FUSSION 3000
ACTIVE FULL RANGE SOUND REINFORCEMENT SPEAKER SYSTEM
USER'S MANUAL

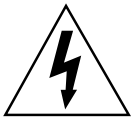
CAUTION ***AVIS***

RISK OF ELECTRIC SHOCK
DO NOT OPEN

RISQUE DE CHOC ELECTRIQUE
NE PAS OUVRIR

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK
DO NOT REMOVE COVER (OR BACK)
NO USER-SERVICEABLE PARTS INSIDE
REFER SERVICING TO QUALIFIED PERSONNEL

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.
AVIS: POUR EVITER LES RISQUES D'INCENDIE OU D'ELECTROCUTION, N'EXPOSEZ PAS CET ARTICLE A LA PLUIE OU A L'HUMIDITE



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'éléctrocution.

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.

SAFETY INSTRUCTIONS

1. Read Instructions — All the safety and operation instructions should be read before this Mackie product is operated.

2. Retain Instructions — The safety and operating instructions should be kept for future reference.

3. Heed Warnings — All warnings on this Mackie product and in these operating instructions should be followed.

4. Follow Instructions — All operating and other instructions should be followed.

5. Water and Moisture — This Mackie product should not be used near water – for example, near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, near a swimming pool, swamp or salivating St. Bernard dog, etc.

6. Ventilation — This Mackie product should be situated so that its location or position does not interfere with its proper ventilation. For example, the Component should not be situated on a bed, sofa, rug, or similar surface that may block any ventilation openings, or placed in a built-in installation such as a bookcase or cabinet that may impede the flow of air through ventilation openings.

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.

7. Heat — This Mackie product should be situated away from heat sources such as radiators, or other devices which produce heat.

WARNING: The heatsink may reach high temperatures during standard use. To ensure proper operation, allow a minimum of 6 inches of clearance from the heatsink surface and adequate ventilation.

8. Power Sources — This Mackie product should be connected to a power supply only of the type described in these operation instructions or as marked on this Mackie product.

9. Power Cord Protection — Power supply cords should be routed so that they are not likely to be walked upon or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit this Mackie product.

10. Object and Liquid Entry — Care should be taken so that objects do not fall into and liquids are not spilled into this Mackie product.

11. Damage Requiring Service — This Mackie product should be serviced only by qualified service personnel when:

A. The power-supply cord or the plug has been damaged; or

B. Objects have fallen, or liquid has spilled into this Mackie product; or

C. This Mackie product has been exposed to rain; or

D. This Mackie product does not appear to operate normally or exhibits a marked change in performance; or

E. This Mackie product has been dropped, or its chassis damaged.

12. Servicing — The user should not attempt to service this Mackie product beyond those means described in this operating manual. All other servicing should be referred to the Mackie Service Department.

13. To prevent electric shock, do not use this polarized plug with an extension cord, receptacle or other outlet unless the blades can be fully inserted to prevent blade exposure.

Pour préevenir les chocs électriques ne pas utiliser cette fiche polariseé avec un prolongateur, un prise de courant ou une autre sortie de courant, sauf si les lames peuvent être insérées à fond sans laisser aucune pariie à découvert.

14. Grounding or Polarization — Precautions should be taken so that the grounding or polarization means of this Mackie product is not defeated.

15. 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 las 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.

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

Lend Me Your Ears

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 this 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 these levels use hearing protectors while this unit is in operation. Ear plugs or protectors in the ear canals or over the ears must be worn when operating this amplification system in order to prevent a 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	Patrice screaming at Ron about deadlines
0.5	110	
0.25 or less	115	Loudest parts at a rock concert

The Fussion 3000 can produce a peak SPL of 135 dB @ 1m

CONTENTS

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

Rev. B

INTRODUCTION

Thank you for choosing Mackie Designs' active sound reinforcement speaker systems.

The FUSSION 3000 is a full-range, medium throw, active loudspeaker system capable of extremely high sound pressure levels and wide dispersion. With almost 2000 watts of low-distortion built-in power, the FUSSION 3000s are ideal for large sound reinforcement systems that require precise reproduction of transients, high levels of intelligibility, and compact size.

