# A6
## Power Amplifier

A6 Power Amplifier

**INSTALLATION MANUAL**

**ELAN**®
HOME SYSTEMS

# Preface

## Purpose of This Manual

This manual provides step-by-step installation instructions and connection examples, along with basic user information for installation and ongoing use of the A6 Six Channel Amplifier. This manual is written for the installer of this equipment.

## Organization

The following information is contained in this manual:

| | |
|---|---|
| **Safety Information** | Provides a comprehensive list of safety practices and procedures allowing for the safe installation and operation of ELAN Home Systems' A6 Six Channel Amplifier. |
| **A6 Introduction** | Provides an introduction to the A6 Six Channel Amplifier, along with system features to include Front and Rear panel controls, indicators and connections, along with a short description of each. |
| **A6 System Design Overview** | Provides a system design application overview of the A6 Six Channel Amplifier for use in audio applications. |
| **A6 Connections** | Provides a description of A6 Six Channel Amplifier connections including connections made with ELAN Multi-Room Systems and direct connections to the A6 Six Channel Amplifier from other components. |
| **Troubleshooting** | Provides troubleshooting tables to help fix common discrepancies that may be associated with the A6 Six Channel Amplifier. |
| **Specifications** | Appendix A provides equipment specifications for the A6 Six Channel Amplifier. |
| **Rack Mounting** | Appendix B provides specifications for Rack Mounting of the A6 Six Channel Amplifier using the included rack mount brackets. |

## ⚠ 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.

CAUTION: RISK OF EXPLOSION IF BATTERY IS REPLACED BY AN
INCORRECT TYPE. DISPOSE OF USED BATTERIES ACCORDING TO
THE INSTRUCTIONS.

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) instruction in the literature accompanying
the appliance.

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

## ⚠ CAUTION ⚠

# IMPORTANT SAFETY INFORMATION

**Read Information**—All the safety and operating information should be read before the appliance 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 appliance and in the operating instructions should be heeded.

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

**Ventilation**—The appliances should be situated so that their location or position does not interfere with their proper ventilation. These appliances should never be placed near or over a radiator or heat register. These appliances 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.

**Non-Use Periods**—Appliances that are left unattended and unused for long periods of time should be de-energized.

**Power Sources**—The appliances should be connected to a power supply only of the type described in the operating instructions or as marked on each appliance. 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**—Do not defeat the safety purpose of the polarized or grounding-type plug.  A polarized plug has two blades with one blade wider than the other blade.  A grounding type plug has two blades and a third grounding prong.  The polarized wide blade and the third prong are provided for your safety.  If the provided plug does not fit your outlet, consult an electrician for replacement of the obsolete outlet.

**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**—Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles and the point where they exit from the apparatus.

**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 the apparatus from the power outlet before cleaning.  Use only a dry cloth to clean the apparatus.

**Power Lines**—An outdoor antenna should be located away from power lines. When installing an outside antenna system, extreme care should be taken to avoid touching power lines or circuits, as contact with them may be fatal.

**Outdoor Antenna Grounding**—If an outside antenna or cable system is connected to these audio products, be sure the antenna or cable system is grounded so as to provide some protection against voltage surges and built-up static charges. Section 810 of the U.S. National Electrical Code, and Section 54 of the Canadian Electrical Code, provide information with respect to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna-discharge unit, connection to grounding electrodes, and requirements for the grounding electrode. See the grounding diagram (right).

Grounding Diagram

ANTENNA LEAD-IN WIRE

GROUND CLAMPS

ANTENNA LEAD-IN WIRE
(CEC SECTION 54-200)
(NEC SECTION 810-20)

ELECTRIC SERVICE EQUIPMENT

GROUNDING CONDUCTORS
(CEC SECTION 54-200)
(NEC SECTION 810-21)

GROUND CLAMPS

POWER SERVICE GROUNDING ELECTRODE SYSTEM
(CEC SECTION 10-700)
(NEC ARTICLE 250, PART H)

NEC - NATIONAL   ELECTRICAL   CODE
CEC - CANADIAN   ELECTRICAL   CODE

**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 connection 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 Storms**—Unplug this apparatus during lightning storms or when unused for long periods of time.

**Attachments and Accessories**—Use only attachments/accessories specified by the manufacturer.

**Cart, Stand, Tripod, Bracket or Table**—Use only with a cart, stand, tripod, bracket or table specified by the manufacturer, or sold with the apparatus.  When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip over.
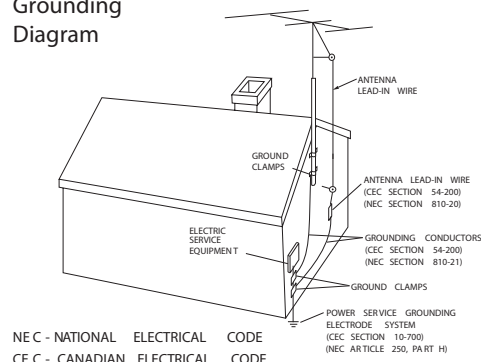
**Disconnect Device**—Where the mains plug or an appliance coupler is used as the disconnect device, the disconnect device shall remain operable.

**WARNING**
**RISK OF ELECTRIC SHOCK**
**DO NOT OPEN**

CE   CMC   FC   TÜV Rheinland of North America, Inc.

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# Table of Contents

# A6
## Power Amplifier

## Items in package:

- A6 Power Amplifier
- Rack Mount Brackets
- Power Cord
- Installation Manual

# Chapter 1: Introduction

The ELAN A6 Power Amplifier is designed to provide a reliable, affordable solution for multi-room audio systems requiring up to six channels of amplification. Using proven analog technology, the A6 adds advanced features like Audio Sensing, Stereo/Mono Bus, and Trigger Inputs/Outputs to make it the premier amplifier in its price range.

## A6 Features

### 6 x 60 Watts per Channel @ 8 Ohms

### 3 x 120 Watts per Channel @ 8 Ohms
- An output pair can be combined using a simple switch to send 120 WPC of BRIDGED MODE audio to a passive sub-woofer.
- BUS MODE switching allows the bussed signal to be sent to all channel outputs, excellent for commercial applications.

### System Trigger In/Out
- SYSTEM TRIGGER IN allows all channels of the amplifier to turn on when a signal is received.
- SYSTEM TRIGGER OUT sends a +12VDC pulse whenever any of the channels of the amplifier are on.

### Audio Line Outputs
- Send audio signals out from specific A6 channels to line level inputs of other devices such as additional A6 amplifiers or audio processors.

### Individual Channel Level Adjustments
- Fine-tune each channel's level using precision potentiometers.

### 5-Way Speaker Binding Post
- The A6 is equipped with gold plated, 5-way speaker binding post. This allows for five methods of speaker wire termination: bare wire, spade lug, pin, single banana and dual banana plug.
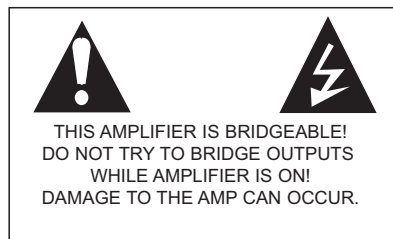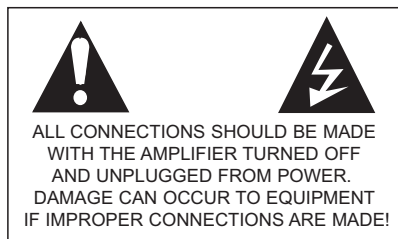
### IR Port Input
- +12VDC, GND, and IR Input plug allows up to four IR Receivers to pass-through IR signals through the IR OUTPUT port adding more options and flexibility to any IR signal routing

### Safety Concerns
Use only grounded outlets when powering this product. Making any modification to the power cord could cause unsafe operation and will void the manufacturer's warranty.

### AC Power Considerations
The A6 requires 3.7 Amps of AC current. When designing any whole house system using multichannel amplifiers, make sure to provide adequate provisions for all electronic equipment to be installed. This may require additional outlets and/or circuit breakers tobe installed. Consult a licensed electrician in this case.
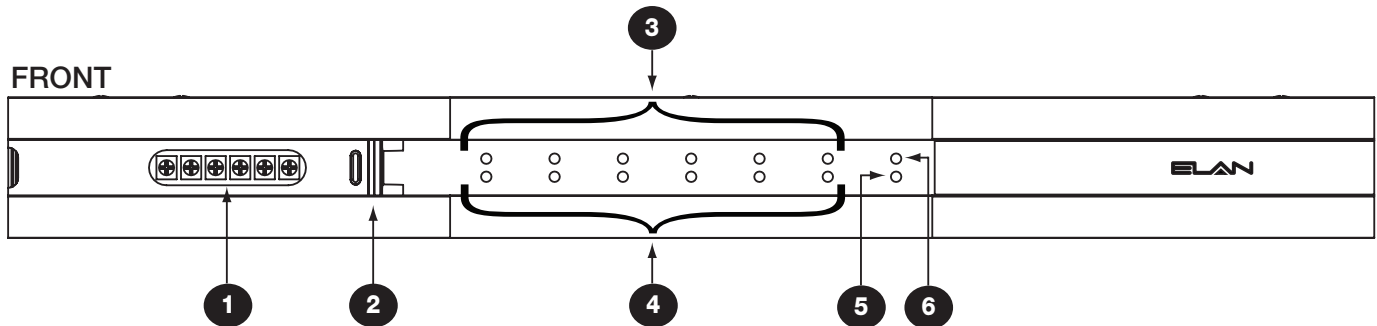
ALL CONNECTIONS SHOULD BE MADE WITH THE AMPLIFIER TURNED OFF AND UNPLUGGED FROM POWER. DAMAGE CAN OCCUR TO EQUIPMENT IF IMPROPER CONNECTIONS ARE MADE!

THIS AMPLIFIER IS BRIDGEABLE! DO NOT TRY TO BRIDGE OUTPUTS WHILE AMPLIFIER IS ON! DAMAGE TO THE AMP CAN OCCUR.

## A6 Functions and Indicators

FRONT

*Figure 1-1: A6 Front Panel*

*Table 1-1:Front Panel*

| Item | Function |
|------|----------|
| 1 | Channel Gain Potentiometers (6) |
| 2 | Pull-Out Access Door |
| 3 | Channel ON/OFF LED Indicators - Glows Blue When Channel is ON |
| 4 | Channel Clipping LED Indicators - Glows Red When Channel is Clipping |
| 5 | Power LED - Glows Blue When Power Switch is ON and Unit Plugged In |
| 6 | IR LED - Glows Green When IR is Received |

## A6 Rear

BACK
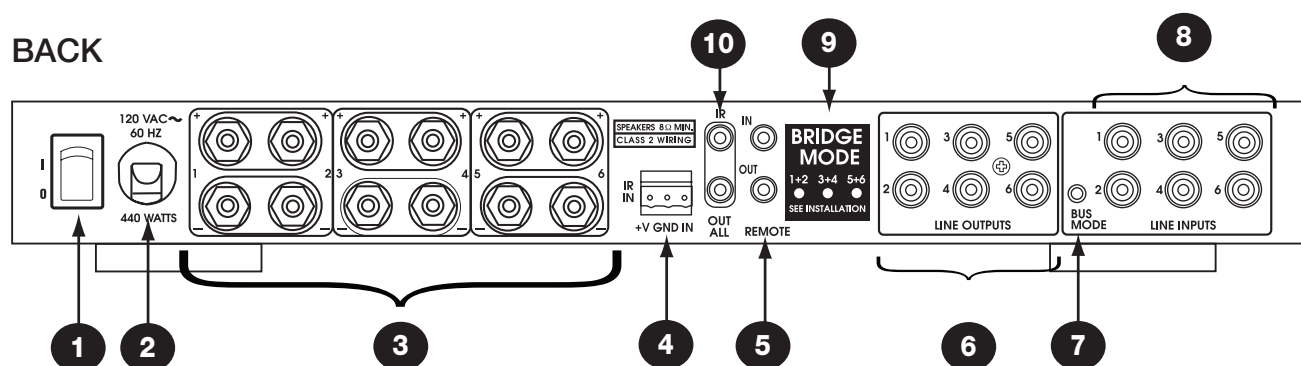
Figure 1-2: A6 Rear Panel

Table 1-2: Rear Panel

| Item | Function |
|------|----------|
| 1 | Power Switch |
| 2 | Power Cord |
| 3 | Speaker OUTPUTS |
| 4 | IR Receiver Port |
| 5 | System Trigger IN/OUT |
| 6 | RCA LINE OUTPUTS |
| 7 | BUS MODE Button |
| 8 | RCA LINE INPUTS |
| 9 | BRIDGE MODE Buttons |
| 10 | IR IN/OUT |

# Chapter 2. System Design & Applications

## System Design

The first step to a good design is to map the system. It is advisable to mark up a copy of the house floor plan with speaker, keypad, touch panel, volume control, and equipment locations etc. Make sure that all locations are decided upon before pre-wiring commences so that all necessary wiring and installation hardware is in place. This unit will be interfacing with other components such as multi-room controllers, source components, communications controllers, serial controllers, and user interfaces, so it is essential that ALL system components are accounted for prior to the pre-wire stage.

