Atlas	AA60 Mixer Amplifier	
		Signal Peak Power
Input 1	Input 2 Input 3	Power
Bass	Treble	OnOff
Dass	Hebie	

AA60 Atlas Sound Mixer Amplifier



# AA60 MIXER AMPLIFIER



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## AA60 MIXER AMPLIFIER



### **Important Safety 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) instructions in the literature accompanying the product.



WARNING

TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE

- Read these instructions.
- 2. Keep these instructions.
- 3. Heed all warnings.
- Follow all instructions.
- Do not use this device near water.
- Clean only with dry cloth.
- Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
- Do not install near any heat sources such as radiators, heat registers, stoves, or other device (including amplifiers) that produce heat.
- Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
- 10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the device.
- 11. Only use attachments/accessories specified by the manufacturer.
- 12. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the device. When a cart is used use caution when moving the cart/device combination to avoid injury from tip-over.
- 13. Unplug this device during lightning storms or when unused for long periods of time.
- 14. Refer all servicing to qualified service personnel. Servicing is required when the device has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled, or objects have fallen into the device, the device has been exposed to rain or moisture, does not operate normally, or has been dropped.



## AA60 MIXER AMPLIFIER

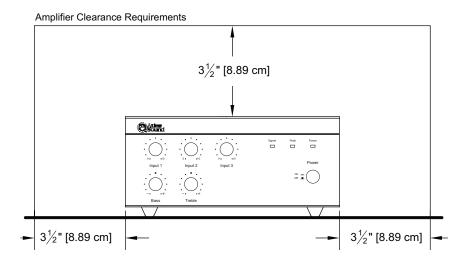


- 15. WARNING: To reduce the risk of fire or electric shock, this device should not be exposed to rain or moisture and objects filled with liquids, such as a vase, should not be placed on this device.
- 16. To completely disconnect this equipment from the mains, disconnect the power supply cord plug from the receptacle.
- 17. The mains plug of the power supply cord shall remain readily operable.



# **CAUTION – When Installing the Product**

- Plugging in or unplugging the power cord with wet hands may result in electric shock.
- Never move the device with the power cord plugged into the wall, as damage to the power cord may result.
- When unplugging the cord from the wall, grasp the plug, NOT the cord.
- Never install this device in humid or dusty locations, nor in direct sunlight, near sources of heat, or in areas where sooty smoke or steam are present. Fire and electric shock may result.
- Keep all sides of the device at least 3½" away from objects that may obstruct air flow to prevent the unit's internal temperature rise.





### WARNING - When the Device is in Use

- To prevent electric shock, do not remove the device cover as there are high voltage components inside.
   Refer all servicing to Atlas Sound.
- Should any of the following irregularities occur during use, immediately switch off the power, disconnect
  the power cord from the AC outlet and contact Atlas Sound. Do not to attempt to continue operation with
  the device as this may cause fire or electric shock:
  - · Smoke or strange smell coming from the unit.
  - If the device falls or the case is damaged.
  - If water or any metallic objects falls into the device.
  - If the power supply cord is damaged in any way.
  - · If the device is malfunctioning.



## AA60 MIXER AMPLIFIER



- Do not insert or drop metallic objects or flammable materials into the ventilation holes of the device's cover, as this may result in electric shock or fire.
- Do not place any containers with liquid or metallic objects on the top of the device. If any liquid spills into the unit, fire or electric shock may result.
- Never operate this device or touch the power supply cord during an electrical storm, electric shock may result.
- Never exceed the wattage on the product when connecting equipment. Fire and/or property damage may result.
- Operate the device only with the voltage specified on the unit. Fire and/or electric shock may result if a higher voltage is used.
- Do not modify, kink, or cut the power cord. Do not place the power cord in close proximity to heaters and do not place heavy objects on the power cord, including the device itself, doing so may result in fire or electrical shock.
- Ensure that the safety ground terminal is connected to a proper ground. Never connect the ground to a
  gas pipe as a catastrophic disaster may result.
- Be sure the installation of the product is stable, avoid slanted surfaces as the product may fall and cause injury or property damage.



