b. The output impedance of a generator is very low, but the amplifier impedance is high. Therefore, some type of impedance matching device is necessary. Some generators use an impedance matching transformer like the UTC Ouncer, W1713 (Fig. 108). In later years we made our own replacement for the W1713, which is Part Number 222-1037 (Fig. 109).

1) The 1037 has colored leads instead of lugs, so you'll need cross reference information (Fig. 110).

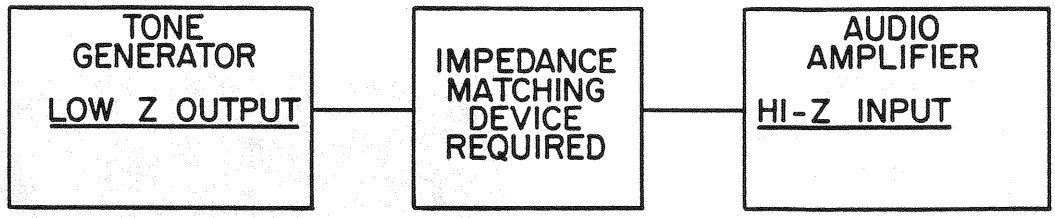
2) An open transformer would cause a dead generator output, but shorted turns can cause a distorted output. The transformer is generally located at one end of the generator near the output connectors (Fig. 111), but in some models you will find it located in the middle of the chassis along one wall.

c. In later production, the transformer was replaced with an active solid state circuit which came in two varieties--a single stage used just for matching purposes (Fig.112 & 113) and a two stage which combined the matching function with a pre-amp stage (Fig. 114). Again, dead or distorted generator outputs can result from defects in these circuits.

1) To verify an open condition, just short across from input to output. You'll have a terrible impedance mismatch, but at least you'll know whether or not the matching device is at fault (Fig. 115).

2) The output level of a generator can be adjusted a bit louder or softer by slightly changing the value of the input shunt resistor. A higher value increases the signal and vice versa (Fig. 115A).

3) These same matching and pre-amp circuits were used on the later Phenolic style boards, but they were usually incorporated right on the board (Fig. 115 and 116).



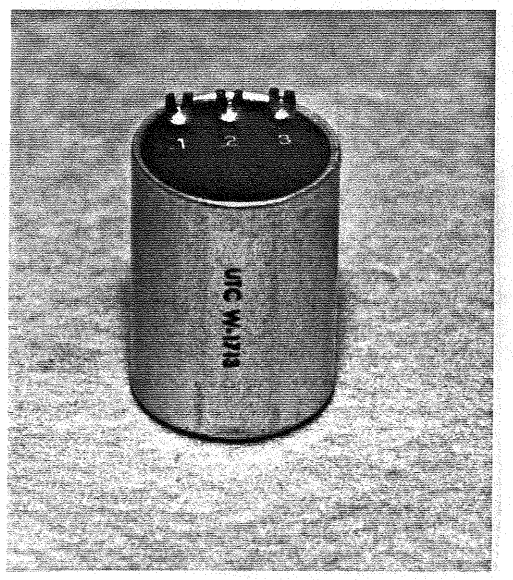


FIG. 108

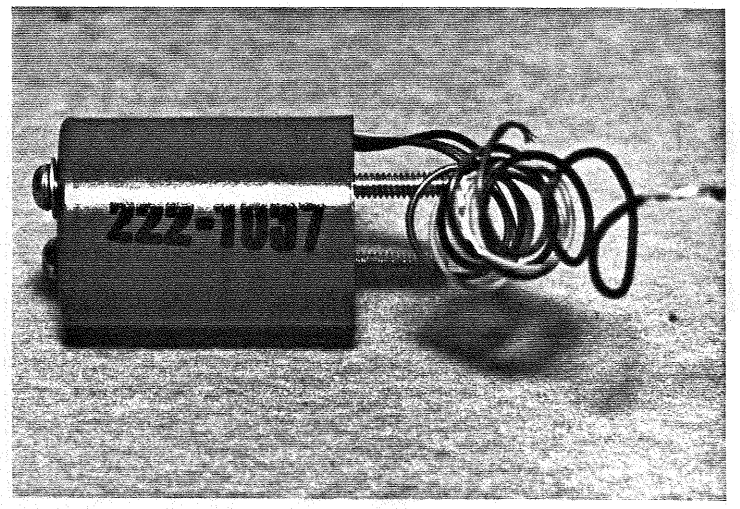
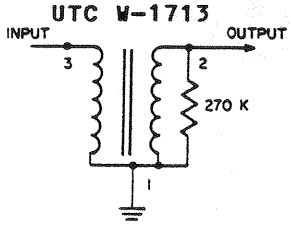


