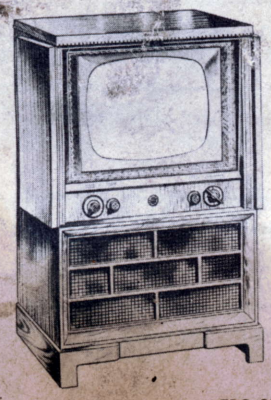
PHILCO SERVICE

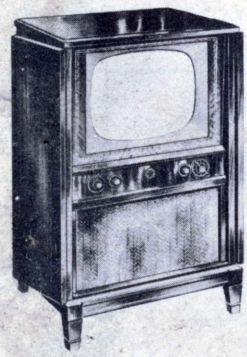
TELEVISION

PHILCO TELEVISION RECEIVER MODELS 51-T1836, CODE 123, 51-T1836L, CODE 123, 51-T1838, CODE 124, 51-T2134, CODE 124, 51-T2136, CODE 124, AND 51-T2138, CODE 124 PHILCO TELEVISION-PHONOGRAPH MODEL 51-T1870 PHILCO TELEVISION-RADIO-PHONOGRAPH MODELS 51-T1872, 51-T1874, 51-T1874L, 51-T1875, 51-T1876, CODE 124, 51-T2175, CODE 124, AND 51-T2176, CODE 124



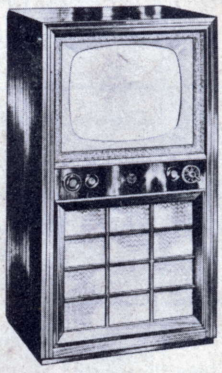
TPO-2007

MODELS 51-T1836, CODE 123; 51-T1836L, CODE 123



TPO-2004

MODEL 51-T1838, CODE 124

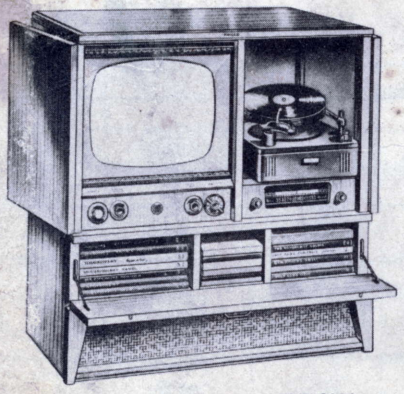


TPO-2005

MODEL 51-T1870

TPO-2010

MODEL 51-T1872

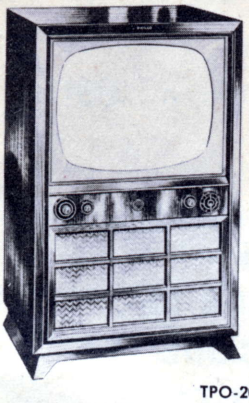


TPO-2006

MODELS 51-T1874, 51-T1874L, 51-T1876; CODE 124

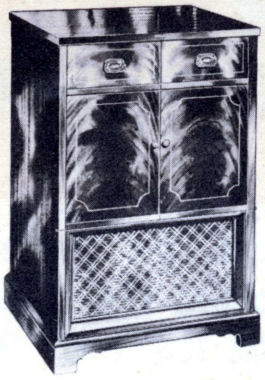
TPO-2009

MODEL 51-T1875



TPO-2003

MODEL 51-T2134, CODE 124



TPO-2000

MODEL 51-T2136, CODE 124

TPO-2008

MODELS 51-T2175, CODE 124; 51-T2176, CODE 124

SPECIFICATIONS

MODEL	DESCRIPTION	RADIO TUNER	TELEVISION TUNER	PHONO-GRAPH	AUDIO OUTPUT	POWER CONSUMPTION	SPECIAL FEATURE
51-T1836, Code 123, 51-T1836L, Code 123	Console Television Receiver		Part No. 76-5747 Incremental		3 watts	290 watts	
51-T1838, Code 124	Console Television Receiver		Part No. 76-6481-1 Incremental		5 watts	300 watts 340 watts (remote)	Remote Control of Four Television Controls
51-T1870	Console Television-Phonograph		Part No. 76-5747 Incremental	M-22 Changer	5 watts	300 watts 315 watts (phono)	
51-T1872	Console Television-Radio-Phonograph	AM Tuner (RT-4)	Part No. 76-5747 Incremental	M-22 Changer	5 watts	300 watts 315 watts (phono)	
51-T1874, 51-T1874L	Console Television-Radio-Phonograph	AM Tuner (RT-4)	Part No. 76-5747 Incremental	M-22 Changer	5 watts	300 watts 315 watts (phono)	
51-T1875	Console Television-Radio-Phonograph	AM-FM Tuner (RT-2)	Part No. 76-5747 Incremental	M-20 Changer	5 watts	300 watts 315 watts (phono)	
51-T1876, Code 124	Console Television-Radio-Phonograph	AM-FM Tuner (RT-2)	Part No. 76-6481-1 Incremental	M-20 Changer	5 watts	300 watts 340 watts (remote) 315 watts (phono)	Remote Control of Four Television Controls
51-T2134, Code 124	Console Television Receiver		Part No. 76-6440-1 Incremental		5 watts	325 watts	
51-T2136, Code 124	Console Television Receiver		Part No. 76-6440-1 Incremental		5 watts	325 watts	

SPECIFICATIONS (Cont.)

MODEL	DESCRIPTION	RADIO TUNER	TELEVISION TUNER	PHONO-GRAPH	AUDIO OUTPUT	POWER CONSUMPTION	SPECIAL FEATURE
51-T2138, Code 124	Console Television Receiver		Part No. 76-6481-1 Incremental		5 watts	325 watts 365 watts (remote)	Remote Control of Four Television Controls
51-T2175, Code 124	Console Television-Radio-Phonograph	AM-FM Tuner (RT-2)	Part No. 76-6440-1 Incremental	M-20 Changer	5 watts		
51-T2176, Code 124	Console Television-Radio-Phonograph	AM-FM Tuner (RT-2)	Part No. 76-6481-1 Incremental	M-20 Changer	5 watts		Remote Control of Four Television Controls

SPECIFICATIONS COMMON TO ALL MODELS

CHANNEL TUNING (TELEVISION)

Twelve-channel, wafer-switch incremental tuners; fine tuning of local oscillator

FREQUENCY RANGES

Television ..... Television channels 2—13

Radio

AM (RT-4 Tuner) ..... 540—1620 kc.

AM-FM (RT-2 Tuner) ..... AM, 540—1620 kc.; FM, 88—108 mc.

INTERMEDIATE FREQUENCIES

Television

Video carrier ..... 26.6 mc.

Sound (intercarrier) ..... 4.5 mc.

Radio

AM ..... 455 kc.

FM ..... 9.1 mc.

AERIAL

Television

Built-in broad-band dipole; provisions for external aerial, if necessary

Radio

AM ..... Built in loop aerial

FM ..... Television aerial used

TRANSMISSION LINE (TELEVISION)

300 ohm, twin-wire lead, or 72-ohm coaxial cable (unbalanced) in areas of excessive interference

OPERATING VOLTAGE

110—120 volts, 60 cycles, a.c.

TUBE COMPLEMENT

TELEVISION

TUBE TYPE	FUNCTION
6CB6 (2) miniature	R-f ampl. for Tuner Part No. 76-5747, 4th i-f ampl.
6BQ7 miniature	R-f ampl. for Tuner Part Nos. 76-6440-1 and 76-6481-1
12AV7 miniature	Oscillator, mixer
6AU6 miniature	Sound-i-f ampl.
12AU7 miniature	Video detector, a-g-c rectifier, and 1st sound-i-f ampl.
6T8 miniature	FM det, 1st audio ampl.
12AV7 miniature	1st video ampl. and 1st sync sep.
12AV7 miniature	Noise gate and 2nd sync sep.
6AQ5 miniature	Video output
6Y6G octal	Audio output

TELEVISION

TUBE TYPE	FUNCTION
7C5 Loktal	Audio output (51-T1836, Code 123)
7N7 octal	Vert. osc. and sync inv.
6SN7 octal	Hor. osc. and phase comp.
6S4 miniature	Vert. sweep output
6CD6G octal	Hor. sweep output
6BY5G octal	Hor. damping
5U4G (2) octal	Low-voltage rectifier
*1B3GT octal	High-voltage rectifier
1X2 miniature	High-voltage doubler
17BP4A rectangular	Picture tube
20DP4A rectangular	Picture tube

* A 1X2 miniature tube may be used in place of the 1B3GT octal in some receivers. Refer to tube label in cabinet.

TUBE COMPLEMENT (Cont.)

RADIO (AM TUNER RT-2)

TUBE TYPE	FUNCTION
7A8 Loktal	Converter
7B7 Loktal	I-f ampl.
7B6 Loktal	2nd det. and phono preampl.

RADIO (AM-FM TUNER RT-4)

TUBE TYPE	FUNCTION
6AU6 miniature	R-f ampl.
12AT7 miniature	Converter
6BA6 miniature	I-f ampl.
6AU6 miniature	I-f ampl.
6BC7 miniature	AM-FM det.

FRINGE OPERATION

A kit, Part No. 45-1732, is available for improvement of sync performance in fringe areas. The use of this kit will improve the sync performance in those weak-signal areas where strong continuous electrical disturbance is present. The kit includes a switch called the FRINGE-NORMAL switch, which functions as follows, when thrown to the FRINGE position:

1. Connects a 68,000-ohm resistor from the a-g-c bus (at the ALIGN TEST jack, pin 3) to ground. This resistor acts as a voltage divider, and lowers the a-g-c voltage on the control grids of the tubes under automatic gain control.
2. Connects an 80,000-ohm resistor between the plate of the diode clipper (diode noise gate, 12AU7) and ground. This changes the clipping level of the diode.

The kit is installed by simply plugging the accompanying cable and plug into the ALIGN TEST jack, J200. Since the FRINGE-NORMAL switch is to be operated by the customer, when necessary, it is advisable to mount the switch in a position which is readily accessible from the front of the cabinet. In later production, a knock-out hole is provided in the cabinet back for mounting purposes.

It should be noted that strong signal reception is virtually impossible when the FRINGE-NORMAL switch is in the FRINGE position, because the Receiver overloads and causes the picture to become "washed out" and distorted in shape. It will, therefore, be necessary for those customers who receive both weak and strong signals to operate the switch when changing from station to station. In complete fringe areas, however, the switch may be left in the FRINGE position.

It may be found that when the FRINGE-NORMAL switch is in the FRINGE position, and moderately strong signals with very low interfering noise are being received, the picture will have a tendency to distort or kink. This condition occurs when either the blanking or picture component gets into the picked-off sync, because of excessive clipping in the noise-gate circuit. The condition is aggravated by certain stations which allow the blanking or picture component of the video to project too far into the sync region of the video signal.

To remedy the condition, proceed as follows:
Cut the white lead with the blue tracer of the kit adapter socket cable, and then tape both ends. This will remove the 47,000-ohm shunt resistor from across the 56,000-ohm resistor of the noise-gate diode voltage-divider network. This change will reduce clipping of the sync pulse in the noise-gate circuit.

NOTE: This change is not recommended in extremely weak signal areas, or where strong noise is encountered.

FUSE REPLACEMENT

B SUPPLY

The B supply protective fuse is located in the high-voltage cage, and is made accessible by removing the back cover to the cage. Use a 6/10-AMPERE DELAYED-ACTION TYPE FUSE, PHILCO PART NO. 45-2656-18.

CAUTION: Discharge the circuit before replacing the fuse.

FILAMENT

One of these fuses (F101) is at the end of one of the black leads from the 6.8-volt television filament winding on the power transformer. The other fuse (F102) is at the end of one of the red or orange leads from the 6.8-volt radio filament winding. The two filament protective fuses consist of lengths of No. 26 copper wire. It is important to use No. 26 copper wire when replacing these fuses.

TUNER TUBE REPLACEMENT

Whenever a tube is replaced in the tuner, it is suggested that, if possible, several be tried, to obtain a tube which has an inter-electrode capacitance similar to that of the original tube, to avoid changing the tuner alignment. The picture quality and oscillator fine-tuning range should be observed when selecting tubes.

BUILT-IN TELEVISION AND FM AERIAL

The built-in aerial consists of a broad-band dipole of metal foil, mounted inside the cabinet, at the top, and a tuning and impedance-matching network. This aerial is tuned for each channel by adjusting the AERIAL TUNING control, located on the front of the Receiver, near the top of the cabinet.

A 300-ohm line couples the tuning network to the aerial-input terminals on TB500. If an external aerial is required, this line must be disconnected from the aerial terminals.

CHECKING AND ADJUSTING THE BUILT-IN TELEVISION AND FM AERIAL-TUNING NETWORK

By adjusting the AERIAL TUNING control, it should be possible to tune the built-in aerial system to resonance at the video-carrier frequency of each channel.

To check the built-in aerial system, follow the procedure given below:

1. Connect a dipole through a 72-ohm coaxial cable to the output of an AM signal generator which has a band range covering the television channels.

2. Connect a 20,000-ohms-per-volt voltmeter to pin 2 of the ALIGN TEST jack, J200.

3. Set the CHANNEL SELECTOR to Channel 2, and the FINE TUNING control to the middle of its range.

4. Place the dipole near the back of the Receiver, and set the signal generator for a modulated output at the video-carrier frequency of Channel 2. Adjust the signal-generator attenuator for an output that will just give an indication on the meter.

5. Adjust the AERIAL TUNING control for a maximum reading on the voltmeter. When maximum reading is obtained, the AERIAL TUNING control should not be in either its maximum clockwise or maximum counterclockwise position.

6. Repeat the above steps for Channels 3 through 13. For all channels, a maximum reading should be obtained on the meter when the AERIAL TUNING control is set at positions other than its maximum clockwise or maximum counterclockwise position.

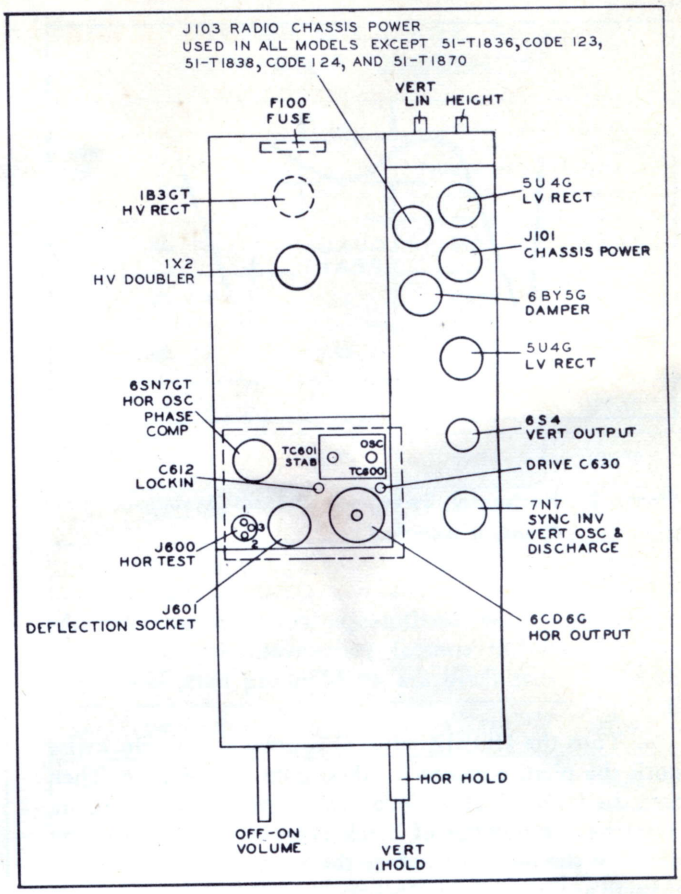
If a peak reading cannot be obtained on each channel in the low-frequency band, the long section of the loop assembly, to which the 300-ohm line is attached, may be pushed together or bowed out, to obtain peaking. If a peak reading cannot be obtained on each channel in the high-frequency band, the two loops adjacent to the AERIAL TUNING condenser may be pushed toward each other or fanned out, to obtain peaking.

After the adjustments above have been made, if it is still impossible to obtain maximum meter readings when the AERIAL TUNING control is set at positions other than its maximum clockwise or maximum counterclockwise position, it is suggested that the AERIAL TUNING condenser be replaced.

HORIZONTAL-SWEEP ADJUSTMENT

The range of the horizontal-hold control potentiometer is sufficient to compensate for normal variations in the frequency of the horizontal oscillator, and no other adjustments are ordinarily required. However, if the tube or other components are replaced in the horizontal-oscillator circuit, it may be necessary to make the following adjustments, to obtain proper synchronism and deflection:

1. Preset the adjustments as follows:



TPO-1456

Figure 1. Power, Deflection Chassis, Top View, Showing Locations of Tubes and Adjustments

a. Lockin trimmer, C612, 1 turn counterclockwise from the maximum clockwise position. See figure 1.

b. Stabilizing core, TC601, extending 5/8" above coil mount.

c. Drive trimmer, C630, 1 turn counterclockwise from the maximum clockwise position.

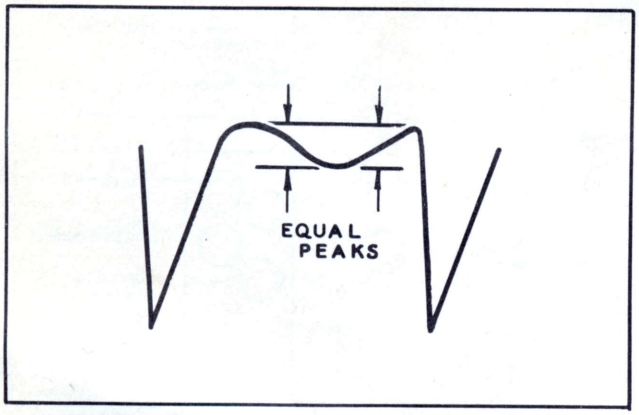
d. HORIZ. HOLD control, center of its range.

2. Tune in a station, and adjust TC600 (figure 1) until the picture is brought into sync.

3. Connect an oscilloscope to pin 3 of the HOR. OSC. TEST socket, J600. The picture *must* be in sync; readjust TC600, if necessary. Adjust the scope sweep until two complete cycles of the pattern are stationary.

4. Adjust the stabilizing core, TC601, so that the two peaks (see figure 2) are of equal amplitude, readjusting TC600, if necessary, to keep the picture in sync.

NOTE: In areas with moderately strong signals, free from noise, the tendency toward "gunboating" (double firing of horizontal oscillator) may be reduced by adjusting the stabilizing core of the horizontal-blocking-oscillator transformer (TC601) so that the top of the rounded portion of the presentation is below that of the narrow pointed top.



TPO-274

Figure 2. Horizontal Sweep—Horizontal Stabilizing Core Properly Adjusted

5. Remove the oscilloscope connections. Turn the HORIZ. HOLD control fully clockwise, and adjust TC600 so that there are 4* blanking bars, sloping to the right.

6. Turn the HORIZ. HOLD control counterclockwise until the picture comes in, then goes out of sync. Then turn the HORIZ. HOLD control slowly clockwise again, counting the number of black (blanking) bars, sloping down to the left, just before the picture pulls into sync. If there are more than 3½ bars, turn the lockin trimmer, C612, slightly clockwise; if there are less than 2½ bars, turn C612 slightly counterclockwise. If the Receiver does not lose sync when the HORIZ. HOLD control is at maximum counterclockwise, then remove the signal momentarily and proceed with the next step.

7. Repeat steps 5 and 6 until the picture pulls in after 2½ to 3½ bars, down to the left.

8. Turn the HORIZ. HOLD control fully clockwise. Adjust TC600 to obtain 4* bars, sloping down to the right.

9. Turn the HORIZ. HOLD control slowly counterclockwise, and note whether the picture goes in and out of sync again. Now turn the HORIZ. HOLD control slowly clockwise until the picture comes into sync. If this sequence is not obtained, repeat steps 5, 6, 7, and 8.

HORIZONTAL DRIVE ADJUSTMENT

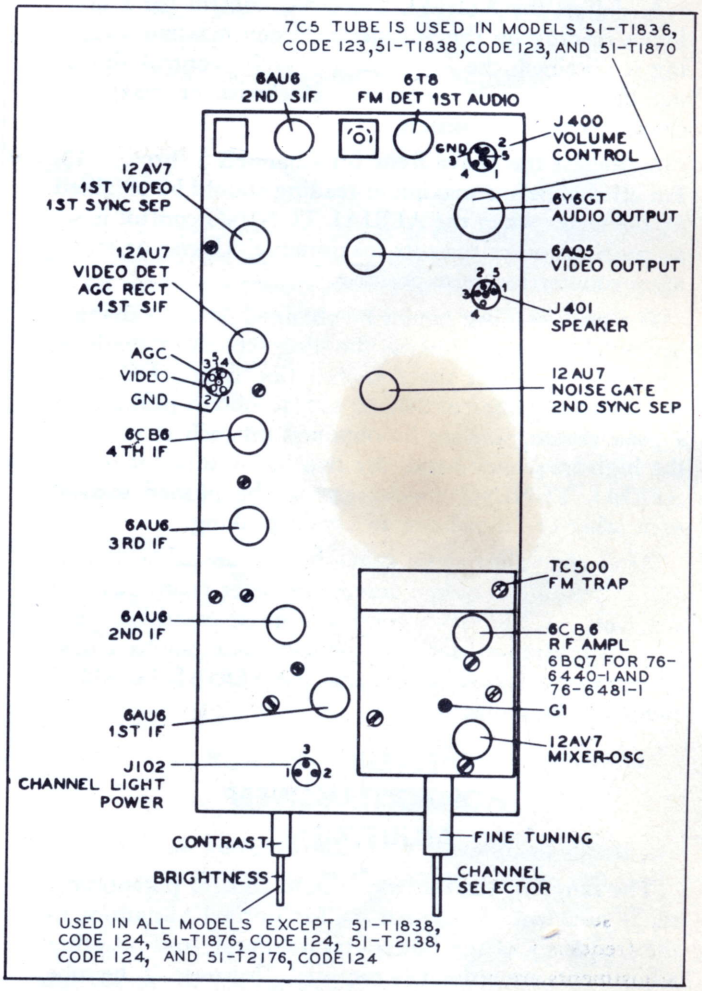
The horizontal drive condenser, C630 (see figure 1), controls the amount of drive applied to the horizontal-output tube (6CD6G), and hence, the picture-tube second-anode voltage, picture width, and horizontal linearity. However, with the new horizontal linearity circuit, the effect of drive on linearity in most cases is negligible, and need not be taken into consideration in making the drive adjustment. The drive is increased by turning C630 counterclockwise, and is decreased by turning clockwise.

* If this adjustment is made before the Receiver is warmed up, TC600 should be adjusted to obtain 2 bars, sloping to the right.

The drive should be as high as possible, consistent with the proper width, the absence of black line due to Barkhausen oscillation, and the ability of the horizontal oscillator to start with low line voltage.

In no case should the drive be adjusted below the point where the second anode is below 13,500 volts for the 17-inch tube or 16,500 volts for the 20-inch tube (as measured with a Philco Electronic Circuit Master, Model 7001, with external multiplier Part No. 45-1574, or an equivalent instrument which has 300-megohm input resistance). This measurement is made with the second anode of the picture tube connected, and with zero beam current (BRIGHTNESS control at maximum counterclockwise).

A practical method of adjusting the horizontal drive involves starting with the drive trimmer, C630, in the maximum clockwise position, then turning it counterclockwise until maximum picture width is obtained. To insure the starting of the horizontal oscillator with low line voltage, the drive condenser should be turned ½-turn counterclockwise from the optimum-width position.



TPO-2014

Figure 3. R-F, I-F Chassis, Top View, Showing Locations of Tubes and Jacks

FM TRAP ADJUSTMENT

The FM trap is adjusted at the factory to resonate at 100 mc., and normally requires no further adjustment unless an FM station with a frequency other than 100 mc. causes interference. In such cases, the interference may be reduced by tuning in the television station on which the interference occurs, and adjusting TC500 for minimum interference. See figure 3.

If the FM station is not on the air, the FM trap may be adjusted as follows:

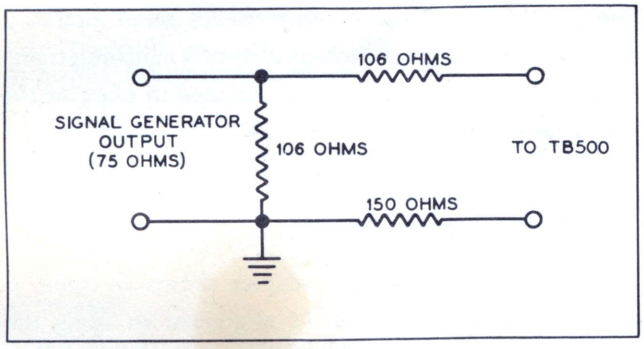
1. Connect the output of the AM signal generator through the aerial-input-matching network (figure 4) to TB500. Wire the tuner for 300-ohm input.

2. Connect an r-f probe or crystal detector (figure 5) to the lead from the tapered line, Z500, to the wafer switch, WS500D(F). Connect the r-f probe or crystal detector to the vertical input of an oscilloscope. Use the highest possible oscilloscope gain.

3. Turn the CHANNEL SELECTOR to the channel with which the FM station is interfering.

4. Set the signal generator (modulated) to the station carrier frequency of the FM station causing the interference.

5. Adjust TC500 until the indication on the oscilloscope is at minimum.

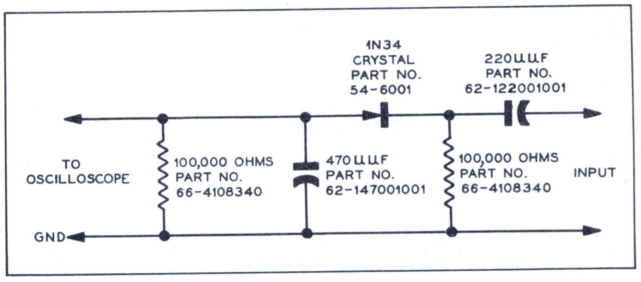


TPO-1179

Figure 4. Aerial-Input-Matching Network

TELEVISION CARRIER AND OSCILLATOR FREQUENCIES

Channel	Channel Limits (mc.)	Video Carrier Frequency (mc.)	Sound Carrier Frequency (mc.)	Local Oscillator Frequency (mc.)
2	54—60	55.25	59.75	81.85
3	60—66	61.25	65.75	87.85
4	66—72	67.25	71.75	93.85
5	76—82	77.25	81.75	103.85
6	82—88	83.25	87.75	109.85
7	174—180	175.25	179.75	201.85
8	180—186	181.25	185.75	207.85
9	186—192	187.25	191.75	213.85
10	192—198	193.25	197.75	219.85
11	198—204	199.25	203.75	225.85
12	204—210	205.25	209.75	221.85
13	210—216	211.25	215.75	237.85



TPO-1150

Figure 5. Wiring Diagram of Crystal Detector

TELEVISION ALIGNMENT

The basic television alignment consists of tuning each i-f coil to a given frequency, using an AM signal, and then feeding a sweep signal to the aerial terminals and touching up the adjustments, to obtain the desired pass band.

Since the over-all response, as seen from the aerial, is affected by the tuner's response, the tuner alignment should be checked, and the tuner realigned, if necessary, before proceeding with the i-f alignment.