### **CAUTION** - When the Device is in Use

- Never place heavy objects on the product, causing it to fall and/or break, resulting in personal injury and property damage. In addition, the product itself may fall and cause injury and property damage.
- Contact Atlas Sound for instructions on cleaning the inside of the unit. Large accumulations of dust inside the unit may result in heat buildup and fire.
- Ensure that the power supply plug is securely plugged into the wall outlet. Never allow dust to accumulate on the power plug or inside the wall outlet.
- When cleaning the unit or the unit is not to be operated for an extended time period, unplug the power cord from the wall.

#### INTRODUCTION

Congratulations and thank you for purchasing the Atlas Sound AA60 mixer amplifier. This new and innovative professional grade product has been designed from the ground up to include the important features that professional installation personnel require to meet or exceed their customer's expectations. Small and compact, and engineered for reliability, the Atlas Sound AA60 will provide years of service and flexibility in today's background music and paging applications.

#### **Features**

- 60 Watts Into 25V / 70.7V and  $4\Omega$  Loads Built-In Soft Knee Limiter
- One Balanced Mic / Line / Tel Input w/ Phantom Power
- 2 Unbalanced, Summing Line Level Inputs
- 2 Zone Outputs
- 2 Unbalanced Line Outputs
- Preamp Out / Power Amp in Loop for External Processors
- Switchable Low Cut Filter Bypasses Bass Control
- Variable Mute Sensitivity Control for Input 1
- Contact Closure Mute Terminals
- Rear Mounted Dip Switch Allows Mute Receive for Inputs Two and Three
- Zone 2 Outputs Can Receive Signals from Inputs One, Two, or Three

#### **Applications**

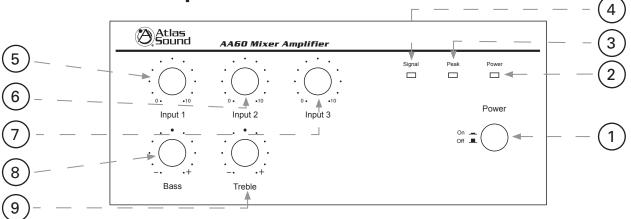
The Atlas Sound AA60 is the perfect choice for distributed business paging and background music (BGM) systems, small to medium speech privacy systems and in applications where music on hold (MOH) plus paging is required.



## AA60 MIXER AMPLIFIER



### **Front Panel Description**



#### 1. Power Switch

This push on/off switch supplies power to the AA60 mixer amplifier.

#### 2. Power LED

This LED illuminates when the power switch is turned on.

#### 3. Peak LED Indicator

The PEAK LED will illuminate when the AA60 is in a clipping condition, caused by excessively high input levels or a GAIN control is turned up too high. An occasional flash is OK. Check that the proper signal level is being fed into the inputs and/or turn the input gain down until the LED is no longer illuminated.

#### 4. Signal LED

When the signal LED illuminates, this indicates that input signals connected to the amplifier are capable of driving the AA60 to full power.

#### 5. Input 1 Gain

Input 1 rotary control varies the amplitude of the signal fed into the amplifier. Turn clockwise to increase and counter-clockwise to decrease the signal level.

#### 6. Input 2 Gain

Input 2 rotary control varies the amplitude of the signal fed into the amplifier. Turn clockwise to increase and counter-clockwise to decrease the signal level.

#### 7. Input 3 Gain

Input 3 rotary control varies the amplitude of the signal fed into the amplifier. Turn clockwise to increase and counter-clockwise to decrease the signal level.

#### 8. Bass Control

Normally set at the 12:00 position, rotating clockwise will increase (boost) bass frequencies to a maximum of 10 dB at 100 Hz. Rotating counter-clockwise from the 12:00 position will decrease (cut) bass frequencies to a maximum of 10 dB at 100 Hz.

#### 9. Treble Control

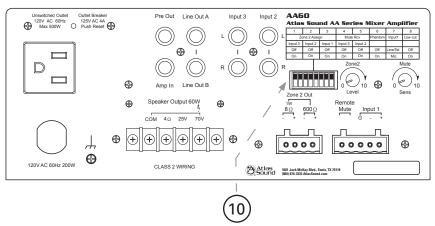
Normally set at the 12:00 position, rotating clockwise will increase (boost) treble frequencies by 10 dB at 10 kHz. Rotating counter-clockwise from the 12:00 position will decrease (cut) treble frequencies by 10 dB at 10 kHz.



