



SERVICE MANUAL



MODELS "ROYAL D7000, ROYAL D7000-1 AND ROYAL D7000-2"

"TRANSOCEANIC"®

CHASSIS 500MDR70

SOLID STATE AC/BATTERY PORTABLE

LW/AM/FM/SW/WB RADIO

ZENITH RADIO CORPORATION

1900 N. AUSTIN AVENUE

CHICAGO, ILLINOIS 60639

To the Service Technician

PRODUCT SAFETY SERVICING GUIDELINES FOR ALL AUDIO AMPLIFIERS AND RADIO RECEIVERS

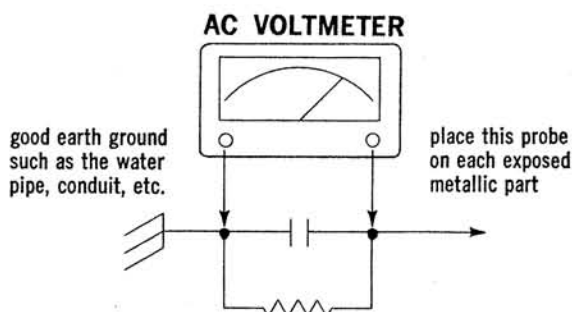
CAUTION: No modification of any circuit should be attempted. Service work should be performed only after you are thoroughly familiar with all of the following safety checks and servicing guidelines. To do otherwise increases the risk of potential hazards and injury to the user.

SAFETY CHECKS

SUBJECT: Fire & Shock Hazard

1. Be sure that all components are positioned in such a way to avoid possibility of adjacent components shorts. This is especially important on those chassis which are transported to and from the repair shop.
2. Always replace all protective devices such as insulators and barriers after working on a receiver.
3. Check for frayed insulation on wires including the AC cord. Also check across-the-line components for damage and replace if necessary.
4. All fuses and certain resistors and capacitors which are of the flameproof type (shaded on the schematic diagrams and parts lists) must be replaced with exact Zenith types to prevent potential fire hazard.
5. After re-assembly of the set always perform an AC leakage test on the exposed metallic parts of the cabinet such as the knobs, antenna terminals, etc. to be sure the set is safe to operate without danger of electrical shock.

Do not use a line isolation transformer during this test. Use an AC voltmeter having 5000 ohms per volt or more sensitivity in the following manner: Connect a 1500 ohm 10 watt resistor, (63-10401-76) paralleled by a .15 mfd, AC type capacitor (22-4384) between a known good earth ground (water pipe, conduit, etc.) and the exposed metallic parts, one at a time. Measure the AC voltage across the combination 1500 ohm resistor and .15 mfd. capacitor. Reverse the AC plug on the set and repeat AC voltage measurements for each exposed metallic part. Voltage measured must not exceed .3 volts RMS. This corresponds to 0.2 milliamp AC. Any value exceeding this limit constitutes a potential shock hazard and must be corrected immediately.



SPECIFICATIONS

Power Supply ----- AC ----- 115/230V, 50/60 Hertz
 Battery --- 9, Type Z4NL, 1½ V, "D" Cells
 (1 cell powers dial and chart lights).

Current Drain—No signal condition with volume control at min.
 Approximately 27 milliamperes

Frequency Ranges	Band	Meters	Megahertz
VHF		1.83 to 1.86	161 to 164
FM		3.4 to 2.8	88 to 108
LW		2000 to 750	.15 to .4
BC		555 to 188	.54 to 1.6
SW 1		188 to 85	1.6 to 3.5
SW 2		85 to 33	3.5 to 9.0
31		31	9.4 to 10.1
25		25	11.4 to 12.3
19		19	14.6 to 15.8
16		16	17.1 to 18.5
13		13	20.6 to 22.4

Intermediate Frequency -- FM ----- 10.7 MHz
 AM ----- 455 KHz

Sensitivity (Approx.) --- Referenced to .05 watt output above noise. All bands measured with tone control at maximum and Normal/Sharp switch in NORMAL, and Manual Gain in NORMAL position.