The video-carrier intermediate frequency is 26.6 mc., and the sound intermediate (intercarrier) frequency is 4.5 mc. Alignment of these circuits requires careful workmanship and good equipment. The following precautions must be observed:

1. There must be a good bond between the Receiver chassis and the test equipment. This is most easily obtained by having the top of the workbench metallic. The test equipment and television Receiver chassis must make a good metal-to-metal contact with the bench top.

2. Never disconnect the picture tube, picture-tube yoke, or speaker, or remove the horizontal-oscillator tube while the Receiver is turned on.

3. Allow the Receiver and test equipment to warm up for 15 minutes before starting the alignment.

4. The marker (AM) signal generator should be calibrated accurately to the frequencies used for i-f alignment, and to the sound and video r-f carriers of each channel used during alignment. If Model 7008 is used, the built-in crystal calibrator provides an excellent means of calibration. An alternate method of calibrating the signal generator to the sound and video r-f carrier frequencies is to zero-beat the signal generator with the received signals.

For further information regarding this procedure, refer to Philco Lesson PR-1745(J), "Television Service in the Home."

TEST EQUIPMENT REQUIRED

The following test equipment is recommended for aligning the Receiver:

1. Philco Precision Visual Alignment Generator for Television and FM, Model 7008, or equivalent.

2. Vacuum-tube voltmeter, or 20,000-ohms-per-volt voltmeter.

3. R-f probe, Part No. 76-3595 (for use with Model 7008 generator).

JIGS AND ADAPTERS REQUIRED

Mixer Jig

Connections to the grid of the mixer tube may be made through an alignment jack provided for that purpose. To connect the generator to this point, mixer grid jig, Part No. 45-1737, and connecting cable, Part No. 45-1635, may be used. As an alternate, Philco alligator clip adapter, Part No. 45-1636, may be used in conjunction with the above connector for connections at this point.

Aerial-Input-Matching Network

Figure 4 shows an impedance-matching network for coupling the signal generator to the aerial-input terminals of the Receiver. This network, which is designed so that the input impedance is 75 ohms and the output impedance is 300 ohms, is used to match a 75-ohm generator to a 300-ohm aerial-input circuit. The resistors used in this network should be of carbon-composition construction, and should be chosen from a group to obtain values close to those indicated. An aerial matching jig, Part No. 45-1736, which consists of a matching transformer and connecting box, may be used in place of the resistor network.

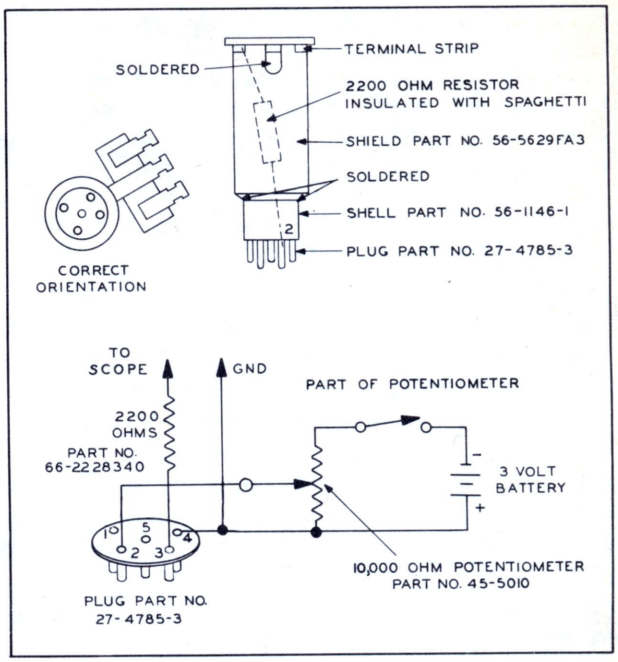


Figure 6. ALIGN TEST Jack Adapter

ALIGN TEST Jack Adapter

The ALIGN TEST jack adapter shown in figure 6 should be used during the i-f alignment to apply the proper bias to the a-g-c bus, and to provide a convenient oscilloscope connection. This adapter consists of a 5-prong plug, a 10,000-ohm potentiometer, a 2200-ohm isolating resistor, and a 3-volt battery. A suggested method of fabricating the adapter is also shown.

The potentiometer and switch are connected across the 3-volt battery. The switch is used to disconnect the potentiometer, to prevent the discharge of the battery while not in use.

FM TEST Jack Adapter

Figure 7 shows the adapter that should be used to connect the voltmeter and oscilloscope to the FM detector. The extra pins on the speaker output socket, J401, are used for test purposes. A suggested method of fabricating the adapter is also shown.

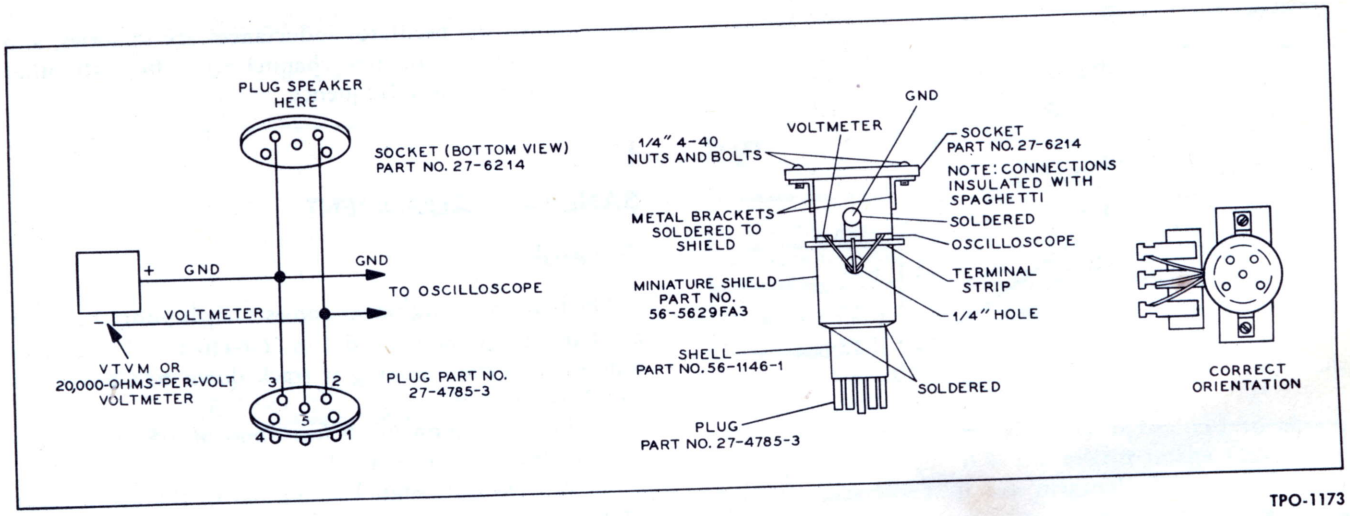


Figure 7. FM TEST Jack Adapter

TELEVISION TUNER ALIGNMENT

After the tuner has been serviced, or if an i-f alignment is required, or if a replacement tube does not exactly meet the requirements described under TUNER TUBE REPLACEMENT, the tuner alignment should be checked. If realignment is necessary, it should be done according to the procedure given below.

Since the frequency of the local oscillator affects the tuner response, the local-oscillator alignment should be made first.

OSCILLATOR ALIGNMENT

General

Beginning with Channel 13, every other coil is tunable, so that by adjusting the tuning cores, it is possible to place either of two adjacent channels exactly on frequency; that is, either Channels 13 or 12, 11 or 10, 9 or 8, etc. The foregoing is based on the assumption that the oscillator has previously been tracked, and that it is desired to compensate for small tracking errors on several different channels. It is also apparent that this adjustment procedure should be carried out with the highest channel first, since each channel will affect the channels below it in frequency. The FINE TUNING control should be preset for all adjustments. This is done by placing the stop on the fine-tuning cam at the center of the Channel 6 oscillator tuning core. See figure 8 or 9.

Procedure Using Signal Generator

An r-f signal (unmodulated), at the oscillator frequency, is fed into the aerial input from an AM signal generator, and the oscillator tuning cores adjusted for zero beat. The r-f signal should be accurate, preferably from a crystal source, or calibrated against the television station.

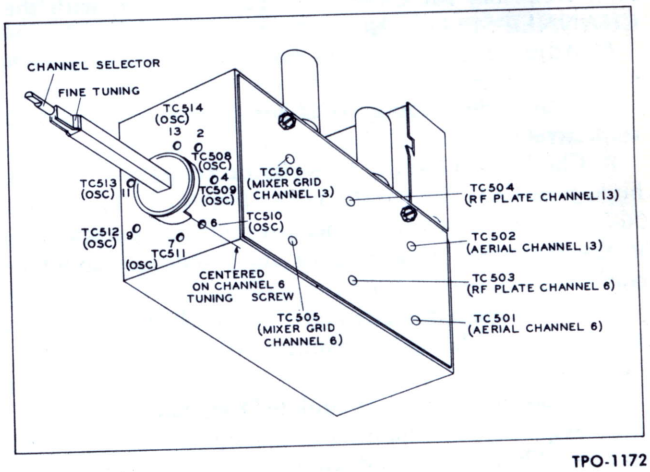
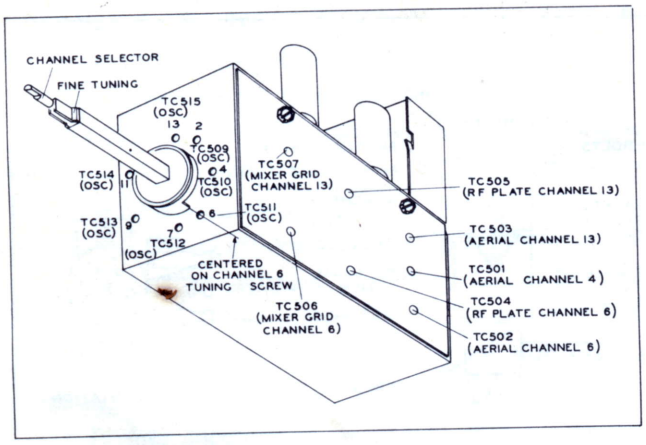


Figure 8. Television Tuner Part No. 76-5747, Oblique View, Showing Locations of Adjustments

1. Connect a 3300-ohm resistor in series with the red lead from the tuner. Connect the "hot" lead of the oscilloscope to the junction of the red lead and the 3300-ohm resistor. (High oscilloscope gain may be necessary to obtain a visual beat. In this instance, base-line hum may be ignored.)

2. Connect the AM(marker) generator to the 300-ohm aerial input through the aerial-input-matching network. See figure 4.

3. If the tuner is being aligned out of the chassis, connect the white lead to the negative terminal of a 1.5-volt battery. Ground the positive terminal.



TPO-2015

Figure 9. Television Tuner Part No. 76-6440-1, Oblique View, Showing Locations of Adjustments

4. Mechanically preset the fine-tuning cam as shown in figure 8 or 9.

5. Feed in an r-f signal (unmodulated), at the oscillator frequency for Channel 13 (237.85 mc.), with the CHANNEL SELECTOR set for Channel 13.

6. Adjust the appropriate tuning core (see figure 8 or 9).

7. Adjust the tuning cores for Channels 11 and 9, respectively.

8. Check the Channel 8 oscillator frequency. If it is high, turn C517 for the 76-5747 tuner, or C521 for the 76-6440-1 and 76-6481-1 tuners, several turns clockwise; if the frequency is low, turn the condenser counterclockwise.

9. Repeat steps 5, 6, 7, and 8 until Channels 13, 11, 9, and 8 are within plus or minus 500 kc. of the correct frequency.

10. Feed in an r-f (unmodulated) signal, at the oscillator frequency for Channels 7, 6, 4, and 2, consecutively (see NOTE below), and adjust the respective tuning cores. See figure 8 or 9.

NOTE: The exact position of the FINE TUNING shaft should be marked when Channel 2 is correctly aligned. This is to be used in step 6 of the i-f alignment procedure.

Procedure Using Station Signal

The following simplified procedure may be used to align the oscillator when the television i-f alignment is satisfactory and a station signal is available.

1. Mechanically preset the fine-tuning cam to the center of its range (see figure 8 or 9).

2. Tune in the highest-frequency channel to be received.

3. Tune the tuning core for that channel, or the next highest, for the best picture; that is, starting with sound in the picture, turn the tuning core until the sound disappears.

NOTE: All the oscillator inductances are in series, and any adjustment on one channel will affect all other channels of lower frequency.

BANDPASS ALIGNMENT

General

The band-pass alignment consists of aligning the tuner at Channels 13 and 6 (and 4 in 76-6440-1 and 76-6481-1 tuners), and then making it track down to Channels 7 and 2, respectively.

During the alignment, a fixed bias of 1.5 volts is applied to the r-f amplifier tube.

An FM (sweep) signal is applied to the aerial-input circuit, and an oscilloscope is connected to the mixer plate circuit. The oscilloscope gain should be as high as possible, consistent with hum level and "bounce" conditions. Hum conditions will cause distortion of the time base and response. Bounce conditions will cause the response and time base to jump up and down, and is caused by poor line regulation. The use of too high an oscilloscope gain aggravates these conditions, whereas the use of too low a gain necessitates increasing the generator output to a point where the tuner may be overloaded. Overload may be checked by changing the generator output while observing the shape of the response curve; if the shape of the curve changes, this indicates overload, in which case a lower generator output and higher oscilloscope gain must be used. A 330-ohm resistor is shunted across the 1st i-f coil, to eliminate the absorption effect of this coil on the response curve.

1. Disconnect the white (a-g-c) lead from the tuner, and connect it to the negative terminal of a 1.5-volt battery. Ground the positive terminal.

2. Connect a 3300-ohm resistor in series with the red lead from the tuner. Connect the "hot" lead of the oscilloscope to the junction of the red lead and the 3300-ohm resistor.

3. Connect a 330-ohm resistor from the green lead to ground.

4. Connect the FM (sweep) generator to the 300-ohm aerial input through an aerial-input-matching network. See figure 4.

Procedure for Part No. 76-5747 Tuner

1. Set the CHANNEL SELECTOR and FM generator to Channel 13 (213 mc.). Adjust the generator for sufficient sweep to show the complete response curve.

2. Establish the channel limits (see figure 10) by using the marker (AM r-f) signal generator to produce marker pips on the response curve; set the generator first to 210 mc., then to 216 mc.

3. Adjust TC502 (see figure 8) for maximum curve height and symmetry.

4. Adjust TC504 and TC506 for a symmetrical response, centered about 213 mc.

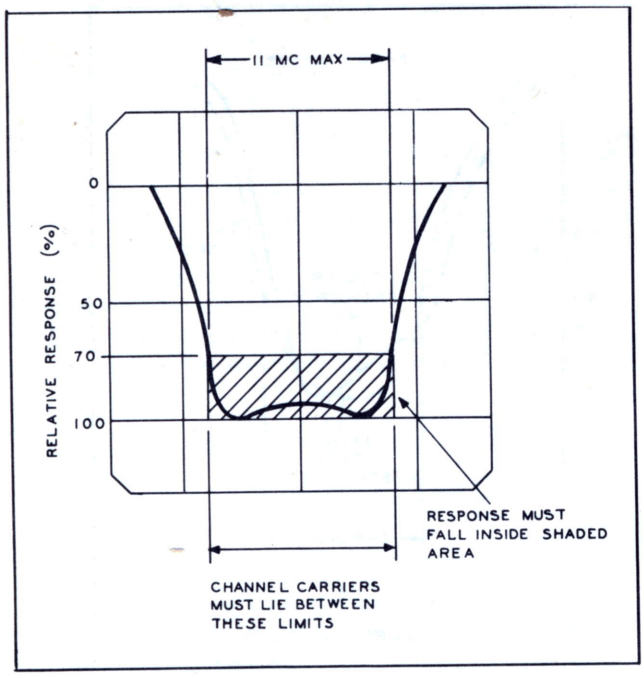


Figure 10. Television Tuner Response Curve, Showing Band-Pass Limits

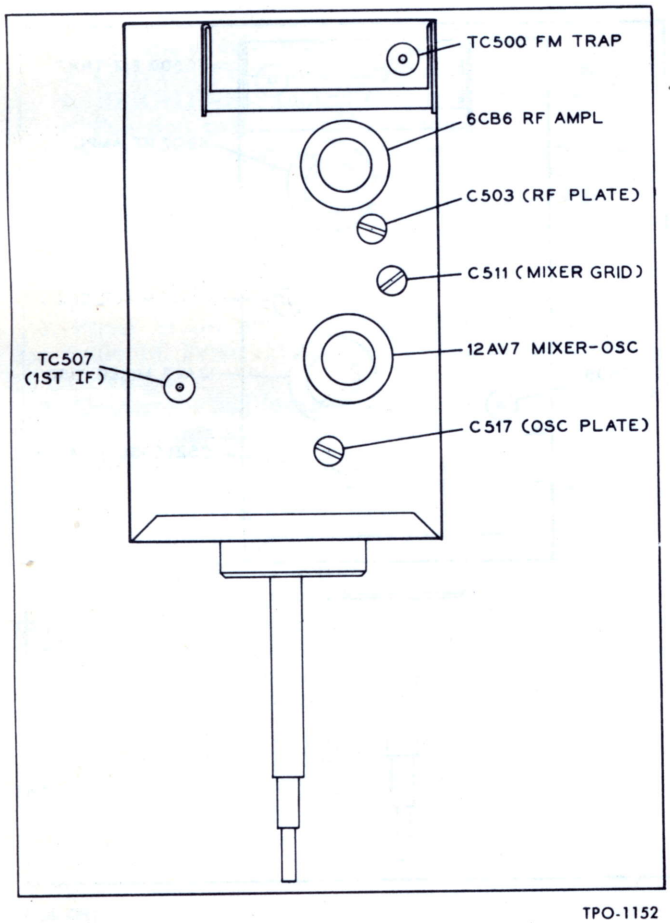


Figure 11. Television Tuner Part No. 76-5747, Top View, Showing Locations of Adjustments

5. Set the CHANNEL SELECTOR and FM generator to Channel 7 (177 mc.).

6. Establish the channel limits by using the marker signal generator to produce marker pips on the response curve; set the generator first to 174 mc., then to 180 mc.

7. Note the response curve with respect to tilt and center frequency. The curve should be centered in the pass band, and should be symmetrical. If not, it will be necessary to make the adjustments given in step 8. However, when making these adjustments, the effect of Channel 13 adjustments on Channel 7 must be taken into consideration. This is done by over-compensating with the trimmers, so that, when Channel 13 is adjusted, Channel 7 will be nearly correct.

8. Adjust C503 and C511 (see figure 11) to obtain a response curve which is the mirror image (tilt in the opposite direction) of the original. This is the over-compensation mentioned in step 7. For example, if the Channel 7 response appeared as in figure 12A, then the trimmer should be adjusted to obtain a response as in figure 12B.

9. Set the CHANNEL SELECTOR to Channel 13, and retune the generators. Readjust TC504 and TC506 for a symmetrically centered band pass.

10. Set the CHANNEL SELECTOR and generators to Channel 7. Check the response for center frequency and symmetry. Repeat step 8 if necessary.

11. Repeat steps 8 and 9 as many times as necessary to obtain the best possible symmetrically centered response curves on Channels 13 and 7. Channels 8 through 12 will then be correctly aligned.

12. Set the CHANNEL SELECTOR and FM generator to Channel 6 (85 mc.).

13. Establish the channel limits, using the marker generator to produce marker pips on the response curve; set the generator first to 82 mc., then to 88 mc.

14. Adjust TC501 for maximum curve height and symmetry.

15. Adjust TC503 and TC505 for a symmetrically centered response.

Procedure for Part No. 76-6440-1 and 76-6481-1 Tuners

1. Set the CHANNEL SELECTOR and FM (sweep) generator to Channel 12 (213 mc.). Adjust the generator for sufficient sweep to show the complete response curve.

2. Establish the channel limits (see figure 10) by using the marker (AM r-f) signal generator to produce marker pips on the response curve; set the generator first to 210 mc., then to 216 mc.

3. Adjust TC505 and TC507 (figure 9) for symmetrical, approximately centered pass band. Set marker generator to 213 mc. Detune TC507 counterclockwise until a single peak appears. Adjust TC505 until the peak falls on the 213-mc. marker. It may be necessary to increase the output of the generator during this adjustment. Then adjust TC503 for maximum curve height and symmetry of the single peak. The aerial circuit is now tuned for the high channels.

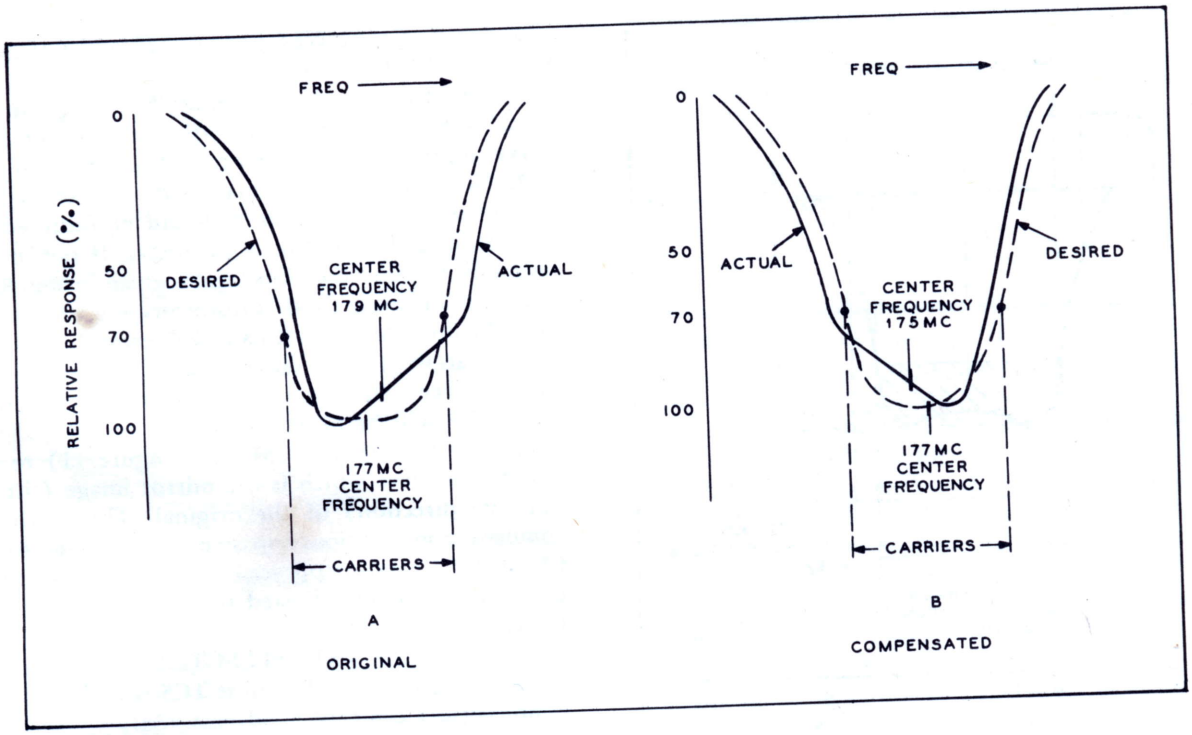


Figure 12. Television Tuner Response, Showing Tracking Compensation

4. Readjust TC505 and TC507 for a symmetrical response, centered about 213 mc.

5. Set the CHANNEL SELECTOR and FM generator to Channel 7 (177 mc.).

6. Establish the channel limits by using the marker signal generator to produce marker pips on the response curve; set the generator first to 174 mc., then to 180 mc.

7. Note the response curve, with respect to tilt and center frequency. The curve should be centered in the pass band, and should be symmetrical. If not, it will be necessary to make the adjustments given in step 8. However, when making these adjustments, the effect of Channel 13 adjustments on Channel 7 must be taken into consideration. This is done by over-compensating with the trimmers, so that, when Channel 13 is adjusted, Channel 7 will be nearly correct.

8. Adjust C506 and C515 (see figure 13) to obtain a response curve which is the mirror image (tilt in the opposite direction) of the original. This is the over-compensation mentioned in step 7. For example, if the Channel 7 response appeared as in figure 12A, then the trimmer should be adjusted to obtain a response as in figure 12B.

9. Set the CHANNEL SELECTOR to Channel 13, and retune the generators. Readjust TC505 and TC507 for a symmetrically centered band pass.

10. Set the CHANNEL SELECTOR and generators to Channel 7, and check the response for center frequency and symmetry. Repeat steps 8 and 9 as many times as necessary to obtain the best possible symmetrically centered response curves on Channels 13 and 7. Channels 8 through 12 will then be correctly aligned.

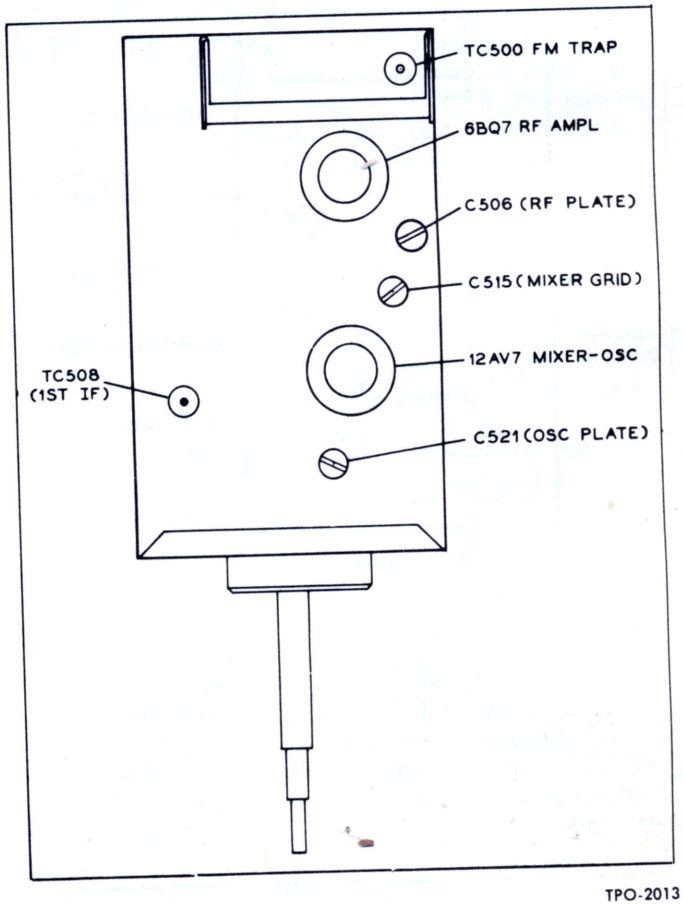


Figure 13. Television Tuner Part No. 76-6440-1, Top View, Showing Locations of Adjustments

11. Set the CHANNEL SELECTOR and sweep generator to Channel 6 (85 mc.).

12. Establish the channel limits, using the marker generator to produce marker pips on the response curve; set the generator first to 82 mc., then to 88 mc.

13. Adjust TC504 and TC506 for symmetrical, approximately centered pass band. Set the marker generator to 85 mc. Detune TC506 counterclockwise until a single peak appears.

CAUTION: Do not turn TC506 excessively, or it will fall out of the coil.

Adjust TC504 until the peak falls on the 85-mc. marker. It may be necessary to increase the output of the generator during this adjustment. Then adjust TC502 for maximum curve height and symmetry of the single peak. The aerial circuit is now tuned for Channels 5 and 6.

