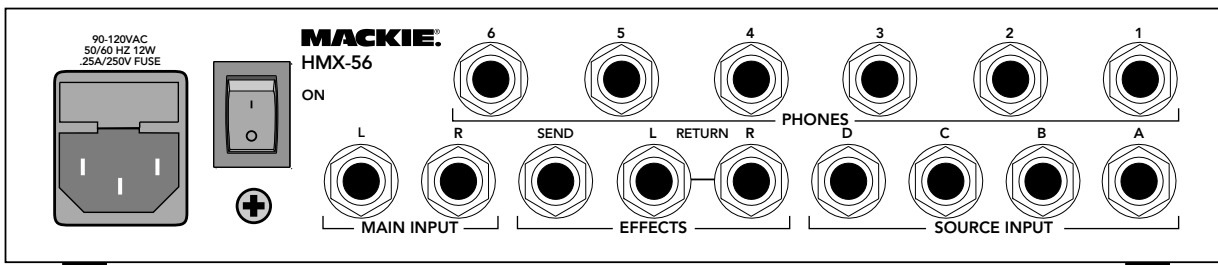


HMX-56

Headphone Matrix Mixer

OWNER'S MANUAL



1 2 3 4 5 6

MACKIE.
HMX-56
5 X 6 HEADPHONE MATRIX
MIXER/AMPLIFIER

		1	2	3	4	5	6	
		SOURCE						EFFECTS SEND
	A							
	B							
	C							
	D							

INSTRUMENT LABELS

LEAD VOCALS

LEAD GUITAR

RHYTHM GUITAR

BASS

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 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. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding-type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Use only with a cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.

13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. 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.
15. This apparatus shall not be exposed to dripping or splashing, and no object filled with liquids, such as vases, shall be placed on the apparatus.
16. This apparatus has been designed with Class-I construction and must be connected to a mains socket outlet with a protective earthing connection (the third grounding prong).
17. This apparatus has been equipped with a single-pole, rocker-style AC mains power switch. This switch is located on the front panel and should remain readily accessible to the user.
18. 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.*

19. 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.

PORTABLE CART WARNING



Carts and stands - The Component should be used only with a cart or stand that is recommended by the manufacturer. A Component and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the Component and cart combination to overturn.

CAUTION AVIS
<p>RISK OF ELECTRIC SHOCK DO NOT OPEN</p> <p>RISQUE DE CHOC ELECTRIQUE NE PAS OUVRIR</p>
<p>CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK DO NOT REMOVE COVER (OR BACK) NO USER-SERVICEABLE PARTS INSIDE REFER SERVICING TO QUALIFIED PERSONNEL</p> <p>ATTENTION: POUR EVITER LES RISQUES DE CHOC ELECTRIQUE, NE PAS ENLEVER LE COUVERCLE. AUCUN ENTRETIEN DE PIECES INTERIEURES PAR L'USAGER. CONFIER L'ENTRETIEN AU PERSONNEL QUALIFIE.</p> <p>AVIS: POUR EVITER LES RISQUES D'INCENDIE OU D'ELECTROCUTION, N'EXPOSEZ PAS CET ARTICLE A LA PLUIE OU A L'HUMIDITE</p>

The lightning flash with arrowhead symbol within an equilateral triangle is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure, that may be of sufficient magnitude to constitute a risk of electric shock to persons.
Le symbole éclair avec point de flèche à l'intérieur d'un triangle équilatéral est utilisé pour alerter l'utilisateur de la présence à l'intérieur du coffret de "voltage dangereux" non isolé d'ampleur suffisante pour constituer un risque d'électrocution.

The exclamation point within an equilateral triangle is intended to alert the user of the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.
Le point d'exclamation à l'intérieur d'un triangle équilatéral est employé pour alerter les utilisateurs de la présence d'instructions importantes pour le fonctionnement et l'entretien (service) dans le livret d'instruction accompagnant l'appareil.

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	Tami screaming at Adrian about deadlines
0.5	110	
0.25 or less	115	Loudest parts at a rock concert

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

Table of Contents

Introduction	4
Getting Started	5
Zero the Controls.....	5
Connections.....	5
Set the Levels	5
Hookup Diagrams	6
HMX-56 Features	8
Front Panel	8
1. SOURCE A-D Level Controls.....	8
2. EFFECTS RETURN Level Control	8
3. PHONES LEVEL Control.....	8
4. EFFECTS SEND A-D.....	8
5. L/R MIX EFFECTS SEND	8
6. POWER LED.....	8
7. INSTRUMENT LABELS.....	8
Rear Panel	9
8. IEC Power Receptacle	9
9. Power Switch.....	9
10. LEFT and RIGHT MAIN INPUT	9
11. EFFECTS SEND	9
12. L and R EFFECTS RETURN	9
13. SOURCE INPUT A-D	9
14. PHONES Out 1-6.....	9
Appendix A: Service Information	10
Warranty Service	10
Troubleshooting.....	10
Repair	11
Appendix B: Connections	12
Appendix C: Technical Info	13
HMX-56 Specifications	13
HMX-56 Block Diagram	14
HMX-56 Limited Warranty	15

Don't forget to visit our website at www.mackie.com for more information about this and other Mackie products.



Introduction

Thank you for choosing a Mackie HMX-56 Matrix Headphone Mixer/Amplifier. This six-channel headphone mixer features left and right TRS main inputs, four TRS “source” inputs, as well as an effects send and stereo effects return.

The HMX-56 provides six separate headphone mixes, each of which can be comprised of the main stereo mix and a combination of the four source inputs, which could be aux sends or sub groups from your mixer, or even individual channel direct outputs.

The effects send can be comprised of a combination of the main stereo mix, the four source inputs, and the stereo effects return, individually mixed to taste in each of the headphone mixes. In addition, each channel has its own headphone output level control.

The HMX-56 also makes a great stage monitor mixer, allowing each musician to tweak his or her individual monitor mix exactly how they want it. Just use the phones outputs as inputs to your stage monitor amplifiers or in-ear monitor system.

The rugged construction of the HMX-56 makes it a roadworthy companion to your arsenal of gear either inside or outside of a rack.

Please write your serial number here for future reference (i.e., insurance claims, tech support, return authorization, etc.)