# AA60 MIXER AMPLIFIER



### **Rear Panel Description**



#### 10. Multi Function Dipswitch

Understanding the functionality of the dipswitches is key to maximizing the versatility of the AA60. When a switch is in the up position, the function is "**OFF**"; when a switch is in the down position, the function is "**ON**".

1	2	3	4	5	6	7	8
Zone 2 Assign		Mute Rcv		Phantom	Input1	Low cut	
Input 3	Input 2	Input 1	Input 3	Input 2			
Off	Off	Off	Off	Off	Off	Line/Tel	Off
On	On	On	On	On	On	Mic	On

- SWITCH 1 Zone 2 Assign When "ON", will route signals from Input 3 to the Zone 2 Output terminals.
- SWITCH 2 Zone 2 Assign When "ON", will route signals from Input 2 to the Zone 2 Output terminals.
- SWITCH 3 Zone 2 Assign When "ON", will route signals from Input 1 to the Zone 2 Output terminals.
- **SWITCH 4 Mute Receive -** When "**ON**", Input 3 signals will be muted if a signal is present on Input 1 (Refer to Mute Sensitivity Control, number 16 on page 9), or if a contact closure is present on the remote mute terminals (Refer to Remote Mute Connector, number 11(B) on page 8).

**SWITCH 5 - Mute Receive -** When "**ON**", Input 2 signals will be muted upon a signal present on Input 1 (Refer to Mute Sensitivity Control, number 16 on page 9), or if a contact closure is present on the remote mute terminals (Refer to Remote Mute Connector, number 11(B) on page 8).



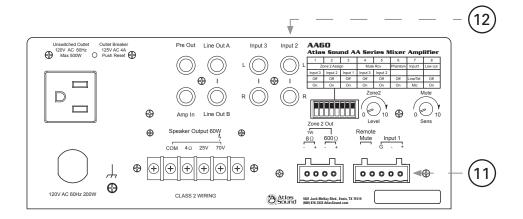


1	2	3	4	5	6	7	8
Zone 2 Assign		Mute Rcv		Phantom	Input1	Low cut	
Input 3	Input 2	Input 1	Input 3	Input 2			
Off	Off	Off	Off	Off	Off	Line/Tel	Off
On	On	On	On	On	On	Mic	On

**SWITCH 6 - Phantom -** When **"ON"**, applies Phantom Power 24VDC to Input 1 terminals for condenser type microphones. Note: Only use this feature if you are using condenser microphones, otherwise leave in the **"OFF"** position.

**SWITCH 7 - Input 1 -** When in the **"MIC"** position, Input 1 will accept microphone level signals; when in the "Line/Tel" position, Input 1 will accept line level or telephone signals.

**SWITCH 8 - Low Cut Filter -** When in the **"ON"** position, frequencies below 400 Hz are attenuated at the rate of 6 dB per octave. Note: The rotary bass control is bypassed when the LOW CUT filter is on. We suggest that when paging horns are connected to the AA60, engage the LOW CUT filter to prevent the horns from operating below their cutoff frequency. When **"OFF"**, the amplifier operates full bandwidth.



#### 11. (A) Input 1

Balanced mic or line level signals connect to the (+), (—), and (G) terminals. Refer to the chart at the top of the page for the following setting. Dipswitch number 7, labeled Input 1 must be set to the proper position for mic or line level. If you are connecting an unbalanced line level input, tie (short) the (G) and (—) terminals together. If transformer isolation is required for input 1, contact Atlas Sound for details.

#### (B) Remote Mute Connector

Shorting the Remote Mute terminals, (G) to (M), will mute inputs 2 and/or 3, depending on how their dipswitch settings are set for switch positions 4 and 5 labeled "Mute Rec"/"Input 2" & "Input 3". In the "ON" position, the corresponding channel will be muted when terminals (G) and (M) are shorted together. This connection is usually done via remote switch on a microphone.

#### 12. Input 2

Input 2 consists of stereo summing inputs, suitable for connection to the output of CD/DVD players, etc.