14. Readjust TC504 and TC506 for a symmetrical response, centered about 85 mc.

15. Set the CHANNEL SELECTOR and sweep generator to Channel 4 (69 mc.).

16. Establish the channel limits, using the marker generator to produce marker pips on the response curve; set the generator first to 66 mc., then to 72 mc.

17. Adjust TC501 for maximum curve height and symmetry.

TELEVISION I-F ALIGNMENT

PRELIMINARY

Before proceeding with the i-f alignment or making an alignment check, the following preliminary instructions should be observed:

1. Connect the oscilloscope to the 2200-ohm resistor from the ALIGN TEST jack adapter.

2. If additional attenuation of the marker signal is required when using Visual Alignment Generator Model 7008, insert a 10,000-ohm resistor in series with the output lead.

3. Preset the television controls as follows:
   a. CONTRAST control fully counterclockwise.
   b. BRIGHTNESS control to give a dim raster.
   c. Function switch to TV position.

4. During the alignment, remove the cable and plug from J401, and insert the FM TEST jack adapter.

5. Insert the ALIGN TEST jack adapter into J200.

I-F ALIGNMENT PROCEDURE

1. Preset TC201 and TC203 fully counterclockwise. See figure 14. Preset TC200 and TC202 to the middle of their ranges.

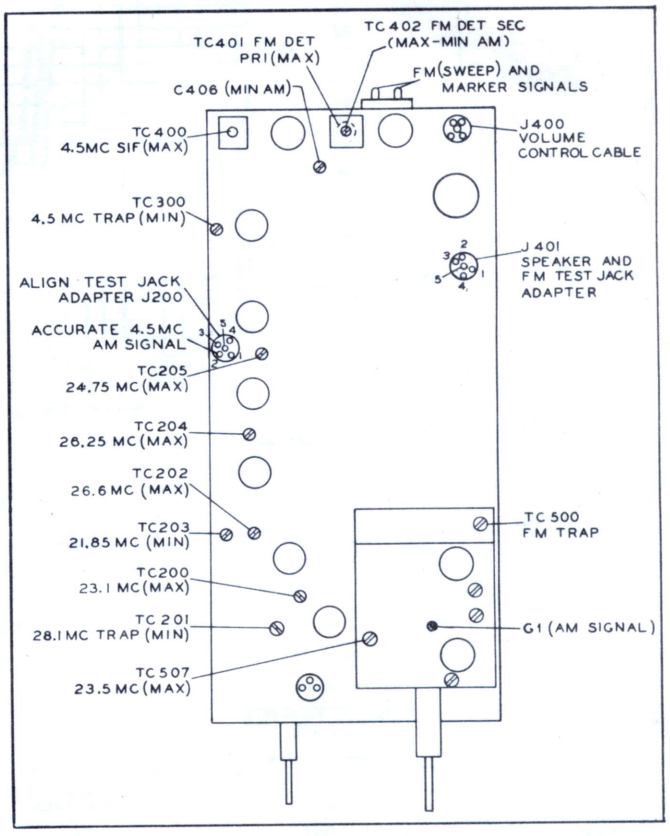
2. Connect the oscilloscope to J200, pin 2, through the 2200-ohm resistor from the ALIGN TEST jack adapter, and connect the AM generator to G1.

3. Feed in a 28.1-mc. AM signal, and tune TC201 for minimum output (use first minimum). Use zero bias during this adjustment.

4. Feed in a 21.85-mc. AM signal, and tune TC203 for minimum output (use first minimum). Use zero bias during this adjustment.

5. Tune TC205, TC204, TC202, TC200, and TC507 for maximum output at the frequencies indicated in figure 14. Use 3 volts of bias, and attenuate the generator to keep the output below 2 volts, peak to peak.

6. Feed in sweep and marker signals for Channel 2 through the aerial-input terminals. The tuner pass band should be checked, and the tuner aligned, if necessary; the local oscillator should be set to its correct frequency (81.85 mc. for Channel 2). Refer to step 10 of Procedure Using Signal Generator, under OSCILLATOR ALIGN-



TPO-1454

Figure 14. R-F, I-F Chassis, Top View, Showing Locations of Adjustments

MENT. The response should fall within the limits shown in figure 15. Touch up TC205, TC204, TC202, TC200, and TC507. See NOTE below.

IMPORTANT: Do not turn any of the i-f tuning cores excessively after they have been set to the approximate position by the use of the AM signal generator; to do so may cause poor transient or phase response, resulting in trailing whites or smear. If a response within the limits shown cannot be obtained by a slight adjustment, carefully repeat the AM adjustments, and, if necessary, trouble-shoot the i-f system. It is preferable to get a response curve within the tolerance range WITHOUT touching the adjustments made with the AM signals at the specified frequencies, rather than to attempt to obtain the ideal curve.

NOTE: TC205 rocks top of curve.
TC202 controls level of carrier.
TC204 controls dip or peak on carrier side.
TC200 controls bandwidth (sound side).
TC507 controls dip or peak on sound side.

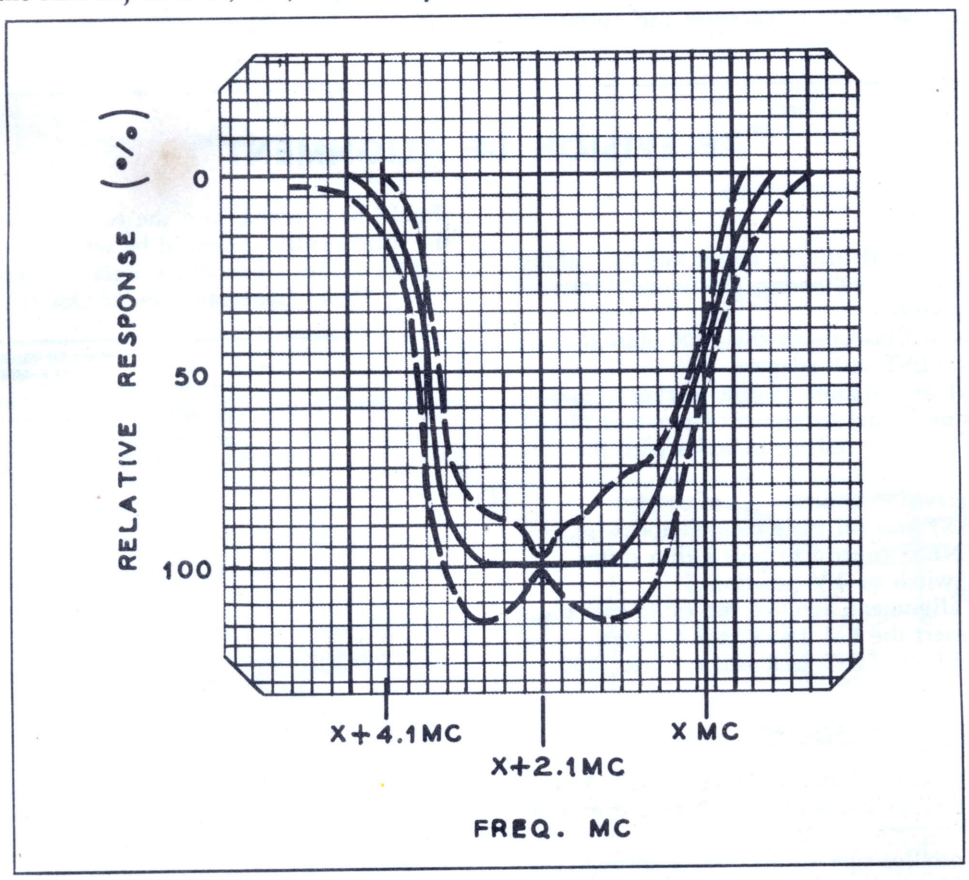


Figure 15. Over-all R-F, I-F Response Curve

S-I-F ALIGNMENT PROCEDURE

1. Remove the first i-f tube, and connect a v.t.v.m. or a 20,000-ohms-per-volt voltmeter to the FM TEST jack adapter. Adjust the VOLUME control for moderate speaker output.
2. Feed in an accurately calibrated 4.5-mc. AM signal to pin 2 of J200 through the 2200-ohm resistor in the ALIGN TEST jack adapter.
3. Tune TC400 and TC402 for maximum indications on the meter. The point of maximum meter indication for TC402 should also be the point of minimum speaker output.
4. Tune TC402 and C406 for minimum speaker output.
5. Connect an r-f probe or crystal detector to the grid (pin 2) of the picture tube. See NOTE below.
6. Tune TC300 for minimum indication on oscilloscope.
7. Replace the 1st i-f tube. Tune in a station and use the speaker output as an indication.
8. Turn the FINE TUNING control clockwise to obtain a slightly fuzzy picture.
9. Tune C406 and TC402 for minimum AM (noise) output.

NOTE: The r-f probe, Part No. 76-3595, is used as a detector of the 4.5-mc. signal, and the oscilloscope as an indicating device. An alternate crystal detector may be made up as shown in figure 5.

RADIO ALIGNMENT

GENERAL

Before starting the radio alignment, allow the Receiver and test equipment to warm up for 15 minutes.

TEST EQUIPMENT REQUIRED

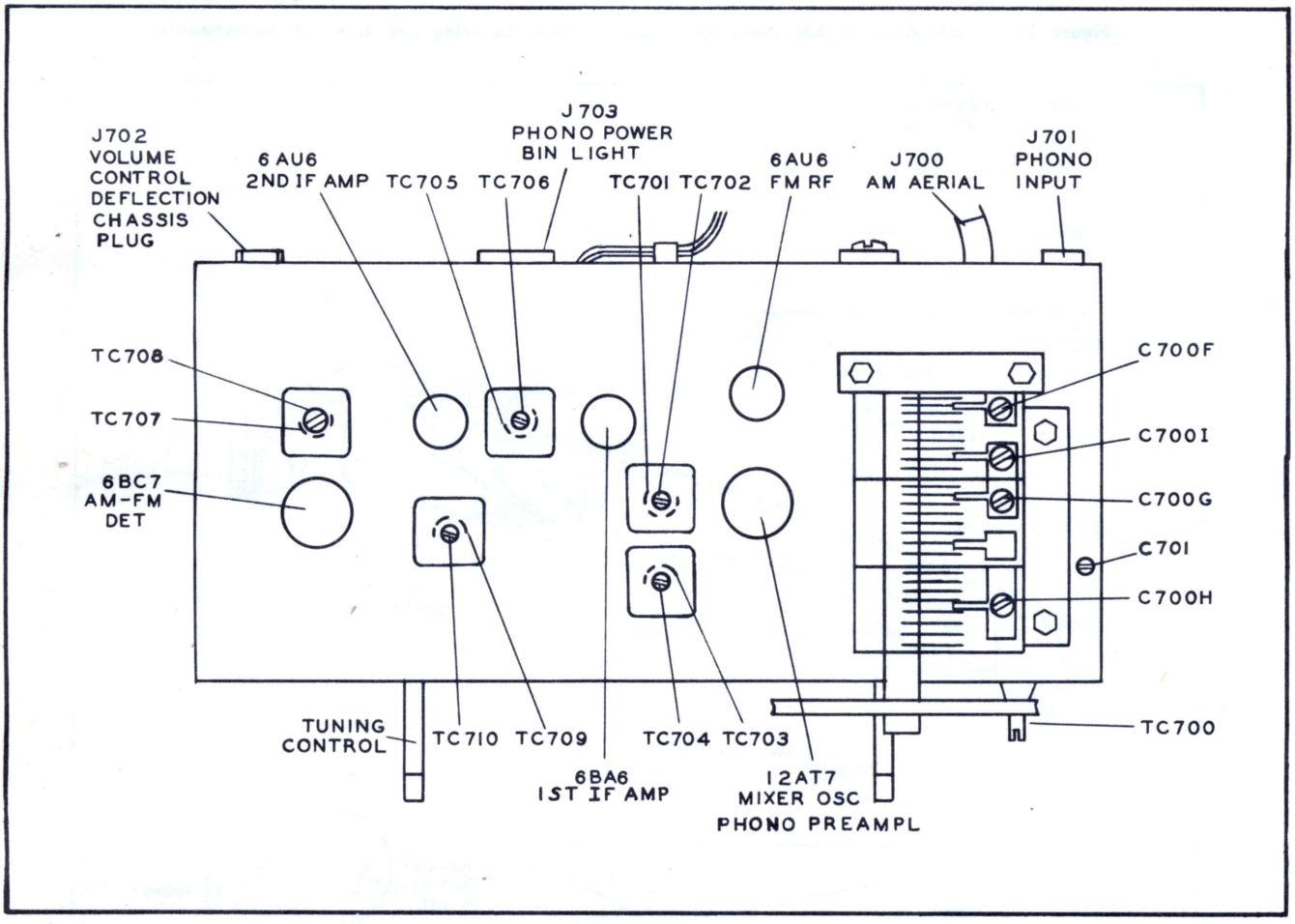
The following equipment is recommended for aligning the radio section:

1. Philco Signal Generator, Model 7170, or equivalent.
2. Output indicator (either a 20,000-ohms-per-volt voltmeter or an oscilloscope).

RADIO ALIGNMENT PROCEDURE

Follow the procedure in the applicable alignment charts. Also observe the following instructions:

1. Insert a .1-μf. condenser in series with the signal-generator lead.
2. Set the VOLUME control to obtain appropriate volume level from speaker. Set the function switch to the correct position.
3. During the alignment, attenuate the signal generator to hold the output at the speaker jack below 1 volt, peak to peak.



TPO-2012

Figure 16. Radio Chassis, AM-FM Tuner RT-2, Top View, Showing Locations of Adjustments

AM RADIO ALIGNMENT CHART (TUNER RT-2)

STEP	SIGNAL-GENERATOR CONNECTION	OUTPUT-INDICATOR CONNECTION	SIGNAL-GENERATOR SETTING	RADIO-DIAL SETTING	ADJUSTMENT INSTRUCTIONS
1	Connect signal generator through .1-μf. condenser to grid (pin 7) of 12AT7.	Connect vertical input of oscilloscope (or meter leads) to pins 2 and 3 of speaker socket, J401.	Set signal generator (modulated) to 455 kc.	Condensers fully meshed.	Adjust TC703, TC704, TC709, and TC710 (see figure 16) for maximum output indication.
2	Connect signal generator through .1-μf. condenser to pin 1 of antenna socket, J700.	Same as step 1.	Set signal generator (modulated) to 1620 kc.	1620 kc. (see figure 17).	Adjust C700I for maximum output indication.
3	Same as step 2. (See NOTE below.)	Same as step 1.	Set signal generator (modulated) to 1500 kc.	Tune receiver to generator signal (1500 kc.).	Adjust C700H for maximum output indication.
Steps 4 and 5 should be performed only if it becomes necessary to replace the antenna coil, L703.					
4	Same as step 2.	Same as step 1.	580 kc.	Tune receiver to generator signal.	Adjust TC700 for maximum output indication. Rock tuning gang.
5	Repeat steps 3 and 4 until maximum output is obtained on the high and low ends of the band.				

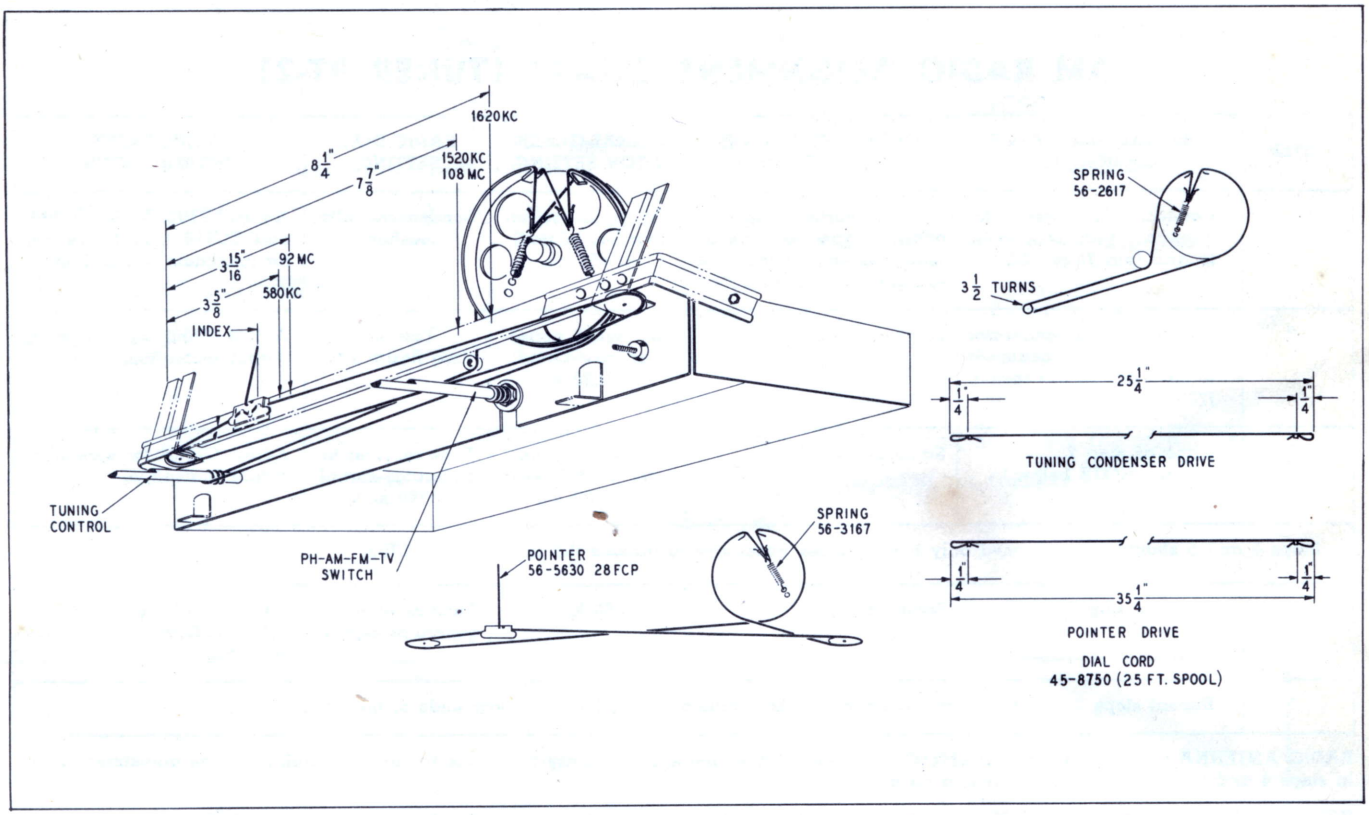
RADIO ANTENNA COIL (L703) REPLACEMENT—If it should ever become necessary to replace the antenna coil, L703, the adjustment given in steps 4 and 5 of the chart above should be made.

NOTE: The final adjustment of C700H should be made with the chassis in the cabinet and the loop aerial connected. The signal generator should be coupled to the Receiver by means of a radiating loop. This loop should be made up of six to eight turns of insulated wire in a 6-inch-diameter loop. Connect the signal generator to the radiating loop, and place the radiating loop near the loop aerial of the Receiver.

FM RADIO ALIGNMENT CHART (TUNER RT-2)

STEP	SIGNAL-GENERATOR CONNECTION	OUTPUT-INDICATOR CONNECTION	SIGNAL-GENERATOR SETTING	RADIO-DIAL SETTING	ADJUSTMENT INSTRUCTIONS
1	Connect signal generator through .1-μf. condenser to pin 7 of 12AT7.	Connect vertical input of oscilloscope (or meter leads) to pins 2 and 3 of speaker socket, J401.	Set signal generator (modulated) to 9.1 mc.	88 mc.	Adjust TC701, TC702, TC705, TC706, TC707, and TC708 (see figure 16) for maximum output indication.
2	Same as step 1.	Same as step 1.	Same as step 1.	88 mc.	Adjust TC708 for minimum output indication. (This adjustment is critical.)
3	Connect signal generator to external TV antenna terminals.	Same as step 1.	Set signal generator (modulated) to 105 mc.	105 mc.	Adjust C700I for maximum indication.
4	Same as step 3.	Same as step 3.	Set signal generator (modulated) to 105 mc.	105 mc.	Adjust C700G for maximum output indication, while rocking tuning control.
5	Same as step 3.	Same as step 3.	Same as step 4.	105 mc.	Adjust C700F for maximum output indication.
6	Same as step 3.	Same as step 3.	Set signal generator (modulated) to 92 mc.	92 mc.	Adjust L704 for maximum output (see NOTE below).
7	Same as step 3.	Same as step 3.	Set signal generator (modulated) to 92 mc.	92 mc.	Adjust L702 for maximum output (see NOTE below).
8	Same as step 3.	Same as step 3.	Set signal generator (modulated) to 92 mc.	92 mc.	Adjust L700 for maximum output (see NOTE below).
9	Repeat steps 3 through 8 until no further improvement is obtained.				

NOTE: Check resonance of coils L704, L702, and L700 by inserting each end of a powdered-iron tuning core, such as Philco Part No. 56-6100, in the coils. If the output increases when the iron end is inserted, compress the turns slightly. If the output increases when the brass end is inserted, spread the turns slightly. If the output decreases when either end is inserted, no adjustment is necessary.



TPO-2016

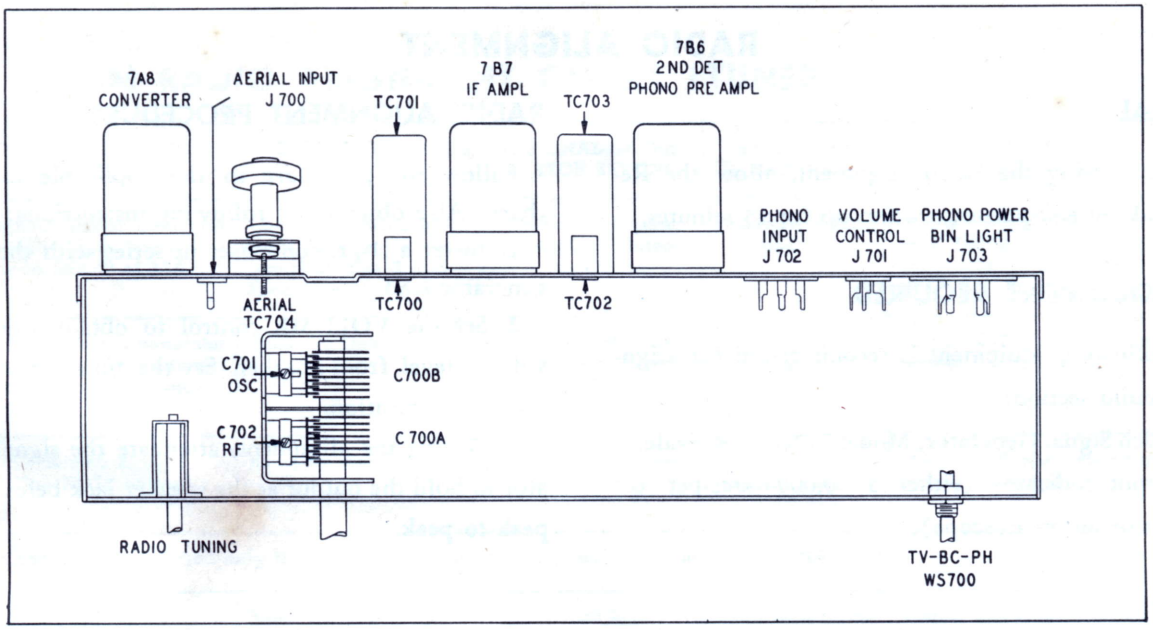
Figure 17. Radio Drive-Cord-Installation Details, AM-FM Tuner RT-2

AM RADIO ALIGNMENT CHART (TUNER RT-4)

STEP	SIGNAL-GENERATOR CONNECTION	OUTPUT-INDICATOR CONNECTION	SIGNAL-GENERATOR SETTING	RADIO-DIAL SETTING	ADJUSTMENT INSTRUCTIONS
1	Connect signal generator through .1-μf. condenser to grid (pin 6) of converter tube.	Connect vertical input of oscilloscope (or meter leads) to pins 2 and 3 of speaker socket, J401.	Set signal generator (modulated) to 455 kc.	Condensers fully meshed.	Adjust TC700, TC701, TC702, and TC703 (see figure 18) for maximum output indication.
2	Connect signal generator through .1-μf. condenser to pin 1 of antenna socket, J700.	Same as step 1.	Set signal generator (modulated) to 1620 kc.	1620 kc. (see figure 19).	Adjust C701 for maximum output indication.
3	Same as step 2. (See NOTE below.)	Same as step 1.	Set signal generator (modulated) to 1500 kc.	Tune receiver to generator signal (1500 kc.).	Adjust C702 for maximum output indication.
Steps 4 and 5 should be performed only if it becomes necessary to replace the antenna coil, L700.					
4	Same as step 2.	Same as step 1.	580 kc.	Tune receiver to generator signal.	Adjust TC704 for maximum output indication. Rock tuning gang.
5	Repeat steps 3 and 4 until maximum output is obtained on the high and low ends of the band.				

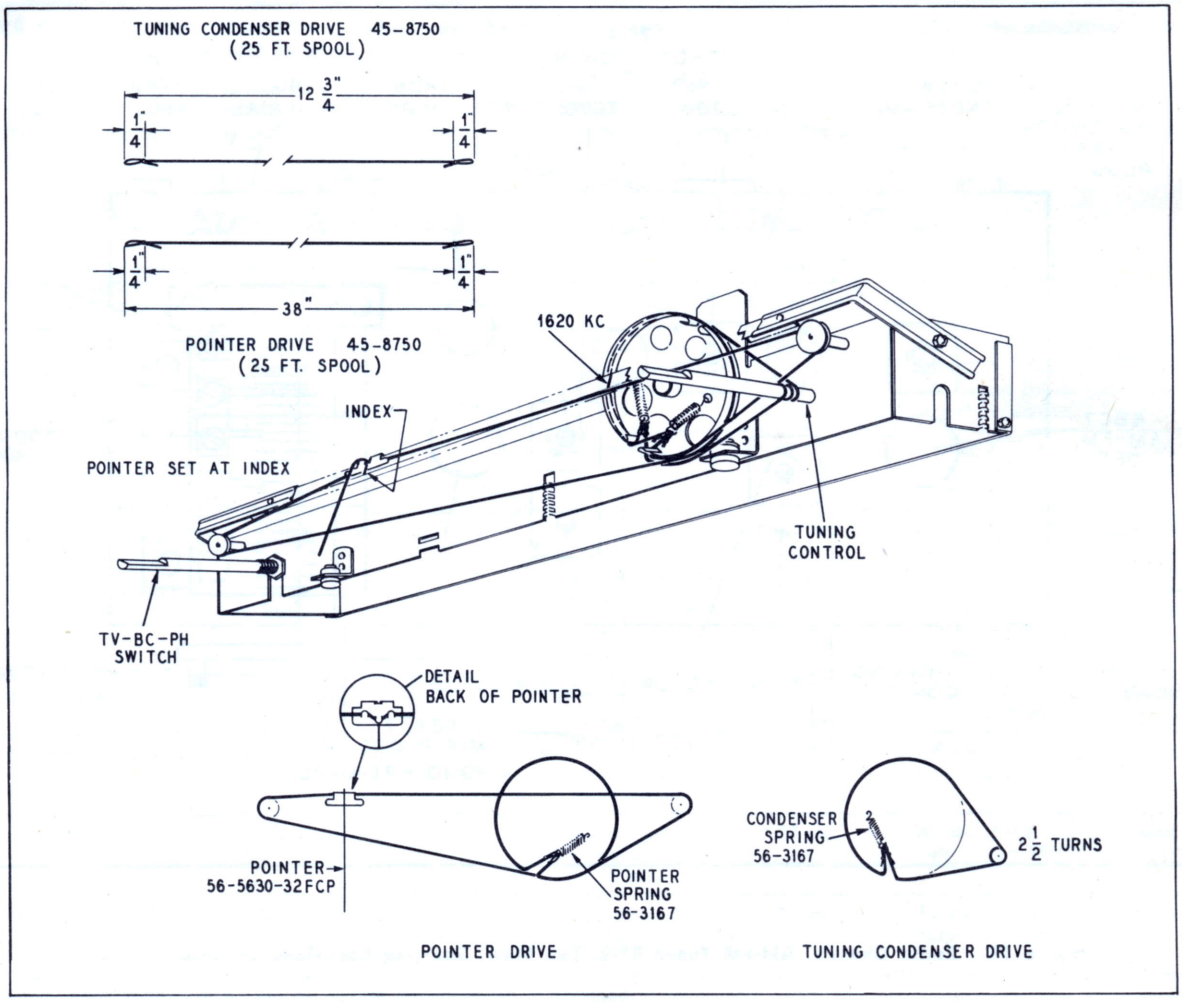
RADIO ANTENNA COIL (L700) REPLACEMENT—If it should ever become necessary to replace the antenna coil, L700, the adjustment given in steps 4 and 5 of the RADIO ALIGNMENT CHART above should be made.

