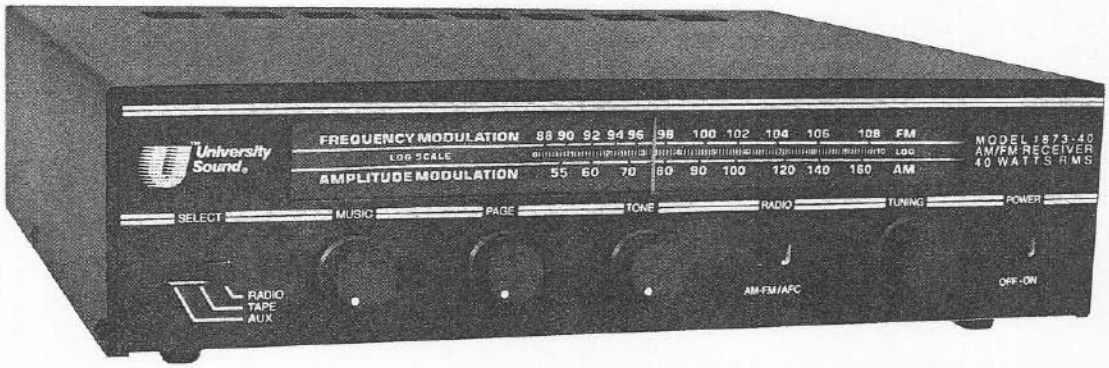
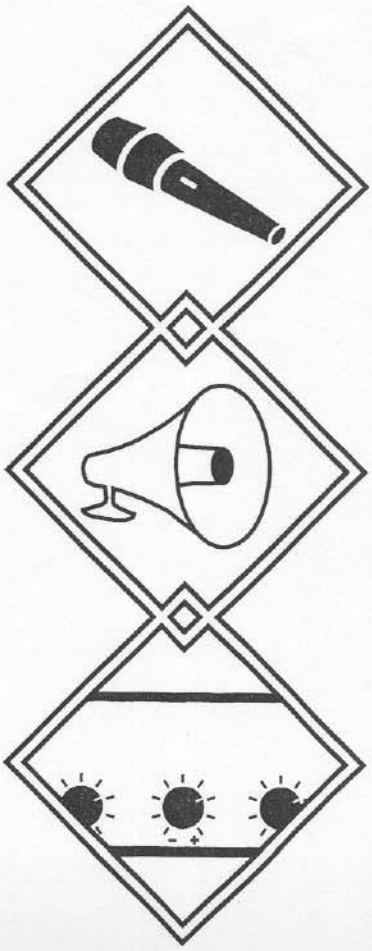


1834-20/1841-40
1870-20/1873-40
AM/FM Receivers
Owner's Manual



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DESCRIPTION

The Models 1834-20, 1841-40, 1870-20, 1873-40 are monaural paging receivers, all of which include a radio tuner, microphone/line preamplifier, and power amplifier. Both the 1870-20 and 1873-40 receive the full 88 - 108 MHz FM band as well as the 540 - 1650 kHz AM band. The Models 1834-20 and 1841-40 receive the FM band only. The audio output power of these units is 20 watts RMS on the -20 models, and 40 watts RMS on the -40 models.

The front panel controls on all of the units are identified as: SELECT, MUSIC, PAGE, TONE, RADIO, TUNING, and POWER. The SELECT switch allows the selection of the radio or one of two high impedance external inputs as the source for the music input. The MUSIC control adjusts the volume level of the input chosen. The PAGE control adjusts the volume level of a paging source which may be either a low impedance balanced microphone or a balanced line input, as selected by the MIC-LINE switch above the PAGE input screw terminals. The TONE control adjusts the treble response of both the music and page. The RADIO switch selects either the AM or FM (with AFC) band as the radio source. On FM-only models this switch turns the AFC on or off. The TUNING knob selects the frequency of the station desired as indicated by the pointer on the slide rule dial. The POWER switch turns the unit on and off, as well as any accessory plugged into the outlet socket on the rear of the unit.

