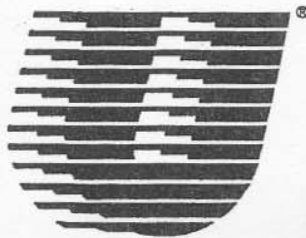
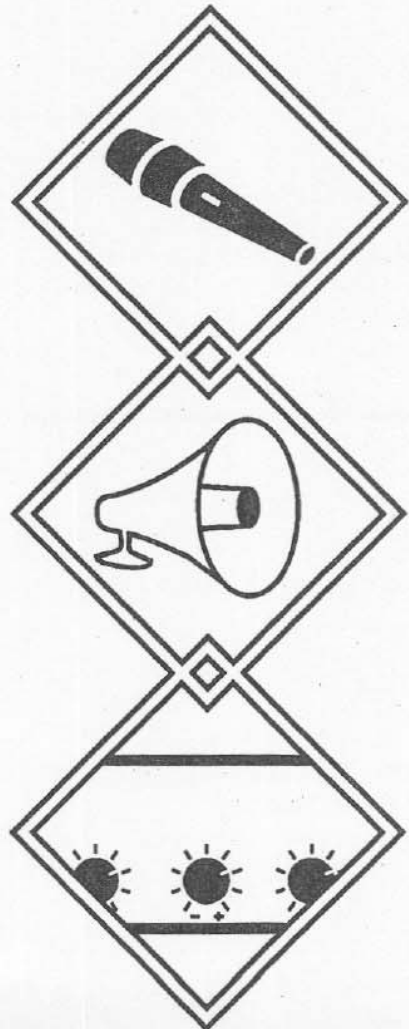


Model 1710

10 Watt Paging Amplifier Owner's Manual



**University
Sound Inc.**

a MARK IV company
13278 Ralston Avenue
Sylmar, California 91342-7607
FAX (818) 362-3463
PHONE (818) 362-9516

Description

The Model 1710 is a 10 Watt solid state paging amplifier. It has provisions for mixing two inputs: a MIC/LINE paging input and a background MUSIC input. The MIC/LINE input can match either a balanced Lo-Z microphone level or a balanced line level source, selectable via a switch on the rear panel. This input is also capable of providing 24 VDC phantom power on the balanced input to power electret microphones by installing a jumper on the internal circuit board. The MUSIC input matches a standard Auxiliary or line level unbalanced source. As shipped from the factory, the Model 1710 uses an automatic muting feature that mutes the MUSIC channel when a signal is detected on the paging channel. This feature can be defeated, however, by installing a jumper on the internal circuit board. The separate BASS and TREBLE controls provided on the rear panel tailor the sound of the MUSIC input only. The front panel has level controls for both the MIC/LINE and MUSIC channels, a red LED power-on indicator, and a slide switch for turning the power on and off. There are power outputs for 4 Ohm and 8 Ohm direct speaker coil connections, and for 25 Volt and 70.7 Volt constant-voltage speaker distribution systems. The unit operates from a standard 120 VAC 60 Hz power source.

Unpacking

The unit should be removed carefully from the carton and inspected for any possible damage in transit. If there is any evidence of damage which might have occurred in shipment, immediately notify your supplier or the transportation company which delivered it. Claims for damage sustained in transit must be made upon the carrier. Save all packing material for the claim agent who will supply you with the proper forms and give you the necessary instructions for filling out a claim.

Installation

The unit must be installed with sufficient clearance around the cabinet to permit free air flow. Do not install the unit in a sealed box or cabinet without adequate ventilation. DO NOT PLACE ANY OBJECT ON TOP OF THE COVER OR IN ANY WAY BLOCK THE AIR FLOW OF THE VENTS. DO NOT STORE OR OPERATE THE AMPLIFIER IN AREAS WHERE THE AMBIENT TEMPERATURE EXCEEDS 140° F.