Purchased at:

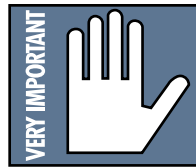
Date of purchase:

HOW TO USE THIS MANUAL

We know that many of you can't wait to get your new headphone amp hooked up, and you're probably not going to read the manual first (sigh!). So the first section after this introduction is a Quick-Start Guide called “Getting Started” to help you get the HMX-56 set up fast so you can start using it right away. Right after that are the ever popular hook-up diagrams that show typical setups for live sound and recording.

Then, when you have time, read the Features Description section. This describes every knob, switch, and connection point on the HMX-56.

Throughout this section you'll find illustrations with each feature numbered. If you want to know more about a feature, simply locate it on the appropriate illustration, notice the number attached to it, and find that number in the nearby paragraphs.



This icon marks information that is critically important or unique to the HMX-56. For your own good, read them and remember them. They will be on the final test.



This icon leads you to in-depth explanations of features and practical tips. While not mandatory, they usually have some valuable nugget of information.

A PLUG FOR THE CONNECTOR SECTION

Appendix B is a section on connectors: balanced connectors, unbalanced connectors, and the phones connectors used on the HMX-56.

More resources on our website at www.mackie.com.

THE GLOSSARY: A Haven of Non-Techiness for the Neophyte

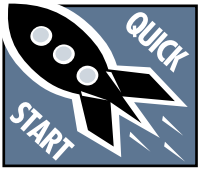
The “Glossary of Terms” is a fairly comprehensive dictionary of pro-audio terms. If terms like “clipping,” “noise floor,” or “unbalanced” leave you blank, refer to this glossary for a quick explanation.

ARCANE MYSTERIES ILLUMINATED

“Arcane Mysteries” discusses some of the down ‘n’ dirty practical realities of microphones, fixed installations, grounding, and balanced versus unbalanced lines. It's a goldmine for the neophyte, and even the seasoned pro might learn a thing or two.

Getting Started

READ THIS PAGE!!



Even if you're one of those people who never reads manuals, all we ask is that you read this page now before you begin using the HMX-56. You'll be glad you did!

Zero the Controls

1. Turn down all the SOURCE, EFFECTS SEND, EFFECTS RETURN, and PHONES LEVEL controls.
2. Turn the POWER switch off.

Connections

1. Connect the left and right outputs from your mixer (main mix out or control room out) to the LEFT and RIGHT MAIN LINE INPUTS on the rear of the HMX-56.
2. Connect any specific outputs (mix buses, subgroups, or aux sends can be used, or a direct output from a specific device will also work) to the four SOURCE INPUTS on the rear of the HMX-56.
3. If you have an external effects device you want to use in the headphone mixes, connect the EFFECTS SEND to the input of the external effects box, and connect the output(s) from the external effects to the LEFT and RIGHT EFFECTS RETURNS on the rear of the HMX-56. If the effects return is a mono signal, use a "Y" cord to connect the signal to both the left and right return jacks.
4. Plug in six sets of headphones to the six PHONES jacks on the rear of the unit.
5. Connect the detachable linecord to the AC socket on the back, connect it to an AC outlet properly configured for your particular model, and turn on the HMX-56's power switch.

Set the Levels

1. On your mixing console, get a reasonable stereo mix going.
2. If you are using a subgroup or aux send connected to one of the source inputs on the HMX-56, go ahead and get the mix that you want for each source input.

3. With music going through the main mix, don the headphones for headphone amp 1 and S-L-O-W-L-Y turn up the PHONES LEVEL control on the front panel for the corresponding headphone amp. Adjust for a comfortable listening level.

Note: There is no input level control for the Main Input on the HMX-56. If the volume gets really loud, really fast, turn down the Main Mix level control on your mixer until you can turn up the headphone amp LEVEL control at least halfway. Conversely, if you have to turn the headphone amp LEVEL control all the way up, turn up the Main Mix level control a little more.

4. S-L-O-W-L-Y turn up the SOURCE A, B, C, and D level controls. Adjust for a comfortable listening level, equivalent to the volume level of the main mix.
5. Repeat for headphone amps 2-6.
6. Now the individual performers can tweak their own headphone mixes to suit their individual tastes.

