



INSTRUCTION MANUAL

SONAMP® 1250 MKII PROFESSIONAL MATRIX POWER AMPLIFIER

IMPORTANT SAFETY INSTRUCTIONS

When using your Sonamp® 1250 MKII, basic safety precautions should always be followed to reduce the risk of fire, electric shock, and injury to persons, including the following:

- 1. Read and retain instructions:** All the safety and operating instructions should be read before the appliance is operated and retained for future reference.
- 2. Heed warnings:** adhere to all warnings and precautions listed on the appliance and in the operating instructions.
- 3. Follow instructions:** Follow all operating instructions.
- 4. Water and moisture:** The appliance should never be used next to water.
- 5. Carts and stands:** The appliance should be used only with a cart or stand that is recommended by the manufacturer.
- 6.** An appliance and cart combination should be moved with care.
- 7. Caution:** *To prevent electric shock, do not use the Sonamp (polarized) plug with an extension cord, receptacle, or other outlets unless the blades can be fully inserted to prevent blade exposure.*
- 8. Ventilation:** The appliance should be situated so that its location does not interfere with its proper ventilation.
- 9. Heat:** The appliance should be situated away from heat sources such as radiators, stoves, or other appliances (including amplifiers) that produce heat.
- 10. Power sources:** The appliance should be connected to a power supply only of the type described in the instructions or as marked on the appliance.
- 11. Grounding or polarization:** Grounding or polarization are precautions that should be taken so that these attributes are not defeated.
- 12. Power-Cord Protection:** Power supply cords should be routed so that they will not be walked on or pinched by items placed on or against them.
- 13. Cleaning:** The appliance should be cleaned only as recommended by the manufacturer.
- 14. Non-Use Periods:** The power cord of the appliance should be unplugged from the outlet when left unused for a long period of time.
- 15. Object Entry:** Care should be taken so that objects do not fall through the opening of the enclosure.
- 16. Warning:** *The appliance shall not be exposed to dripping or splashing. Objects filled with liquids, such as vases, shall not be placed on the appliance.*
- 17. Damage Requiring Service:** The appliance should be serviced by a qualified service personnel when:
 - A. The power supply cord or the plug has been damaged.
 - B. Objects have fallen, or liquid has been spilled into the appliance.
 - C. The appliance has been exposed to rain.
 - D. The appliance does not appear to operate normally or exhibits a marked change in performance.
 - E. The appliance has been dropped, or the enclosure damaged.
- 18. Servicing:** The user should not attempt to service the appliance beyond that described in the operating instructions. All other servicing should be referred to qualified service personnel.
- 19. Lifting:** Do not attempt to lift the Sonamp 1250 MKII without assistance. Improper lifting of this 54 lb. unit can cause personal injury.

20. Power requirement: Do not connect the Sonamp 1250 MKII to the accessory outlet of another component. A minimum 15 amp (20 amp preferred) grounded wall outlet is required.

Warning: *The power (mains) plug serves as the amplifier's disconnect device:*

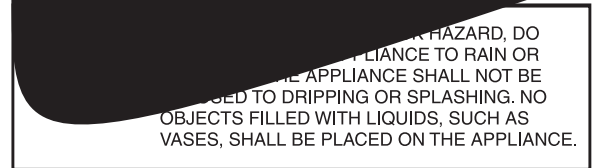
- *The disconnect device shall remain readily operable during operation.*
- *To ensure that the disconnect device (power plug) is easily accessible, the user shall not place the amplifier in a confined area during operation.*

21. Storms: To prevent damage to components, unplug all electronic equipment during thunderstorms.



head symbol, within to alert the user dangerous voltage that may be of risk of electric

Material the ce ar



**WARNING
MOVE WITH CARE**

WHAT'S NEW

Thank you for purchasing the Sonamp 1250 MKII. The 1250 MKII is the most versatile and reliable multi-channel amplifier available. Most importantly, we listened to installers and end users and added features that they wanted. The Sonamp 1250MKII has been improved in the following ways:

A.C. Power Inrush Suppressors

Inrush suppressors limit current inrush when the amplifier turns on, which eliminates current surge conditions that may open fuses or trip house circuit breakers.

Quick-Acting Protection Circuitry

Protection circuitry reacts very quickly to DC and VLF (very-low frequencies) at amplifier inputs as well as over-current conditions at amplifier outputs. Some multi-zone controllers become unstable with power line fluctuations and send DC offset to the external amplifier. The Sonamp 1250 MKII detects this and lifts the output connections to protect the speakers.

Infrasonic Filtering on Bus Inputs

Low-frequency filtering is provided on the bus inputs (left, right and aux) to protect volume controls and reduce power usage. Since bus inputs are mostly used for distributed audio, infrasonic filtering (below 15Hz) protects transformer-based in-wall volume controls without degrading the audio signal.

Ultrasonic Filtering on Bus Inputs

Gentle high frequency rolloff above 20kHz is provided on the bus inputs (left, right, and aux) to protect tweeters from ultrasonic signals and prevent tweeter burn out.

Improved Speaker Binding Posts

Wire entry on the binding posts has been rotated 45 degrees for easier access during speaker hookup.

Flush-Mount Volume Controls

The screwdriver-adjustable volume controls can be hidden with foil tape to deter tampering with level settings.

Large gold feet

Taller feet provide better cooling characteristics while the anodized aluminum face allows for better control when moving the amplifier on flat surfaces.

INTRODUCTION

From the gold-plated input jacks to the low-noise multi-tap toroidal power transformer, to the discrete high-power output transistors, this amplifier is designed to satisfy the requirements of the most demanding home and commercial installations. Every part of the Sonamp 1250 MKII contributes to reliable and transparent, uncolored audio reproduction.

Using Additional Amplifiers

If additional 1250 MKII amplifiers are used, we recommend separate 15-amp circuits for each amplifier due to the enormous power capability and requirements of this product. The provided non-buffered *Line Out* connections for left, right, and auxiliary channels facilitate easy connection of multiple amplifiers. Within the limits of available mains power, any number of additional Sonamp 1250 MKII amplifiers may be daisy-chained for larger installations.