The FUSSION 3000 features specially designed, high-output transducers including a special eight inch, horn-loaded mid-range that allows the FUSSION 3000 to generate extremely low distortion (< 0.05 %) at full power. The mid-range operates between the frequencies of 500 and 2500 Hz , eliminating the placement of a crossover point in the middle of the critical voice frequency range. The result is a super smooth phase and power response that delivers extraordinary intelligibility at extreme output levels. Frequencies above 2500 Hz are reproduced by a 3″ titanium diaphragm compression driver mounted to a 80 x 60 degree horn with a 1.4″ exit throat. The FUSSION 3000 delivers deep bass through the use of four 12″ high-output woofers.

The FUSSION 3000 frequency response is absolutely flat between 55Hz and 18kHz. The system controller provides complete system management of all electronic and acoustic functions including electronic active crossover, electronic phase alignment, electronic time correction, electronic equalization, and complete amplifier protection.

Mackie Designs has implemented a unique "Vacuum Tube" philosophy for amplifiers designed for mid- and high-frequency reproduction. The FUSSION 3000 features two high-precision MOSFET amplifiers, one for the mid-range driver and a modified version for the high-frequency compression driver. Both amplifiers are designed to emulate the celebrated warmth and transparency of vacuum tube amps. The result is the clearest and most accurate reproduction available.

Each 12″ woofer handles 350 watts RMS long term. Arraying four woofers within the cabinet allows the FUSSION 3000 to produce very deep, precise low frequencies. The array is also much "quicker" than a single 18″ or double 15″ woofer array because each diaphragm is significantly lighter and faster.

The low-frequency amplifier module is an excellent example of the efficiency of active designs. The amplifier produces 1500 watts RMS of power from a module taking up the area of only a single sheet of paper. The key to producing transients quickly is the availability of tons of power. That's why the FUSSION 3000 uses an exorbitant quantity of high-voltage capacitors in the power supply to store the necessary energy. To ensure long-term reliability and performance, the amplifier modules are mounted on a huge three-square-foot heatsink, eliminating the need for fans, dramatically extending life expectancy, and eliminating maintenance cycles.

The FUSSION 3000 is the first professional speaker system to completely create an ideal union between speakers and amplifiers.

The input and control panel offers unprecedented signal routing flexibility. All connections are made via XLR connectors. There is a Main Input with a Loop Out for connecting to other enclosures. Additionally, there is a Sub-Out connector for connecting to the FUSSION 1800AS active subwoofer system. This output incorporates low-pass and subsonic filtering as well as complete amplifier protection for delivering a line-level signal below 85Hz. For sound reinforcement situations where "fill" speakers are needed, there is a Fill Out connector with level and (0°/180°) phase control (this signal is high-pass only above 85Hz). The FUSSION 3000 can run on 115VAC or 230VAC and features soft-start circuitry that eliminates "pops" and precisely controls inrush surges.

The cabinet is constructed of 13-ply, 18mm thick baltic birch wood with built-in fly points for suspending with approved rigging hardware.

REAR PANEL DESCRIPTION

1 AC Receptacle

This is where you connect the AC linecord to provide AC power to the FUSSION 3000's built-in power amplifiers. Plug the linecord into an AC socket properly configured for your particular model.

The FUSSION 3000 is shipped with a connector that mates with the AC receptacle on the rear panel. Use heavy gauge wire for the linecord to avoid power losses across the wire. (See page 8 for more info.)

The bar 1A on the rear panel is there to secure the linecord and prevent it from accidentally getting pulled loose from the AC receptacle. Wrap the linecord through the bar and tie it in a knot to secure it.

Note: You can change the AC voltage configuration from 115V to 230V internally by reconfiguring the transformer primary wiring on the power supply board. Contact Mackie Technical Support for instructions (1-800-258-6883).

2 FUSE

Always replace the fuse with the type indicated on the rear panel. *Never* replace the fuse with one of a higher value than indicated on the rear panel.

WARNING: Make sure you use the correct fuse relative to the AC operating voltage.
115VAC = 16A Slow-Blow
230VAC = 10A Slow-Blow