VHF (16.0 KHz deviation)	3.0	microvolts
FM (22.5 KHz deviation)	3.0	microvolts
LW	175	microvolts/m
BC	50	microvolts/m
SW1	3.0	microvolts
SW2	4.0	microvolts

31	2.0	microvolts
25	2.0	microvolts
19	2.0	microvolts
16	3.0	microvolts
13	3.0	microvolts

Antennas Waverod (in top of cabinet back) — all except BC&LW
 BC/LW Wavemagnet® (in cabinet)—BC/LW only
 External ----- All except VHF

Power Output @ 10% THD ----- 500 milliwatts
 Outputs ----- Speaker ----- 4x6 inch 22 ohms at 400 Hertz
 Headphone (39-34, optional) 8 ohms at 400 "
 Earphone (39-75) 8 ohms at 400 "

CAUTION:

1. When adjustments are made on these chassis, a line isolation transformer (120-V input to 120-V output) is recommended in order to avoid a shock hazard. If an isolation transformer is not available, check the AC voltage between chassis and bench ground; and if there is any indication of line voltage, reverse the plug before handling the set.
2. Do not operate without proper speaker load.
3. Do not short out the audio output when power is connected.
4. If the receiver is not to be operated on batteries for several weeks, the batteries should be removed.
5. Matched transistors are used in the output stage. Should one transistor fail, both transistors must be replaced, since they will not perform properly unless matched.
6. If a power transistor fails be certain to replace the emitter resistors. Also be certain to check the condition of the rectifiers, and related components.

CIRCUIT DESCRIPTION

Model RD7000-1 is basically identical to RD7000 except for the addition of a thermal circuit breaker which will provide protection should the receiver be connected to an incorrect power source, or for any other condition which could possibly damage the power supply. When the circuit breaker "opens", it will cut off all power to the receiver for approximately 15 minutes. After this time it will automatically reset, restoring power to the receiver. If the circuit breaker cuts out again within a few minutes, check the voltage selector switch (See Figure 4, Item 29, in the Operating Guide) to be certain that it is set to the correct voltage position. In the event this fails to correct the condition, contact a qualified service technician.

Separate tuners are used on the FM (88-108 MHz) and the VHF Weather Band (161-164 MHz). The FM tuner consists of a RF amplifier and an Autodyne Converter operating in common base circuits. CR1 is the AFC diode. On the VHF Band the RF and Oscillator stages operate in common base circuits, while the Mixer is a common emitter circuit. The VHF VFO operates 10.7 MHz below the reception frequency. AFC is not applied to the VHF tuner. AGC for both tuners is obtained from the collector of the 2nd IF, via a small value capacitor, to diode CR201, and then to the base of the RF transistor as reverse bias. Two matched diodes located in T208 form part of the Ratio Detector circuit.

On AM the RF stage is common base for LW and BC, but is common emitter for all other bands (SW1 thru 31M). The Oscillator uses a common base circuit, while the Mixer and IF stages are in common emitter circuits. AM AGC is obtained from the AM Detector diode and supplied to the base of the RF transistor. AGC is then taken from the emitter of the RF transistor and fed to the base of the mixer and 1st IF transistors.

Audio circuitry is common to all bands and consists of 1st Audio, Pre-Driver, Driver, and diode biased class "B" push-pull complementary symmetry Output stage consisting of one NPN and one PNP transistor. An output jack, located on the upper part of the cabinet back, connected to the output of the 1st audio stage, permits this unit to be connected to external amplifiers. Gain of the Pre-Driver is increased when on the VHF band to compensate for the lower recovered audio, due to the reduced deviation of VHF Band transmissions.

This set can be operated from either 115 or 230 Volt AC sources. A switch, provided inside the set must be set to the desired voltage. In addition this set can be operated on 9, 1½ Volt "D" Cells (one cell only powers the Dial and Chart Lights, and must be installed if it is desired to use these lights while on AC operation). Automatic switching between AC and Battery operation is achieved by inserting the AC Cable into a socket located on the cabinet back.

