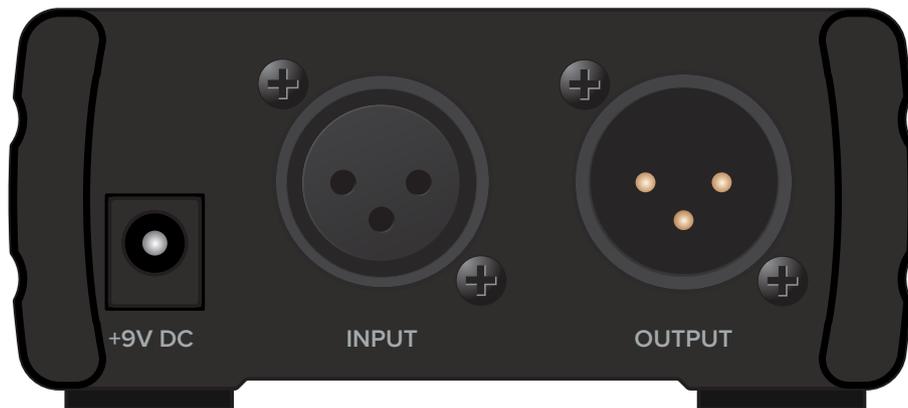


M48

48V POWER SUPPLY

OWNER'S MANUAL



Important Safety Instructions

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with a dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Only use attachments/accessories specified by the manufacturer.
10. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
11. This apparatus shall not be exposed to dripping or splashing, and no object filled with liquids, such as vases or beer glasses, shall be placed on the apparatus.
12. 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.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio / TV technician for help.

CAUTION: Changes or modifications to this device not expressly approved by LOUD Audio LLC could void the user's authority to operate the equipment under FCC rules.

WARNING — To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture.



Correct disposal of this product: This symbol indicates that this product should not be disposed of with your household waste, according to the WEEE directive (2012/19/EU) and your national law. This product should be handed over to an authorized collection site for recycling waste electrical and electronic equipment (EEE). Improper handling of this type of waste could have a possible negative impact on the environment and human health due to potentially hazardous substances that are generally associated with EEE. At the same time, your cooperation in the correct disposal of this product will contribute to the effective usage of natural resources. For more information about where you can drop off your waste equipment for recycling, please contact your local city office, waste authority, or your household waste disposal service.

13. This device complies with FCC radiation exposure limits set forth for an uncontrolled environment. This device should be installed and operated with minimum distance 20cm between the radiator & your body.
14. This apparatus does not exceed the Class A/Class B (whichever is applicable) limits for radio noise emissions from digital apparatus as set out in the radio interference regulations of the Canadian Department of Communications.

ATTENTION — *Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de class A/de class B (selon le cas) prescrites dans le règlement sur le brouillage radioélectrique édicté par les ministere des communications du Canada.*

15. This device complies with Industry Canada licence-exempt RSS standard(s).

Operation is subject to the following two conditions:

- (1) this device may not cause interference, and
- (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence.

L'exploitation est autorisée aux deux conditions suivantes:

- (1) l'appareil ne doit pas produire de brouillage, et
- (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

16. Exposure to extremely high noise levels may cause permanent hearing loss. Individuals vary considerably in susceptibility to noise-induced hearing loss, but nearly everyone will lose some hearing if exposed to sufficiently intense noise for a period of time. The U.S. Government's Occupational Safety and Health Administration (OSHA) has specified the permissible noise level exposures shown in the following chart.

According to OSHA, any exposure in excess of these permissible limits could result in some hearing loss. To ensure against potentially dangerous exposure to high sound pressure levels, it is recommended that all persons exposed to equipment capable of producing high sound pressure levels use hearing protectors while the equipment is in operation. Ear plugs or protectors in the ear canals or over the ears must be worn when operating the equipment in order to prevent permanent hearing loss if exposure is in excess of the limits set forth here:

| Duration, per day in hours | Sound Level dBA, Slow Response | Typical Example |
|----------------------------|--------------------------------|--|
| 8 | 90 | Duo in small club |
| 6 | 92 | |
| 4 | 95 | Subway Train |
| 3 | 97 | |
| 2 | 100 | Very loud classical music |
| 1.5 | 102 | |
| 1 | 105 | Ryan screaming at Troy about deadlines |
| 0.5 | 110 | |
| 0.25 or less | 115 | Loudest parts at a rock concert |

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Features

- Perfect for condenser mics and equipment that require 48v Phantom Power
- XLR input and output
- Transparent, noise-free operation
- Powered by the included AC adapter or 9v battery
- Power and Low Battery indication
- Built-Like-A-Tank™ construction

How to Use This Manual

After this introduction, a getting started guide will help you get things set up fast. The hookup diagram shows a typical setup.