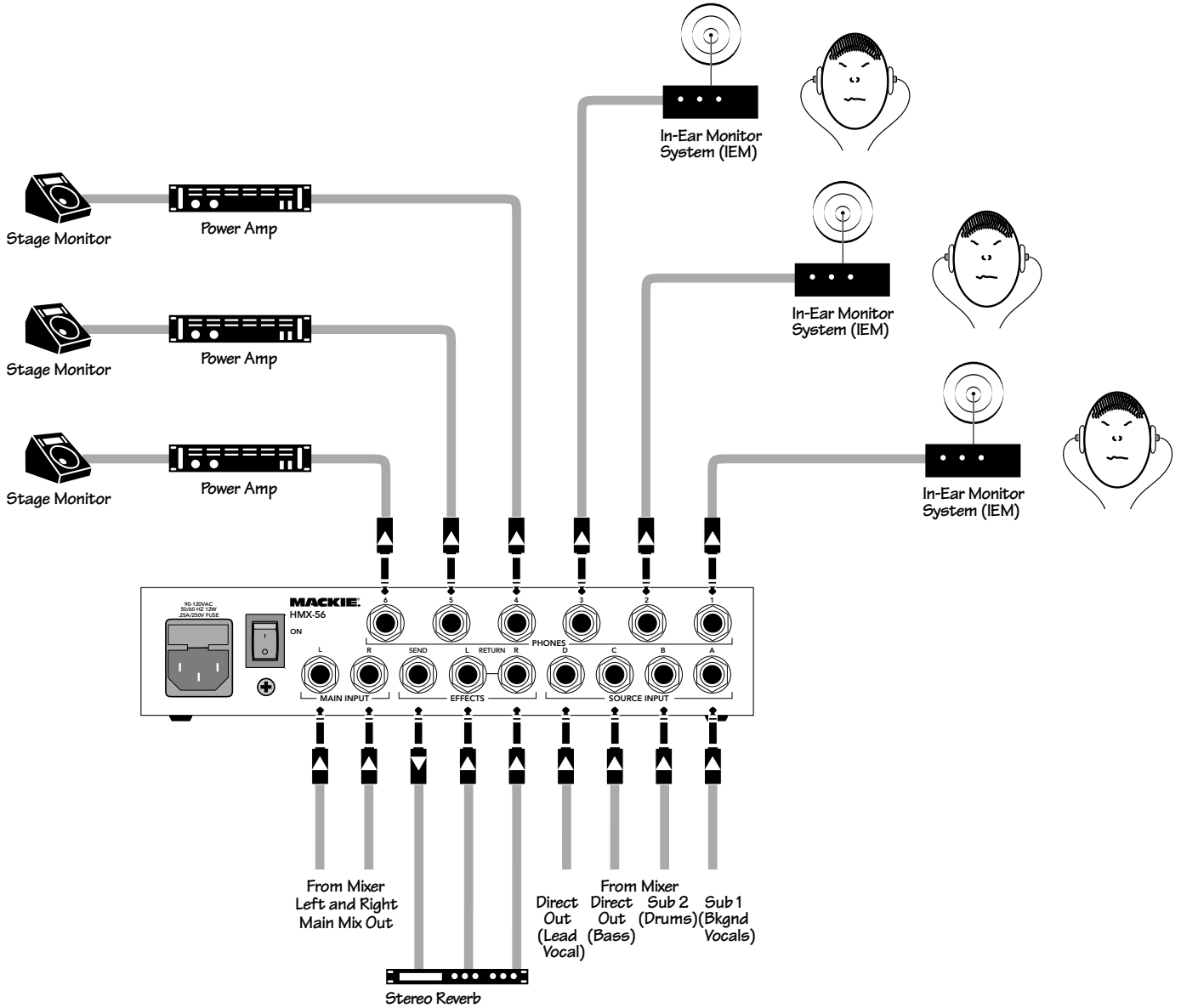
Other Nuggets of Wisdom

There are two ways to use the HMX-56 to let musicians dial up their own mix:

- 1) Use the stereo input and all four mono inputs to combine together into one mix. For example, a stereo drum mix (from the main mixing console's subgroup outs) coming in on the stereo input, and bass, lead vocal, guitar 1, and guitar 2 coming in on the four mono inputs. In this method, the mix is derived from a combination of all five knobs.
- 2) You have a monitor mix coming in on the stereo input from the mixing console, and the four mono inputs getting various direct outs from instruments or vocals that the various band members might want to boost in their own monitor mixes. In this method, the engineer determines the main monitor mix, and the musicians can boost up individual inputs to enhance their own mix.
 - Always turn the HMX-56 off before making or changing connections.
 - Never listen to loud music for prolonged periods. Please see the Safety Instructions on page 2 for information on hearing protection.
 - Save the shipping box! You may need it someday, and you don't want to have to pay for another one.

That's it for the "Getting Started" section. Next comes the "Hookup" section that shows you some typical ways that you might use the HMX-56 in real applications. After that, you can take the grand tour of the HMX-56, with descriptions of every knob, input, and output. We encourage you to take the time to read all of the feature descriptions, but at least you know it's there if you have any questions.

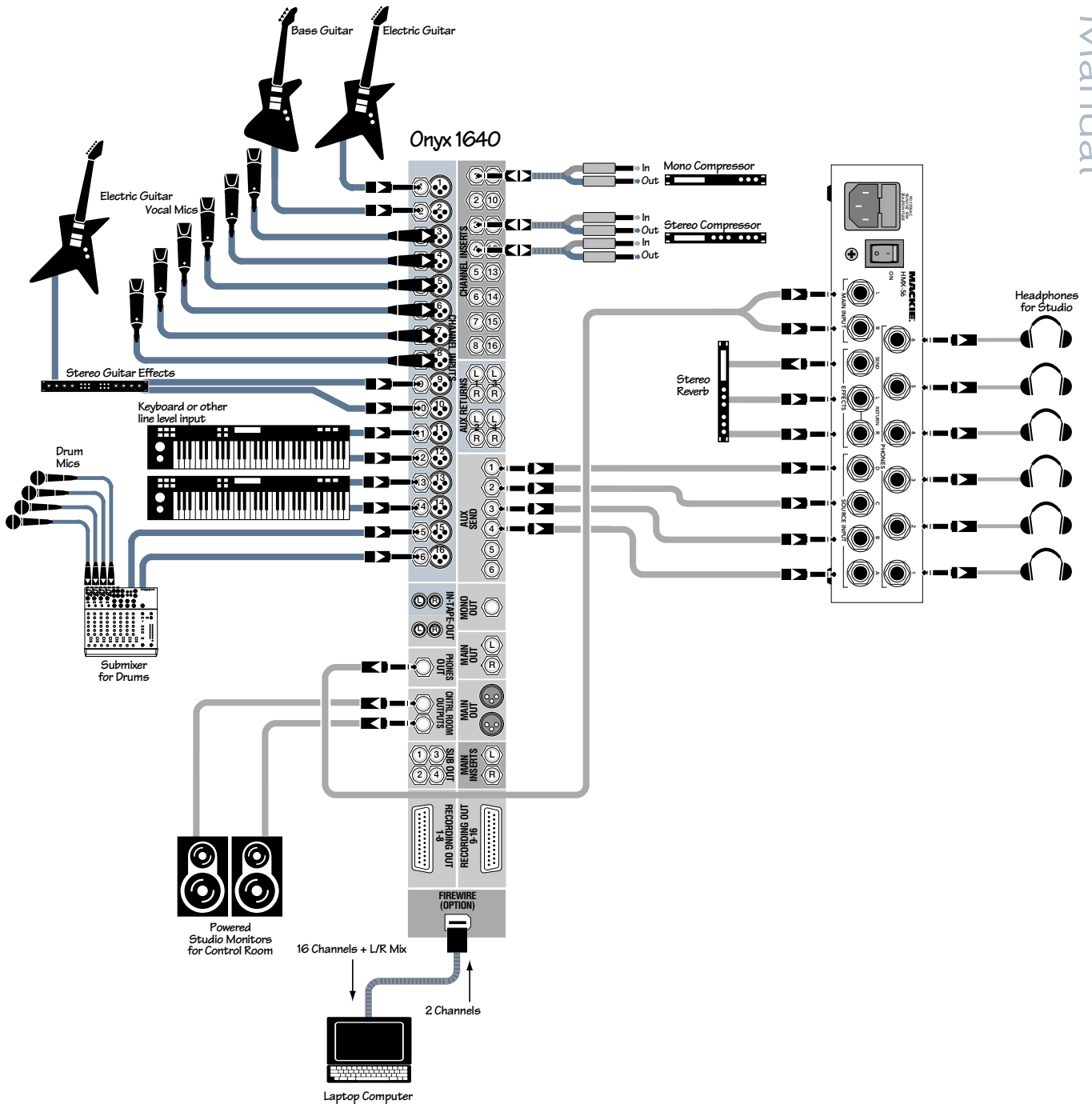
Hookup Diagrams



This illustrates using the HMX-56 as a live monitor mixer. Three of the Phones outputs are routed to In-Ear Monitor (IEM) systems, and three are routed to amplifiers powering monitor wedges.