NOTE: The final adjustment of C702 should be made with the chassis in the cabinet and the loop aerial connected. The signal generator should be coupled to the Receiver by means of a radiating loop. This loop should be made up of six to eight turns of insulated wire in a 6-inch-diameter loop. Connect the signal generator to the radiating loop, and place the radiating loop near the loop aerial of the Receiver.



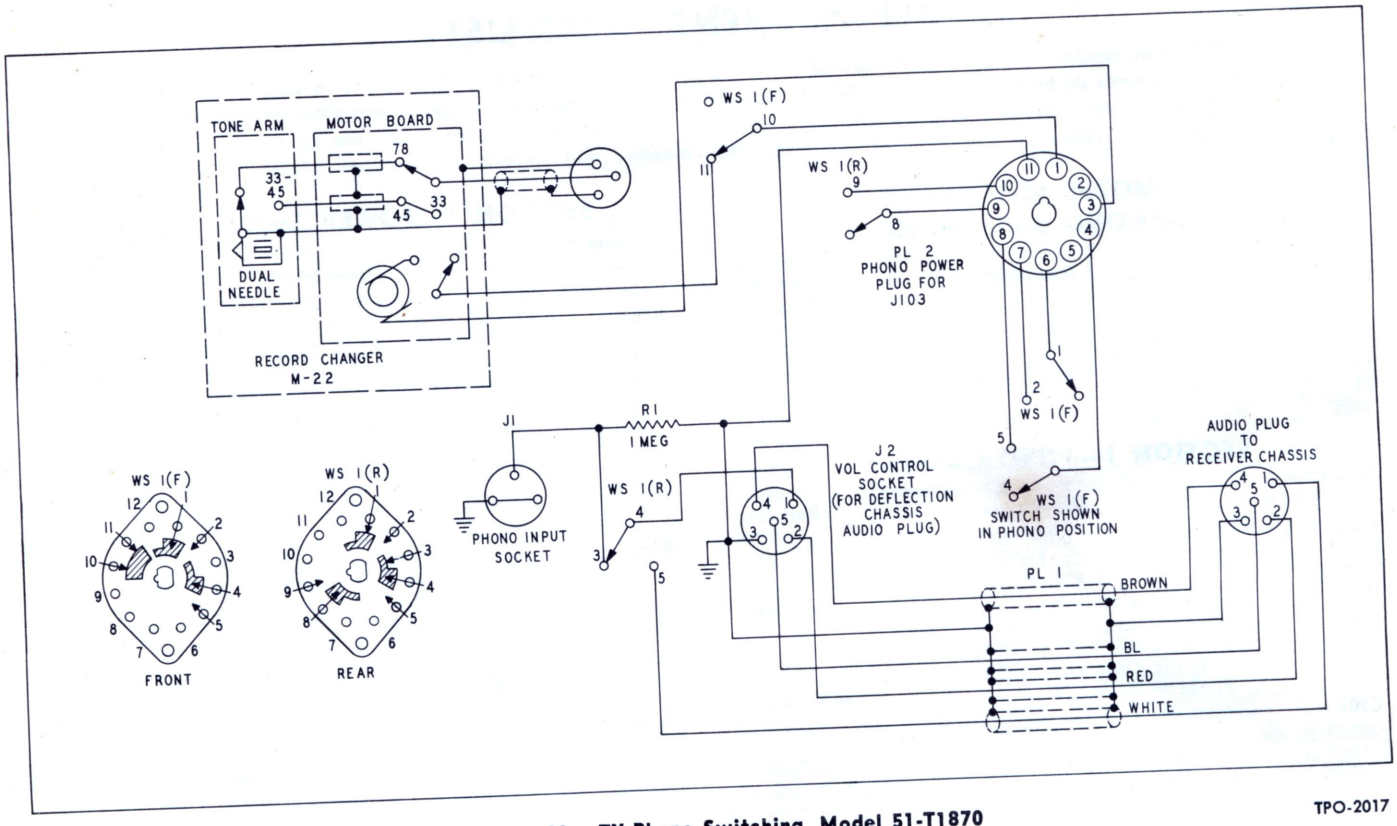
TPO-1453

Figure 18. Radio Chassis, AM Tuner RT-4, Bottom View, Showing Locations of Adjustments



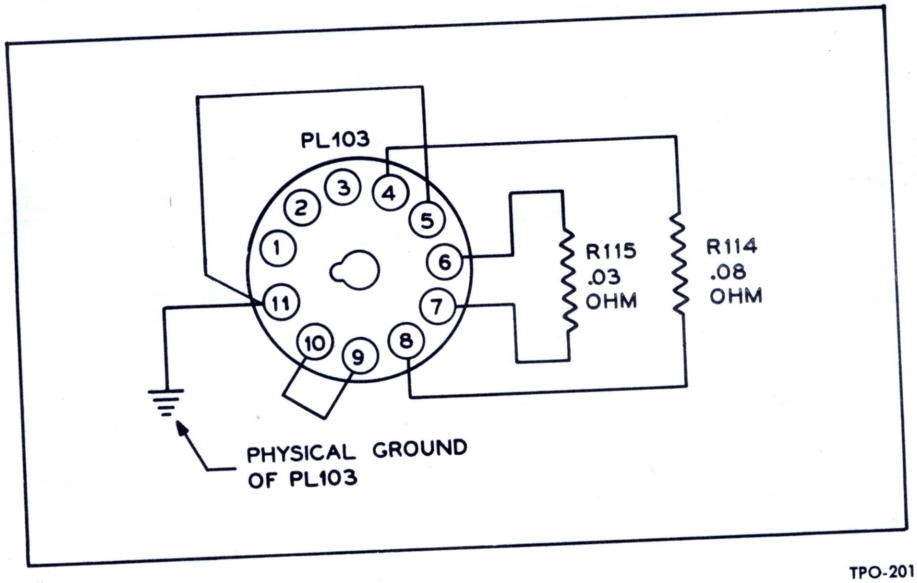
TPO-1452

Figure 19. Radio Drive-Cord-Installation Details, AM Tuner RT-4



TPO-2017

Figure 20. TV-Phono Switching, Model 51-T1870



TPO-2011

Figure 21. Dummy Radio Power Plug Used in Models 51-T1838, Code 124; 51-T1870, 51-T2134, Code 124; 51-T2136, Code 124; and 51-T2138, Code 124

REPLACEMENT PARTS LIST

NOTE: Part numbers identified by an asterisk (*) are general replacement items. These numbers may not be identical with those on factory parts. Also, the electrical values of some replacement items may differ from the values indicated in the schematic diagram and parts list. The values substituted in any case are so chosen that the operation will either be unchanged or improved. When ordering replacements, use only the "Service Part No."

MODEL 51-T1870
TV-PHONO SWITCHING

Reference Symbol	Description	Service Part No.
PL1	Cable, audio	41-3974-5
PL2	Cable, power	41-4067
R1	Resistor, 1 megohm	66-5108340
J1	Socket, phono input	27-6126
J2	Socket, VOLUME control	27-6214
WS1	Switch, function	42-1948

SECTION 1—POWER SUPPLY

Reference Symbol	Description	Service Part No.
C100	Condenser, input filter, 40 μf., 450v, 51-T1836, Code 123, 51-T1838, Code 124. 51-T1870, 51-T1872, 51-T1874, 51-T1875, 51-T1876, Code 124	30-2568-5
C100	Condenser, input filter, 40 μf., 475v, 51-T2134, Code 124, 51-T2136, Code 124, 51-T2138, Code 124, 51-T2175, Code 124, 51-T2176, Code 124	30-2568-48
C101	Condenser, 4-section, 51-T1836, Code 123, 51-T1838, Code 124, 51-T1870, 51-T1872, 51-T1874, 51-T1875, 51-T1876, Code 124	30-2570-62
C101A	Condenser, filter, 50 μf., 450v	Part of C101
C101B	Condenser, filter, 30 μf., 450v	Part of C101
C101	Condenser, 4-section, 51-T2134, Code 124, 51-T2136, Code 124, 51-T2138, Code 124, 51-T2175, Code 124, 51-T2176, Code 124	30-2584-3
C101A	Condenser, filter, 50 μf., 475v	Part of C101
C101B	Condenser, filter, 30 μf., 475v	Part of C101
C102	Condenser, bias filter, 10 μf., 25v	30-2417-8
C103	Condsener, line filter, .01 μf., 51-T1838, Code 124, 51-T1872, 51-T1874, 51-T1875, 51-T1876, Code 124, 51-T2135, Code 124, 51-T2176, Code 124	30-1226-1
C104	Condenser, line filter, .01 μf., 51-T1838, Code 124, 51-T1872, 51-T1874, 51-T1875, 51-T1876, Code 124, 51-T2135, Code 124, 51-T2176, Code 124	30-1226-1
C105	Condenser, d-c blocking, 500 μμf., 12,000-wv	30-1229-5
C106	Condenser, h-v filter, 500 μμf., 15,000-wv	30-1229-6
C107	Condenser, decoupling, .1 μf.	45-3505-47*
F100	Fuse, B supply, 6/10 ampere, delayed action	45-2656-18
F101	Fuse, filament supply	length of #26 copper wire
F102	Fuse, filament supply	length of #26 copper wire
I100	Lamp, channel lighting	34-2068
J100	Socket, a-c power	27-6240-1
J101	Socket, chassis power	27-6174
J102	Socket, channel-lamp power	27-6126
J103	Socket, radio chassis power, 51-T1838, Code 124, 51-T1872, 51-T1874, 51-T1875, 51-T1876, Code 124, 51-T2175, Code 124, 51-T2176, Code 124	27-6229-1
L100	Coil, filter choke, 1.5 henries	32-8479-2
L101	Coil, filter choke, 2.25 henries	32-8478
PL100	Plug, a-c power	Part of W100
PL101	Plug and cable, chassis power	41-3975-4
PL102	Plug, socket and cable ass'y., channel	76-6184
PL103	Plug, radio power, dummy, 51-T1838, Code 124, 51-T1870, 51-T2134, Code 124, 51-T2136, Code 124, 51-T2138, Code 124	Not available as an assembly
R100	Resistor, bias filter, 10,000 ohms	66-3108340*
R101	Resistor, filament dropping, 4.7 ohms	66-9474360*
R102	Resistor, pilot-lamp dropping, 10 ohms	66-0104340*

SECTION 1—POWER SUPPLY (Cont.)

Reference Symbol	Description	Service Part No.
R103	Resistor, filament-dropping cable	41-4025-1
R104	Resistor, filament dropping, 4.7 ohms, 51-T1836, Code 123, 51-T1838, Code 124	66-9474360*
R104	Resistor, balancing, 22 ohms, 51-T1838, Code 124, 51-T1870, 51-T1872, 51-T1874, 51-T1875, 51-T1876, Code 124, 51-T2134, Code 124, 51-T2136, Code 124, 51-T2138, Code 124, 51-T2175, Code 124, 51-T2176, Code 124	66-0228340*
R105	Resistor, diode return, 2 megohms, 51-T1836, Code 123	33-1352
R105	Resistor, voltage dropping, 500 ohms, 51-T1838, Code 124, 51-T1870, 51-T1874, 51-T1875, 51-T1876, Code 124, 51-T2134, Code 124, 51-T2136, Code 124, 51-T2138, Code 124, 51-T2175, Code 124, 51-T2176, Code 124	33-3445-4
R106	Resistor, diode return, 2 megohms, 51-T1836, Code 123	33-1352
R106	Resistor, voltage dropping, 400 ohms, 51-T1838, Code 124, 51-T1870, 51-T1872, 51-T1874, 51-T1875, 51-T1876, Code 124, 51-T2134, Code 124, 51-T2136, Code 124, 51-T2138, Code 124, 51-T2175, Code 124, 51-T2176, Code 124	33-3445-4
R107	Resistor, voltage divider, 100,000 ohms, 51-T1838, Code 124, 51-T1870, 51-T1872, 51-T1874, 51-T1875, 51-T1876, Code 124, 51-T2134, Code 124, 51-T2136, Code 124, 51-T2138, Code 124, 51-T2175, Code 124, 51-T2176, Code 124	66-4108340*
R108	Resistor, voltage divider, 150,000 ohms	66-4158340*
R109	Resistor, dropping, 600 ohms, 51-T1836, Code 123	33-3445-2
R109	Resistor, dropping, 5700 ohms, 51-T1838, Code 124, 51-T1870, 51-T1872, 51-T1874, 51-T1875, 51-T1876, Code 124	33-3446
R109	Resistor, dropping, 6300 ohms, 51-T2134, Code 124, 51-T2136, Code 124, 51-T2138, Code 124, 51-T2175, Code 124, 51-T2176, Code 124	33-3446-1
R110	Resistor, bias divider, 100,000 ohms, 51-T1836, Code 123	66-4108340*
R110	Resistor, filament dropping, 4.7 ohms, 51-T1838, Code 124, 51-T1870, 51-T1872, 51-T1874, 51-T1875, 51-T1876, Code 124, 51-T2134, Code 124, 51-T2136, Code 124, 51-T2138, Code 124, 51-T2175, Code 124, 51-T2176, Code 124	66-9474360*
R111	Resistor, decoupling, 22,000 ohms, 51-T1836, Code 123	66-3224340*
R111	Resistor, diode return, 2 megohms, 51-T1838, Code 124, 51-T1870, 51-T1872, 51-T1874, 51-T1875, 51-T1876, Code 124, 51-T2134, Code 124, 51-T2136, Code 124, 51-T2138, Code 124	33-1352
R112	Resistor, diode return, 2 megohms	33-1352
R113	Resistor, voltage dropping, 100 ohms	33-1335-105
R114	Resistor, filament dropping, .08 ohm	piece of #24 wire
R115	Resistor, filament dropping, .03 ohm	piece of #24 wire
R116	Resistor, 27,000 ohms, decoupling, 2 w	66-3275340*
S100	Switch, OFF-ON, 51-T1836, Code 123, 51-T1870, 51-T1872, 51-T1874, 51-T1875, 51-T2134, Code 124, 51-T2136, Code 124, 51-T2175, Code 124	Part of R416

REPLACEMENT PARTS LIST (Cont.)

SECTION 1—POWER SUPPLY (Cont.)

Reference Symbol	Description	Service Part No.
S100	Switch-and-bracket ass'y., OFF-ON, 51-T1838, Code 124, 51-T1876, Code 124	76-6441
S100	Switch-and-bracket ass'y., OFF-ON, 51-T2138, Code 124, 51-T2176, Code 124	76-6572
T100	Transformer, power, 51-T1836, Code 123	32-8481
T100	Transformer, power, 51-T1838, Code 124, 51-T1870, 51-T1872, 51-T1874, 51-T1875, 51-T1876, Code 124	32-8481
T100	Transformer, power, 51-T2134, Code 124, 51-T2136, Code 124, 51-T2138, Code 124, 51-T2175, Code 124, 51-T2176, Code 124	32-8488
T101	Transformer, remote power, 51-T1838, Code 124, 51-T1876, Code 124, 51-T2138, Code 124, 51-T2176, Code 124	32-8493
W100	Line cord	41-3865

SECTION 2—I.F.

Reference Symbol	Description	Service Part No.
C200	Condenser, a-g-c decoupling, 1500 μμf	62-2150010*
C201	Condenser, screen by-pass, 1500 μμf	62-215001011*
C202	Condenser, d-c blocking, 100 μμf	62-110009001*
C203	Condenser, fixed trimmer, 39 μμf	62-039409011*
C204	Condenser, a-g-c decoupling, 1500 μμf	62-215001011*
C205	Condenser, screen by-pass, 1500 μμf	62-215001011*
C206	Condenser, d-c blocking, 33 μμf	62-03300001
C207	Condenser, fixed trimmer, 22 μμf	62-022009001*
C208	Condenser, a-g-c decoupling, 1500 μμf	62-215001011*
C209	Condenser, screen by-pass, 1500 μμf	62-215011011*
C210	Condenser, a-g-c filter, .22 μf	45-3505-49*
C211	Condenser, by-pass, .22 μf	45-3505-49*
C212	Condenser, cathode by-pass, 1500 μμf	62-215001011*
C213	Condenser, d-c blocking, 470 μμf	62-147001001*
C214	Condenser, screen by-pass, 1500 μμf	62-215001011*
C215	Condenser, r-f by-pass, 1500 μμf	62-215001011*
C216	Condenser, d-c blocking, 56 μμf	62-056409001
C217	Condenser, i-f by-pass, 8 μμf	30-1224-13*
C218	Condenser, by-pass, .1 μf	45-3505-47*
J200	Socket, ALIGN TEST	27-6214
L200	Coil, 1st i-f plate tank	32-4486
L201	Coil, 28.1-mc. trap	32-4303-3
L202	Coil, 2nd i-f plate tank	32-4486
L203	Coil, 21.85-mc. trap	32-4496
L204	Coil, 3rd i-f primary	Part of T200
L205	Coil, 3rd i-f secondary	Part of T200
L206	Coil, r-f choke, filament decoupling	32-4112-15
L207	Coil, 4th i-f tank	32-4486
L208	Coil, series peaking, 40 microhenries	32-4143-16
L209	Coil, shunt peaking, 100 microhenries	32-4480-3
L210	Coil, r-f choke, filament decoupling	32-4112-15
L211	Coil, r-f choke, filament decoupling	32-4112-15
R200	Resistor, grid return, 15,000 ohms	66-3158340*
R201	Resistor, cathode bias, 68 ohms	66-0688340*
R202	Resistor, a-g-c decoupling, 330 ohms	66-1338340*
R203	Resistor, grid return, 12,000 ohms	66-3128340*
R204	Resistor, cathode bias, 68 ohms	66-0688340*
R205	Resistor, B plus decoupling, 330 ohms	66-1338340*
R206	Resistor, loading, 33,000 ohms	66-3338340*
R207	Resistor, a-g-c decoupling, 330 ohms	66-1338340*
R208	Resistor, grid return, 12,000 ohms	66-3128340*
R209	Resistor, B plus decoupling, 330 ohms	66-1338340*
R210	Resistor, cathode bias, 68 ohms	66-0688340*
R211	Resistor, a-g-c filter, 100,000 ohms	66-4108340*
R212	Resistor, loading, 8200 ohms	66-2828340*
R213	Resistor, B plus decoupling, 330 ohms	66-1338340*
R214	Resistor, cathode bias, 150 ohms	66-1154340*
R215	Resistor, plate feed, 6800 ohms	66-2688340*
R216	Resistor, r-f filter, 100,000 ohms	66-4108340*
R217	Resistor, a-g-c diode load, 330,000 ohms	66-4338340*
R218	Resistor, video-detector load, 3300 ohms	66-2338340*
R219	Resistor, decoupling, 330 ohms	66-1338340*
R220	Resistor, voltage divider, 1000 ohms	66-2108340*
R221	Resistor, voltage divider, 150,000 ohms	66-4158340*

SECTION 2—I.F. (Cont.)

Reference Symbol	Description	Service Part No.
T200	Transformer, 3rd i-f	32-4486-6
TC200	Tuning core, 1st i-f plate	Part of L200
TC201	Tuning core, 28.1-mc. trap	Part of L201
TC202	Tuning core, 2nd i-f plate	Part of L202
TC203	Tuning core, 21.85-mc. trap	Part of L203
TC204	Tuning core, 3rd i-f transformer	Part of T200
TC205	Tuning core, 4th i-f tank	Part of L207

SECTION 3—VIDEO

Reference Symbol	Description	Service Part No.
BB300	Beam bender, p-m	76-6077-1
C300	Condenser, fixed trimmer, 68 μμf	62-068409011*
C301	Condenser, d-c blocking, .047 μf	45-3505-62*
C302	Condenser, compensating, 56 μμf	62-056409001*
C303	Condenser, filter, 4-section, 51-T1838, Code 124, 51-T1870, 51-T1872, 51-T1874, 51-T1875, 51-T1876, Code 124, 51-T2175, Code 124, 51-T2176, Code 124, 51-T2134, Code 124, 51-T2136, Code 124, 51-T2138, Code 124	30-2570-41
C303A	Condenser, low-frequency compensating, 10 μf., 475v	Part of C303
C303B	Condenser, screen by-pass, 10 μf., 475v	Part of C303
C303C	Condenser, decoupling, 20 μf., 475v	Part of C303
C303	Condenser, filter, 4-section, 51-T1836, Code 123	30-2570-65
C303A	Condenser, low-frequency compensating, 10 μf., 350v	Part of C303
C303B	Condenser, screen by-pass, 10 μf., 350v	Part of C303
C303C	Condenser, decoupling, 20 μf., 350v	Part of C303
C304	Condenser, d-c blocking, .22 μf	45-3505-48*
C305	Condenser, cathode by-pass, 56 μμf	62-056409001*
C306	Condenser, d-c blocking, .047 μf	45-3505-62*
C307	Condenser, cathode by-pass, .47 μf	45-3500-4*
C308	Condenser, cathode by-pass, .0047 μf., 51-T1838, Code 124, 51-T1870, 51-T1872, 51-T1874, 51-T1875, 51-T1876, Code 124, 51-T2175, Code 124, 51-T2176, Code 124, 51-T2134, Code 124, 51-T2136, Code 124, 51-T2138, Code 124	45-3505-56*
C308	Condenser, decoupling, 35 μf., 450v, 51-T1836, Code 123, 51-T2134, Code 124	30-2570-25
C309	Condenser, video compensating, 56 μμf.	62-056409001*
C310	Condenser, cathode by-pass, .0047 μf., 51-T1836, Code 123	45-3505-56*
L300	Coil, 4.5-mc., trap	32-4463-5
L301	Coil, shunt peaking, 180 microhenries	32-4480-9
L302	Coil, series peaking, 125 microhenries	32-4480-8
L303	Coil, shunt peaking, 100 microhenries	32-4480-3
PMF300	PM focus ass'y., 51-T2134, Code 124, 51-T2136, Code 124, 51-T2138, Code 124, 51-T2175, Code 124, 51-T2176, Code 124	76-6126-4
PMF300	PM focus ass'y., 51-T1836, Code 123, 51-T1838, Code 124, 51-T1870, 51-T1872, 51-T1874, 51-T1875, 51-T1876, Code 124	76-6126-2
R300	Resistor, voltage divider, 8.2 megohms	66-5828340*
R301	Resistor, grid return, 1.2 megohms	66-5128340*
R302	Resistor, compensating, 2700 ohms	66-2278340*
R303	Resistor, plate load, 2700 ohms	66-2278340*
R304	Resistor, low-frequency compensating, 5600 ohms	66-2568340*
R305	Resistor, loading, 10,000 ohms	66-3108340*
R306	Resistor, voltage divider, 1.8 megohms	66-5188340*
R307	Resistor, grid return, 1.2 megohms	66-5128340*
R308	Resistor, shunting, 2200 ohms	66-2228340*
R309	Potentiometer, dual, 2500 ohms and 100,000 ohms, 51-T1872, 51-T1874, 51-T1875, 51-T2134, Code 124, 51-T2136, Code 124, 51-T2175, Code 124	33-5563-27

REPLACEMENT PARTS LIST (Cont.)

SECTION 3—VIDEO (Cont.)

Reference Symbol	Description	Service Part No.
R309	Potentiometer, dual, 2500 ohms and 100,000 ohms, 51-T1838, Code 124, 51-T1876, Code 124, 51-T2138, Code 124, 51-T2176, Code 124	33-5563-33
R309A	Potentiometer, CONTRAST control, 2500 ohms	Part of R309
R309B	Potentiometer, BRIGHTNESS control, 100,000 ohms	Part of R309
R310	Resistor, screen dropping, 10,000 ohms	66-3104340*
R311	Resistor, plate load, 1800 ohms, 5 w., 51-T1836, Code 123	33-1335-102
†R311	Resistor, plate load, 2200 ohms, 5 w	33-1335-97
R312	Resistor, grid return, 470,000 ohms	66-4478340*
R313	Resistor, cathode bias, 150,000 ohms	66-4158340*
R314	Resistor, voltage divider, 100,000 ohms	66-4104340
R315	Resistor, dropping, 1300 ohms, 9 w	33-3435-31
R316	Resistor, cathode bias, 100 ohms	66-1108340*
R317	Resistor, voltage dropping, 270 ohms	66-1274340*
TC300	Tuning core, 4.5-mc., trap	Part of L300

† This resistor is 2200 ohms in all models except 51-T1836, Code 123.

SECTION 4—SOUND

Reference Symbol	Description	Service Part No.
C400	Condenser, d-c blocking, 56 μμf	62-056409001*
C401	Condenser, decoupling, .01 μf	45-3505-58*
C402	Condenser, d-c blocking, 1500 μμf	62-215001011*
C403	Condenser, screen by-pass, .0033 μf	45-3505-55*
C404	Condenser, fixed trimmer	Part of Z401
C405	Condenser, fixed trimmer	Part of Z401
C406	Condenser, trimmer, balancing, 45—370 μμf.	31-6473-18
C407	Condenser, r-f by-pass, 1500 μμf	62-215001001*
C408	Condenser, tone compensating, .0022 μf	45-3505-54*
C409	Condenser, r-f by-pass, 330 μμf	60-10335407*
C410	Condenser, filter, 2 μf., 50v	30-2417-7
C411	Condenser, tone compensating, .015 μf	45-3505-59
C412	Condenser, d-c blocking, .01 μf., 51-T1836, Code 123, 51-T1870	45-3505-58
C412	Condenser, d-c blocking, .001 μf., 51-T1838, Code 124, 51-T1872, 51-T1874, 51-T1875, 51-T1876, Code 124, 51-T2175, 51-T2176, Code 124, 51-T2134, Code 124, 51-T2136, Code 124, 51-T2138, Code 124, 51-T2175, 51-T2176, Code 124	45-3505-52
C413	Condenser, d-c blocking, .0068 μf., 51-T1836, Code 123	45-3505-40
C413	Condenser, d-c blocking, .01 μf., 51-T1838, Code 124, 51-T1870, 51-T1872, 51-T1874, 51-T1875, 51-T1876, Code 124, 51-T2134, Code 124, 51-T2136, Code 124, 51-T2138, Code 124, 51-T2175, 51-T2176, Code 124	45-3505-57
C414	Condenser, screen by-pass, 10 μf., 350v, 51-T1836, Code 123	Part of C303
C414	Condenser, screen by-pass, 40 μf., 475v, 51-T1838, Code 124, 51-T1870, 51-T1872, 51-T1874, 51-T1875, 51-T1876, Code 124, 51-T2134, Code 124, 51-T2136, Code 124, 51-T2138, Code 124, 51-T2175, 51-T2176, Code 124	Part of C303
C415	Condenser, tone compensating, .015 μf., 51-T1836, Code 123	45-3505-59
C415	Condenser, tone compensating, .022 μf., 51-T1838, Code 124, 51-T1870, 51-T1872, 51-T1874, 51-T1875, 51-T1876, Code 124, 51-T2134, Code 124, 51-T2136, Code 124, 51-T2138, Code 124, 51-T2175, Code 124, 51-T2176, Code 124	45-3505-60
C416	Condenser, d-c blocking, .01 μf	45-3505-58
C417	Condenser, tone compensating, .0068 μf., 51-T1836, Code 123	45-3505-40

SECTION 4—SOUND (Cont.)