Associated Components

Your Sonamp 1250 MKII should be used with other components of the highest caliber. The Sonamp 1250 MKII is compatible with most high-quality preamplifiers, tuners, CD/DVD players, etc; as well as better in-wall and cabinet speakers from Sonance and other reputable manufacturers.

Care and Maintenance

Retain these safety and operating instructions for future reference.

1. Follow all warnings and instructions in this manual and marked on the product.
2. Any service or repair required must be performed by qualified, factory authorized personnel.
3. To clean your Sonamp 1250 MKII, use a soft brush, "canned air," or

wipe the exterior surfaces with a damp cloth. Never use any cleaners or solvents.

4. If the electrical system is not properly grounded, spikes, brownouts, a power conditioner designed for use with high-fidelity equipment should be employed to protect the Sonamp 1250MKII.

System Configuration

The flexibility of the Sonamp 1250 MKII provides the installer with many different connection options, so to avoid errors you should carefully plan the system before you actually begin connecting components.

Begin by drawing a diagram of the system similar to the examples in this manual. Plan all of the system's settings and connections to achieve your objective. Verify that you have all of the parts and tools required for the installation:

- High-fidelity interconnect cables such as Sonance MediaLinQ Silver OFC Interconnects.
- Speaker wires. These may be unterminated (bare wire at connections) or spade, banana, or pin termination. Gold-plated connectors are preferred to resist oxidation.
- LS1 and LR1 balanced line-level sender and receiver (optional). If the amplifier is used for long distance, a balanced line-level receiver (optional) should be used. (See Fig. 6 for example.)

INSTALLATION

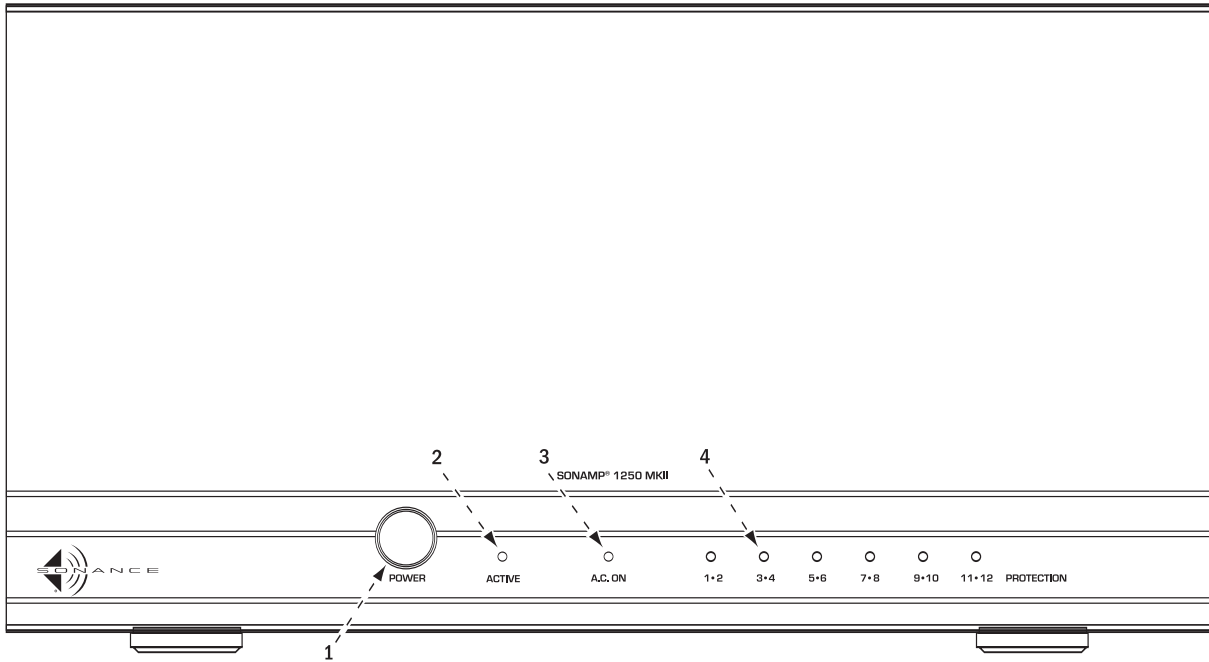
Unpacking

Save the cartons and polystyrene inserts for future safe transport in case the amplifier is damaged. Save the shipping label for future reference.

Placement

CAUTION: Do not attempt to lift the Sonamp 1250 MKII without assistance. Improper lifting of this 54lb. unit can cause personal injury.