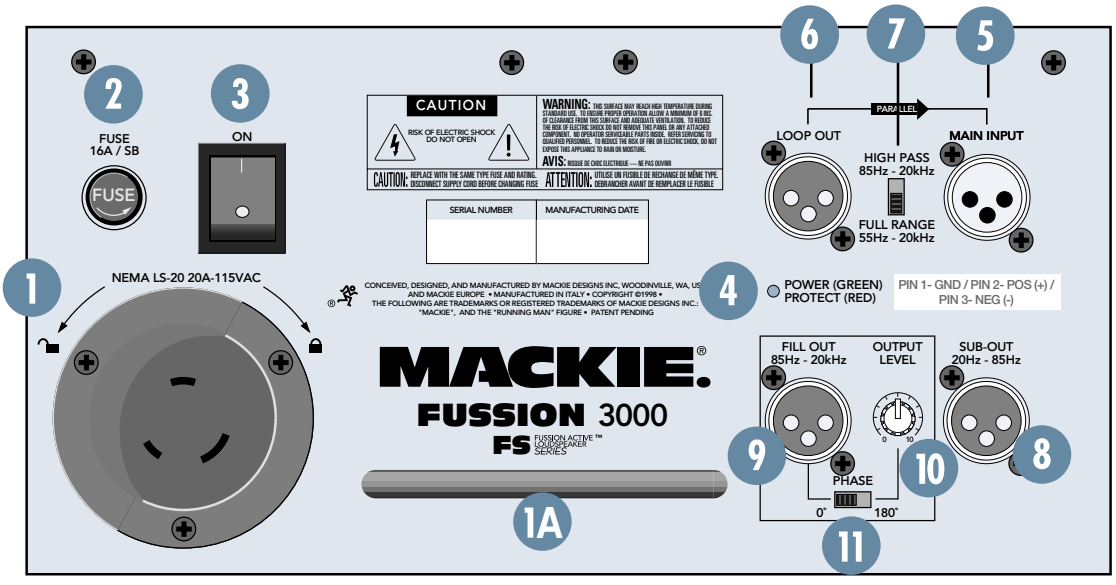
3 POWER Switch

Switch up to turn the FUSSION 3000 on, and switch down to turn it off. Make sure the signal source's level control is down before you turn it on.

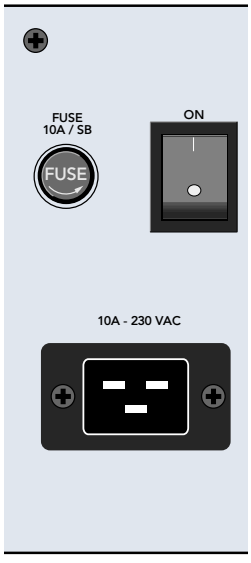
4 POWER/PROTECT Indicator

When the POWER switch is turned on, and the linecord is connected to an active AC Mains supply, this indicator lights green to let you know that you're ready to rock and roll. If one of the protection circuits in the FUSSION 3000 should trigger, this indicator changes to red. The protection circuits include RMS limiting on the input and thermal protection on the heatsink. If the output begins to clip for more than a few seconds, the POWER/PROTECT indicator changes to red and the RMS limiting protection circuit discretely reduces the input signal until the output is just below clipping. If this should happen, turn down the level at the source (mixing console) until the PROTECT light changes back to green.

If the thermal protection circuit should get activated, the POWER/PROTECT indicator changes to red and the amplifiers shut down until the heatsinks cool to a safe operating level. Once the amplifier cools, the thermal protection circuit resets and normal operation resumes. You should determine what is causing the overheating condition and take steps to remedy it (i.e., direct sunlight on the heatsink, not enough clearance for air to circulate freely around the heatsink, etc.).



115VAC Version



230VAC Version

❺ MAIN IN

This is a female XLR-type connector that accepts a balanced line-level signal from your mixing console or signal processor.

❻ LOOP OUT

This is a male XLR-type connector that produces exactly the same signal that is connected to the MAIN IN jack. Use it to daisy-chain several FUSSION 3000s together off the same signal source.

❼ HIGH PASS/FULL RANGE

With the switch set to FULL RANGE position, the FUSSION 3000 operates from 55Hz to 20kHz. With the switch set to HIGH PASS, a high-pass filter is placed in the signal path and the FUSSION 3000 operates from 85Hz to 20kHz. Use this setting when you have a FUSSION 1800AS connected to the SUB OUT connector.

Note: The LOOP OUT is not affected by this switch. It is always full-range, and the FILL OUT is always 85Hz to 20kHz.

❽ SUB OUT

This male XLR-type connector produces a line-level signal that you can connect to the FUSSION 1800AS powered subwoofer system. The FUSSION 3000 has a built-in controller that operates below 85 Hz.

❾ FILL OUT

This is a male XLR-type connector that produces a line-level signal you can connect to a side or front fill powered speaker or speaker amplifier.

Note: The FILL OUT has a low-pass filter that operates from 85Hz to 20kHz, regardless of the FULL RANGE/HIGH PASS switch setting.