Note: The output level of the Phones outputs are higher than a standard line-level output, so turn the Phones Level control all the way down and then s-l-o-w-l-y turn them up until you reach a comfortable listening level.

HMx-56 Live Sound Application



This example demonstrates how to use an Onyx 1640 mixer with the optional FireWire card in a recording application. Four aux sends from the 1640 provide four separate mono headphone mixes to the HMX-56. The Phones output from the 1640 is connected to the Main Inputs on the HMX-56, allowing the talent to listen to the same mix as the engineer in the control room (i.e., stereo return from the DAW for overdubbing), along with their own individual headphone mix (tracking).

HMX-56 Recording Application with Onyx 1640

HMX-56 Features

Front Panel

All six headphone amplifiers share the same features:

- Four sources plus L/R main input for each channel
- Effects return for each channel
- Individual front panel level controls
- Rear panel phone outputs for each channel
- Balanced inputs

1. SOURCE A-D Level Controls

These controls adjust the source signal levels coming into the SOURCE INPUT [13] jacks on the rear panel.

2. EFFECTS RETURN Level Control

This control adjusts the effects return signal level coming into the Left and Right EFFECTS RETURN [12] jacks on the rear panel.

3. PHONES LEVEL Control

This adjusts the volume for each individual headphone output [14].

4. EFFECTS SEND A-D

These controls adjust the signal level being sent to the EFFECTS SEND [11] jack on the rear panel for each source input.

5. L/R MIX EFFECTS SEND

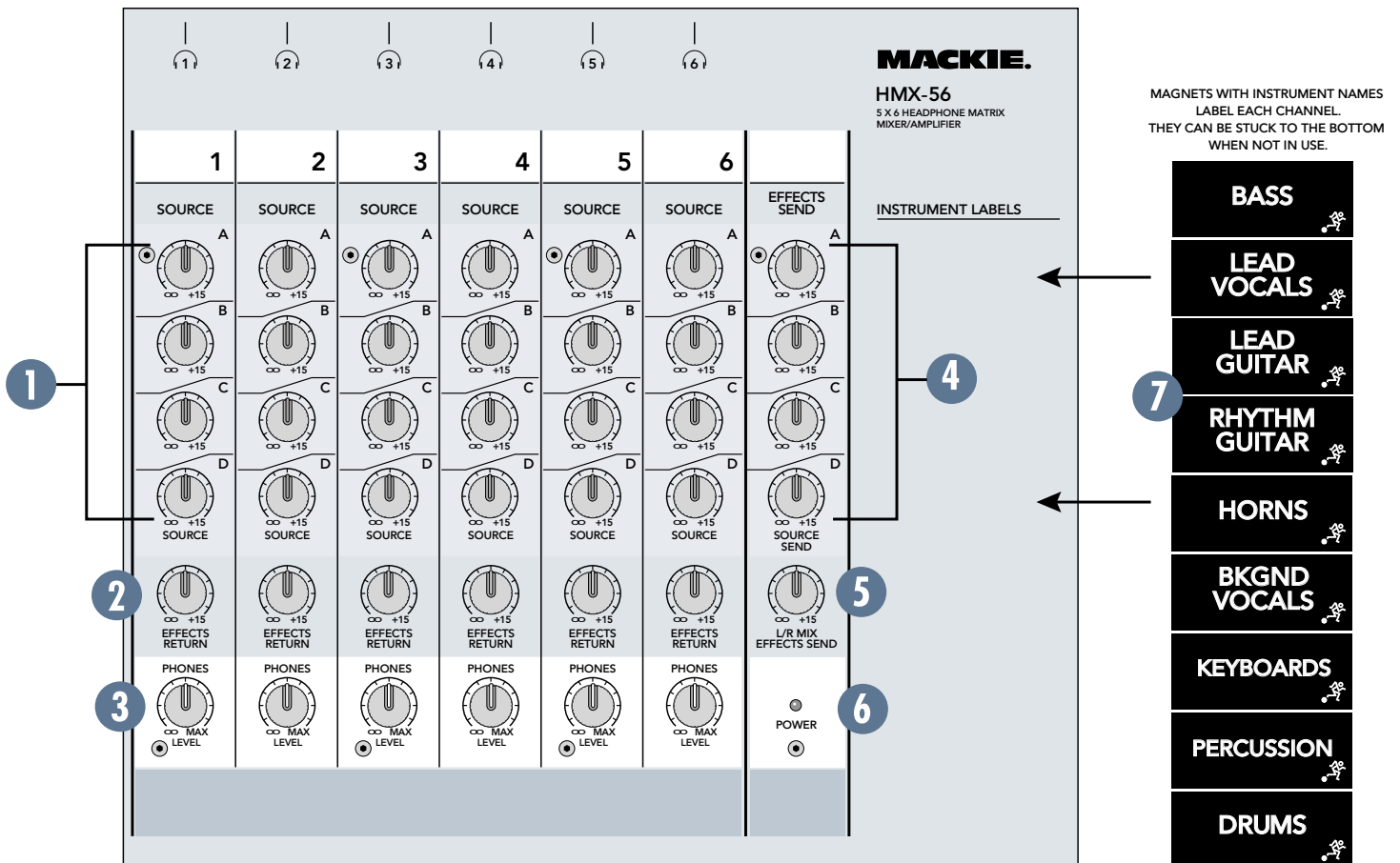
This adjusts the Left and Right MAIN INPUT [10] signal level being sent to the EFFECTS SEND [11] jack on the rear panel. The left and right main mix signals are summed together and sent to the mono effects send output.

6. POWER LED

This lights up when the HMX-56 power switch [9] is turned on.

7. INSTRUMENT LABELS

Your HMX-56 came with a set of nine magnetic labels that you can place adjacent to the SOURCE level controls to indicate which instruments are connected to the SOURCE INPUTS [13].



Rear Panel

The rear panel is where you make all your analog audio connections to the HMX-56.