The amplifier has an AC power cord with a 3 prong plug. This cord should be plugged into a 120 Volt, 60 Hz 3-conductor outlet. DO NOT REMOVE THE GROUNDING PIN FROM THIS PLUG as it is the safety ground for the metal cabinet.

Input Connections

All input connections are made on the rear panel. The MIC/LINE input connections use screw terminals, while the MUSIC input connection is made using a standard RCA phono jack. All input wiring should be made using shielded audio cable to prevent noise pickup. The MUSIC input is a simple unbalanced high impedance input with a maximum sensitivity of 275 mV, suitable for use with the output of a tape deck, tuner, or other audio equipment with an Aux or line level output.

The MIC/LINE paging input accommodates microphone or line levels on the same input terminals. Input level sensitivity is set by a MIC-LINE slide switch on the rear panel located just below the paging input screw terminals. With this switch in the MIC position, the input is

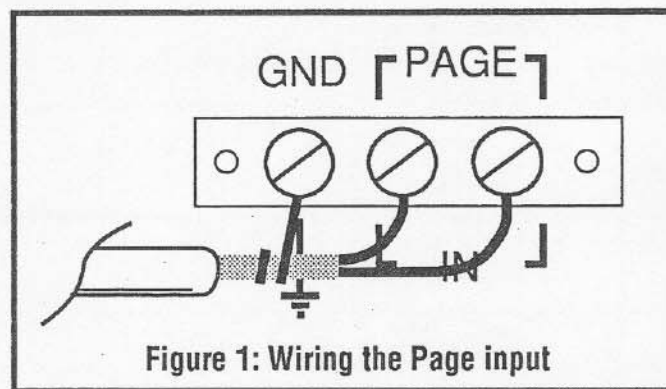


Figure 1: Wiring the Page input

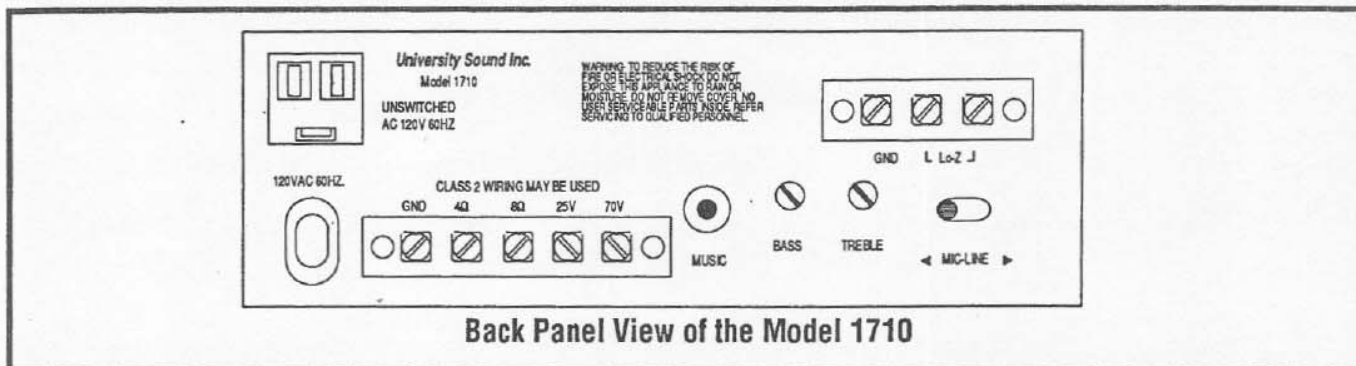
balanced and has a sensitivity of 2.5 mV and an impedance of 150Ω to 200Ω, suitable for matching a balanced, Lo-Z microphone. Balanced input wiring requires the use of shielded two-conductor cable, with the conductors connected to the terminals marked "Lo-Z" and the shield connected to the terminal marked "GND." This is illustrated in Figure 1. No other wiring should be included inside of the shield, and any unused wires in the cable must be grounded to prevent noise pickup.