Reference Symbol	Description	Service Part No.
C417	Condenser, decoupling, .1 μf., 51-T1838, Code 124, 51-T1870, 51-T1872, 51-T1874, 51-T1875, 51-T1876, Code 124, 51-T2175, Code 124, 51-T2176, Code 124, 51-T2134, Code 124, 51-T2136, Code 124, 51-T2138, Code 124	45-3505-64
C418	Condenser, fixed trimmer, 51-T1836, Code 123	Part of Z400
C418	Condenser, filter, 3-section	30-2570-73
C418A	Condenser, cathode by-pass, 50 μf., 25v	Part of C418
C418B	Condenser, decoupling, 30 μf., 450v	Part of C418
C418C	Condenser, screen by-pass, 40 μf., 350v, 51-T1838, Code 124, 51-T1870, 51-T1872, 51-T1874, 51-T1875, 51-T1876, Code 124, 51-T2175, Code 124, 51-T2134, Code 124, 51-T2136, Code 124, 51-T2138, Code 124	Part of C418
C419	Condenser, tone compensating, .01μf	45-3505-58
C420	Condenser, r-f by-pass, 100 μμf., 51-T1836, Code 123	60-10105407
C420	Condenser, fixed trimmer, 51-T1838, Code 124, 51-T1870, 51-T1872, 51-T1874, 51-T1875, 51-T1876, Code 124, 51-T2134, Code 124, 51-T2136, Code 124, 51-T2138, Code 124, 51-T2175, Code 124, 51-T2176, Code 124	Part of Z400
J400	Socket, VOLUME control	27-6214
J401	Socket, speaker	27-6214
L400	Coil, 1st s-i-f	Part of Z400
L401	Coil, FM detector primary	Part of Z401
L402	Coil, FM detector tertiary	Part of Z401
L403	Coil, FM detector secondary	Part of Z401
LS400	Speaker, p-m, 51-T1836, Code 123, 51-T1838, Code 124, 51-T2134, Code 124, 51-T2136, Code 124, 51-T2138, Code 124, 51-T2175, Code 124, 51-T2176, Code 124	36-1611-7
LS400	Speaker, p-m, 51-T1870, 51-T-1872, 51-T1874	36-1640
LS400	Speaker, p-m, 51-T1876, Code 124, 51-T1875	36-1640-1
PL400	Plug, VOLUME control	27-4785-3
PL401	Plug, Speaker	27-4785-3
R400	Resistor, grid return, 120,000 ohms	66-4128340*
R401	Resistor, cathode bias, 150 ohms	66-1158340*
R402	Resistor, grid return, 680,000 ohms	66-4688340*
R403	Resistor, decoupling, 1000 ohms	66-2104340*
R404	Resistor, screen dropping, 12,000 ohms	66-4124340*
R405	Resistor, voltage divider, 22,000 ohms	66-3224340*
R406	Resistor, decoupling, 270 ohms	66-1278340
R407	Resistor, tone compensating, 22,000 ohms	66-3228340*
R408	Resistor, voltage divider, 27 ohms, 51-T1836, Code 124	66-0273340*
R408	Resistor, voltage divider, 15 ohms, 51-T1838, Code 124, 51-T1870, 51-T1872, 51-T1874, 51-T1875, 51-T1876, Code 124, 51-T2134, Code 124, 51-T2136, Code 124, 51-T2138, Code 124, 51-T2175, Code 124, 51-T2176, Code 124	66-0153340*
R409	Resistor, filter, 33,000 ohms	66-3338340*
R410	Resistor, grid return, 10 megohms	66-6108340*
R411	Resistor, voltage divider, 220 ohms, 51-T1836, Code 123	66-1223340*
R411	Resistor, voltage divider, 270 ohms, 51-T1838, Code 124, 51-T1870, 51-T1872, 51-T1874, 51-T1875, 51-T1876, Code 124, 51-T2134, Code 124, 51-T2136, Code 124, 51-T2138, Code 124, 51-T2175, Code 124, 51-T 2176, Code 124	66-1273340
R412	Resistor, plate load, 270,000 ohms	66-4278340*
R413	Resistor, grid return, 470,000 ohms	66-4478340*
R414	Resistor, cathode bias, 270 ohms, 51-T1836, Code 123	66-1274340*

REPLACEMENT PARTS LIST (Cont.)

SECTION 4—SOUND (Cont.)

Reference Symbol	Description	Service Part No.
R414	Resistor, cathode bias, 180 ohms, 51-T1838, Code 124, 51-T1870, 51-T1872, 51-T1874, 51-T1875, 51-T1876, Code 124, 51-T2134, Code 124, 51-T2136, Code 124, 51-T2138, Code 124, 51-T2175, Code 124, 51-T2176, Code 124	66-1184340*
R415	Resistor, screen dropping, 10,000 ohms, 51-T1836, Code 123	66-3104340*
R415	Resistor, screen dropping, 5600 ohms, 51-T1838, Code 124, 51-T1870, 51-T1872, 51-T1874, 51-T1875, 51-T1876, Code 124, 51-T2134, Code 124, 51-T2136, Code 124, 51-T2138, Code 124, 51-T2175, Code 124, 51-T2176, Code 124	66-2565340*
R416	Potentiometer, VOLUME control, dual, 5 megohms and 2 megohms, 51-T2134, Code 124, 51-T2136, Code 124, 51-T2175, Code 124	33-5563-36
R416	Potentiometer, VOLUME control, dual, 5 megohms and 2 megohms, 51-T2138, Code 124, 51-T2176, Code 124	33-5563-27
R416	Potentiometer, VOLUME control, dual, 5 megohms and 2 megohms, 51-T1836, Code 123, 51-T1870, 51-T1872, 51-T1874, 51-T1875	33-5563-28
R416	Potentiometer, VOLUME control, dual, 5 megohms and 2 megohms, 51-T1838, Code 124, 51-T1876, Code 124	33-5563-32
R416A	Potentiometer, VOLUME control, 2 megohms, tapped at 1 megohm	Part of R416
R416B	Potentiometer, TONE control, 5 megohms	Part of R416
R417	Resistor, tone compensating, 68,000 ohms	66-3688340*
R418	Resistor, decoupling, 100,000 ohms	66-4108340*
R419	Resistor, voltage divider, 33,000 ohms	66-3334340*
R420	Resistor, voltage divider, 18,000 ohms	66-3184340*
R421	Resistor, decoupling, 1100 ohms, 8 w	33-3435-33
T400	Transformer, audio output, 51-T1836, Code 123	32-8367-5
T400	Transformer, audio output, 51-T1838, Code 124, 51-T1870, 51-T1872, 51-T1874, 51-T1875, 51-T1876, Code 124	32-8483
T400	Transformer, audio output, 51-T2134, Code 124, 51-T2136, Code 124, 51-T2138, Code 124, 51-T2175, Code 124, 51-T2176, Code 124	32-8367-5
TC500	Tuning core, 1st s-i-f	Part of Z400
TC401	Tuning core, FM detector primary	Part of Z401
TC402	Tuning core, FM detector secondary	Part of Z401
Z400	Coil, 1st s-i-f assembly	32-4449A
Z401	Transformer, FM detector	32-4450-2

SECTION 5—R.F. (TV TUNER PART NO. 76-5747)

Reference Symbol	Description	Service Part No.
AD500	Aerial element (built-in broad-band dipole)	56-7635
C500	Condenser, fixed trimmer, 20 μμf.	62-020309011*
C501	Condenser, d-c blocking, 39 μμf.	62-039409011*
C502	Condenser, a-g-c by-pass, .01 μf.	30-1238-2
C503	Condenser, trimmer, r-f plate, .5—3 μμf.	31-6520-1
C504	Condenser, r-f screen by-pass, 470 μμf.	62-147001011*
C505	Condenser, d-c blocking, 220 μμf.	30-1225-11
C506	Condenser, B plus decoupling, 220 μμf.	30-1225-11
C507	Condenser, coupling, .68 μμf.	30-1221-11
C508	Condenser, coupling, 1.2 μμf.	30-1221-7
C509	Condenser, coupling, 3.3 μμf.	30-1221-9
C510	Condenser, fixed padder, 33 μμf.	62-033009001
C511	Condenser, trimmer, mixer, .5—3 μμf.	31-6520-1
C512	Condenser, oscillator injection, 1 μμf.	30-1224-7
C513	Condenser, B plus by-pass, 220 μμf.	30-1225-11

SECTION 5—R.F. (Cont.)

Reference Symbol	Description	Service Part No.
C514	Condenser, B plus by-pass, 1500 μμf.	30-1225-19
C515	Condenser, fixed trimmer, 15 μμf.	62-015409011*
C516	Condenser, d-c blocking, 470 μμf.	62-147001001*
C517	Condenser, trimmer, oscillator, .5—3 μμf.	31-6520-1
C518	Condenser, d-c blocking, 220 μμf.	30-1225-11
C519	Condenser, d-c blocking, 10 μμf.	30-1224-51
C520	Condenser (sleeve), FINE TUNING	76-5755
C521	Condenser, filament by-pass, 220 μμf.	30-1225-11
C522	Condenser, filament by-pass, 220 μμf.	30-1225-11
C523	Condenser, AERIAL TUNING	31-6523
L500	Coil, tapered line	Part of Z500
L501	Coil, tapered line	Part of Z500
L502	Coil, FM trap	32-4438-1
L503	Coil, r-f grid (Channel 2)	Part of WS500D(F)
L504	Coil, r-f grid (Channel 3)	Part of WS500D(F)
L505	Coil, r-f grid (Channel 4)	Part of WS500D(F)
L506	Coil, r-f grid (Channel 5)	Part of WS500D(F)
L507	Coil, r-f grid (Channel 6)	Part of WS500D(F)
L508	Coil, r-f grid (Channels 7 to 12)	Part of WS500D(F)
L509	Coil, r-f grid (Channel 13)	Part of WS500D(F)
†L510	Coil, r-f choke	Part of C504
L511	Coil, r-f choke, plate feed	32-4112-22
L512	Coil, r-f plate (Channel 2)	Part of WS500C(F)
L513	Coil, r-f plate (Channel 3)	Part of WS500C(F)
L514	Coil, r-f plate (Channel 4)	Part of WS500C(F)
L515	Coil, r-f plate (Channel 5)	Part of WS500C(F)
L516	Coil, r-f plate (Channel 6)	Part of WS500C(F)
L517	Coil, r-f plate (Channels 7 to 12)	Part of WS500C(F)
L518	Coil, r-f plate (Channel 13)	Part of WS500C(F)
L519	Coil, mixer grid (Channel 2)	Part of WS500B(F)
L520	Coil, mixer grid (Channel 3)	Part of WS500B(F)
L521	Coil, mixer grid (Channel 4)	Part of WS500B(F)
L522	Coil, mixer grid (Channel 5)	Part of WS500B(F)
L523	Coil, mixer grid (Channel 6)	Part of WS500B(F)
L524	Coil, mixer grid (Channels 7 to 12)	Part of WS500B(F)
L525	Coil, mixer grid (Channel 13)	Part of WS500B(F)
L526	Coil, r-f choke, plate feed	32-4112-2
L527	Coil, mixer plate (1st i-f)	32-4359-10
L528	Coil, oscillator (Channel 2)	Part of WS500A(F)
L529	Coil, oscillator (Channel 3)	Part of WS500A(F)
L530	Coil, oscillator (Channel 4)	Part of WS500A(F)
L531	Coil, oscillator (Channel 5)	Part of WS500A(F)
L532	Coil, oscillator (Channel 6)	Part of WS500A(F)
L533	Coil, oscillator (Channels 7 to 12)	Part of WS500A(F)
L534	Coil, oscillator (Channel 13)	Part of WS500A(F)
R500	Resistor, loading, 1800 ohms	66-2188340*
R501	Resistor, loading, 1200 ohms	66-2128340*
R502	Resistor, grid return, 4700 ohms	66-2478340*
R503	Resistor, a-g-c decoupling, 1 megohm	66-5108340*
R504	Resistor, screen dropping, 6800 ohms	66-2688340*
R505	Resistor, B plus decoupling, 330 ohms	66-1338340*
R506	Resistor, dropping, 2200 ohms	66-2228340*
R507	Resistor, grid return, 100,000 ohms	66-4108340*
R508	Resistor, grid return, 10,000 ohms	66-3108340*
R509	Resistor, B plus decoupling, 330 ohms	66-1338340*
R510	Resistor, loading, 10,000 ohms	66-3108340*
TB500	Terminal board	38-8689
TC500	Tuning core, FM trap	Part of L502
TC501	Tuning core, r-f grid (Channel 6)	Part of WS500D(F)
TC502	Tuning core, r-f grid (Channel 13)	Part of WS500D(F)
TC503	Tuning core, r-f plate (Channel 6)	Part of WS500C(F)
TC504	Tuning core, r-f plate (Channel 13)	Part of WS500C(F)
TC505	Tuning core, mixer grid (Channel 6)	Part of WS500B(F)
TC506	Tuning core, mixer grid (Channel 13)	Part of WS500B(F)
TC507	Tuning core, mixer plate (1st i-f)	Part of L527
TC508	Tuning core, oscillator (Channel 2)	Part of WS500A(F)
TC509	Tuning core, oscillator (Channel 4)	Part of WS500A(F)

REPLACEMENT PARTS LIST (Cont.)

SECTION 5—R.F. (Cont.)

Reference Symbol	Description	Service Part No.
TC510	Tuning core, oscillator (Channel 6)	Part of WS500A(F)
TC511	Tuning core, oscillator (Channel 7)	Part of WS500A(F)
TC512	Tuning core, oscillator (Channel 9)	Part of WS500A(F)
TC513	Tuning core, oscillator (Channel 11)	Part of WS500A(F)
TC514	Tuning core, oscillator (Channel 13)	Part of WS500A(F)
WS500	Wafer-switch assembly	Not supplied separately
WS500A(F)	Switch-wafer section, front (oscillator), with coils	76-5768
WS500A(R)	Switch-wafer section, rear (oscillator), with coils	Part of WS500A(F)
WS500B(F)	Switch-wafer section, front (mixer grid), with coils	76-5772
WS500B(R)	Switch-wafer section, rear (mixer grid), with coils	Part of WS500B(F)
WS500C(F)	Switch-wafer section, front (r-f plate), with coils	76-5770
WS500C(R)	Switch-wafer section, rear (r-f plate), with coils	Part of WS500C(F)
WS500D(F)	Switch-wafer section, front (r-f grid), with coils	76-5774
WS500D(R)	Switch-wafer section, rear (r-f grid), with coils	Part of WS500D(F)
Z500	Tapered line ass'y.	76-5767
Z501	Loop ass'y., aerial tuning, 51-T1836, Code 123, 51-T1876L, Code 123, 51-T1870, 51-T1874, 51-T1875	76-6220-1
Z502	Loop ass'y., aerial tuning, 51-T1872	76-6220-2

† L510 consists of 1¼ turns of the condenser lead, wrapped around itself, insulated with spaghetti.

MECHANICAL PARTS FOR TV TUNER PART NO. 76-5747

Description	Service Part No.
Ball bearing (2 used)	56-8020
Cam-and-shaft assembly (FINE TUNING)	76-5846
Lock washer, trimmer-condenser mtg.	W-1775-4
Plunger (FINE TUNING condenser)	56-8034
Screw, trimmer-condenser core	2W10617
Shaft	56-8018
Shield, 6BC6 tube	56-3979
Shield, 12AV7 tube	56-5629-3
Spring, cam shaft	56-8254
Spring, detent	56-8019
Spring-and-bracket ass'y. (FINE TUNING condenser grounding)	76-5961
Spring, plunger (FINE TUNING condenser)	56-8034
Plate-and-bracket ass'y., front	76-5924
Washer, "C," shaft retaining	56-8061

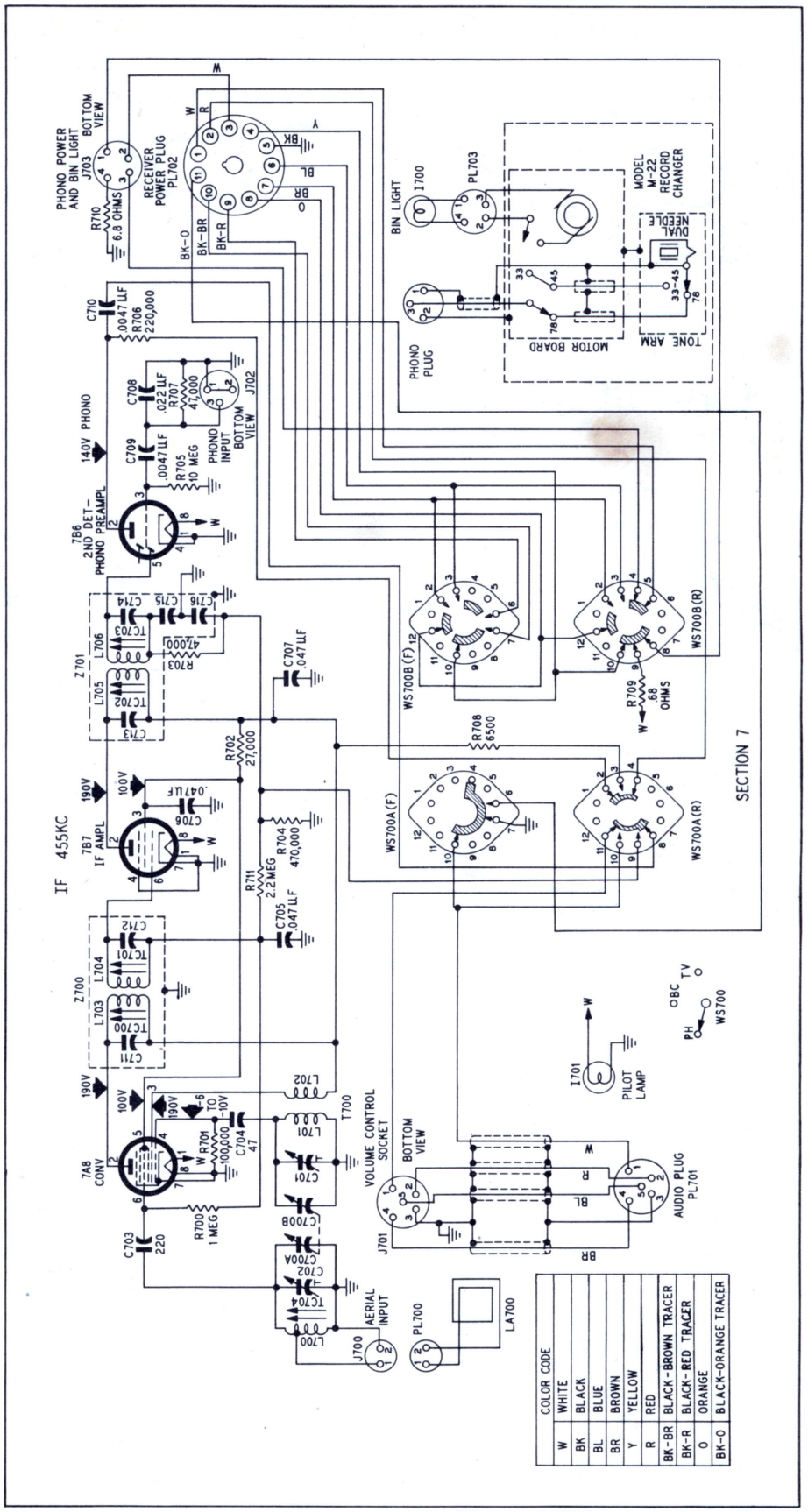
SECTION 5—R.F. (TV TUNERS PART NO. 76-6440-1 and 76-6481-1)

Reference Symbol	Description	Service Part No.
AD500	Aerial element (built-in broad-band dipole)	56-7635
C500	Condenser, fixed trimmer, 20 μμf	62-020309011
C501	Condenser, fixed padder, 5 μμf	30-1221-13
C502	Condenser, fixed padder, 10 μμf	62-010409001
C503	Condenser, d-c blocking, 220 μμf	30-1225-11
C504	Condenser, neutralizing, 3.3 μμf	30-1221-9
C505	Condenser, a-g-c decoupling, 220 μμf	30-1225-11
C506	Condenser, trimmer, r-f plate, .5—3 μμf	31-6520-1
C507	Condenser, grid by-pass, 220 μμf	30-1225-11
C508	Condenser, grid by-pass, 220 μμf	30-1225-11
C509	Condenser, d-c blocking, 220 μμf	30-1225-11
C510	Condenser, plate decoupling, 220 μμf	30-1225-11
C511	Condenser, coupling, .56 μμf	30-1221-16
C512	Condenser, coupling, 1.5 μμf	30-1221-8
C513	Condenser, d-c blocking, 33 μμf	62-0330090011

SECTION 5—R.F. (TV TUNERS PART NO. 76-6440-1 and 76-6481-1 (Cont.)

Reference Symbol	Description	Service Part No.
C514	Condenser, coupling, 5 μμf	30-1221-13
C515	Condenser, trimmer, mixer grid, .5—3 μμf	31-6520-1
C516	Condenser, oscillator injection, 1 μμf	30-1224-71
C517	Condenser, fixed trimmer, 15 μμf	62-015409011*
C518	Condenser, plate decoupling, 1500 μμf	30-1225-19
C519	Condenser, d-c blocking, 470 μμf	62-147001001
C520	Condenser, plate decoupling, 220 μμf	30-1225-11
C521	Condenser, trimmer, oscillator, .5—3 μμf	31-6520-1
C522	Condenser, d-c blocking, 220 μμf	30-1225-11
C523	Condenser, d-c blocking, 10 μμf	30-1224-48
C524	Condenser (sleeve), FINE TUNING	76-5755
C525	Condenser, filament decoupling, 220 μμf	30-1225-11
C526	Condenser, filament by-pass, 220 μμf	30-1225-11
C527	Condenser, AERIAL TUNING	
L500	Coil, tapered line	Part of Z500
L501	Coil, tapered line	Part of Z500
L502	Coil, FM trap	32-4438-2
L503	Coil, r-f grid (Channel 2)	Part of WS500E(F)
L504	Coil, r-f grid (Channel 3)	Part of WS500E(F)
L505	Coil, r-f grid (Channel 4)	Part of WS500E(F)
L506	Coil, r-f grid (Channel 5)	Part of WS500E(F)
L507	Coil, r-f grid (Channel 6)	Part of WS500E(F)
L508	Coil, r-f grid (Channels 7 to 12)	Part of WS500E(F)
L509	Coil, r-f grid (Channel 13)	Part of WS500E(F)
L510	Coil, r-f choke, plate feed	32-4112-22
L511	Coil, r-f plate (Channel 2)	Part of WS500C(F)
L512	Coil, r-f plate (Channel 3)	Part of WS500C(F)
L513	Coil, r-f plate (Channel 4)	Part of WS500C(F)
L514	Coil, r-f plate (Channel 5)	Part of WS500C(F)
L515	Coil, r-f plate (Channel 6)	Part of WS500C(F)
L516	Coil, r-f plate (Channels 7 to 12)	Part of WS500C(F)
L517	Coil, r-f plate (Channel 13)	Part of WS500C(F)
L518	Coil, mixer grid (Channel 2)	Part of WS500B(F)
L519	Coil, mixer grid (Channel 3)	Part of WS500B(F)
L520	Coil, mixer grid (Channel 4)	Part of WS500B(F)
L521	Coil, mixer grid (Channel 5)	Part of WS500B(F)
L522	Coil, mixer grid (Channel 6)	Part of WS500B(F)
L523	Coil, mixer grid (Channels 7 to 12)	Part of WS500B(F)
L524	Coil, mixer grid (Channel 13)	Part of WS500B(F)
L525	Coil, r-f choke, plate feed	32-4112-22
L526	Coil, mixer plate (1st i-f)	32-4359-10
L527	Coil, oscillator (Channel 2)	Part of WS500A(F)
L528	Coil, oscillator (Channel 3)	Part of WS500A(F)
L529	Coil, oscillator (Channel 4)	Part of WS500A(F)
L530	Coil, oscillator (Channel 5)	Part of WS500A(F)
L531	Coil, oscillator (Channel 6)	Part of WS500A(F)
L532	Coil, oscillator (Channels 7 to 12)	Part of WS500A(F)
L533	Coil, oscillator (Channel 13)	Part of WS500A(F)
L534	Coil, r-f choke (bifilar), filament decoupling	32-4503
R500	Resistor, discharge, 10,000 ohms	66-3108340*
R501	Resistor, loading, 6800 ohms	66-2688340*
R502	Resistor, grid return, 470,000 ohms	66-4478340*
R503	Resistor, a-g-c decoupling, 330 ohms	66-1338340*
R504	Resistor, grid return, 470,000 ohms	66-4478340*
R505	Resistor, plate decoupling, 330 ohms	66-1338340*
R506	Resistor, grid return, 100,000 ohms	66-4108340*
R507	Resistor, plate decoupling, 330 ohms	66-1338340*
R508	Resistor, plate dropping, 220 ohms	66-2228340*
R509	Resistor, grid return, 10,000 ohms	66-3108340*
R510	Resistor, voltage dropping, 4700 ohms, 2 w	66-2475340*
R511	Resistor, voltage dropping, 15,000 ohms, 2 w	66-3155340*
TB500	Terminal board	38-8689
TC500	Tuning core, FM trap	Part of L502
TC501	Tuning core, r-f grid (Channel 4)	Part of WS500E(F)
TC502	Tuning core, r-f grid (Channel 6)	Part of WS500E(F)
TC503	Tuning core, r-f grid (Channel 13)	Part of WS500E(F)
TC504	Tuning core, r-f plate (Channel 6)	Part of WS500C(F)

(Continued on page 28)



TPO-1458

Figure 22. Schematic Diagram, Radio AM Tuner RT-4, Used in Models 51-T1872, 51-T1874, and 51-T1874L