TROUBLE SHOOTING AND SIGNAL TRACING

The old technique of "screwdriver testing" is definitely not recommended while trouble shooting any solid state product. In that method various circuit points were touched or shorted to ground to cause a hum or click in the speaker. This must be avoided because a solid state component can be destroyed if excessive voltage or if wrong polarity is applied.

Only standard point to point signal tracing with the proper RF, IF, and Audio Signal Sources should be used.

AM OSCILLATOR BIAS ADJUSTMENT

Stability of the AM Oscillator may be maintained over a wide range of battery supply voltage's. If a variable DC voltage supply is available adjustment may be made as follows:

1. Set Manual Gain Control to maximum clockwise position.
2. Rotate Band Switch to 13 meter position.
3. Connect the positive end of a 4½ volt battery to Test Point 3 while the negative end is connected in series with a volt meter. The other end of the meter is connected to Test Point 6. There should be a meter reading of approximately 0.5 to 1.0 volt.
4. Adjust Bias Control R118 for minimum voltage change on the meter while varying the DC supply between 8 and 12 volts.
5. Return Manual Gain Control to the Normal position.

BATTERY LEVEL METER ADJUSTMENT

This receiver is equipped with a combination Tuning and Battery Level Meter which will indicate the condition of the batteries being used. A meter reading in the blue section indicates good batteries. Under normal conditions no adjustment should be necessary. If the meter has been replaced or other repairs made which affect the meter circuit, adjustment may be made as follows. Use a supply of 9 volts and while holding the "Dial Light/Battery Level" switch in the BATTERY LEVEL position adjust control R507 so that the meter pointer lines up with the left edge of the blue section of the meter.

ALIGNMENT

Alignment wrenches, Zenith part number 68-32, 68-35, and 68-45 may be used for aligning this receiver. Charts for proper alignment are included in this service manual.

CHASSIS REMOVAL INSTRUCTIONS

To remove this chassis it will first be necessary to remove the B.F.O., Manual Gain, Tone, Volume and Tuning Knobs from the front panel. A set screw holds the Band Selector knob in place, and will be visible, from the rear, when in the 19M position. Loosen screw and remove knob. The chassis is mounted by five (5) screws. (See chassis layout drawing for location). Remove the screws and also the bracket secured by the three (3) right hand screws. Disconnect the speaker and chart light leads. The chassis is now free to be removed. *Note* — be certain to replace the bracket and screws when replacing chassis.

DIAL LIGHT REPLACEMENT

The dial light assembly is mounted to the dial scale drum by two screws. Lights may be replaced in the following manner. Remove cabinet back. Rotate Band Selector to BC position. Remove shield by *loosening* right hand screw (long) and remove the left hand screw. Lift shield out noting proper position. The dial drum will now be visible through a rectangular cut out at the top of the chassis. Remove the two screws (one at each end of the dial light assembly). Lift plate. These lights are Part Number 100-218.

Replace shield by inserting end tab in to ¼" hole in end of chassis and the folded tab over chassis. Replace left screw and tighten right hand screw.

