Form 13079

OVER THE SOLDERING IRON

RCA VICTOR

PREPARED FOR THE INFORMATION OF RCA VICTOR DISTRIBUTORS' SERVICE MANAGERS

SERVICE DIVISION - RCA MANUFACTURING COMPANY, INC. - CAMDEN, N.J. - APRIL 28, 1938.

ELECTRIC TUNING - 40 CYCLE OPERATION

It is possible to adapt models 811K, 812K, 813K and 816K to operate on a 40 cycle supply line by changing the power transformer and electric tuning drive motor in accordance with the following:-

Power Transformer - must be either the standard 105-125 volt, 25 cycle type, or the standard 110/150/220 volt, 40-60 cycle type, as specified in Service Notes on the model concerned.

Electric Tuning Motor - must be the type supplied for normal 105-125 volt, 50-60 cycle operetion.

Motor Circuit - A 5 ohm, 25 watt resistor must be connected in series with one of the yellow leads of the power transformer secondary winding which supplies drive motor current.

MODEL CV-8 PAK-O-PWR; FAILURE TO START

Erratic action of the vibrator or its failure to function, after the unit has been standing idle for an extended period in the presence of moisture or high atmospheric humidity, may be due to a temporary oxidation of a small spot on one of the primary tungsten contacts. The condition can be readily and satisfactorily rectified by applying six volts (instead of normal four volts) from a fully charged battery to the vibrator input for approximately 30 - 60 seconds. To do thie, connect the negative (- six volts) of six volt battery to the "Brown" lead, and the positive (plus six volts) to the "yellow" lead; disconnect seven-contact plug from receiver, and interconnect its terminals #1 and #2 (yellow and white) so as to close the circuit. Filament leads, Red and Blue, should not be attached to battery during application of higher voltage to vibrator. This procedure produces momentary overheating of the contacts, and thoroughly cleans their surfaces so that normal operation results.

MODEL 95T1 - TECHNICAL INFORMATION AND SERVICE DATA

The chassis, loudspeaker, circuit and all miscellaneous components of Model 95T1 are similar to those of Model 95T. Published service information on the 95T is therefore applicable to the 95T1, and separate notes on this instrument will not be printed. Dealers and servicemen should be accordingly advised.

LOUDSPEAKER JUMPER CABLE

The jumper cable assembly used on later instruments 810K1, 811K, 813K, 816K, U-107 and U-109 is available in complete form, including the male plug and female connector, as Stock #30678. The cable is 25 inches long. The unit list price is $1.00.

MODEL 811K - RESISTOR R-34

The 18,000 ohm resistor of the high voltage supply circuit to the plate and target electrodes of the Magic Eye tube, has been omitted on recent production sets. Performance of the receiver is not affected by this change.

MODEL ACR-111 - REPLACEMENT BELT

A revised design of drive belt is available as Stock #14452. It is advisable to effect a replacement, using this part, if difficulty is experienced in minimizing slippage. Reference should also be made to "Over the Soldering Iron" issue of December 28, 1937.

MODEL 8M1 - VIBRATOR POWER UNIT

A limited number of 8M1 auto receivers have power units which contain a reactor-capacitor combination in the filter circuit, instead of the usual resistor-capacitor combination. The circuit corresponds exactly to the right diagram of Figure 5 in the 8M1-8M2 Service Note. R-14 has been removed from the circuit.

MODEL 153 - TEST OSCILLATOR

Any stray signal leakage that may be noted, can be eliminated by cleaning and adjusting the spring contacts between the case and front shield.

The circuit diagram of this instrument, shown on page 4 of the "Instructions" should be revised to include: - (1) an 82 ohm resistor in series with the 6J7 cathode; and (2) a jumper between terminal #3 and the contact ring of the Power-Modulation switch, "C" section.

CODE MARKING OF COILS #30747, #30748 AND #30749
MODELS HF-1, 87K1, 87K2, 87T2 AND U-106

These coils used in the oscillator circuit in conjunction with "push button" tuning, are coded as follows for identification purposes:-

Stock Number	Range	DC Resistance	Color Code	or	Number
30747	770-1550kc	3.0 ohms	Red		1
30748	600-1260kc	3.7 "	Orange		2
30749	540-1160kc	3.8 "	Black		3

INCREASE IN FILTER CAPACITOR
MODELS 94X, 94X1 AND 94X2

Capacitor #30873 originally specified to comprise one 16 mfd. and 5 mfd. sections has been revised to include two 16 mfd. sections. All replacement capacitors will have the larger capacitor in the second section.

ELECTROLYTIC CAPACITORS STOCK #5212; #11203 and #14531

The wet electrolytic capacitors employed in filter circuits are too frequently replacsd because of an apparent "shorted" condition. A "short circuit" in capacitors of this type is very unusual, and results only when severe mechanical damage is done to the unit. The deficiency which has the nature of a "short" is generally a case of excessive leakage current through the capacitor due to its not being formed. Abnormal shelf life or long periods of standing idle in receivers are responsible for this temporary loss of "forming". An unformed unit will form properly in the receiver, if the d-c voltage of the rectifier is maintained for sufficient time. As much as twenty minutes should be allowed for a capacitor to be restored to normal leakage current, which indicates correct formation. The current will be high initially and will gradually decrease with the time of voltage application. Where a 5Z4 or 5W4 is used as rectifier, it is advisable to install a 5T4 during the forming process to provide an ample source of current. The capacitors may also be conveniently formed outside of the receiver, on a well regulated source of the proper d-c voltage. The various electrical characteristics of commonly used capacitors are as follows:

Stock No.	DC Forming Voltage	Max. Operating Voltage DC	Max. Leakage Current MA	Capacity MFD
5212	300	300	3	16
11203	475	440	3	10
14531	475	460	4	25

MODEL 87X, 87Y AND 87EY - INCREASED SENSITIVITY

The I-F circuits of these instruments are aligned in the factory to produce a good balance between sensitivity and tone quality. In localities where sensitivity is of greater importance than tone, an increase can be obtained by re-aligning the I-F stages, using the output meter method. A battery operated test oscillator should be used as the source of signal, with its output connected thru a capacitor to the 6A8 grid, and its ground lead attached to the "G" terminal of the receiver input. The usual output meter or indicator must be connected either across the speaker voice coil or output transformer primary. It is preferable, if convenient, to use a 1/1 isolation transformer in the AC power circuit. Each I-F trimmer should then be adjusted to produce maximum "peak" output.

SERVICE NOTE AND PARTS LIST CORRECTIONS

Model 812X ---- Stock #30596 Volume Control is being superseded by Stock #14335. Electrical and mechanical details remain unchanged.

Models 87K1, 87K2, 87T2 and U-106 ---- Stock #30747 should read "Oscillator Coil A Band L-20 or L-21". Stock #30749 should read "Oscillator Coil A Band L-24 or L-25."

Models 86T3 and 87T1 - The Magic Eye circuit of Figure 3 is shown incorrectly. Resistor R-31 should be in series with the "Triode Plate" instead of in the "Target" Circuit.

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