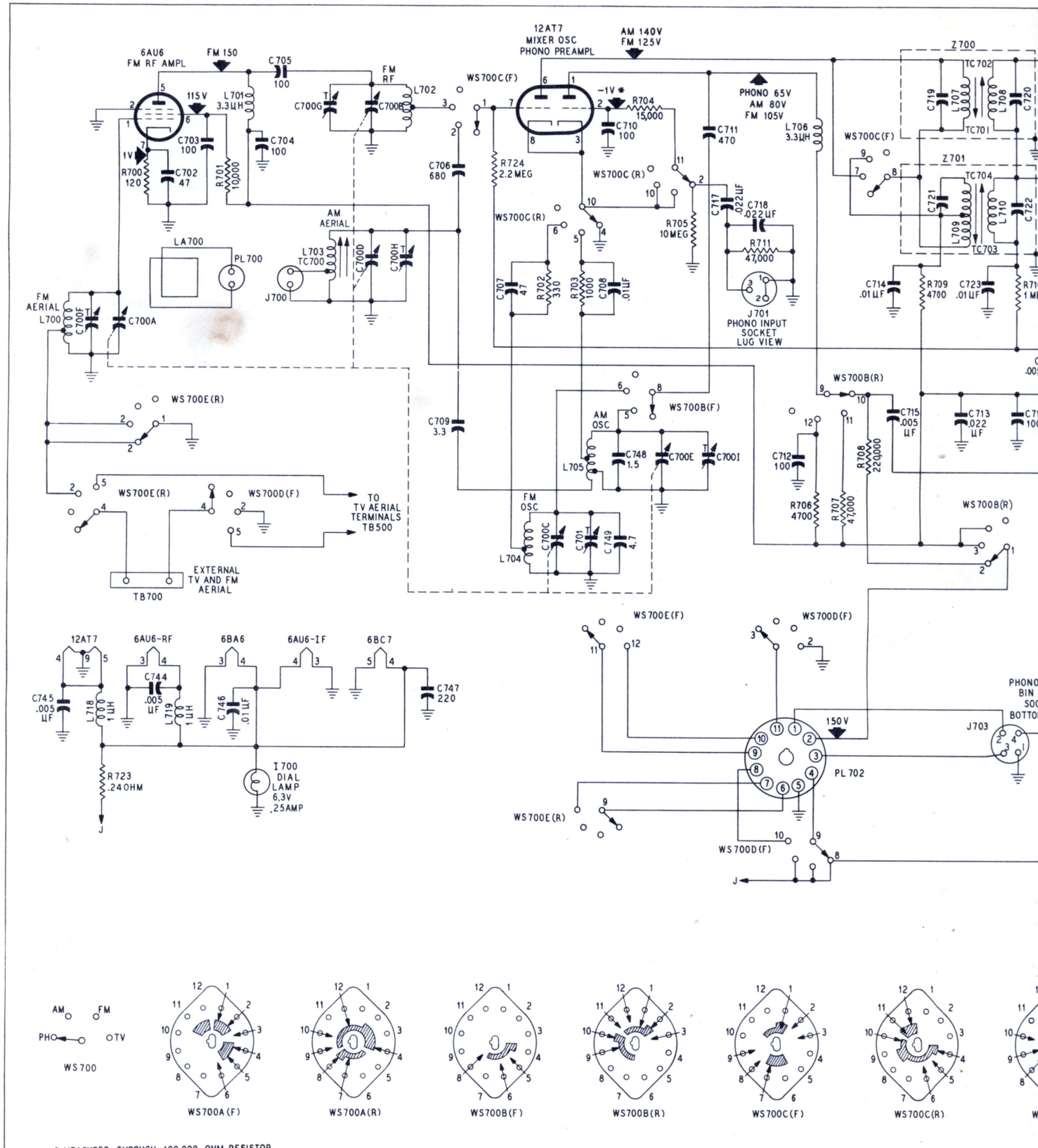
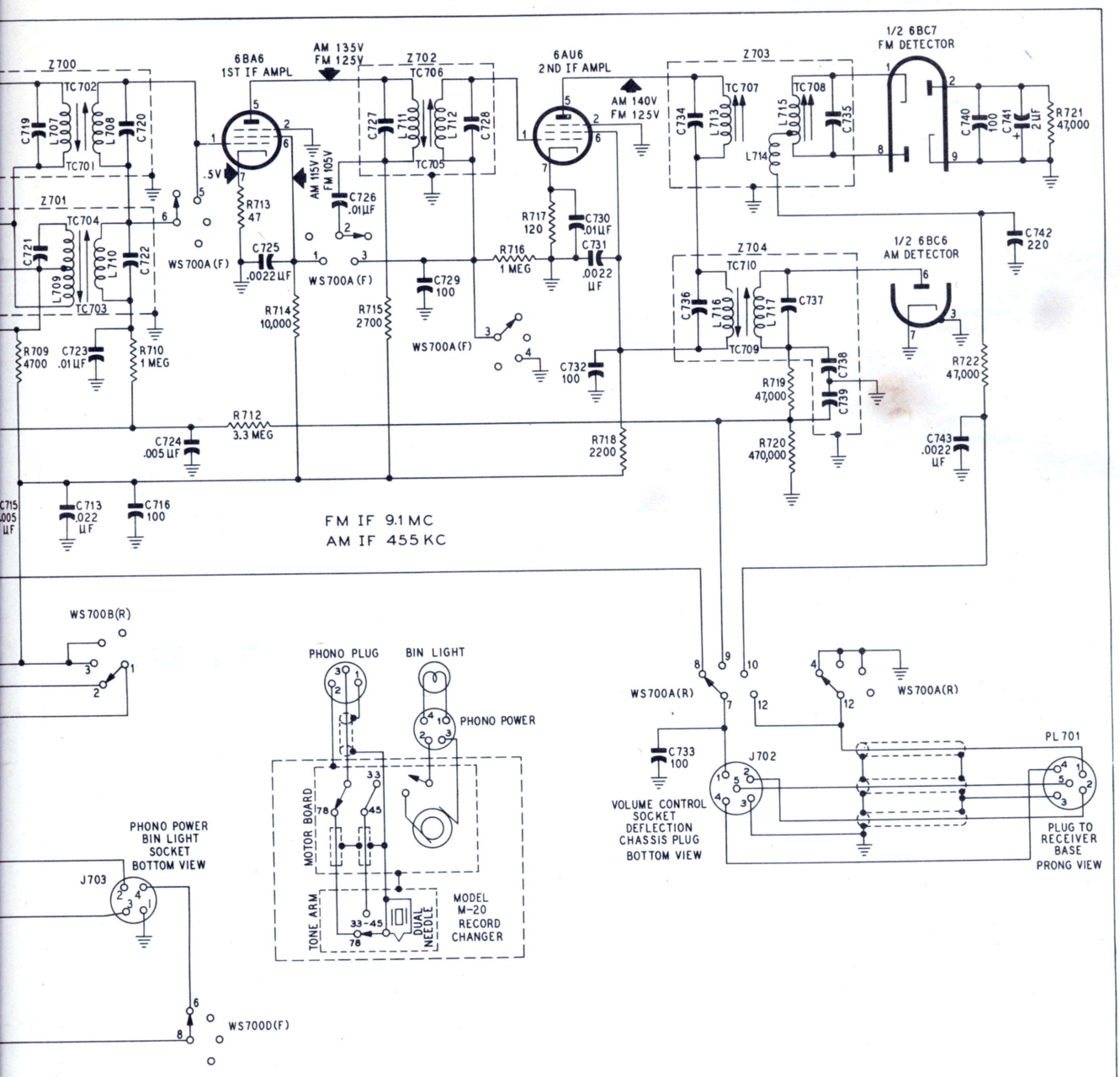
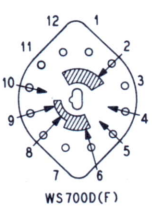
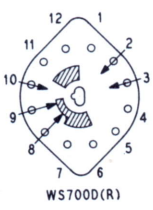


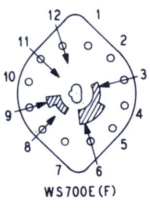
Figure 23. Schematic Diagram, Radio AM-FM Tuner RT-2, Used in Models 51-T1875, 51-T187




WS700C(R)


WS700D(F)


WS700D(R)


WS700E(F)


WS700E(R)

COLOR CODE	
W	WHITE
BK	BLACK
BL	BLUE
BR	BROWN
Y	YELLOW
R	RED
BK-BR	BLACK-BROWN TRACER
BK-R	BLACK-RED TRACER
O	ORANGE

TPO-1793

REPLACEMENT PARTS LIST (Cont.)

SECTION 5—R.F. (TV TUNERS PART NO. 76-6440-1 and 76-6481-1 (Cont.)

Reference Symbol	Description	Service Part No.
TC505	Tuning core, r-f plate (Channel 13)	Part of WS500C(F)
TC506	Tuning core, mixer grid (Channel 6)	Part of WS500B(F)
TC507	Tuning core, mixer grid (Channel 13)	Part of WS500B(F)
TC508	Tuning core, 1st i-f	Part of L526
TC509	Tuning core, oscillator (Channel 2)	Part of WS500A(F)
TC510	Tuning core, oscillator (Channel 4)	Part of WS500A(F)
TC511	Tuning core, oscillator (Channel 6)	Part of WS500A(F)
TC512	Tuning core, oscillator (Channel 7)	Part of WS500A(F)
TC513	Tuning core, oscillator (Channel 9)	Part of WS500A(F)
TC514	Tuning core, oscillator (Channel 11)	Part of WS500A(F)
TC515	Tuning core, oscillator (Channel 13)	Part of WS500A(F)
WS500	Wafer-switch assembly	Not Supplied
WS500A(F)	Switch-wafer section (oscillator), with coils	76-5768
WS500A(R)	Switch-wafer section (oscillator), with coils	Part of WS500A(F)
WS500B(F)	Switch-wafer section (mixer grid), with coils	76-6468
WS500B(R)	Switch-wafer section (mixer grid), with coils	Part of WS500B(F)
WS500C(F)	Switch-wafer section (r-f plate), with coils	76-6469
WS500C(R)	Switch-wafer section (r-f plate), with coils	Part of WS500C(F)
WS500D(F)	Switch-wafer section (r-f grid)	76-6461
WS500D(R)	Switch-wafer section (r-f grid)	Part of WS500D(F)
WS500E(F)	Switch-wafer section (r-f grid), with coils	76-6463
WS500E(R)	Switch-wafer section (r-f grid), with coils	Part of WS500E(F)
Z500	Tapered-line ass'y.	76-6459
Z501	Loop ass'y., aerial tuning, 51-T1838, Code 124, 51-T1876, Code 124, 51-T2134, Code 124	76-6220-1
Z501	Loop ass'y., aerial tuning, 51-T2136, Code 124, 51-T2138, Code 124, 51-T2175, Code 124, 51-T2176, Code 124	76-6220-2

MECHANICAL PARTS FOR TV TUNER PART NO. 76-6440-1

Description	Service Part No.
Ball bearing (2 used)	56-8020
Cam-and-shaft ass'y. (FINE TUNING)	76-5846
Lock washer, trimmer-condenser mtg.	W-1775-3
Plunger (FINE TUNING condenser)	56-8034
Screw, trimmer-condenser core	2W10617
Shaft	56-8018-4
Shield, tube	56-5629-3FA3
Spring cam shaft	56-8254
Spring detent	56-8019
Spring-and-bracket ass'y. (FINE TUNING condenser grounding)	76-5961-1
Spring, plunger (FINE TUNING condenser)	56-8035-1
Plate-and-bracket ass'y., front	76-5924
Washer, "C," shaft retaining	56-8061

MECHANICAL PARTS FOR TV TUNER PART NO. 76-6481-1

Description	Service Part No.
Cam-and-shaft ass'y. (FINE TUNING)	76-5846-3
Lock washer, trimmer-condenser mtg.	W-1775-3
Plunger (FINE TUNING condenser)	56-8034

MECHANICAL PARTS FOR TV TUNER PART NO. 76-6481-1 (Cont.)

Description	Service Part No.
Screw (trimmer-condenser core)	2W10617
Shaft	56-8630
Shield, tube	56-5629-3FA3
Spring, cam shaft	56-8254
Spring-and-bracket ass'y. (FINE TUNING condenser grounding)	76-5961-1
Spring, plunger (FINE TUNING condenser)	56-8035-1
Plate-and-bracket assy., front	76-5924

MECHANICAL PARTS FOR REMOTE CONTROL DRIVE

Description	Service Part No.
Bracket ass'y., rear	76-6422
Bracket ass'y. (bottom), rear bracket mounting	76-6419
Centering lever ass'y.	76-6421
Detent plate ass'y.	76-6420
Pinion (drive)	56-8628
Pinion (idler)	56-8628-1
Roller (detent)	56-8597
Spring (detent)	56-8817
Spacer, bushing (centering lever)	56-8604
Spring, shaft grounding	56-8023
Switch handle bushing	56-8592
Washer, "E," pinion mtg.	1W60977FE7
Washer, brass (centering lever)	56-8603
Washer, steel (detent plate)	56-8812

SECTION 6—SYNC AND DEFLECTION

Reference Symbol	Description	Service Part No.
C600	Condenser, d-c blocking, .022 μf.	45-3505-60
C601	Condenser, d-c blocking, 180 μμf.	30-1224-5
C602	Condenser, d-c blocking, .015 μf.	45-3505-59
C603	Condenser, d-c blocking, .047μf.	45-3505-62
C604	Condenser, d-c blocking, .01 μf.	45-3505-58
C605	Condenser, integrating, .0047 μf.	45-3505-56
C606	Condenser, integrating, .022 μf.	45-3505-60
C607	Condenser, d-c blocking, .047 μf.	45-3505-62
C608	Condenser, sweep charging, .047 μf.	45-3505-62
C609A	Condenser, decoupling, 10 μf., 400v, 51-T1836, Code 123, 51-T1838, Code 124, 51-T1870, 51-T1872, 51-T1874, 51-T1875, 51-T1876, Code 124	Part of C101
C609A	Condenser, decoupling, 20 μf., 300v, 51-T2134, Code 124, 51-T2136, Code 124, 51-T2138, Code 124, 51-T2175, Code 124, 51-T2176, Code 124	Part of C101
C609B	Condenser, cathode by-pass, 30 μf., 25v, 51-T1836, Code 123, 51-T1838, Code 124, 51-T1870, 51-T1872, 51-T1874, 51-T1875, 51-T1876, Code 124	Part of C101
C609B	Condenser, decoupling, 20 μf., 300v, 51-T2134, Code 124, 51-T2136, Code 124, 51-T2138, Code 124, 51-T2175, Code 124, 51-T2176, Code 124	Part of C101
C610	Condenser, voltage divider, 120 μμf.	60-10125237*
C611	Condenser, d-c blocking, .0022 μμf.	45-3505-54*
C612	Condenser, trimmer, lockin, 45—370 μμf.	31-6473-22
C613	Condenser, filter, .15 μf.	45-3505-48*
C614	Condenser, cathode by-pass, .022 μf.	45-3505-43*
C615	Condenser, plate-by-pass, .047 μf.	45-3505-62*
C616	Condenser, d-c blocking, 180 μμf., 1000v	30-1244-5
C617	Condenser, fixed trimmer, .01 μf., silver mica	60-30103404*
C618	Condenser, sweep charging, 1200 μμf.	60-20125404*
C619	Condenser, d-c blocking, 220 μμf.	60-10225417
C620	Condenser, sweep feedback, 10 μμf.	30-1244
C621	Condenser, sweep delay, 150 μμf., silver mica	60-10155407*
C622	Condenser, feedback, 33 μμf., 1000v	30-1244-6

REPLACEMENT PARTS LIST (Cont.)

SECTION 6—SYNC AND DEFLECTION (Cont.)

Reference Symbol	Description	Service Part No.
C623	Condenser, screen by-pass, .047 μf.	45-3505-62*
C624	Condenser, shaping, .033 μf.	45-3505-61*
C625	Condenser, shaping .1 μf.	45-3505-64*
C626	Condenser, shaping, .0033 μf., 51-T1836, Code 123	45-3505-55*
C626	Condenser, fixed trimmer, .0047 μf., 51-T1838, Code 124, 51-T1870, 51-T1872, 51-T1874, 51-T1875, 51-T1876, Code 124, 51-T2134, Code 124, 51-T2136, Code 124, 51-T2138, Code 124, 51-T2175, Code 124, 51-T2176, Code 124	45-3505-56*
C627	Condenser, d-c blocking, .47 μf.	45-3505-34*
C628	Condenser, shaping, .1 μf., 51-T1836, Code 123	45-3505-64*
C628	Condenser, damping, 120 μμf., 51-T1838, Code 124, 51-T1870, 51-T1872, 51-T1874, 51-T1875, 51-T1876, Code 124, 51-T2134, Code 124, 51-T2136, Code 124, 51-T2138, Code 124, 51-T2175, Code 124, 51-T2176, Code 124	30-1243-1
C629	Condenser, damping, 120 μμf., 51-T1836, Code 123	30-1243-1
C629	Condenser, filter, 10 μf., 450v, 51-T1838, Code 124, 51-T1870, 51-T1872, 51-T1874, 51-T1875, 51-T1876, Code 124	30-2568-46
C629	Condenser, filter, 20 μf., 300v, 51-T2134, Code 124, 51-T2136, Code 124, 51-T2138, Code 124, 51-T2175, Code 124, 51-T2176, Code 124	30-2417-18
C630	Condenser, trimmer, drive, 45—370 μμf.	31-6473-22
C631	Condenser, B plus decoupling, 10 μf., 475v, 51-T1836, Code 123	30-2417-19
C631	Condenser, d-c blocking, .001 μf., 51-T1838, Code 124, 51-T1870, 51-T1872, 51-T1874, 51-T1875, 51-T1876, Code 124, 51-T2134, Code 124, 51-T2136, Code 124, 51-T2138, Code 124, 51-T2175, Code 124, 51-T2176, Code 124	45-3505-52*
C632	Condenser, d-c blocking, .015 μf., 51-T1836, Code 123	45-3505-59*
C632	Condenser, loading, .0033 μf., 51-T1838, Code 124, 51-T1870, 51-T1872, 51-T1874, 51-T1875, 51-T1876, Code 124, 51-T2134, Code 124, 51-T2136, Code 124, 51-T2138, Code 124, 51-T2175, Code 124, 51-T2176, Code 124	45-3505-55*
C633	Condenser, d-c blocking, .0047 μf., 51-T1836, Code 123	45-3505-56*
C633	Condenser, horizontal shaping, .22 μf., 51-T1838, Code 124, 51-T1870, 51-T1872, 51-T1874, 51-T1875, 51-T1876, Code 124, 51-T2134, Code 124, 51-T2136, Code 124, 51-T2138, Code 124, 51-T2175, Code 124, 51-T2176, Code 124	45-3505-49*
C634	Condenser, fixed trimmer, .001 μf., 51-T1836, Code 123, 51-T1838, Code 124, 51-T1870, 51-T1872, 51-T1874, 51-T1875, 51-T1876, Code 124	45-3505-52*
		45-3505-59*
C635	Condenser, vertical shaping, .015 μf.	30-2417-18
C636	Condenser, decoupling, 20 μf., 300v	30-2417-9
C637	Condenser, cathode by-pass, 25 μf., 25v	27-6126
J600	Socket, HORIZ. TEST	27-6257
J601	Socket, deflection	Part of T602
L600	Coil, horizontal blocking oscillator	Part of T602
L601	Coil, horizontal stabilization	32-4480
L602	Coil, anti-ringing, 150 microhenries	32-4468-6
L603	Coil, width, 51-T1836, Code 123, 51-T1838, Code 124, 51-T1870, 51-T1872, 51-T1874, 51-T1875, 51-T1876, Code 124	32-4505
L603	Coil, width	32-4501-1
L604	Coil, horizontal linearity	Part of Z600
L605	Coil, vertical deflection	Part of Z600
L606	Coil, vertical deflection	Part of Z600
L607	Coil, horizontal deflection	Part of Z600
L608	Coil, horizontal deflection	

SECTION 6—SYNC AND DEFLECTION (Cont.)

Reference Symbol	Description	Service Part No.
L609	Coil, suppressor, 10 microhenries	32-4112-24
PL600	Plug-and-cable ass'y., deflection, 51-T1836, Code 123, 51-T1838, Code 124, 51-T1870, 51-T1872, 51-T1874, 51-T1875, 51-T1876, Code 124	41-4039-2
PL600	Plug-and-cable ass'y., deflection, 51-T2134, Code 124, 51-T2136, Code 124, 51-T2138, Code 124, 51-T2175, Code 124, 51-T2176, Code 124	41-4039-4
R600	Resistor, grid return, 1.2 megohms	66-5128340*
R601	Resistor, cathode load, 10,000 ohms	66-3108340*
R602	Resistor, voltage divider, 15,000 ohms	66-3158340*
R603	Resistor, voltage divider, 100,000 ohms	66-4108340*
R604	Resistor, grid return, 6.8 megohms	66-5688340*
R605	Resistor, compensating, 270,000 ohms	66-4278340*
R606	Resistor, voltage divider, 240,000 ohms	66-4228340*
R607	Resistor, voltage divider, 39,000 ohms	66-3398340*
R608	Resistor, plate load, 15,000 ohms, 2 w	66-3155340*
R609	Resistor, video filter, 10,000 ohms	66-3108340*
R610	Resistor, grid return, 1 megohm	66-5108340*
R611	Resistor, voltage divider, 10,000 ohms	66-3108340*
R612	Resistor, voltage divider, 4700 ohms	66-2478340*
R613	Resistor, integrating, 4700 ohms	66-2478340*
R614	Resistor, integrating, 4700 ohms	66-2478340*
R615	Resistor, limiting, 180,000 ohms	66-4188340*
R616	Potentiometer, dual, 250,000 ohms and 75,000 ohms	33-5563-35
R616A	Potentiometer, VERT. HOLD, 250,000 ohms	Part of R616
R616B	Potentiometer, HORIZ. HOLD, 75,000 ohms	Part of R616
R617	Resistor, loading, 15,000 ohms	66-3158340*
R618	Resistor, sweep charging, 680,000 ohms	66-4684340*
R619	Potentiometer, HEIGHT, 2.5 megohms	33-5565-10
R620	Resistor, compensating, 8200 ohms, 51-T1836, Code 123, 51-T1838, Code 124, 51-T1870, 51-T1872, 51-T1874, 51-T1875, 51-T1876, Code 124	66-2828340*
R620	Resistor, compensating, 3300 ohms, 51-T2134, Code 124, 51-T2136, Code 124, 51-T2138, Code 124, 51-T2175, Code 124, 51-T2176, Code 124	66-2338340*
R621	Resistor, grid return, 2.2 megohms	66-5228340*
R622	Potentiometer, VERT. LIN., 5000 ohms	33-5546-10
R623	Resistor, limiting, 470 ohms	66-1478340*
R624	Resistor, decoupling, 5100 ohms, 5 w	33-1335-18
R625	Resistor, damping, 1000 ohms	66-2108340*
R626	Resistor, damping, 1000 ohms	66-2108340*
R627	Resistor, grid return, 820,000 ohms ±5%	66-4824240*
R628	Resistor, cathode return, 470,000 ohms	66-4474340*
R629	Resistor, cathode filter, 8200 ohms	66-2828340*
R630	Resistor, coupling, 330,000 ohms ±5%	66-4334240*
R631	Resistor, grid return, 3.3 megohms ±5%	66-5334240*
R632	Resistor, grid return, 560,000 ohms ±5%	66-4564240*
R633	Resistor, phase shifting, 22,000 ohms	66-3228340*
R634	Resistor, voltage divider, 82,000 ohms	66-3824340*
R635	Resistor, voltage divider, 47,000 ohms	66-3474340*
R636	Resistor, loading, 6800 ohms	66-2688340*
R637	Resistor, loading, 22,000 ohms	66-3228340*
R638	Resistor, sweep feedback, 220,000 ohms	66-4224340*
R639	Resistor, sweep charging, 33,000 ohms	66-3334340*
R640	Resistor, special high-voltage, sweep feedback, 1 megohm	33-1350
R641	Resistor, grid return, 470,000 ohms	66-4478340*
R642	Resistor, suppressor, 100 ohms	66-1104340*
R643	Resistor, screen dropping, 15,000 ohms, 5 w, 51-T1836, Code 123, 51-T1838, Code 124, 51-T1870, 51-T1872, 51-T1874, 51-T1875, 51-T1876, Code 124	33-1335-23
R643	Resistor, screen dropping, 12,000 ohms, 5 w, 51-T2134, Code 124, 51-T2136, Code 124, 51-T2138, Code 124, 51-T2175, Code 124, 51-T2176, Code 124	33-1335-103
R644	Resistor, damping, 100,000 ohms, 51-T1836, Code 123	66-4108340*

REPLACEMENT PARTS LIST (Cont.)

SECTION 6—SYNC AND DEFLECTION (Cont.)

