OVER THE SOLDERING IRON

CAMDEN, N.J.
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PREPARED FOR THE INFORMATION AND USE OF RCA VICTOR DISTRIBUTORS' SERVICE MANAGERS

Our apologies are due for the belated appearance of this issue, however it is hoped that our respect will be redeemed by the possible assistance which may be gained from the contents hereof. The items which follow are believed timely, and are frankly presented so that you may have the factory slant on existing service problems, along with whatever useful suggestions we may be able to offer. We are sincerely resolving to maintain a closer touch with you through the medium of this organ during the forthcoming year.

FIDELITY VERSUS LOCALITY

As is no doubt appreciated, the extended high and low frequency audio response of the Models 10K, 13K, 15K and 15U, makes for "higher fidelity" reproduction of interference - when such exists - as well more natural tonal reproduction of the program being received. There are several points to be remembered and given intelligent consideration when these instruments are demonstrated or operated. Such points are:-

(1) Strengths of Available Stations - The high frequency "Fidelity Control" should not be used in the "Full" position unless the strength of the desired station is sufficient actuate the AVC and over-ride interference from either adjacent channel. For the average receiving locality, the "Fidelity Control" will be useful at the "Full" position when receiving stations up to an approximate radius of 150 miles. In isolated localities, a higher degree of selectivity is required, and the "Fidelity Control" should be retarded accordingly. The interference which will be experienced when the control is not properly adjusted is a "spilling over" of the programs on the adjacent channels into the channel which is being used. Sometimes it has the form of inverted speech or monkey chatter. This being a new condition to the radio public, may require explanation and instruction as to use of the "Fidelity Control".

(2) Static and Local Interference - Both of these forms of noise generally occur at relatively high frequencies and may appear outstanding on a receiver of extended high frequency response. When static is bad or local noise bothersome, the listener should not hesitate to reduce the "Fidelity Control".

(3) High Frequency Beat Notes - Certain Mexican stations are assigned frequencies which differ from the adjacent channel U.S. stations by 5KC. When the receiver is being operated at "Full" fidelity, a 5000 cycle note will generally result, if the interfering station is sufficiently strong. Reduction of the control is the proper means of eliminating this interference.

(4) Low Frequency Beat Notes - The high sensitivity and extended low frequency response (Magic Voice) bring about the reproduction of howls and low frequency beats produced by the slight frequency differences of two carriers on the same channel. This condition varies considerable with locality and it is readily understandable why there will be more channels with two stations of comparable intensity in one spot than there will be in another. Receiving localities surrounded by a large number of distant stations should be most affected by this condition. Proper operation under such circumstances would be to use the "Music-Speech Switch" in the "Speech" position for reduction of "lows". Inserting a capacitor of 50 - 150 mmfd. in series with the antenna (at the chassis) will usually improve the sensitivity - interference compromise, especially where low frequency howl, waver or rumble is heard.

MODEL RK-40-A ANTENNA WITH 1937 RECEIVERS

Several of the lower-priced receivers do not carry the three-terminal antenna and ground connections. In order to clarify any confusion which might result from attempted use of the transformer-less antenna (RK-40-A or Stock #9631-A), the following list of receivers are specified to require the regular RK-40 Antenna with receiver coupling unit:-

6T2	6T10	7T1	7U	8U
6K2	6K10	7K1	7U2	8U2
6K3				

PILOT LAMP WIRING - MAGIC BRAIN UNITS

The jumper leads interconnecting the lower and upper pilot lamp sockets on the Magic Brain units are normally dressed into such a position as to be clear of the path of the large gear on the tuning gang shaft, or may be securely clamped to the support bracket. Steps have been taken on the production line to clamp these leads so that there will be less danger of the gear rubbing any misplaced lead, breaking its insulation and causing short circuit.

All Magic Brain receivers passing through service shops should be checked to see that the leads are dressed properly away from the gear. Dealers should be acquainted with this necessity so that it may be checked during installation of each receiver. The leads are accessible from the rear of the cabinet without removal of the chassis.

BATTERY RECEIVERS WITH CHARGING EQUIPMENT

Models 6BT6, 6BK6, 8BT6 and 8BK6 are wired so that the chassis-ground is at negative filament potential, which is equivalent to the plus 4-volt tap on the storage battery. When these receivers are associated with charging

apparatus which is grounded, it is recommended that a 0.25 mfd. capacitor, equivalent to Stock #4840, be connected in series with the receiver ground lead. It may be conveniently substituted for the bus lead connecting between the ground terminal and the chassis. This capacitor will prevent excessive drain on the battery, increase in filament voltages, and premature failure of tubes, which would be caused by the potential difference between the ground of the charging equipment and the ground of the receiver. Some manufacturer's of charging generators recommend grounding the frame of the equipment which in turn is tied to the negative lead.

Unless there is definite assurance that charging voltages will not exceed the rated voltage of the receiver, the customer should be instructed never to operate the receiver while the battery is charging.

HOME RECORDING - MODEL D-22

A number of comments have been made on the apparent lack of gain when recording on the D-22-1 or D-22-A. The following information may be of service in handling complaints on this item:-

The maximum output of the instrument is 25 watts. This amount of power cannot be safely handled by the pickup unit, and it is, therefore, necessary to restrict the amount of gain between the microphone and pickup. Resistor R-221 is provided in the circuit for such purpose. The value of this resistor is determined by careful engineering estimate as to the degree of care that a customer will exercise in adjusting volume during recording, and the possible magnitudes of input which may be encountered. Changing the value from 15 ohms to 7½ ohms by placing a second Stock #11565 resistor in parallel with the regular unit, located on the changeover switch, will increase recording gain. It is very important, when such a change is made, to caution the customer on the use of the volume control in order that an abnormal amount of power will not be delivered to the pickup.