This icon marks information that is critically important or unique to the M48. For your own good, read and remember them.



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Introduction

The M48 48v Phantom Power Supply allows you to use your devices and microphones that require external power in any setup.

Sometimes the phantom power being supplied is inadequate as well, and with the M48, you will always get a clean, full 48v of power for the best sound and noise performance. Powered by either a 9v battery or supplied AC adapter.

Getting Started

The following steps will help you set up the M48 48V Power Supply quickly.

1. Make sure the power switch is off on all connected gear.
2. Turn down all level knobs on all connected gear.
3. Connect a condenser microphone to the input jack of the M48 using a balanced XLR cable.
4. Connect a balanced XLR cable from the output jack of the M48 to the input jack of the mixer or audio interface.
- 5A. Push the included AC power adapter securely into the M48's connector and plug the other end into an AC outlet. The M48 may accept the appropriate voltage as indicated near the connector.

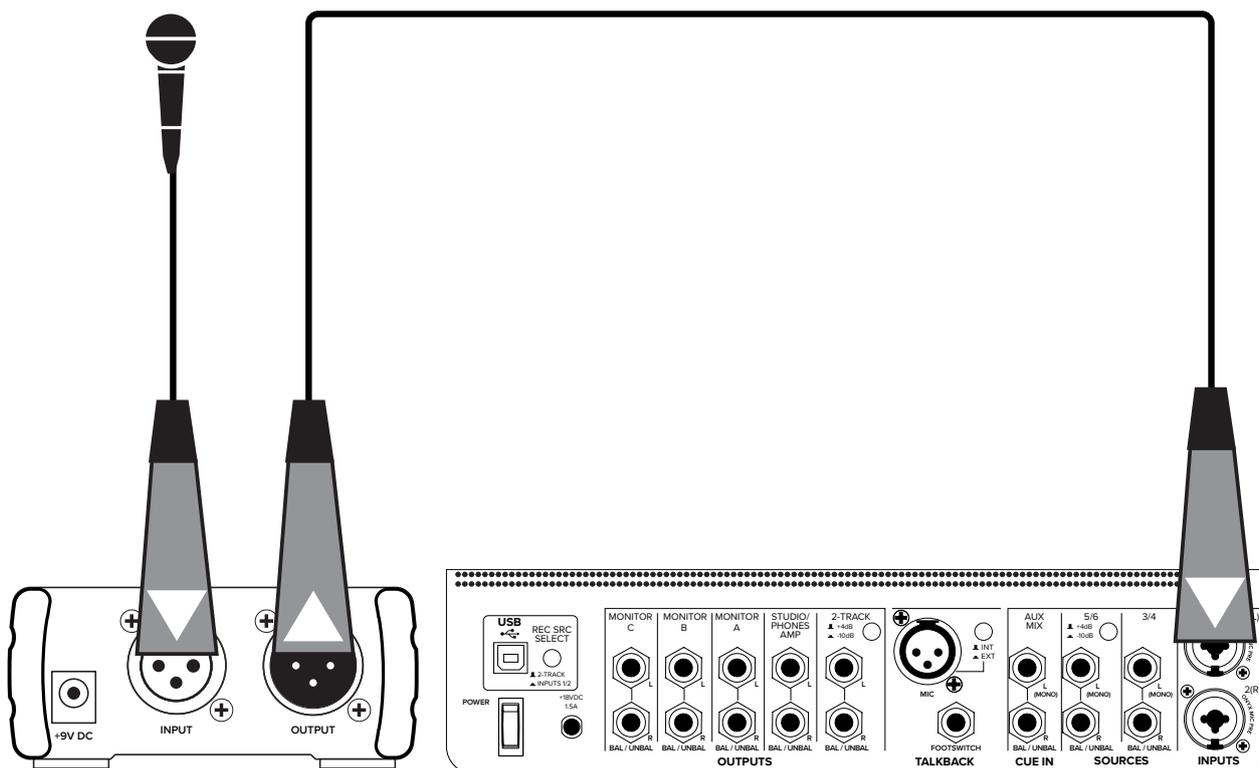
...OR...