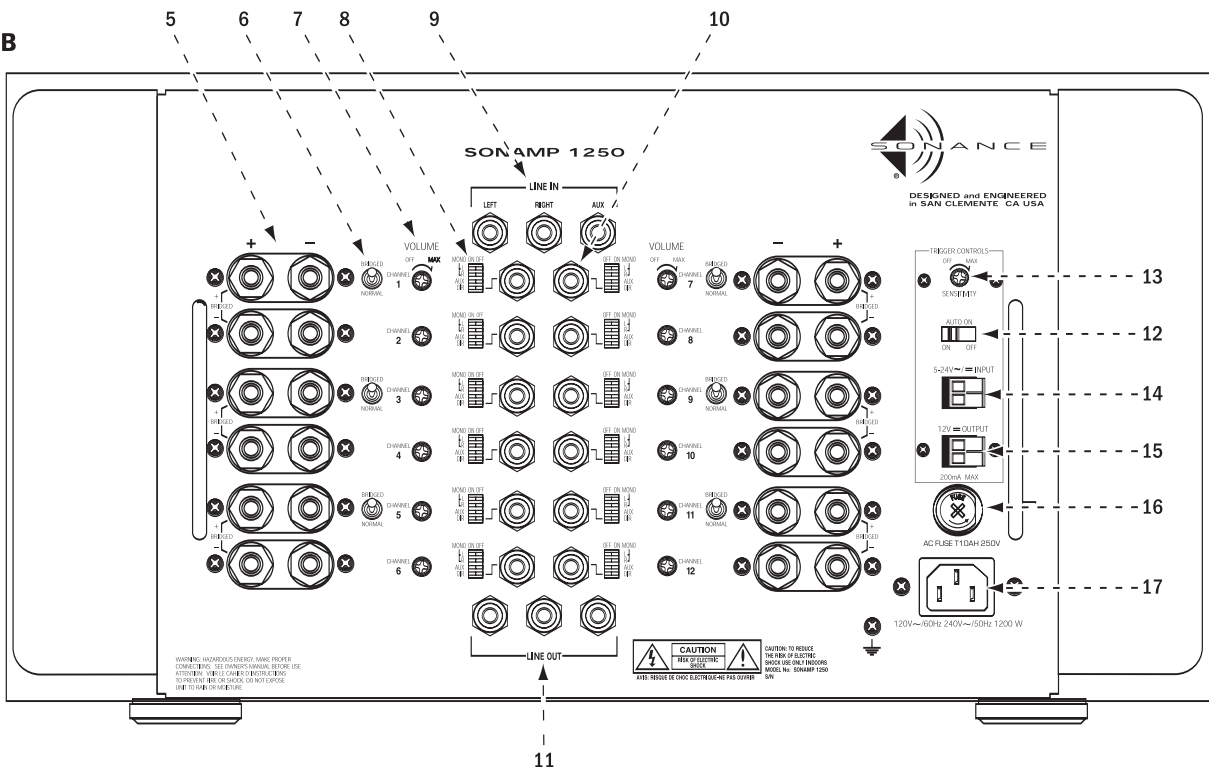
A



A. FRONT PANEL

1. POWER SWITCH
2. ACTIVE L.E.D.
3. POWER L.E.D.
4. FAULT DETECTORS

B



B. REAR PANEL

5. SPEAKER TERMINALS (12)
6. BRIDGING SWITCH (6)
7. INPUT LEVEL CONTROL (12)
8. SOURCE SELECTION SWITCH (12)
9. LINE-IN JACK (3)
10. DEDICATED SOURCE JACK (12)
11. LINE-OUT JACK (3)
12. AUTO-ON DEFEAT SWITCH
13. AUTO-ON SENSITIVITY CONTROL
14. AUTO-ON INPUT
15. AUTO-ON OUTPUT
16. POWER FUSE RECEPTACLE
17. POWER CORD RECEPTACLE

Sensitive source components should be isolated from the Sonamp 1250 MKII with appropriate power conditioning to minimize hum.

Speaker Connections (page 3 – #5)

Always turn off power and unplug the amplifier before making source signal or speaker connections.

Use quality speaker wire to assure optimum sound reproduction. Small gauge or inferior quality wire will degrade imaging, diminish bass reproduction, and add a generally congested quality to music.

Always check local building codes before installing wire in walls or ceilings.

If connections will be changed frequently, speaker wires may be terminated with banana or spade ends for convenience. Any connector should be gold-plated to prevent oxidation, which degrades sound quality. The 5-way binding posts on the 1250 MKII also accept twisted bare wire ends through the 45° holes in their center shafts. Tinning the bare copper wire is recommended. As an option, use contact enhancer on mating surfaces of connections to retard oxidation and enhance signal flow. Do not strip more than 1/2" of the jacket from speaker wires.

Always provide sufficient slack in wires to avoid tension. Always contain any excess wire to prevent tripping hazards.

Source Connections (page 3 – #9, #10, #11)

Always use quality high-fidelity interconnect cables such as Sonance MediaLinQ Silver OFC Interconnects (part # 900843). If source components are more than 20 feet from the amplifier, use the LS1 and LR1 balanced line-level sender and receiver to avoid signal degradation. (Example shown in Figure 6.)

- Connect source components (receiver, preamp, page signal, etc.) to the *Line Inputs* (#9) at the top center of the amplifier.
- Connect zone-specific sources (zone output, page signal, video game, electronic doorbell, etc.) into the *Dedicated Channel Inputs* (#10).
- Connect additional amplifiers to the non-buffered *Line Outputs* (#11) at the bottom center of the amplifier.

Source Settings (page 3 – #8)

The Sonamp 1250 MKII's Source Selection DIP switches provide the most flexible configuration options of any multichannel amplifier. Settings are changed by setting the switches either ON (left) or OFF (right):

- L: Assign output to Line-In *LEFT* channel source
- R: Assign output to Line-In *RIGHT* channel source
- L + R: Mono reproduction of *LEFT* & *RIGHT* Line-In sources
- AUX: Assign output to Line-In *AUX* channel source
- DIR: Assign output to Dedicated Channel input.

Note: It is possible to assign one or all switches as needed (i.e. L+R+AUX), where AUX is the page input for a hallway or waiting room with paging.

Volume Controls (page 3 – #7)

The individual channel volume controls allow balancing the desired sound levels for various zones, or balancing the outputs from right and left channels to compensate for various room characteristics or seating arrangements. To prevent tampering place tape over the Volume Control holes.

Power Trigger Controls (page 3 – #13, #14, #15)

The Sonamp 1250 MKII may be automatically activated by an input signal, low voltage trigger, or manual pushbutton. It also provides a 12 volt DC output to trigger other components.

Auto-On Control (page 3 – #12, #13)

In this mode, the amplifier will automatically turn on when the minimum signal is detected at any of the inputs (*Line* or *Dedicated Channel*), and off after 8 minutes of no input signal. To use the Auto-On feature, turn the *Power* switch (page 3, #1) ON and slide the *Auto-On* switch on the rear panel (#12) to the ON position. Use the *Sensitivity* control (#13) to set the minimum signal level that will activate the amplifier.

AC/DC Input – Voltage Control (page 3 – #14)

Voltage Control activates the amplifier by the presence of current at the AC/DC Input (#14). Any alternating or direct current from 5 to 24 volts present at this input will activate the amplifier. Voltage Control is activated when the *Auto-On* switch (#12) is set to OFF, the sensitivity control (#13) is set to *Off* and the Main Power switch (#1) is turned ON.

If activating the amplifier from a remote point is required, connect a spare 5 – 24V DC power supply to the AC/DC Input and plug it into a switched AC outlet or connect it through a switch. Activating the power supply will turn the amplifier ON.

