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**MDM-832
Distribution
Module**

meyer sound MDM-832 Distribution Module Instruction Manual

Contents

meyer sound MDM-832 Distribution Module

Introduction

- © 2016 Meyer Sound Laboratories
- MDM-832 Operating Instructions, PN 05.245.005.02 A
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INTRODUCTION

HOW TO USE THIS MANUAL

Make sure to read these instructions in their entirety before configuring an MDM-832. In particular, pay close attention to material related to safety issues.
As you read these instructions, you will encounter the fol-lowing icons for notes, tips, and cautions:

- **NOTE:** A note identifies an important or useful piece of information relating to the topic under discussion.

- **TIP:** A tip offers a helpful tip relevant to the topic at hand.

- **CAUTION:** A caution gives notice that an ! action may have serious consequences and could cause harm to equipment or personnel, or could cause delays or other problems.

Information and specifications are subject to change. Updates and supplementary information are available at www.meyersound.com.

**Meyer Sound Technical Support is available at:**

- **Tel:** +1 510 486.1166
- **Tel:** +1 510 486.0657 (after hours support)
- **Web:** www.meyersound.com/support
- **Email:** techsupport@meyersound.com

MDM-832 DISTRIBUTION MODULE

The MDM-832 distribution module routes up to eight chan-nels of AC power, balanced audio, and RMS™ to multiple Meyer Sound self-powered loudspeakers, further enhancing portability and ease of use for self-powered on-stage moni-tors or loudspeaker systems. Third-party composite cables are available to distribute both AC power and balanced audio with a single cable, streamlining setups and tear-downs.

MDM-832 Front Panel (Shown with XLR 5-pin Output Connectors)
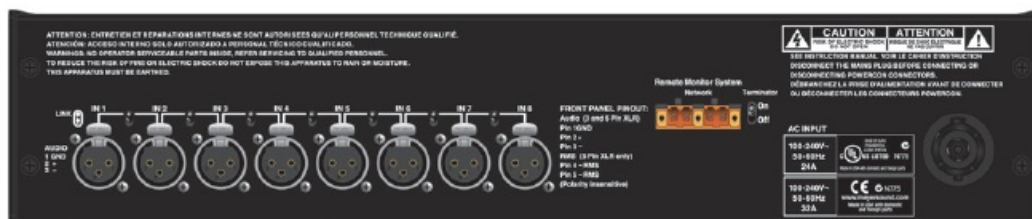
MDM-832 Rear Panel

MDM-832 Rear Panel

- The MDM-832 simplifies distribution by reducing cable clut-ter in systems that require a reduced footprint, such as on-stage monitoring.
- The MDM-832 receives balanced audio from eight rear-panel XLR 3-pin female input connectors and routes the audio to eight front-panel XLR male output connectors.
- Audio outputs are available as XLR 3-pin or XLR 5-pin con-nectors. 3-pin connectors carry balanced audio. 5-pin con-nectors allow the use of third-party composite cables carrying both balanced audio and RMS. The rear panel includes an RMS network connector (and terminator) for routing RMS signals from the eight front-panel RMS con-nectors.
- AC power is received from a single rear-panel powerCON® 32 connector and routed to two sections, each with four front-panel powerCON 20 connectors.
- The MDM-832 features flexible routing, with toggle switches that route audio inputs to corresponding audio outputs only, or to adjacent, contiguous audio outputs. For example, audio input 1 can be routed to audio

outputs 1 and 2, and audio input 3 can be routed to audio outputs 3 and 4. Another example is to route audio input 1 to audio outputs 1–4, and audio input 5 to audio outputs 5–8. All eight audio inputs can also be routed directly to their corresponding audio outputs. A single audio output connector can drive multiple loudspeakers equipped with loop outputs.

- The front panel features two 15 A breaker switches for enabling AC to outputs 1–4 and 5–8. AC voltage is indicated by LEDs for each circuit. Each group of four outputs is capa-ble of driving groups of loudspeakers that have a sum total Maximum Long-Term

- Continuous Current draw equal to or below the rating of the MDM-832 breakers.

- The 2-space rackmount MDM-832 has adjustable, revers-ible rack ears, allowing the front panel to be positioned at either the front or rear of the rack. Depth adjustment allows the front panel to sit in a recessed position, or flush to the rack.

- ⚠ **CAUTION:** Before connecting and applying ! power to the MDM-832 be sure to read the included Safety Instructions and to heed all warnings in those instructions. Product Safety and Declaration of Conformity information is also available at
  www.meyersound.com.

SUPPORTED LOUDSPEAKERS

- The MDM-832 is an ideal solution for power and signal dis-tribution to small- and medium-sized AC-powered Meyer Sound loudspeakers with auto-ranging input voltage selec-tion.

- The MDM-832 can power groups of loudspeakers which have a sum total maximum long-term continuous current draw equal to or below the rating of the corresponding breaker. Load ratings are indicated adjacent to the breaker switches on the front panel.

- For more information on powering loudspeakers, see Chapter 4, "Powering Loudspeakers with the MDM-832" and Appendix C, "MDM-832 Specifications."

MDM-832 POWER REQUIREMENTS

The MDM-832 distribution module combines signal routing with power capabilities. Understanding power distribution, voltage and current requirements, and electrical safety guidelines is critical to the safe operation of the MDM-832.

For additional information about calculating required electri-cal service and total system load for Meyer Sound power distribution modules and loudspeakers, refer to
www.meyersound.com.

- ⚠ **CAUTION:** Before connecting and applying ! power to the MDM-832 be sure to read the included Safety Instructions and to heed all warnings in those instructions. Product Safety and Declaration of Conformity information is also available at
  www.meyersound.com.

AC POWER DISTRIBUTION

All components in an audio system (self-powered loud-speakers, mixing consoles, and processors) must be prop-

erly connected to an AC power distribution system, ensuring that AC line polarity is preserved and that all grounding points are connected to a single node or common point using the same cable gauge (or larger) as the neutral and line cables.

- **NOTE:** Improper grounding of connections between loudspeakers and the rest of the audio system may produce noise or hum, or cause serious damage to the input and output stages of the system's electronic components.

- ⚠️**CAUTION:** Before applying AC power to any ! Meyer Sound self-powered loudspeaker, make sure that the voltage potential difference between neutral and ground is less than 5 V AC when using single-phase AC wiring.

- ⚠️**CAUTION:** Make sure the voltage received by ! the MDM-832 remains within its 100–240 V AC operating window. In addition, the ground line must always be used for safety reasons and the line-to-ground voltage should never exceed 250 V AC (typically 120 V AC from line to ground).

120 V AC, 3-Phase Wye System (Two Lines)

Line-Line-Ground

Figure 1 illustrates a 120 V AC, 3-phase Wye distribution system with three MDM-832 distribution modules. Each MDM-832 is connected to two lines and a common ground line. This configuration is possible because the MDM-832 can tolerate elevated voltages from the ground line and does not require a neutral line. This system delivers 208 V AC to each module.
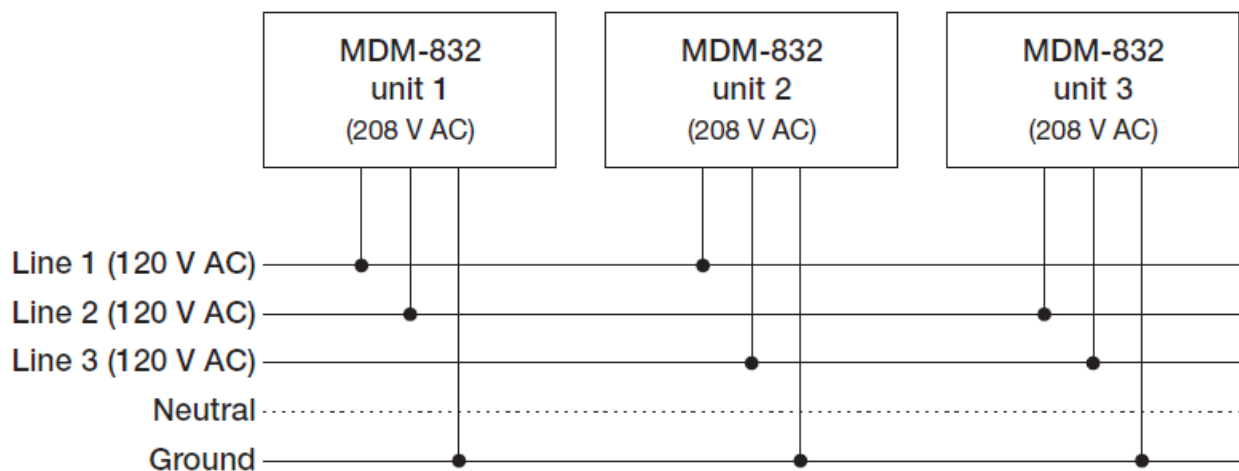

Figure 1: 120 V AC, 3-Phase Wye System (Two Lines to Each MDM-832)

💡 **TIP:** The 120 V AC, 3-phase Wye system with two lines is recommended because it allows modules to draw less current than with single-line systems, thereby reducing voltage drop due to cable resistance.

230 V AC, 3-Phase Wye System (Single Line)

Line-Neutral-Ground

Figure 2 illustrates a basic 230 V AC, 3-phase Wye distribu-tion system with the load distributed across all three phases, with each MDM-832 connected to a single line and common neutral and ground lines. This system delivers 230 V AC to each module.
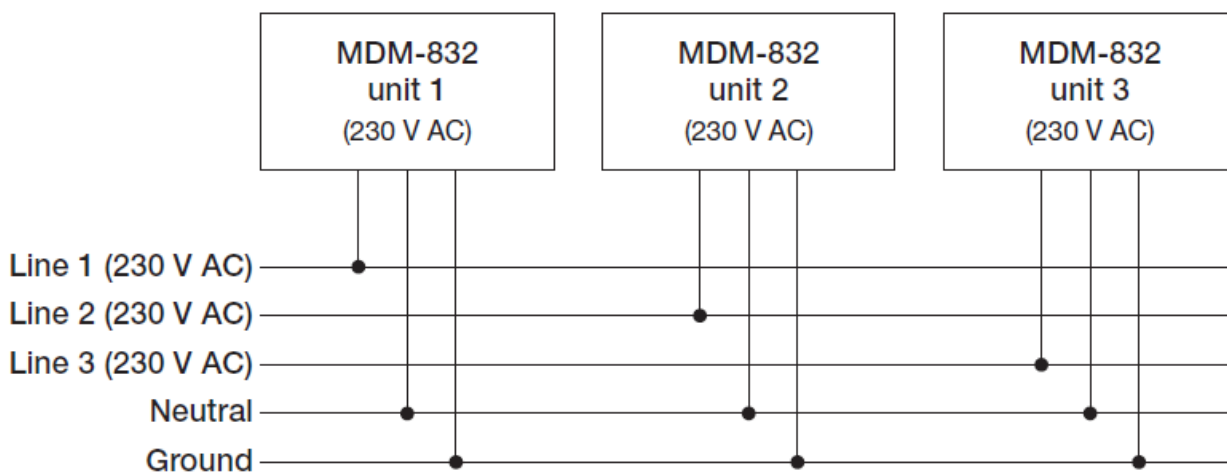

Figure 2: 230 V AC, 3-Phase Wye System (One Line to Each MDM-832)

⚠ **CAUTION:** For 230 V AC, 3-phase Wye sys-! tems, never connect two lines along with the neutral line to the AC Input of the MDM-832, as the resulting voltage would be higher than the allowable upper voltage range (240 V AC) and would damage the unit.