Secondly, make a detailed list of all components. Include source equipment, keypads, touch panels, volume controls, amplifiers, and communications gear. Be sure to include necessary electrical boxes, structured wiring enclosures, telephone lines, rough-in brackets, patch cords, power supplies, etc.
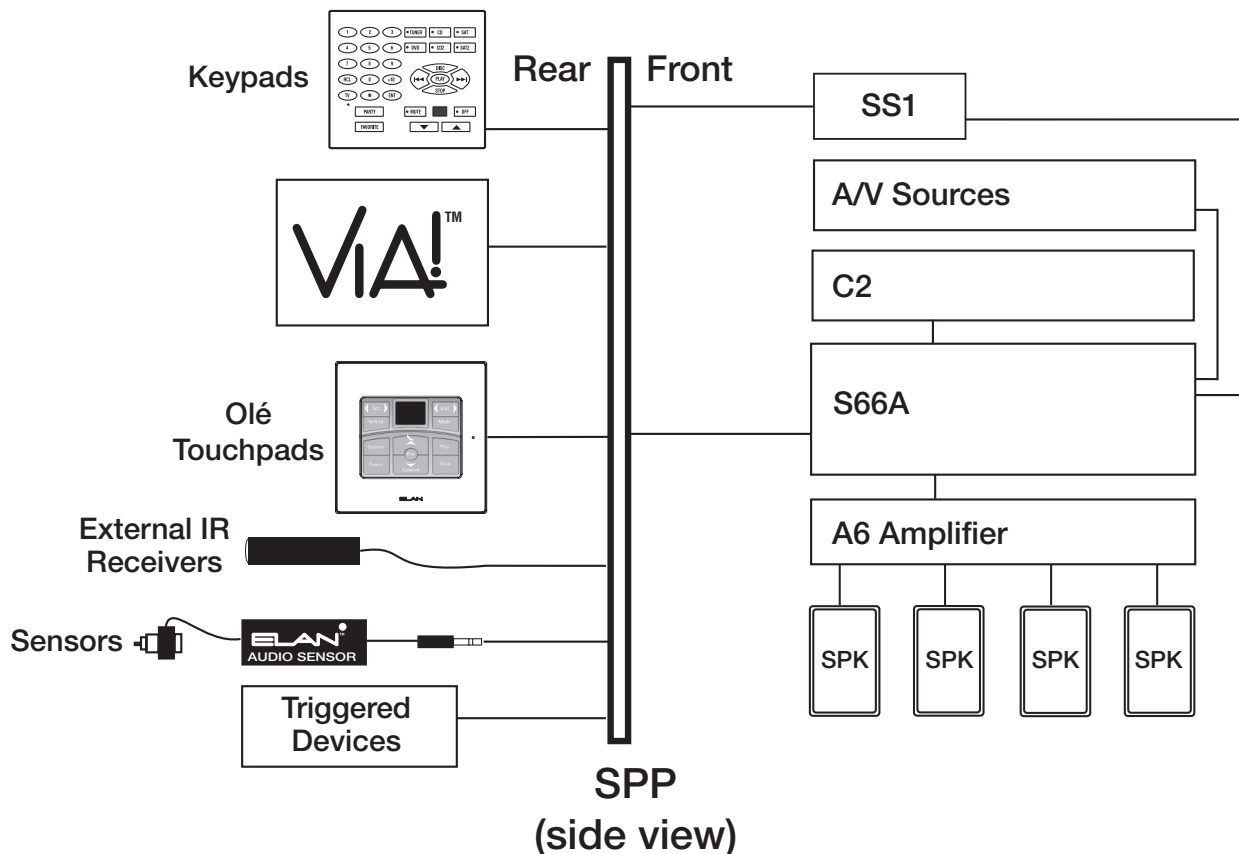


*Figure 2-1: System Design*

## Pre-Wire

### Wiring Considerations

- **Speaker Wires**      28-16 AWG Speaker Wire
- **Audio Cables**      RCA Patch Cables
- **Triggers**      2 Conductor Wire w/ 3.5mm mono connector

# Applications

The A6 is designed for single or multi-room applications. Every feature was selected to enhance both the single or multi-room experience and simplify any installation. With Buffered Line Outputs, Bus Mode, and Remote Trigger options, the A6 can be customized for even the most complex systems.

## Three Stereo Listening Areas

By utilizing the Bus Mode button on the A6, multiple rooms in the home can share a single source such as a Receiver or CD player. As shown below, each speaker pair of will ramp volume up and down independently.

## Three Stereo Zones

- Stereo Output to Line Inputs 1 & 2
- Bus Mode Button switched to ON
- Volume Controls on Each Speaker Output

Each Area Has Independent Volume Control
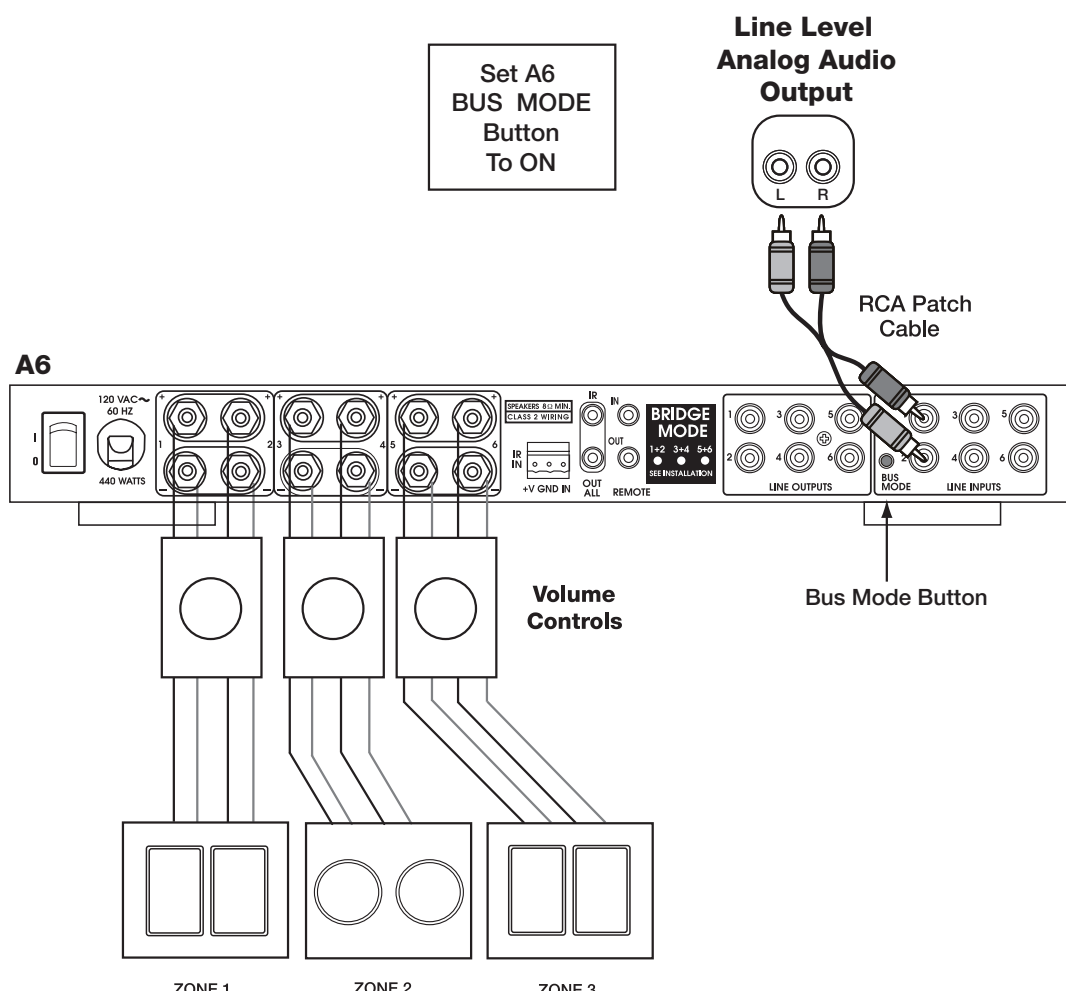


*Figure 2-2: Independent Stereo Zones*

## Wide Coverage
The A6 is designed to easily handle a Great Room application without any special setup procedures. In the example below, each speaker pair of will ramp volume up and down simultaneously.

## Wide Coverage Stereo Zones
- Stereo Output to Line Inputs 1 & 2
- Bus Mode Button switched to ON
-

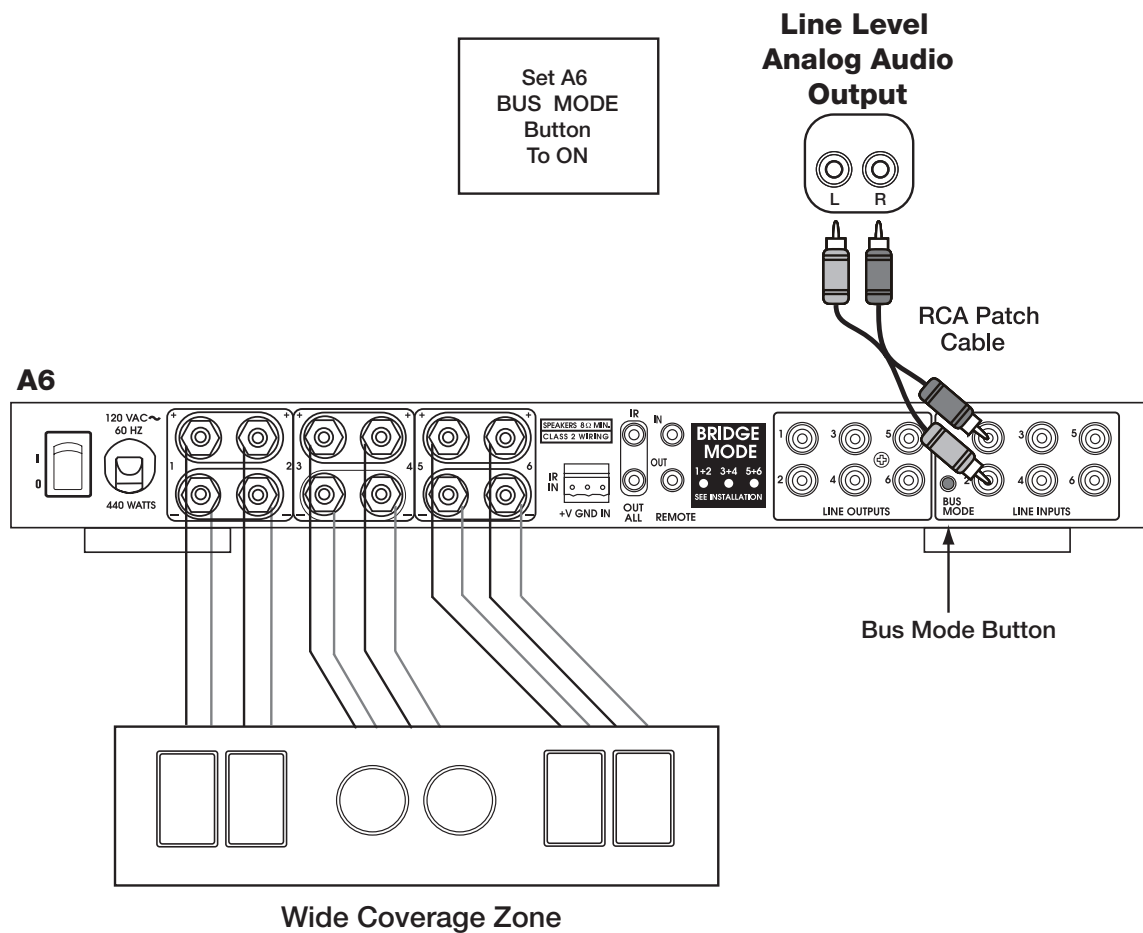All Speakers Volume Ramps Up & Down Simultaneously



*Figure 2-3: Wide Coverage Stereo Zones*

This amplifier is great for commercial applications such as restaurants and sports bars. In the example below, each speaker will ramp volume up and down independently.