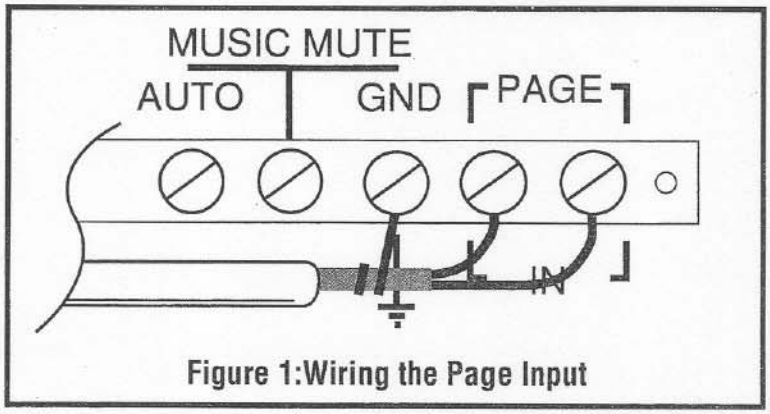


Figure 1:Wiring the Page Input

These units include a voice-activated (VOX) muting feature that automatically mutes the music channel when a signal is present on the page input. Screw terminals are provided to manually mute the music by means of a contact closure if desired. Screw terminals are also provided for connection of an external antenna. Power output provisions include both 4 and 8 Ohm outputs for direct speaker connections as well as 25V and 70.7V lines for speaker distribution systems.

Each of these receivers are housed in a sturdy steel cabinet that may be rack mounted using the Model RPK-2 rack mount kit available from University Sound. These units operate from a standard 120 VAC, 60 Hz power outlet, and are protected by a push-to-reset circuit breaker.

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

Each Model has ample vents for adequate ventilation; however, 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 DEGREES 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 wire grounded outlet. DO NOT REMOVE THE GROUNDING PIN FROM THIS PLUG as it is the safety ground for the metal cabinet. An AC receptacle is provided on the rear panel of the receiver for powering accessory equipment. This receptacle is linked to the POWER on-off switch so that the accessory equipment is turned on and off with the receiver.

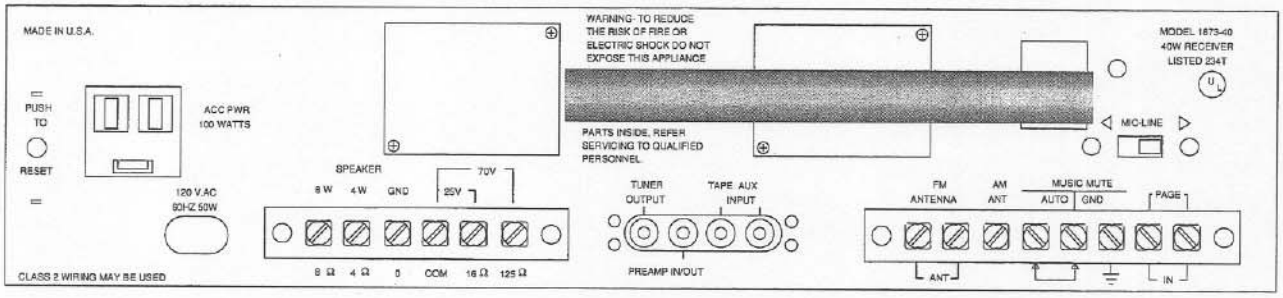
CONNECTIONS

All connections are made on the rear panel of the unit. Connection to the AUX INPUT, TAPE INPUT, TUNER OUTPUT, and PREAMP IN/OUT are each made by means of standard RCA phono jacks. These circuits require the use of shielded audio connecting cable when connecting to auxiliary equipment. All other connections are made by means of screw terminals. With the exception of the PAGE INPUT, these circuits may be connected using unshielded wire. Refer to Figure 1 for the proper wiring of the PAGE INPUT.

PAGE INPUT

This input is a low impedance balanced circuit which may be used to match either a microphone or line input as determined by the switch located directly above the these terminals. With the switch in the MIC position, this input has a sensitivity of 0.5 mV to match the output of a 150Ω to 250Ω low impedance microphone. Because of the high gain of this circuit, care must be taken in wiring this input to prevent oscillation caused by capacitive feedback from the output wiring. Microphone wiring requires the use of shielded cable with two center conductors. These two conductors should connected to the terminals marked PAGE and the shield to the GND terminal. No other wiring should be included inside of the shield and any unused wires in the cable must be grounded to prevent RFI/EMI pickup.