MDM-832 VOLTAGE REQUIREMENTS

The MDM-832 operates as intended when receiving AC volt-age within the following range:

- **100–240 V AC, 50–60 Hz.**

  If the voltage rises above 267 V, the power supplies of con-nected loudspeakers could become damaged. The MDM-832 allows any combination of voltage to ground

  (neutral-line-ground or line-line-ground).

  ⚠ **CAUTION:** The power source for the MDM-832 ! should always operate within the required volt-age

  range, at least a few volts from the upper and lower ranges. This ensures that AC voltage variations from the

  service entry — or peak voltage drops due

  to cable runs — will not cause the amplifiers of con-nected loudspeakers to cycle on and off or cause damage

  to loudspeaker power supplies.

MDM-832 CURRENT REQUIREMENTS

The current draw for the MDM-832 and its connected loud-speakers is dynamic and fluctuates as loudspeaker operat-ing levels change. Since different cables and circuit breakers heat up at varying rates, it is important to understand the fol-lowing types of current ratings and how they affect circuit breaker and cable specifications.

- **Idle Current —** The maximum rms current during idle periods.

- **Maximum Long-Term Continuous Current** — The maximum rms current during a period of at least 10 seconds. The maximum long-term continuous current is used to calculate temperature increases for cables, to ensure that cable sizes and gauges conform to electrical code standards. The current rating is also used as a rat-ing for slow-reacting thermal breakers, which are recom-mended for loudspeaker power distribution. In addition, the maximum long-term continuous current can be used to calculate the AC looping capability for the distribution module and loudspeakers.
- **Burst Current** — The maximum rms current during a period of around 1 second. The burst current is used as a rating for magnetic breakers.
- **Ultimate Short-Term Peak Current** — A rating for fast-reacting magnetic breakers. It is also used for calcu-lating the peak voltage drop in long AC cable runs according to the following formula:

  V pk (drop) = I pk x R (cable total)

For maximum load values for the MDM-832, see
Appendix C, "MDM-832 Specifications."

The minimum electrical service amperage required by the MDM-832 is the sum of the maximum long-term continuous current for all connected loudspeakers, up to the rating of the breakers. When calculating the total current draw at the MDM-832 AC Input, an additional 30 percent above the min-imum amperage is recommended to prevent peak voltage drops at the service entry.

NOTE: For best performance, the AC cable voltage drop should not exceed 10 percent of the sum of the maximum long-term continuous cur-rent for all connected loudspeakers. Make sure that even with AC voltage drops that the AC voltage always remains within the operating window.

POWERING ON THE MDM-832

When powering on the MDM-832 and switching on the breakers, the AC voltage presence LEDs on the front panel light up to indicate the presence of AC voltage at each cir-cuit breaker.

CAUTION: If the AC voltage presence LEDs do ! not light up, or loudspeakers connected to the MDM-832 do not output audio after 10 seconds, switch the breakers to the OFF position and remove AC power immediately, and verify that the voltage is within the required range. If the problem persists, contact Meyer Sound Technical Support.

ELECTRICAL SAFETY GUIDELINES

- Make sure to observe the following important electrical and safety guidelines.The Meyer Sound MDM-832 requires a grounded outlet. Always use a grounded outlet and plug.
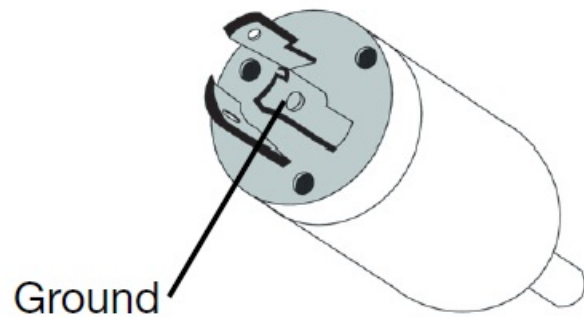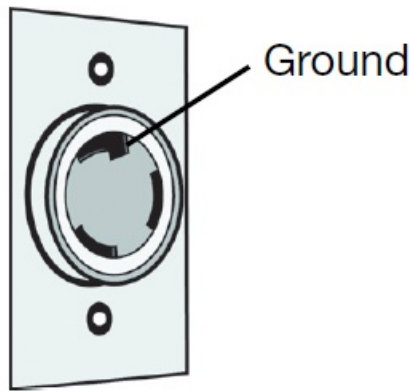
- Do not use a ground-lifting adapter or cut the AC cable ground pin.
- The AC power connector must not be engaged or disen-gaged when under load or live.
- The powerCON 32 input connector must not be engaged or disengaged when under load or live.
- The powerCON 20 output connectors must not be engaged or disengaged when under load or live.
- Do not use a power cable adapter to drive the unit from a standard three-prong Edison outlet since that connector is rated for only 15 A (NEMA 5-15R; 125 V AC max).
- Do not use a power connector or outlet rated for less than 32 A.
- Keep all liquids away from the unit to avoid hazards from electrical shock.
- Do not operate the unit if the power cable is frayed or broken.

MDM-832 FRONT AND REAR PANELS

MDM-832 FRONT PANEL

The MDM-832 front panel includes audio outputs, RMS FT-10 network connectors, powerCON 20 AC outputs, 15 A breaker switches, and LEDs for monitoring AC voltage pres-ence at each circuit breaker.


MDM-832 Front Panel

Audio Outputs

The MDM-832's eight front-panel audio outputs provide bal-anced audio to connected loudspeakers, routed from the audio inputs on the rear panel of the MDM-832. Audio out-puts are available as either XLR 5-pin male connectors or XLR 3-pin male connectors.
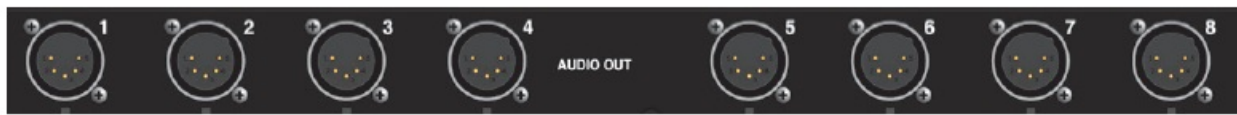
MDM-832 Audio Outputs (5-pin)

XLR 5-pin male connectors (pin 1, ground; pin 2, signal pos-itive; pin 3, signal negative; pins 4–5, RMS) deliver both bal-anced audio and RMS signals to connected loudspeakers with a single, composite cable.
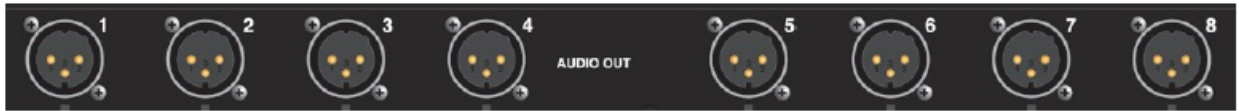

MDM-832 Audio Outputs (3-pin)

XLR 3-pin male connectors (pin 1, ground; pin 2, signal pos-itive; pin 3, signal negative) deliver balanced audio to con-nected loudspeakers.

NOTE: For information on cable requirements for any loudspeaker, refer to its operating instructions. For information on composite cables available from Meyer Sound, see Appendix A, "Com-posite Cable."

Breaker Switche

(Channel 1–4, Channel 5–8)
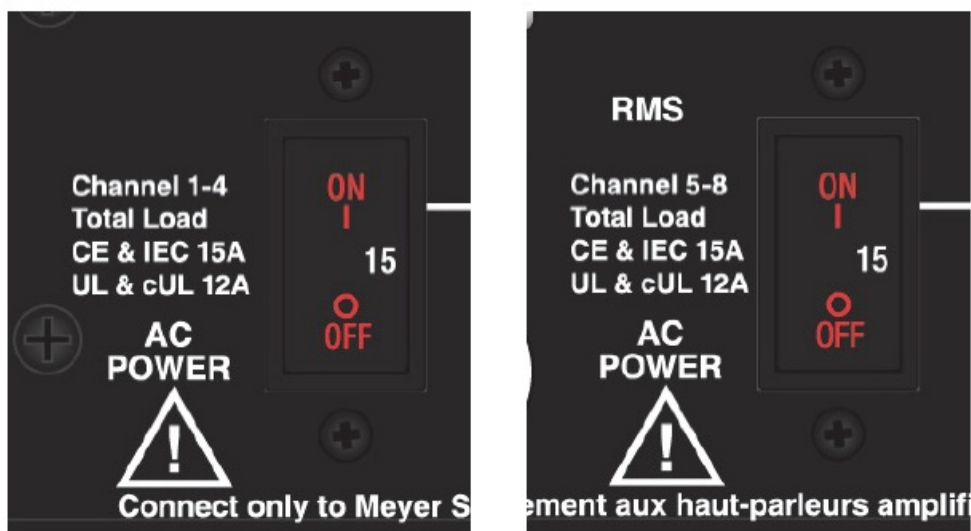
MDM-832 Breaker Switches

Two front-panel 15 A breaker switches toggle AC power to the AC Outputs. One breaker switch corresponds to AC Outputs 1–4; the other breaker switch corresponds to AC Outputs 5–8.

Each set of four MDM-832 outputs is capable of powering groups of loudspeakers that have a sum total maximum long-term continuous current draw equal to or below the rat-ing of the MDM-832 breakers. Load ratings are indicated adjacent to the breaker switches on the front panel. For more information on load ratings, see Appendix C,
"MDM-832 Specifications."

Voltage LEDs (1–2)

Each Voltage LED indicates AC voltage presence for the corresponding breakers and connected loudspeakers.

Voltage Presence LEDs

State	Cause	Recommended Action
Unlit	The MDM-832 is not con- nected to mains power, or breakers are not switched on.	Verify the MDM-832 AC Input is connected to mains power; inspect the power cabling; switch the breakers to the ON posi- tion.
Lit	The MDM-832 is con- nected to mains power and breakers are switched on.	None.