## Wide Coverage Mono Zones
  • Stereo Output to RCA 'Y' Cable to Line Input 1
  • Line Output 1 to Line Input 2
  • Bus Mode Button switched to ON
  • Mono Volume Controls on Each Speaker Output

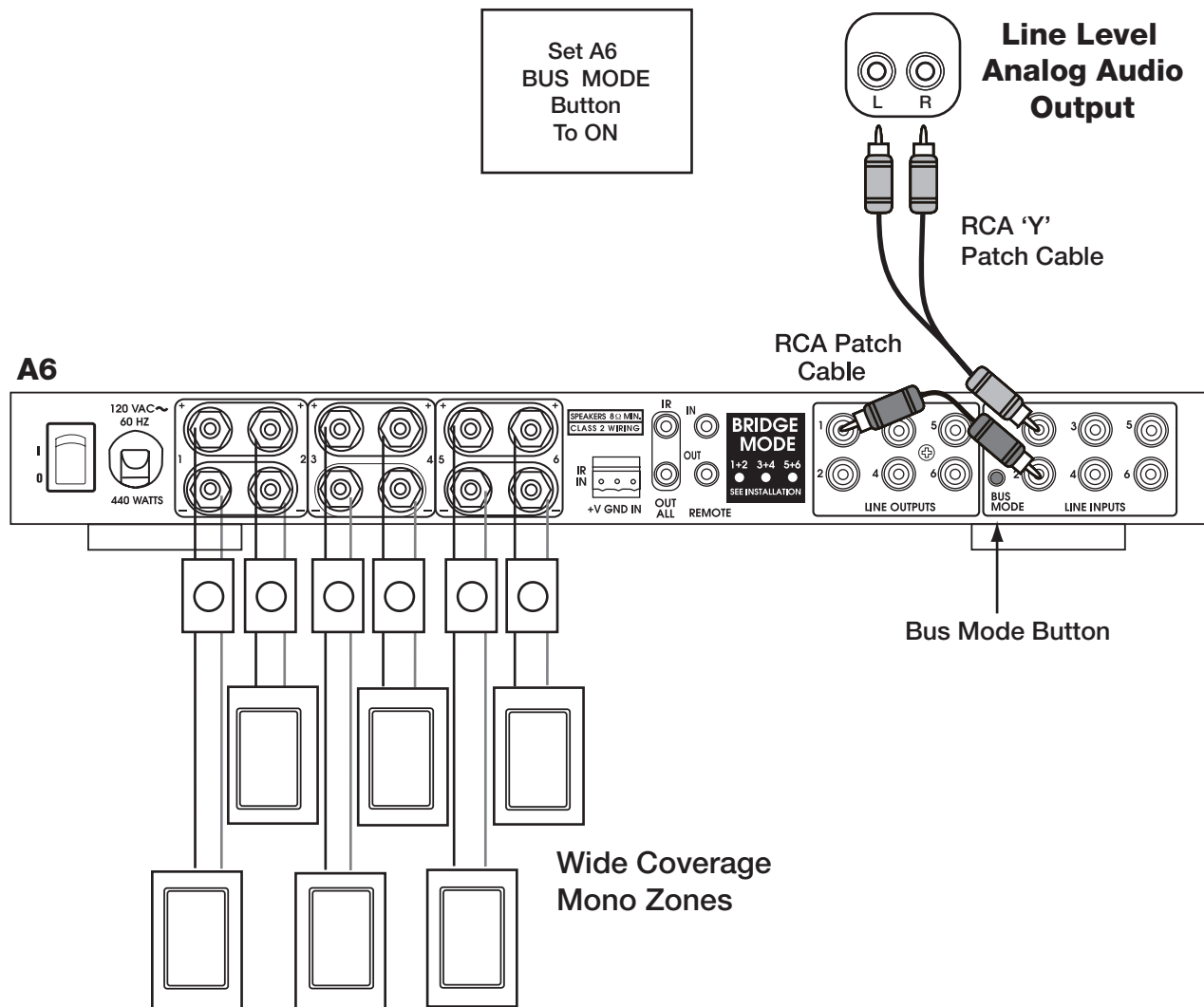All Speakers Volume Ramps Up & Down Independently



*Figure 2-4: Wide Coverage Mono Zones*

## Two Room Stereo Zone

By using the A6's Buffered Line Outputs, an additional pair of speakers can be added to a zone. In this example, both pairs of speakers will ramp volume up and down simultaneously.

**Two Room Stereo Zone**
- Zone 1 Output to Line Inputs 1 & 2
- Line Outputs 1 & 2 to Line Inputs 3 & 4

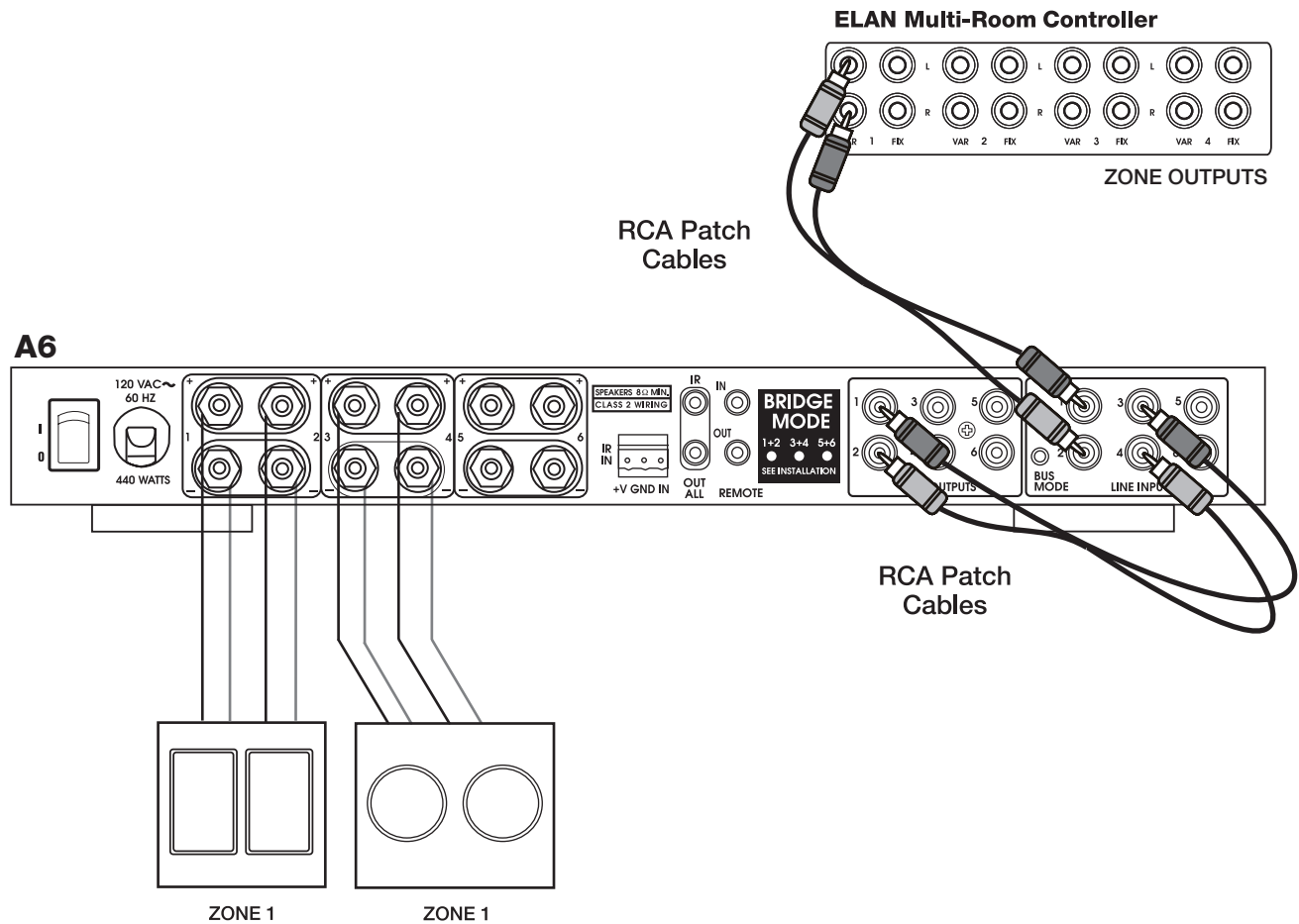All Speakers Volume Ramps Up & Down Together



*Figure 2-5: Two Room Stereo Zone*

## Stereo Zone w/ Mono Sub-Zone

Use the Line Output Jacks and an RCA 'Y' cable to create mono sub-zones within a stereo zone. This application is perfect for large rooms with smaller rooms attached such as a Master Bedroom/Master Bath or Kitchen/Laundry Room.

