

ELAN
H O M E S Y S T E M S

Z.660

**MULTI-CHANNEL
POWER AMPLIFIER**

Installation Manual



⚡ WARNING ⚠
RISK OF ELECTRIC SHOCK
DO NOT OPEN

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



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.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the device or component.

WARNING: TO REDUCE THE RISK OF FIRE OR SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

IMPORTANT SAFETY INFORMATION

Read Information—All the safety and operating information should be read before the unit is operated.

Follow Information—All operating and use information should be followed.

Retain Information—The safety and operating information should be retained for future reference.

Heed Warnings—All warnings on the unit and in the operating instructions should be heeded.

Carts and Stands—This unit should be used with a stationary shelf. Do not use any mobile carts.

Wall Mounting—Mounting of this unit should be done only by an authorized installer.

Ventilation—This unit should be situated so that its location or position does not interfere with proper ventilation. This unit should never be placed near or over a radiator or heat register. This unit should not be placed in a built-in installation such as a bookcase or cabinet that may impede the flow of air through the ventilation openings. Do not "rack mount" two or more amplifiers on top of each other without either forced-air ventilation or one rack space (1.75") between each unit.

Non-Use Periods—Units that are left unattended and unused for long periods of time should be unplugged from the wall outlet.

Power Sources—This unit should be connected to a power supply only of the type described in the operating instructions or as marked on each unit. If you are not sure of the type of power supply to your home, consult your authorized ELAN dealer or local power company.

Grounding or Polarization—These audio products are equipped with a grounding-type alternating-current line plug. This plug will fit only into a grounding-type power receptacle. This is a safety feature. If the plug receptacle does not fit, contact an electrician to replace your

obsolete receptacle. Do not defeat the safety purpose of the grounding-type plugs.

Water and Moisture—To reduce the risk of electric shock or fire, these appliances should not be used near water - for example, near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool.

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

Do not damage or deform the power supply cord. If it is damaged or deformed, it may cause electric shock or fire when used. When removing from the wall outlet, be sure to remove by holding the plug attachment and not by pulling the cord.

Telephones—Avoid using a telephone (other than a cordless type) during an electrical storm. There may be a remote risk of electrical shock from lightning. Do not use a telephone to report a gas leak if the leak is in the vicinity of the ELAN electronic equipment because of risk of fire or explosion.

Cleaning—Unplug this audio product from the wall outlet before cleaning. Do not use liquid or aerosol cleaners. Use a damp cloth for cleaning.

Overloading—Do not overload wall outlets and extension cords, as this could result in fire or electric shock.

Object and Liquid Entry—Never insert objects of any kind through the openings of these appliances, as they may touch dangerous voltage points or short-out parts that could result in a fire or electric shock. Care should be taken so that objects do not fall and liquids are not spilled into the appliance through openings in the enclosure.

Servicing—Do not attempt to service these appliances yourself, as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.

Damage Requiring Service—These appliances should be serviced by qualified service personnel when:

- A power supply cord or a plug has been damaged or
- If liquid has been spilled into the appliance or objects have fallen into the appliance or
- The appliance has been exposed to water or moisture or
- The appliance does not appear to operate normally or exhibits a marked change in performance or
- The appliance has been dropped or the enclosure damaged.

Replacement Parts—When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or that have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock, or other hazards. The Master Control Unit battery should be replaced only after turning the power off and only by an authorized installer.

Safety Check—Upon completion of any service or repairs to this audio product, ask the service technician to perform safety checks to determine that the audio product is in proper operating condition.

Lightning—For added protection for these audio products during an electrical storm, or when they are left unattended and unused for long periods of time, unplug them from the wall outlet and disconnect the antenna or cable system. This will prevent damage to the audio products due to lightning and power-line surges.



9700721

HOME SYSTEMS WITH AUDIO AND/OR
 VIDEO CONTROL CAPABILITIES
 ETL LISTED PRODUCT
 CONFORMS TO UL STD 6500.
 AUDIO/VIDEO AND MUSICAL INSTRUMENT
 APPARATUS FOR HOUSEHOLD, COMMERCIAL,
 AND SIMILAR USE.
 ETL LISTED PRODUCT.
 CONFORMS TO CAN/CSA E65-94.

CONGRATULATIONS AND THANK YOU

You have purchased the highest quality multi-channel audio amplifier on the market today—the Z•660 power amplifier. We at ELAN Home Systems are proud of this precision audio component and are pleased you have chosen this ELAN product as the cornerstone to your audio system. Crafted to be the de facto standard for power amplifiers in its class, the Z•660's circuit design, small footprint and robust power output are the latest in audio technology and should provide you with years of superior audio performance.

As a manufacturer, ELAN strives to provide you with excellent service **after the sale**. If you have any questions or comments concerning the performance, installation or features of the Z•660 power amplifier, please call the ELAN Service and Technical Support Department at 1 606 269-7760. We are at your service.

Please take a few minutes to read this manual thoroughly. It will help you fully understand and successfully integrate the capabilities and features of your new power amplifier with your existing source equipment and speakers.

ELAN Home Systems designs and manufactures the industry's most complete line of multi-room audio/video systems and components. For free product information write us at:

ELAN Home Systems
 Product Information
 2428 Palumbo Drive
 Lexington, Kentucky 40509

or check out our website at: www.elanhomesystems.com

Look for these other New Z•Series Products:

- Z•630 Pre-Amp Controller
- Z•600 Comm Controller
- Z•300 Two-Channel Power Amplifier
- Z•100 and Z•150 Intelligent Keypads
- Z•FAN System Cooling Component
- Z•880 Video Controller

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INTRODUCTION

The Z•660 power amplifier is a 6 channel by 60 Watts per channel power amplifier designed specifically for multi-room or multi-channel applications. The Z•660 can also be "bridged", giving you 3 channels at 120 Watts per channel for home theater and high-power applications.

Multi-Room/Multi-Channel Power and Flexibility

The 6x60/3x120 WPC stereo/bridging capabilities of the Z•660 gives you numerous multi-room or high-power options from which to choose. Since each of the six independent channels are designed for high isolation/low crosstalk performance, the Z•660 can easily be configured to power multiple stereo and/or mono listening areas, or "zones", with the push of a single button or the use of RCA patch cables.

Six Channels of Surround Sound Power

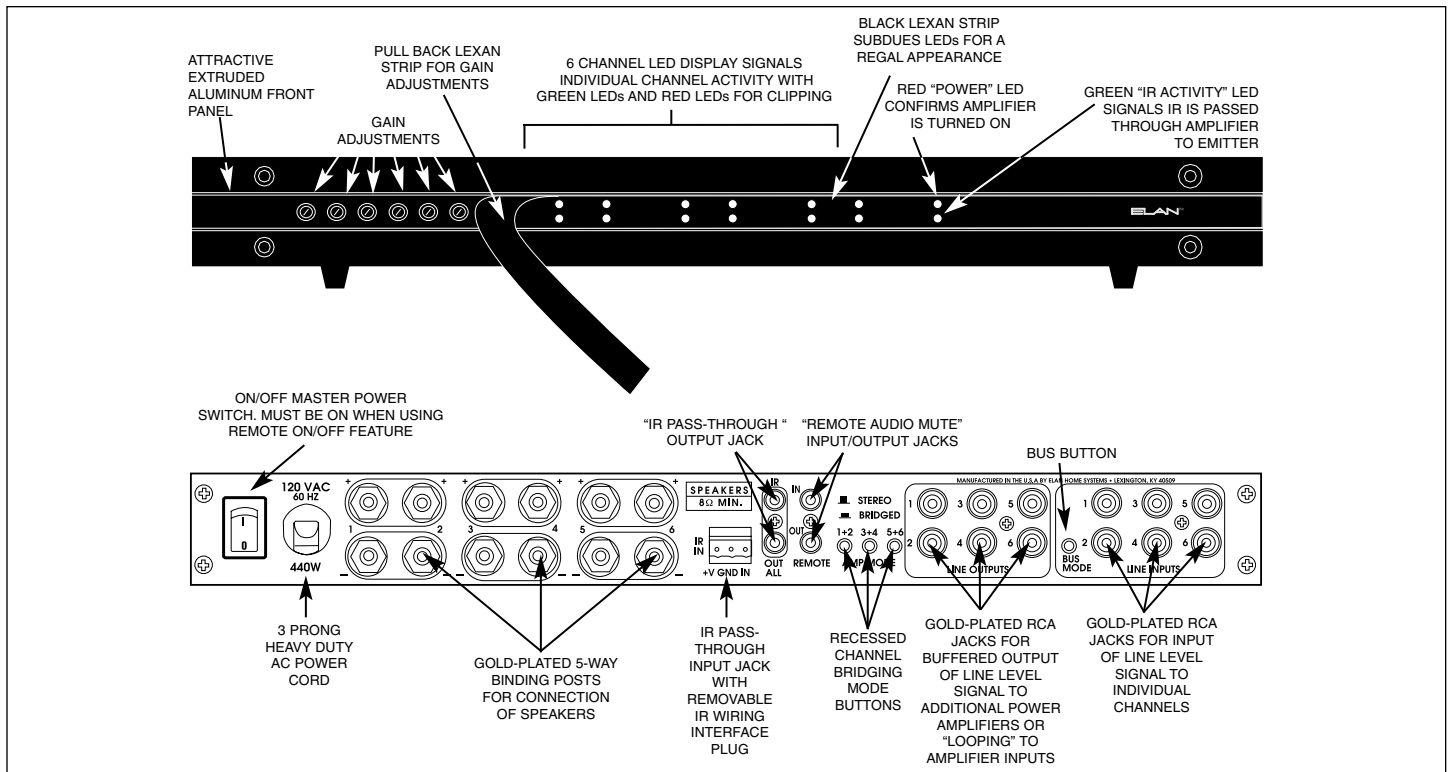
Each one of the Z•660's channels can be used to power the outputs of a Surround Sound processor, giving you 60 Watts of thundering cinema audio for each of your front, center, and real channel speakers, as well as a passive subwoofer.