8. IEC Power Receptacle

This is a standard 3-prong IEC power connector. Connect the detachable linecord (included in the box with your HMX-56) to the power receptacle, and plug the other end of the linecord into an AC outlet properly configured for your particular model.

9. Power Switch

This one is self-explanatory. When the power switch is turned ON (up), power is supplied to the HMX-56 and the POWER [6] indicator lights up.

10. LEFT and RIGHT MAIN INPUT

These 1/4" TRS jacks accept a balanced or unbalanced line-level input signal. Connect the main mix output from the mixer to these inputs.

The 1/4" TRS inputs are wired as follows:

- Sleeve = Shield or ground
- Tip = Positive (+ or hot)
- Ring = Negative (- or cold)

If you are connecting a mono input signal to these inputs, use a Y-Cord splitter to connect the signal to both inputs. See "Mults and Y's" in Appendix B for more info.

11. EFFECTS SEND

This 1/4" TRS output connector provides a balanced or unbalanced line-level signal for connecting to the input of an effects device.

12. L and R EFFECTS RETURN

These 1/4" TRS input connectors accept balanced or unbalanced line-level stereo signals from an external effects processor (or other device).

If you are connecting a mono effects return signal to these inputs, use a Y-Cord splitter to connect the signal to both inputs (otherwise you will only hear the effects in one side of the headphones). See "Mults and Y's" in Appendix B for more info.

13. SOURCE INPUT A-D

These 1/4" TRS jacks accept a balanced or unbalanced line-level input signal. This is the signal that you add into the headphone mix when you adjust the SOURCE A-D Level Controls [1] on each channel strip. You might connect a submix output from the mixer to these inputs, or a direct output from an individual channel (so the talent can really crank themselves up in the headphone mix if they want to).

These mono inputs are routed equally to the left and right phones output.

The 1/4" TRS inputs are wired as follows:

- Sleeve = Shield or ground
- Tip = Positive (+ or hot)
- Ring = Negative (- or cold)

14. PHONES Out 1-6

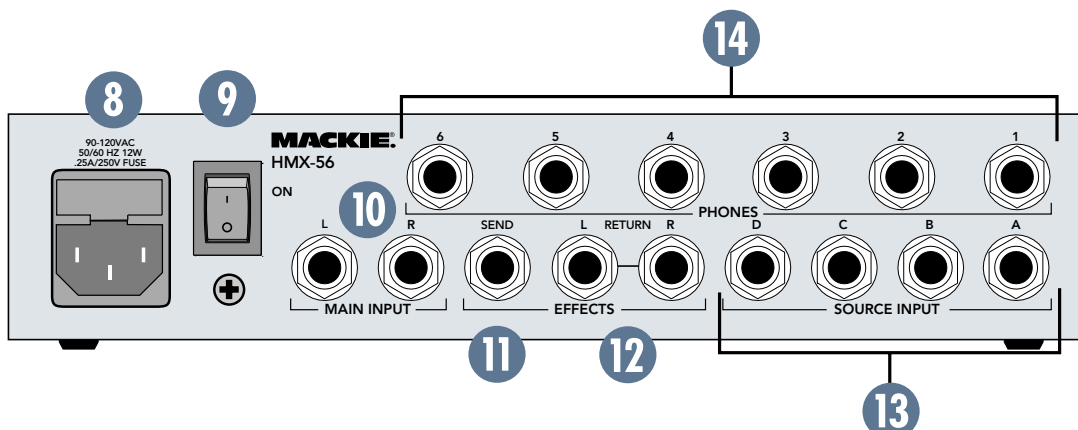
Plug your headphones into these jacks. Each PHONES output carries its own individual mix as determined by the corresponding channel strip controls.

You can also connect an in-ear monitor (IEM) system to the PHONES jack to provide an individual monitor mix.



WARNING: The headphone amps are designed to drive any standard headphones to a very loud level. We're not kidding! They can cause permanent hearing damage. Even intermediate levels may be painfully loud with some headphones.

BE CAREFUL! Always start with the PHONES level turned all the way down before connecting headphones to the PHONES jack. Keep it down until you've put on the headphones. Then turn it up slowly. Why? Always remember: *"Engineers who fry their ears, find themselves with short careers."*



Appendix A: Service Information

Warranty Service

Details concerning Warranty Service are spelled out in the Warranty section on page 15.

If you think your HMX-56 has a problem, please do everything you can to confirm it before calling for service. Doing so might save you from the deprivation of your headphone amp and the associated suffering.

These may sound obvious to you, but here are some things you can check. Read on.

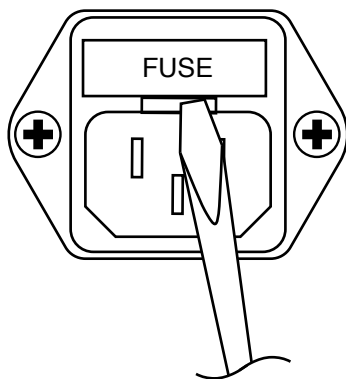
Troubleshooting

No Power

- Our favorite question: Is it plugged in?
- Make sure the power cord is securely seated in the IEC socket [7] and plugged all the way into the AC outlet.
- Make sure the AC outlet is live (check with a tester or lamp).
- Is the POWER [8] switch on? Make sure the POWER switch on the rear panel is in the ON position (up) and the POWER LED [6] is lit.
- Are all the lights out in your building? If so, contact your local power company to get power restored.
- Is the fuse blown? If the POWER LED is not illuminated on the front panel, and you are certain that the AC outlet is live, it is possible the fuse has blown.

To remove and replace the fuse:

1. Disconnect the linecord from the IEC socket.
2. Remove the fuse drawer by prying it open with a small screwdriver. It will slide all the way out.



3. Remove the fuse and replace it with an equivalent type fuse: 250 mA slo-blo (T250mA/250V).

4. Replace the fuse drawer by pushing it all the way back into the IEC socket.
5. Reconnect the linecord and turn the POWER switch on.

If two fuses blow in a row, it will be necessary to have your HMX-56 serviced. *There are no user serviceable parts inside.* Refer to “Repair” at the end of this section to find out how to proceed.

Bad Channel

- Is the SOURCE level control [1] for the channel turned up?
- Is the signal source turned up? Make sure the signal level from the input source is high enough to drive the line-level inputs on the HMX-56.
- Try the same source signal in another channel, set up exactly like the suspect channel.