❿ OUTPUT LEVEL

This controls the output signal level at the FILL OUT. This control ranges from off up to unity gain. Use it to adjust the relative volume for the side or front fill speaker.

⓫ PHASE

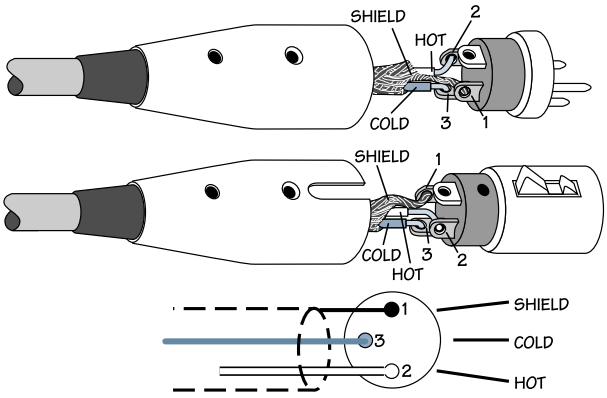
This switch reverses the phase of the signal at the FILL OUT connector. Depending on the placement of the fill speaker, you may get better overall response with the PHASE switch set to 180°.

CONNECTIONS

The FUSSION 3000 has a female XLR input that accepts a balanced or unbalanced line-level signal. When connecting a balanced signal, be sure it's wired per AES (Audio Engineering Society) standards:

	XLR
Hot (+)	Pin 2
Cold (–)	Pin 3
Shield (Ground)	Pin 1

There are also three male XLR connectors labeled LOOP OUT, SUB OUT, and FILL OUT. These are also wired according to the above AES standard.



Balanced XLR Connectors

The LOOP OUT connector allows you to connect more than one FUSSION 3000 to the output of your mixing console. Simply plug the signal source output into the first MAIN IN jack, and patch that speaker's LOOP OUT jack to the next MAIN IN jack, and so on, daisy-chaining multiple speakers.

There is a limit to how many you can daisy-chain together. A general rule is to maintain a load impedance 10 times or more than the source impedance to prevent excessive loading on the source. For example, if your mixer has an output impedance of 120 ohms, then you can daisy chain up to sixteen FUSSION 3000s. This is a load of 1250 ohms (FUSSION 3000 input impedance = 20k ohms; 16 of these in parallel = 1250 ohms).

The LOOP OUT jack is wired straight from the MAIN IN connector — there is no electronic circuitry between — so the signal coming out of the LOOP OUT jack is exactly the same as the signal going in.

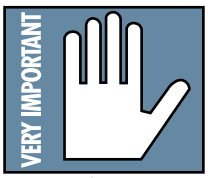
PLACEMENT

The FUSSION 3000 active loudspeakers are designed to sit on the floor or to be suspended by the rigging points.

You can stack cabinets vertically. If you do, turn the upper cabinet upside down so the high-frequency driver is closest to the high-frequency driver in the lower cabinet.

You can create a horizontal array by placing the cabinets side-by-side. However, you should have a good understanding of the relationship between the splay angle (the angle between the facing sides of the cabinets), the on-axis power, and frequency cancellation effects between cabinets.

When two cabinets are placed side-by-side, the actual splay angle is 30° (determined by a 15° angle on each cabinet side). As the splay angle increases toward the angle of horizontal coverage (80° for the FUSSION 3000), the on-axis power decreases, but the frequency response becomes smoother as the comb-filtering effects (caused by the interaction in the area of double-coverage) decrease.

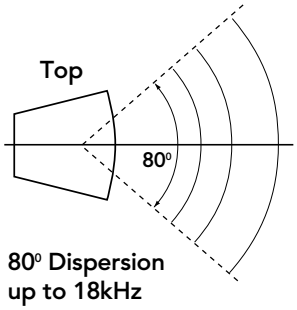


As with any powered components, protect them from moisture. If you are setting them up outdoors, make sure they are under cover if you expect rain.

Room Acoustics

The FUSSION 3000 loudspeakers are designed to sound as neutral as possible; that is, to reproduce the input signal as accurately as possible.

Room acoustics play a crucial role in the overall performance of a sound system. However, the wide high-frequency dispersion of the FUSSION 3000 helps to minimize the problems that typically arise.



