



TECH-FLASH

OPTIGAN CORPORATION • NATIONAL SERVICE DEPARTMENT • COMPTON, CALIFORNIA

O.T.F. NO. 0009

DATE 1-5-72

TO: ALL SERVICE DEALERS AND AGENCIES

SUBJECT: EXTERNAL AMPLIFIER HOOK-UP TO MUSIC MAKER

FILING INSTRUCTIONS: Record in Tech-Flash Index under Miscellaneous

The OPTIGAN [®] Music Maker may be played through external amplifiers, stereos, hi-fi's or public address systems. This can be done by connecting a standard connector cord from the headphone jack of the Music Maker to any high-level input jack on the existing stereo system, etc. If inserted in a low-level input, the amplifier on the external system may overload and distort the signal.

NOTE

Only stereo connector cords should be used in the 35000 series instruments, and monaural cords in the 34000 series instruments.

Most external systems have built-in volume controls for each channel. High-level input amplifiers usually have the volume controls directly at the input jack. The control in this case can be adjusted to prevent overload. However low-level amplifiers usually have a preamplifier ahead of the volume control and the control cannot eliminate the distortion at any setting. In such cases, the Music Maker may be modified to obtain a low-level signal to feed the input of the external system. A successful method of modifying the Music Maker is given below.

To determine whether the input jack on the external system is low or high-level, merely run its volume control up and down with the Music Maker, set for maximum output, connected. If the input jack is for a high-level signal, the volume control can be set for no distortion. In the low-level input system, the signal will distort at all settings of the volume control.

MODIFICATION

Refer to Figure 1 (Key Amplifier).

1. Connect one end of a 470 OHM 1/2 W 10% resistor to terminal F on the drawing.
2. Disconnect the lead from the LDR, which goes to terminal E on the drawing, and connect this lead to the other end of the 470 OHM resistor.

3. Prepare a piece of shielded audio cable of sufficient length to run from the P.C. board to the microphone input on the external amplifier. One end of this shielded cable should be terminated in the proper plug for insertion into the microphone input on the external amplifier. The other end of this shielded cable should now be wired directly across the 470 OHM resistor, with the shield going to terminal F and the center wire to the junction of the LDR lead and the opposite end of the resistor, as shown in the drawing.
4. Repeat steps 1 through 3 for the chord amplifier.

This method provides a low source impedance input to the external amp, eliminating most hum pickup and supplying sufficient signal amplitude to drive the microphone inputs.

NOTE

When operating the external amplifier, it is advisable to set its bass boost control at a point that will minimize hum and permit the overall signal to remain at a comfortable listening level.

If excessive hum is encountered, alternate methods will have to be used.

Yours for better OPTIGAN service,

Rich Jacobson
 Rich Jacobson
 National Service Manager

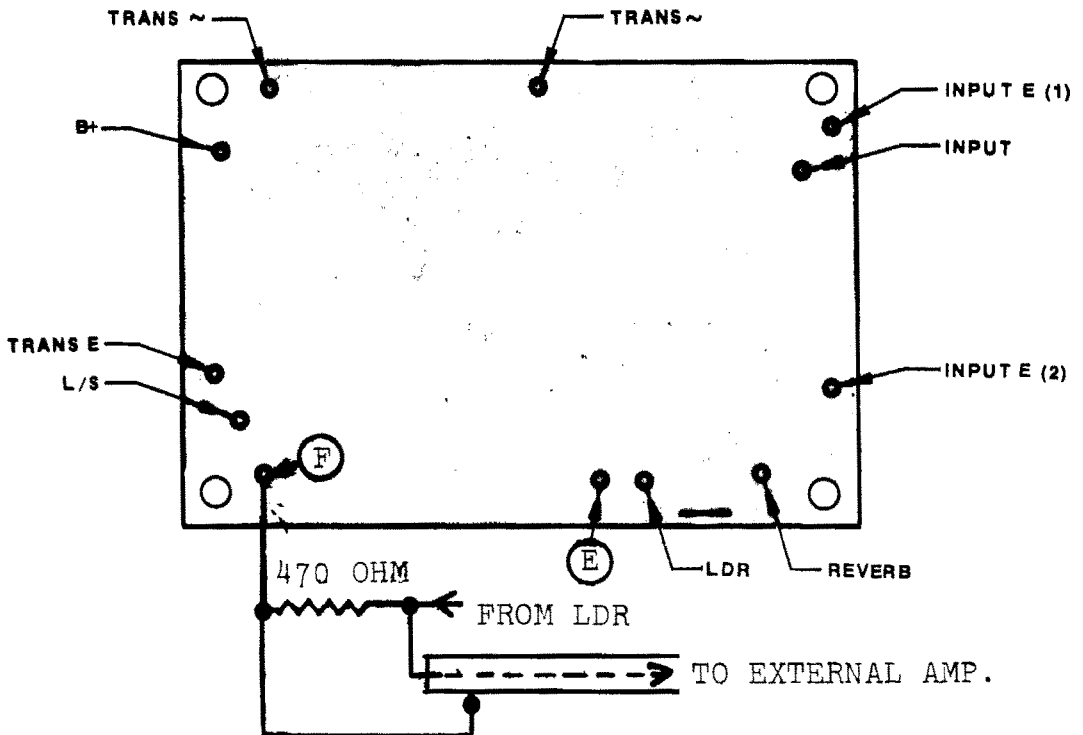


Figure 1. Modification at key amplifier PC board. Repeat for chord amplifier PC board.