- 5B. Insert a 9 V battery (accessible by sliding and removing the battery case cover on the bottom panel of the M48).
6. Turn the mixer or audio interface's power switch on.
7. Turn the M48 48V Power Supply's power switch on. The front panel power LED will illuminate.
8. Be sure that the volume of the input is the same as it would be during normal use.
9. Slowly raise the mixer's input and output level knobs to a comfortable listening level.

Things to Remember

- Never listen to loud music for prolonged periods. Please see the Safety Instructions on page 2 for information on hearing protection.
- Save the shipping boxes and packing materials! You may need them someday. Besides, your hamster will love playing in them and jumping out at you unexpectedly. Remember to pretend like you are surprised!
- Save your sales receipt in a safe place.

M48 48V Power Supply Hookup Diagram



The M48 48V Power Supply is the perfect solution for anyone using a condenser microphone (or other equipment) that requires phantom power. Let's take a look at the hookup diagram.

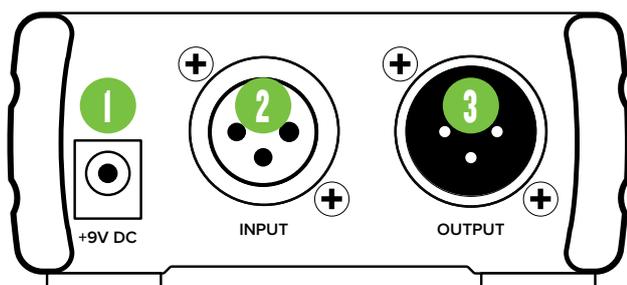
Start by turning the down the main output level of the audio interface. In this example it's a Mackie Big Knob Studio+. Next, connect a condenser microphone to the M48's input jack using a balanced XLR cable. Now, you will want to connect a balanced XLR cable from the M48's output jack to the audio interface's input jack. Finish up by slowly raising the level of the audio interface's output knob.

Note: While an audio interface may be the most common use, you could connect a mixer in lieu of an audio interface to the M48.

Note: If the audio interface or mixer has built-in phantom power, do not engage it while using the M48!

Typical M48 Setup

M48 48V Power Supply: Rear Panel Features



M48 Rear Panel

Phantom Power

Most professional condenser mics require 48V phantom power which lets the mixer and/or audio interface send low-current DC voltage to the mic's electronics through the same wires that carry audio. (Semi-pro condenser mics often have batteries to accomplish the same thing.) "Phantom" owes its name to an ability to be "unseen" by dynamic mics [Shure SM57 / SM58, for example], which do not need external power and are not affected by it, anyway.



VERY IMPORTANT Never plug single-ended (unbalanced) or ribbon microphones into the M48.

Do not plug instrument outputs into the M48 unless you know for certain that it is safe to do. Be sure that the mixer's level is down when connecting a mic to the M48 to prevent pops from getting through the PA.



VERY IMPORTANT It is not a good idea to utilize the M48 unless it is actually needed. Line-level sources may be particularly unhappy when they are subjected to 48V phantom powering. Many musical instrument amps and keyboards with "direct outputs" fit this description.



VERY IMPORTANT It takes approximately 15 seconds for the phantom power to shut off completely. Do not add or remove any mics until the power LED is completely off or mics could be damaged.

1. Power Connector

This connection is where to connect the supplied AC adapter to provide power to the M48. Connect the AC adapter to the M48 first, then plug the other end into a suitable and properly rated AC outlet.



VERY IMPORTANT M48s feature varying power connectors based on country. Therefore, your power connector may (or may not) look different than the one displayed in the illustration.



VERY IMPORTANT Only use the factory-authorized power supply that came with the M48.

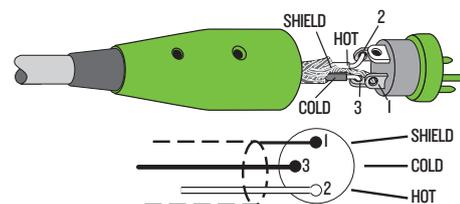
2. XLR Input Jack

This XLR connector provides a balanced line-level signal that is designed to connect to a condenser microphone.

It is wired as follows, according to standards specified by the AES (Audio Engineering Society):

Balanced XLR Input Connector

- Pin 1 – Shield (ground)
- Pin 2 – Positive (+ or hot)
- Pin 3 – Negative (– or cold)



Balanced XLR Connector



VERY IMPORTANT NEVER connect the output of an amplifier directly to the M48's input jack. This could damage the input circuitry!