### Stereo Zone w/ Mono Sub-Zone
  • Zone 1 Output to Line Inputs 1 & 2
  • Line Outputs 1 & 2 to RCA 'Y' Cable
  • RCA 'Y' Cable to Line Input 3
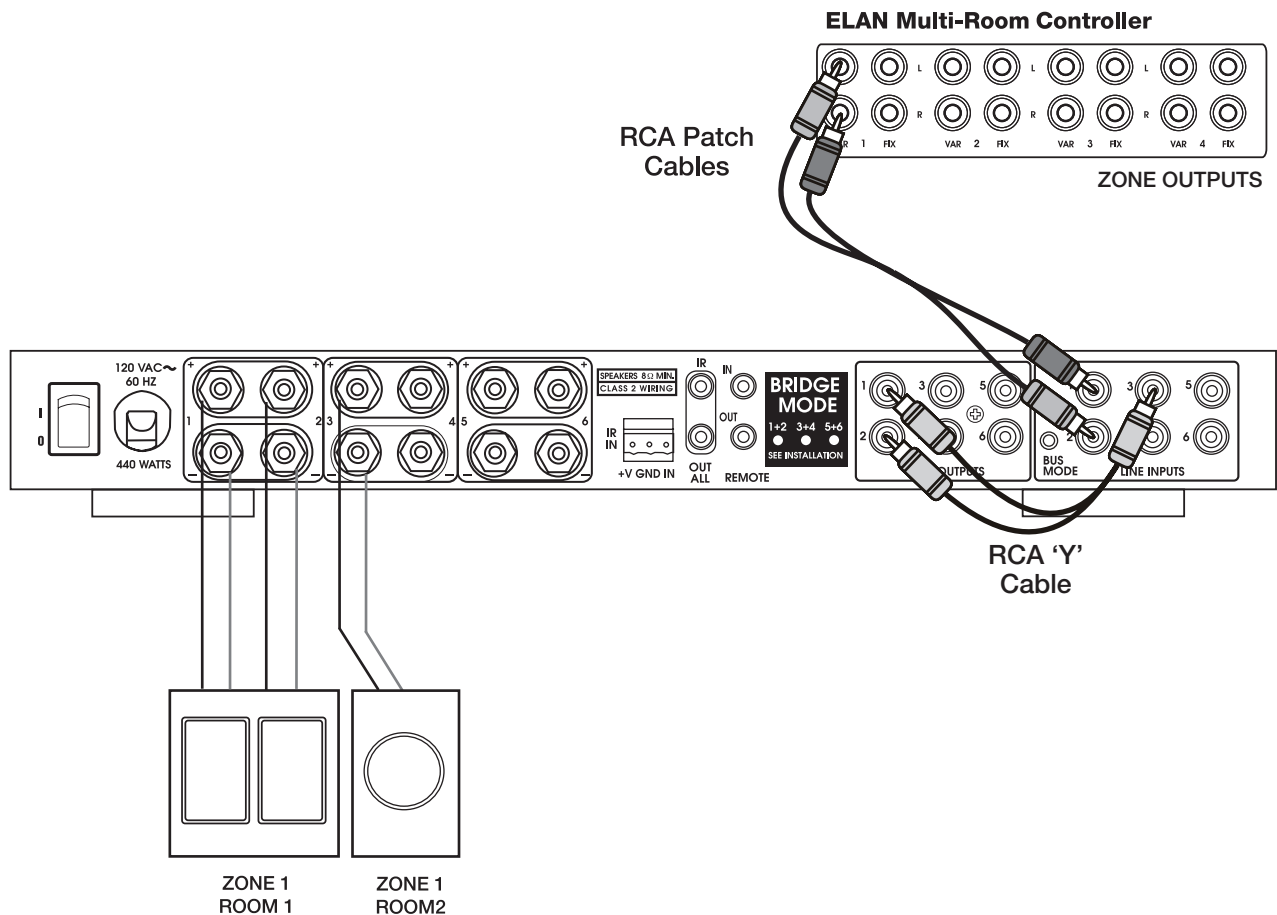
All Speakers Volume Ramps Up & Down Together



*Figure 2-6: Stereo Zone with Mono Sub-Zone*

## S66A/ S86A Sub-Zones

ELAN's S66A/S86A Integrated Multi-Room Controllers have built-in amplification for six stereo zones as well as six sets of preamp outputs for the addition of sub-zones. The A6 is ideally suited to amplify these subzones using rotary or electronic volume controls if separate volume up/down functionality is desired in the sub-zones as shown in the S66A example below

### S66A Sub-Zones

- • Preamp Output 1 & 2 to Line Inputs 1 & 2
- • Preamp Output 3 & 4 to Line Inputs 3 & 4
- • Preamp Output 5 & 6 to Line Inputs 5 & 6
- • Preamp Output DIP Switches Set to Fixed

- • Volume Controls on Each Speaker Output

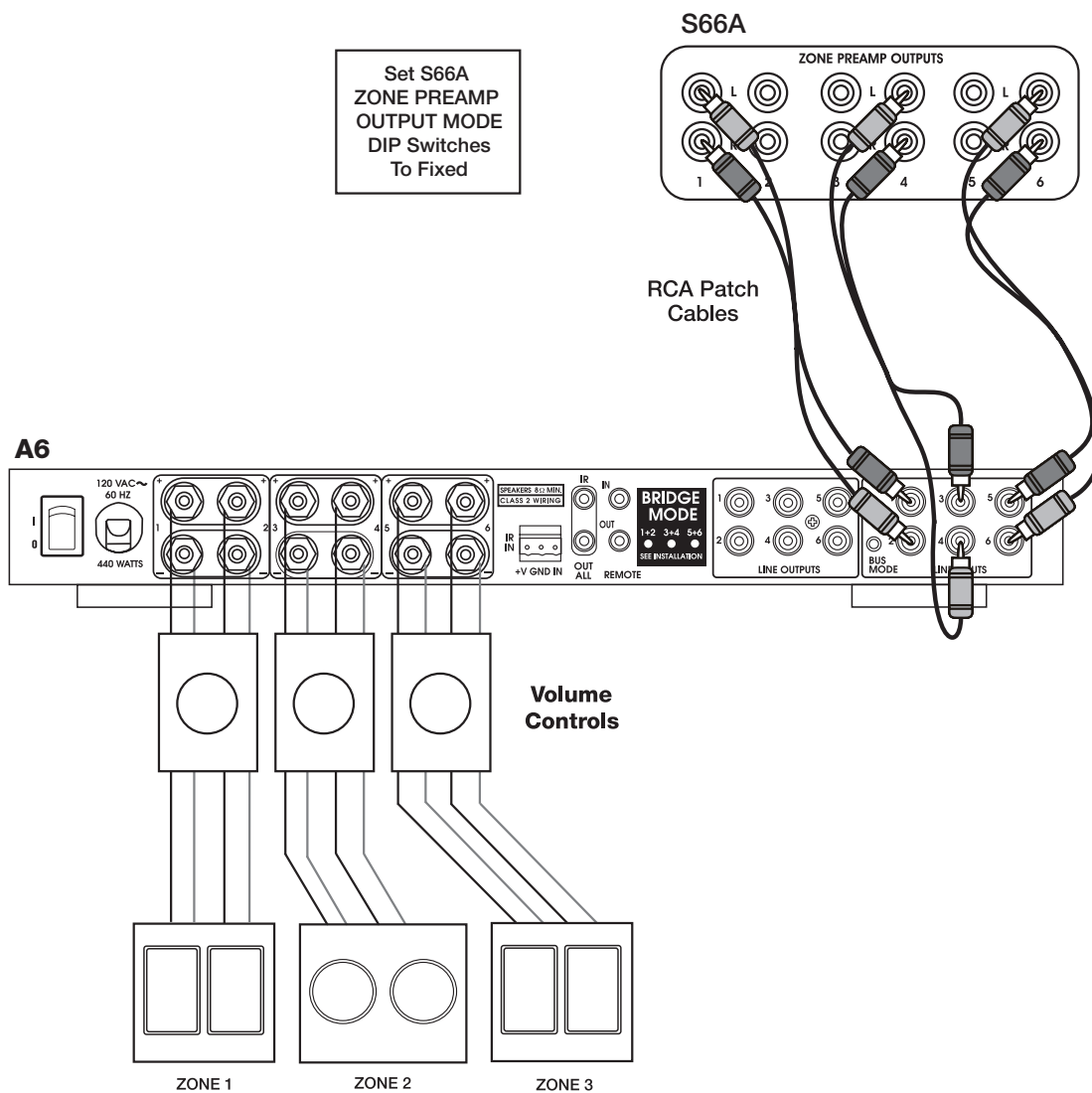Each Zone and Sub-Zone Has Independent Volume Control



***Figure 2-7: S66A/S86A Sub-Zones***

## S128P Sub-Zones

ELAN's S128P Integrated Multi-Room Controller has variable preamp outputs for eight stereo zones as well as eight sets of fixed preamp outputs for the addition of sub-zones. The A6 is ideally suited to amplify these subzones using rotary or electronic volume controls if separate volume up/down functionality is desired in the sub-zones.

### S128P Sub-Zones
   • Fixed Preamp Output 1 & 2 to Line Inputs 1 & 2
   • Fixed Preamp Output 3 & 4 to Line Inputs 3 & 4
   • Fixed Preamp Output 5 & 6 to Line Inputs 5 & 6
   • Volume Controls on Each Speaker Output

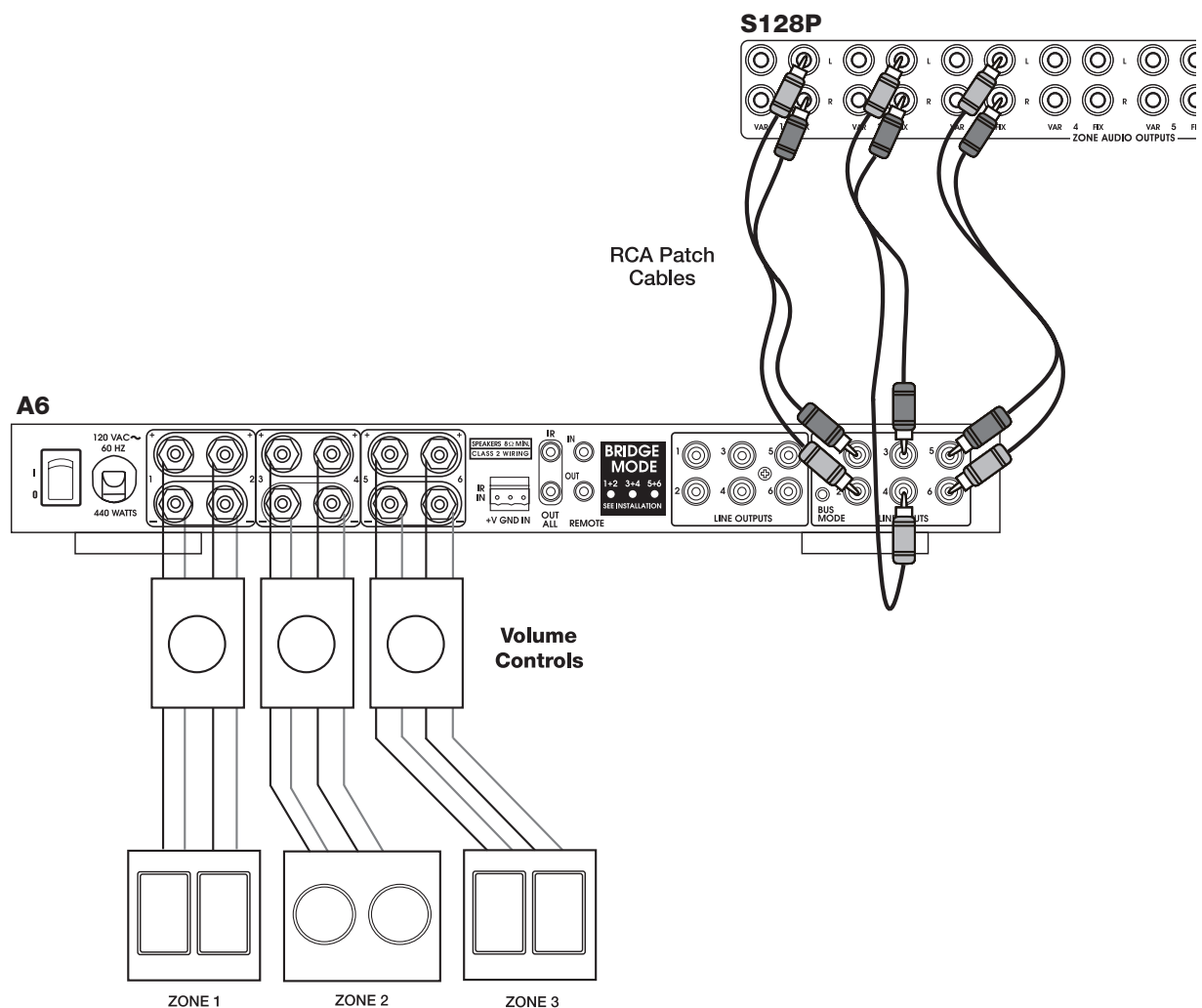Each Zone and Sub-Zone Has Independent Volume Control



*Figure 2-8: S128P Sub-Zones*

## Bridged

ELAN's A6 can also be "bridged" providing 3 channels at 120WPC for high power applications. The recessed Channel Bridging buttons located on the back panel make custom configuration easy