Here are some other placement tips:

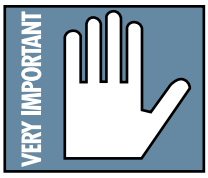
- Avoid placing loudspeakers in the corners of a room. This increases the low-frequency output and can cause the sound to be muddy and indistinct.
- Avoid placing loudspeakers against a wall. This, too, increases the low frequency output, though not as much as corner placement. However, if you do need to reinforce the low frequencies, this is a good way to do it.
- Avoid placing the active monitors directly on a hollow stage floor. A hollow stage can resonate at certain frequencies, causing peaks and dips in the frequency response of the room. It's better to place the active monitors on a sturdy table or tripod stands.
- Position the active monitors so the high-frequency drivers are 2 to 4 feet above ear level for the audience (make allowances for a standing/dancing in the aisles audience). High frequencies are highly directional and tend to be absorbed much easier than lower frequencies. By providing direct line-of-sight from the active monitors to the audience, you increase the overall brightness and intelligibility of the sound system.
- Highly reverberant rooms, like many gymnasiums and auditoriums, are a nightmare for sound system intelligibility. Multiple reflections off the hard walls, ceiling, and floor play havoc with the sound. Depending on the situation, you may be able to take some steps to minimize the reflections, such as putting carpeting on the floors, closing draperies to cover large glass windows, or hanging tapestries or other materials on the walls to absorb some of the sound.

  However, in most cases, these remedies are not possible or practical. So what do you do? Making the sound system louder generally doesn't work because the reflections become louder, too. The best approach is to provide as much direct sound coverage to the audience as possible. The farther away you are from the speaker, the more prominent will be the reflected sound.

  Use more speakers strategically placed so they are closer to the back of the audience. If the distance between the front and back speakers is more than about 100 feet, you should use a delay processor to time-align the sound. (Since sound travels about 1 foot per millisecond, it takes about 1/10 of a second to travel 100 feet.)

RIGGING

The FUSSION 3000 cabinets are fitted with rigging points shown in the diagram below.



WARNING: Never attempt to suspend the FUSSION 3000 active loudspeakers by their handles. If you want to suspend them, use the rigging points only.

You can suspend the FUSSION 3000 from the four fly points located on the top of the cabinet using forged shoulder eyebolts. A working load limit (WLL) of 387 lbs. (176 kg) is appropriate for this enclosure. This WLL takes into account a 5:1 industry regulated design factor with an additional 2:1 design factor for weathering.

The fly points located on the sides of the cabinet are designed to be used with ATM Fly-Ware® MEGS Pivotal Series Flying Hardware Systems. The MEGS-PB2 Pivotal Brace attaches to the bracket in the side of the cabinet. Use this with the MEGS-PF2 (2 suspension points) or MEGS-PF6 (6 suspension points) to suspend the loudspeakers in a vertical column. The MEGS-PB2 Pivotal Brace has a WLL of 400 lbs. (181 kg) and the MEGS-PF2 and MEGS-PF6 have a WLL of 2000 lbs. (907 kg).

The bottom of the FUSSION 3000 cabinet has a Pull Back Plate. Loosen the two screws and slide the plate out so it extends beyond the edge of the cabinet, then retighten the screws. Use the extended bracket for pulling back on the bottom of the cabinet to aim it over the area of coverage as required.

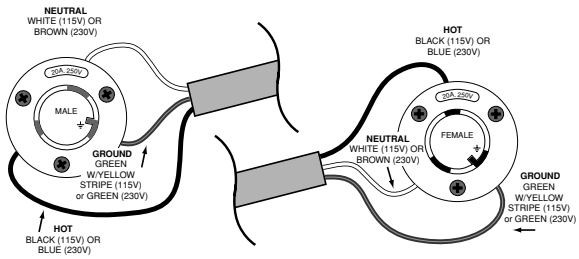
WARNING: Consult a professional rigger or structural engineer prior to suspending loudspeakers from a structure not intended for that use. Always know the working load limit of the structure supporting the loudspeaker array. Always maintain a 5:1 design factor throughout the rigging system.

AC POWER

The FUSSION 3000 is shipped with a connector that mates with the AC receptacle on the rear panel. Use heavy gauge wire for the linecord to avoid power losses across the wire.

The following guide should be followed when wiring a linecord:

	North America 115VAC	International 230VAC
Hot	Black	Blue
Neutral	White	Brown
Earth (Ground)	Green w/ yellow stripe	Green



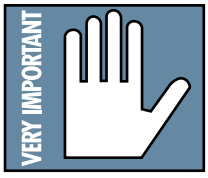
Be sure the FUSSION 3000 is plugged into an outlet that is able to supply the correct voltage specified for your model. If the voltage should drop below 97 % of the specified line voltage, the built-in amplifiers will no longer be able to supply rated power. (They will continue to operate down to 80 % of the rated line voltage, but won't reach full power, resulting in lower headroom.)