The paging input is capable of providing 24 VDC phantom power for powering electret-type microphones. To enable phantom power, a jumper must be installed on the internal circuit board. The location of this jumper is illustrated on the last page of this manual.

When the MIC-LINE switch is in the LINE position, the paging input has a sensitivity of 60 mV and an impedance of 1KΩ. The input is still wired as shown in Figure 1. In the LINE position, the input may be directly connected to the 600 Ohm "paging port" output of registered PABX or telephone switchboard equipment. Such equipment contains the protective circuitry required by the FCC. If a paging output is not available from the telephone equipment, then either the Model TAP trunk access paging adaptor or the Model TSA telephone station access paging adaptor must be used to properly match this input to the phone system. Under no circumstances may this input be directly connected to the national telecommunications network.

Music Mute

As delivered from the factory, the Model 1710 uses a voice-activated music mute feature to automatically mute the MUSIC input when a signal is detected on the



paging input. This feature can be defeated by installing an internal jumper. The location of this jumper on the circuit board is illustrated on the last page of this manual. To install this jumper, the cover of the unit must be removed — make certain that the power is disconnected before attempting to remove the cover. The music mute feature is useful when using the MUSIC input with a background music source and the paging input with an announcement microphone; the music is muted automatically while a person is making an announcement, and automatically resumes once the person stops speaking.

Tone Controls

The unit has both BASS and TREBLE controls on the MUSIC input to compensate for speaker or acoustical deficiencies in frequency response. The BASS control allows a maximum boost or cut of ± 10 dB centered at 100 Hz, and the TREBLE control allows a maximum boost or cut of ± 10 dB centered at 10 kHz. Both of these controls are located on the rear panel of the unit.

Output Connections

Power outputs are provided for 4 Ohm and 8 Ohm speaker lines or for distribution on 25 Volt or 70.7 Volt constant-voltage lines. Output connections are made by means of screw terminals on the rear panel of the unit.

Long speaker lines have an appreciable resistance, resulting in the output power loss. This power loss can be avoided to a large degree by using 25 Volt or 70.7 Volt constant-voltage lines to distribute the output signal. This line format also allows for the connection of speakers having different wattage ratings, and greatly

simplifies the calculation of the total system wattage demand. To avoid inducing hum into the speaker lines do not run speaker cables parallel to power lines. In some areas, 70.7 Volt distribution lines must be run in conduit. Check local city codes before installing a 70.7 Volt speaker system to determine the requirements. When using either of these outputs, connect one wire of the speaker system to the appropriate 25V/70.7V terminal and the other wire to the "GND" terminal.

