

SELECTOR IV
set at 40/100 TV

TEMPORARY OPERATING INSTRUCTIONS

FOR

MODEL 214 RADIO TUBE TESTER

HOW TO TEST TUBES

LINE ADJUSTMENT

1. Turn the Tube Tester ON. The Jewelled Indicator light will show that current is now on. It is necessary to adjust the Tube Tester to the Line Voltage in your shop, as this varies in different localities. To do this you press Line Test Button. The line adjustment is correct when the meter needle is on the LINE TEST arrow. To adjust this position, move the AC ADJ Knob in whichever direction you need to bring the meter needle to the LINE TEST arrow.
2. This adjustment may be checked from time to time, but should be checked at least once per day.

SHORTS TEST

1. The first test on any tube is for shorts or noisy condition.
2. Refer to the Tube Chart for Socket Number, Test Button, and Selector I position.

For example:

TYPE TUBE	SELECTORS			
	I	II	III	IV
6A8 12U E				

3. The 12U means Socket 12 will be used. Turn Selector I to (E), and insert the 6A8 Tube in Socket 12.
4. Rotate Selector IV to (XX). Now rotate Selector II slowly from (M) to (S) while you watch the Neon Shorts Lamp in the upper right corner. The lamp will flash as you pass each Selector position. If it continues to glow the Tube is shorted inside. Now rotate Selector II slowly from (S) back to (M) while tapping the 6A8 Tube with your finger. If the Neon Lamp lights from tapping on any position, the tube is noisy. If shorted or noisy, the Tube should be replaced.
CAUTION: Never proceed with any more tests if the Tube is shorted or noisy. You might burn out the tester.

QUALITY TESTS - (Refer again to Tube Chart)

SELECTORS	OPEN
II III IV	
R 27 RE	NOPQS

1. If the Tube passes the Shorts Test OK, then turn Selectors II, III, and IV as shown on the Tube Chart. In the case of the 6A8 Tube, these would be (R), (27), and (RE). Now, remember the letter (U) that appears after the Socket Number: That means to push Button (U) and watch the Meter needle. If it stops in the Green section of the meter scale, the quality of the Tube is good.
2. If the Tube fails to pass any one of the tests, the Tube is not good.

Replace it with a good one. If a Tube Tests at the low end of the green it should be replaced.

OPEN TESTS

1. Some tubes need to be tested for OPEN circuits. This information will appear at the end of the chart, such as, NOPQS following the 7A8 settings. When these letters appear you should hold the Test Button (in the case of 6A8 it is (U) down while pressing Buttons around Selector II at (O), (P), (Q), (R), and (S). Each time you press one of these buttons the meter should read lower. On some buttons it will read lower than others. As long as it moves at all, the tube is OK for opens.

OTHER TUBES

1. All tubes are tested in the same manner, first for shorts, and noise, then for quality, and finally, for opens.
2. Some tubes, such as the 6SR7, are actually 3 tubes in one glass or metal envelope. The Tube Chart shows the Tube like this:

TUBE TYPE	TEST	SELECTORS				OPEN
		I	II	III	IV	
6RS7	8U	E	Q	29	RE	NR
6RS7	8W	E	O	90	D1	
6RS7	8W	E	P	90	D1	

3. Only one Shorts and Opens test is made on any tube, but each section must be tested separately for its quality.

PILOT LIGHTS

1. Socket 11 has a small metal ring in its center. This is used to test pilot lights. To test any pilot light, turn the Tube Tester ON. Turn Selector I to C and insert the light in the center of Socket 11. The light should burn, if OK. To make it burn brighter, simply move Selector I to D or E.

NOTE: Position X on Selector II is not used. The letter is shown only to balance the panel. Position T is not used for Shorts Tests.

TECHNICAL AND SERVICE INFORMATION

More detailed information is given below to satisfy any curiosity you may have concerning the equipment.

Selector I is connector to a transformer and permits changing filament voltages. Letters are used instead of numbers on Selector I. This saves space and makes for clarity. If you would like to know the values, here they are:

(A) 1.4	(D) 5.0	(G) 25.0	(J) 70.0
(B) 2.0	(E) 6.3	(H) 35.0	(K) 117.0
(C) 2.5	(F) 12.6	(I) 45.0	(L) Zero

The letters on Selector IV mean:

XX Shorts Tests	RE Regular Tubes
DI Diode Tests	CK Cold Cathode Tubes
BA Battery Type Tubes	

Failures. If the tester fails to operate, replace tube. Use a type 6H6. The Neon Indicator is a G.E. NE 51.

Removing Selectors. If, for any reason, you need to remove the Selector Knobs on Selectors, always move the Selectors to the extreme left, then loosen the Knob set-screw. Remove the Knob, then with a 1/2" or 9/16" end wrench loosen the nut in front holding the Selector. Then remove the Selector. It is wise to put all nuts and washers back on the Selector so you won't lose them.

Replacing Selectors. To replace a selector, simply reverse the above procedure, except that you do not fully tighten the front nut until you have tried refitting the Knob to the original left-hand index. By leaving the front nut slightly tight, you can make your final adjustment by rotating the body of the Selector, then remove the Knob again, tighten the nut, then replace the Knob.

NEW SOCKETS

1. If one of the tube sockets needs to be replaced, just tear up pieces of masking tape and mark them from 1 to 8, or whatever number of holes there are in the socket. Place the tags on the wires connected to the socket, starting to the right of the Key-way or index. Then unsolder the wires, one at a time, using a hot iron.
2. Next remove the retaining ring from the groove in the back of the socket, a small screw driver does this very easily. The ring is split and pries right off.
3. To replace, use a new socket which you can obtain from us, index it in the same position as the one removed. Place the retaining ring in position. Start it in the groove and press it around with a screw driver.

Pilot Light. If the jewelled Pilot light burns out, it can be replaced with a G.E. #44.

METER. NEVER..NEVER..TRY TO REPAIR A METER! If you are so unfortunate as to damage the meter, remove the wires from it, then loosen the 4 holding nuts and take the meter out. Pack it in soft packing material and return it to us.

WARRANTY

This piece of Radio Service Equipment is warranted against defects in materials and workmanship for a period of 90 days from date of shipment. Transportation charges are not included in the warranty. If you have any difficulties with the equipment, or if we have failed to explain it to your satisfaction...just write us.