RMS Loudspeaker Connectors

The front-panel RMS loudspeaker connectors communicate over a twisted-pair cable to connected RMS-equipped loud-speakers. The RMS connection allows muting, soloing, and monitoring of connected loudspeakers from a Mac® or Win-dows®-based computer.
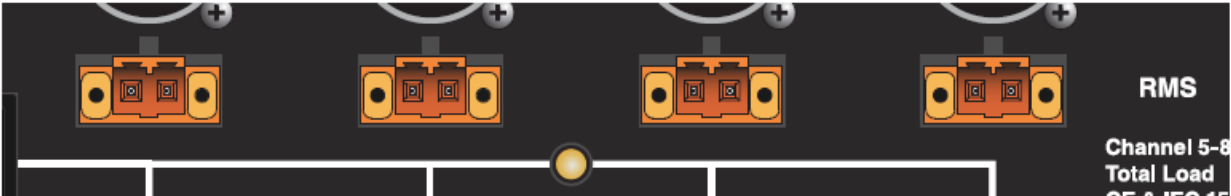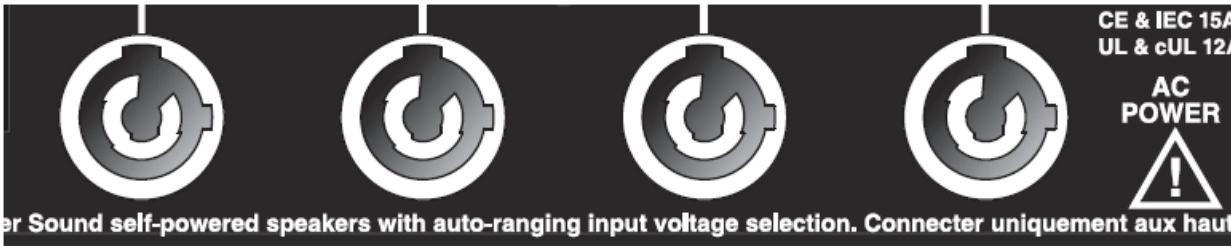

MDM-832 RMS Loudspeaker Connectors

These connectors provide the same RMS network connec-tion that is available when using the optional XLR 5-pin male connectors.

TIP: As an alternative to routing RMS to loud-speakers through the front-panel FT-10 connec-tors, MDM-832 modules equipped with 5-pin connectors can carry both balanced audio and RMS signals to connected loudspeakers with a single, composite cable.
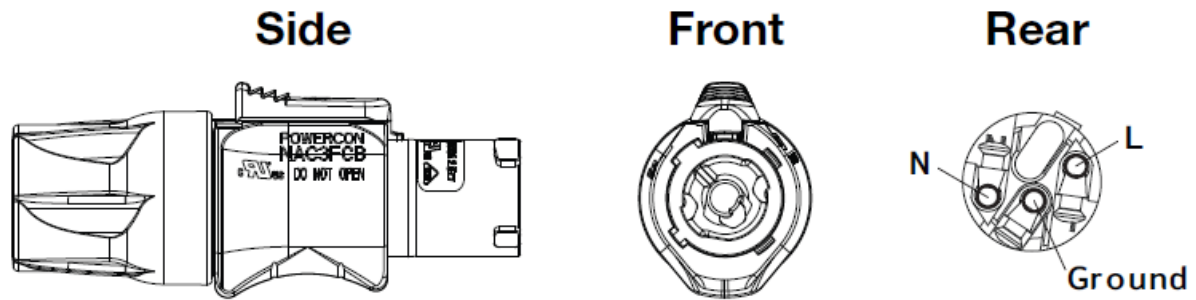
AC Outputs

The MDM-832 has eight front-panel powerCON 20 twist-lock AC output connectors (line, neutral, ground) that provide AC power to loudspeakers connected to the MDM-832 with powerCON 20 looping power cables.

MDM-832 AC Output Connectors

Located on the front of the unit, these connectors are rated at 20 A and provide a locking connection to avoid

accidental disconnections. Use only Meyer Sound self-powered loudspeakers with auto-ranging input voltage selection.


Side **Front** **Rear**

powerCON 20 AC Looping Output Connector

CAUTION: Before connecting or disconnecting ! the MDM-832's AC outputs, make sure the front-panel breaker switches are in the OFF position. The powerCON 20 output connectors should not be engaged or disengaged while under load or live.

MDM-832 REAR PANEL

The MDM-832 rear panel includes an AC Input connector, eight audio inputs for receiving source audio, seven Link switches for routing audio from inputs to outputs, and two RMS network connectors with terminator switch.
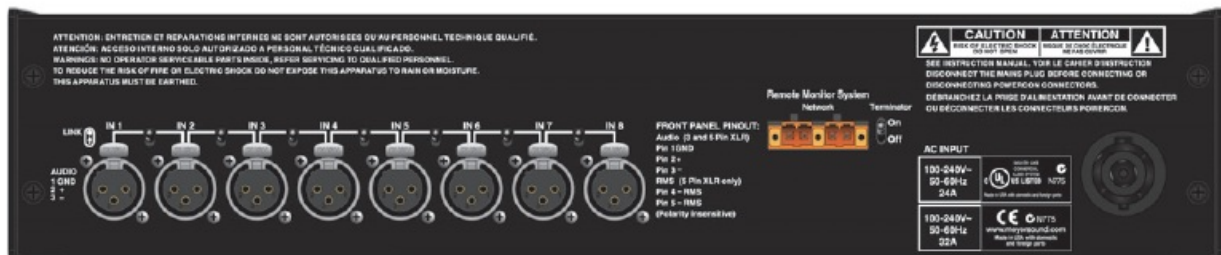
MDM-832 Rear Panel

AC Input

The MDM-832 receives AC power from its powerCON 32 twist-lock AC Input connector (line, neutral, ground). Located on the rear panel of the unit, this connector is rated at 32 A and provides a locking connection to avoid acciden-tal disconnections.
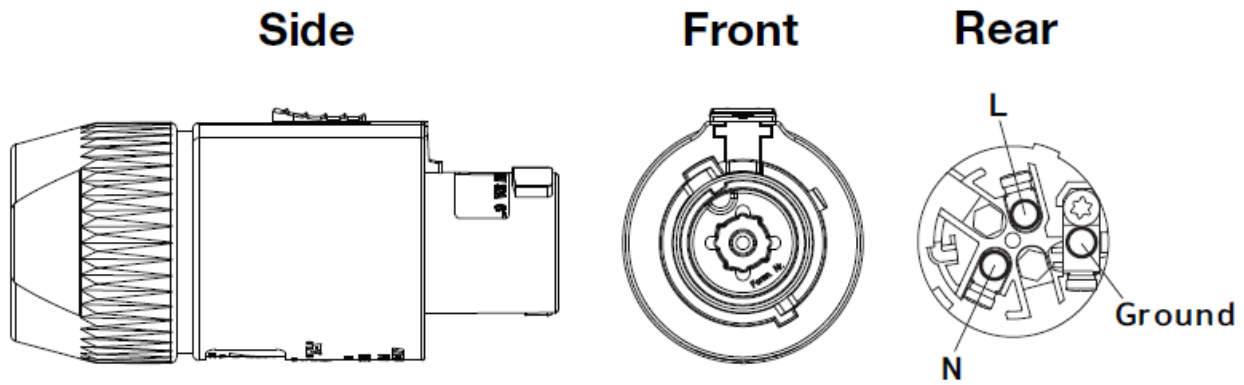
powerCON 32 AC Input Connector

CAUTION: When assembling a powerCON 32 ! cable for use with the MDM-832 AC Input, the cable gauge must be at least 10 AWG or 6 mm2 to ensure safe transmission of 30 A to the distribution module.

Depending on region, the MDM-832 ships with a power cable terminated with either a NEMA L6-30P or an IEC 60309 connector. The power cable can accept different power connector types for outlets used throughout the world. Make sure to use the correct power connector for the AC power in your area. The MDM-832 operates as intended within an AC voltage range of 100–240 V at 50–60 Hz.

CAUTION: Do not use a power cable adapter ! to drive the MDM-832 from a standard three-prong Edison outlet since that connector is rated for only 15 A (NEMA 5-15R; 125 V AC max).

The MDM-832 requires grounded outlets. To operate safely and effectively, it is extremely important that the entire sys-tem be properly grounded. For information about supplying power to the MDM-832, see Chapter 2, "MDM-832 Power Requirements."

Audio Inputs

Up to eight channels of balanced audio are received from the MDM-832's eight rear-panel audio inputs. The inputs are equipped with XLR 3-pin female connectors (pin 1, ground; pin 2, signal positive; pin 3, signal negative). Make sure to use standard balanced XLR cables with each pin connected at both ends.
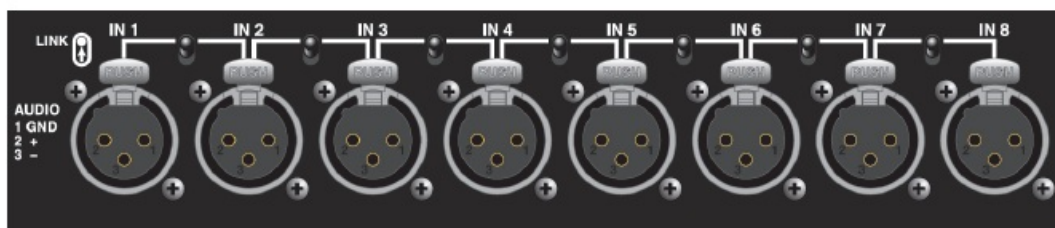
MDM-832 Audio Inputs

Audio inputs default to being routed to their corresponding audio outputs. Inputs can also be routed to adjacent outputs with the Link switches, though this affects their input imped-ance (see "Input Impedance for Linked Channel Inputs" on page 14).

Link Switches

Link switches determine how inputs are routed to outputs. When an input's Link switch is OFF (set to the down

posi-tion), the input is only routed to its corresponding output, for example, Input 1 routed to Output 1.

When a Link switch is ON (set to the up position), the input is routed to its corresponding output and also to the next adja-cent output, for example, Input 1 routed to Output 1 and Output 2.

If multiple adjacent Link switches are ON, the input is routed to each adjacent output. For example, when Link switches 1 and 2 are ON, Input 1 is routed to Outputs 1–3.