LEGEND FOR SCHEMATIC – 500MDR70

ITEM NO.	PART NO.	DESCRIPTION	ITEM NO.	PART NO.	DESCRIPTION
C1	22-5432	18 PF CERAMIC DISC $\pm 5\%$ 500V	C209	22-5761	470 PF CERAMIC DISC $\pm 10\%$ 1000V
C2	22-2595	60 PF CERAMIC DISC $\pm 5\%$ 500V	C210	22-3034	.05 MFD CERAMIC DISC 25V
C3	22-5432	18 PF CERAMIC DISC $\pm 5\%$ 500V	C212	22-3034	.05 MFD CERAMIC DISC 25V
C4	22-4718	1000 PF F.T. 500V	C213	22-5819	6 PF CERAMIC DISC $\pm 5\%$ 500V
C5	22-4718	1000 PF F.T. 500V	C214	22-2703	220 PF CERAMIC DISC $\pm 10\%$ 500V
C6	22-2379	12 PF CERAMIC DISC $\pm 5\%$ 500V	C215	22-3753	20 MFD ELECTROLYTIC 3V
C7	22-5092	30 PF CERAMIC DISC $\pm 5\%$ 500V	C216	22-3955	.1 MFD MYLAR TUBULAR $\pm 10\%$ 50V
C8	22-5586	43 PF CERAMIC DISC $\pm 5\%$ 500V	C217	22-2729	.001 MFD CERAMIC DISC 25V
C9	22-2467	47 PF CERAMIC DISC $\pm 5\%$ 500V	C218	22-3034	.05 MFD CERAMIC DISC 25V
C10	22-4718	1000 PF F.T. 500V	C219	22-3034	.05 MFD CERAMIC DISC 25V
C12	22-3856	11 PF CERAMIC DISC $\pm .5\%$ 500V	C220	22-3034	.05 MFD CERAMIC DISC 25V
C13	22-3919	22 PF CERAMIC DISC $\pm 5\%$ 500V	C222	22-2379	12 PF CERAMIC DISC $\pm 5\%$ 500V
C14	22-3939	26 PF CERAMIC DISC $\pm 5\%$ 500V	C223	22-2654	50 PF CERAMIC DISC $\pm 5\%$ 500V
C15	22-3751	20 PF CERAMIC DISC $\pm 5\%$ 500V	C224	22-3255	330 PF CERAMIC DISC $\pm 10\%$ 500V
C16	22-4718	1000 PF F.T. 500V	C225	22-3955	.1 MFD MYLAR TUBULAR $\pm 10\%$ 50V
C17	22-3748	.001 MFD CERAMIC DISC $\pm 10\%$ 1000V	C226	22-2884	5 MFD ELECTROLYTIC 12V
C18	22-5319	38 PF CERAMIC DISC $\pm 5\%$ 500V	C227	22-5652	.027 MFD MYLAR TUBULAR $\pm 10\%$ 50V
C19	22-2731	10 PF CERAMIC DISC $\pm .5\%$ 500V	C228	22-5989	.02 MFD CERAMIC DISC $\pm 20\%$ 25V
C20	22-2729	.001 MFD CERAMIC DISC 25V	C229	22-7551	.33 MFD MYLAR TUBULAR $\pm 20\%$ 50V
C22	22-5320	42 PF CERAMIC DISC $\pm 5\%$ 500V	C230	22-3256	10 MFD ELECTROLYTIC 6V
C23	22-3066	10 PF TUBULAR GIMMICK 500V	C232	22-3034	.05 MFD CERAMIC DISC 25V
C24	22-3393	.01 MFD CERAMIC DISC 25V	C233	22-3255	330 PF CERAMIC DISC $\pm 10\%$ 500V
C25	22-4613	1000 PF F.T. 500V	C234	22-3034	.05 MFD CERAMIC DISC 25V