High-Powered Home Theater

Sixty Watts per channel not enough to power the mega-speakers in your dedicated Home Theater? No problem. With the push of a button, the easy bridging capabilities of the Z•660 will give you a glorious 120 Watts per channel for your front left, right, and center channel speakers. Want the same power for your rear channel speakers? Add another Z•660!

Bi-Amp Audio

For high end audio applications where a stereo speaker pair requires separate tweeter and woofer power amplifiers, the Z•660 is a perfect fit for the job. When used in conjunction with an active crossover, the Z•660 can be configured for 2 X 120W woofer amplifiers and 2 X 60W tweeter amplifiers.



FEATURES

Line Inputs and Outputs

Channel configuration of the Z•660 is a breeze. In addition to the six gold-plated RCA line level inputs, the Z•660 is equipped with six buffered RCA output jacks, making it easy to loop a source input to any of the other channels. The line outputs also have built-in series resistors, which allow you to “Y” the outputs together to create monaural listening areas or “sub-zones”.

The Z•660’s BUS button can make things even easier. When using one source which you wish to send to three separate stereo listening areas or “zones”, simply pressing the BUS button will automatically route the source input signal to all of the Z•660’s speaker outputs. This “quick-connect” option completely eliminates the need for patch cords or jumpers.

Independent Channel Level Adjustments

An installer’s delight! No longer will you have to remove the amp from a rack or cabinetry, or crawl behind the unit to “tweak” the sound. Six independent gain adjustments for each channel are located *on the front* of the Z•660. Simply pull back the front trim strip for easy access and tweak away!

Infrared System Control

The Z•660 makes wholehouse infrared control of your system a snap and also eliminates the need for “add-on” IR distribution boxes! Its built-in “Infrared Pass-Through” feature allows you to power up to four IR receivers and connect up to four IR emitters for complete control of your source equipment via hand-held remote controls.

LED Status Indicators

Once again, ELAN has kept ease of installation and the installer in mind, providing visual feedback for virtually every operational aspect of the Z•660. Six banks for LEDs on the front panel indicate activity for each of the six amp channels. A red “POWER” LED confirms that the amplifier is on, and a green “IR ACTIVITY” LED indicates pass-through of IR signals from the IR in-wall receivers to your source equipment.

Channel Bridging

How easy is it to turn two, four, or six 60 Watt channels into one, two or three 120 Watt channels. *Simply press a button!* The recessed Channel Bridging buttons located on the back panel of the Z•660 make your custom channel configurations easy.

Remote Audio Mute

Many audio receivers and pre-amps have a remote “power up” output jack that sends a low voltage signal to other equipment to turn them on or off. The Z•660 can utilize this signal to mute the audio outputs of the amplifier, essentially putting the Z•660 in “stand-by” mode. This feature eliminates any noise that may come through the speakers when the source components are not in use.

Single Rack-Space Design and Performance

At 1 3/4” in height, the Z•660 is the first of its kind in the consumer audio market to incorporate so much power in such a small footprint. Imagine—six channels of

audiophile-quality sound with 360 Watts total power taking up only 1 3/4" in your cabinet or rack.

How was ELAN able to pack so much kick into such a small package? Efficiency has been achieved by placing the heat sinks, normally found within the amplifier chassis, to the exterior sides of the Z•660. This allows increase in air flow over the heat sinks and avoids exposing internal circuits to heat build-up, which can shorten the life expectancy and performance of the components within.

Combine this unique engineering design with the low noise, cross-talk, and THD specifications, a high-performance toroidal transformer and large bulk storage capacitors, gold-plated input/output jacks and five-way speaker binding posts, push-button bridging and channel bussing, independent gain level adjustments and IR pass-through —and what you get is an amplifier of superior design, quality, and sonic performance.

The Z•660 is designed, engineered, and manufactured in the USA. There is a full two-year warranty on parts and labor against manufacturer's defects.

INSTALLING YOUR Z•660 POWER AMPLIFIER

IMPORTANT: Where to Place Your Z•660

Do not place your Z•660 in non-ventilated, closed-door equipment cabinets. The Z•660's externally mounted heat sinks dissipate heat from the unit more effectively than competitive products with internally mounted heat sinks. Because of its low profile, it can become very hot to the touch in certain applications. When placing the Z•660 close to other source equipment, be sure to provide adequate space for air flow around the heat sinks.

When using the Z•660 or Z•661 in the 3x120W high current bridge mode, the unit must be placed in an equipment rack with a minimum of 250 CFM forced-air ventilation (ELAN Z•FAN System Cooling Component).

When using multiple Z•660s in an installation, maintain a minimum of one rack space between each amplifier in an open cabinet. Z•660 amplifiers can be mounted adjacent to each other in a rack only if forced-air ventilation such as the ELAN Z•FAN is used.

CONNECTING SPEAKERS

Before making any connections, make sure the Z•660 is turned off and unplugged from the 110 Volt wall outlet. When connecting speakers and source equipment, make sure you have ample cable length so that no strain will be put on the amplifier's terminals.

Speaker Connections

Each channel of the Z•660 is rated to handle a minimum 8 ohm load. Amplifier loads below 8 ohms can switch the output devices into "limit" at high dynamic music peaks, causing distortion and/or damage to the amplifier.

The five-way speaker binding posts on the Z•660 will accept single and double

banana plugs, spade lugs, pins, and bare wires. It is recommended that you have no less than 2 inches space at the rear of the amplifier when using banana plugs. If you are installing amplifiers on top of each other in a rack configuration, banana plugs are required to avoid shorting one amplifier's speaker connections to the other. If you are prepping the termination of speaker wire, make sure that no stray strands of wire short circuit across the positive and negative terminals. Maintain uniform polarity for all connections.

We recommend using 14 to 18 gauge twisted-pair speaker wire for multi-room speaker applications. Of course, the length of wire run will ultimately determine what gauge will be required. *General rule-of-thumb:* the longer the run, the heavier the gauge. Speaker wire over 16 gauge will need to be terminated with either banana plugs, spade lugs, or pins.

Connecting Multiple Speakers

If you are using multiple in-wall or in-ceiling speakers (of course, we recommend ELAN speakers!), we recommend ELAN impedance matching in-wall volume controls. These volume controls are available in stereo and monaural models and have an impedance matching feature that optimizes the number of speakers you can connect without overloading the amplifier channel.

When connecting multiple speakers through volume controls to an amplifier channel, make sure each is connected in parallel. The "cleanest" way to do this is using banana plugs on each volume control wire and plugging them in end-to-end. It is not wise to twist multiple bare wires together and attempt to connect them to a channel post. You run the risk of shorting across the positive and negative terminals. If this is the only method available, make the multiple speaker wire connections away from the channel posts and connect the "junctions" to the posts using single wires. See *Connecting Multiple 4 Ohm and 8 Ohm Speakers*, Page 13.

Connecting Volume Controls

Please refer to the table below before connecting Volume Controls to the Z•660.

WHEN THE Z•660 IS OPERATING IN STEREO (NON-BRIDGED) MODE:

Volume Controls with an Impedance Match Setting of:	Require a Minimum RMS Watt Rating of:	And a Minimum Music Power Rating of:	Recommended STEREO Volume Control	Recommended MONO Volume Control
1X	25 WRMS	75 WMP	ELAN VS	—————
2X	25 WRMS	75 WMP	ELAN VS	ELAN VM
4X	25 WRMS	75 WMP	ELAN VS	ELAN VM
8X	25 WRMS	75 WMP	ELAN VS	ELAN VM

NOTE: A minimum 8 ohm load must be maintained at all times.