Link Switches

NOTE: Inputs are inactive when the Link switch for the preceding input is enabled. Connec-tions should not be made to inactive inputs.
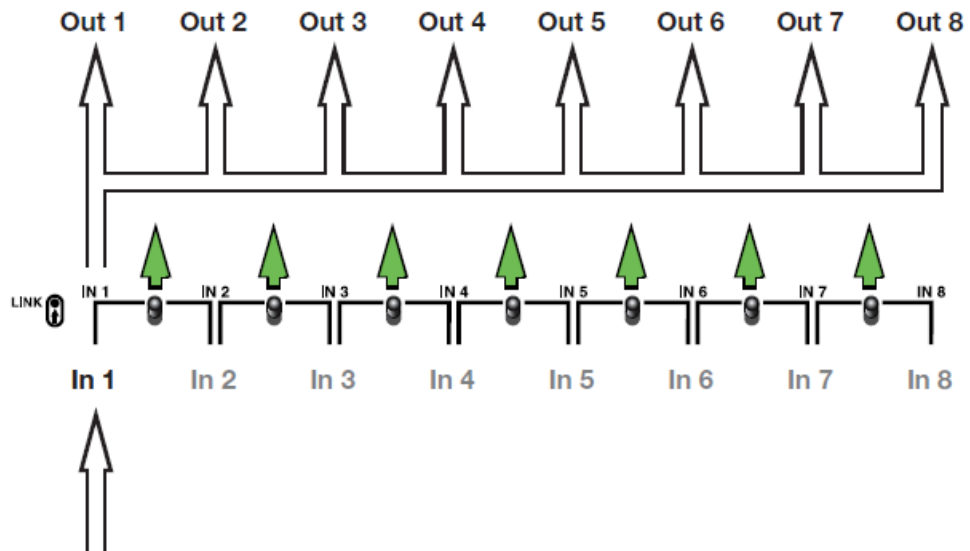
Link Switch Routing Examples

The following examples illustrate several common routing applications for the Link switches.

Routing One Input to Eight Outputs

- To route one input to eight channel outputs:Set all Link switches to ON.

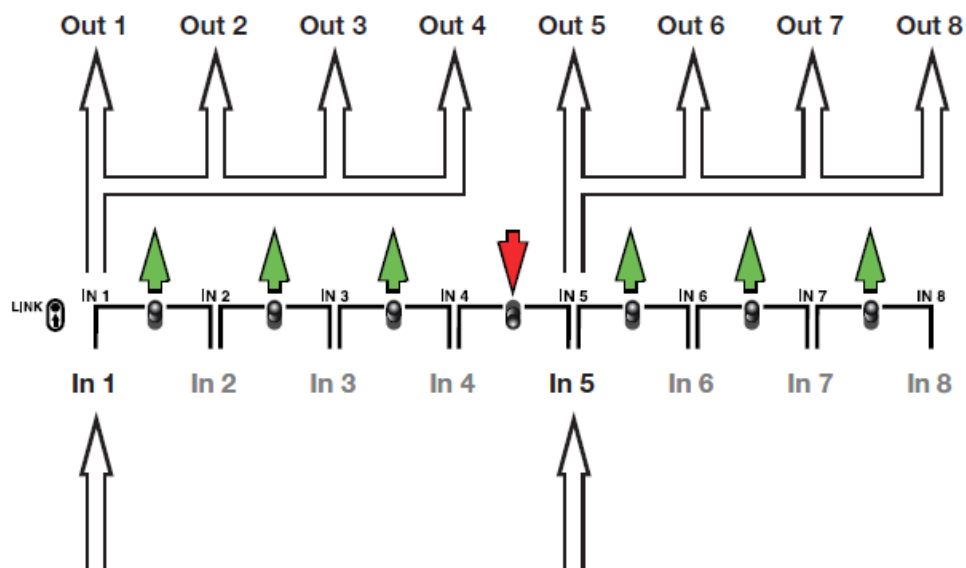| Link 1	Link 2	Link 3	Link 4	Link 5	Link 6	Link 7
On	On	On	On	On	On	On

Routing Two Inputs to Four Outputs Each

To route two inputs to four channel outputs each:

- Set the Link 4 switch to OFF and all other Link switches to ON.

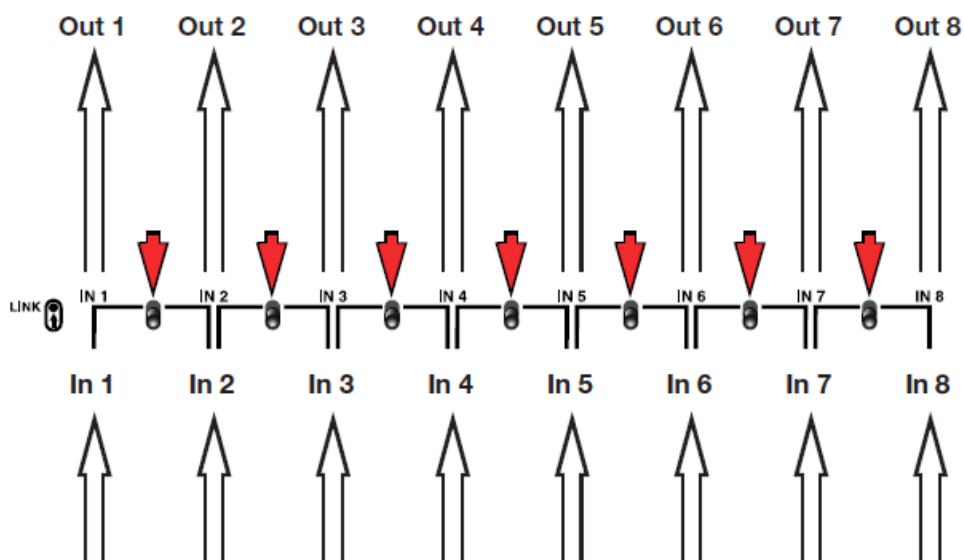| Link 1	Link 2	Link 3	Link 4	Link 5	Link 6	Link 7
On	On	On	Off	On	On	On

Routing Eight Inputs to Eight Separate Outputs

To route eight inputs to eight separate channel outputs:

- **Set all Link switches to OFF.**

Link 1	Link 2	Link 3	Link 4	Link 5	Link 6	Link 7
Off	Off	Off	Off	Off	Off	Off

Input Impedance for Linked Channel Inputs

When a Link switch is enabled, the channel input's unbuff-ered source signal is transmitted in parallel to each linked channel output. This causes the channel input's impedance (normally 10 kOhms for one loudspeaker) to be reduced for each linked output. **For example:**

- 1 channel output, 10 kOhms input impedance
- 2 channel outputs, 5 kOhms input impedance
- 4 channel outputs, 2500 ohms input impedance
- 8 channel outputs, 1250 ohms input impedance

To avoid distortion when linking channel inputs, make sure the source device can drive the total load impedance of the linked loudspeakers. The audio source must be capable of producing +20 dBV (10 V rms, 14 V peak) into 600 ohms to produce the maximum peak SPL over the operating band-width of the connected loudspeaker.

NOTE: Most source devices are capable of driving loads no smaller than 10 times their output impedance. To drive eight loudspeakers linked from a single channel input, the source device should have an output impedance of approximately
100 ohms or less.

RMS Network Connectors

The RMS section of the user panel includes two network connectors and a Terminator switch.
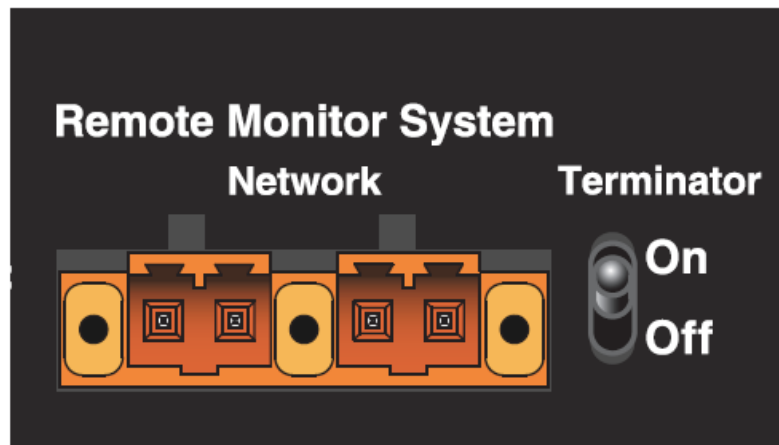
Rear-Panel RMS Network Connectors

The rear-panel Weidmuller 2-conductor, locking connectors transfer data to and from the RMS network by providing a connection between the distribution module and RMServer, and can be used to extend the RMS network to additional distribution modules. Included with each MDM-832 are Weidmuller cable connectors and mounting blocks for con-structing RMS cables. The RMS blocks allow cables to be securely attached to the RMS module with screws.

RMS Terminator Switch

The Terminator switch engages an internal resistive, capaci-tive circuit designed to prevent electrical reflections in the RMS network. If the RMServer is receiving poor data or experiencing other communications problems with the RMS network, switching the Terminator switch to the ON position may help increase network stability.

POWERING LOUDSPEAKERS WITH THE MDM-832

NOTE: For information on cable requirements for your loudspeaker, refer to its operating instructions. For information on cables available from Meyer Sound, see Appendix A, "Composite Cable."

To connect loudspeakers to the MDM-832:

1. Switch both breakers on the MDM-832 front panel to the OFF position.
2. Disconnect the MDM-832 from the AC mains wall recep-tacle.
3. Connect audio sources (from a mixer or processor) to the MDM-832 Audio Inputs with balanced XLR cables.
4. Use the MDM-832 Link switches to route audio inputs to the desired audio outputs (see "Link Switches" on page 13).
5. Connect the MDM-832 AC Outputs to loudspeaker AC Inputs with powerCON 20 cables.
   NOTE: To provide AC power, balanced audio, and RMS to loudspeakers using a single com-posite cable, see Appendix A, "Composite Cable."
6. Connect the MDM-832 audio outputs to loudspeakers.
   - If the MDM-832 is outfitted with XLR 3-pin male outputs, use balanced cables. Optionally, use RMS cables to con-nect the MDM-832 front-panel RMS loudspeaker con-nectors to loudspeaker RMS modules.
   - If the MDM-832 is outfitted with XLR 5-pin male outputs, use composite cables wired for both balanced audio and RMS and terminated with the XLR 5-pin connectors.
   - **CAUTION:** Each set of four MDM-832 outputs ! is capable of powering groups of loudspeakers that have a sum total maximum long-term continuous current draw equal to or below the rating of the corre-sponding breaker. Load ratings are indicated adja-cent to the breaker switches on the front panel. For more information, see Appendix C, "MDM-832 Spec-ifications".
7. Connect the MDM-832 to the AC mains wall receptacle.
8. If an RMS network is available, connect the MDM-832's rear-panel RMS network connectors to the RMServer. For more information, see "RMS Network" on page 17.
9. Switch both breakers on the MDM-832 front panel to the ON position. Monitor the front-panel LEDs to verify that voltage is present. For more information, see "Voltage LEDs (1–2)" on page 11.
10. Check loudspeaker LEDs to verify whether the loud-speakers are powered and ready to reproduce audio.
11. Enable output from the audio sources (from the mixer or processor) connected to the MDM-832.

In addition to connecting each loudspeaker directly to the MDM-832, a loop configuration can be established by using the loop outputs of connected loudspeakers to provide AC power, balanced audio, and RMS to additional loudspeak-ers. For examples of this type of configuration, see "Cable Configurations" on page 16.