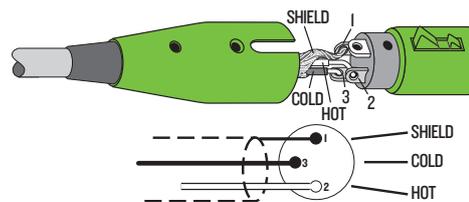
3. XLR Output Jack

This XLR connector provides a balanced line-level signal that is designed to connect to the input of a mixer or recording interface.

It is wired as follows, according to standards specified by the AES (Audio Engineering Society):

Balanced XLR Output Connector

- Pin 1 – Shield (ground)
- Pin 2 – Positive (+ or hot)
- Pin 3 – Negative (– or cold)

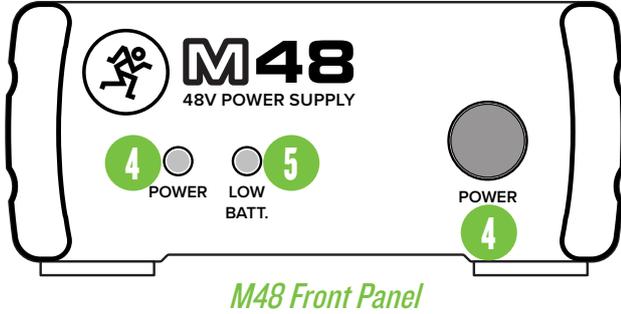


Balanced XLR Connector

M48 48V Power Supply: Front Panel Features

4. Power Switch and LED

Press this switch to turn the M48 on and off. The power LED will illuminate green when the M48 is turned on.



5. Low Battery LED

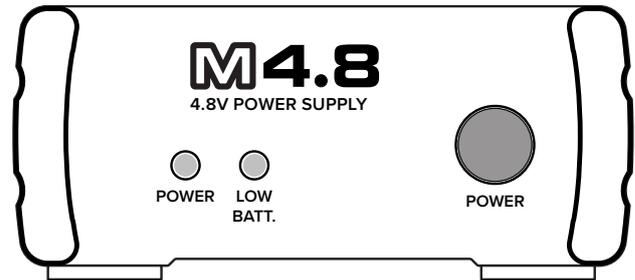
This LED will illuminate green to let you know that it's time to replace the 9V battery. And no, don't test it by putting your tongue on the battery terminals. The LED is a fine indicator by itself...

Battery Compartment (Not Shown)

The M48 may be powered by a single 9V battery. The battery compartment is located on the bottom panel of the M48 and is accessible by sliding and removing the battery case cover.

Warning

Beware of imitators! There's a fake M48 out there. Called the M4.8, it only supplies 4.8V of power instead of the required 48V that condenser mics require.



Appendix A: Service Information

If you think your M48 48V Power Supply has a problem, please check out the following troubleshooting tips and do your best to confirm the problem. Visit the Support section of our website (www.mackie.com/support) where you will find lots of useful information such as FAQs and other documentation. You may find the answer to the problem without having to part with your M48 48V Power Supply.

Troubleshooting

No power

- Our favorite question: Is it plugged in? Make sure the included power adapter is securely fastened to both the M48 and AC outlet.
- Is the power LED on the front panel illuminated?
- Is the low battery LED on the front panel illuminated? Replace the 9V battery!

No sound

- Is the level knob for the input source turned all the way down? Verify that all the volume controls in the system are properly adjusted. Look at the level meter to ensure that the mixer is receiving a signal.
- Is the signal source working? Make sure the connecting cables are in good repair and securely connected at both ends. Make sure the output level control on the mixing console is turned up sufficiently.
- Make sure the mixer does not have a mute on or a processor loop engaged. If you find something like this, make sure the level is turned down before disengaging the offending switch.

Poor sound

- Is it loud and distorted? Make sure that you're not overdriving a stage in the signal chain. Verify that all level controls are set properly.
- Be sure all connections are secure.

Hum

- Use balanced connections throughout your system for the best noise rejection.
- Whenever possible, plug all the audio equipment's line cords into outlets which share a common ground. The distance between the outlets and the common ground should be as short as possible.

Repair

For warranty service, refer to the warranty information on page 10.

Non-warranty service is available at a factory-authorized service center. To locate the nearest service center, visit www.mackie.com/support/service-locator. Service for M48s living outside the United States may be obtained through local dealers or distributors.