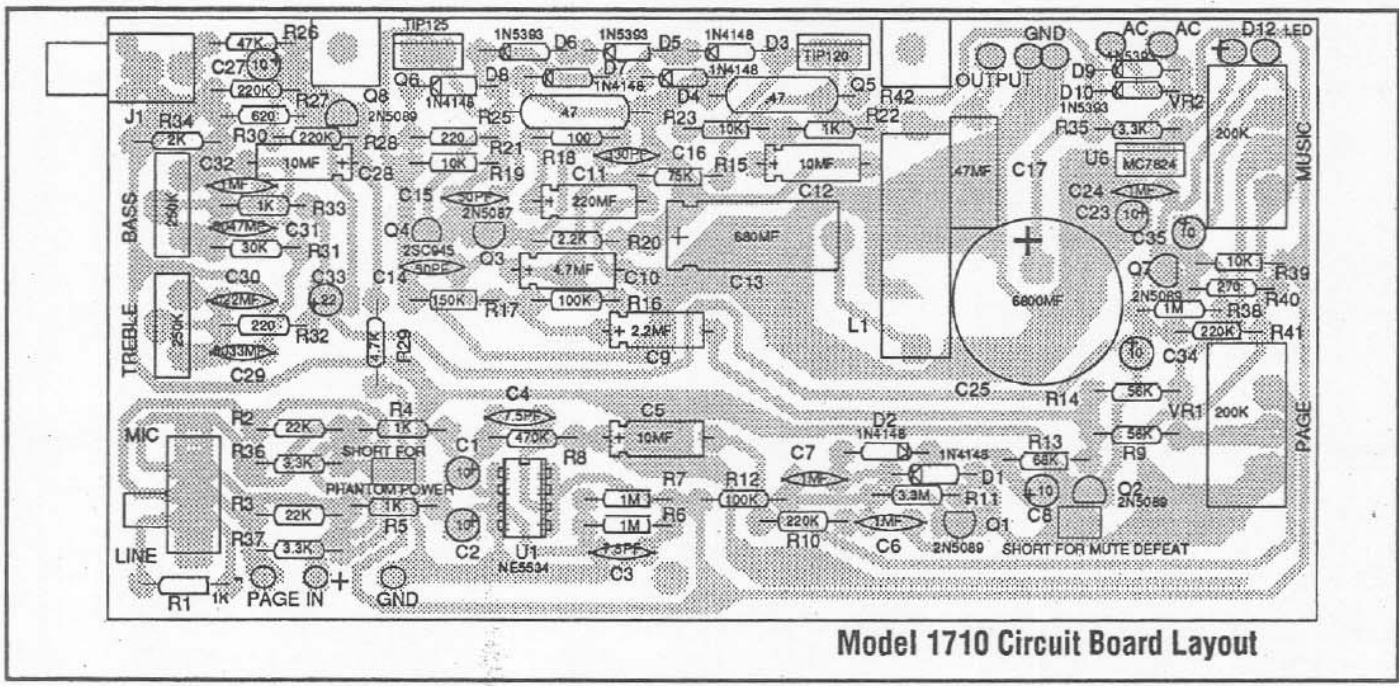
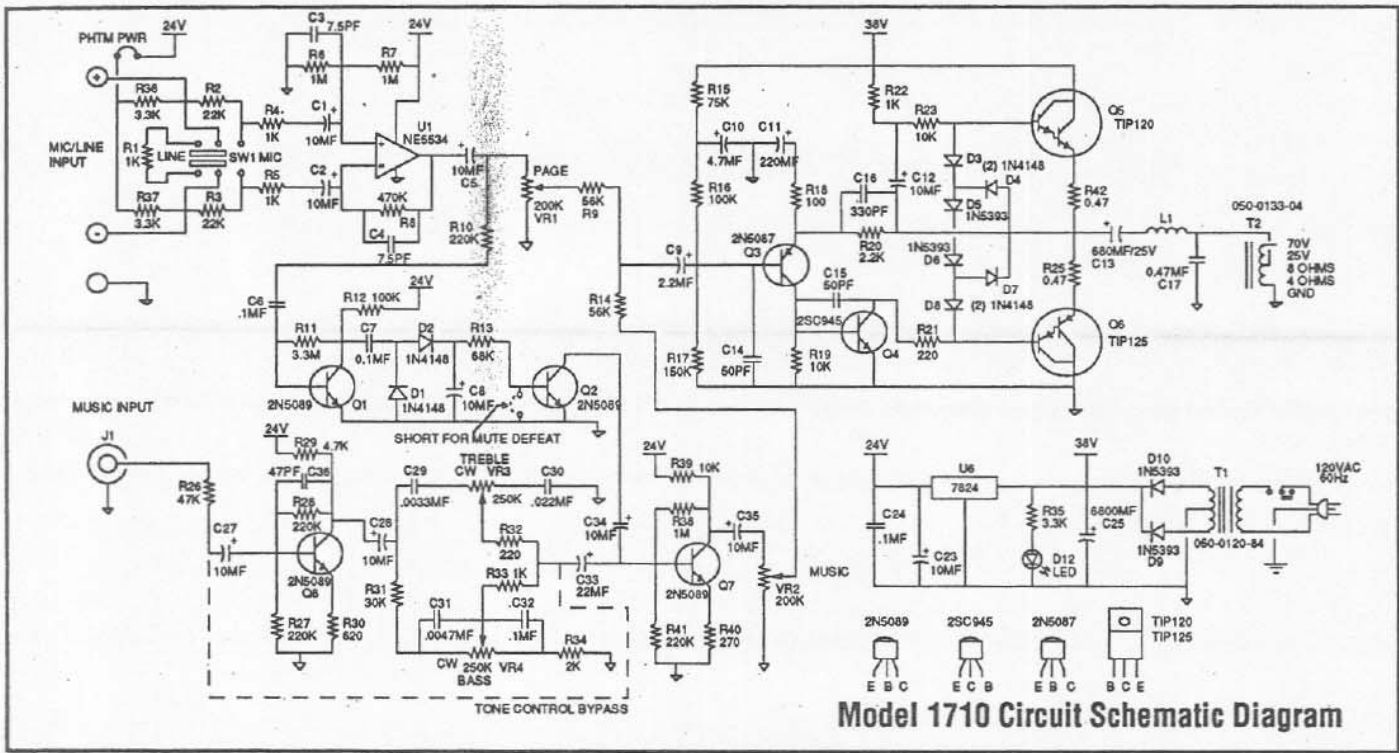
The 4 Ω and 8 Ω outputs are used when connecting directly to speaker voice coils. When using these outputs, connect one speaker wire to the appropriate 4 Ω or 8 Ω terminal, and the other wire to the terminal marked "GND." Do not load both the 4 Ω and 8 Ω outputs at their rated impedance simultaneously, as this will act a demand for twice the rated output and overload the amplifier. Similarly, do not load both a speaker coil output and a 25/70.7 Volt output at full power demand. A combination of speaker loads is permissible using the various outputs from the amplifier; however, the sum of these demands should not exceed the rated output of the amplifier.