C26	22-3393	.01 MFD CERAMIC DISC 25V	C235	22-3748	.001 MFD CERAMIC DISC $\pm 10\%$ 1000V
C27	22-4613	1000 PF F.T. 500V	C236	22-3689	.05 MFD CERAMIC DISC 25V
C28	22-3309	1.8 PF TUBULAR GIMMICK 500V	C401	22-7551	.33 MFD MYLAR TUBULAR $\pm 20\%$ 50V
C29	22-4613	1000 PF F.T. 500V	C402	22-2703	220 PF CERAMIC DISC $\pm 10\%$ 500V
C30	22-2379	12 PF CERAMIC DISC $\pm 5\%$ 500V	C403	22-2884	5 MFD ELECTROLYTIC 12V
C32	22-3849	20 PF CERAMIC DISC $\pm 5\%$ 500V	C404	22-5583	.22 MFD MYLAR TUBULAR $\pm 20\%$ 50V
C33	22-3393	.01 MFD CERAMIC DISC 25V	C405	22-5709	.68 MFD CERAMIC DISC $\pm 30\%$ 3V
C34	22-3393	.01 MFD CERAMIC DISC 25V	C406	22-3615	1 MFD ELECTROLYTIC 25V
C35	22-4613	1000 PF F.T. 500V	C407	22-13	.0033 MFD CERAMIC DISC 500V
C36	22-4613	1000 PF F.T. 500V	C408	22-5413	100 MFD ELECTROLYTIC 6V
C37	22-2729	.001 MFD CERAMIC DISC 25V	C409	22-3615	1 MFD ELECTROLYTIC 25V
C101	22-2898	13 PF CERAMIC DISC $\pm 5\%$ 500V	C410	22-4571	220 MFD ELECTROLYTIC 15V
C102	22-3034	.05 MFD CERAMIC DISC 25V	C501	22-3034	.05 MFD CERAMIC DISC 25V
C103	22-3034	.05 MFD CERAMIC DISC 25V	C502	22-3034	.05 MFD CERAMIC DISC 25V
C104	22-2467	47 PF CERAMIC DISC $\pm 5\%$ 500V	C503	22-3393	.01 MFD CERAMIC DISC 25V
C105	22-3034	.05 MFD CERAMIC DISC 25V	C504	22-2985	500 MFD ELECTROLYTIC 12V
C106	22-5585	750 PF CERAMIC DISC $\pm 10\%$ 500V	C505	22-5192	300 MFD ELECTROLYTIC 15V
C107	22-3955	.1 MFD MYLAR TUBULAR $\pm 20\%$ 50V	C506	22-4573	1000 MFD TUBULAR ELECTROLYTIC 15V
C108	22-3749	1000 PF MICA $\pm 5\%$ 100V	C507	22-4617	.01 MFD CERAMIC DISC 500V
C109	22-3034	.05 MFD CERAMIC DISC 25V	C508	22-4617	.01 MFD CERAMIC DISC 500V
C110	22-3034	.05 MFD CERAMIC DISC 25V	C509	22-6316	500 MFD ELECTROLYTIC 20V
C111	22-5459	1500 PF CERAMIC DISC $\pm 10\%$ 500V	R1	63-9921-98	12K $\pm 5\%$ $\frac{1}{4}W$
C112	22-6045	B.C. ANTENNA TRIMMER (FIXED)	R2	63-9921-79	2000 $\pm 5\%$ $\frac{1}{4}W$
C113	22-6017	L.W. ANTENNA TRIMMER (FIXED)	R3	63-9922-36	470K $\pm 5\%$ $\frac{1}{4}W$
C114A	22-5705	S.W. 2 ANTENNA TRIMMER	R101	63-9922-36	470K $\pm 5\%$ $\frac{1}{4}W$
C114B	22-5705	S.W. 1 ANTENNA TRIMMER	R102	63-9922-36	470K $\pm 5\%$ $\frac{1}{4}W$
