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**AUDIOLINK SERIES
INSTALLATION INSTRUCTIONS
MODEL AA-10 PAGING AMPLIFIER**

Use this product according to this instruction manual. Please keep this instruction manual for future reference.

GENERAL APPLICATION INFORMATION:


Wheelock's AudioLink Series Model AA-10 Paging Amplifier is output rated at 10 watts RMS.


This amplifier affords a choice of three different inputs: one low impedance microphone input, one telephone paging input, and one high impedance auxiliary input. Three input channels allow these inputs to be used actively at one time: one microphone input, a telephone paging input, and one auxiliary input. Note that the auxiliary input (i.e., background music, tone generator, etc) will automatically be soft muted whenever a telephone page is generated or a microphone is used. After completion of the page, the music will rapidly return to its original level.

A built-in limiter circuit compensates for the varying voice levels and paging styles of the people who have access to telephone paging or a microphone. The limiter maintains rated output without distortion.

The amplifier features tamper-resistant individual input volume controls, as well as a master volume control, individual treble and bass controls, a low-cut horn protect switch, power on indicator, and a peak level indicator.

The unit operates from 115 volts, 60Hz and has a power consumption of 35 watts. The unit has a thermal breaker in the power transformer as well as thermal cut-off and current limiting for overload protection on the output. The thermal breaker in the transformer is automatically resettable.

NOTE: All **CAUTIONS** and **WARNINGS** are identified by the symbol . All warnings are printed in bold capital letters.

 **CAUTION:** In the event the transformer's thermal breaker does not reset, have the trouble investigated by an authorized service technician or return unit to the factory.


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

UNPACKING:

The amplifier was carefully checked before leaving the factory. Inspect shipping container and unit carefully for indication of improper handling. If the unit has been damaged, make an immediate claim to the carrier.

MOUNTING INSTRUCTIONS:

The amplifiers are designed for either shelf or wall mounting. For surface wall mounting, use the 2 keyhole slots in the chassis cover. Be sure to use hardware suitable for the mounting surface. Do not block air flow to top or bottom. Blocking the air flow will cause automatic thermal shutdown.

 **CAUTION:** These devices are not intended for use in hazardous locations as defined by the National Electrical Code (NEC) and by the National Fire Protection Association (NFPA).

 **WARNING: DO NOT USE THIS UNIT IN LIFE-SAFETY APPLICATIONS. THIS UNIT IS UL 813 LISTED AND CUL LISTED FOR COMMERCIAL AUDIO ONLY.**

POWER AND GROUNDING:

The 115 VAC line cord has a three-prong plug which should be plugged into a three wire grounded electric outlet. It is very important to maintain the amplifier ground for safe and trouble-free operation. If there is no grounded electric outlet, use a 2 prong to 3 prong plug adapter, with grounding lead, and connect the grounding lead to a metallic bond on the outlet; (i.e. the screw which secures the outlet's wall plate).

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TECHNICAL SPECIFICATIONS:

# PARAMETERS	AA-10			TOLERANCE	COMMENTS
1 Power Output @ 1KHz	10 Watts RMS			±1dB	@ 115VAC/60Hz ±5%
2 Total Harmonic Distortion	Less than 1% THD			+1%	Same as above @ rated output
3 Outputs	8 OHMS, 25V, 70.7V			±1.5dB	Bal. or Unbal.
INPUTS	TELEPHONE	MIC	AUX	-----	-----
4 Impedance	600 OHMS	600 OHMS	12K OHMS	-----	@ 1kHz
5 Sensitivity	-20dBm (77.5mV - -16 +20)	1mV	220mV	TEL ±2dB MIC ±.5mV AUX +20% -50%	To produce rated output
6 Frequency Response	300Hz-5kHz	50Hz-15kHz	50Hz-15kHz	±3dB	Ref. 1kHz @ 1W 25kHz MAX.
7 Signal to Noise Ratio	65dB	60dB	70dB	-4dB +10dB	Not Weighted
8 Type of Input	Transformer Isolated/Bal.	Balanced or Unbalanced	Unbalanced	-----	-----
9 Controls	TEL, MIC, AUX, BASS, TREBLE, MASTER VOLUME				Front Panel Mount
	Lo cut switch				Front Panel Mount
10 Indicators	Green LED - Power ON Red LED - Peak Level				Front Panel Mount
11 Protection	Transformer thermal circuit breaker, no-load, low-load, short circuit and thermal overload protection on output and supply regulators.				-----
# PARAMETERS	AA-10			TOLERANCE	COMMENTS
12a Treble Control	-10.5dB TO +10.5dB @ 12kHz			±4dB	-----
12b Bass Control	+10.5dB TO -10.5dB @ 100Hz			±4dB	-----
13 Lo-Cut Switch	-6dB @ 250Hz			+1dB -2dB	-----
14 Automatic Limiter for paging	± 4dB output level maintained without clipping, even while exceeding rated input level up to 20dB.			-----	Paging inputs
15 Automatic Mute Operation	Output level 1 watt for 40dB muting			Min.	Mute of music Output while page Is activated
16 Regulation	No load to full load output Less than 2dB			-----	Stability of amp. With or Without load
17 RFI Protection	Rfi test: use CB transmitter output in same room - minimum 20ft. from amplifier.			-----	No pickup
18 Consumption FRO idle	35 Watts 15 Watts			±5%	@ 115VAC, 60Hz

INPUT CONNECTIONS:

(Figures 1 & 2)

⚠ CAUTION: Disconnect power prior to connecting or disconnecting to either the inputs or the outputs. Failure to disconnect power when connecting or disconnecting inputs or outputs could cause internal damage.