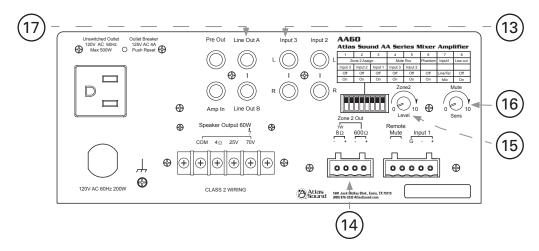
#### 13. Input 3

Input 3 consists of stereo summing inputs, suitable for connection to the output of CD/DVD players, etc.



## AA60 MIXER AMPLIFIER





#### 14. Zone 2 Output Connector

Use the 1 W  $8\Omega$  terminals for connection to an external speaker. The  $600\Omega$  1.5V output is typically connected to a PBX music on hold port, also known as MOH.

#### 15. Zone 2 Output Level Control

This rotary control will vary the signal level at the Zone 2 output terminals. Fully counter-clockwise (0) is off, fully clockwise (10) is the maximum output level. The Zone 2 level control is PRE Inputs 1, 2, and 3 volume controls.

#### 16. Mute Sensitivity Control

VOX Mute Sensitivity Control adjusts how sensitive the mute send circuitry on Input 1 reacts. Setting the control fully counter-clockwise will lower the sensitivity, where a higher amplitude signal will be required at Input 1 to trigger the mute send circuits. Fully clockwise will raise the sensitivity of the mute circuits, where a lower amplitude signal will trigger a mute send. Careful calibration of this control may be required to fully utilize the capabilities of the mute circuits.

#### 17. Line Out A/B

Line Out connectors A/B are paralleled jacks and are useful for providing unbalanced line level signal to another amplifier or other external devices. Prior to using this feature one must understand where the internal signal pick up point is so you can decide if it is correct for your application. We suggest you refer to the block diagram of the AA60 to have a complete understanding of the signal flow.

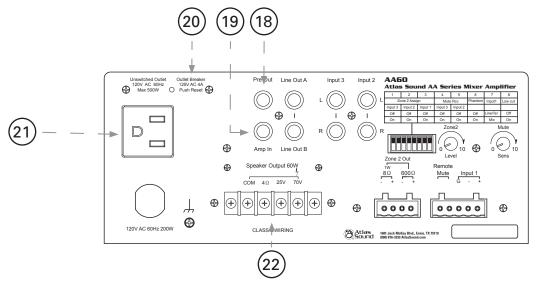
#### Note The Following Conditions For Line Out A/B

- A. Post Low Cut Filter and is affected when filter is engaged.
- B. **Post** Tone Controls (meaning the settings for the Bass and Treble controls affect this signal out put). *Note: Refer to Low Cut Filter Switch for complete understanding of the LCF feature.*
- C. **Post** Amp In (meaning any signal that is inserted into the PRE AMP In jack will be present at the Line Out A and B).



## AA60 MIXER AMPLIFIER





#### 18. Pre Out

The PRE OUT connector allows Post tone control and low cut filter (when engaged) functions to be available to drive another power amp or external audio device(s). Used in conjunction with the AMP IN connector, an effects loop can be created by connecting the PRE OUT jack to a device such as an equalizer then back out to the AMP IN connector. See Example 3 in the Setup section of this manual.

#### 19. Amp In

The AMP IN connector is useful for converting the AA60 into a slave amp. When a line level signal is connected to this input, the internal connection between the preamp and internal power amp is broken. Audio signals applied to this connector are post tone control and input level controls.

#### 20. Breaker

The circuit breaker is designed to trip and shut down the AA60 "Unswitched Outlet" upon an over current condition. After correcting the cause of the breaker tripping, reset the breaker by pushing in on the tab.

#### 21. Unswitched Outlet

The unswitched outlet provides power for other devices (Atlas Sound rack work light, etc.) and is live whenever the power cord is plugged into a live outlet. Total power draw must not exceed 500 W.

#### 22. Output Terminal Strip

For loudspeaker connections, connect as follows or proceed to the setup section for typical wiring schemes.