- **NOTE:** Using the MDM-832 linked outputs or loudspeaker loop outputs to drive additional loudspeakers affects their input impedance. For more information, see "Input Impedance for Linked Chan-nel Inputs" on page 14.
- **CAUTION:** The powerCON 32 input connector ! and powerCON 20 output connectors should not be engaged or disengaged while under load or live.
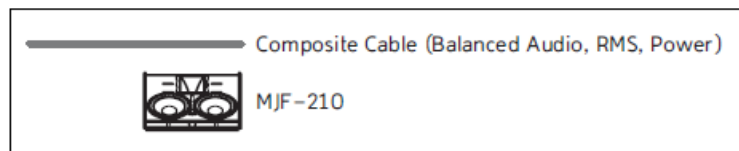
CABLE CONFIGURATIONS
Cabling from the MDM-832 to loudspeakers can be config-ured with composite or separate cables, with loop outputs or without.
Composite Cables
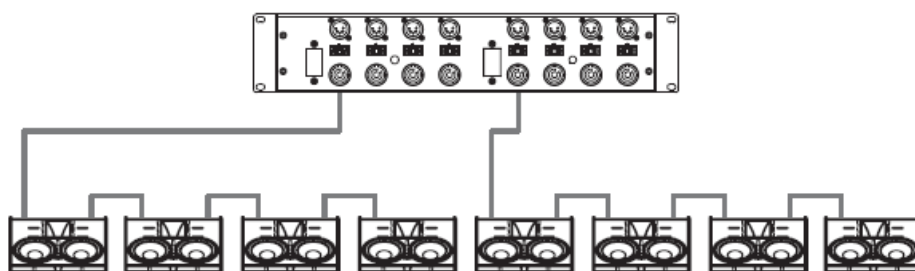Composite cables carry AC power, balanced audio, and RMS directly to loudspeakers through a single cable.
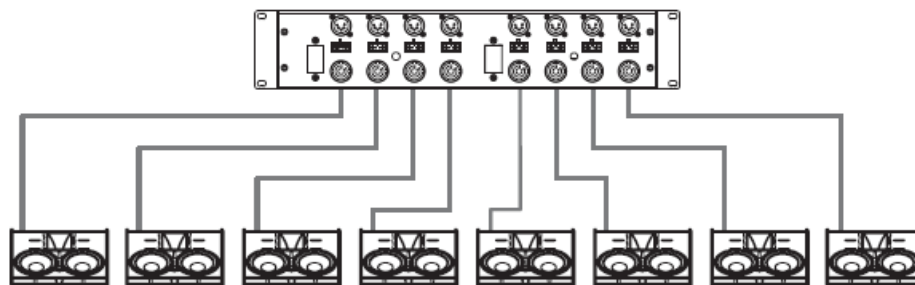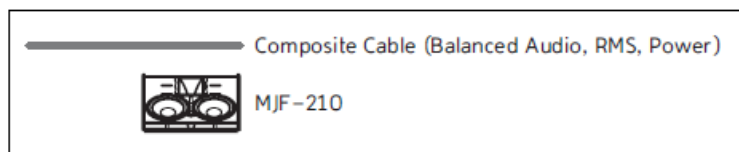
MDM-832 Connected to Loudspeakers with Composite Cables

MDM-832 Connected to Loudspeakers with Composite Cables

Composite Cables using Loop Outputs

Composite cables carry AC power, balanced audio, and RMS through a single cable. Channels of the MDM-832 are connected to loudspeakers, which in turn use loop outputs to distributed AC power, balanced audio, and RMS to addi-tional loudspeakers.
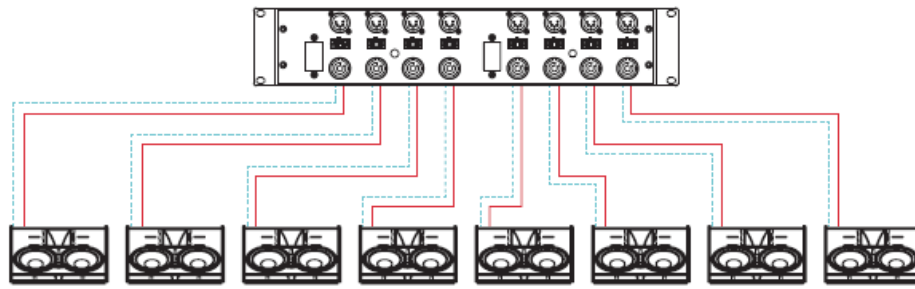

MDM-832 Connected to Loudspeakers with Composite Cables and Loop Outputs
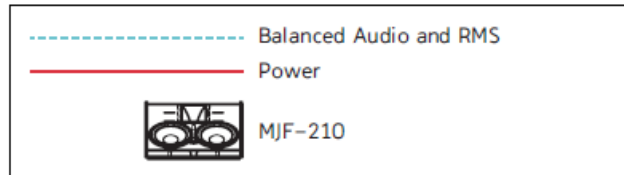
MDM-832 Connected to Loudspeakers with Composite Cables and Loop Outputs

Separate Cables

Separate cables carry AC power, balanced audio, and RMS directly to loudspeakers.

Legend

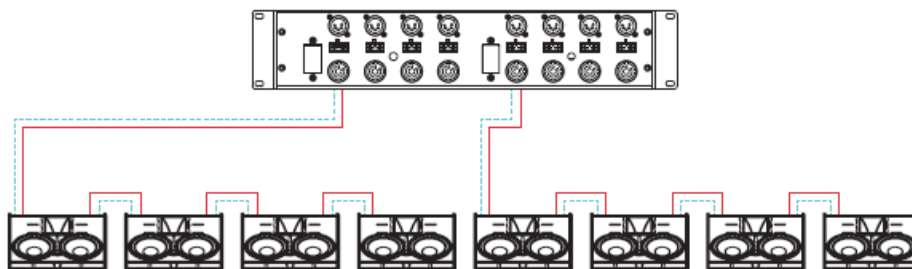- - - - - Balanced Audio and RMS
———— Power

MJF-210

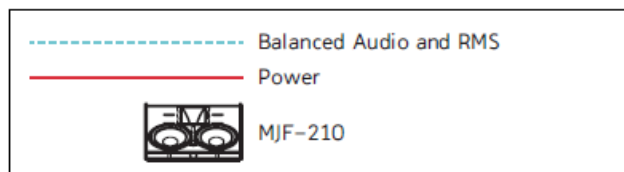MDM-832 Connected to MJF-210 Loudspeakers with Separate Cables

NOTE: MDM-832 modules equipped with XLR 3-pin outputs send balanced audio and RMS through separate cables.

Separate Cables using Loop Outputs

Separate cables carry AC power, balanced audio, and RMS. Channels of the MDM-832 are connected to loudspeakers, which in turn use loop outputs to distributed AC power, bal-anced audio, and RMS to additional loudspeakers.

Legend

- - - - - Balanced Audio and RMS
———— Power

MJF-210

MDM-832 Connected to MJF-210 Loudspeakers with Separate Cables and Loop Outputs

MDM-832 Connected to MJF-210 Loudspeakers with Separate Cables and Loop Outputs

RMS NETWORK

The RMS remote monitoring system network connections allow the MDM-832 distribution module to be connected to an RMS network. RMS reports, in real time, the status and power usage of multiple Meyer Sound loudspeakers from a Mac or Windows-based computer. The host computer com-municates with RMS-equipped loudspeakers and power supplies via RMServer™, a compact, Ethernet-based hard-ware unit with two FT-10 ports. RMServer stores system configurations internally, eliminating most manual data entry. Systems can be monitored from a

laptop at front-of-house or backstage, or from a tablet computer anywhere within the venue over WiFi.

By connecting the MDM-832 to an RMS network and utiliz-ing the front-panel XLR 5-pin male connectors or the front-panel RMS loudspeaker connectors, connecting loud-speakers equipped with RMS modules to the MDM-832 allows distribution of network information between the loud-speakers and RMServer.

- **NOTE:** RMS does not control AC power.
- **NOTE:** For the latest RMS system require-ments, visit the Meyer Sound website (**http://www.meyersound.com**).
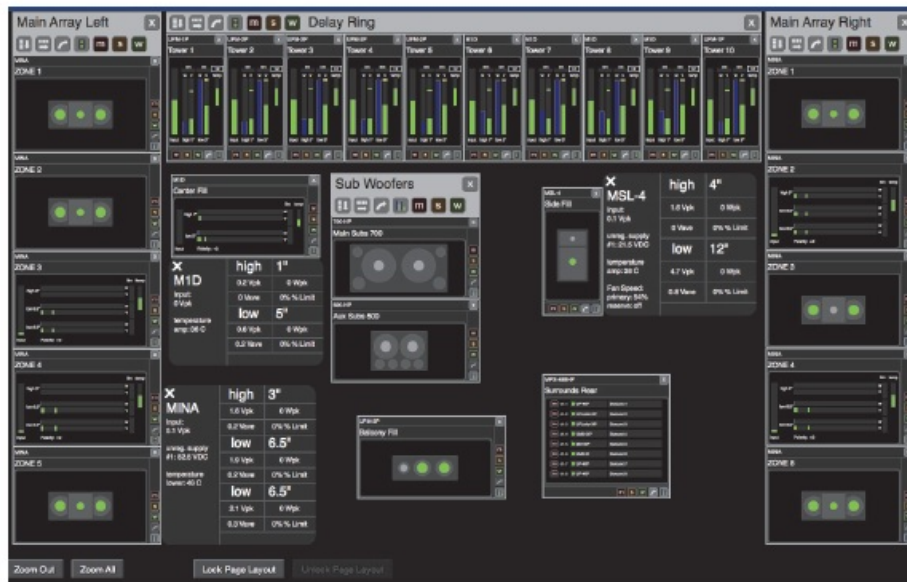
Connecting to Additional Distribution Mod-ules and RMServer

- When using multiple distribution modules, the RMS network can be extended between them (daisy-chained) such that all connected loudspeakers report their operating parameters to the RMS network through the distribution modules.
- To extend the RMS network between multiple MDM-832 distribution modules, connect an RMS cable to one of the rear-panel RMS network ports of one module, then connect the other end to one of the RMS network ports of the sec-ond module.
- To connect the MDM-832 to RMServer, connect an RMS cable to one of the RMS network ports of the MDM-832, then connect the other end to one of the FT-10 ports of RMServer.

NOTE: For more information about RMServer, refer to the RMServer Hardware Guide (PN 05.222.024.01) and the Remote Monitoring Sys-tem User Guide (PN 05.033.302.18).