Bad Output

- If only one side of the stereo headphones is working, and you are listening to the MAIN INPUT, make sure you have a signal at both inputs. There must be a signal present at both inputs [9] to get a signal in both sides of the headphone output.

Bad Sound

- Is the input connector plugged completely into the jack?
- Is it loud and distorted? Make sure the SOURCE level [1] control and the PHONES level [3] control for the channel are set correctly. Reduce the signal level on the input source if possible.
- If possible, listen to the signal with headphones plugged into the input source device. If it sounds bad there, it's not the HMX-56 causing the problem.

Noise/Hum

- If connecting an unbalanced source to the balanced inputs on the HMX-56 using a TS-to-TS 1/4" cable, it could cause a ground loop. Refer to “Unbalancing a Line” for more info on connecting an unbalanced source to a balanced input.
- Sometimes it helps to plug all the audio equipment into the same AC circuit so they share a common ground.

Repair

Service for Mackie products is available at a factory-authorized service center. Service for Mackie products living outside the United States can be obtained through local dealers or distributors.

If your HMX-56 needs service, follow these instructions:

1. Review the preceding troubleshooting suggestions. Please.
2. Call Tech Support at 1-800-898-3211, 7 am to 5 pm PST, to explain the problem and obtain a Service Request Number. Have your HMX-56's serial number ready.
You must have a Service Request Number before you can obtain factory-authorized service.
3. Keep this owner's manual and the detachable linecord. We don't need them to repair the HMX-56.
4. Pack the preamplifier in its original package, including endcaps and box. This is **VERY IMPORTANT**. When you call for the Service Request Number, please let Tech Support know if you need new packaging. *Mackie is not responsible for any damage that occurs due to non-factory packaging.*
5. Include a legible note stating your name, shipping address (no P.O. boxes), daytime phone number, Service Request Number, and a detailed description of the problem, including how we can duplicate it.
6. Write the Service Request Number in **BIG PRINT** on top of the box. Units sent to us without the Service Request Number will be refused.
7. Tech Support will tell you where to ship the preamplifier for repair. We suggest insurance for all forms of cartage.
8. We'll try to fix the HMX-56 within three to five business days. Ask Tech Support for the latest turn-around times when you call for your Service Request Number. The HMX-56 must be packaged in its original packing box, and must have the Service Request Number on the box. Once it's repaired, we'll ship it back the same way in which it was received. This paragraph does not necessarily apply to non-warranty repair.

Note: You must have a sales receipt from an Authorized Mackie Dealer to qualify for a warranty repair.

Need Help?

**You can reach a technical support representative
Monday through Friday
from 7 AM to 5 PM PST at:**

1-800-898-3211

**After hours, visit www.mackie.com and click Support,
or email us at: techmail@mackie.com**

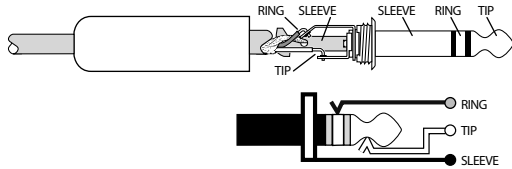


Appendix B: Connections

1/4" TRS Phone Plugs and Jacks

“TRS” stands for Tip-Ring-Sleeve, the three connection points available on a stereo 1/4" or balanced phone jack or plug. TRS jacks and plugs are used for balanced signals and stereo headphones.

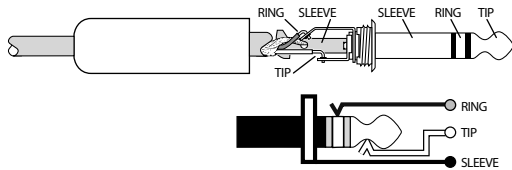
Balanced Mono



1/4" TRS Balanced Mono Wiring:

Sleeve = Shield
 Tip = Hot (+)
 Ring = Cold (-)

Stereo Headphones

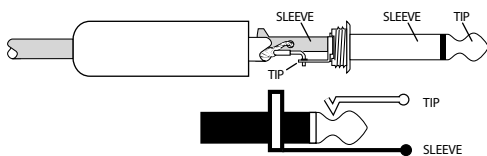


1/4" TRS Stereo Unbalanced Wiring:

Sleeve = Shield
 Tip = Left
 Ring = Right

1/4" TS Phone Plugs and Jacks

“TS” stands for Tip-Sleeve, the two connection points available on a mono 1/4" phone jack or plug. They are used for unbalanced signals like the high-impedance instrument inputs on the Onyx 400F.



1/4" TS Unbalanced Wiring:

Sleeve = Shield
 Tip = Hot (+)

Unbalancing a Line

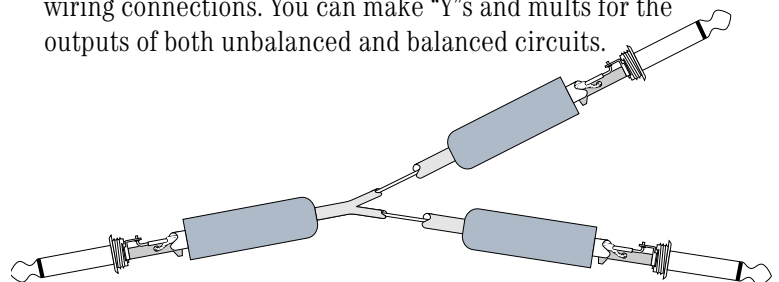
In most studio, stage, and sound reinforcement situations, there is a combination of balanced and unbalanced inputs and outputs on the various pieces of equipment. This usually will not be a problem in making connections.

- When connecting a balanced output to an unbalanced input, use a 1/4" TRS plug on the balanced end and a 1/4" TS plug on the unbalanced end. Be sure the signal high (hot) connections are wired to each other (tip to tip), and that the balanced signal low (cold, ring) goes to the ground (earth, shield) connection at the unbalanced input. In most cases, the balanced ground (earth) will also be connected to the ground (earth) at the unbalanced input. If there are ground-loop problems, this connection may be left disconnected at the balanced end.
- When connecting an unbalanced output to a balanced input, use a 1/4" TS plug on the unbalanced end and a 1/4" TRS plug on the balanced end. Be sure that the signal high (hot) connections are wired to each other (tip to tip). The unbalanced ground (earth) connection should be wired to the low (cold, ring) and the ground (earth, shield) connections of the balanced input. If there are ground-loop problems, try disconnecting the unbalanced ground (earth) connection from the balanced input ground (earth) connection, leaving the unbalanced ground connected to the balanced input low (cold) connection only.

