



INSTALLATION AND OPERATION INSTRUCTIONS

MODEL 858 AM-FM BACKGROUND MUSIC RECEIVER

Model 858 is a monaural all solid state background music receiver consisting of a sensitive Hi Fidelity AM-FM Tuner and a 10 watt (RMS) audio amplifier. The unit has an external amplifier jack, a crystal phono jack and a Multiplex Converter jack. It also has speaker output for 4 or 8 ohms as well as 25 and 70 volt lines.

UNPACKING:

The unit is to be removed carefully from the carton and inspected for any possible damage in transit. If there is any evidence of any damage which might have occurred in shipment, notify your dealer at once, or the transportation company which delivered it. Claims for damage sustained in transit must be made upon the Carrier. Save all packing material for inspection by the claim agent who will furnish you with the proper forms and will also give you the necessary instructions for filing a claim. In addition to the Unit, there should be a warranty card included in the carton.

To insure proper servicing and to protect your rights under the warranty, be sure to fill in the warranty registration card without delay and mail to the factory.

WARRANTY

This unit has been very carefully inspected and should require no further service. Each unit is warranted to be free from defects in material and workmanship under normal use and service for a period of one year from date of delivery to the original purchaser. If this unit appears to be defective, the factory will repair any unit returned within said one year, providing all transportation charges are pre-paid, and which our examination shall disclose to our satisfaction to be defective.

This Warranty does not include free labor, nor is it applicable to any unit which shall have been subject to accident, tampered with, mis-used, abused, or altered in any manner whatsoever. Further, this Warranty shall not apply to any unit which has been connected improperly.

It is recommended that any unit on which service is required, be processed through your dealer 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 Trutone Electronics, Inc.

INSTALLATION:

Because of its attractive appearance the Receiver may be placed on a table or a shelf. Although the unit has ample vents for normal ventilation, sufficient space should be allowed around it to permit free air flow. DO NOT PLACE it on top of vacuum tube equipment. DO NOT STORE OR OPERATE it in areas where the ambient temperature exceeds 140 degrees Fahrenheit. If installed in a cabinet, ample ventilation must be allowed around the unit.

Plug the AC line cord in any outlet furnishing 105 to 120 volts, 60 cycles AC.

An AC receptacle is located on the back of the chassis to supply power to other components such as phonograph motor, etc. The auxiliary equipment connected to the AC receptacle is controlled by the POWER on-off switch so that turning off the unit turns off all equipment.

CONNECTIONS: The use of parallel matching transformers on either 25 volt or 70 volt lines is recommended for long distances. When it is desired to have less than 15% power loss on low impedance lines and 5% on high impedance lines, the following table may be used as a guide for the proper wire size to be used. In all cases, it is advisable to run as heavy a wire as possible consistent with the requirements.

WIRE SIZE B & S	MAXIMUM LENGTH OF LINE BETWEEN OUTPUT AND LOAD			
	4 Ohms	8 Ohms	62 Ohms (25V)	500 Ohms (70V)
14	125'	250'	650'	5000'
16	75'	150'	450'	3000'
18	50'	100'	250'	2000'
20	25'	50'	175'	1500'

For normal FM reception a short wire attached to the antenna terminal is sufficient for most locations. In the event that the unit is located in a remote area an external Dipole antenna will increase the efficiency and a number of distant stations can then be received. This external antenna is to be connected across the terminals marked ANT.

The External Amplifier (EXT. AMP.) jack is to be used when it is desired to connect to an external amplifier for greater power. It can also be used to feed the signal from the Tuner to a tape recorder which has a built-in pre-amplifier. Both the external and internal amplifiers will operate simultaneously when the external unit is plugged in the EXT. AMP. jack.

The Multiplex jack can be used for connecting to a Multiplex Converter to receive simultaneous signals on both FM and Multiplex broadcast, and for Multiplex Stereo Reception.

The crystal phono input jack enables the amplifier in the unit to be used for playing of records, using a crystal or ceramic cartridge.