FIG. 109

MATCHING TRANSFORMER
(TRANSISTOR ORGANS)

UTC W-1713



AOCO 222-1037

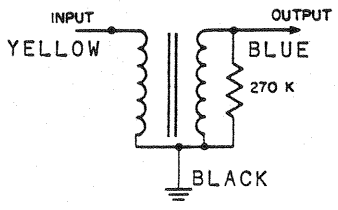


FIG. 110

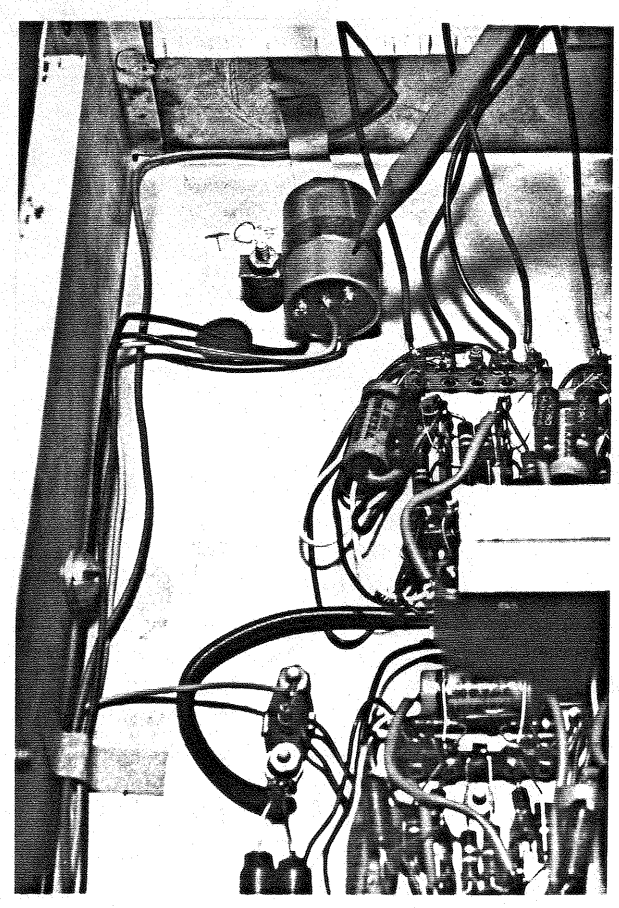


FIG. 111

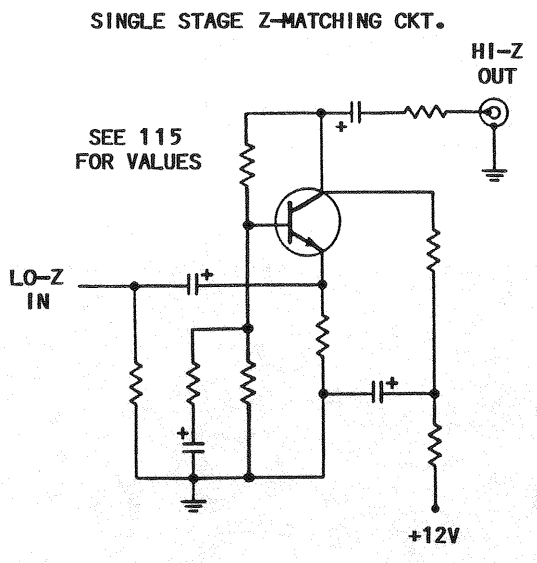