DC Control Output (page 3 – #15)

The 12VDC Output terminals provide 200mA of current to trigger another voltage-controlled component. Any time the amplifier is active (regardless of how it has been activated), voltage is present at these terminals.

Manual Power On (page 3 – #1)

If no automatic activation function is required, rotate the *Sensitivity* control (#13) to OFF and move the *Auto-On* slide switch (#12) to OFF. The *Power* switch (#1) will manually activate the amplifier.

Protection Circuitry and Status LEDs (page 3 – #2, #3, #4)

AC On LED (#2): This red LED indicates that the AC power line cord is plugged-into a live AC outlet. If the main AC line fuse opens, this LED goes out. The main power switch setting does not impact this LED.

Active LED (#3): This green LED indicates that the amplifier has been activated via one of the three methods described above.

Protection LEDs (#4): The 1250 MKII has one protection circuit and a corresponding LED for each pair of channels. These amber LEDs light during a fault condition. If a channel pair encounters a short-circuit event, an extremely low impedance, or if its heat sink temperature exceeds the design maximum, its protection circuit will activate, disconnecting both channel outputs and activating the corresponding LED. (All other channel pairs are unaffected.) The affected channel outputs will automatically re-connect after 2 seconds. If the fault remains, the channels will disconnect again. This disconnect/reconnect cycle will continue until the fault is eliminated.

IMPORTANT: Allowing the amplifier to operate with 2 or more channels in the disconnect/reconnect cycle can damage the amplifier.

If a pair of channels are in *Bridged* mode (see below), the protection circuitry will sense a short circuit across both positive speaker terminals in addition to shorts across the positive and negative speaker terminals.

Each time the amplifier is initially plugged in and the *Power* switch is turned on, all channel outputs are disconnected for approximately 5 seconds and all 6 protection LEDs will light while the amp's circuitry is stabilizing. This prevents spikes and thumps from getting to speakers.

IMPORTANT: Any time the protection circuits are triggered, turn the Power switch OFF before troubleshooting.

Bridging Channels (page 3 – #5, #6)

The 1250 MKII's twelve 50-watt channels can be bridged in pairs, yielding a maximum of six 100-watt channels.

To bridge a pair of channels, move the *Bridged/Normal* toggle switch (#6) to the *Bridged* position. This links the odd-numbered channel adjacent to the switch with the even-numbered channel directly below it (channels 1 & 2, channels 3 & 4, etc.). When two channels are bridged the *Source Selection* DIP switches (#8) for the odd-numbered channel function; the switches for the even-numbered channel are disabled.

To connect a speaker to a bridged channel, use the positive (red '+') terminals of both channels. Connect the speaker's '+' wire to the odd-numbered channel's '+' terminal; connect the speaker's '-' wire to the even-numbered channel's '+' terminal.

IMPORTANT: Speakers connected to bridged channels must have a nominal impedance of 8 ohms or higher.

INSTALLATION EXAMPLES

The following six system examples demonstrate the wide variety of systems that can be assembled using the Sonamp 1250 MKII.

Figure 1: Basic Background Music System

Features:

- 6 Room • Common Music Source • Passive Volume Control at each Zone

The simplest configuration of the Sonamp 1250 MKII uses a single source preamplifier feeding six sets of stereo speakers, one pair of speakers per room. The factory-default Source Setting DIP switches and toggles are set for this application. This is a single-zone system. Note that each room may have its own passive in-wall volume control as well as a preset maximum volume level determined by the 1250 MKII's volume controls. This capability allows tailoring sound reproduction to the size and use of each room.

If one room requires more power, a pair of high-output channels may be configured by bridging two pairs of channels.