In some cases, you may have to make up special adapters to interconnect your equipment. For example, you may need a balanced XLR female connected to an unbalanced 1/4" TS phone plug. Many common adapters can be found at your local electronics supply store.

Mults and “Y”s

A mult or “Y” connector allows you to route one output to two or more inputs by simply providing parallel wiring connections. You can make “Y”s and mults for the outputs of both unbalanced and balanced circuits.



Y-Cord Splitter

Appendix C: Technical Info

HMX-56 Specifications

Frequency Response

Main Input to any Output (Level @ 12 o'clock):
+0, -1 dB, 20 Hz to 20 kHz

Distortion (THD & IMD)

Any Input to Phones Output (@ 100 mW output):
THD+N: < 0.07%, 20 Hz to 20 kHz BW

Noise

Residual Output Noise (22 Hz to 22 kHz BW):
-103 dBu (all outputs off, 60Ω load)
-97 dBu (all outputs @ 12 o'clock, 60Ω load)

Input Sensitivity

Main Input and Effects Return to Phones Output:
0 dBu = 1.5 mW/60Ω (Level @ 12 o'clock)
Source Input to Phones Output:
0 dBu = 0.37 mW/60Ω (Level @ 12 o'clock)

Input Gain Control Range

Main Input to any Output:
4 dB maximum

Rated Output

Maximum Rated Output (1 kHz):
100 mW ±0.5 dB @ 1% THD
(60Ω load, all channels driven)
140 mW ±0.5 dB @ 1% THD
(60Ω load, one channel driven)
150 mW ±0.5 dB @ 1% THD
(240Ω load, all channels driven)
195 mW ±0.5 dB @ 1% THD
(240Ω load, one channel driven)

AC Power Requirements

Power Consumption: 12 watts
U.S. and Canada: 120 VAC, 50/60 Hz
AC Connector: 3-pin IEC 250 VAC

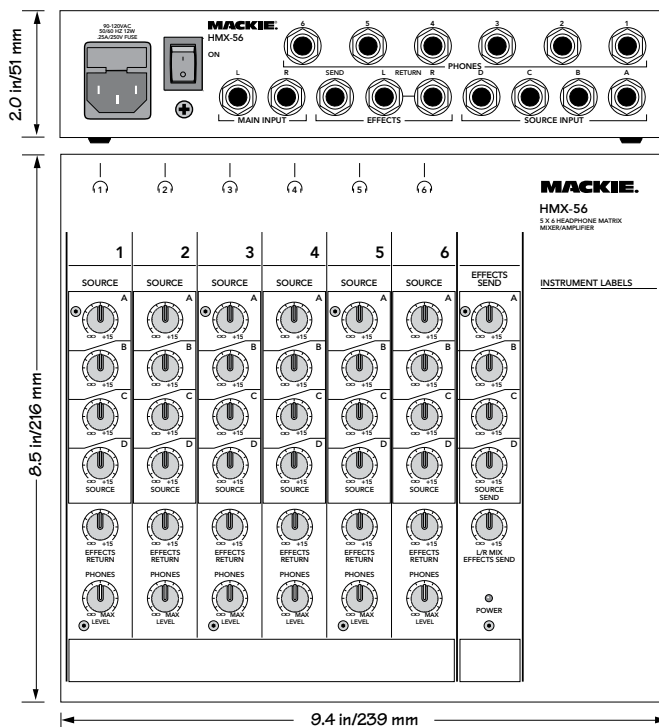
Physical Dimensions and Weight

Height: 2.0 in/51 mm
Width: 9.4 in/239 mm
Depth: 8.5 in/216 mm
Weight: 4.5 lb/2.0 kg

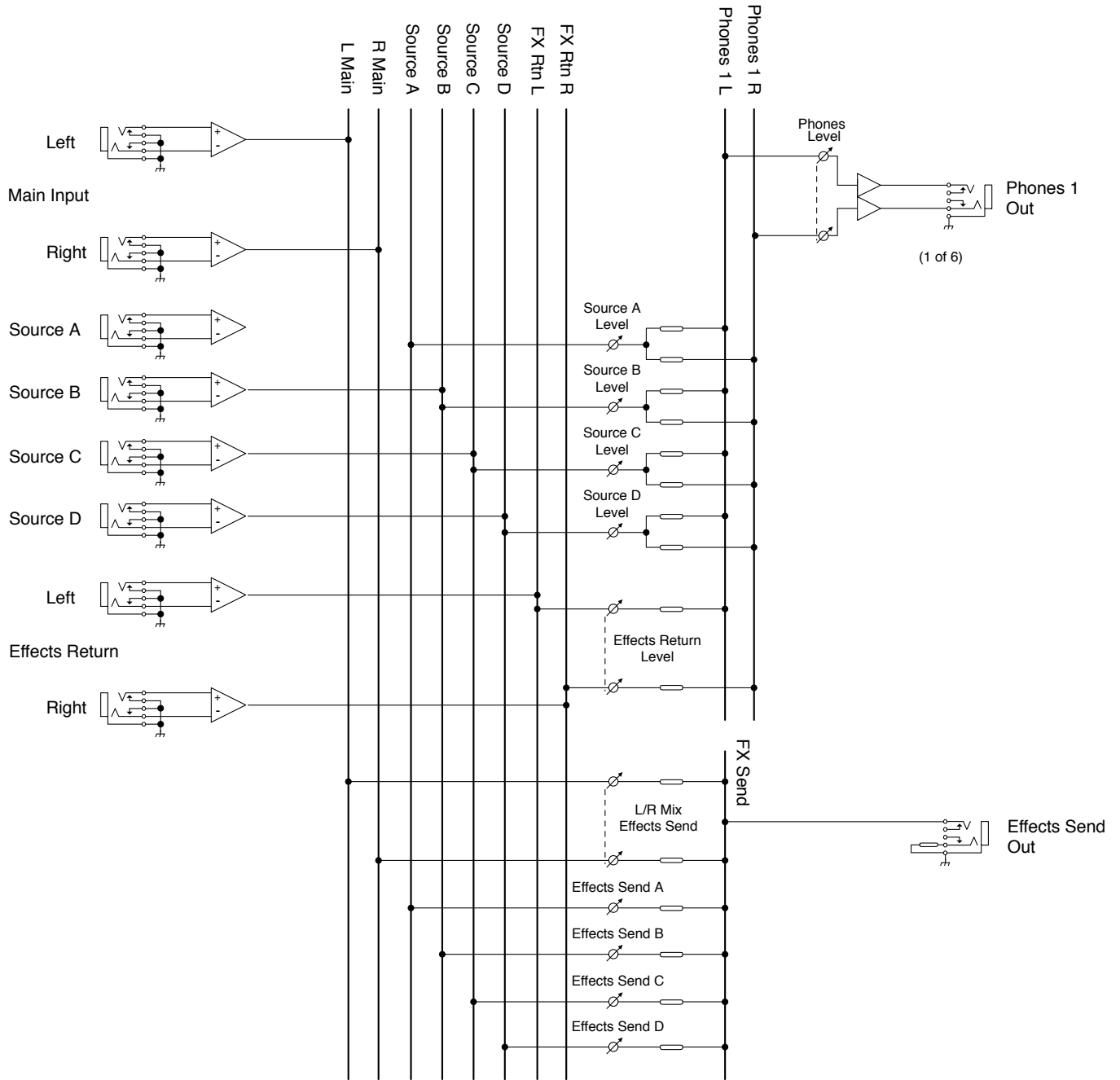
LOUD Technologies Inc. is always striving to improve our products by incorporating new and improved materials, components, and manufacturing methods. Therefore, we reserve the right to change these specifications at any time without notice.