Reference Symbol	Description	Service Part No.
R644	Resistor, loading, 470 ohms, 2 w, 51-T1838, Code 124, 51-T1870, 51-T1872, 51-T1874, 51-T1875, 51-T1876, Code 124, 51-T2134, Code 124, 51-T2136, Code 124, 51-T2138, Code 124, 51-T2175, Code 124, 51-T2176, Code 124	66-1475340*
R645	Resistor, damping, 2700 ohms	66-2274340*
R646	Resistor, centering, 390 ohms	66-1394340*
R647	Resistor, loading, 470 ohms, 51-T1836, Code 123	66-1474340*
R647	Resistor, voltage divider, 18,000 ohms, 51-T1838, Code 124, 51-T1870, 51-T1872, 51-T1874, 51-T1875, 51-T1876, Code 124, 51-T2134, Code 124, 51-T2136, Code 124, 51-T2138, Code 124, 51-T2175, Code 124, 51-T2176, Code 124	66-3184340*
R648	Resistor, voltage divider, 47,000 ohms	66-3478340*
R649	Resistor, B plus decoupling, 18,000 ohms, 2 w, 51-T1836, Code 123	66-3184340*
R649	Resistor, shaping, 100,000 ohms, 51-T1838, Code 124, 51-T1870, 51-T1872, 51-T1874, 51-T1875, 51-T1876, Code 124, 51-T2134, Code 124, 51-T2136, Code 124, 51-T2138, Code 124, 51-T2175, Code 124, 51-T2176, Code 124	66-4108340*
R650	Resistor, discharging, 220,000 ohms	66-4224340*
R651	Resistor, discharging, 220,000 ohms	66-4224340*
R652	Resistor, discharging, 220,000 ohms	66-4224340*
R653	Resistor, discharging, 220,000 ohms	66-4224340
T600	Transformer, vertical blocking oscillator	32-8431*
T601	Transformer, vertical sweep output, 51-T2134, Code 124, 51-T2136, Code 124, 51-T2138, Code 124, 51-T2175, Code 124, 51-T2176, Code 124	32-8454
T601	Transformer, vertical sweep output, 51-T1836, Code 123, 51-T1838, Code 124, 51-T1870, 51-T1872, 51-T1874, 51-T1875, 51-T1876, Code 124	32-8454
T602	Transformer, horizontal blocking oscillator	32-4506
T603	Transformer, horizontal output, 51-T2134, Code 124, 51-T2136, Code 124, 51-T2138, Code 124, 51-T2175, Code 124, 51-T2176, Code 124	32-8484-2
T603	Transformer, horizontal output, 51-T1836, Code 123, 51-T1838, Code 124, 51-T1870, 51-T1872, 51-T1874, 51-T1875, 51-T1876, Code 124	32-8465-2
Z600	Deflection ass'y., 51-T1836, Code 123, 51-T1838, Code 124, 51-T1870, 51-T1872, 51-T1874, 51-T1875, 51-T1876, Code 124	32-9641
Z600	Deflection ass'y., 51-T2134, Code 124, 51-T2136, Code 124, 51-T2138, Code 124, 51-T2175, Code 124, 51-T2176, Code 124	32-9644

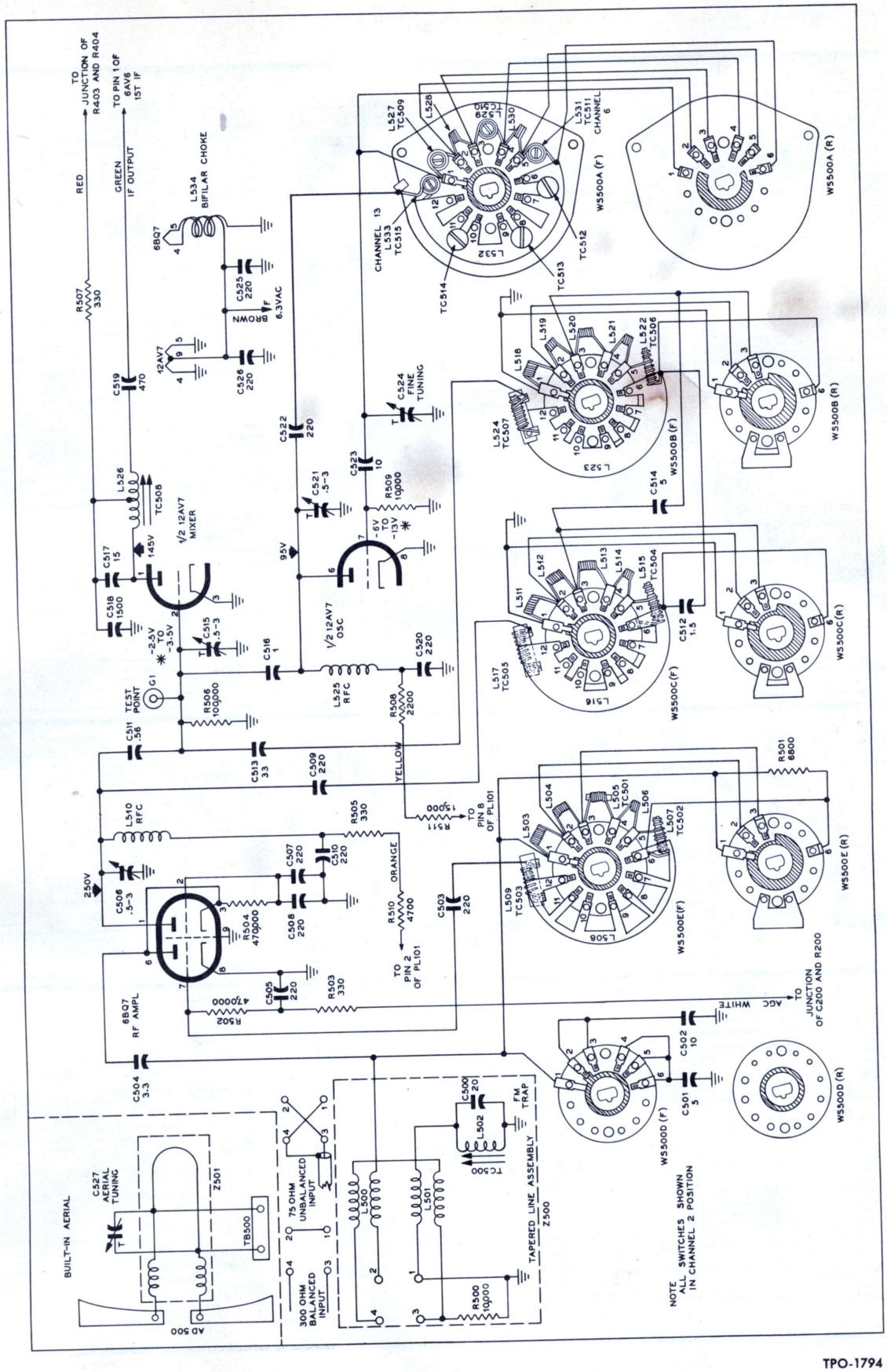
SECTION 7—AM-FM TUNER RT-2 Used in MODELS 51-T1875, 51-T1876, Code 124, 51-T2175, Code 124, and 51-T2176, Code 124

Reference Symbol	Description	Service Part No.
C700	Condenser, tuning gang, 5-section	31-2756-1
C700A	Condenser, FM r-f grid	Part of C700
C700B	Condenser, FM mixer grid	Part of C700
C700C	Condenser, FM oscillator	Part of C700
C700D	Condenser, FM mixer grid	Part of C700
C700E	Condenser, AM oscillator	Part of C700
C700F	Condenser, trimmer, FM r-f grid	Part of C700
C700G	Condenser, trimmer, FM mixer grid	Part of C700
C700H	Condenser, trimmer, AM mixer grid	Part of C700
C700I	Condenser, trimmer, AM oscillator	Part of C700
C701	Condenser, trimmer, FM oscillator	31-6511-11
C702	Condenser, cathode by-pass, 47 μμf.	62-051009001*
C703	Condenser, screen by-pass, 100 μμf.	62-110009001
C704	Condenser, plate decoupling, 100 μμf.	62-110009001

SECTION 7—AM-FM TUNER RT-2 Used in MODELS 51-T1875, 51-T1876, Code 124, 51-T2175, Code 124, and 51-T2176, Code 124 (Cont.)

Reference Symbol	Description	Service Part No.
C705	Condenser, d-c blocking, 100 μμf.	62-110009001
C706	Condenser, d-c blocking, 680 μμf.	62-168001001
C707	Condenser, cathode by-pass, 47 μμf.	62-051009001*
C708	Condenser, cathode by-pass, .01 μf.	45-3505-41*
C709	Condenser, neutralizing, 3.3 μμf.	30-1224-49
C710	Condenser, grid by-pass, 100 μμf.	62-110009001
C711	Condenser, d-c blocking, 470 μμf.	62-147001001
C712	Condenser, plate by-pass, 100 μμf.	62-110009001
C713	Condenser, r-f by-pass, .022 μf.	45-3505-43*
C714	Condenser, plate decoupling, .01 μf.	45-3505-41
C715	Condenser, d-c blocking, .005 μf.	30-1238-1
C716	Condenser, r-f by-pass, 100 μμf.	62-110009001
C717	Condenser, d-c blocking, .022 μf.	45-3505-43*
C718	Condenser, by-pass, .022 μf.	45-3505-43*
C719	Condenser, fixed trimmer, 1st FM i-f	Part of Z700
C720	Condenser, fixed trimmer, 1st FM i-f	Part of Z700
C721	Condenser, fixed trimmer, 1st AM i-f	Part of Z701
C722	Condenser, fixed trimmer, 1st AM i-f	Part of Z701
C723	Condenser, a-g-c decoupling, .01 μf.	45-3505-41*
C724	Condenser, a-g-c filter, .005 μf.	30-1238-1
C725	Condenser, screen by-pass, .0022 μf.	45-3505-43*
C726	Condenser, plate decoupling, .01 μf.	45-3505-41*
C727	Condenser, fixed trimmer, 2nd FM i-f	Part of Z702
C728	Condenser, fixed trimmer, 2nd FM i-f	Part of Z702
C729	Condenser, r-f by-pass, 100 μμf.	62-110009001
C730	Condenser, cathode by-pass, .01 μf.	45-3505-41
C731	Condenser, screen by-pass, .0022 μf.	45-3505-43*
C732	Condenser, r-f by-pass, 100 μμf.	62-110009001
C733	Condenser, r-f by-pass, 100 μμf.	62-110009001
C734	Condenser, fixed trimmer, FM detector	Part of Z703
C735	Condenser, fixed trimmer, FM detector	Part of Z703
C736	Condenser, fixed trimmer, AM detector	Part of Z704
C737	Condenser, fixed trimmer, AM detector	Part of Z704
C738	Condenser, i-f by-pass	Part of Z704
C739	Condenser, i-f by-pass	Part of Z704
C740	Condenser, i-f by-pass, 100 μμf.	61-110009001
C741	Condenser, filter, 2 μf., 50v	30-2417-7
C742	Condenser, i-f by-pass, 220 μμf.	62-122001001
C743	Condenser, tone compensating, .0022 μf.	45-3505-43*
C744	Condenser, filament decoupling, .005 μf.	30-1238-1
C745	Condenser, filament decoupling, .005 μf.	30-1238-1
C746	Condenser, filament by-pass, .01 μf.	45-3505-41*
C747	Condenser, filament by-pass, 220 μμf.	62-122001001
C748	Condenser, fixed oscillator trimmer, 7.5 μμf.	30-1224-65
C749	Condenser, fixed FM oscillator trimmer, 4.7 μμf.	30-1224-41
I700	Lamp, dial	34-2064
J700	Socket, AM aerial	27-6252-3
J701	Socket, phono input	27-6126
J702	Socket, VOLUME control (deflection chassis)	27-6214
J703	Socket, phono and bin-light power	27-6182
L700	Coil, FM aerial	32-4476
L701	Coil, r-f choke, plate load, 3.3 micro-henries	32-4422-10
L702	Coil, FM mixer grid	32-4477
L703	Coil, AM aerial	32-4413-1
L704	Coil, FM oscillator	32-4414-2
L705	Coil, AM oscillator	32-4458-1
L706	Coil, r-f choke, plate load, 3.3 micro-henries	32-4422-10
L707	Coil, 1st FM i-f primary	Part of Z700
L708	Coil, 1st FM i-f secondary	Part of Z700
L709	Coil, 1st AM i-f primary	Part of Z701
L710	Coil, 1st AM i-f secondary	Part of Z701
L711	Coil, 2nd FM i-f primary	Part of Z702
L712	Coil, 2nd FM i-f secondary	Part of Z702
L713	Coil, FM det. primary	Part of Z703
L714	Coil, FM det. tertiary	Part of Z703
L715	Coil, FM det. secondary	Part of Z703
L716	Coil, AM detector primary	Part of Z704

(Continued on page 34)



TPO-1794

Figure 24. Schematic Diagram, Television Tuner Part No. 76-6481-1, Used in Model 51-T1838, Code 124

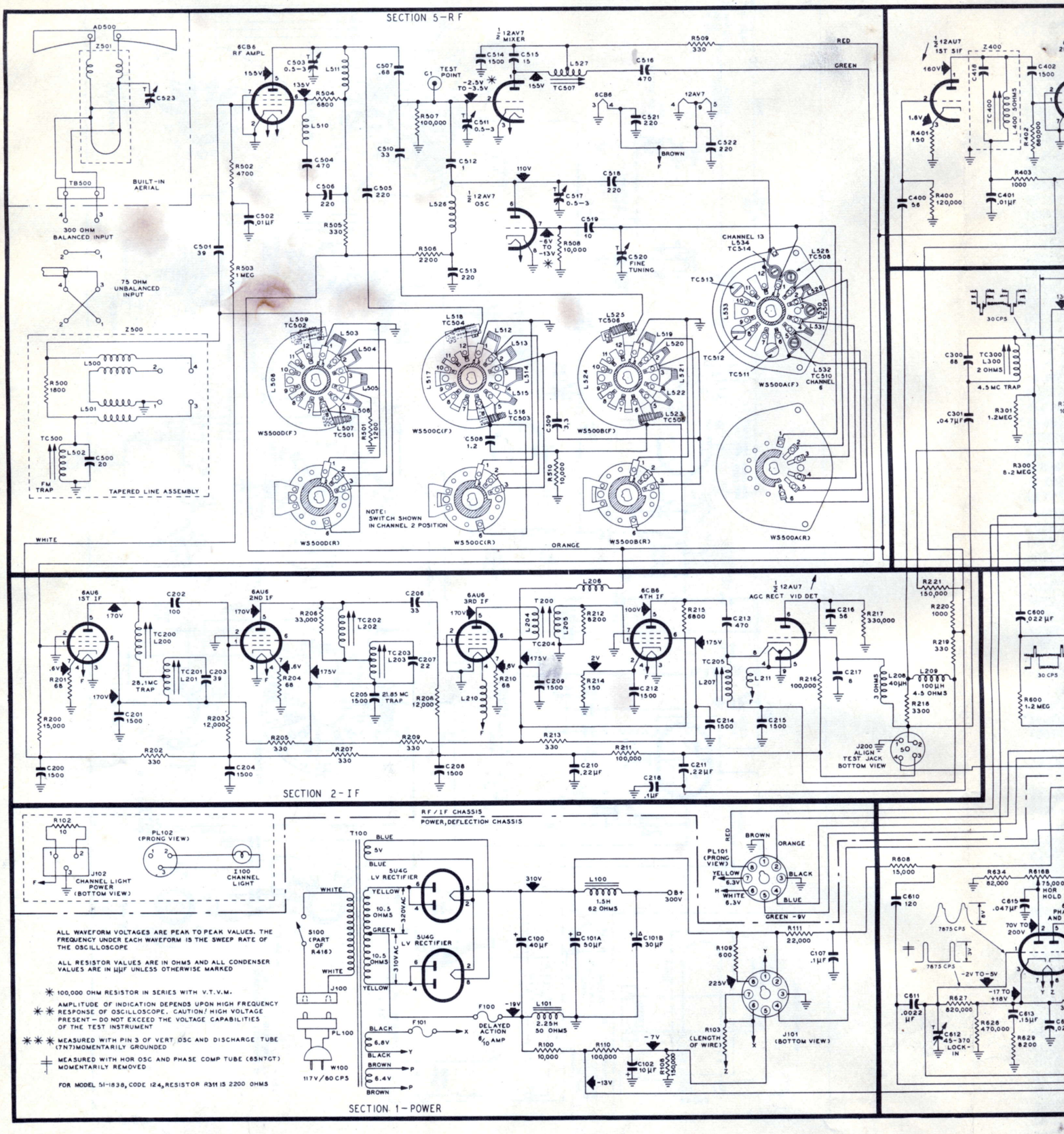
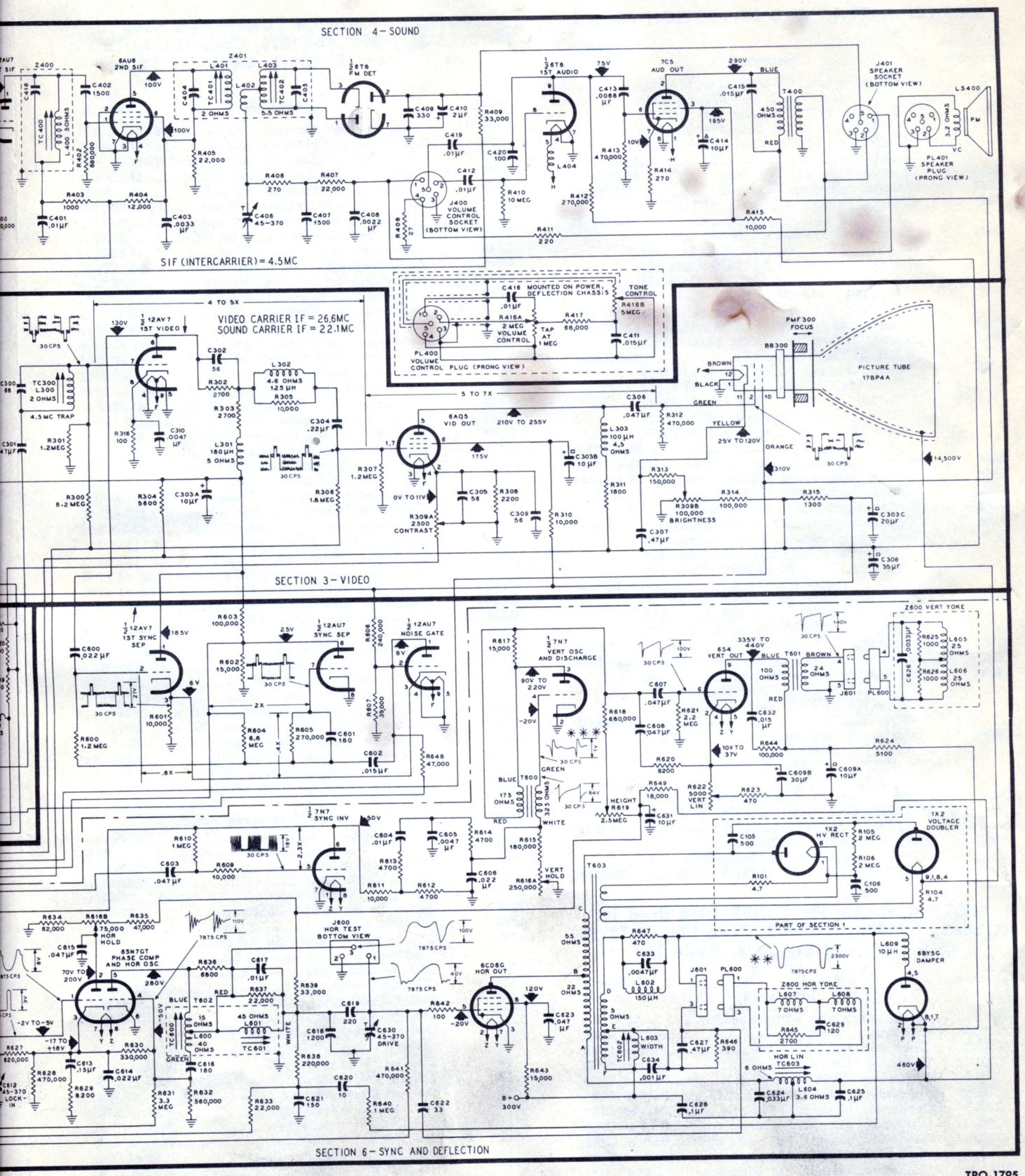


Figure 25. Television Schematic Diagram, Models 51-T1836, Code 123


SECTION 4 – SOUND
SIF (INTERCARRIER) = 4.5MC
SECTION 3 – VIDEO
VIDEO CARRIER IF = 26.6MC
SOUND CARRIER IF = 22.1MC
SECTION 6 – SYNC AND DEFLECTION
PICTURE TUBE 17BP4A
J400 VOLUME CONTROL SOCKET (BOTTOM VIEW)
PL400 VOLUME CONTROL PLUG (PRONG VIEW)
J401 SPEAKER SOCKET (BOTTOM VIEW)
PL401 SPEAKER PLUG (PRONG VIEW)
J600 HOR TEST BOTTOM VIEW
Z600 VERT YOKE
Z600 HOR YOKE
PART OF SECTION 1

TPO-1795

REPLACEMENT PARTS LIST (Cont.)

SECTION 7—AM-FM TUNER RT-2 Used in MODELS 51-T1875, 51-T1876, Code 124, 51-T2175, Code 124, and 51-T2176, Code 124 (Cont.)

Reference Symbol	Description	Service Part No.
L717	Coil, AM detector secondary	Part of Z704
L718	Coil, r-f choke, filament decoupling	32-4422-15
L719	Coil, r-f choke, filament decoupling	32-4422-15
LA700	Loop aerial, AM	Not available
PL700	Plug, AM aerial	27-4785-17
PL701	Plug-and-cable ass'y., audio output	41-3974-3
PL702	Plug-and-cable ass'y., radio power	41-4030-4
R700	Resistor, cathode bias, 120 ohms	66-1128340*
R701	Resistor, screen dropping, 10,000 ohms	66-3108340*
R702	Resistor, cathode bias, 330 ohms	66-1338340*
R703	Resistor, cathode bias, 1000 ohms	66-2108340*
R704	Resistor, grid return, 15,000 ohms	66-3157340*
R705	Resistor, grid return, 10 megohms	66-6108340*
R706	Resistor, plate decoupling, 4700 ohms	66-2478340*
R707	Resistor, plate feed, 47,000 ohms	66-3478340*
R708	Resistor, plate load, 220,000 ohms	66-4228340*
R709	Resistor, plate decoupling, 4700 ohms	66-2478340*
R710	Resistor, a-g-c decoupling, 1 megohm	66-5108340*
R711	Resistor, pickup load, 47,000 ohms	66-3478340*
R712	Resistor, a-g-c filter, 3.3 megohms	66-5338340*
R713	Resistor, cathode bias, 47 ohms	66-0478340*
R714	Resistor, screen dropping, 10,000 ohms	66-3108340*
R715	Resistor, plate decoupling, 2700 ohms	66-2278340*
R716	Resistor, grid return, 1 megohm	66-5108340*
R717	Resistor, cathode bias, 120 ohms	66-1128340*
R718	Resistor, B plus decoupling, 2200 ohms	66-2228340*
R719	Resistor, i-f filter, 47,000 ohms	66-3478340*
R720	Resistor, AM diode load, 470,000 ohms	66-4478340*
R721	Resistor, FM detector load, 47,000 ohms	66-3478340*
R722	Resistor, tone compensating, 47,000 ohms	66-3478340*
R723	Resistor, filament dropping, .24 ohm	66-8245340*
R724	Resistor, grid return, 2.2 megohms	66-5228340*

SECTION 7—AM TUNER RT-4 Used in MODELS 51-T1872 and 51-T1874

Reference Symbol	Description	Service Part No.
C700	Condenser, tuning gang, 2-section	31-2751-9
C700A	Condenser, tuning, r-f grid	Part of C700
C700B	Condenser, tuning, oscillator	Part of C700
C701	Condenser, trimmer, oscillator	Part of C700
C702	Condenser, trimmer, r-f grid	Part of C700
C703	Condenser, blocking, 220 $\mu\mu$f.	62-122001001*
C704	Condenser, grid leak, 47 $\mu\mu$f.	60-00475417*
C705	Condenser, a-g-c filter, .047 μf.	45-3505-28*
C706	Condenser, screen by-pass, .047 μf.	45-3505-28*
C707	Condenser, decoupling, .047 μf.	45-3505-28*
C708	Condenser, tone compensator, .022 μf.	45-3505-60*
C709	Condenser, tone compensator, .0047 μf.	45-3505-56*
C710	Condenser, d-c blocking, .0047 μf.	45-3505-56*
C711	Condenser, fixed trimmer	Part of Z700
C712	Condenser, fixed trimmer	Part of Z700
C713	Condenser, fixed trimmer	Part of Z700
C714	Condenser, fixed trimmer	Part of Z700
C715	Condenser, i-f by-pass	Part of Z700
C716	Condenser, i-f by-pass	Part of Z700
I700	Lamp, bin	34-2064
I701	Lamp, dial	34-2068
J700	Socket, antenna	27-6252-3
J701	Socket, VOLUME control	27-6214
J702	Socket, phono input	27-6126
J703	Socket, phono power and bin lamp	27-6182
L700	Coil, antenna	32-4413-2
L701	Coil, oscillator grid	Part of T700
L702	Coil, tickler, oscillator plate	Part of T700
L703	Coil, primary, 1st i-f	Part of Z700
L704	Coil, secondary, 1st i-f	Part of Z700
L705	Coil, primary, 2nd i-f	Part of Z701
L706	Coil, secondary, 2nd i-f	Part of Z701

SECTION 7—AM TUNER RT-4 Used in MODELS 51-T1872 and 51-T1874 (Cont.)

Reference Symbol	Description	Service Part No.
LA700	Loop aerial	Not available
PL700	Plug, antenna socket	27-4785-17
PL701	Plug-and-cable ass'y., audio	41-3974-3
PL702	Plug-and-cable ass'y., power, radio chassis	41-4030-2
PL703	Plug-and-cable ass'y., phono power and bin lamp	41-4058-1
R700	Resistor, grid return, 1 megohm	66-5108340*
R701	Resistor, oscillator grid leak, 100,000 ohms	66-4108340*
R702	Resistor, screen dropping, 27,000 ohms	66-3278340*
R703	Resistor, i-f filter, 47,000 ohms	66-3478340*
R704	Resistor, diode load, 470,000 ohms	66-4478340*
R705	Resistor, grid return, 10 megohms	66-6108340*
R706	Resistor, plate load, 220,000 ohms	66-4228340*
R707	Resistor, tone compensator, 47,000 ohms	66-3478340*
R708	Resistor, voltage dropping, 6500 ohms, 5 w	33-1335-99
R709	Resistor, filament voltage dropping, .68 ohm	66-8684340
R710	Resistor, bin lamp voltage dropping, 6.8 ohms	66-9685360
R711	Resistor, a-g-c filter, 2.2 megohms	66-5228340*
T700	Transformer, oscillator	32-4263
TC700	Tuning core, 1st i-f primary	Part of Z700
TC701	Tuning core, 1st i-f secondary	Part of Z700
TC702	Tuning core, 2nd i-f primary	Part of Z701
TC703	Tuning core, 2nd i-f secondary	Part of Z701
TC704	Tuning core, aerial tracking	Part of L700
Z700	Transformer, 1st i-f	32-4160A
Z701	Transformer, 2nd i-f	32-4240A
WS700	Wafer-switch ass'y.	42-1947
WS700A(F)	Switch-wafer section (front)	Part of WS700
WS700A(R)	Switch-wafer section (rear)	Part of WS700
WS700B(F)	Switch-wafer section (front)	Part of WS700
WS700B(R)	Switch-wafer section (rear)	Part of WS700

SECTION 7—AM-FM TUNER RT-2

Reference Symbol	Description	Service Part No.
TC700	Tuning core, AM aerial	Part of L703
TC701	Tuning core, 1st FM i-f primary	Part of Z700
TC702	Tuning core, 1st FM i-f secondary	Part of Z700
TC703	Tuning core, 1st AM i-f primary	Part of Z701
TC704	Tuning core, 1st AM i-f secondary	Part of Z701
TC705	Tuning core, 2nd FM i-f primary	Part of Z702
TC706	Tuning core, 2nd FM i-f secondary	Part of Z702
TC707	Tuning core, FM det. primary	Part of Z703
TC708	Tuning core, FM det. secondary	Part of Z703
TC709	Tuning core, AM det. primary	Part of Z704
TC710	Tuning core, AM det. secondary	Part of Z704
WS700	Wafer-switch ass'y.	42-1938
WS700A(F)	Switch-section wafer	Part of WS700
WS700A(R)	Switch-section wafer	Part of WS700
WS700B(F)	Switch-section wafer	Part of WS700
WS700B(R)	Switch-section wafer	Part of WS700
WS700C(F)	Switch-section wafer	Part of WS700
WS700C(R)	Switch-section wafer	Part of WS700
WS700D(F)	Switch-section wafer	Part of WS700
WS700D(R)	Switch-section wafer	Part of WS700
WS700E(F)	Switch-section wafer	Part of WS700
WS700E(R)	Switch-section wafer	Part of WS700
Z700	Transformer, 1st FM i-f	32-4372A
Z701	Transformer, 1st AM i-f	32-4258-2A
Z702	Transformer, 2nd FM i-f	32-4372-2A
Z703	Transformer, FM detector	32-4310-3A
Z704	Transformer, AM detector	32-4240-3A

REPLACEMENT PARTS LIST (Cont.)