*NOTE: Make sure the A6 is OFF before engaging Channel Bridging buttons.*

*NOTE: DO NOT use Volume Controls when in Bridged Mode.*

*NOTE: Make sure to maintain a minimum 8 Ohm load.*

### Bridged Stereo Zone
   • Stereo Output to Line Inputs 1 & 3
   • Line Outputs 1 & 2 to RCA 'Y' Cable to Line Input 5
   • Bridge Buttons 1-2, 3-4, 5-6 Engaged

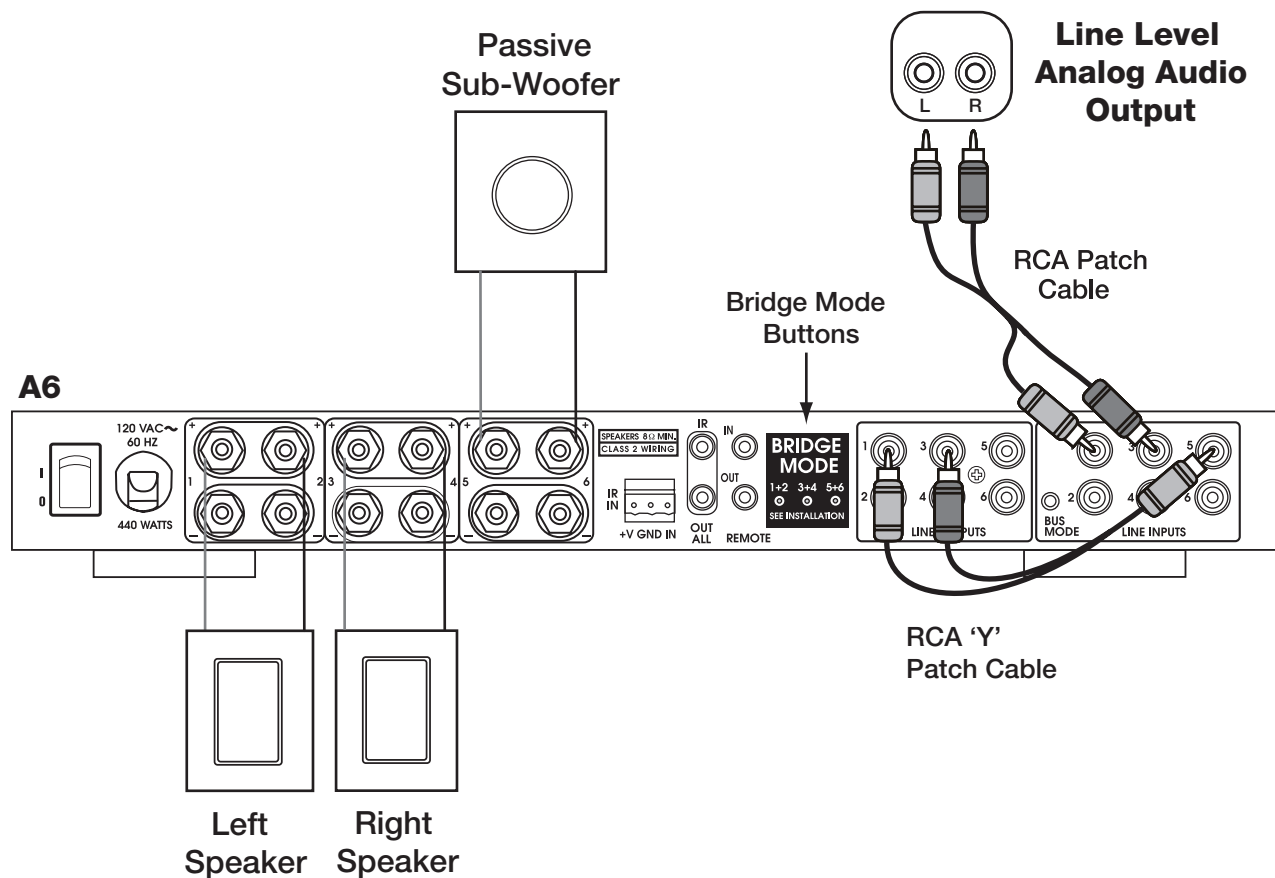All Speakers Volume Ramps Up & Down Together



*Figure 2-9: 3 Channel Bridged*

# Chapter 3: Connections

The A6 has many rear panel connections so it is important to label them all correctly. Label all input/output cable and speaker wires with their destination or source and this will save time during installation and any future upgrades to the system.

Use high quality line level RCA connector type cables for source connections to ensure the lowest possible noise and best sound performance. For most applications use 16AWG 2 conductor speaker cable. For wiring runs longer than 80 ft. it is recommended to use 14AWG 2 conductor speaker cable. The A6's high quality, gold plated 5-way binding post will accomodate speaker cabling sizes up to 12AWG. Attaching banana plugs will enable the connection of larger cable sizes. A 3.5mm mono interconnect cable may be used for amplifier and systems triggering.

## Line Level Audio Inputs

Connect the zones by inserting the RCA connectors into the dedicated direct input jack on each channel.
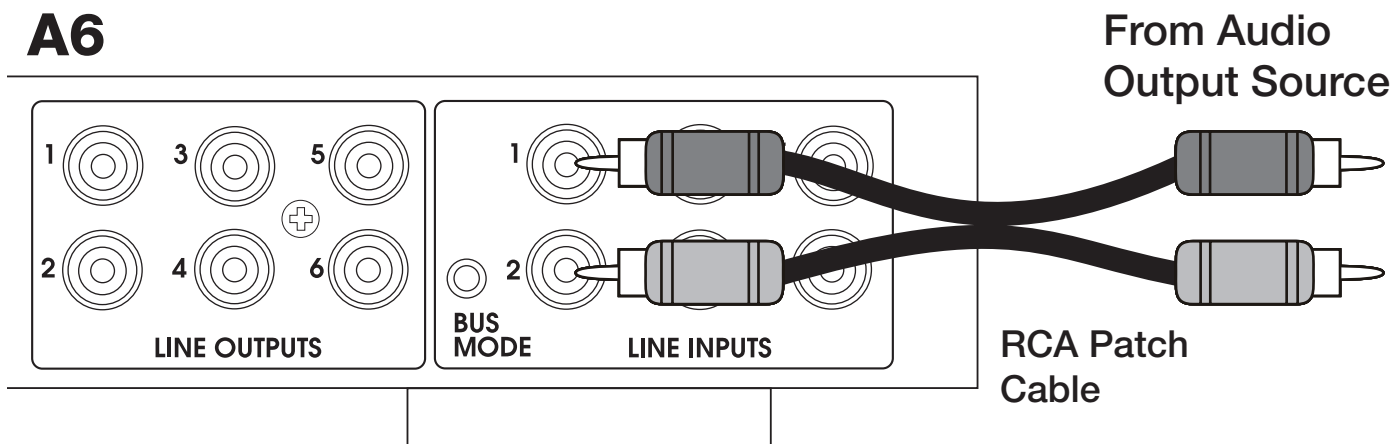


*Figure 3-1: Line  Inputs*

## Signal Routing

The term BUS is defined as the ability to route a signal from one place to another. Traditional busing is done using audio patch cables to route these signals. The use of Bus Mode Switch, such as the one on the A6, eliminates the need for additional patch cables and adds to the flexibility of signal routing when all Outputs share the same Input.

## Line Ouputs

A stereo or monaural audio signal connected to the A6's main CHANNEL INPUT can be routed to any of the A6's six channels via the RCA Line Outputs. This feature is excellent for standalone distributed audio systems where one source (i.e. an A/V Receiver) is providing audio to the entire home, and also for ELAN multi-room applications where a zone's audio signal needs to be routed to multiple amplifier channels. Examples of both these applications are shown in the **Chapter 2**.

Line audio outputs enable connection of additional amplifiers to allow further system expansion. Use high quality RCA interconnect cables to ensure low noise and great sound. The A6 Line Outputs are buffered, a maximum of four amplifiers may be 'daisy-chained' to each Line Outputs.
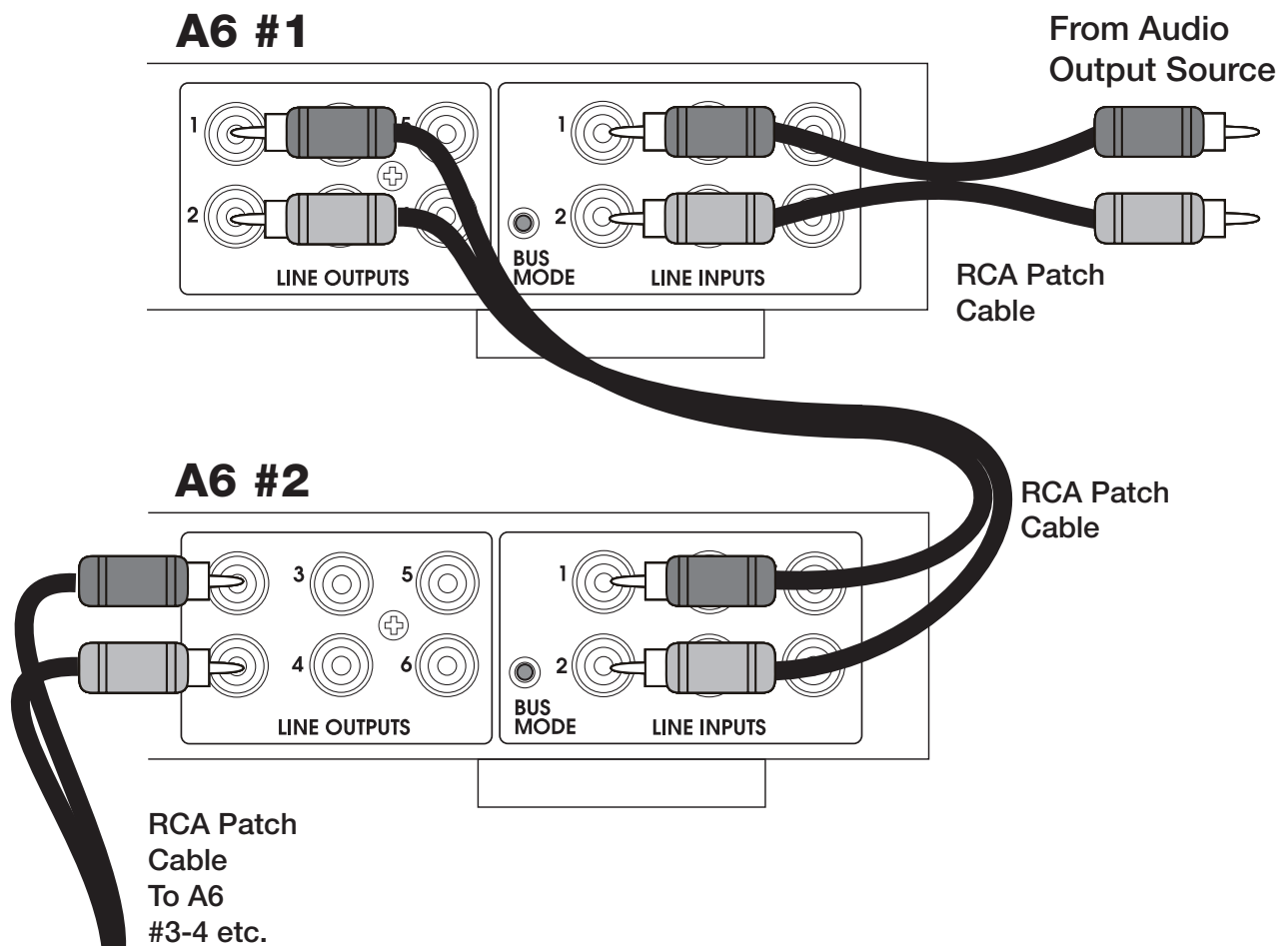


*Figure 3-2: Line Outputs*

## Speaker Binding Post

The A6 is equipped with gold plated, 5-way speaker binding post. This allows for five methods of speaker wire termination: bare wire, spade lug, pin, single banana and dual banana plug. Label all speaker wires with their destination to ensure easy configuration. To attach speaker wires use the following method:

1. Carefully split the speaker wire insulation at least two inches.

2. Strip 1/2 inch of the insulation from the speaker wire conductor exposing the bare wire.

3. Twist the wire strands of each conductor, if using banana plugs, attach wire to banana plug observing polarity.

4. If using banana plug; insert plug ends into binding post observing correct polarity. If using the bare wire method; loosen red and black binding post caps and insert the bare wire through the hole in the post. Tighten the knob until the wire is securely clamped.