When the MIC/LINE switch is in the LINE position, this input has a sensitivity of 50 mV and an input impedance of 1KΩ. In this position the PAGE input may be taken from a phone PABX or switchboard with a paging output. The PAGE input may be directly connected to the 600 Ohm "paging port" output of registered PABX or 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 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. Input wiring to the receiver from the phone circuit may be made with unshielded wire. However, if this wire is cabled with the output wiring or if oscillation, noise, or RFI/EMI pickup is noted, these wires should be shielded and connected as shown in Figure 1.



Back Panel View of Model 1834-20/1841-40/1870-20/1873-40

MUSIC MUTE

Screw terminals are provided on the back panel to mute the music when paging. Music mute may either be manual or automatic according to the connection of these terminals. The AUTO and MUSIC MUTE terminals are jumped together at the factory to activate the voice-activated automatic Music Mute feature. If this feature is not desired, disconnect the jumper. To mute the music by means of a switch closure, connect the switched circuit from MUSIC MUTE to GND. The mute will be muted when there is a short circuit between these terminals.

TAPE and AUX INPUTS

These inputs are high impedance unbalanced inputs and have an input sensitivity of 0.25V to match the output from most tape players, mixers, or other audio equipment with line level output. A Model TM-2 or TM-2P should be used when connecting either of these inputs to a 600Ω balanced input. To convert either of these inputs to a 10KΩ balanced bridging input requires the use of the University Sound Model MDT or Model DLT. These inputs are both fed to the music channel; which input is used is determined by the position of the SELECT switch on the front panel.

ANTENNA INPUTS

Separate antenna inputs are available for the AM and FM portion of the Model 1870-20 and 1873-40 tuners. For FM reception, the short antenna lead supplied with the unit is sufficient for most geographical locations. If the user is located in a remote area, an external dipole-type antenna will effectively increase the sensitivity of the tuner, and thus the number of distant stations that can be received. The external FM antenna is connected to the terminals marked FM ANT.

For AM reception, the receiver has a built-in Hi-Q ferrite loopstick antenna, and this is all that is normally required for local AM reception. To improve the reception of weak AM stations in fringe areas, try rotating the loopstick to obtain the loudest signal. In instances where the tuner is used inside an all-metal building or in a very weak reception area, an external AM antenna may be required. Connect an external antenna lead to the terminal marked AM ANT.

PREAMP IN/OUT

This jack provides an insetion point between the output of the pre-amplifier and the input of the power amplifier. Any connection to this circuit must be high impedance to prevent shorting out the page and music signals. This jack may be used as an output to drive the input of a tape recorder or another amplifier. When used as an input, the source may be from a Model TGSP-4 to provide a chime or alarm tone. The Model TRG tone ringing generator may be used for telephone ringing requirements such as a night bell.Any input source connected to the PREAMP IN/OUT is unaffected by front panel controls.