FIGURE 1

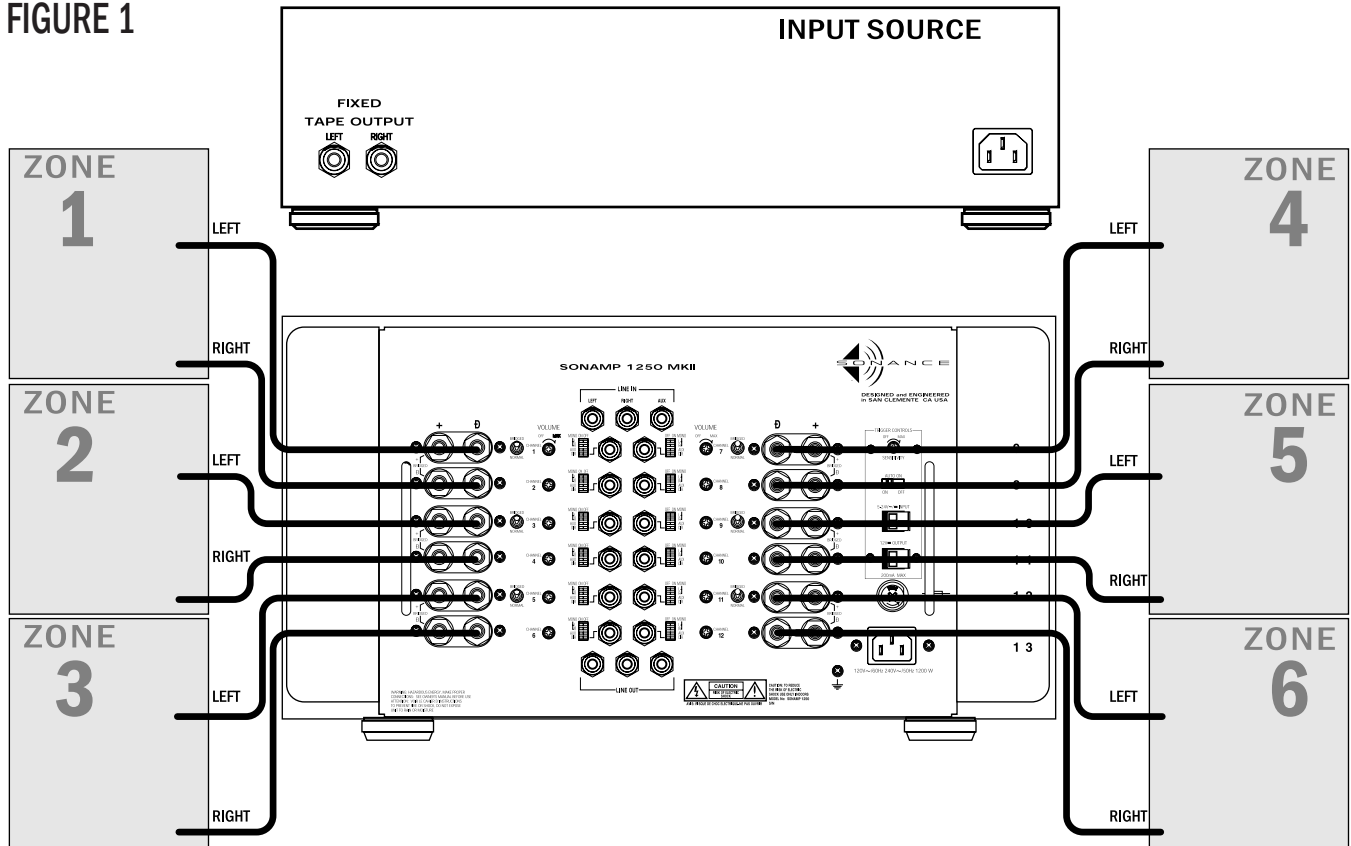


Figure 2: Commercial Music System with Paging Capabilities

Features:

- 6 Room • Common Music Source • Two Zones with AUX Input for Paging Function

Adding a microphone preamplifier connected to the AUX input provides the capability of mixing the stereo source with paging. Each channel is individually configurable to use or ignore the AUX input. Use an AL1/S to mute the audio inputs during paging. A great application for restaurants, night-clubs, offices, etc. Note: If possible, adjust the microphone preamp volume level slightly higher than the other input source.

FIGURE 2

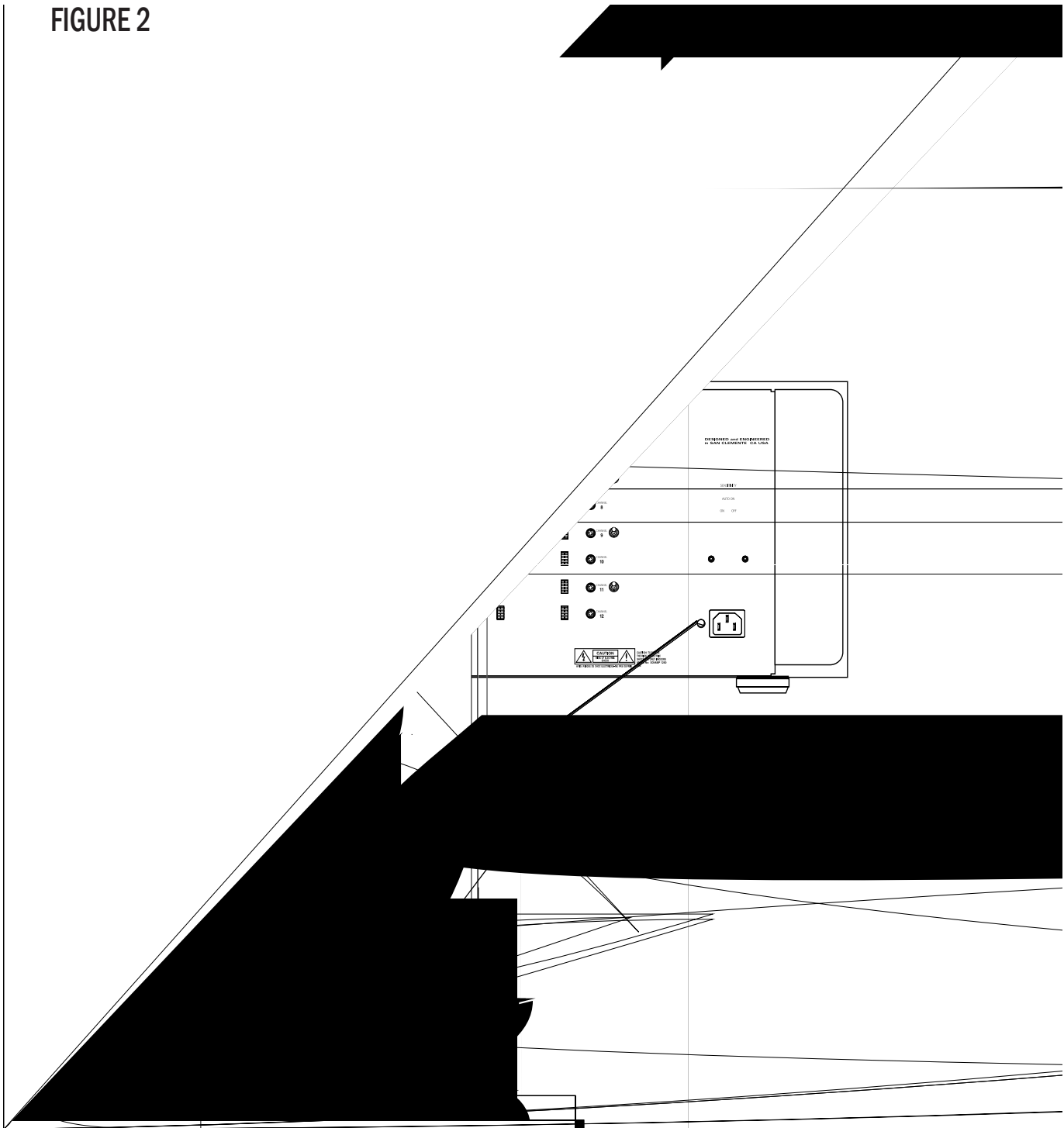


Figure 3: Multiple Zone Music System

Features:

- 5 Zones are fed from Main System • 1 Zone is a Dedicated system with IR Control of Volume and Input Selections

By using the Sonance Navigator™ Harbor, a matrix preamplifier capable of directing signals to multiple amplifier inputs, or by employing several discrete preamplifiers, the Sonamp® 1250 MKII may be configured to provide different program material to some or all zones. The Line Input can be used to drive any channels not individually connected to sources.