"Mackie." and the "Running Man" are registered trademarks of LOUD Technologies Inc. All other brand names mentioned are trademarks or registered trademarks of their respective holders, and are hereby acknowledged.

©2005-2006 LOUD Technologies Inc. All Rights Reserved.



HMX-56 Block Diagram



HMX-56 Limited Warranty

Please keep your sales receipt in a safe place.

A. LOUD Technologies Inc. warrants all materials, workmanship and proper operation of this product for a period of **one year** from the original date of purchase. If any defects are found in the materials or workmanship or if the product fails to function properly during the applicable warranty period, LOUD Technologies, at its option, will repair or replace the product. **This warranty applies only to equipment sold and delivered within the U.S. by LOUD Technologies Inc. or its authorized dealers.**

B. Failure to register online or return the product registration card will not void the one-year warranty.

C. Service and repairs of Mackie products are to be performed **only** at a factory-authorized facility (see D below). Unauthorized service, repairs, or modification will void this warranty. To obtain repairs under warranty, you must have a copy of your sales receipt from the authorized Mackie dealer where you purchased the product. It is necessary to establish purchase date and determine whether your Mackie product is within the warranty period.

D. To obtain factory-authorized service:

1. Call Mackie Technical Support at 800/898-3211, 7 AM to 5 PM Monday through Friday (Pacific Time) to get a Service Request Number. Products returned without a Service Request Number will be refused.
2. Pack the product in its original shipping carton. Also include a note explaining exactly how to duplicate the problem, a copy of the sales receipt with price and date showing, and your return street address (no P.O. boxes or route numbers, please!). If we cannot duplicate the problem or establish the starting date of your Limited Warranty, we may, at our option, charge for service time.
3. Ship the product in its original shipping carton, **freight prepaid** to the authorized service center. The address of your closest authorized service center will be given to you by Technical Support.

IMPORTANT: Make sure that the Service Request Number is plainly written on the shipping carton.

E. LOUD Technologies reserves the right to inspect any products that may be the subject of any warranty claims before repair or replacement is carried out. LOUD Technologies may, at our option, require proof of the original date of purchase in the form of a dated copy of the original dealer's invoice or sales receipt. Final determination of warranty coverage lies solely with LOUD Technologies.

F. Any products returned to one of the LOUD Technologies factory-authorized service centers and deemed eligible for repair or replacement under the terms of this warranty will be repaired or replaced within thirty days of receipt. LOUD Technologies and its authorized service centers may use refurbished parts for repair or replacement of any product. Products returned to LOUD Technologies that do not meet the terms of this Warranty will be not be repaired unless payment is received for labor, materials, return freight, and insurance. Products repaired under warranty will be returned freight prepaid by LOUD Technologies to any location within the boundaries of the USA.

G. LOUD Technologies warrants all repairs performed for 90 days or for the remainder of the warranty period. This warranty does not extend to damage resulting from improper installation, misuse, neglect or abuse, or to exterior appearance. This warranty is recognized only if the inspection seals and serial number on the unit have not been defaced or removed.

H. LOUD Technologies assumes no responsibility for the quality or timeliness of repairs performed by an authorized service center.

I. This warranty is extended to the original purchaser and to anyone who may subsequently purchase this product within the applicable warranty period. A copy of the original sales receipt is required to obtain warranty repairs.

J. This is your sole warranty. LOUD Technologies does not authorize any third party, including any dealer or sales representative, to assume any liability on behalf of LOUD Technologies or to make any warranty for LOUD Technologies Inc.

K. THE WARRANTY GIVEN ON THIS PAGE IS THE SOLE WARRANTY GIVEN BY LOUD TECHNOLOGIES INC. AND IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS AND IMPLIED, INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE WARRANTY GIVEN ON THIS PAGE SHALL BE STRICTLY LIMITED IN DURATION TO ONE YEAR FROM THE DATE OF ORIGINAL PURCHASE FROM AN AUTHORIZED MACKIE DEALER. UPON EXPIRATION OF THE APPLICABLE WARRANTY PERIOD, LOUD TECHNOLOGIES INC. SHALL HAVE NO FURTHER WARRANTY OBLIGATION OF ANY KIND. LOUD TECHNOLOGIES INC. SHALL NOT BE LIABLE FOR ANY INCIDENTAL, SPECIAL, OR CONSEQUENTIAL DAMAGES THAT MAY RESULT FROM ANY DEFECT IN THE MACKIE PRODUCT OR ANY WARRANTY CLAIM. Some states do not allow exclusion or limitation of incidental, special, or consequential damages or a limitation on how long warranties last, so some of the above limitations and exclusions may not apply to you. This warranty provides specific legal rights and you may have other rights which vary from state to state.

MACKIE®

16220 Wood-Red Road NE • Woodinville, WA 98072 • USA

United States and Canada: 800.898.3211

Europe, Asia, Central and South America: 425.487.4333

Middle East and Africa: 31.20.654.4000

Fax: 425.487.4337 • www.mackie.com

E-mail: sales@mackie.com