WHEN THE Z•660 IS OPERATING IN BRIDGED MODE:

VOLUME CONTROLS SHOULD NOT BE USED

The BRIDGED MODE was designed for Home Theater or high-power, stand-alone speaker applications. *Using volume controls when in the bridged mode can result in damage to the amplifier, the volume control(s), or both, and will VOID the manufacturer's warranty.*

NOTE: When in BRIDGED MODE, a minimum 8 ohm load must be maintained at all times.

Connecting Source Components

Using a high-quality RCA-type stereo patch cord, connect the left/right line level output of the source component to the desired inputs of the Z•660. If combining left/right line level outputs from a source component to make a monaural signal input to the Z•660, it will be necessary to use an RCA-type “Y” patch cable with a built-in resistive load or to add a 1K ohm resistor in series to both the Left and Right source line outputs before “Y-ing” them together.

Grounding

Only use AC receptacles that are properly grounded. Do not clip the ground pin off the power cord. The grounding circuitry is a safety feature that is required for your product warranty to remain intact.

Regardless of your application—consider the power, the small footprint and the ease of installation and configuration of the Z•660. It is a high-quality, audiophile-grade component that provides incredible audio performance and flexibility at an outstanding price.

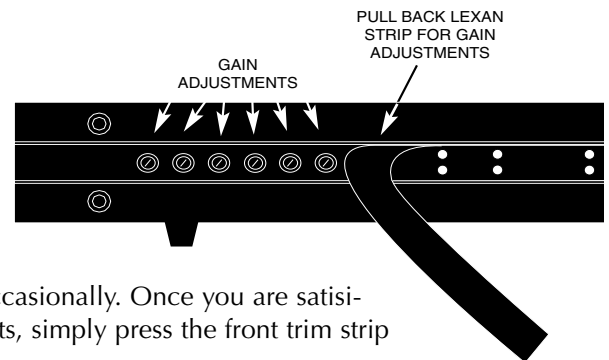
Individual Channel Gain Level Adjustments

The Z•660 power amplifier design includes six input level adjustments. All six channels can easily be set for overall listening levels and room balancing from the front panel! These variable adjustments can be used to set individual monaural or stereo listening levels in each room. Additionally, for applications where one stereo speaker is closer to the designated seating area, the sound field can be “re-balanced” to the optimum listening location.

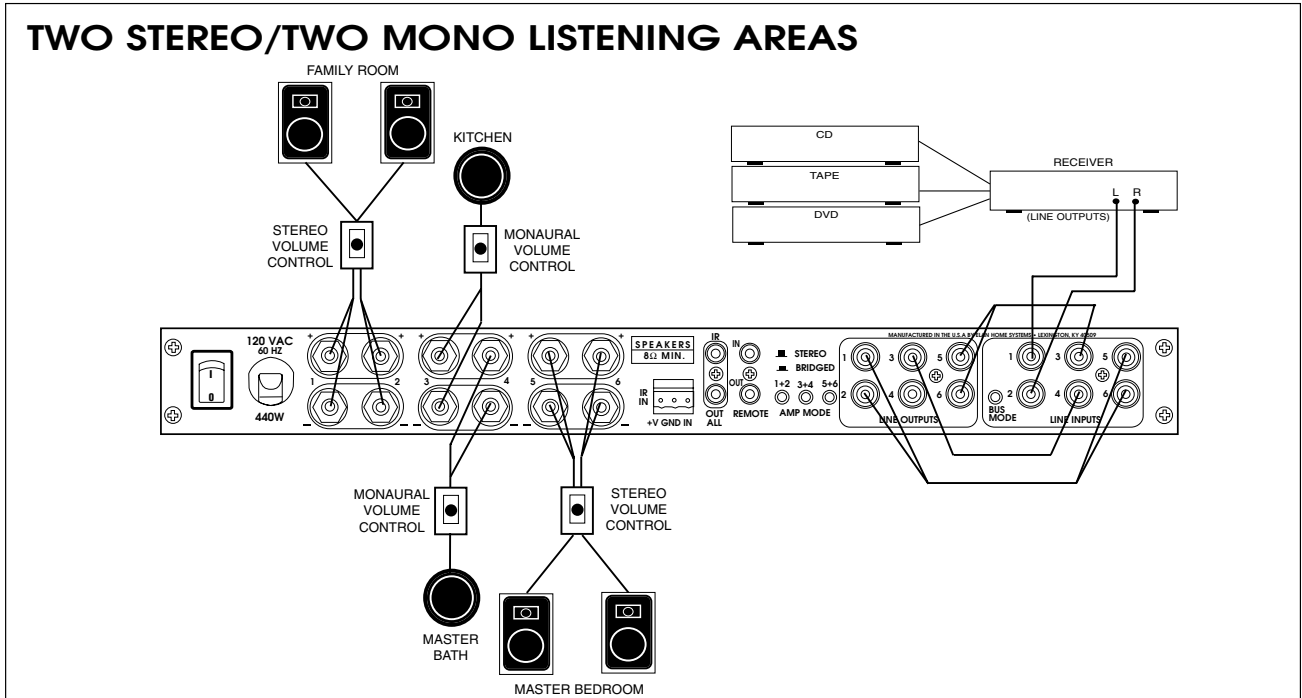
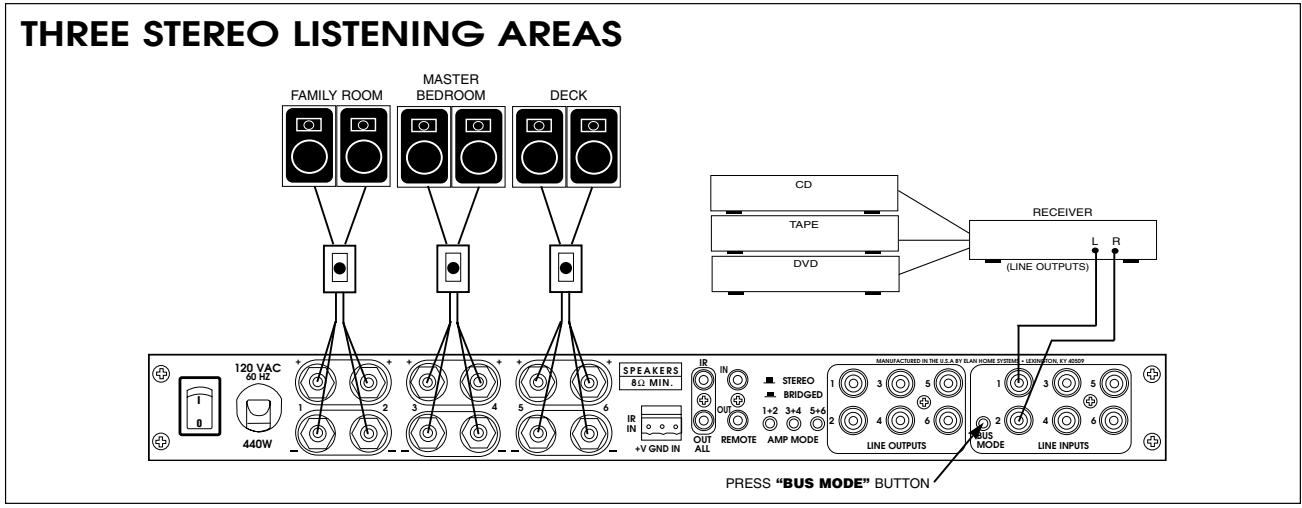
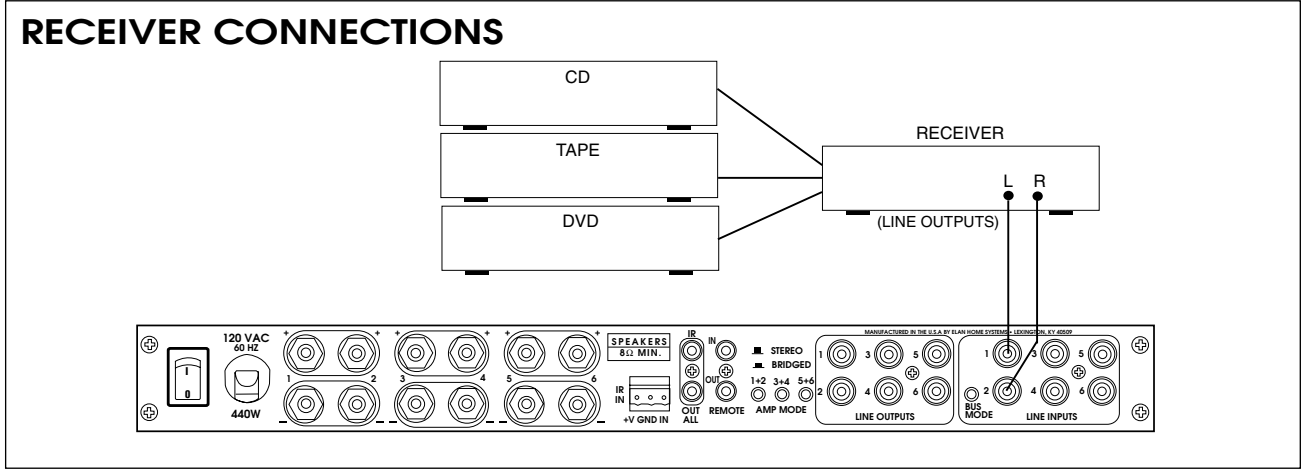
To access the line level adjustment “pots”, take a thin-blade utensil (preferably a small screwdriver) and peel back the left side of the trim strip found on the front panel of the amplifier (see illustration on following page). The adhesive on the trim is designed to reattach the strip to the face plate after you have performed your level adjustments.