FIGURE 3

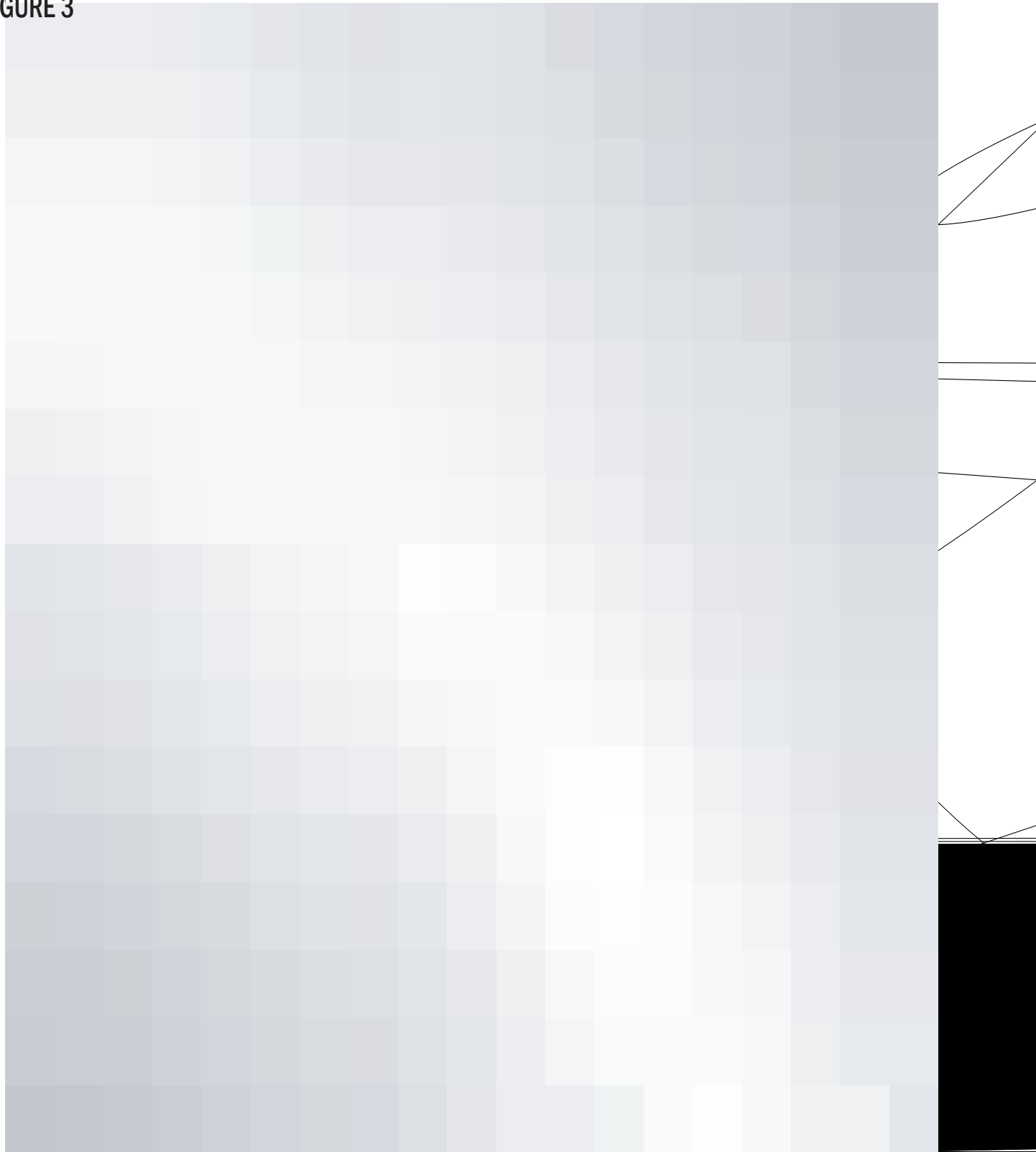


Figure 4: Home Theater and Music System

Features:

- 10 Channels bridged to 5 channels for 100 watt per channel theater output • 2 Channels for second room output on receiver or separate input source

A five-channel surround sound system may be configured from five channels, or five channels plus a bridged pair of channels to drive a passive subwoofer. The five bridged channel configuration leaves two channels available for stereo reproduction in other zones. In larger home theaters where high listening levels must be supported, every channel pair may be bridged, creating up to six 100-watt channels to support speakers in the L/C/R, L&R surround, and subwoofer roles.

A surround sound receiver may be configured to provide source signal to the 1250 MKII for one room, while independently driving another set of surround speakers with its internal amplifier.