Telephone Paging Input (Figure 1): Connect telephone wires to the input screw terminals marked TIP and RING. For Tip and Ring connections to various types of telephone paging access, see Figures 4A, B & C.

Microphone Input (Figure 1): Connect balanced low-impedance microphone wires to the input screw terminals marked LO-Z. The shield must be connected to the GND screw terminals. An unbalanced microphone may be connected to the same screw terminals. However, one of the two LO-Z terminals for that input must be connected to the adjacent screw terminal marked GND. Install a jumper wire, between one LO-Z screw terminal and the GND screw terminal.

NOTE: To avoid noise pick-up, the microphone input cable should be a shielded cable, with the shield connected to the input GND terminal.

Input Connections

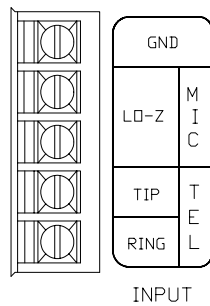


Figure 1.

Auxiliary Inputs (Figure 2):

To connect an FM tuner, CD player, tape player, tone generator, or any other line level program source (i.e., mic/line mixer) to the AUX input jack on the side panel, use a single conductor shielded cable terminated in a standard RCA type phono plug.

AUX input is a high impedance (HI-Z) input channel.

Aux High Impedance (Hi-Z) Input

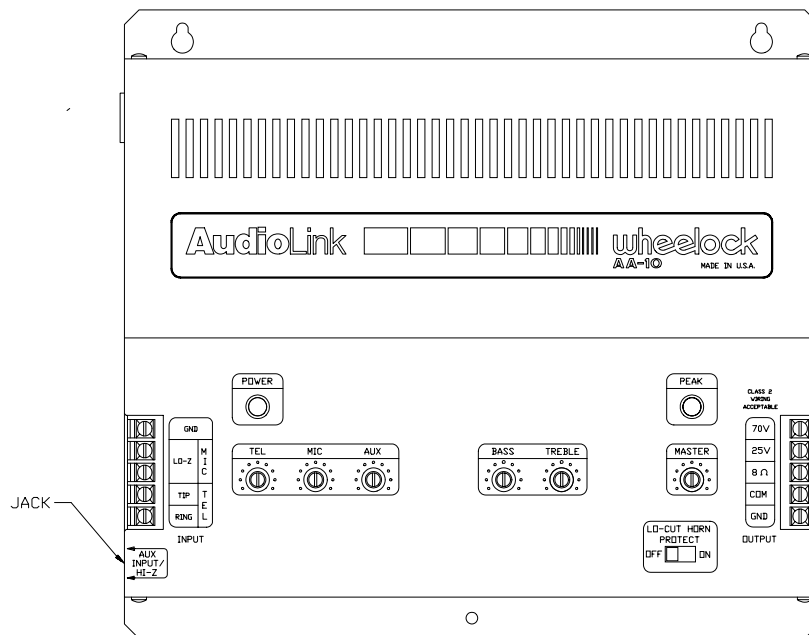


Figure 2.

OUTPUT CONNECTIONS:
(Figure 3)

Referring To Figure 3:

Connect output wires from the speaker load, to the COM screw terminal and the selected constant voltage terminal, (i.e. 25V or 70V). The constant voltage distribution method facilitates the use of multiple speakers in parallel with a single amplifier. Note that each speaker must have its own 25V or 70V line-matching transformer. Select the wattage tap on the line matching transformer of each speaker, for the desired power.

An 8 ohm speaker load may be connected to the COM and the 8 ohm terminals. An 8 ohm speaker or an 8 ohm total speaker load rated for at least 10 watts should be used.

Proper Wire Size/Length:

To minimize power loss in the system cabling, use a wire gauge suitable for the power being distributed and the length of cable. Use the following table as a guide:

2 WIRE COPPER CABLE LENGTHS FOR SPEAKER LINES AT 0.5dB LOSS IN SPL (12.5% POWER LOSS IN WATTS)

AWG SIZE	LOW IMPEDANCE SPEAKER LINE			70 VOLT SPEAKER LINE							AWG SIZE
	4 OHMS	8 OHMS	16 OHMS	NOMINAL POWER IN THE LOAD							
				5W	10W	15W	30W	50W	100W	200W	
10	120	240	480	30,000	15,000	9,900	5,000	3,000	1,500	730	10
12	75	150	300	19,000	9,100	6,200	3,100	1,900	940	460	12
14	50	95	190	12,000	5,600	3,800	1,900	1,200	600	280	14
16	30	60	120	7,500	3,600	2,400	1,200	750	370	180	16
18	20	40	75	4,700	2,300	1,500	750	470	230	-----	18
20	15	25	50	3,000	1,400	960	480	300	150	-----	20
22	10	15	30	1,800	900	600	300	190	95	-----	22

LENGTH IN FEET

NOTES: (1) For 25 volt line divide all 70 volt lengths by 8. (2) To allow for future expansion, and the distributed cable line loss, it is recommended that the total system wattage should not exceed 85% of the amplifier's rated output (i.e. 8.5 watts for the AA-10). (3) The total system wattage requirement is the summation of the wattage tap selections of all system speakers and horns.