C114C	22-5705	S.W. 2 MIXER TRIMMER	R103	63-9921-84	3300 $\pm 5\%$ $\frac{1}{4}W$
C114D	22-5705	S.W. 1 MIXER TRIMMER	R104	63-7530	5K OHM MANUAL GAIN CONTROL & SWITCH
C114E	22-5705	S.W. 2 OSCILLATOR TRIMMER	R105	63-1824	8200 $\pm 10\%$ $\frac{1}{4}W$
C114F	22-5705	S.W. 1 OSCILLATOR TRIMMER	R106	63-9921-64	470 $\pm 5\%$ $\frac{1}{4}W$
C115	22-3034	.05 MFD CERAMIC DISC 25V	R107	63-9921-48	100 $\pm 5\%$ $\frac{1}{4}W$
C116	22-5588	60 PF CERAMIC DISC $\pm 10\%$ 500V	R108	63-9921-80	2200 $\pm 5\%$ $\frac{1}{4}W$
C117	22-5589	85 PF CERAMIC DISC $\pm 10\%$ 500V	R109	73-9921-76	1500 $\pm 5\%$ $\frac{1}{4}W$
C118A	22-6874	ANTENNA TUNING	R110	63-9921-68	680 $\pm 5\%$ $\frac{1}{4}W$
C118B	22-6874	MIXER TUNING	R112	63-9921-48	100 $\pm 5\%$ $\frac{1}{4}W$
C118C	22-6874	OSCILLATOR TUNING	R113	63-9921-66	560 $\pm 5\%$ $\frac{1}{4}W$
C119A	22-5861	B.C. MIXER TRIMMER	R114	63-9921-78	1800 $\pm 5\%$ $\frac{1}{4}W$
C119B	22-5861	L.W. MIXER TRIMMER	R115	63-9921-92	6800 $\pm 5\%$ $\frac{1}{4}W$
C119C	22-5861	B.C. OSCILLATOR TRIMMER	R116	63-1788	1200 $\pm 5\%$ $\frac{1}{4}W$
C119D	22-5861	L.W. OSCILLATOR TRIMMER	R117	63-9921-66	560 $\pm 5\%$ $\frac{1}{4}W$
C119E	22-5861	L.W. OSCILLATOR PADDER	R118	63-7126	OSCILLATOR BIAS CONTROL 10K OHM
C120	22-3034	.05 MFD CERAMIC DISC 25V	R201	63-9921-66	560 $\pm 5\%$ $\frac{1}{4}W$
C122	22-3034	.05 MFD CERAMIC DISC 25V	R202	63-9921-72	1000 $\pm 5\%$ $\frac{1}{4}W$
C123	22-2371	25 PF CERAMIC DISC $\pm 10\%$ 500V	R203	63-9921-72	1000 $\pm 5\%$ $\frac{1}{4}W$
C124	22-5590	50 PF CERAMIC DISC $\pm 10\%$ 500V	R204	63-9921-68	680 $\pm 5\%$ $\frac{1}{4}W$
C125	22-3034	.05 MFD CERAMIC DISC 25V	R205	63-9921-68	680 $\pm 5\%$ $\frac{1}{4}W$
C126	22-3034	.05 MFD CERAMIC DISC 25V	R206	63-9921-84	3300 $\pm 5\%$ $\frac{1}{4}W$
C127	22-2979	60 PF CERAMIC TUBULAR $\pm 5\%$ 500V	R207	63-9922-22	120K $\pm 5\%$ $\frac{1}{4}W$
C128	22-5164	1.2 PF MOLDED GIMMICK CAP. $\pm 5\%$ 500V	R208	63-9921-68	680 $\pm 5\%$ $\frac{1}{4}W$
C129	22-2461	2 PF MOLDED GIMMICK CAP. $\pm 5\%$ 500V	R209	63-7528	B.F.O. CONTROL AND SWITCH