FIGURE 4

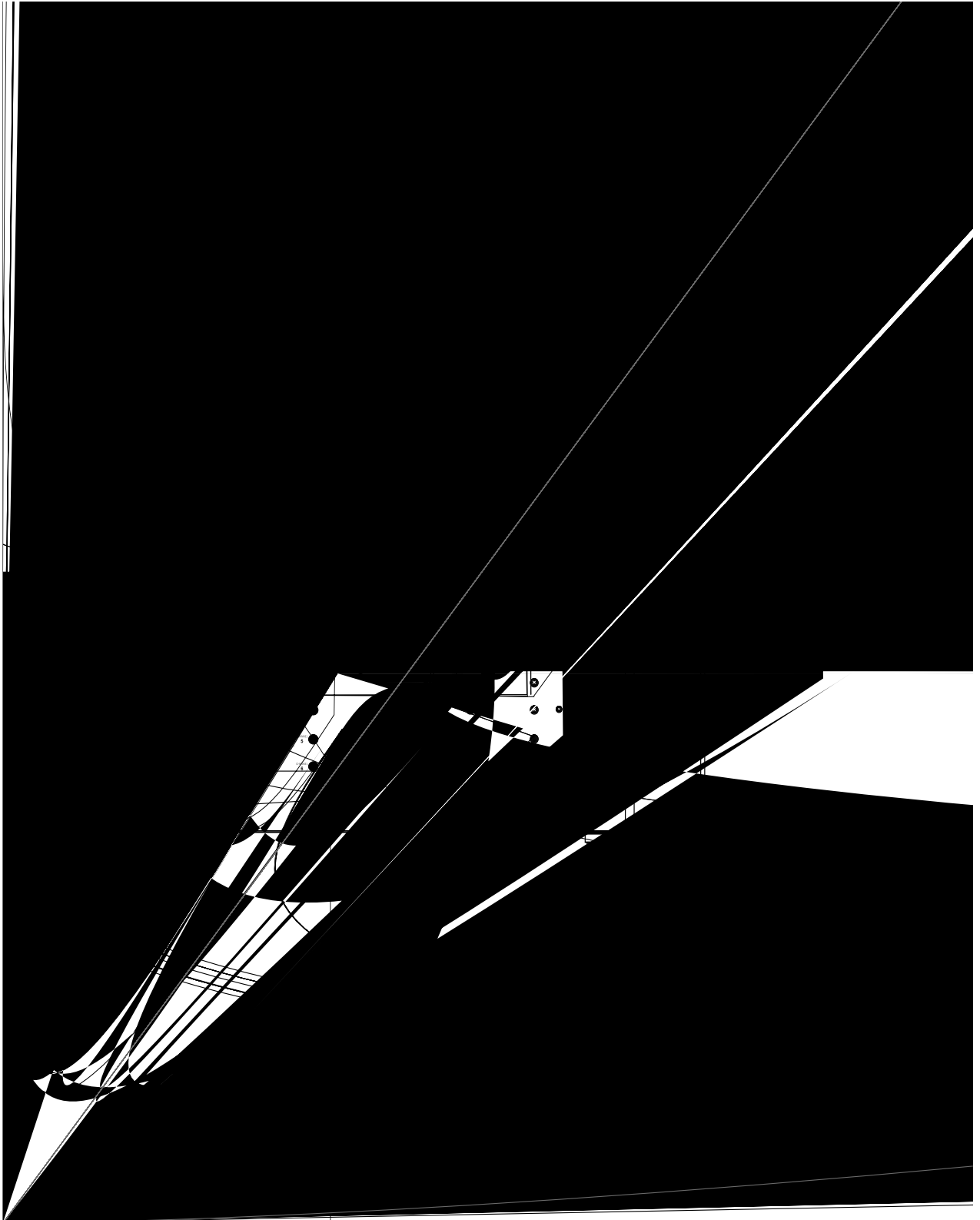


Figure 5: Multiple Source/Multiple Zone with Paging

Features:

- One zone is high-power, with bridged outputs and IR control
- Two zones are stereo, with volume controls
- Four zones are mono, with impedance-matching volume controls and paging
- One zone is stereo, with volume control and paging
- AUX input for KSU paging in selected zones

This configuration shows several rooms in stereo mode while utilizing mono in selected areas. Note that certain areas receive the paging signal. Due to its large size, the master bedroom receives a bridged 4 channels providing 100 watts per channel