Upon peeling back the strip you will see six recessed slots. As you view the front of the amplifier from left to right, the input level adjustment screws coincide with speaker channels 1, 2, 3, 4, 5, and 6. Use a small flat tip screw driver to adjust levels up (turn clockwise) or down (turn counter clockwise).

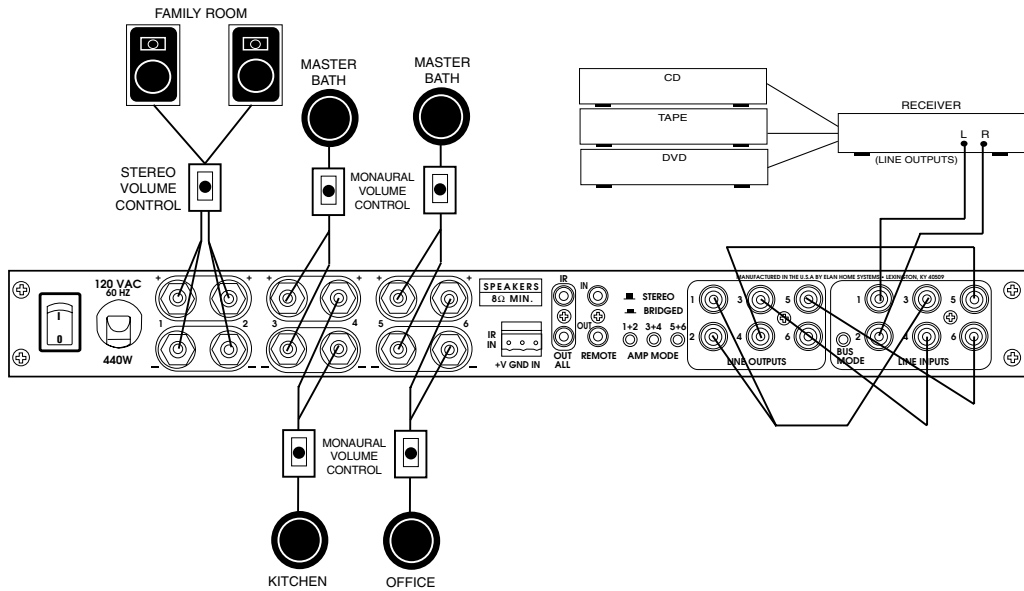
Check the red “CLIP” LED’s on the front panel while adjusting the “pots”. Of course, you will need a “hot” audio signal from your favorite piece of source equipment. Do not set any levels so that the “CLIP” LED’s are on continuously. It is acceptable if they “wink” occasionally. Once you are satisfied with individual adjustments, simply press the front trim strip back into place.



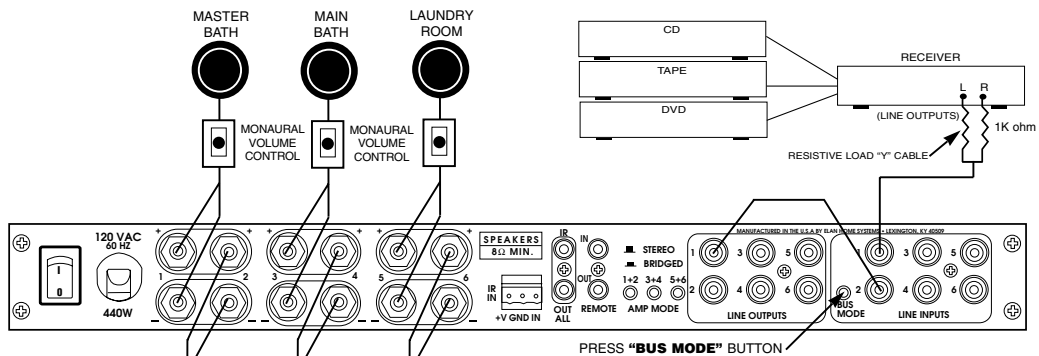
SINGLE SOURCE/WHOLEHOUSE SYSTEM CONFIGURATION EXAMPLES



ONE STEREO/FOUR MONO LISTENING AREAS



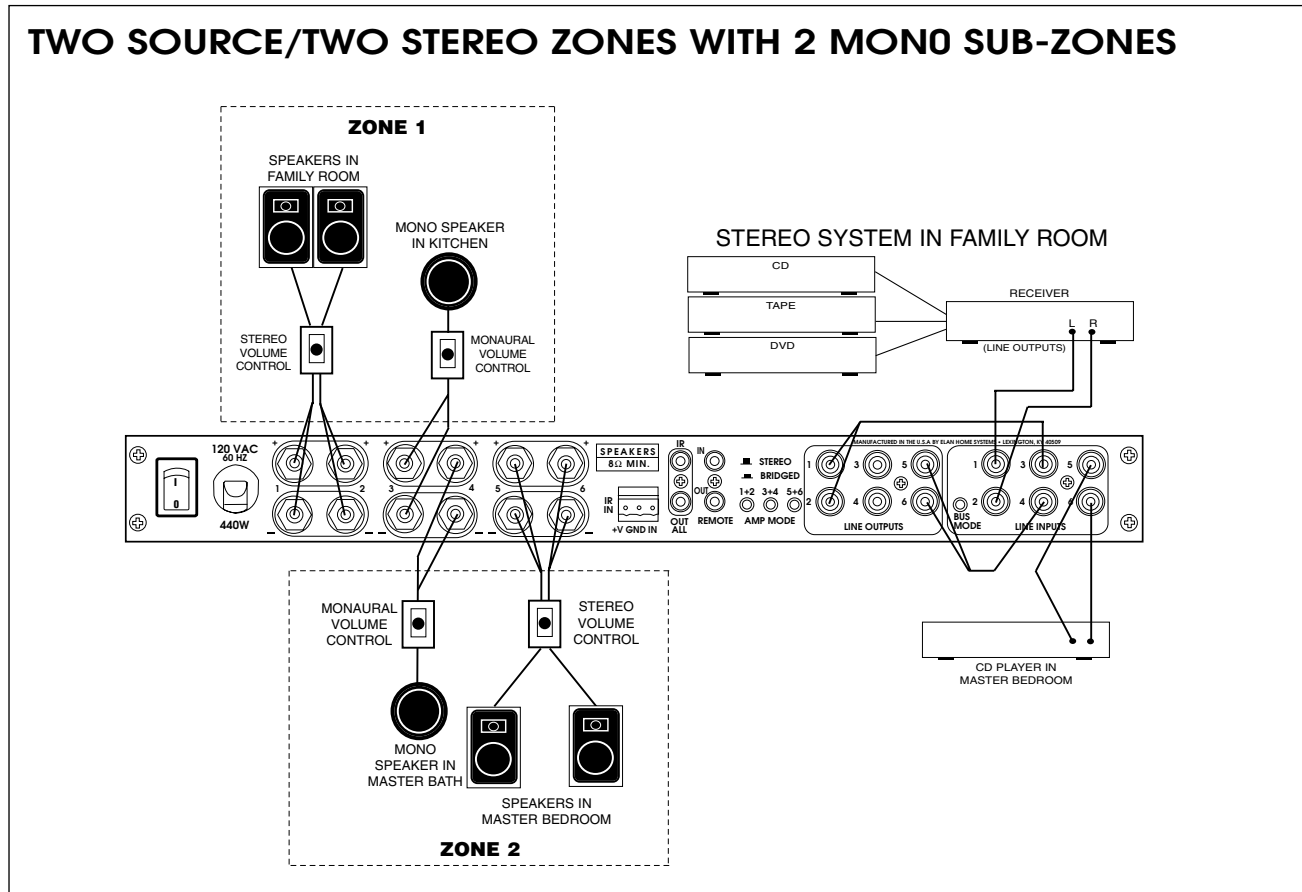
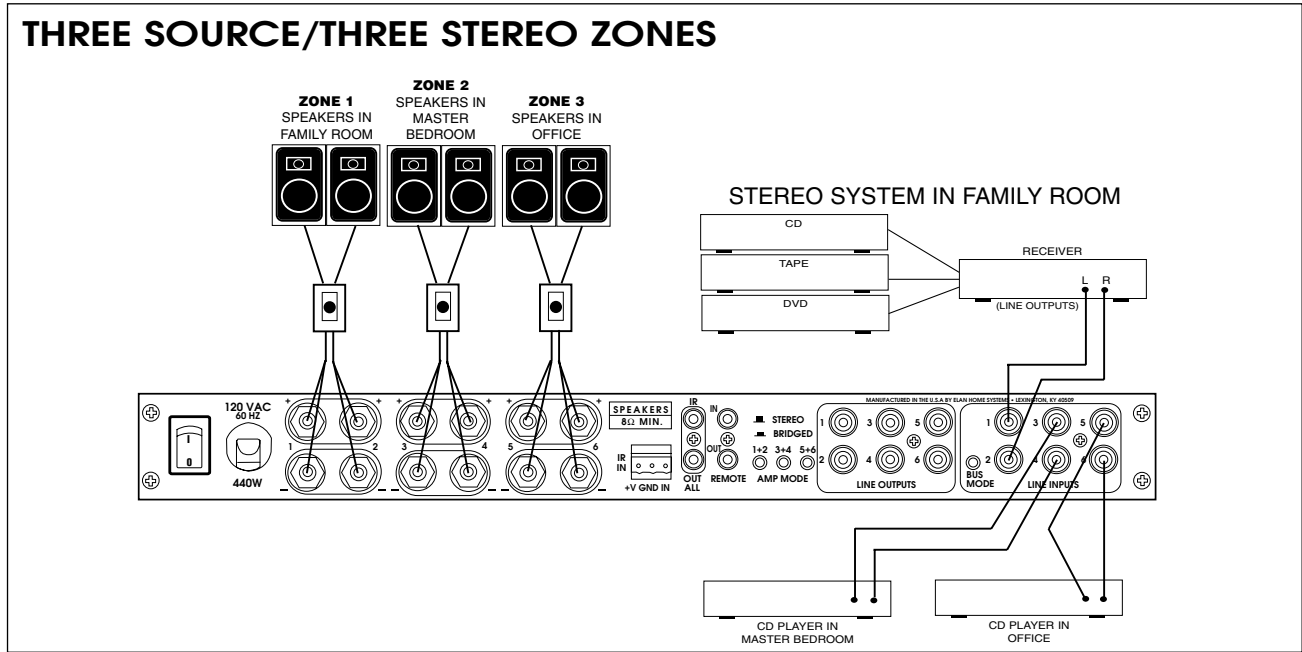
SIX MONO LISTENING AREAS