Compass RMS Software

- Compass RMS™ software provides extensive system status and performance data for each loudspeaker, including amplifier voltage, limiting activity, power output, fan and driver status, as well as mute and solo capability. Loud-speakers are added to the RMS network and assigned a node name during a one-time discovery procedure. Once loudspeakers are identified on the RMS network, they appear in the Compass RMS software as icons that can be customized.
- Compass RMS™ software provides extensive system status and performance data for each loudspeaker, including amplifier voltage, limiting activity, power output, fan and driver status, as well as mute and solo capability. Loud-speakers are added to the RMS network and assigned a node name during a one-time discovery procedure. Once loudspeakers are identified on the RMS network, they appear in the Compass RMS software as icons that can be customized.
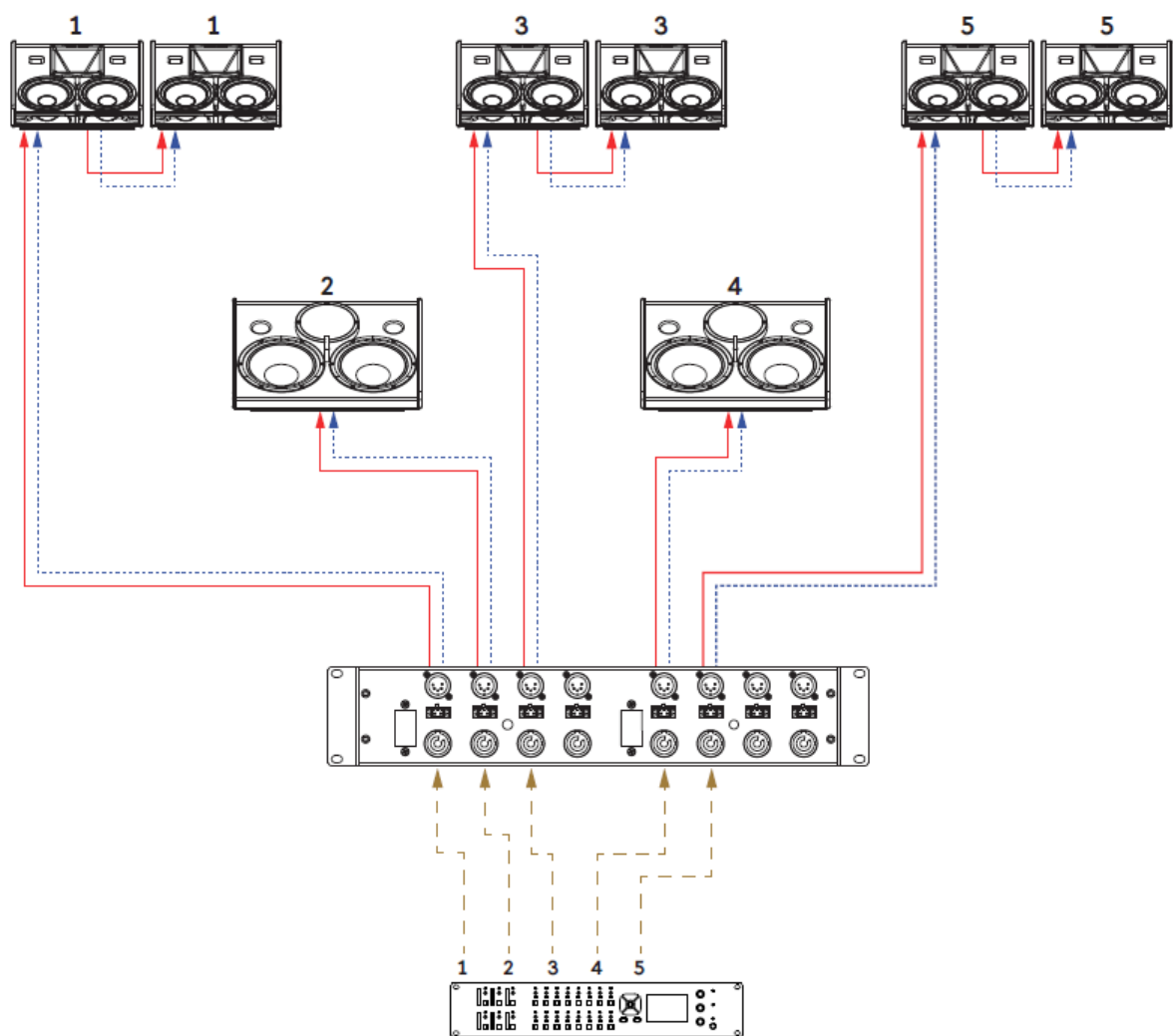
Compass RMS Window

- Individual loudspeakers can be physically identified with the Wink option in RMS, which lights the Wink LED on the RMS module for that particular loudspeaker. Conversely, a loud-speaker can be identified in Compass RMS by pressing the Service or
- Identify button on the loudspeaker's RMS mod-ule.
- Loudspeaker icons can be arranged to represent how loud-speakers have been deployed in the system. Multiple pages can be saved and recalled for specific performances and venues.

DM-832 SYSTEM EXAMPLES

NOTE: Separate power and signal connections are shown in all system examples. To simplify cable runs, use composite cable to carry both power and signal to each loudspeaker. See Appendix A, "Composite Cable."

(6) MJF-208 AND (2) MJF-212A (115 V, 208 V, OR 230 V)

(6) MJF-208 AND (2) MJF-212A (115 V, 208 V, OR 230 V)

Legend

‑‑‑‑‑‑‑ (blue dashed)	Balanced Audio and RMS
——— (red)	Power
‑ ‑ ‑ (dashed)	Galileo Callisto Channels
[device]	Galileo Callisto 616
[device]	MJF-212A
[device]	MJF-208

List of Components

Table 1: (6) MJF-208 and (2) MJF-212A

Part Number	Description	Count
09.245.001.01 (UL) or 09.245.001.03 (CE)	MDM-832 Distribution Module (5-pin)	1
27.033.111.01 or compatible third-party com- posite cable	Composite cable, 30 m	5
	Composite cable, 1.5 m	3
466.047	powerCON 20 loop output connector (NAC3FCB)	8
466.044	powerCON 20 input connector (NAC3FCA)	8
464.027	XLR 5-pin male connector (NC5MX-B)	8
464.026	XLR 5-pin female connector (NC5FX-B)	8

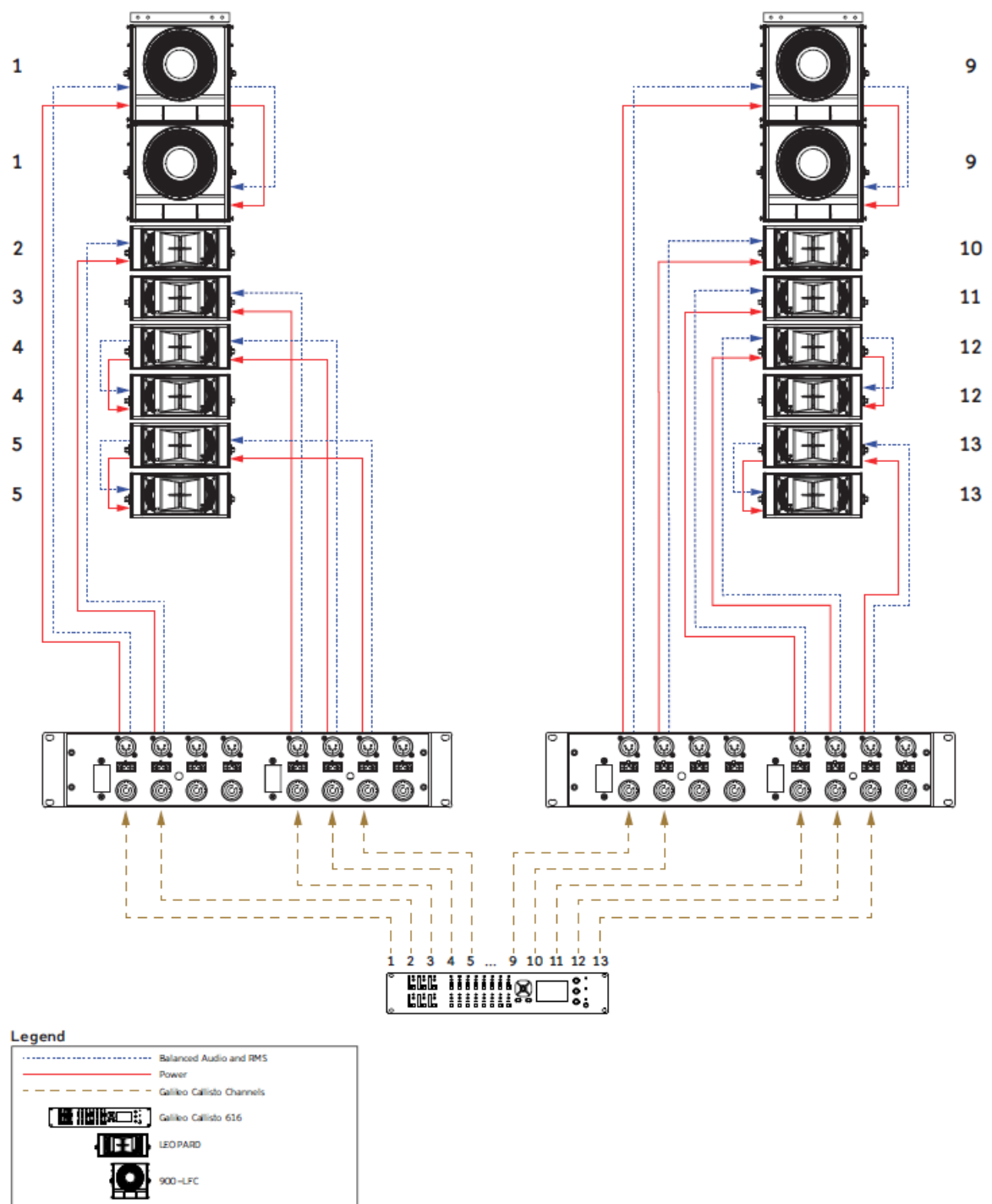**(12) LEOPARD AND (4) 900-LFC (208 V, OR 230 V)**

Table 2: (12) LEOPARD and (4) 900-LFC

Part Number	Description	Count
09.245.001.01 (UL) or 09.245.001.03 (CE)	MDM-832 Distribution Module (5-pin)	2
27.033.111.01 or compatible third-party com- posite cable	Composite cable, 30 m	10
	Composite cable, 1.5 m	2
	Composite Cable, 1 m	4
466.047	powerCON 20 loop output connector (NAC3FCB)	4
466.044	powerCON 20 input connector (NAC3FCA)	16
464.027	XLR 5-pin male connector (NC5MX-B)	16
464.026	XLR 5-pin female connector (NC5FX-B)	16