FIGURE 5

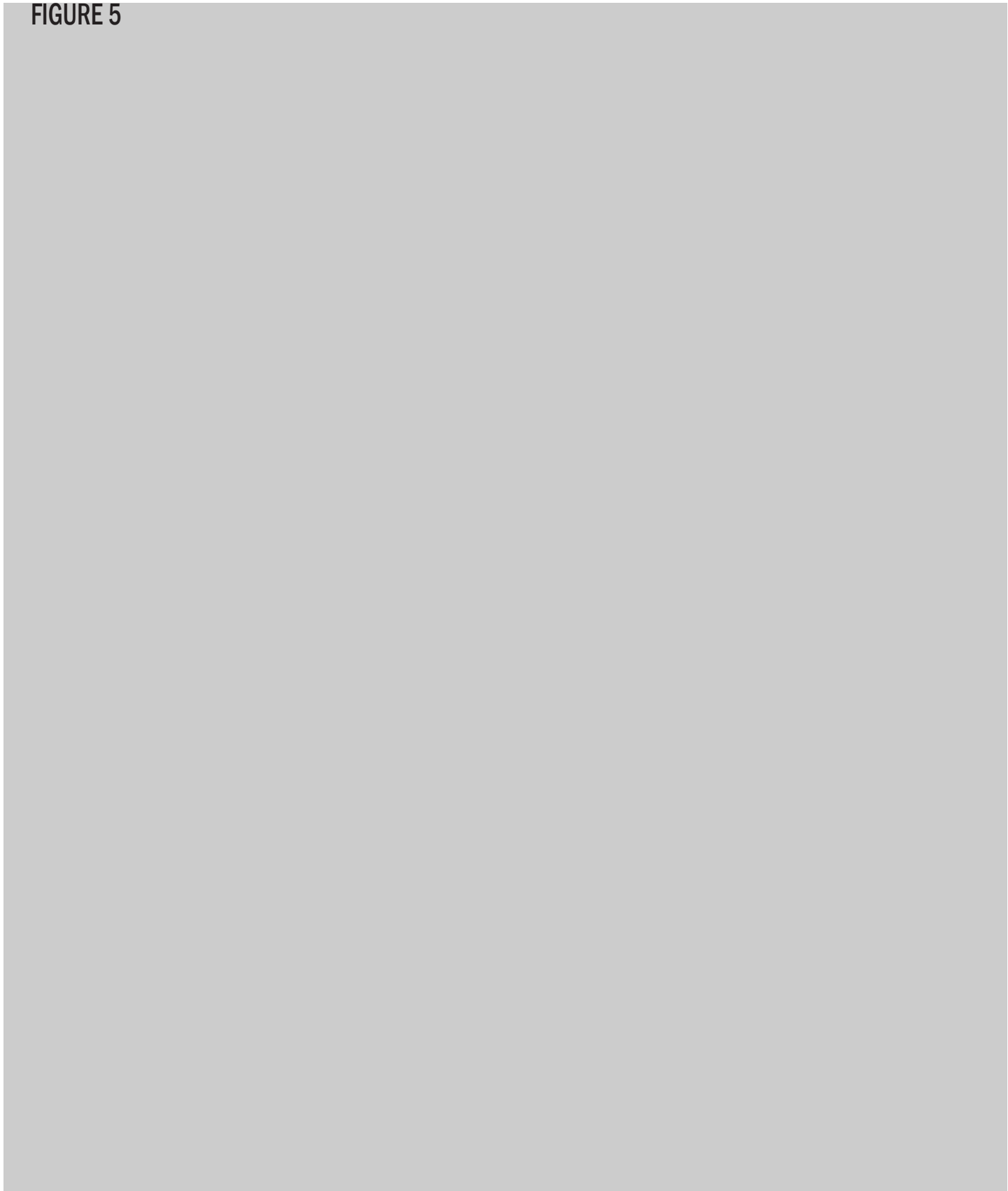


Figure 6: Major Corporate System

Features:

- Automatic 2-source main music • 8 Speakers on 2 channels with impedance-matching volume controls and mono Function • 4-Zone keypad system • Executive office controls with option to select from main source to local • AC Power control of main music sources • Key-switch ON/OFF of entire system, Auto-On feature defeated, 12V control for AC switching • AUX input for KSU paging in selected areas

A specialized installation that includes remote key-switch turn-on and use of multi-zone controllers for individual spaces with keypad controls. Executive suite is specialized with main/local source selection and control of entire system. Restrooms, small vestibules, elevators, and large rooms arranged in multiple seating areas are some examples of spaces more appropriate to monaural music. Each of the 1250 MKII's 12 channels may be individually configured for monaural reproduction if required.



MAINTAINING YOUR SONAMP 1250 MKII

The Sonamp 1250 MKII does not require periodic maintenance and has no user-serviceable parts inside. Do not remove the top cover as this will increase your risk of electric shock. To keep the amplifier clean, use only a soft cloth and never use any solvents or abrasives. Fingerprints may be removed with a soft cloth moistened only with a few drops of water.

SPECIFICATIONS

All Channels Driven

Output Power (Stereo mode) RMS:	50 Watts per channel, 12 channels @ 8 ohms 75 Watts per channel, 12 channels @ 4 ohms 100 Watts per channel, 6 channels @ 8 ohms, bridged
IHF: Dynamic Power:	78 Watts per channel, 12 channels @ 8 ohms 115 Watts per channel, 12 channels @ 8 ohms 224 Watts per channel, 6 channels @ 8 ohms, bridged
Dynamic Headroom:	+1.9dB, 12 channels @ 8 ohms +1.8dB, 12 channels @ 4 ohms +3.5dB, 6 channels @ 8 ohms bridged
Total Harmonic Distortion:	.03% 20Hz – 20kHz @ 8 ohms (50 WRMS) .06% 20Hz – 20kHz @ 4 ohms (75 WRMS) .01% 1kHz @ 8 ohms (50 WRMS) .01% 1kHz @ 4 ohms (75 WRMS)
I.M. Distortion (SMPTE 4:1):	0.01% @ 8 ohms, (50 Watts)
Signal to Noise Ratio:	-100dB below rated output (A-weighted)
Input Sensitivity:	700 millivolt for 50 watts RMS @ 8 ohms
Input Impedance:	20k ohms
Power Consumption:	1800 Watts, maximum (4 ohms, full power); 10 Watts (standby)
AC Fuse:	T10AH 250V
Optional Items:	5-Space rack mount faceplate
Dimensions (WxHxD):	16¾" x 9½" x 16½" (425mm x 241mm x 419mm) 55 pounds (25KG)

TECHNICAL ASSISTANCE

If you have any questions about the operation or installation of your Sonance Sonamp 1250 MKII, please call our Technical Assistance Department on any business day at:

- (800) 582-0772 or (949) 492-7777 from 9 a.m. to 5 p.m., Pacific Time

OBTAINING SERVICE

Should your product require repair or service, contact your authorized Sonance retailer for help, or use the following procedure:

1. Prior to calling, note the product model number, serial number, purchase date, and original retailer's name and address.
2. Contact our Technical Assistance Department at the number(s) above and describe the problem. If required, a Return Merchandise Authorization (RMA) number will be issued.

IMPORTANT: Do not return the unit to Sonance without first obtaining an RMA number.

3. If you are directed to return the unit to Sonance for repair, pack the unit in its original shipping cartons (inner & outer). Replacement packaging can be obtained from Sonance for a small charge.
4. Contact United Parcel Service, Federal Express, or RPS to arrange pre-paid (not collect) shipping. Do not use the United States Postal Service. IMPORTANT: Freight collect shipments will be refused.
5. Write the Return Merchandise Authorization number on the outside of the shipping carton.
6. For warranty work, please include a copy of the original bill of sale inside the package. Ship the packaged unit to:

Quality Assurance Department
Sonance
212 Avenida Fabricante
San Clemente, CA 92672-7531

WARRANTY COVERAGE (USA ONLY)

If, within one (5) years from the date shown on the bill of sale, the unit fails due to a defect in workmanship or materials, Sonance will, at its option and at no charge to purchaser, repair or replace the components of such unit which proves to be defective.

For this warranty to be effective, the bill of sale must show that the unit was purchased from an authorized Sonance retailer. This warranty shall apply exclusively to the original purchaser and shall not apply to units purchased for industrial or commercial use.

Furthermore, this warranty shall not apply if:

1. Damage to the unit was caused by accident, abuse, or misuse;
2. The unit was opened, modified, or repaired by unauthorized personnel; or
3. The unit was not used as outlined in the operating instructions.

EXCLUSIONS AND LIMITATIONS

The warranty set forth above is in lieu of all other warranties, express or implied, of merchantability, fitness for a particular purpose, or otherwise. The warranty is limited to Sonance products registered herein and specifically excludes any damage to any associated equipment, which may result for any reason from use with this product.

Sonance shall, in no event, be liable for incidental or consequential damages arising from any breach of this warranty or otherwise. This warranty gives you specific legal rights, and you may have other rights, which vary from state to state.



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