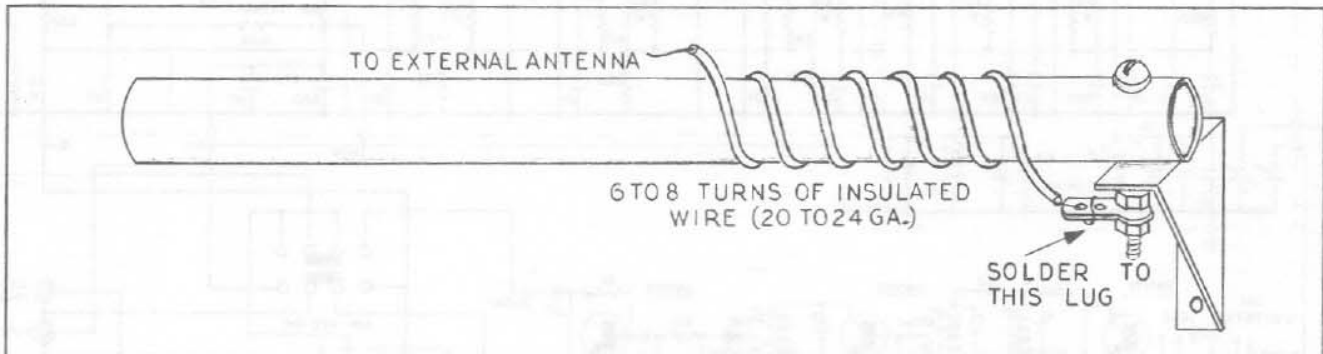
OPERATION:

The front panel has three slide switches and three knobs. The Power slide switch at the lower left is to turn the receiver on and off. The Select switch on the left side is used to select either radio or phono. The slide switch at the lower right is used to select the AM band, the FM band with AFC or FM without AFC. The Volume control knob is used to adjust the level of the sound of the Tuner or Phono. The Tone control knob can be turned to the position that is most pleasing to the listener as it affects both the high and low frequency response. The Tuning knob is to select the desired AM or FM station.

AFC refers to "Automatic Frequency Control" and is an electronic means of keeping the receiver properly tuned to the FM Broadcasting station. Even if the FM Tuner Pointer is not in the exact center of the channel, the AFC will automatically pull in the station to the proper point. However, in tuning a weak station adjacent to a strong one, even if the AFC is in an operating position, it may lock on the stronger signal. It is for this reason that a selector switch has been provided for disabling the AFC.

For normal FM operation, the slide switch on the right should be left in the "AFC" position. For very precise tuning, or for tuning a weak station next to a powerful station on FM, it is suggested that this switch be set to the "FM" position (without AFC) until the station is received the loudest. The switch is then to be moved to the "AFC" position and the station will be properly tuned and locked in position.

For AM reception, Model 858 has a built-in Hi-Q Ferrite loopstick antenna which is all that is normally required for local AM reception. To increase the reception of weak AM stations in the fringe area, it may be advisable to rotate the loopstick to obtain the loudest signal. Where greater sensitivity is required, connect an external antenna to the metal lug on the hinged end of the loopstick, as indicated below.



The center marking on the dial glass is a LOG scale for easy recording of the position of the pointer for any specific station.

Optimum performance of any transistor amplifier depends upon the proper current delivered at the output terminals. Four output impedance taps are available: 4 ohms, 8 ohms, 62 ohms (25 volt line) and 500 ohms (70 volt line). Connecting a total load impedance at any tap less than the impedance indicated will cause the transistors to deliver more current than they were designed for and will deteriorate the performance of the unit and cause damage to the transistors. To prevent this from occurring and to protect the components, the unit is equipped with a circuit breaker that will trip if the output impedance is below the specified rated value; for example, if two 8 ohm speakers are connected in parallel (resulting in a 4 ohm impedance), and in turn connected to the 8 ohm output terminal, the circuit breaker will trip as soon as the volume control is turned up to the unit's maximum output.

CAUTION:

THIS UNIT IS EQUIPPED WITH A CIRCUIT BREAKER DESIGNED TO PROTECT THE TRANSISTORS AGAINST OVERLOAD. IN THE EVENT THAT THE CIRCUIT BREAKER CONSTANTLY "KICKS OUT", CHECK THE LOAD ON THE OUTPUT OF THE AMPLIFIER FOR EITHER A SHORT CIRCUIT OR AN IMPEDANCE LOWER THAN THE VALUE RECOMMENDED. IF THERE IS NO SHORT CIRCUIT AND THE LOAD IS CORRECT, DO NOT ATTEMPT TO DEFEAT THE FUNCTION OF THE CIRCUIT BREAKER BUT HAVE THE UNIT CHECKED FOR OTHER DEFECTS.

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