*CAUTION! Speaker Wire connections must be made with the amplifier OFF!*

1/2'

Speaker Wire

Banana Plugs

Speaker Wire

A6 Amplifier
Binding Post →

+  1        2  +

−            −
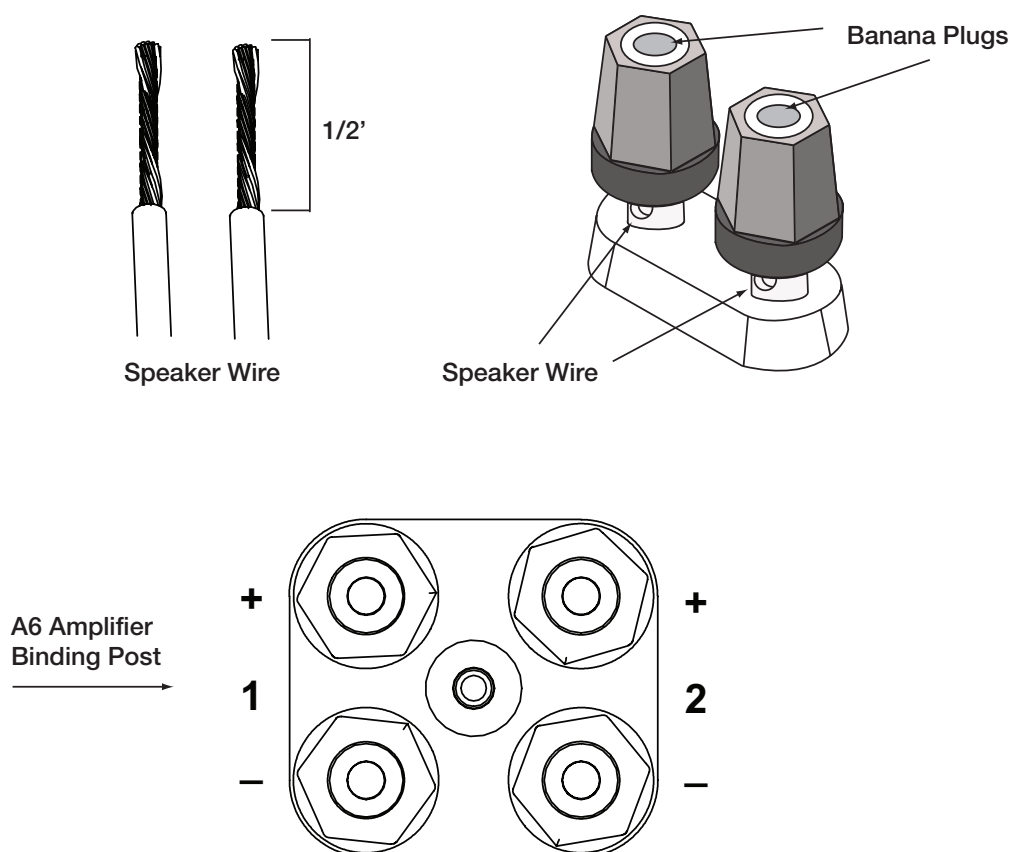
WARNING: Do not allow any strands of the bare speaker wire to touch the Amplifier Chassis or another Connector.

*Figure 3-3: Speaker Binding Post*

# Triggers

A REMOTE TRIGGER IN port allows all channels to turn on or mute simultaneously. The REMOTE TRIGGER INPUT can receive 5-24 Volts AC or DC. The 12 Volt DC REMOTE TRIGGER OUT can be used to turn on other equipment, additional A6s or other amplifiers, or to perform automated functions desired by the user. Use 3.5mm mono interconnect cables to make Trigger connections.

## SYSTEM TRIGGER IN

To mute/un-mute all channels simultaneously, connect a system-wide 5-24 Volt DC triggering source to the SYSTEM TRIGGER IN port using a 3.5mm mono interconnect cable. Examples of triggering sources include an ELAN Multi-Zone Controller's SYSTEM TRIGGER OUT or REMOTE OUT, an A/V receiver's switched outlet connected to a power supply, or a +12VDC TRIGGER OUT from another ELAN amplifier.
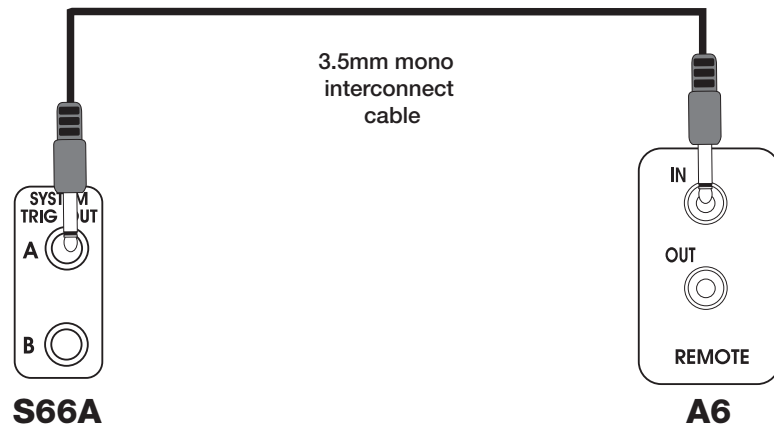
*Figure 3-4: Remote Trigger In*

## SYSTEM TRIGGER OUT

Whenever the A6 is powered ON, the REMOTE TRIGGER OUT becomes active. This output sends a +12VDC 100mA signal to other devices with a Trigger Input. Examples of proper usage of the REMOTE TRIGGER OUT include muting/un-muting other amplifiers, triggering the switched outlets of a Z•Power Controller, or triggering automated events using ELAN®Sense Sensors and VIA! SR-1 or SS1 devices.
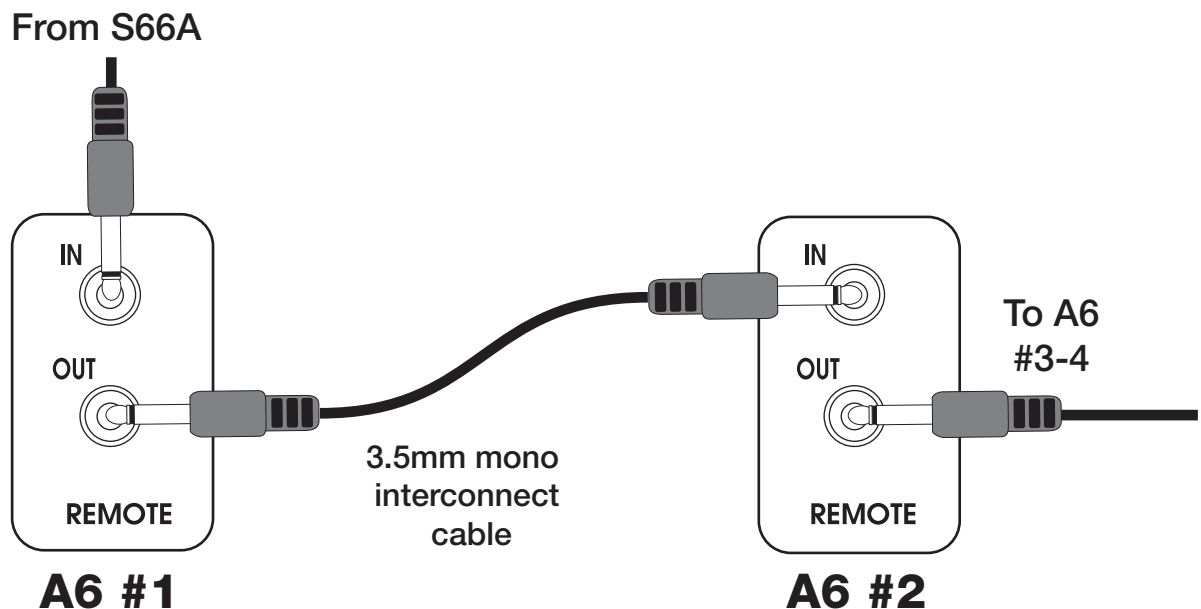
*Figure 3-5: Remote Trigger Out*

## IR IN/OUT ALL Connections

The 3.5mm mono IR IN/OUT ALL is located beside the Remote Trigger jacks. This loop allows IR commands to be sent through each A6 amplifier that is connected and out to additional IR devices such as the ELAN V8, or IRD4.
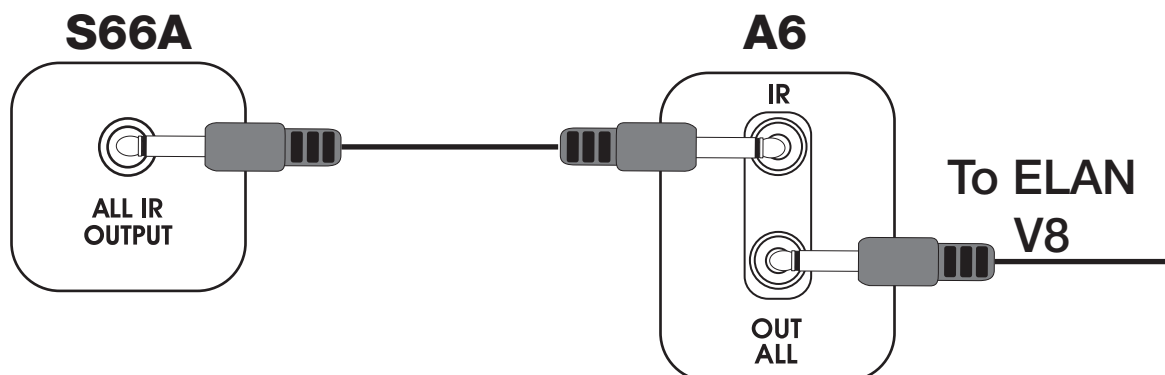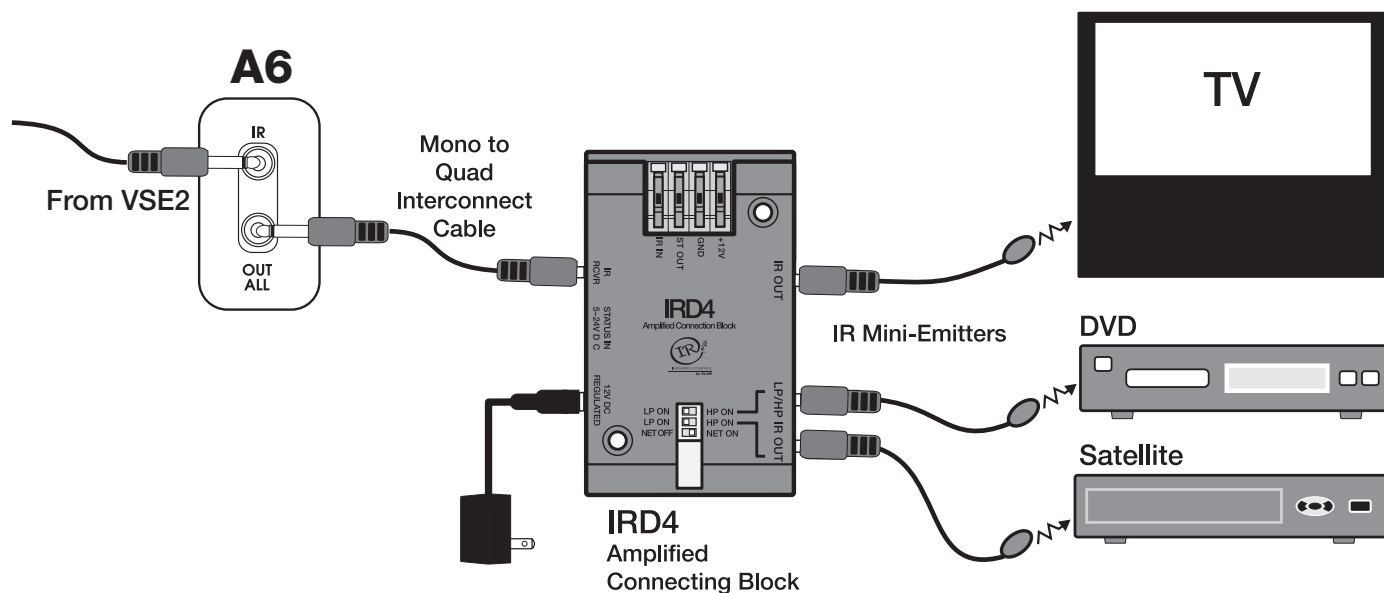