Under maximum S.P.L. conditions, where musical peaks are just clipping, the FUSSION 3000 has the following current requirements:

	115V	230V
Max. Continuous RMS	15A	10A
Max. Peak	20A	16A

Be sure the electrical service can supply enough amperage for all the components connected to it.

We recommend that a stiff (robust) supply of AC power be used because the amplifiers place high current demands on the AC line. The more power that is available on the line, the louder the speakers will play and the more peak output power will be available for cleaner, punchier bass. A suspected problem of "poor bass performance" is often caused by a weak AC supply to the amplifiers.



Never remove the ground pin on the power cord of the FUSSION 3000 or any other component. This is very dangerous.

SERVICE INFORMATION

Warranty Service

If you think your loudspeaker has a problem, please do everything you can to confirm it before calling for service, including reading through the following Troubleshooting section. Doing so might save you from being deprived of your Mackie loudspeaker.

Of all Mackie products returned for service (which is hardly any at all), many are coded "CND" — Could Not Duplicate— which usually means the problem lay somewhere else in the system. The following troubleshooting tips may sound obvious, but here are some things you can check:

Troubleshooting

No power

- Our favorite question: Is it plugged in? Make sure the AC outlet is live (check with a tester or lamp).
- Our next favorite question: Is the POWER switch on? If not, try turning it on.
- Is the POWER/PROTECT LED on the rear panel glowing green? If not, make sure the AC outlet is live. If so, refer to "No sound" below.
- Check the AC line fuse to see if it is blown. If so, make sure you replace it with the same fuse rating as indicated on the rear panel next to the fuseholder.

No sound

- Is the input LEVEL control for the input source turned all the way down? Verify that all the volume controls in the system are properly adjusted.
- Is the signal source working (and making union scale)? Make sure the connecting cables are in good repair and securely connected at both ends. Make sure the output volume (gain) control on the mixing console is turned up sufficiently to drive the inputs of the speaker.
- Make sure the mixer does not have a Mute on or a Processor loop engaged. If you find something like this, make sure the volume/gain is turned down before disengaging the offending switch.
- Is the POWER/PROTECT LED lit red? Make sure there is at least six inches of free space behind the heatsinks. Allow the FUSSION 3000 to cool off and it will turn back on.

Poor bass performance

- Check the polarity of the connections between the mixer and the loudspeakers. You may have your positive and negative connections reversed at one end of one cable, causing one FUSSION 3000 to be out-of-phase.

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.
- Is the input connector plugged completely into the jack? Be sure all connections are secure. It's a good idea to periodically clean all electrical connections with a non-lubricating electrical contact cleaner.

Noise

- Make sure all connections to the active loudspeakers are good and sound.
- Make sure none of the signal cables are routed near AC cables, power transformers, or other EMI-inducing devices.
- Is there a light dimmer or other SCR-based device on the same AC circuit as the FUSSION 3000s? Use an AC line filter or plug the FUSSION 3000s into a different AC circuit.

Hum

- Try disconnecting the cable connected to the MAIN IN jack. If the noise disappears, it could be a "ground loop," rather than a problem with the FUSSION 3000. Try some of the following troubleshooting ideas:
- Use balanced connections throughout your system for the best noise rejection.
- Whenever possible, plug all the audio equipment's linecords into outlets which share a common ground. The distance between the outlets and the common ground should be as short as possible.

REPAIR

Service for the FUSSION 3000 is available only from one of our authorized domestic service stations or at the factory service center, located in Whitinsville, Massachusetts. Service outside the United States can be obtained through local dealers or distributors.

If your FUSSION 3000 needs service, please follow these instructions:

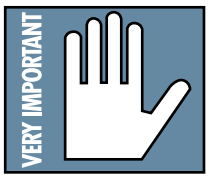
1. Review the preceding troubleshooting suggestions. Please.
2. Call Tech Support at 1-800-258-6883, 7am to 5pm PST, to explain the problem in detail. They will ask you all sorts of impertinent questions in the hope of sorting out the problem. If it appears that the FUSSION 3000 needs repair, request an RA (Return Authorization) number. Have your loudspeaker's serial number ready. You must have an RA number before you can obtain service at the factory or an authorized service center.
3. Keep this owner's manual. We don't need it to repair the loudspeaker.
4. Pack the loudspeaker in its original packaging, including protective wrap, endcaps, box, and pallet. This is very important. When you call for the RA 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, RA number, and a detailed description of the problem, including how we can duplicate it.
6. Write the RA number in BIG PRINT on top of the box.
7. Ship the loudspeaker to us via ground freight. We suggest insurance for all forms of cartage. Ship to this address:

   Mackie Designs
   SERVICE DEPARTMENT
   One Main Street
   Whitinsville, MA 01588

8. We'll try to fix the loudspeaker within three business days. Ask Tech Support for the latest turnaround times when you call for your RA number.