C130	22-5348	CERAMIC TRIMMER CAPACITOR 500V			2500 OHM
C132	22-5276	125 PF CERAMIC TUBULAR $\pm 2\%$ 500V	R210	63-9921-62	390 $\pm 5\%$ $\frac{1}{4}W$
C133	22-6335	1800 PF POLYSTYRENE CAP. $\pm 5\%$ 30V	R212	63-1796	1800 $\pm 10\%$ $\frac{1}{4}W$
C134	22-5092	30 PF CERAMIC DISC $\pm 5\%$ 500V	R401	63-1771	470 $\pm 10\%$ $\frac{1}{4}W$
C135	22-6337	3900 PF POLYSTYRENE CAP. $\pm 5\%$ 30V	R402	63-7529	50K TONE CONTROL
C136	22-3902	BROADCAST PADDER	R403	63-1785	1000 $\pm 10\%$ $\frac{1}{4}W$
C137	22-5037	.005 MFD CERAMIC DISC 25V	R404	63-7135	25K VOLUME CONTROL & SWITCH
C138	22-5318	34 PF CERAMIC DISC $\pm 5\%$ 500V	R405	63-1757	220 $\pm 10\%$ $\frac{1}{4}W$
C139	22-5432	18 PF CERAMIC DISC $\pm 5\%$ 500V	R406	63-1857	51K $\pm 5\%$ $\frac{1}{4}W$
C140	22-3849	20 PF CERAMIC DISC $\pm 5\%$ 500V	R407	63-1834	15K $\pm 10\%$ $\frac{1}{4}W$
C142	22-5128	4 PF CERAMIC DISC $\pm .25\%$ 500V	R408	63-1722	33 $\pm 10\%$ $\frac{1}{4}W$
C143	22-2379	12 PF CERAMIC DISC $\pm 5\%$ 500V	R409	63-1861	68K $\pm 5\%$ $\frac{1}{4}W$
C144	22-3748	1000 PF CERAMIC DISC $\pm 10\%$ 1000V	R410	63-1817	5600 $\pm 10\%$ $\frac{1}{4}W$
C145	22-3034	.05 MFD CERAMIC DISC 25V	R412	63-4522	3.3 $\pm 10\%$ $\frac{1}{4}W$
C146	22-18	.0022 CERAMIC DISC $\pm 10\%$ 500V	R413	63-4522	3.3 $\pm 10\%$ $\frac{1}{4}W$
C147	22-3034	.05 MFD CERAMIC DISC 25V	R414	63-1788	1200 $\pm 5\%$ $\frac{1}{4}W$
C148	22-3034	.05 MFD CERAMIC DISC 25V	R501	63-9921-32	22 $\pm 5\%$ $\frac{1}{4}W$
C201	22-2594	17 PF CERAMIC DISC $\pm 5\%$ 500V	R502	63-9921-80	2200 $\pm 5\%$ $\frac{1}{4}W$
C202	22-3538	125 PF MICA $\pm 5\%$ 100V	R503	63-1740	82 $\pm 10\%$ $\frac{1}{4}W$
C203	22-3034	.05 MFD CERAMIC DISC 25V	R504	63-1715	22 $\pm 10\%$ $\frac{1}{4}W$
C204	20-3034	.05 MFD CERAMIC DISC 25V	R505	63-1932	3.3 MEG OHM $\pm 10\%$
C205	22-5586	43 PF CERAMIC DISC $\pm 5\%$ 500V			(RD7000Y ONLY) $\frac{1}{4}W$
C206	22-2898	13 PF CERAMIC DISC $\pm 5\%$ 500V	R505	63-10526-02	3.3 MEG OHM $\pm 20\%$
C207	22-3034	.05 MFD CERAMIC DISC 25V			(RD7000Y1 & Y2) $\frac{1}{4}W$
C208	22-3034	.05 MFD CERAMIC DISC 25V			