MISCELLANEOUS PARTS FOR AM-FM TUNER RT-2

Description	Service Part No.
Backplate ass'y., pointer rail	56-3167
Clip, diffusing panel mtg.	56-3587-1
Cord, drive (25-ft. spool)	45-8750
Mount, shock, tuning condenser	27-4771-1
Panel, diffusing	54-8171
Shaft, tuning-condenser drive	56-7931-1FA11
Socket, 7-pin miniature	27-6265
Socket, 7-pin miniature, r-f	27-6265-1
Socket, 9-pin miniature	27-6203-5
Socket, 9-pin miniature mixer-oscillator	27-6203-6
Socket, pilot lamp	27-6233-23
Spring, tuning-condenser drive	56-2617
Spring, pointer drive	56-3167

MISCELLANEOUS

Description	Service Part No.
Backplate ass'y., dial (AM Tuner, RT-4)	76-6325
Backplate ass'y., dial (AM-FM Tuner, RT-2)	76-6067
Bumper, changer	55-0890
Cabinet, 51-T1836, Code 123	10839
Cabinet, 51-T1836L, Code 123	10839-2
Cabinet, 51-T1838, Code 124	10843
Cabinet, 51-T1870	10850
Cabinet, 51-T1872	10853
Cabinet, 51-T1874	10835
Cabinet, 51-T1874L	10835-2
Cabinet, 51-T1875	10829
Cabinet, 51-T1876, Code 124	10829-1
Cabinet, 51-T2134, Code 124	10851
Cabinet, 51-T2136, Code 124	10846
Cabinet, 51-T2138, Code 124	10846-1
Cabinet, 51-T2175, Code 124	10849
Cabinet, 51-T2176, Code 124	10849-1
Cabinet Hardware and Parts	
Bezel, dial (radio), 51-T1875, 51-T1876, Code 124, 51-T2175, Code 124, 51-T2176, Code 124	56-5855FCP
Bin mechanism, r. h., 51-T1870	76-3223-9
Bin, mechanism, l. h., 51-T1870	76-3223-7
Bolt, speaker mtg.	W-700-2
Bullet catch	45-6002
Bullet catch (L)	45-6002-1
Clip, channel-light mtg.	56-3545-6
Coupler, rubber, AERIAL TUNING shaft	54-4748
Dial, channel, 51-T1838, Code 124, 51-T1876, Code 124, 51-T2138, Code 124, 51-T2176, Code 124	54-4850
Dome	45-6190
Dome, 51-T1870	3363-2
Doors, matched pair, 51-T1836, Code 123	45-6634
Doors, matched pair, 51-T1836L, Code 123	45-6635
Doors, matched pair, 51-T1838, Code 124	45-6636
Door, television control, 51-T1870	45-6637
Doors, matched pair, 51-T1872	45-6638
Doors, matched set of 3, 51-T1874	45-6639
Doors, matched set of 3, 51-T1874L	45-6640
Doors, matched set of 3, 51-T1875, 51-T1836, Code 124	45-6641
Doors, matched pair, 51-T2136, Code 124, 51-T2138, Code 124	45-6643
Door, l. h. record storage, 51-T2175, Code 124, 51-T2176, Code 124	45-6648
Door, r. h. record storage, 51-T2175, Code 124, 51-T2176, Code 124	45-6646
Doors, matched set of 3, 51-T2175, Code 124, 51-T2176, Code 124	45-6645
Grill, metal, 51-T2136, Code 124, 51-T2138, Code 124	56-8660-1
Hinge, door, 51-T1870	56-3627
Hinge, knife, r. h., 51-T1872, 51-T1874, 51-T1875, 51-T1876, Code 124, 51-T2136, Code 124, 51-T2138, Code 124, 51-T2175, Code 124, 51-T2176, Code 124	56-7873

MISCELLANEOUS (Cont.)

Description	Service Part No.
Hinge, knife, l. h., 51-T1872, 51-T1874, 51-T1875, 51-T1876, Code 124, 51-T2136, Code 124, 51-T2138, Code 124, 51-T2175, Code 124, 51-T2176, Code 124	56-7873-1
Hinge, knife, r. h., 51-T1836, Code 123, 51-T1838, Code 124	56-7873-2
Hinge, knife, l. h., 51-T1836, Code 123, 51-T1838, Code 124	56-7873-3
Hinge, knife, r. h., 51-T1836L, Code 123	56-7873-6
Hinge, knife, l. h., 51-T1836L, Code 123	56-7873-7
Hinge, knife, r. h., 51-T1874L	56-7873-4
Hinge, knife, l. h., 51-T1874L	56-7873-5
Hinge, continuous, 51-T1874	56-3627-9
Hinge, continuous, 51-T1874L	56-3627-10
Hinge, continuous, 51-T1875, 51-T1876, Code 124	56-3627-8
Knob, AERIAL TUNING, 51-T1836, Code 123, 51-T1838, Code 124, 51-T1870, 51-T1872, 51-T1874, 51-T1875, 51-T1876, Code 124, 51-T2134, Code 124, 51-T2136, Code 124, 51-T2138, Code 124, 51-T2175, Code 124, 51-T2176, Code 124	54-4750
Knob, AERIAL TUNING, 51-T1836L, Code 123, 51-T1874L	54-4750-7
Knob, BRIGHTNESS, 51-T1836, Code 123, 51-T1838, Code 124, 51-T1875, 51-T1876, Code 124, 51-T2134, Code 124, 51-T2136, Code 124, 51-T2138, Code 124, 51-T2175, Code 124, 51-T2176, Code 124	54-4799
Knob, BRIGHTNESS, 51-T1836L, Code 123	54-4799-3
Knob, BRIGHTNESS, 51-T1870, 51-T1872, 51-T1874	54-4799-1
Knob, BRIGHTNESS, 51-T1874L	54-4799-2
Knob, CHANNEL SELECTOR, 51-T1836, Code 123, 51-T1875, 51-T2134, Code 124, 51-T2136, Code 124, 51-T2175, Code 124	76-6064
Knob, CHANNEL SELECTOR, 51-T1836L, Code 123	76-6064-1
Knob, CHANNEL SELECTOR, 51-T1838, Code 124, 51-T1876, Code 124, 51-T2138, Code 124, 51-T2176, Code 124	76-6386
Knob, CHANNEL SELECTOR, 51-T1870, 51-T1872, 51-T1874	76-6175
Knob, CHANNEL SELECTOR, 51-T1874L	76-6175-1
Knob, CONTRAST, 51-T1836, Code 123, 51-T1838, Code 124, 51-T1876, Code 124, 51-T2134, Code 124, 51-T2136, Code 124, 51-T2138, Code 124, 51-T2175, Code 124, 51-T2176, Code 124	76-6048
Knob, CONTRAST, 51-T1836L, Code 123	76-6048-1
Knob, CONTRAST, 51-T1870, 51-T1872, 51-T1874	54-4769
Knob, CONTRAST, 51-T1874L	54-4769-1
Knob, CONTRAST, 51-T1875	54-6048
Knob, FINE TUNING, 51-T1836, Code 123, 51-T1836L, Code 123	76-6104-1
Knob, FINE TUNING, 51-T1838, Code 124, 51-T1876, Code 124, 51-T2138, Code 124, 51-T2176, Code 124	76-6387
Knob, FINE TUNING, 51-T1870, 51-T1872, 51-T1874, 51-T1874L	76-6104
Knob, FINE TUNING, 51-T1875, 51-T2134, Code 124, 51-T2136, Code 124, 51-T2175, Code 124	76-6104-1
Knob, HORIZ. HOLD, 51-T1836, Code 123, 51-T1838, Code 124, 51-T1875, 51-T1876, Code 124, 51-T2134, Code 124, 51-T2136, Code 124, 51-T2138, Code 124, 51-T2175, Code 124, 51-T2176, Code 124	76-6048
Knob, HORIZ. HOLD, 51-T1836L, Code 123	76-6048-1
Knob, HORIZ. HOLD, 51-T1870, 51-T1872, 51-T1874	76-4769
Knob, HORIZ. HOLD, 51-T1874L	76-4769-1
Knob, TV-PH, 51-T1870	76-6375
Knob, TV-BC-PH, 51-T1872, 51-T1874	54-4798-6
Knob, TV-BC-PH, 51-T1874L	54-4798-7
Knob, TV-AM-FM-PH, 51-T1875, 51-T1876, Code 124, 51-T2175, Code 124, 51-T2176, Code 124	54-4798-4
Knob, RADIO TUNING, 51-T1872, 51-T1874	54-4798-2
Knob, RADIO TUNING, 51-T1874L	54-4798-3
Knob, RADIO TUNING, 51-T1875, 51-T1876, Code 124, 51-T2175, Code 124, 51-T2176, Code 124	54-4798

REPLACEMENT PARTS LIST (Cont.)

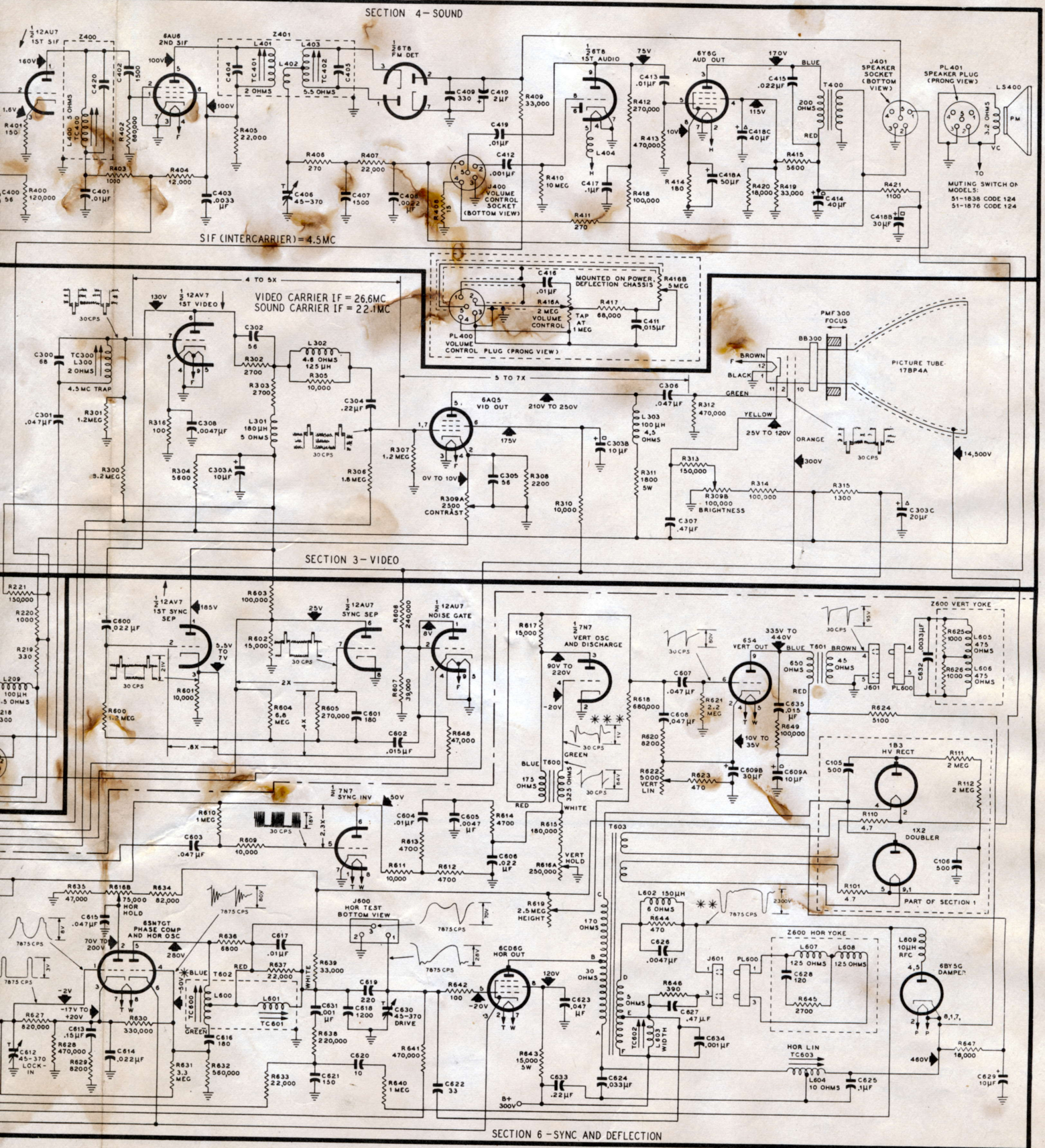
MISCELLANEOUS (Cont.)

Description	Service Part No.
Knob, TONE, 51-T1836, Code 123, 51-T1838, Code 124, 51-T1876, Code 124, 51-T2134, Code 124, 51-T2136, Code 124, 51-T2138, Code 124, 51-T2175, Code 124, 51-T2176, Code 124	76-6213
Knob, TONE, 51-T1836L, Code 123, 51-T1874L	76-6213-3
Knob, TONE, 51-T1870, 51-T1872, 51-T1874	76-5794-2
Knob, VERT. HOLD, 51-T1836, Code 123, 51-T1838, Code 124, 51-T1876, Code 124, 51-T2134, Code 124, 51-T2136, Code 124, 51-T2138, Code 124, 51-T2175, Code 124, 51-T2176, Code 124	54-4799
Knob, VERT. HOLD, 51-T1836L, Code 123	54-4799-3
Knob, VERT. HOLD, 51-T1870, 51-T1872, 51-T1874	54-4799-1
Knob, VERT. HOLD, 51-T1874L	54-4799-2
Knob, VOLUME-OFF-ON, 51-T1836, Code 123, 51-T1838, Code 124, 51-T1876, Code 124, 51-T2134, Code 124, 51-T2136, Code 124, 51-T2138, Code 124, 51-T2175, Code 124, 51-T2176, Code 124	54-4799
Knob, VOLUME-OFF-ON, 51-T1836L, Code 123, 51-T1874L	54-4799-3
Knob, VOLUME-OFF-ON, 51-T1870, 51-T1872, 51-T1874	54-4799-1
Lid support, 51-T1874, 51-T1875, 51-T1876, Code 124	56-8484
Lid support, 51-T1874L	56-8484-1
Mask, 51-T1836, Code 123, 51-T1836L, Code 123, 51-T1838, Code 124	56-8552
Mask, 51-T1870	56-8552-5
Mask, 51-T1872	56-8552-6
Mask, 51-T1874, 51-T1874L	56-8552-2
Mask, 51-T1875, 51-T1876, Code 124	56-8552-3
Mask, 51-T2134, Code 124	56-8578-2
Mask, 51-T2136, Code 124, 51-T2138, Code 124	56-8578
Mask, 51-T2175, Code 124, 51-T2176, Code 124	56-8578-1
Pull, door, 51-T1836, Code 123	56-8523
Pull, door, 51-T1836L, Code 123	56-8523-1
Pull, door, 51-T1838, Code 124	56-8566
Pull, door (ornate), 51-T1872	56-8746
Pull, door (round), 51-T1872	56-8747
Pull, door, 51-T1874	56-8551
Pull, door, 51-T1874L	56-8551-1
Pull, door, 51-T1875, 51-T1876, Code 124	56-3249
Pull, door (ornate), 51-T2136, Code 124, 51-T2138, Code 124	56-6585-1
Pull, door (round), 51-T2136, Code 124, 51-T2138, Code 124	56-5282-2
Pull, door (ornate), 51-T2175, Code 124, 51-T2176, Code 124	56-8691
Pull, door (round), 51-T2175, Code 124, 51-T2176, Code 124	56-8692
Screw, back mtg.	1W25345FE11
Shaft, AERIAL TUNING, 51-T1836, Code 123, 51-T1836L, Code 123, 51-T1838, Code 124, 51-T2134, Code 124, 51-T2136, Code 124	54-4747-11
Shaft, AERIAL TUNING, 51-T1872, 51-T1874, 51-T1874L	54-4747-17
Strike plate	45-6003
Strike plate (L)	45-6003-1
Washer, speaker mtg.	27-7476
Window, 51-T1836, Code 123, 51-T1836L, Code 123, 51-T1838, Code 124	54-7943-22
Window, 51-T1870	54-7943-26
Window, 51-T1872	54-7943-29
Window, 51-T1874, 51-T1874L	54-7943-21
Window, 51-T1875, 51-T1876, Code 124	54-7943-17
Window, 51-T2134, Code 124	54-7943-27
Window, 51-T2136, Code 124, 51-T2138, Code 124	54-7943-25

MISCELLANEOUS (Cont.)

Description	Service Part No.
Window, 51-T2175, Code 124, 51-T2176, Code 124	54-7943-28
Cable ass'y., high voltage	41-4064
Cable ass'y., chassis connection (power)	41-3975-4
Cable-and-plug ass'y., channel light	76-6184
Cable-and-plug ass'y., bin light, 51-T1872	41-4058-3
Cable-and-plug ass'y., bin light, 51-T1874, 51-T1874L, 51-T1875, 51-T1876, Code 124	41-4058
Cable-and-plug ass'y., bin light, 51-T2175, Code 124, 51-T2176, Code 124	41-4058-2
Cable-and-plug ass'y., picture tube	41-3964-10
Cable-and-plug ass'y., speaker, 51-T1875, 51-T1876, Code 124	41-3862-20
Cap-and-lead ass'y., 6CD6G plate	76-5664-6
Changer frame	76-6264-1
Cord, dial (25-ft. spool)	45-8750
Dial scale (radio), 51-T1872	54-5114
Dial scale (radio), 51-T1874, 51-T1874L	54-5110
Dial scale (radio), 51-T1875, 51-T1876, Code 124	54-5105
Dial scale (radio), 51-T2175, Code 124, 51-T2176, Code 124	54-5106
Dial-scale strap, 51-T1872, 51-T1874, 51-T1874L, 51-T1875	56-5155FA3
Dial-scale strap, 51-T2175, Code 124, 51-T2176, Code 124	56-4756FE11
Frame ass'y., picture-tube mtg. (17-inch)	
Frame ass'y., picture-tube mtg. (21-inch)	76-6530
Holder, fuse	27-4519-2
Insulator, electrolytic condenser mtg. (small)	27-9508
Insulator, standoff, h-v miniature socket	54-7309-1
Insulator, standoff, h-v resistor	54-7309-5
Mount, rubber, tuning-condenser mtg. (RT-4 Tuner)	27-4596
Mount, rubber, tuning-condenser mtg. (RT-2 Tuner)	27-4771-1
Nut, speed, changer mtg.	W-2554
Panel, diffusing (RT-4 Tuner)	54-8171-2
Panel, diffusing (RT-2 Tuner)	54-8171
Pointer, dial (RT-4 Tuner)	56-5630-32FCP
Pointer, dial (RT-2 Tuner)	56-5630-28FCP
Shaft, condenser tuning (RT-4 Tuner)	56-7931-2FA11
Shaft, condenser tuning (RT-2 Tuner)	56-7931-1FA11
Shield, corona (9-pin socket)	56-7877FA1
Shield, miniature tube	56-5629FA3
Shield, miniature tube (9-pin)	56-5629-3FA3
Shield, pilot lamp	56-8228
Sleeve, changer mtg.	54-7798
Socket, 7-pin miniature tube	27-6203
Socket, 9-pin miniature tube	27-6203-5
Socket, 9-pin miniature tube (high voltage)	27-6254-2
Socket, 1B3GT	27-6174-7
Socket and spring, 6S4 shock mtg.	76-6115
Socket and spring, 6SN7GT shock mtg.	76-6119
Socket, octal	27-6174
Spring, changer mtg. (heavy)	56-7059FA9
Spring, changer mtg. (light)	56-7059-1FJ47
Spring, condenser drive (radio tuner)	56-2617
Spring, diffusing, panel mtg. (RT-4 Tuner)	56-3841
Spring, diffusing, panel mtg. (RT-2 Tuner)	56-3587-1
Spring, pointer drive (radio tuners)	56-3167
Tuner ass'y. (television), complete, 51-T1836, Code 123, 51-T1836L, Code 123, 51-T1870, 51-T1872, 51-T1874, 51-T1875	76-5747
Tuner ass'y. (television) complete, 51-T1838, Code 124, 51-T1876, Code 124, 51-T2138, Code 124, 51-T2176, Code 124	76-6481-1
Tuner ass'y. (television) complete, 51-T2134, Code 124, 51-T2136, Code 124, 51-T2175, Code 124	76-6440-1

Figure 26. Television Schematic Diagram, Models 51-T1870, 51-T1872, 51-T1874, 51-T1874L, 51-T1875, 51-T1876, Code 123,



51-T1876, Code 123, and 51-T1838, Code 124. Latter model uses television tuner Part No. 76-6481-1 (see figure 24)

TPO-1796

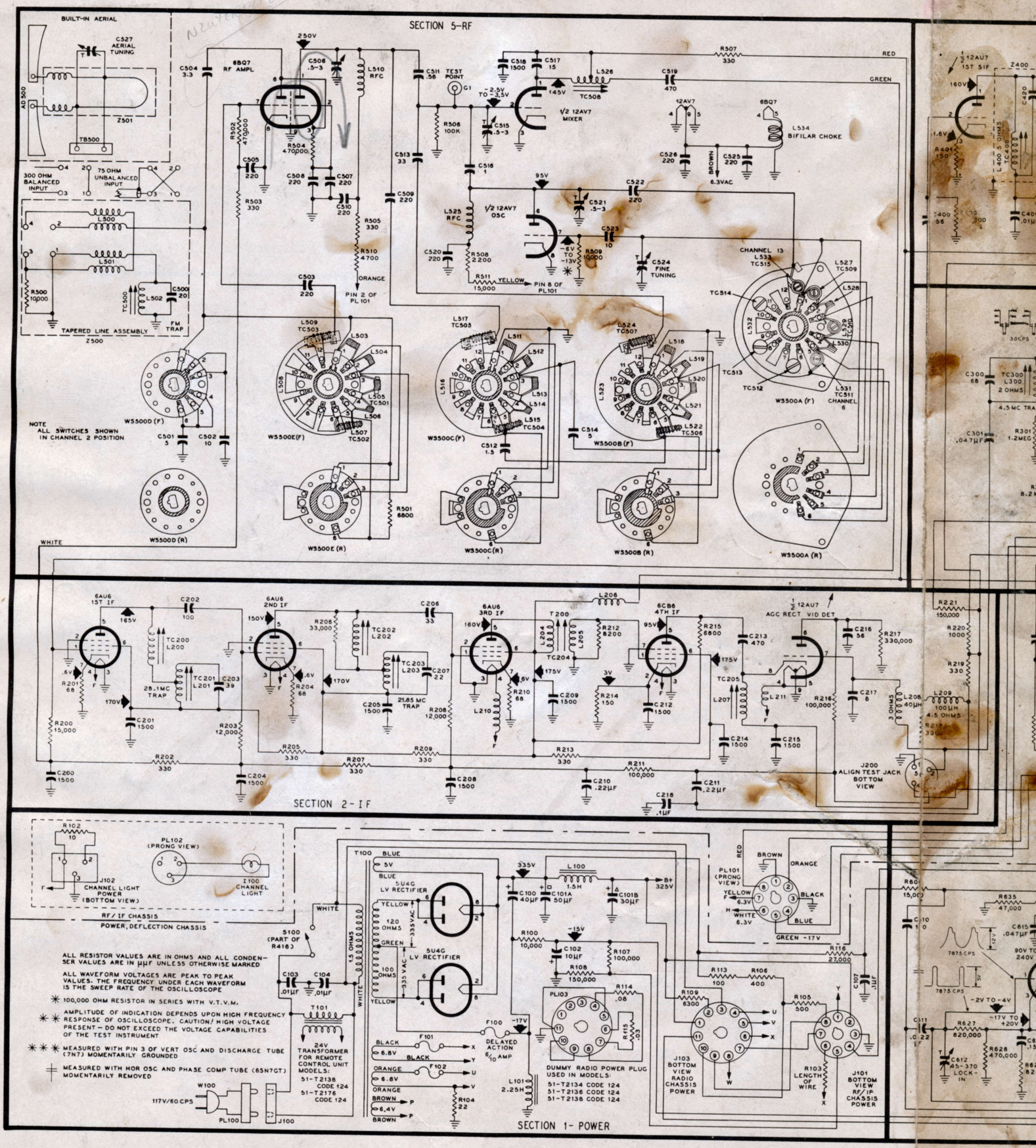
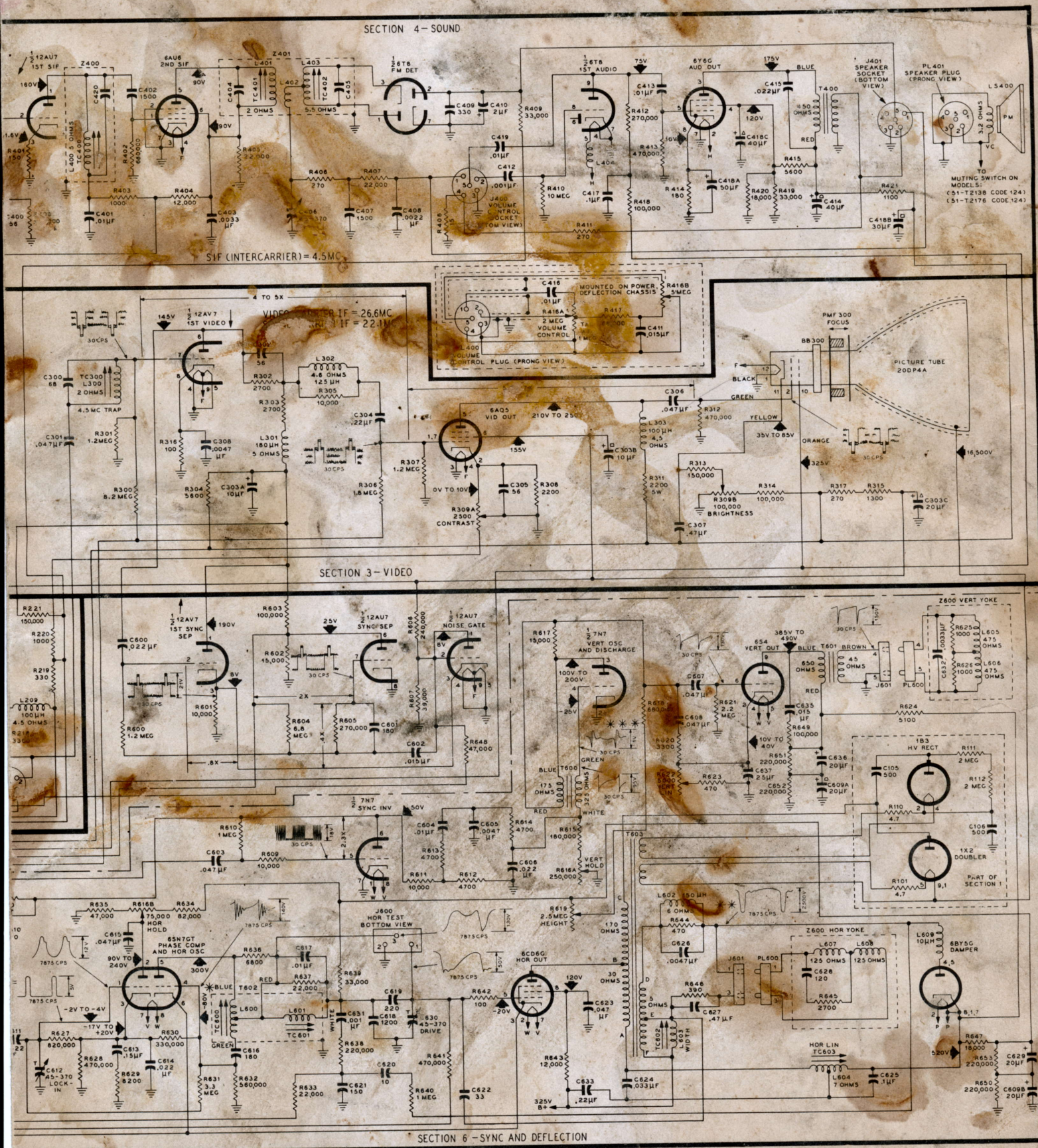


Figure 27. Television Schematic Diagram, Models 51-T2134, 51-T21

51T1601 - Code 122



TPO-1797

s 51-T2134, 51-T2136, 51-T2138, 51-T2175, and 51-T2176, All Code 124