**COM** - Speaker common or negative connection

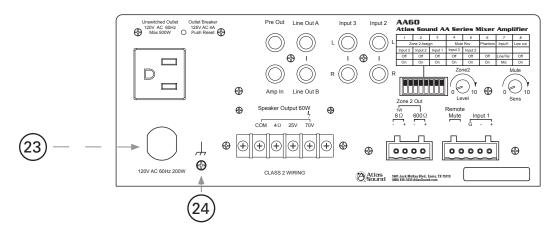
 $4\Omega$  - Connect to direct coupled loudspeakers

25V - Connect to transformer coupled, 25V loudspeakers with a total load impedance of no less than  $10.4\Omega$ 

70V - Connect to transformer coupled, 70.7V loudspeakers with a total load impedance of no less than 83.3Ω.







#### 23. Power Cord

Connect this grounded power cord to 120VAC circuits only. Serious damage may result otherwise.

#### 24. Ground Terminal

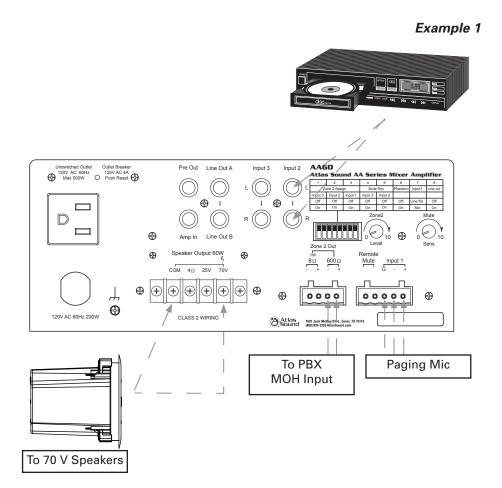
Connect this terminal to electrical ground as required by local codes.



### **Quick Start Examples**

#### Setup - Example 1: Typical paging with Background Music

- Connect a paging mic to INPUT 1.
- Set Dipswitch 7 to the "MIC" position.
- Connect a CD player to the RCA jacks on INPUT 2. This is known as BGM or Back Ground Music.
- Set Dipswitch 2 to the "ON" position allowing the signal to be routed to ZONE 2 output (known as the Music On Hold output or MOH).
- Set Dipswitch 5 to the "ON" position. When a page is received via Input 1 the page mic, the background music (BGM) will mute, allowing the page to be clearly heard. Note: The music on hold (MOH) will not be muted.
- The ZONE 2 level control and the MUTE SENS controls are adjusted as needed.
- Connect the speakers to the desired output terminals.