If you do not have access to our website, please call our Tech Support department at 1-800-898-3211 (normal business hours, Pacific Time), to explain the problem. They will tell you where the nearest factory-authorized service center is located in your area.

Please write the serial numbers here for future reference (i.e., insurance claims, tech support, return authorization, make dad proud, etc.)

Purchased at:

Date of purchase:

Appendix B: Technical Information

M48 48V Power Supply Specifications

Input / Output

| | |
|--------------------|---------------------|
| Input Type | Female XLR Balanced |
| Output Type | Male XLR Balanced |
| Output Voltage | 48V ±3V |
| Max Output Current | 40mA |

Physical Properties

| | |
|---------|-----------------|
| Height: | 1.5 in / 38 mm |
| Width: | 3.4 in / 86 mm |
| Depth: | 5.8 in / 147 mm |
| Weight: | 0.8 lb / 0.4 kg |

Power Requirements

| | |
|----------|-------------|
| Internal | 9 V Battery |
| External | 9 – 12 VDC |

Disclaimer

Since we are always striving to make our products better by incorporating new and improved materials, components, and manufacturing methods, we reserve the right to change these specifications at any time without notice.

The “Running Man” figure is a registered trademark of LOUD Audio, LLC.

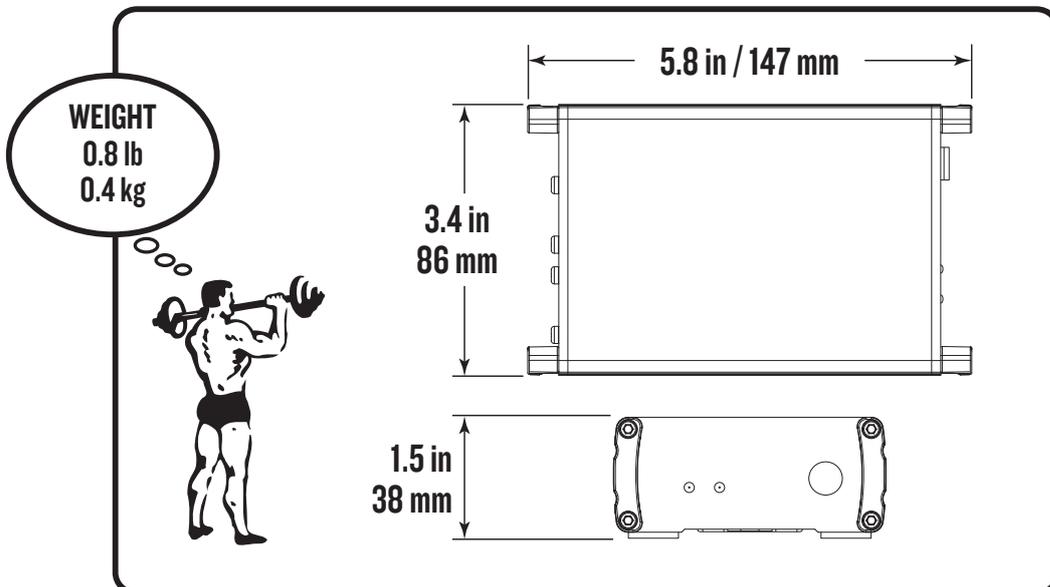
All other brand names mentioned are trademarks or registered trademarks of their respective holders, and are hereby acknowledged.