Optimum performance of any amplifier depends upon proper impedance match between the output and the load. Connecting a load of mismatched impedance to an amplifier will deteriorate the overall performance of the system. To accurately measure the impedance of a speaker line, the University Sound Model LWT should be used. This test instrument permits direct reading of the wattage demand or impedance of a speaker line and is a valuable aid in determining opens, shorts, and mismatch conditions.

Specifications

Rated Output Power	10 Watts RMS
T.H.D. (Ref 1 kHz @ rated output)	<1%
Frequency Response	50 Hz - 15 kHz ± 2 dB
Tone Controls	
Bass	± 10 dB @ 100 Hz
Treble	± 10 dB @ 10 kHz
Input Sensitivity	
MIC/LINE (Mic Level)	2.5 mV
MIC/LINE (Line Level)	60 mV

MUSIC	275 mV
Music Mute	35 dB
Power Outputs	4 Ω , 8 Ω , 25V, 70.7V
Power Supply	120 VAC, 60 Hz
Dimensions	
Height	3.0" (7.6 cm)
Width	8.25" (21.0 cm)
Depth	8.25" (21.0 cm)
Shipping Weight	6 lbs. (2.7 kg)
Net Weight	5 lbs. (2.3 kg)



Warranty: These units have been very carefully inspected and are warranted to be free from defects in material and workmanship under normal use and service for a period of three years from sale to original purchaser. This warranty does not extend to any unit that has been subject to abuse, misuse, neglect, accident, improper installation, or alterations. The obligation of University Sound under this warranty is limited to the repair of any defect in material or workmanship and/or the replacement of any defective part, provided the unit is returned transportation paid within three years. It is recommended that any unit on which service is required be processed through your local distributor or installation company wherever possible. This Warranty is expressly in lieu of all other Warranties, expressed or implied, and of all other obligations or liabilities on our part. We neither assume nor authorize any other person to assume for us any other liability in connection with the products manufactured by University Sound.

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**13278 Ralston Avenue
Sylmar, CA 91342-7607
Phone (818) 362-9516
Fax (818) 367-5292**

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