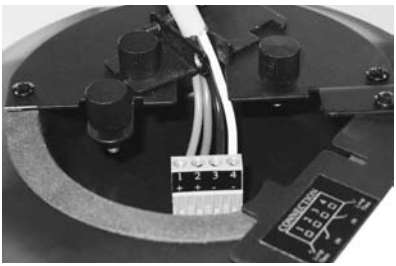
Voltage Selector

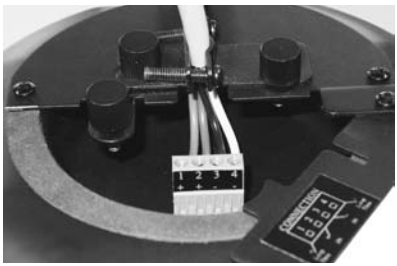
As previously mentioned, the A-615-70 and MC-615-70 can be used in a 70 volt system or as a standard 8 Ohm in-ceiling speaker The voltage selector knob allows you to properly set the speaker to 8 Ohm operation or to choose from 2, 4, 8, 16 and 32 Watt taps in 70 volt operation.

In 70 volt operation, be sure to appropriately set the selector according to the power output of the amplifier being used and the number of speakers being installed. In 8 Ohm operation, be sure to set the selector to the 8 Ohm setting A picture of the voltage selector (set to 8 Ohms) is shown above.

Strain Relief

The pictures below depict the proper way to insert and tighten down the wire in the strain relief fitting.



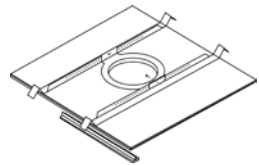


Installation

IMPORTANT: This product must be installed in accordance with your local area's building codes and regulations. This may require use of an additional support bracket, depending on the installation In this case, use the MBR-70 described below.

SEISMIC TAB:
For proper installation, the seismic tab MUST be secured to a secondary support in the event of failure of the primary support structure.

MBR-70 (sold separately)
The MBR-70 consists of a round bracket and two rails designed to be used with suspension ceilings. The rails will fit either a 24-inch or 600 millimeter tile. They are designed to rest on top of the tile without the "V" end of the rail grabbing the grid struts In the event that the tile falls, the "V" end of the rail will grab the strut holding the speaker in place. The MBR-70 is not required for installation when the speaker is being installed in drywall or other rigid material. When installing in these surfaces, use attached swivel mounts and hole locating template included in the box with each speaker.



MRB-70 Bracket

For suspension ceiling installation instructions, refer to the installation manual included with the MBR-70.

Safety Compliance

UL LOGO: Complies with the requirements of UL-2043 fire tests for heat and visible smoke and visible smoke release for discrete products and the accessories installed in air handling spaces, NFPA-70 National Electric Code 2002, Article 300-22 (C), and NFPA-90A installation of air conditioning and ventilation systems, Section 2-3.10.1 (a), Exception 3 Listed UL1480 Speakers for professional/commercial use.

CE LOGO: These products are in compliance with the EMC Directive 89/336/EEC and Article 10 (1) of the directive. In compliance with Technical Regulations EN55013-1 and EN50082-1.

Specifications

8 Ohm Operation	A615-70	MC615-70
Frequency Response:	55Hz - 20kHz	50Hz - 20kHz
Sensitivity:	90dB 1 watt/1 meter	88dB 1 watt/1 meter
Recommended Amplifier Power:	20-80 Watts	20-120 Watts
Maximum Power Handling:	50 Watts	50 Watts
Woofer:	(1) 6½" Polypropylene	(1) 6½" Aluminum Cone
Tweeter:	(1) 1" Silk Dome	(1) 1" Aluminum Dome
Crossover Frequency:	3000 Hz	3000 Hz
Filter Slope:	12 dB/octave	12 dB/octave
Impedance:	8 Ohms	8 Ohms
Finished Dimensions:	10¼" Diameter 9½" Depth	10¼" Diameter 9½" Depth
Cutout Dimensions:	8¾" Diameter	8¾" Diameter
Weight:	8 lbs.	8 lbs.
70 Volt Operation	**A615-70**	**MC615-70**
70 Volt Taps:	2, 4, 8, 16, 32 Watts	2, 4, 8, 16, 32 Watts

Troubleshooting

Situation:	Probable Cause:	Solution:
No sound from speakers	Speaker wire not connected	Make sure wire is connected at both the speaker and the amplifier observing proper polarity
	Speaker selector on amplifier is not on	Activate proper selector on amplifier
No sound from speaker	Balance control on receiver or pre-amp is not centered	Place balance control in the center
	Speaker wire not securely connected	Check all connections at amplifier and speakers
Very little bass and/or imaging	Speakers are wired out of phase	Check entire system for proper polarity and make adjustments as necessary

Warranty

Your RBH Sound Commercial speaker is covered by a limited warranty against defects in materials and workmanship for a period of 25 years from the original date of purchase. This warranty is provided by the authorized RBH Sound dealer where the speaker was purchased. Warranty repair will be performed only when your purchase receipt is presented as proof of ownership and date of purchase. Defective parts will be repaired or replaced without charge by your dealer's store or the location designated by your dealer authorized to service RBH Sound products. Charges for unauthorized service and transportation cost are not reimbursable under this warranty. This warranty becomes void if the product has been damaged by alteration, misuse or neglect. The warrantor assumes no liability for property damage or any other incidental or consequential damage whatsoever which may result from the failure of this product. Any and all warranties of merchantability and fitness implied by law are limited to the duration of this express warranty. Some states do not allow limitations on how long an implied warranty lasts, so the above limitations may not apply to you. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

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