Great for commercial applications such as restaurants or bars. Multiple single speakers can be placed on each channel when using ELAN Impedance Selectable Volume Controls such as the VM/VMO (See *Connecting Multiple Speakers*, Pages 5 and 13).

NOTE: Use of an RCA "Y" patch cable with a built-in resistive load is necessary for this application. Add a 1K ohm resistor in series to both the Left and Right source line outputs before "Y-ing" them together. **DO NOT "Y" TOGETHER the Left and Right source line outputs without using a resistive load cable as this can cause damage to the source equipment.**

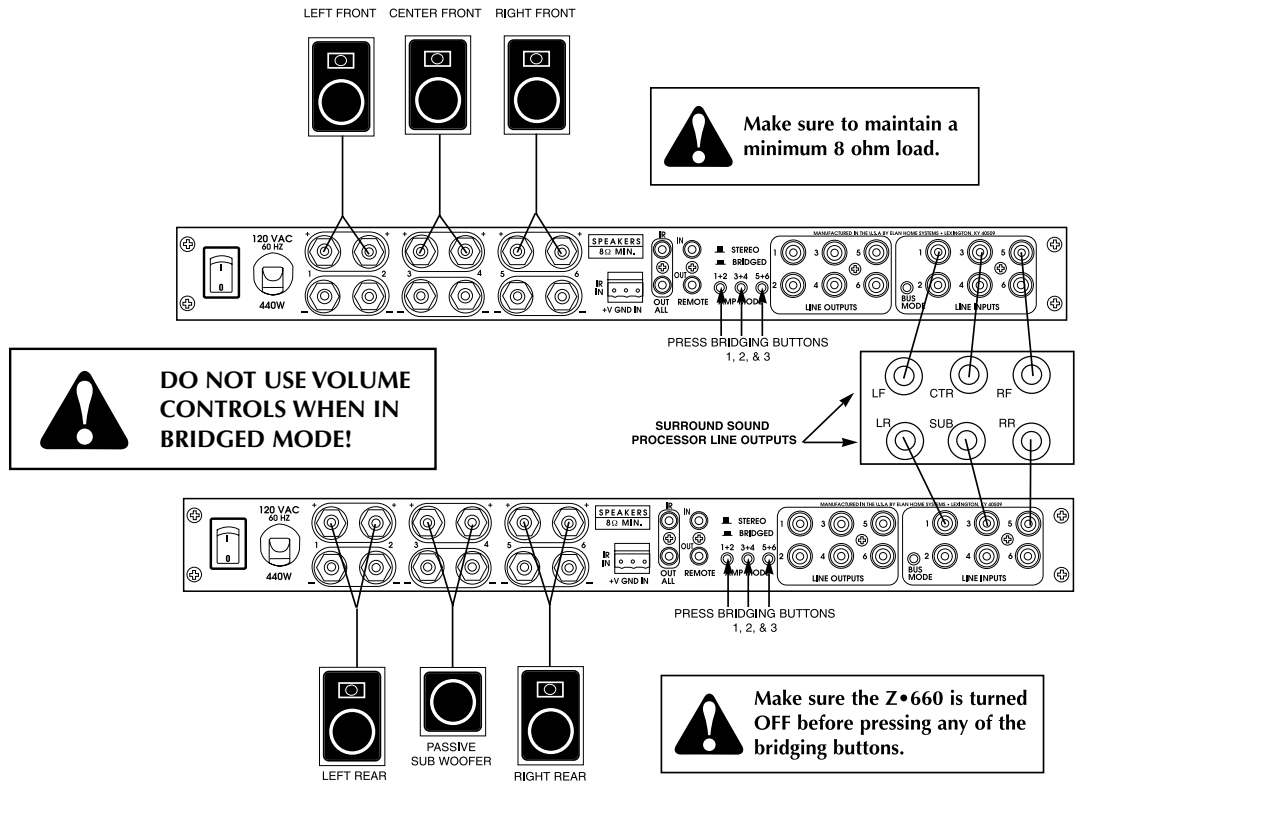
MULTI-SOURCE/MULTI-ZONE SYSTEM CONFIGURATION EXAMPLES



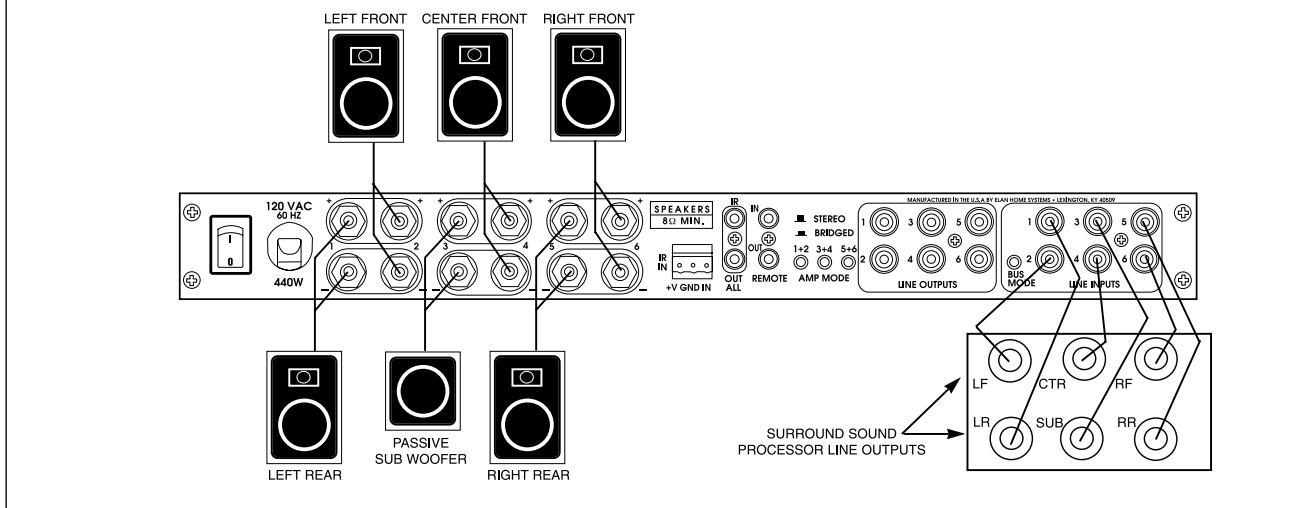
HOME THEATER APPLICATIONS

THREE OR SIX CHANNELS @ 120 WPC IN BRIDGED MODE

The channel bridging buttons have been recessed to avoid accidental activation of the bridged mode. To access the recessed buttons, simply punch through the metallic tape covering the hole of the channels you wish to bridge.