TUNER OUTPUT

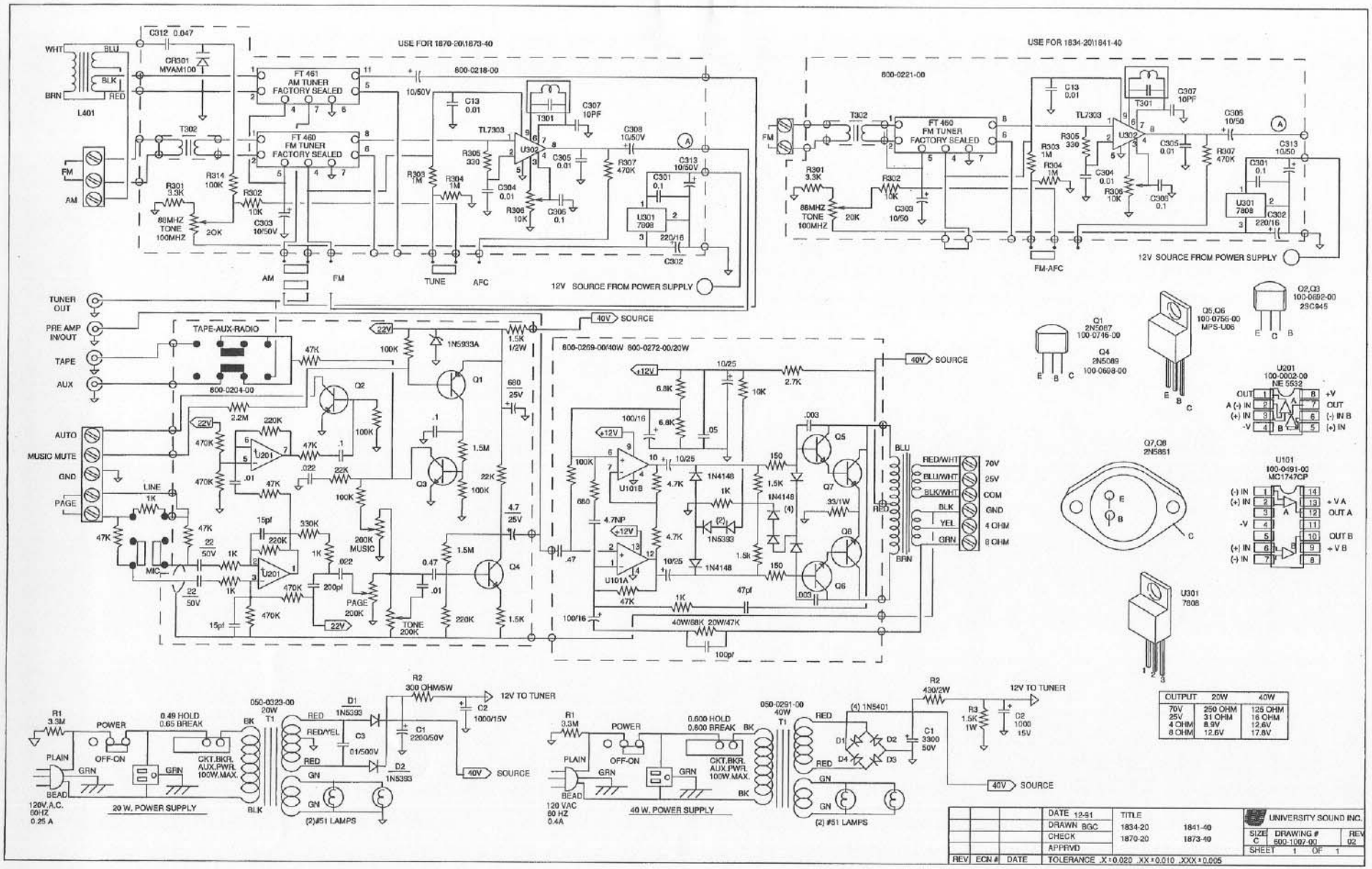
This high impedance output circuit provides a constant signal from the tuner only, and is not affected by the music mute function. When used to drive a Music-on-hold arrangement, the Model 1701 is usually required to provide the 8Ω or 500Ω/600Ω output necessary to match phone equipment.

OUTPUT CONNECTIONS

Twenty watts RMS (Models 1834-20 and 1870-20)or 40 watts RMS (Models 1841-40 and 1873-40) power output is provided for 4Ω or 8Ω speaker lines or for distribution on 25V or 70.7V lines. Output connections are made by means of screw terminals. When long speaker cable runs are necessary, the use of the 25V or 70.7V lines is highly recommended. This arrangement also allows the connection of multiple speakers that have different power requirements. When connecting to these outputs, use the appropriate 25V or 70.7V screw terminal and the COM terminal. In all cases it is advisable to run as heavy a wire as possible consistent with requirements. To avoid induced hum in the speaker lines, do not run the lines parallel to power lines. In some areas 70.7 Volt distribution lines must be run in conduit. Check your local city electrical codes before installing a 70.7V speaker system to determine the local codes.

Do not simultaneously load both the 4Ω and 8Ω outputs at their rated impedance as this will appear as a demand for twice the rated output from the amplifier and represent an overload to the unit. Similarly, do not load the 4Ω/8Ω output and the 25V/70.7V output simultaneously at full power demand. A combination of a 4Ω/8Ω load and a 25V/70.7V load is permissible; however, the sum of these demands should not exceed the rated power output of the amplifier.

Part #201-1873-00



Circuit Schematic for Models 1834-20, 1841-40, 1870-20, 1873-40