Recording should not be attempted with the "Dynamic Amplifier" control in the "On" position. There is a loss of gain when this control is turned "On" and the recording level will be reduced.

When using the microphone for speech or music recordings it should always be remembered that the front side of the microphone is the most sensitive and must be directed toward the source of sound.

LOUDSPEAKER DUST CAPS

The dust caps appearing on speaker cones of the 1937 line receivers are employed principally to facilitate production by protecting the air gap from the many metal particles which may be attracted to the unit during its assembly and installation on the receiver. When it is necessary to remove the cap in servicing the speaker, it is not strictly required that it be replaced. These caps are however, being stocked, in case it is considered desirable by the individual serviceman to replace them. Ordering data are:-

Stock #13866 - For Use on Speakers Marked RL-70 and RL-63 - Cap Diameter 1-7/16"	Pkge 10 -----	$0.40
Stock #13867 - For Use on Speakers Marked RL-69 - Cap Diameter - 2-1/16"	Pkge 10 -----	$0.30

Ambroid or Household cement may be used to re-insert the caps into the cone. The cement should not be allowed to run down into the air gap. See that sufficient cement is applied without an excess being used.

MODEL 15-K and 13-K SERVICE NOTE CORRECTION

The "Link and Roller Assembly" is incorrectly covered as Stock #8151. The correct part number of this assembly is #8051. The list price is $0.30. Master Service Notes used for ordering should have this correction made in them as promptly as possible.

DECALCOMANIA INSTALLATION ON RCA VICTOR CABINETS

Removal and re-installation of the decalcomania markings used on cabinets to designate controls is quite a simple operation when the following procedure is used:-

To Remove Old Decal - Take a sharp chisel and hold its beveled edge next to the cabinet and carefully scrape or peel the old decal from the cabinet surface. Do not let the chisel come in contact with more area than is necessary to get the present decal off. Apply a slight amount of rubbing oil to a small felt block and rub the finish of the cabinet where the decal was removed to smooth out the blemishes left by the decal or by the chisel. The rubbing oil and felt block of the RCA Cabinet Refinishing Kit, Stock #9546, are recommended.

To Apply New Decal - Coat the face of the decal with a light coat of clear varnish and allow it to practically dry. Then place the coated decal into the proper position on the cabinet; rub one or two times to smooth out, and immediately peel off the outer layer of paper by lifting one of the square corners and pulling it away from the cabinet. Then sponge the remaining tissue with a cloth dampened with water, and after the tissue is saturated, slide it off, leaving the marking securely transferred to the cabinet. Excess varnish may be removed with benzine or gasoline.

Ordering information on the most used decalcomanias is:-

Stock #13829	Complete Decalcomania for Models 9T, 9K2, 9K	.....	$ 0.15
Stock #13831	Complete Decalcomania for Models 10T, 10K, 10K1, 10T11 and 10K11	.....	$ 0.15
Stock #13832	Complete Decalcomania for Models 13K and 15K	.....	$ 0.12
Stock #13826	Complete Decalcomania for Models 7T, 7K, 7U, 7X, 8T, 8K, 8T10, 8T11, 8T2	.....	$ 0.15
Stock #13827	Complete Decalcomania for Models 8BK, 8BT, 8BK6, 8BT6	.....	$ 0.15
Stock #13828	Complete Decalcomania for Models 6T, 6T2, 6K, 6K2, 6T10	.....	$ 0.15
Stock #13830	Complete Decalcomania for Models 9U and 9U2	.....	$ 0.15
Stock #13833	Complete Decalcomania for Model 15U	.....	$ 0.50

PICKUP UNIT - MODEL R-99

The spring assembly, armature clamp and armature damper are no longer stocked individually for pickup unit stock #12538. In the future it will be necessary to order - PICKUP MECHANISM Stock #14115, List Price $1.35 - when the aforementioned parts become defective. The stock #12540 armature and stock #12354 damper are superseded by this mechanism.

CIRCUIT CHANGE - MODELS 6T and 6K

Resistor R-15, a .063 ohm flexible type, in series with one side of the heater supply has been removed in recent production and the blue lead from the transformer is connected directly to the heater contact on the 6F6 output tube socket. This same change should be made on all receivers requiring service in the field.

HUM OR FRINGE HOWL - MODEL 4T

In cases of an abnormal hum, noticeable when tuned to a carrier, check the connection of resistor R-2, a 56,000 ohm grid leak on the oscillator section of the 6A8 stage. The cathode end of this resistor may be connected to or touching against the heater contact. See service notes for proper connection.

AIR TRIMMER JAM NUTS

The clamping nuts used with plunger type trimmers on some chassis of early production were not of standard size, having a flat diameter of 3/8 inches. These nuts do not fit the Stock #12636 Alignment Wrench. When it is considered necessary, the larger nuts may be replaced with the later type, having 5/16 inch flat diameter and adaptable to the above wrench. The stock number of these nuts is #14028 - packed 10 to a package - List Price $0.25.

SERVICE DIVISION

RCA MANUFACTURING COMPANY, INC.

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