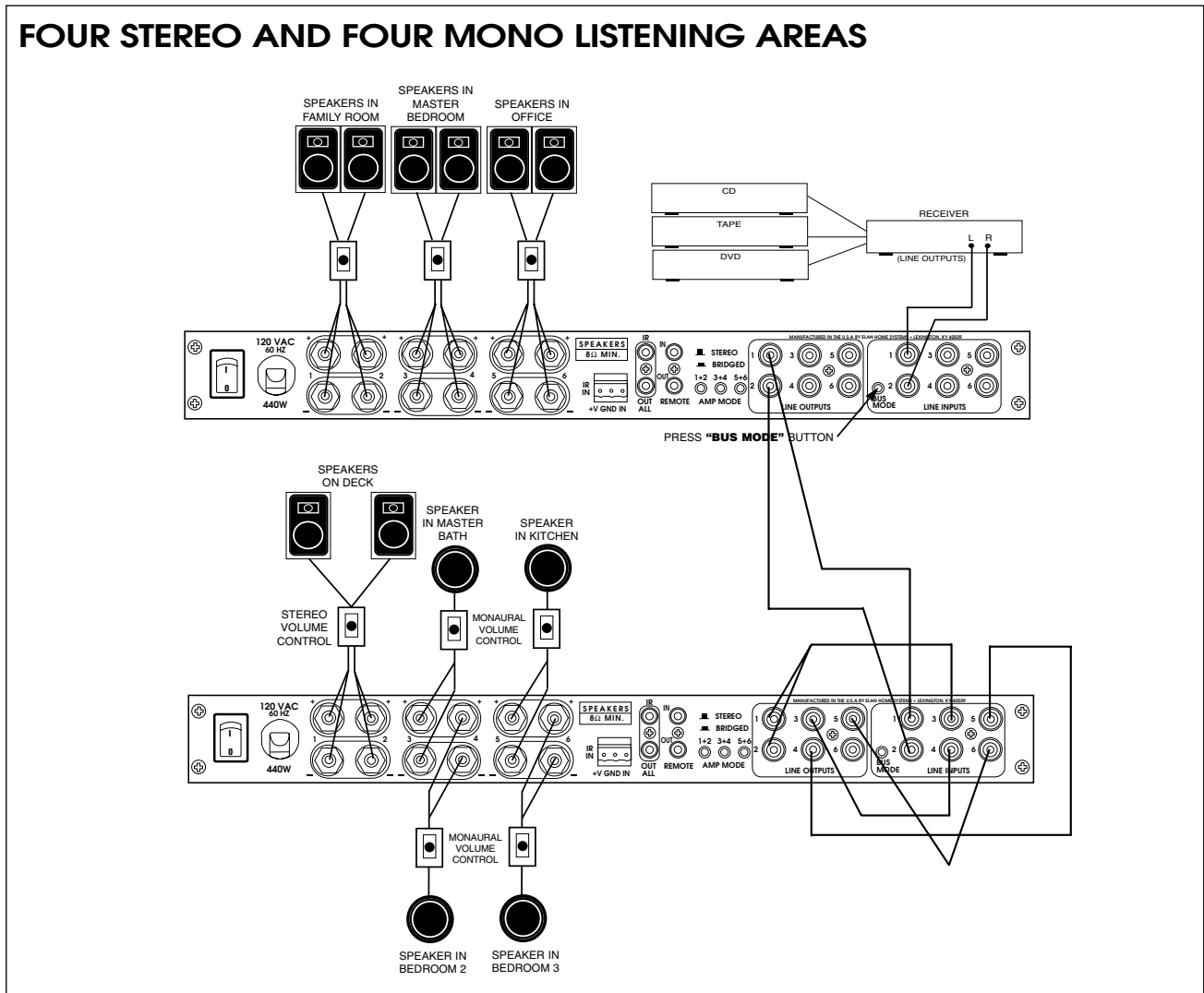


SIX CHANNEL @ 60 WPC SURROUND SOUND



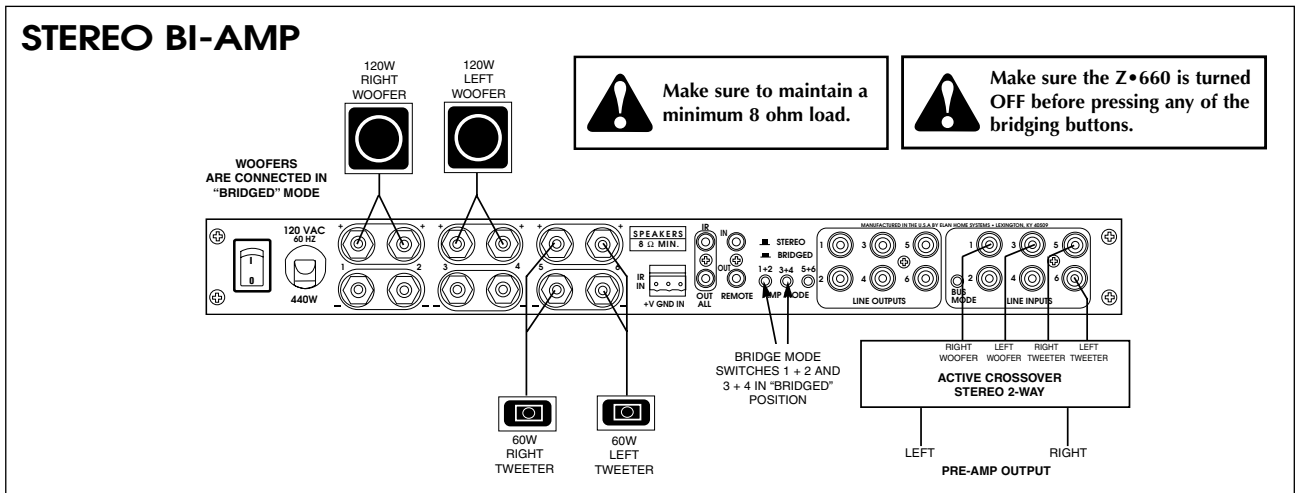
DUAL Z•660 SYSTEM

FOUR STEREO AND FOUR MONO LISTENING AREAS



OTHER CONNECTIONS

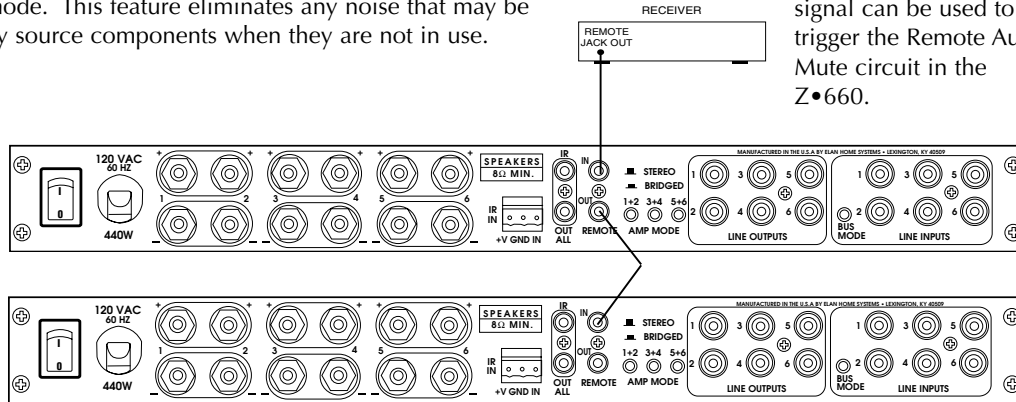
STEREO BI-AMP



REMOTE AUDIO MUTE CONNECTIONS

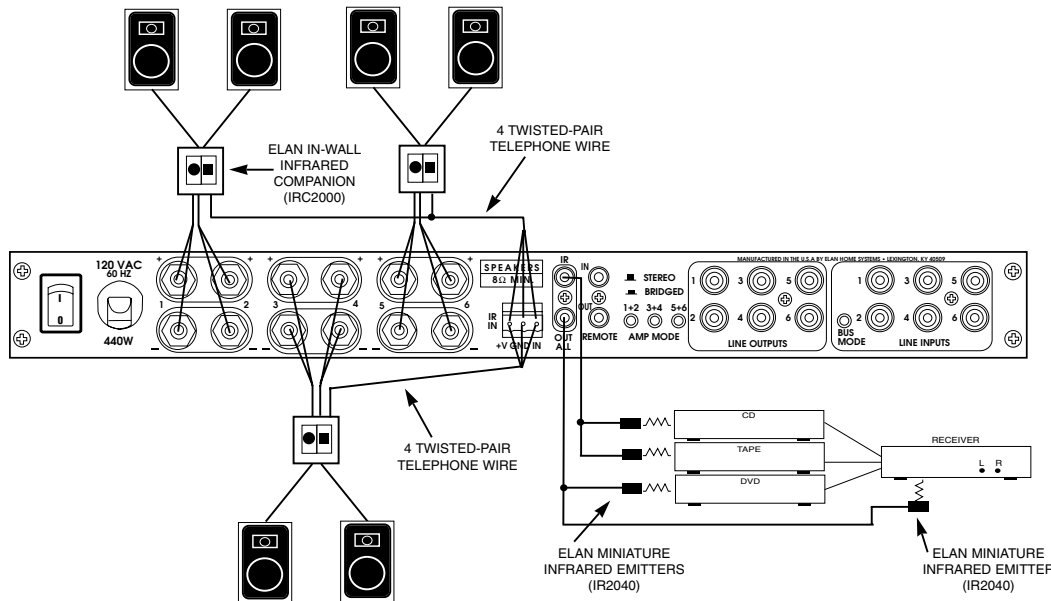
Many audio receivers and pre-amps have a remote "Power Up" output jack that sends a low voltage signal to other equipment to turn them on or off. The Z•660 can utilize this signal to mute the audio outputs of the amplifier, essentially switching the Z•660 to "standby" mode. This feature eliminates any noise that may be generated by source components when they are not in use.