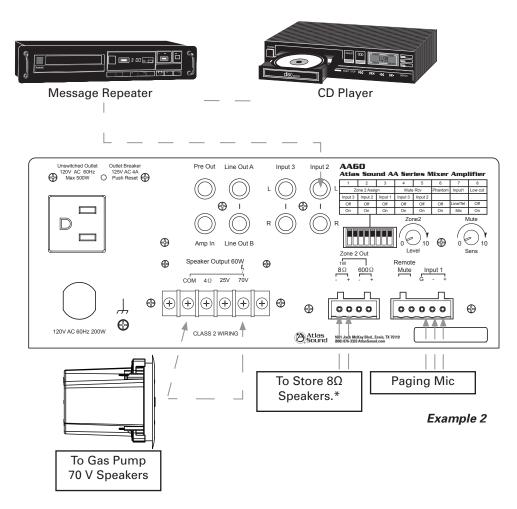


## AA60 MIXER AMPLIFIER



#### **Setup – Example 2: Small Convenience Store with Gas Pumps**

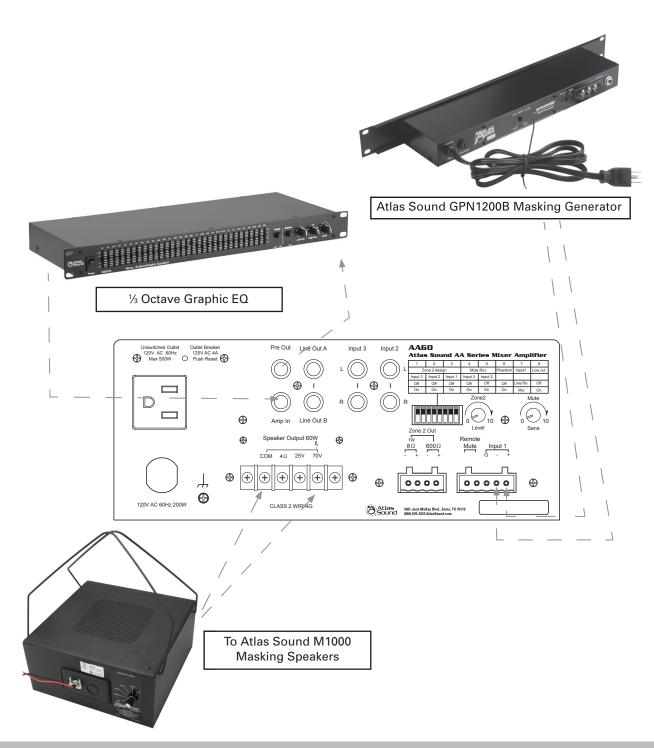
- Connect the paging mic to INPUT 1.
- Set Dipswitches 3 and 7 to "ON". This sets INPUT 1 to mic level input and routes the paging mic to Zone 2 output.
- Connect a digital message repeater to INPUT 2. Note: It is common to connect a CD player to the Input of a message repeater. Now the BGM is routed through the message repeater to INPUT 2.
- Set Dipswitches 2 and 5 to "ON", allowing the message repeater to be routed to the ZONE 2 output and INPUT 2 will receive a mute command from the paging mic at INPUT 1.
- Connected ZONE 2 1 W 8Ω output to 4 series/parallel speakers that are wired in the store to provid-BGM and digital messages. Note: Room variations and speaker selection will determine number of speakers required. Set the level via the ZONE 2 Level control.
- Connect the gas pump speaker(s) to the 70 V output terminals. This will provide paging, BGM, and digital messages to the outside speakers. Note: When paging from the microphone on INPUT 1 the BGM and digital message signal will be muted on the outside speakers allowing only the page to be present.



\* Total loudspeaker impedance to be ≥ 8Ω. This output may also be used with 3M® pump intercom systems. Contact the factory for details.









Specifications are subject to change without notice

1601 JACK MCKAY BLVD. • ENNIS, TEXAS 75119 U.S.A. TELEPHONE: (800) 876-3333 • FAX (800) 765-3435

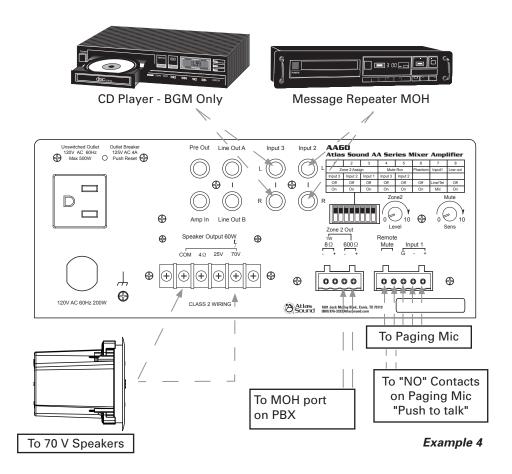
## AA60 MIXER AMPLIFIER



#### Setup – Example 4: MOH with System BGM and Remote Paging

This example has a separate message repeater routed only to the MOH feature of the customer's phone system. While callers are on hold, they hear only custom promotional messages. When a page is present, the BGM will be muted via remote switch on the mic.

- Connect a digital message repeater to INPUT 2.
- Set Dipswitch 2 to "ON", allowing the message repeater to be routed to the ZONE 2 output. INPUT 2
  volume control must be turned all the way down, so the audio only goes out the ZONE 2 output and
  not to the main system.
- Connect a BGM player to INPUT 3 for system background music.
- Connect a paging mic with a switch to INPUT 1.
- Connect the switch wires from the mic to the "RMT MUTE" terminals. Note: The polarity on the switch to the terminals does not matter.
- Set Dipswitch 7 to the "MIC" position.
- Set Dipswitch 4 to the "**ON**" position. When a page is received via INPUT 1 and the "RMT MUTE" terminals are shorted, the background music (BGM) will mute, allowing the page to be clearly heard. *Note: The music on hold (MOH) will not be muted.*
- · The Mute Sensitivity control must be set fully counter-clockwise to prevent false muting action.