(8) UPA-1P (115 V, 208 V, 230 V)
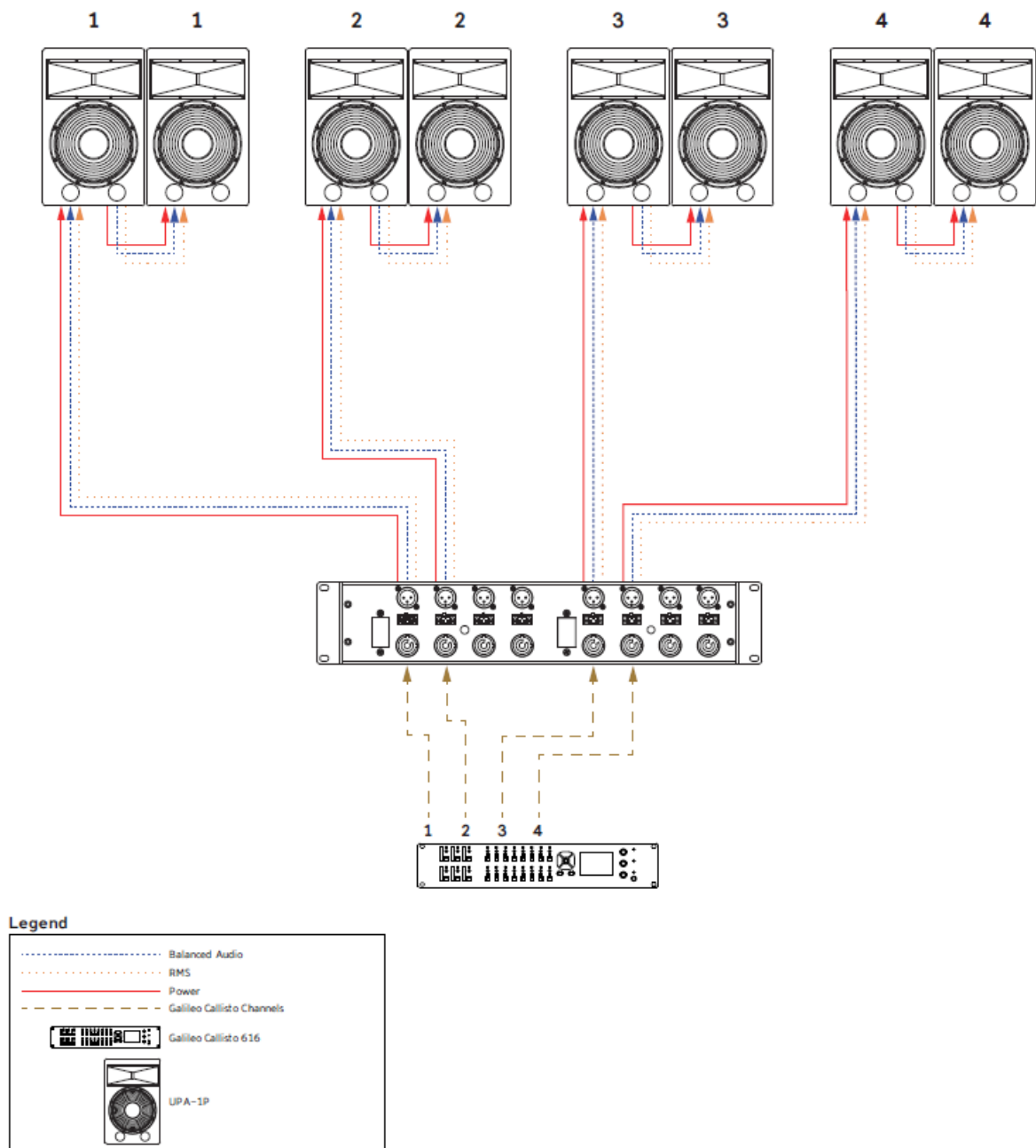
Legend

- - - - - - - - - - Balanced Audio
· · · · · · · · · · RMS
———————— Power
— — — — — Galileo Callisto Channels

Galileo Callisto 616

UPA-1P

Table 3: (8) UPA-1P

Part Number	Description	Count
09.245.001.02 (UL) or 09.245.001.04 (CE)	MDM-832 Distribution Module (3-pin)	1
27.033.111.01 or compatible third-party com- posite cable	Composite cable, 30 m	4
	Composite cable, 1.5 m	4
466.047	powerCON 20 loop output connector (NAC3FCB)	8
466.044	powerCON 20 input connector (NAC3FCA)	8
464.046	XLR 3-pin male connector (NC3MX-B)	8
464.047	XLR 3-pin female connector (NC3FX-B)	8
484.033	RMS connector (Weidmuller)	16

APPENDIX A: COMPOSITE CABLE

COMPOSITE CABLE AND CONNECTORS

Composite cable and loudspeaker connectors are available from Meyer Sound. Composite cable can be terminated to carry AC power, balanced audio, and RMS from the MDM-832 distribution module to AC-powered Meyer Sound loudspeakers.

NOTE: Bulk cable is comprised of three 14 AWG wires for AC power, one pair of 24 AWG wires for balanced audio, and one pair of 24 AWG wires for RMS. Third-party cables (Gepco® RunONE™, Pro Co™ Siamese Twins, Sommer Monolith, Whirlwind™ APC series, Klotz composite, or equivalent) can also be used.

Part Number	Description	Use
27.033.111.01	Breakout Cable UL AWN style 2464 500 ft roll (152.4 m)	AC conductors insulated separately with PVC. Intended for applica- tions where bundled cables fan out to separate locations.
464.026	Neutrik® XLR 5-pin female (NC5FX-B)	Connects to MDM-832 XLR 5-pin audio outputs or loudspeaker audio loop outputs. Carries balanced audio and RMS.
464.027	Neutrik XLR 5-pin male (NC5MX-B)	Connects to loudspeaker XLR 5-pin audio inputs. Carries balanced audio and RMS.
464.046	Neutrik XLR 3-pin male (NC3MX-B)	Connects to loudspeaker XLR 3-pin audio inputs. Carries balanced audio.
464.047	Neutrik XLR 3-pin female (NC3FX-B)	Connects to MDM-832 XLR 3-pin audio outputs or loudspeaker audio loop outputs. Carries balanced audio.
466.044	powerCON 20 input connector (NAC3FCA)	Connects to loudspeaker AC Inputs.
466.047	powerCON 20 loop output connector (NAC3FCB)	Connects to MDM-832 AC outputs or loudspeaker AC loop outputs.
484.033	Weidmuller RMS connector	Connects to MDM-832 and loudspeaker RMS inputs.

ASSEMBLING COMPOSITE CABLES

When connecting loudspeakers to the MDM-832 with composite cable, you must terminate each end of the cable with the correct connectors to supply AC power, balanced audio, and RMS to the loudspeaker. XLR 5-pin connectors can be used with composite cables to carry RMS and balanced audio through a single connector, provided the MDM-832 and connected loudspeakers are configured with XLR 5-pin connectors. XLR 3-pin connectors can be used with composite cables to carry RMS and balanced audio through separate connectors, provided the MDM-832 and connected loudspeakers are config-ured with XLR 3-pin connectors.

Assembled Composite Cable with powerCON 20 and XLR 5-pin Connectors.

Assembled Composite Cable with powerCON 20, XLR 3-pin, and Weidmuller RMS Connectors.

To assemble a composite loudspeaker cable:

1. Cut the bulk cable to the desired length, including fanout length.
2. Strip the outer jacket to the desired fanout length.
3. Remove excess binder.
4. Strip 0.7 inch (18 mm) of the jacket from each of the two signal pairs.
5. Unwind each shield, then twist to form a third conductor.
6. Trim the foil shield and rod fillers of each signal pair so they sit flush with the jacket.
7. Strip each conductor of the two signal pairs by approximately 0.16 inch (4 mm).
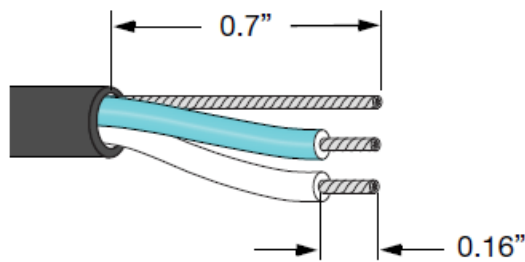
Signal Pair Exposed Lengths

8. Tin exposed conductors and then solder to the XLR connector using the following wiring scheme.

    Composite Cable Signal Pinout (XLR)

Type	Outer Jacket Color	Pin	Function	Wire Color
XLR 3-pin (Balanced Audio) and Weidmuller (RMS)	Blue (signal pair 1)	1	Audio Shield	Silver
		2	Audio Signal (+)	Blue
		3	Audio Signal (-)	White
Two pair; XLR 5-pin (Balanced Audio and RMS)	Blue (signal pair 1)	1	Audio Shield	Silver
		2	Audio Signal (+)	Blue
		3	Audio Signal (-)	White
	Black (signal pair 2)	4	RMS (polarity insensitive)	Blue
		5	RMS (polarity insensitive)	White
		1	Audio Shield	Silver

CAUTION: When wiring cables for the MDM-832 AC outputs, it is extremely important that each pin in the con-!nector be wired correctly, to avoid damage to the loudspeaker. In addition, make sure that audio pins are wired correctly; polarity reversals for audio signals affect system performance. RMS connectors are polarity insensitive.

NOTE: For RMS connections in systems with XLR 3-pin audio connections, terminate the second audio pair with Weidmuller RMS connectors according to the RMS Connector Assembly Instructions (PN 28.033.060). For RMS connections in systems with XLR 5-pin audio connections, terminate both signal cable shields to pin 1.

9. Prepare and assemble the power cable according to the Assembly Instructions provided with your powerCON 20 con-nectors. Terminal connections use the following wiring scheme
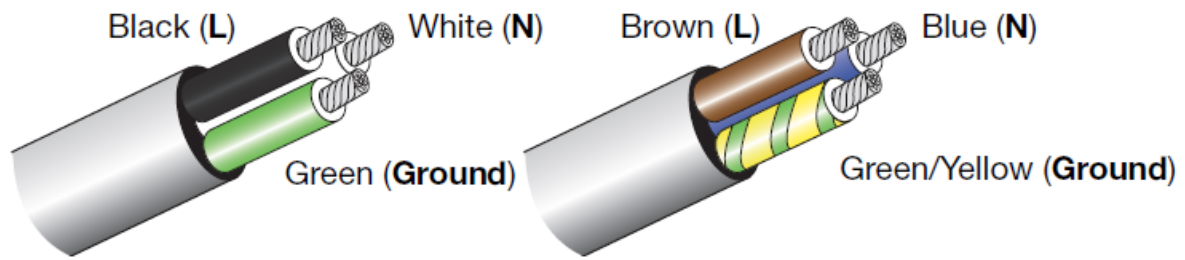
Power Cable Colors
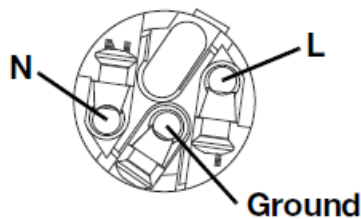
powerCON 20 Terminals

Composite Cable AC Wiring Scheme (powerCON 20

Connector Type	Terminal	Function	Wire Color U.S / Canada (60 Hz)	Wire Color Europe (50 Hz)
NAC3FCA (power in) NAC3FCB (power out)	Ground	Ground	Green	Green/Yellow
	N	Neutral	White	Blue
	L	Line	Black	Brown

CAUTION: When wiring AC power cables and distribution systems, it is important to preserve AC line polarity and connect the ground on both ends of the cable.