CARE AND MAINTENANCE

Your Mackie loudspeakers will provide many years of reliable service if you follow these guidelines:



Avoid exposing the active loudspeakers to moisture. If they are set up outdoors, be sure they are under cover if you expect rain.

- Avoid exposure to extreme cold (below freezing temperatures). If you must operate the active loudspeakers in a cold environment, warm up the voice coils slowly by sending a low-level signal through them for about 15 minutes prior to high-power operation.
- Use a slighty damp cloth with a mild soap solution to clean the cabinets. Only do this when the power is turned off. Avoid getting moisture into any of the openings of the cabinet, particularly where the drivers are located.

FUSSION 3000 SPECIFICATIONS

System Acoustic

Frequency Range (–10 dB):	45Hz-20kHz
Frequency Response (–3 dB):	55Hz-18kHz
Horizontal Coverage (–6 dB):	80° averaged 2kHz-10kHz
Vertical Coverage (–6 dB):	70° averaged 2kHz-10kHz
Directivity Factor; DI (Q):	10.19 (10.46) averaged 2kHz to 10kHz
Maximum SPL (long term):	130 dB @ 1m
Maximum SPL (peak):	133 dB @ 1m
Maximum SPL (long term—High Pass ON):	132 dB
Maximum SPL (peak—High Pass ON):	135 dB
Crossover Points:	500Hz, 2500Hz
Dynamic Range:	> 110 dB
Phase Response:	± 35° from 500Hz-10kHz

Transducers

Low-Frequency Transducers—Four Each

Cone Diameter:	12″ (300mm)
Voice Coil Diameter:	3″ (75mm)
Nominal Impedance:	8 ohms each
Power Handling:	350 watts rms (long term)[1]

Mid-Frequency Transducer

Cone Diameter:	8″ (200mm)
Voice Coil Diameter:	2″ (50mm)
Nominal Impedance:	8 ohms
Power Handling:	150 watts rms (long term)[1]

High-Frequency Transducer

Diaphragm Diameter:	3″ (75mm)
Throat Exit Diameter:	1.4″ (35.6mm)
Nominal Impedance:	8 ohms
Power Handling:	75 watts rms (long term)[1]
Diaphragm Material:	Titanium

Power Amplifiers

Low-Frequency Power Amplifier

Rated Power:	1000W continuous @ 8Ω 1500W peak @ 8Ω
Rated THD:	< 0.03 %

Mid-Frequency Power Amplifier

Rated Power:	200W continuous @ 8Ω 300W peak @ 8Ω
Rated THD:	< 0.03 %

High-Frequency Power Amplifier

Rated Power:	100W continuous @ 8Ω 150W peak @ 8Ω
Rated THD:	< 0.03 %

Audio Input/Output/Controls

Input Type:	Balanced differential
Input Impedance:	50k ohms
Sub-Out:	85Hz low-pass output with protection and active monitoring for FUSSION 1800S/1800SA active subwoofer system
Fill-Out:	85Hz high-pass output
Fill-Out Level:	0 dB to –30 dB
Fill-Out Phase Control:	0°/180°
High-Pass Switch:	85Hz high-pass to LF driver

Line Input Power

US:	115V, 60Hz
Recommended Amperage Service:	20A recommended
AC Connector:	3-pin Twistlock 250VAC, 20A male
Europe:	230V, 50Hz
Recommended Amperage Service:	16A recommended
AC Connector:	3-pin IEC 250VAC, 16A male
In-rush Current Protection:	Transistor-based

Safety Features

RMS Limiting:	Monitoring and limiting of continuous RMS output of amplifiers
Thermal Protection:	Input stage shutdown, auto-reset