### Wiring the AA60

Speaker Outputs - Use 2 conductor unshielded wire of the appropriate gauge. If you are unsure about this, contact Atlas Sound Tech Support at 1-800-876-3333. Make sure you know how many speakers you need and what tap value you intend to use.

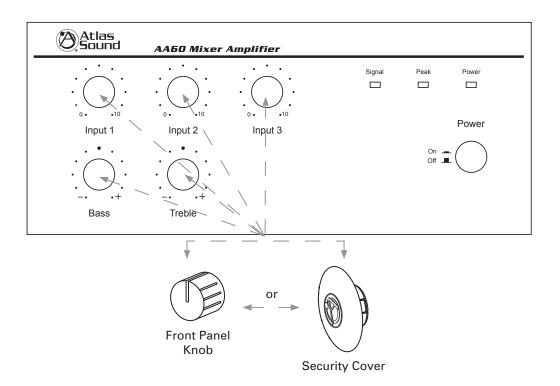
Mic/Line Input - Use 2 conductor with shield for low level signals of 20 - 22-gauge is best. Maintain the proper polarity, + to +, - to -, and shield to ground.

Unbalanced Inputs and Outputs - Pre-made RCA cables can be purchased from vendors to simplify interconnection to external devices.

Zone 2 Out - Use 2 conductor, 20 - 22-gauge, shielded is best. Terminate the shield at the input to the device if possible.

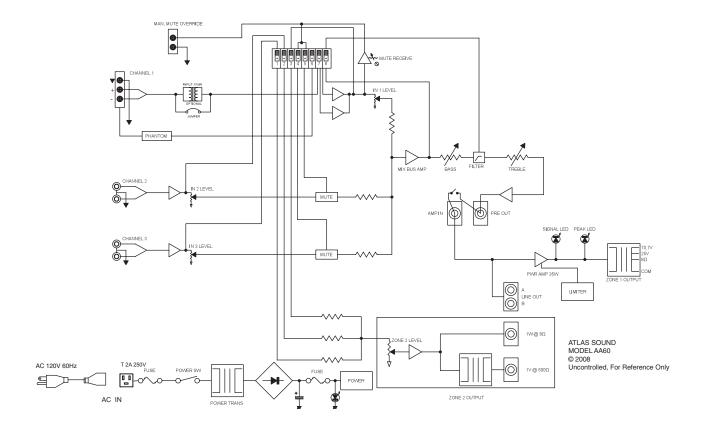
### **Security Cover Option**

In order to prevent unauthorized operation of the AA60, optional security covers are available which take the place of the front panel knobs. After the AA60 has been installed and is operating as desired, grasp the front panel knobs and pull straight out from the front panel. Replace the knobs with security covers, Atlas Sound part number AAVCC-5, available in quantities of 5.





## **Signal Path Block**

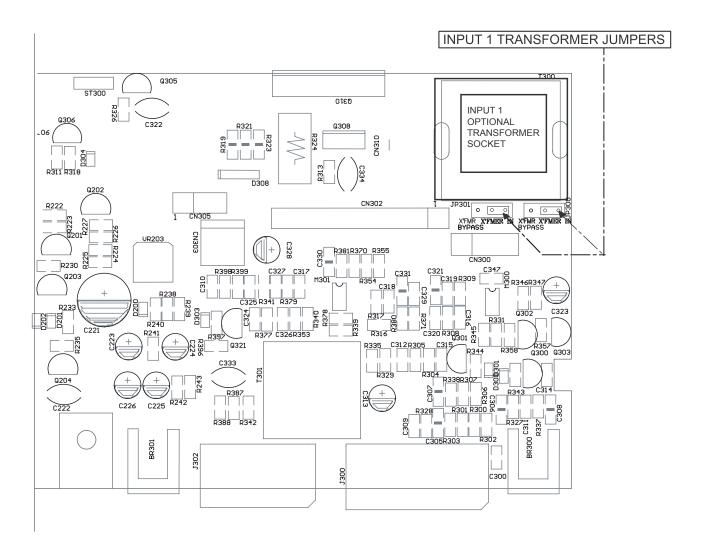




### **Input Transformer Installation**

#### **Optional Input 1 Transformer Installation**

Contact Atlas Sound at 1-800-876-3333 for price and availability.