FIG. 112

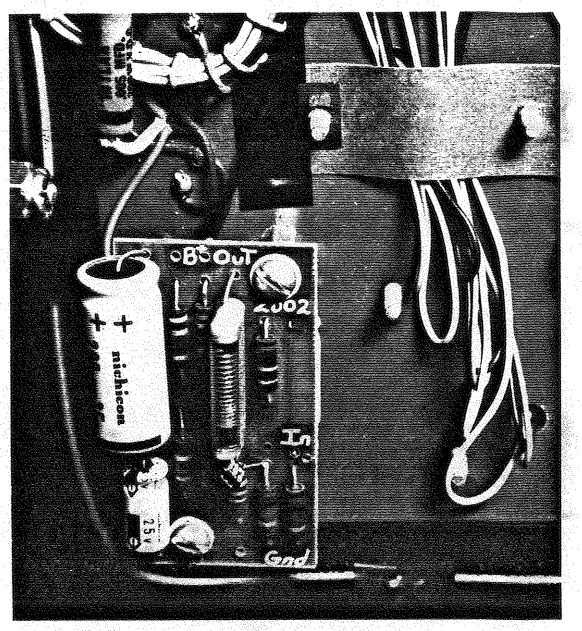


FIG. 113

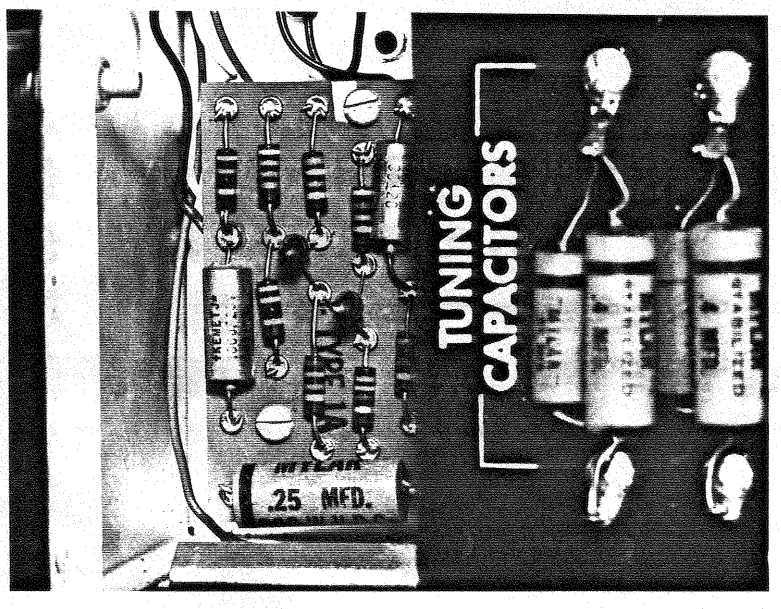


FIG. 114

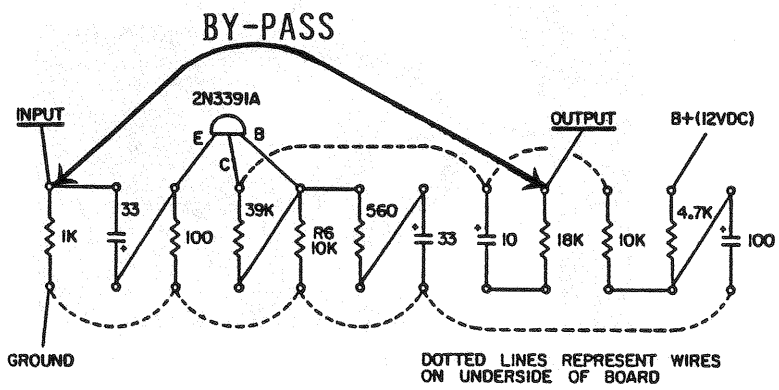


FIG. 115

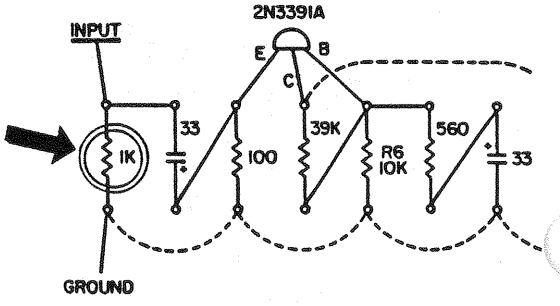


FIG. 115A