*Figure 3-6: IR IN Connection*



*Figure 3-7: IR OUT ALL Connection*

## IR System Control Connections

An IR pass-through jack with removable IR wiring interface plug is located beside the IR IN/OUT ALL jacks. This loop allows IR commands to be sent out the IR ALL OUT port to additional IR devices. The plug has connectors for +12V, GND, IR IN that can accommodate and power up to 4 IR Receivers
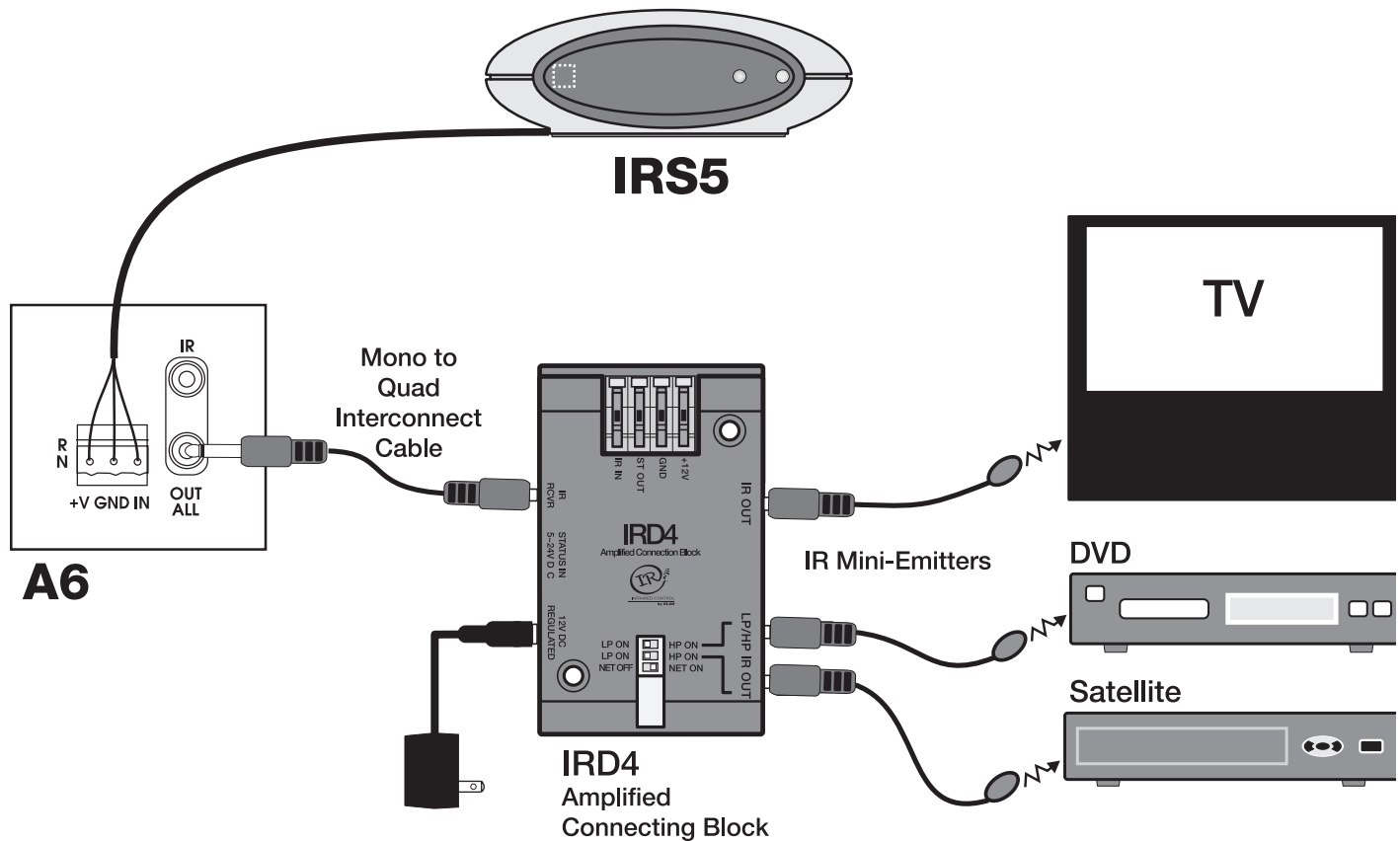


*Figure 3-8: IR System Control Connection*

# Chapter 4: Operations & Settings

### Setting Channel Levels

The A6 features independent Level Adjustment Potentiometers for each of its six channels. Use a small Phillips screwdriver to independently adjust each channel of the amplifier for the specific speakers and environmental conditions of the area it is powering. Turning the potentiometers clockwise increases the level, while turning it counterclockwise decreases the level. Factory default is 50%.

Set the levels by first lowering them all the way down, then raise the volume of any keypads or volume controls to maximum. Slowly increase the level of the channel being adjusted by turning the potentiometer clockwise until the channel begins to distort, then reduce the level slightly (turn counter-clockwise) until distortion is no longer present. Follow this procedure for each channel.
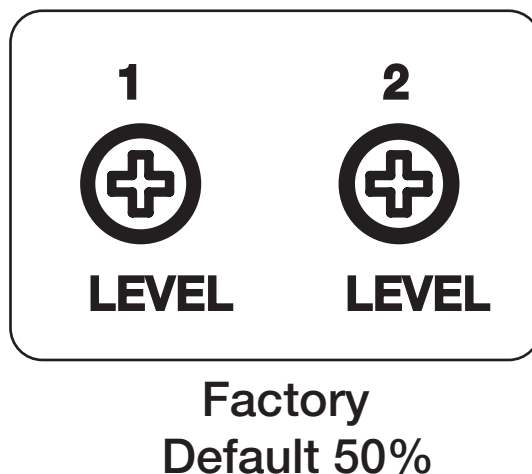


*Figure 4-1: Level Adjustment Potentiometers*

## BUS MODE Setting

The BUS MODE switch for the A6 is located on the back panel with the Line Input jacks. Audio signals connected to the # 1 & 2 channels of the A6's LINE INPUT will be routed to channels 3 & 4, and 5 & 6 internally completely eliminating the need for patch cables.
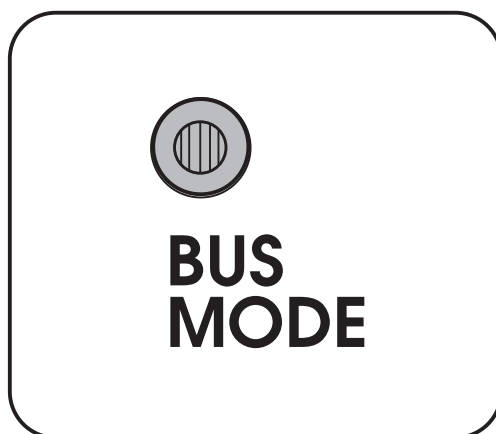


*Figure 4-2: A6 Bus Mode Button*

# CHANNEL BRIDGE MODE Setting

The Channel Bridging buttons for the A6 are located on the back panel next to the Line Outputs. These recessed buttons are located beneath a decal. Using a small Phillips screwdriver carefully pierce the decal to access the button. The buttons are Factory Defaulted in the OUT (OFF) position. Audio signals connected to the # 1 & 3 & 5 channels of the A6's LINE INPUT will be routed to the top row of speaker outputs. See *Figure 2-9: 3 Channel Bridged* for more details.

   • Channel 1 & 2 Positive (+) Binding Post terminals become the bridged Output of Channel 1.

   • Channel 3 & 4 Positive (+) Binding Post terminals become the bridged Output of Channel 3.

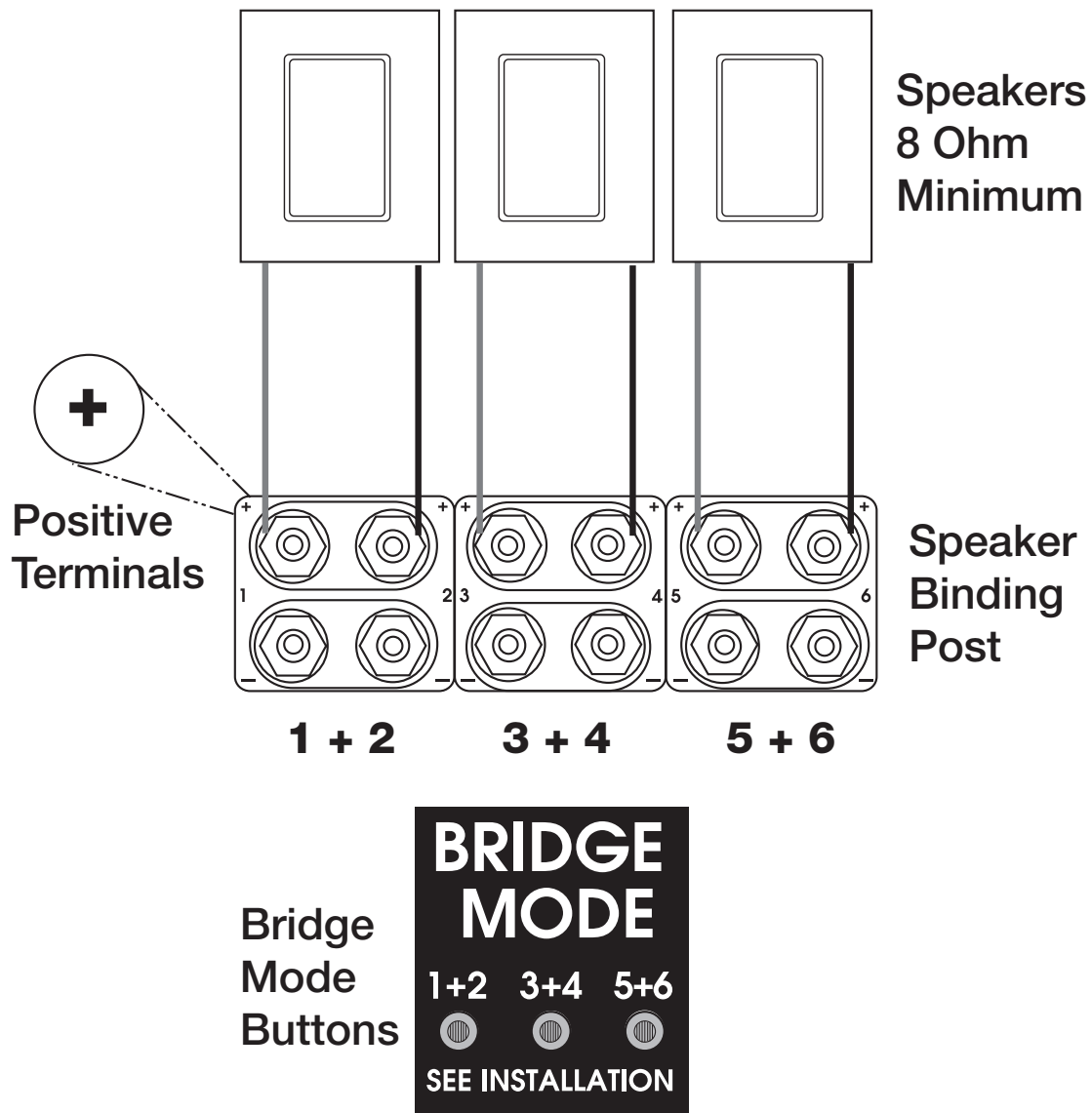   • Channel 5 & 6 Positive (+) Binding Post terminals become the bridged Output of Channel 5.