## AA60 MIXER AMPLIFIER



#### **SPECIFICATIONS**

**POWER OUTPUT** 

Max. Average Power @ 50 Hz-20 kHz with .5% THD (10-80 kHz filter)

8Ω, 1 kHz, 0.5% THD 60 watt RMS

TRANSFORMER OUTPUTS

25V 60 watt RMS into  $10.4\Omega$ 70.7V 60 watt RMS into  $83.3\Omega$ 

 $4\Omega$  60 watt RMS

**FREQUENCY RESPONSE** 

50 Hz - 20 kHz

THD+N

.5% or less, at 1 kHz, rated output .1% or less, at 1 kHz, 5 watt output

**SENSITIVITY** 

Input 1 Mic .316 ~ 3.16mV (-50 ~ -30 dBV)

Input 1 Telephone/Line 316mV (-10 dBV)  $600\Omega$  (optional  $600\Omega$  transformer available)

Input 2/3 316mV (10 dBV)  $10k\Omega$ 

**OUTPUTS** 

Main: Transformer coupled, balanced,  $8\Omega$ , 25V, and 70.7V

Zone 2- 8Ω Unbalanced 1 watt Zone 2- 600Ω Balanced 1.5V

**OUTPUT REGULATION** 

Less than 2dB, no load to full load

SIGNAL TO NOISE RATIO

Mic >55 dB Line >55 dB Telephone >55 dB Input 2/3 >75 dB

**TONE CONTROLS** 

Bass ±10 dB @ 100 Hz Treble ±10 dB @ 10 kHz

**INDICATORS** 

Power, signal, peak

**POWER CONSUMPTION** 

200 watt

**HEIGHT** 

2 RU, 3.66" (94 mm)

**WIDTH** 

8.27" (210 mm)

**DEPTH** 

10.87" (276 mm)



## AA60 MIXER AMPLIFIER



### **Limited Warranty**

All products manufactured by Atlas Sound are warranted to the original dealer/installer, industrial or commercial purchaser to be free from defects in material and workmanship and to be in compliance with our published specifications, if any. This warranty shall extend from the date of purchase for a period of three years on all Atlas Sound products, including SOUNDOLIER brand, and ATLAS SOUND brand products except as follows: one year on electronics and control systems; one year on replacement parts; and one year on Musician Series stands and related accessories. Additionally, fuses and lamps carry no warranty. Atlas Sound will solely at its discretion, replace at no charge or repair free of charge defective parts or products when the product has been applied and used in accordance with our published operation and installation instructions. We will not be responsible for defects caused by improper storage, misuse (including failure to provide reasonable and necessary maintenance), accident, abnormal atmospheres, water immersion, lightning discharge, or malfunctions when products have been modified or operated in excess of rated power, altered, serviced or installed in other than a workman like manner. The original sales invoice should be retained as evidence of purchase under the terms of this warranty. All warranty returns must comply with our returns policy set forth below. When products returned to Atlas Sound do not qualify for repair or replacement under our warranty, repairs may be performed at prevailing costs for material and labor unless there is included with the returned product(s) a written request for an estimate of repair costs before any nonwarranty work is performed. In the event of replacement or upon completion of repairs, return shipment will be made with the transportation charges collect.

EXCEPT TO THE EXTENT THAT APPLICABLE LAW PREVENTS THE LIMITATION OF CONSEQUENTIAL DAMAGES FOR PERSONAL INJURY, ATLAS SOUND SHALL NOT BE LIABLE IN TORT OR CONTRACT FOR ANY DIRECT, CONSEQUENTIAL OR INCIDENTAL LOSS OR DAMAGE ARISING OUT OF THE INSTALLATION, USE OR INABILITY TO USE THE PRODUCTS. THE ABOVE WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES INCLUDING BUT NOT LIMITED TO WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

Atlas Sound does not assume, or does it authorize any other person to assume or extend on its behalf, any other warranty, obligation, or liability. This warranty gives you specific legal rights and you may have other rights which vary from state to state.

### Service

Should your AA Series amplifier require service, please contact the Atlas Sound warranty department at 1-877-689-8055, ext. 277 to obtain an RA number.

Atlas Sound Tech Support can be reached at 1-800-876-3333.

Visit our website at www.AtlasSound.com to see other Atlas products