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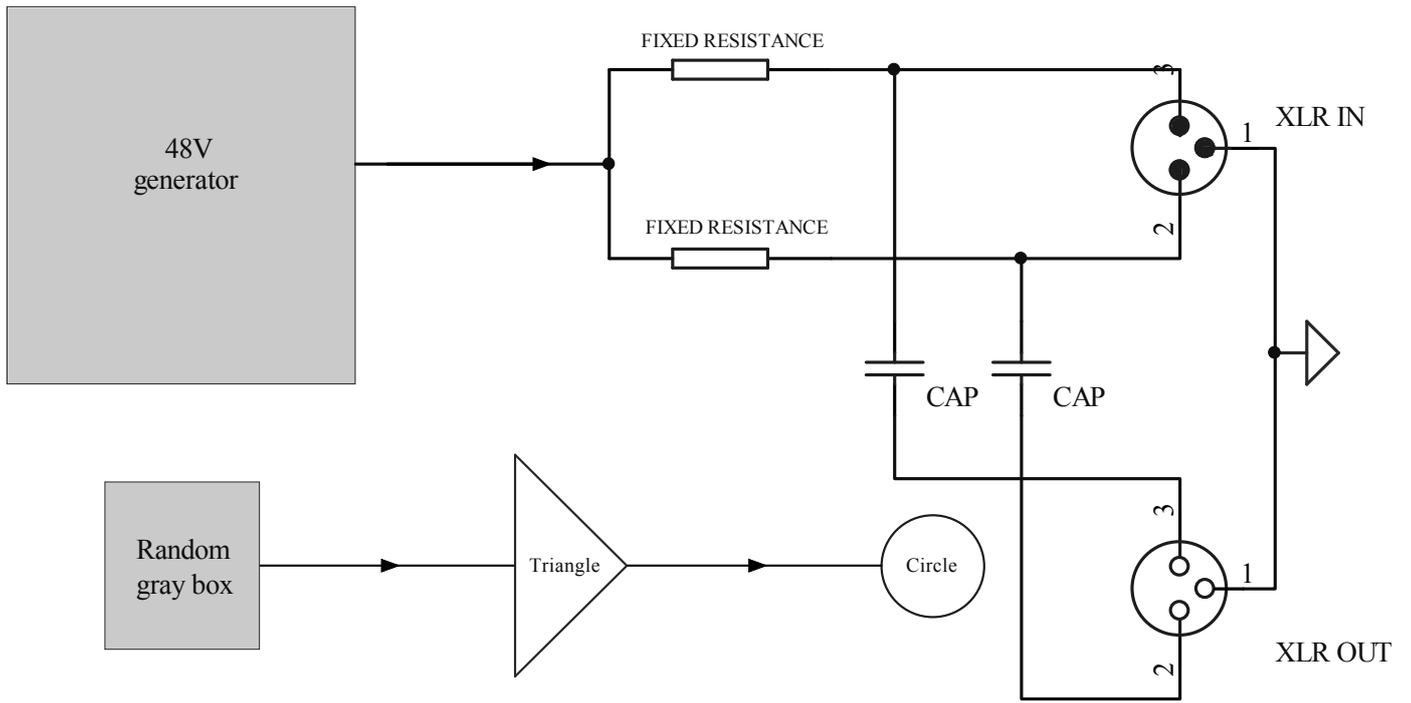
Safety Features

| | |
|--------------|--|
| Display LEDs | Front power on/off, Front low battery indicator |
|--------------|--|

M48 48V Power Supply Dimensions



M48 48V Power Supply Block Diagram



Limited Warranty

Please keep your sales receipt in a safe place.

This Limited Product Warranty (“Product Warranty”) is provided by LOUD Audio, LLC (“LOUD”) and is applicable to products purchased in the United States or Canada through a LOUD-authorized reseller or dealer. The Product Warranty will not extend to anyone other than the original purchaser of the product (hereinafter, “Customer,” “you” or “your”).

For products purchased outside the U.S. or Canada, please visit www.mackie.com to find contact information for your local distributor, and information on any warranty coverage provided by the distributor in your local market.

LOUD warrants to Customer that the product will be free from defects in materials and workmanship under normal use during the Warranty Period. If the product fails to conform to the warranty then LOUD or its authorized service representative will at its option, either repair or replace any such nonconforming product, provided that Customer gives notice of the noncompliance within the Warranty Period to the Company at: www.mackie.com or by calling LOUD technical support at 1.800.898.3211 (toll-free in the U.S. and Canada) during normal business hours Pacific Time, excluding weekends or LOUD holidays. Please retain the original dated sales receipt as evidence of the date of purchase. You will need it to obtain any warranty service.

For full terms and conditions, as well as the specific duration of the Warranty for this product, please visit www.mackie.com.

The Product Warranty, together with your invoice or receipt, and the terms and conditions located at www.mackie.com constitutes the entire agreement, and supersedes any and all prior agreements between LOUD and Customer related to the subject matter hereof. No amendment, modification or waiver of any of the provisions of this Product Warranty will be valid unless set forth in a written instrument signed by the party to be bound thereby.

Need help with the M48?

- Visit www.mackie.com/support to find: FAQs, manuals, addendums, and other documents.
- Email us at: www.mackie.com/support-contact
- Telephone 1-800-898-3211 to speak with one of our splendid technical support chaps (Monday through Friday, normal business hours, Pacific Time).



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