Physical Properties

Enclosure:	Trapezoidal, 15° side angles, 18mm multi-layered birch
Hanging Inserts:	4 points on top
Rigging Inserts:	2 points, 1 each side ATM MEGS 1 pull-back clip, bottom
Handles:	4 ea. aluminum/rubber grips
Height:	41.9″ (1064mm)
Front Width:	24.7″ (628mm)
Rear Width:	13.9″ (352mm)
Depth:	22.6″ (575mm)
Weight:	246 lbs. (112kg)

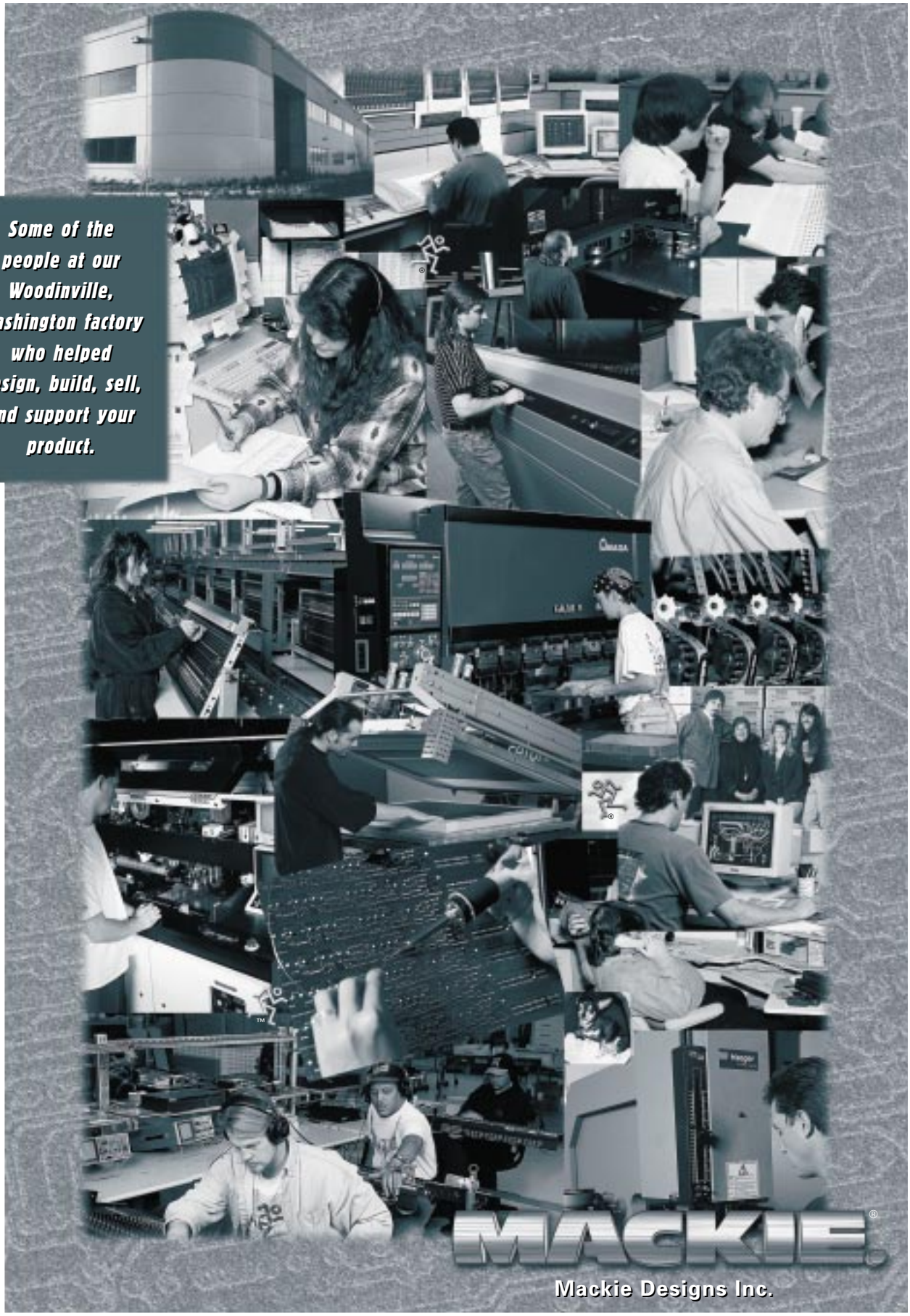
Options

Active Subwoofer System:	FUSSION 1800SA/1800S
Flyware:	ATM MEGS compatible

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.

[1] Power handling for transducers is based on an AES long term power testing standard conducted for 100 hours full power, free air.



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