Output Connections

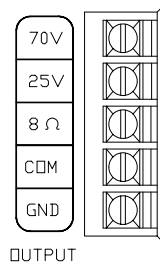


Figure 3.

Telephone Paging Access Connections Audio Page Port

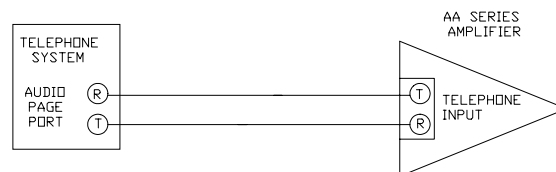
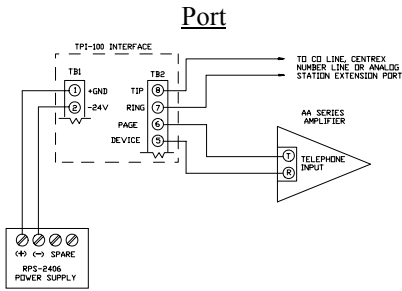


Figure 4A.

CO Line, Centrex Number Line, Or Analog Station Extension



(Refer to TPI-100 installation instructions for internal control settings and adjustments.)

Figure 4B.

Unused CO Line/Trunk Port Or Stand Alone Telephone

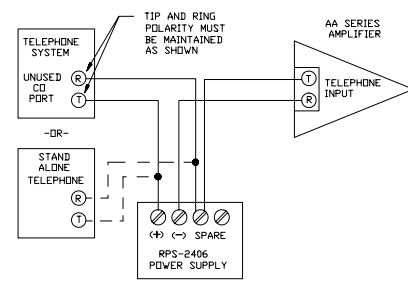


Figure 4C.

Operation

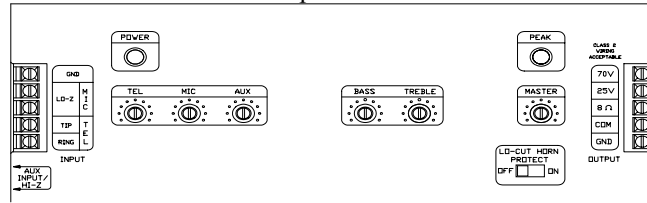


Figure 5 : (Front panel controls, switches and indicators.)

NOTE: All controls rotate clockwise to increase and counterclockwise to decrease.

EXTERNAL CONTROLS AND INDICATORS: (Figure 5)

NOTE: Volume/Tone controls are tamper resistant and must be adjusted with a screwdriver.

Power ON-OFF Indicator:

The LED will illuminate when the AC cord is plugged into a 115 VAC source.

Master Volume Control:

Adjusts the total output level of the amplifier without disturbing the individual settings of the microphone, telephone and auxiliary input volume controls. (Set at factory in minimum position.)

TEL Input Volume Control:

Adjusts the volume of the TEL (Telephone) paging input. (Set at factory in the minimum position.)

MIC Input Volume Control:

Adjusts the volume of the MIC (Microphone) input. (Set at factory in the minimum position.)

AUX Input Volume Controls:

Adjusts the volume of the AUX input. (Set at factory in the minimum position.)

Bass and Treble Controls:

Adjusts bass and treble for optimum tonal balance of the output signal. The amplifier frequency response is flat with the controls set at the center position. (Set at factory in flat position.)

Lo-Cut Horn Protect Switch:

Turn the switch ON whenever horns are used in the system. This function will protect the horn voice coils from damage by filtering out low frequencies inherent in some types of music when played at high power settings. (Set at factory in OFF position.)

Peak Level Indicator:

Occasional flickering of the LED indicates momentary peak levels, and is a normal operating condition. Steady illumination of the LED is an indication that an overdrive (clipping) condition may exist. If distortion is audible, then lower the appropriate input volume control, and/or the master volume control.

⚠ CAUTION: To prevent electrical shock do not use this (polarized) plug with an extension cord, receptacle or other outlet unless the blades can be fully inserted to prevent blade exposure.

Attention: Pour prevenir les chocs electriques ne pas utiliser cette fiche polarisee avec un prolongateur, une prise de courant out une autre sortie de courant, sauf si les lames preuvent ete inserees a fond sans en laisser aucune partie a decouvert.

MAINTENANCE:

⚠ CAUTION: There are no user-replaceable parts within the unit. Have all internal servicing done by a qualified technician.

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