*Figure 4-3: A6 Channel Bridge Mode Buttons*

# Chapter 5: Troubleshooting

*Table 5-1: General*

| Symptom | Possible Cause | Solution |
|---|---|---|
| Amplifier Will Not Power Up | 1. Power switch is Off | 1. Turn switch On. Switch is located on the back of unit. |
| | 2. Circuit breaker tripped | 2. Reset circuit breaker. The A6 draws 3.7A of AC currect. Ensure that combined current draw of all devices on circuit does not exceed the circuit's capacity. |

*Table 5-2: Audio*

| Symptom | Possible Cause | Solution |
|---|---|---|
| No Audio From One or More Channels | 1. Loose/bad speaker cable connection | 1. Check cable ends at binding posts and speaker terminals. |
| | 2. Break/short in speaker cable | 2. Check continuity of each speaker cable using multimeter. If short or open is indicated, check wiring for proper connections. |
| | 3. Speaker is defective | 3. Swap with known good speaker. |
| | 4. RCA patch cable defective | 4. Swap with known good patch cable. |
| | 5. Source not sending audio | 5. Verify source is powered up and play-ing. Check any tape monitor settings on A/V Receiver. |
| | 6. Bus Mode Button or Bridge Mode set incorrectly. Verify BUS MODE or BRIDGE MODE switch settings | 6. Verify/correct switch settings. |
| No Audio From One Channel | Amplifier is overheating due to inadequate ventalation or prolonged operation at clipping levels. | 1. (a) Turn the amplifier off and allow the internal circuits to cool.<br><br>(b) Ensure that the amplifier has proper ventilation. Add cooling fan if necessary.<br><br>(c) Lower the gain level controls for that channel pair. |
| No Audio From One Channel | Unit may require service. | Contact ELAN Technical Support. |
| Very Low or No Sound on Some or All Channels | Audio input cable is bad. | Check source equipment cables for damage and faulty connections and cor-rect. |

| Symptom | Possible Cause | Solution |
|---|---|---|
| Audio "Hum" | 1. Ground potential difference between source components (ground loop) | 1. (a) Test AC outlet using ground tester.<br><br>(b) Reverse the AC plug of components with non-polarized ends plugged into the same outlet strip as amp. |
| | 2. Faulty/damaged cables | 2. Check source equipment cables for damage and faulty connections. |
| | 3. Faulty wiring | 3. (a) Make sure volume controls are not hooked up backwards.<br><br>(b) Check for shorts in wiring (see item 2 in "No audio…"). |
| Distorted Audio at Normal Volume Levels | 1. Input gain set too high | 1. Reduce gain to the channel in question. |
| | 2. Defective/incompatible speaker | 2. (a) Check for physical damage to speaker.<br><br>(b) Ensure speakers have appropriate power rating for amplifier.<br><br>(c) Ensure speakers are rated @ 8 Ohm impedance. This amp is compatible with speakers with 8 Ohm impedance or greater. |
| | 3. Volume control wired incorrectly | 3. Check for proper input/output connections at volume control. Input comes from amplifier, output goes to speakers. |
| | 4. Volume control Impedance Match settings incorrect | 4. Verify/correct Impedance Match settings. |
| Audio is Unclear, Bass Response Low | Speakers out of phase | Verify that + of amplifier goes to +of speaker and - of amplifier goes to - of speaker on ALL speaker leads. |
| Incorrect Source Playing on Speakers | 1. Source connected to wrong input of amplifier | 1. Verify/correct input connections. |
| | 2. Speakers connected to incorrect speaker outputs | 2. Verify/correct speaker connections. |
| | 3. DIP switches set incorrectly | 3. Verify/correct DIP switch settings. |
| Amplifier Will Not Power Up | 1. Power switch is Off | 1. Turn switch On. Switch is located on the back of unit. |
| | 2. Circuit breaker tripped | 2. Reset circuit breaker. Ensure that combined current draw of all devices on circuit does not exceed the circuit's capacity. |

**Table 5-3: IR Control**

| Symptom | Possible Cause | Solution |
|---|---|---|
| IR LED does NOT flash when a button pressed. | 1. IR controller not programmed.<br><br>2. IR signal path wiring bad. | Program IR controller.<br><br>Verify IR signal path wiring. Check keypads, IR sensors, IR distribution blocks, IR Input jack, IR emitters, etc. |
| No channel selected from IR controller. IR LED DOES flash when button pressed. | 1. Incorrect IR commands programmed).<br><br>2. Chassis codeset incorrect. | Verify/correct IR programming.<br><br>Verify/correct IR programming. |
| Intermittant or no control from IR controller. IR LED on LCD flickers or is lit constantly. | IR flooding. | Check IR receivers for ambient light or plasma TV flooding. |

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**Technical Support**

If, after carefully following the steps in the **Troubleshooting** section, you are unable to resolve issues with the installation or operation of the A6, please call ELAN Technical Support at 1-800-622-ELAN (3526).

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# Appendix A: Specifications

| Audio Section | |
|---|---|
| Power Rating - Output Power | 60WPC RMS @ 8 Ohms<br>120WPC RMS @ 8 Ohms Bridged |
| Frequency Response | 20Hz to 20kHz, -.25dB |
| Full Power Bandwidth | 5Hz to 30kHz |
| Signal-To-Noise | > 110dB (A-weighted) |
| Channel Separation | >70dB @1kHz |
| Total Harmonic Distortion | < 0.03% |
| Intermodulation Distortion | < -90dB |
| Voltage Gain (AV) | 0 - 20 front panel adjustable |
| Input Impedance | 20k Ohms |
| **Connectors** | |
| Input/Loop Outputs | Gold RCA Phono |
| Speaker Outputs | Gold 5 Way Binding Posts |
| **Power** | |
| AC Power Requirements | A6-120 VAC, 440 Watts |
| Current Draw | 3.7A @ 120VAC |
| **Triggers** | |
| Remote Trigger Inputs | 5 to 24V AC/DC |
| Remote Trigger Outputs | +12 VDC @0.1A |
| **Dimensions/Weight** | |
| Dimensions w/ Feet (1U w/o Feet) | 17 W x 2 1/4 H x 11 D (in)<br>432 W x 58 H x 280 D (mm) |
| Weight | 16 lbs/7.2 kg |

# Appendix B: Rack Mounting

## Rack-Mount Brackets

When mounting the A6 amplifier in an equipment rack, use the included rack mount brackets for secure mounting and proper ventilation. The A6 requires one rack space, ensure that one rack space above and below the A6 is left open for proper ventilation. To install the A6 into a standard 19" equipment rack:

1. Slide the rack mount kit onto the A6 chassis from the front as shown in *Figure B-1*.
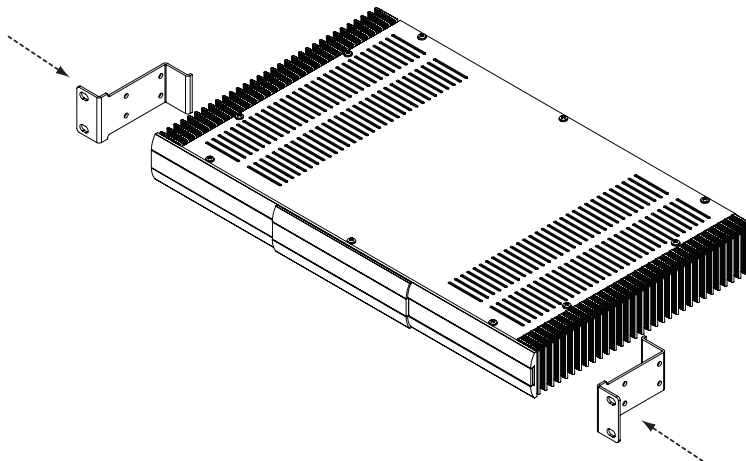


*Figure B-1*

2. Ensure that the unit is flush with the front of the mounting kit. Install each of the eight screws (included) through the side mounting flanges into the holes in the sides of the unit as shown in *Figure B-2*. Hand tighten screws! Over-tightening could cause damage to the A6 Amplifier.
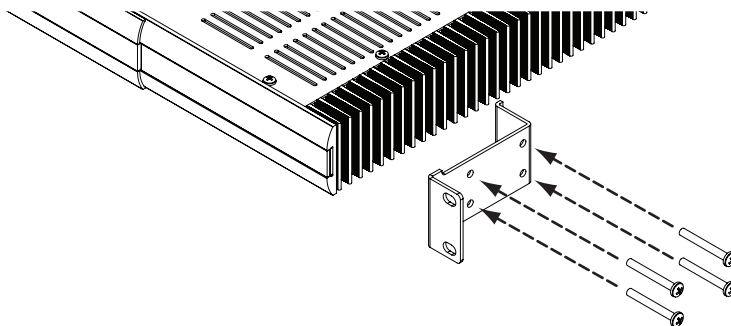


*Figure B-2*

3. Once the unit is securely mounted onto the rack mount brackets, install the entire assembly into a standard 19" equipment rack from the front using four rack screws (not included) as shown in *Figure B-3*.
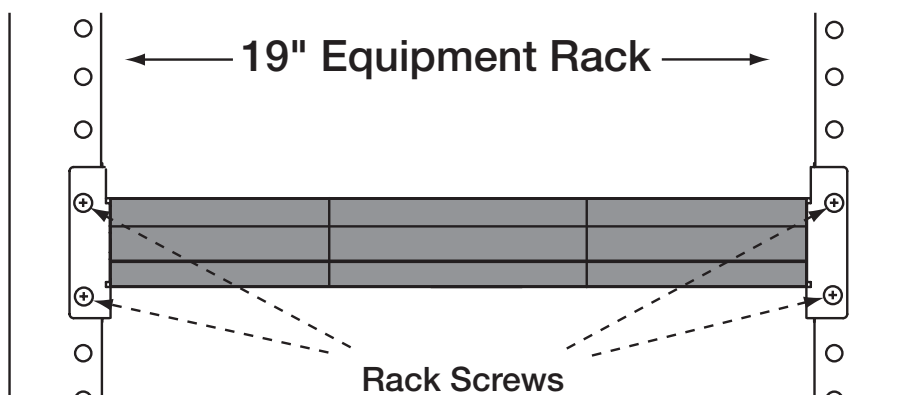


19" Equipment Rack

Rack Screws

*Figure B-3*

# Notes:

# Limited Warranty

ELAN HOME SYSTEMS L.L.C. ("ELAN") warrants the ELAN A6 Six Channel Amplifier to be free from defects in materials and workmanship for the period of two years (2 years) from date of purchase. If within the applicable warranty period above purchaser discovers that such item was not as warranted above and promptly notifies ELAN in writing, ELAN shall repair or replace the item at the company's option. This warranty shall not apply (a) to equipment not manufactured by ELAN, (b) to equipment which shall have been installed by other than an ELAN authorized installer, (c) to installed equipment which is not installed to ELAN's specifications, (d) to equipment which shall have been repaired or altered by others than ELAN, (e) to equipment which shall 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 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 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.

ATTENTION: TO OUR VALUED CONSUMERS

To ensure that consumers obtain quality pre-sale and after-sale support and service, ELAN Home Systems products are sold exclusively through authorized dealers. ELAN products are not sold online. The warranties on ELAN products are NOT VALID if the products have been purchased from an unauthorized dealer or an online E-tailer. To determine if your ELAN reseller is authorized, please contact ELAN Home Systems at (859) 269-7760.
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