Any 5-24 Volt AC or DC signal can be used to trigger the Remote Audio Mute circuit in the Z•660.



INFRARED SYSTEM CONNECTIONS

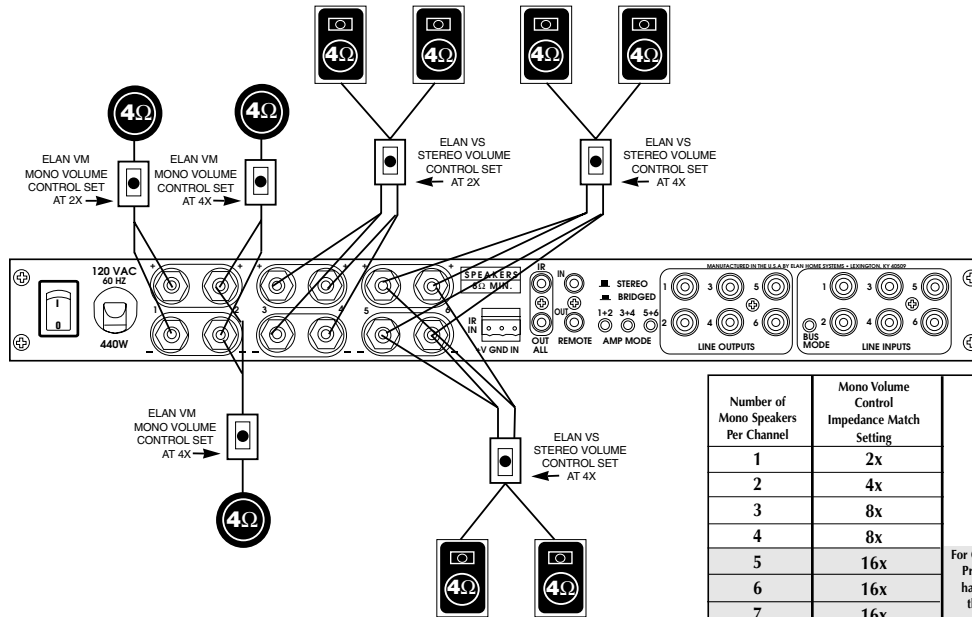
THE Z•660's built-in IR passthrough capabilities can give you multi-room control of your entire system. Up to four IR receivers, such as ELAN's Decora® style IRC2000, can be run to the IR "IN" connector on the back of the Z•660 and up to four miniature IR emitters (ELAN IR2040) can be connected to the IR OUT ports, giving you control of four sources from four different locations in the home.



Decora® is a registered trademark of Leviton.

CONNECTING MULTIPLE SPEAKERS USING IMPEDANCE SELECTABLE VOLUME CONTROLS

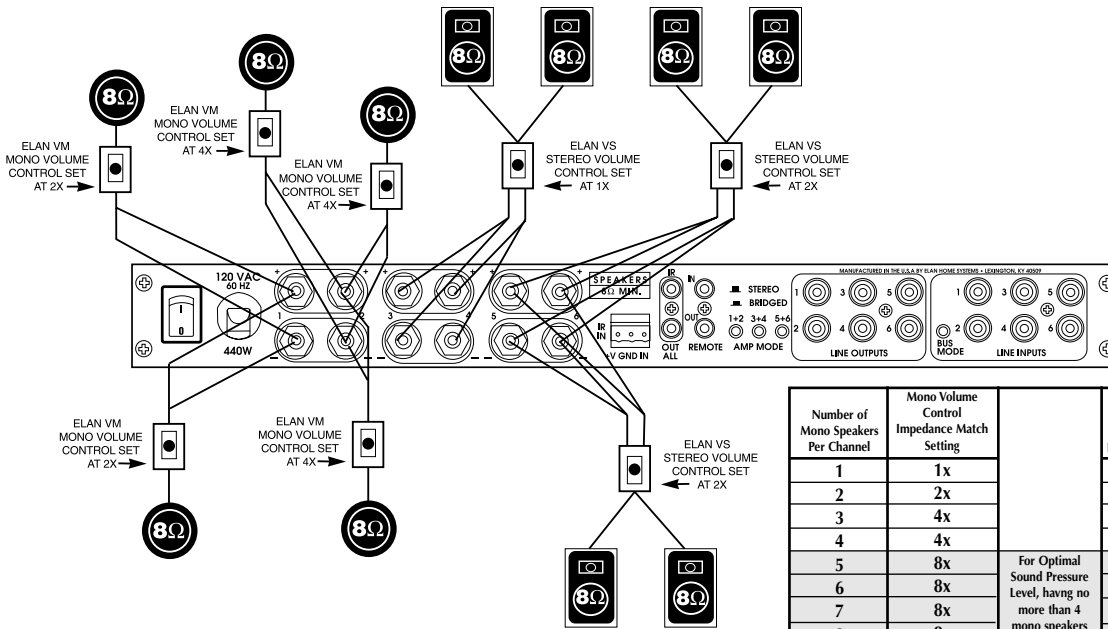
USING 4 OHM SPEAKERS (A MINIMUM 8Ω LOAD MUST BE MAINTAINED AT ALL TIMES)



Number of Mono Speakers Per Channel	Mono Volume Control Impedance Match Setting	Number of 4 Ohm Stereo Pairs Per Stereo Channel	Stereo Volume Control Impedance Match Setting
1	2x	1	2x
2	4x	2	4x
3	8x	3	8x
4	8x	4	8x
5	16x	5	16x
6	16x	6	16x
7	16x	7	16x
8	16x	8	16x

For Optimal Sound Pressure Level, having no more than 4 mono speakers or 4 stereo pairs per channel(s) is NOT recommended

USING 8 OHM SPEAKERS (A MINIMUM 8Ω LOAD MUST BE MAINTAINED AT ALL TIMES)



Number of Mono Speakers Per Channel	Mono Volume Control Impedance Match Setting	Number of 8 Ohm Stereo Pairs Per Stereo Channel	Stereo Volume Control Impedance Match Setting
1	1x	1	1x
2	2x	2	2x
3	4x	3	4x
4	4x	4	4x
5	8x	5	8x
6	8x	6	8x
7	8x	7	8x
8	8x	8	8x

For Optimal Sound Pressure Level, having no more than 4 mono speakers or 4 stereo pairs per channel(s) is NOT recommended

TROUBLESHOOTING TIPS

If you experience a problem with the operation of your Z•660 Power Amplifier, please refer to this Troubleshooting Guide to identify your problem and carefully follow the step-by-step recommended actions. If the problem persists and cannot be remedied, please call your local ELAN dealer or ELAN factory-direct technical support at 1.800.622.ELAN (3526).

SYMPTOM: *No Sound From Speaker Channel (Multiple or Single)*

CAUSE

- Short Circuit or Loose Connection
- Break Or Short In Speaker Wire
- Speaker is Malfunctioning
- Cable From Source Equipment Is Bad
- Source Equipment Is Nonfunctioning
- Amplifier Channel is Nonoperational Due to Overheating Under Sustained Fault Conditions

REMEDY

- Check speaker wire connections on binding posts and speaker terminals. Binding terminals may not be tightened down. Check for loose strands of wire that may be shorting across a terminal.
- Check continuity of speaker wires individually using an ohm meter. Measure from 4 to 10 ohms (this should be the impedance of the speaker or speaker/volume control). If you measure a short (<4 ohms) or an open circuit, check your wiring and (if present) volume controls for proper connections.
- Connect a different speaker (one that is known to be functional) to that channel.
- Check green "SIGNAL" LED on front of amplifier for that non-functioning channel. If LED is not visible while source equipment is operating, switch cable connecting source equipment to Line Input jack on amplifier with a cable that is known to be good.
- Check source equipment to see if it is the "play" mode, transmitting a signal level or operating properly. If using a receiver with tape monitor outputs, make sure an operating source is selected on the "monitor out".
- The Z•660 outputs will automatically switch into thermal shutdown when the channel is overdriven, an incorrect impedance load exists or a short is present. Channel operation will resume after the "fault" is removed. Care should be taken to provide proper ventilation at all times.