CAUTION: The MDM-832 requires a grounded connection. Always use a grounded outlet and plug.

APPENDIX B: ORIENTING THE MDM-832 RACKMOUNT BRACKETS

The MDM-832 ships with its reversible rackmount brackets in a front-facing flush position. The rackmount brackets can be oriented to recess the distribution module from the rack face, position the front panel of the distribution module at the rear of the rack, or position and recess the front panel of the distribution module at the rear of the rack.
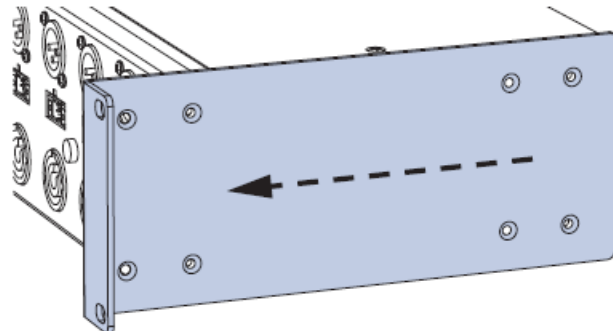
To orient the MDM-832 rackmount brackets:

1. Use a #2 Phillips screwdriver to remove the four screws from each rackmount bracket.
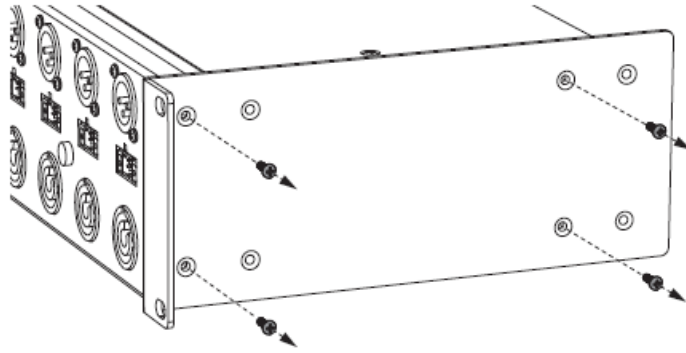
2. **Do one of the following:**

- To mount the module with the front panel recessed, slide the rackmount brackets forward until the rear sets of screw holes line up with the screw holes in the chassis.


- To mount the module with the rear panel at the front of the rack, rotate the rackmount brackets to face the rear panel, then adjust so the front sets of screw holes line up with the screw holes in the chassis.
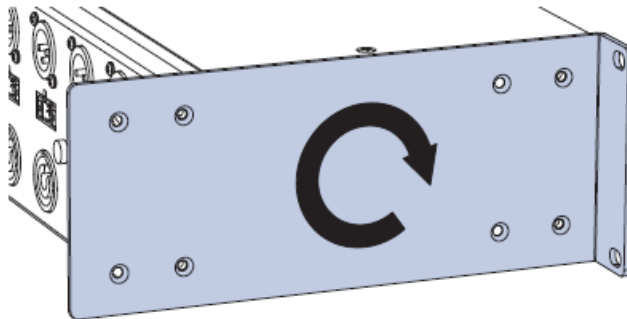
- To mount the module with the rear panel in a recessed position at the front of the rack, rotate the rackmount brackets to face the rear panel, then adjust so the rear sets of screw holes line up with the screw holes in the chassis.
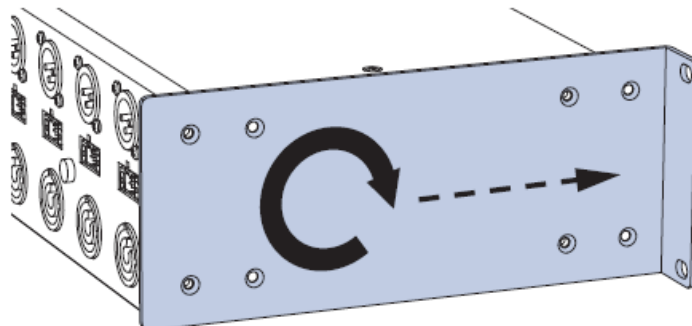
3. Use a #2 Phillips screwdriver to re-install the screws to secure the rackmount brackets to the enclosure.
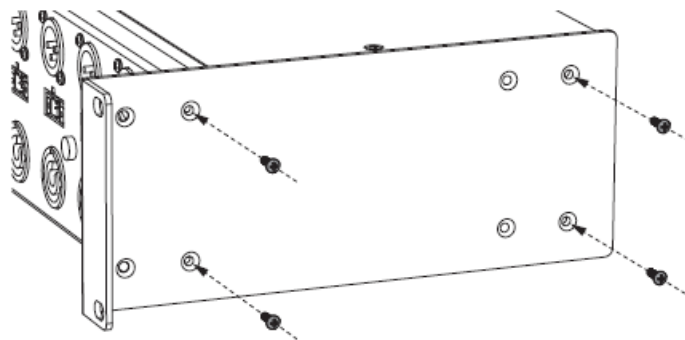
💡 **TIP:** Use of Loctite® 243 or equivalent medium- strength, removable thread-locking adhesive is recommended for secure and non-permanent instal-lation of the rackmount bracket screws.

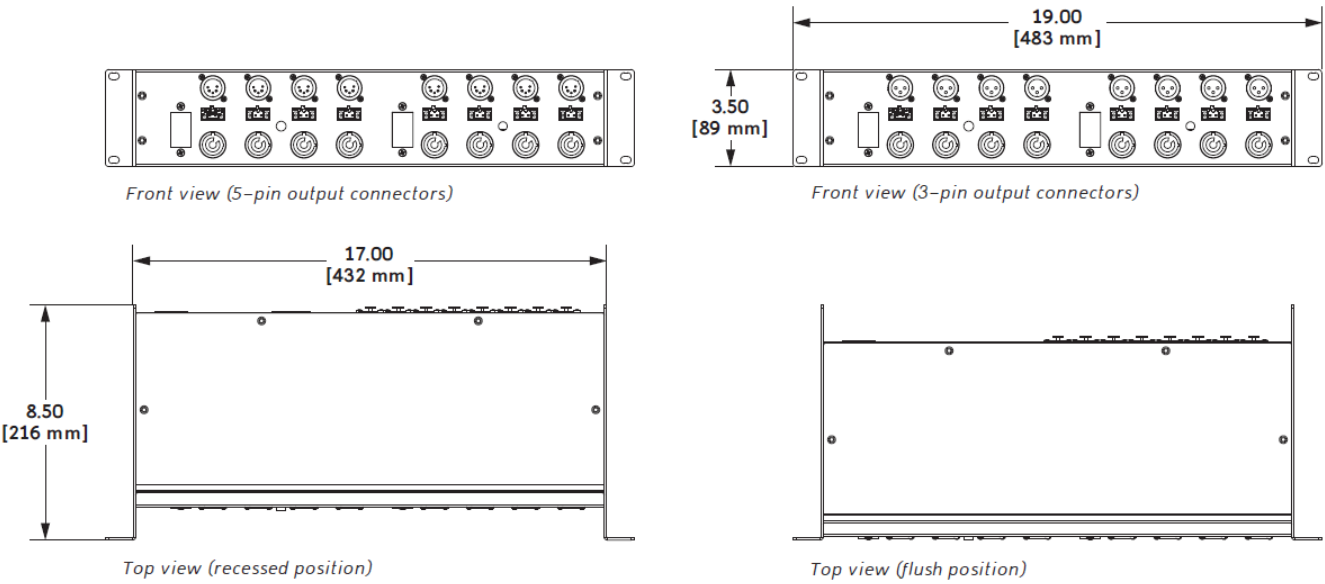4. Secure the MDM-832 to the rack rails with four 10-32 truss head screws.

APPENDIX C: MDM-832 SPECIFICATIONS

MDM-832 Specifications

FRONT PANEL	
Audio Outputs	Eight gold-plated XLR 3-pin or XLR 5-pin male connectors
RMS loudspeaker	Eight RMS FT-10 network connectors, connecting RMS-equipped loudspeakers to the RMS network
LEDs	Two LED indicators for AC voltage presence
AC Outputs	Eight powerCON 20 connectors

Note: Connect only to Meyer Sound self-powered loudspeakers with auto-ranging input voltage selection. |
Circuit Breakers	Two 15 A breaker switches for enabling AC outputs 1–4 and 5–8
REAR PANEL	
Audio Inputs	Eight gold-plated XLR 3-pin female connectors Link switches to route to outputs
RMS Network/Thru	Two RMS FT-10 network connectors with terminator, reporting all connected amplifier operating parameters to the RMServer
AC Input	One powerCON 32 connector
AC POWER	
Safety Rated Voltage Range	100–240 V AC, 50–60 Hz
Safety Rated Total Load, Output 1–4	12 A (UL/cUL); 15 A (IEC/EN)

Note: Must meet or exceed the sum of the maximum long-term continuous current draw of all loudspeakers connected to AC Outputs 1–4. |

Safety Rated Total Load, Output 5–8	12 A (UL/cUL); 15 A (IEC/EN) **Note:** Must meet or exceed the sum of the maximum long-term continuous current draw of all loudspeakers connected to AC Outputs 5–8.
Combined Total Load	24 A (UL/cUL); 30 A (IEC/EN) **Note:** Indicates the maximum combined safety rated total load for AC Outputs 1–8.
PHYSICAL	
Dimensions	2-space rackmount 19.00 inches W x 3.50 inches H x 8.50 inches D (483 mm x 89 mm x 216 mm)
Weight	12 lbs (5.4 kg)
Finish	Low-gloss black, very fine textured
ENVIRONMENTAL	
Operating Temperature	0° C to +45° C
Non Operating Temperature	–40° C to +75° C
Humidity	To 95% at 35° C
Operating Altitude	To 5000 m (16,000 ft)
Non Operating Altitude	To 12000 m (39,000 ft)
Shock	30 g 11 msec half-sine on each of 6 sides
Vibration	10 Hz – 55 Hz (0.010 m peak-to-peak excursion)

MDM-832 DIMENSIONS

Front view (5–pin output connectors)

Front view (3–pin output connectors)

Top view (recessed position)

Top view (flush position)

MDM-832 Dimensions

CONTACT

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- +1 510 486.1166
- **www.meyersound.com**
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- PN 05.245.005.02 A

Documents / Resources

meyer sound MDM-832 Distribution Module [pdf] Instruction Manual
MDM-832 Distribution Module, MDM-832, Distribution Module, Module

References

- **Meyer Sound**
- **Contact Meyer Sound | Meyer Sound**
- **Meyer Sound**
- **Contact Meyer Sound | Meyer Sound**
- **Профессиональная акустика — Активные акустические системы.**
- **User Manual**