SYMPTOM: *Audio "Hum"*

CAUSE

- Ground Loop Exists On Source Equipment
- Faulty Cables
- Defective Source Equipment
- Short Circuits/Faulty Wiring

REMEDY

- Plug all source equipment into same 120V electrical circuit. Make sure each individual source is grounded properly.
- Check source equipment cables for faulty connections and open shields. Replace with cable known to be good.
- Source equipment output circuitry may be defective. Disconnect single piece(s) of source equipment and replace with known piece of functional equipment.
- Check for short circuits in wiring (refer to 2nd bullet (above), "No Sound From Speaker Channel"). Also check wiring on volume controls (if present). Controls may be wired backwards.

SYMPTOM: *Distorted Audio From Speakers At Normal Volume*

CAUSE

- Input Level Adjustment Too High
- Faulty Speaker

REMEDY

- Lower Input Level adjustment for that particular channel. If red "CLIP" LED pulses continuously, the input level is too high.
- Check speaker woofer/tweeter for defects and tears in material. Check wire connections at speaker terminals. Check power rating for speaker(s). They may not be able to handle power from the amplifier. Speakers with a power rating of less than 60 Watts are not recommended for use with less than 2x volume controls.

SYMPTOM: *Distorted Audio From Speakers At Normal Volume continued . . .***CAUSE**

- Volume Control Wiring Is Incorrect

REMEDY

Check all input and output connections on the volume controls. "Input" comes from the amplifier, "output" goes to the speaker.

SYMPTOM: *Audio Is Weak or Not Clear, Bass Response Is Low***CAUSE**

- Channel Bridging feature is "ON".
- Channel Bridging feature is "OFF"
- Speaker Connections are "Out of Phase"

REMEDY

In configurations where two speakers are connected in "stereo", inadvertently activating the channel bridging feature will cause weak or "out-of-phase" audio.

In a "Bridged" speaker configuration with the channel bridging feature off, power to a speaker is cut in half resulting in a weak signal and low bass response.

Check speaker wiring at amplifier and speaker terminals (red to positive, black to negative). If any speaker is wired differently, the resulting audio will have low bass response and a distorted sound field.

SYMPTOM: *Wrong Source Signal Is Coming Out Of Speaker Channels***CAUSE**

- BUS Feature Is Activated
- Wrong Source Equipment Is Connected to Line Level Input

REMEDY

Disengage the BUS button. In configurations where you have separate sources for each separate speaker channel (stereo or monaural), make sure the BUS feature is not activated. As an example, the source playing in channels 1 and 2 will be distributed to channels 3 and 4 and also 5 and 6.

Make sure that your designated source equipment for a specific channel(s) is connected to the coinciding numbered line level input(s).

SYMPTOM: *Amplifier Will Not Power Up***CAUSE**

- Master Power Switch Is Off
- 120V Wall Socket Is Nonfunctional
- Remote On/Off Feature In "Mute" mode

REMEDY

Turn it on. You'll find it on the right rear of the amplifier.

Check your circuit breaker panel. Reset that circuit breaker. If the panel does not show the breaker as "thrown", consult an electrician.

Check the cable connection between the control output of your source equipment and the control input jack of the amplifier. A cord plugged into the control input of the Z•660 amplifier requires a connection from the output of another device. Plugging one end into the amplifier and leaving the other end unplugged will keep the amplifier in "mute".

SYMPTOM: *No IR Pass-Through Control of Source Equipment***CAUSE**

- Faulty IR Wiring Connections to Interface Plug
- Random "Noise" Interference
- Improper Placement of IR Emitters

REMEDY

Verify all IR receivers are connected properly (+V, GND, IN) to the IR interface plug and the plug is properly connected to the back of the amplifier.

Look for IR activity on the front panel IR Indicator LED when a handheld remote is not being used. Random "noise" from florescence and direct sunlight could be flooding a receiver, corrupting the IR data channel.

IR emitter placement on source equipment is important to the control of the source equipment. Improper placement may not provide enough illumination to the IR receiver. Some source equipment IR receivers are super-sensitive and require moving the emitter away from the window as not to over-power the receiver.

SPECIFICATIONS

POWER RATING - RMS

Output Power (6 Channel Stereo) 60W x 6 @ 8 ohms per channel

Output Power (3 Channel Bridged) 120W x 3 @ 8 ohms per channel

FREQUENCY RESPONSE 20 Hz to 20 kHz, -.25dB

POWER BANDWIDTH 5 Hz to 30 kHz, -3.0db

SIGNAL-TO-NOISE > -110db (A-weighted, 60W @ 8 ohms)

CHANNEL SEPARATION > -70dB (channel to channel @ 1 kHz)

TOTAL HARMONIC DISTORTION < .03%, 20 Hz to 20 kHz

INTERMODULATION DISTORTION > -90dB, 5 Hz to 22 kHz

VOLTAGE GAIN (AV) Continuously Variable from 0 - 28

SLEW RATE > 20V/microsecond

INPUT IMPEDANCE 20 k ohms

INPUT SENSITIVITY707VRMS (60W @ 8 ohms)

CONNECTORS

Input Gold RCA Phono

Output Gold 5-Way Binding Posts

POWER REQUIREMENTS 120 VAC • 440 W (max.)

POWER SUPPLY Ultra-high efficiency toroidal linear supply.
40,000 uF storage capacitance effortlessly
sustains high current demand.

REMOTE AUDIO MUTE INPUT VOLTAGE 5 to 24 Volts AC/DC

DIMENSIONS/WEIGHT

Freestanding Model Dimensions 1.75x17.0x10.0 (inches)
.4.5x41.3x25.4 (cm)

Rackmount Model Dimensions 1.75x19.0x10.0 (inches)
.4.5x46.3x25.4 (cm)

Weight 13.6 lbs/6.2 kg

Z.660 POWER AMPLIFIER Limited Warranty

ELAN HOME SYSTEMS, L.L.C. ("ELAN") warrants the Z•660 Power Amplifier manufactured by it to be free from defects in materials and workmanship for two (2) years from the date of purchase. If within the applicable warranty period above purchaser discovers such item was not as warranted above and promptly notifies ELAN in writing, ELAN shall repair or replace the items at the company's option. This warranty shall not apply (a) to equipment not manufactured by ELAN, (b) to equipment found to have been installed by other than an authorized ELAN installer, (c) to installed equipment which is not installed to ELAN's specifications, (d) to equipment found to have been repaired or altered by others than ELAN, (e) to equipment found to have been subjected to negligence, accident, or damage by circumstances beyond ELAN's control, including, but not limited to, lightning, flood, electrical surge, tornado, earthquake, or any other catastrophic events beyond ELAN's control, or to improper operation, maintenance or storage, or to other than normal use of service. With respect to equipment sold by, but not manufactured by ELAN, the warranty obligations of ELAN shall in all respects conform and be limited to the warranty actually extended to ELAN by its supplier. The foregoing warranties do not cover reimbursement for labor, transportation, removal, installation, or other expenses which may be incurred in connection with repair or replacement.

Except as may be expressly provided and authorized in writing by ELAN, ELAN shall not be subject to any other obligations or liabilities whatsoever with respect to equipment manufactured by ELAN or services rendered by ELAN.

THE FOREGOING WARRANTIES ARE EXCLUSIVE AND IN LIEU OF ALL OTHER EXPRESSED AND IMPLIED WARRANTIES EXCEPT WARRANTIES OF TITLE, INCLUDING BUT NOT LIMITED TO IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

ASK YOUR AUTHORIZED ELAN DEALER ABOUT OTHER Z•SERIES AUDIO/CONTROL PRODUCTS

Z•300

MONSTER POWER

The Z•300 Two-Channel Power Amplifier, boasting 150 Watts per channel at 2 ohms, is designed and engineered to be the definitive cornerstone component for any high-fidelity audio system.



Z•12C

MORE CHANNELS

Designed for more channels, ELAN's new Z•12C Power Amplifier delivers 4 ohm/12 channel performance in a single rack space design. At 20W per channel, this little amp is definitely a must for distributed audio to casual listening areas.

Z•FAN

KEEP YOUR SYSTEM COOL

The Z•FAN System Cooling Module moves air through your component rack or bookcase quickly and quietly—keeping your system cool and running efficiently.



ELAN Speakers and Volume Controls

From the value line of **SELECT Series™** In-Wall and Ceiling Speakers to the high-fidelity **SIGNATURE Series™**, ELAN has the right speaker for all your performance and interior design requirements. For superior audio and equipment protection, choose ELAN's V•Series Impedance Match Volume Controls. Engineered to improve system audio, V•Series Volume Controls are system matched for outstanding sonic performance.

ELAN...simply the best.