LEGEND FOR SCHEMATIC — 500MDR70 (Continued)

ITEM NO.	PART NO.	DESCRIPTION	ITEM NO.	PART NO.	DESCRIPTION
R506	63-1708	15 ±10% ½W	L212	149-333	IRON CORE SLEEVE
R507	63-7125	METER ADJUSTMENT CONTROL 100K OHM	L401	149-333	IRON CORE SLEEVE
L1	149-311	IRON CORE SLEEVE	L402	149-333	IRON CORE SLEEVE
L2	S-23757	5.2 UH CHOKE COIL	T1	95-2985	RF INPUT TRANSFORMER (W.B.)
L3	S-58095	ANTENNA COIL ASSEMBLY	T2	95-2613	RF OUTPUT TRANSFORMER (W.B.)
L4	149-311	IRON CORE SLEEVE	T3	95-2611	10.7 MHz I.F. TRANSFORMER (W.B.)
L5	S-58095	DET. COIL ASSEMBLY	T4	95-2986	OSCILLATOR TRANSFORMER (W.B.)
L6	20-1256	10.7 MHz TRAP COIL	T5	95-2609	1ST IF TRANSFORMER (FM)
L7	S-58095	OSC. COIL ASSEMBLY	T201	95-2002	1ST IF PRIMARY TRANSFORMER (AM)
L8	IN T5	1ST IF TRANSFORMER PRI. F.M.	T202	95-2003	1ST IF SECONDARY TRANSFORMER (AM)
L9	IN T5	1ST IF TRANSFORMER SEC. F.M.	T203	95-2610	2ND IF TRANSFORMER (FM)
L10	149-311	IRON CORE SLEEVE	T204	95-2604	2ND IF PRIMARY TRANSFORMER (AM)
L101	149-311	IRON CORE SLEEVE	T205	95-2605	2ND IF SECONDARY TRANSFORMER (AM)
L102	S-85229-01	WAVEMAGNET WINDING ASSEMBLY (FIXED)	T206	95-2610	3RD IF TRANSFORMER (FM)
L103	149-311	IRON CORE SLEEVE	T207	95-2606	3RD IF TRANSFORMER (AM)
L104	S-45000	SERIES ANTENNA COUPLING COIL ASSEMBLY	T208	95-2608	RATIO DETECTOR TRANSFORMER (FM)
L105	S-45000	SERIES ANTENNA COUPLING COIL ASSEMBLY	T209	95-2607	4TH IF PRIMARY TRANSFORMER (AM)
L106	S-78083	13M ANTENNA COIL (20.7-22.4 MHz)	T210	95-2634	B.F.O. TRANSFORMER
L107	S-78082	16M ANTENNA COIL (17.1-18.5 MHz)	T501	95-2671	POWER TRANSFORMER (RD7000Y & Y1)
L108	S-78081	19M ANTENNA COIL (14.7-15.7 MHz)	T501	95-2671-01	POWER TRANSFORMER (RD7000Y1)
L109	S-78080	25M ANTENNA COIL (11.4-12.2 MHz)	T501	95-3256	POWER TRANSFORMER (RD7000Y2 ONLY)
L110	S-78079	31M ANTENNA COIL (9.4-10 MHz)	CR1	103-39	AFC DIODE
L112	S-78078	S.W. 2 ANTENNA COIL	CR201	103-44	CRYSTAL DIODE
L113	S-78077	S.W. 1 ANTENNA COIL	CR202	103-31	CRYSTAL DIODE
L114	S-78097	13M MIXER COIL (20.7-22.4 MHz)	CR401	103-141	AUDIO DIODE
L115	S-78096	16M MIXER COIL (17.1-18.5 MHz)	CR402	103-141	AUDIO DIODE
L116	S-78694	19M MIXER COIL (14.7-15.7 MHz)	CR501	103-140	ZENER
L117	S-78693	25M MIXER COIL (11.4-12.2 MHz)	CR502	212-76	SILICON RECTIFIER
L118	S-78093	31M MIXER COIL (9.4-10 MHz)	CR503	212-76	SILICON RECTIFIER
L119	S-78092	S.W. 2 MIXER COIL	S1	85-1208-01	BANDSWITCH
L120	S-78091	S.W. 1 MIXER COIL	S2	85-1013	SLIDESWITCH S.P.D.T. A.F.C. (WHITE)
L122A	S-78689	B.C. MIXER COIL	S-201	85-1014	SLIDESWITCH S.P.D.T. BANDWIDTH (BLUE)
L122B	S-78689	L.W. MIXER COIL	S202	85-1015	SLIDESWITCH (MOMENTARY CONTACT) (BLACK)
L123	S-78679	13M OSCILLATOR COIL (20.7-22.4 MHz)	S501	85-818	SLIDESWITCH D.P.D.T. 230-115V. A.C.
L124	S-78678	16M OSCILLATOR COIL (17.2-18.5 MHz)	S502	85-1043	SLIDESWITCH S.P.S.T.
L125	S-78677	19M OSCILLATOR COIL (14.7-15.7 MHz)	S503	85-1393	CIRCUIT BREAKER, THERMAL, SELF-SETTING (USED ON RD-7000Y-1 ONLY)
L126	S-78676	25M OSCILLATOR COIL (11.4-12.2 MHz)	DS501	100-218	DIAL LIGHT LAMP
L127	S-78675	31M OSCILLATOR COIL (9.4-10 MHz)	DS502	100-218	DIAL LIGHT LAMP
L128	S-78674	S.W. 2 OSCILLATOR COIL	DS503	100-218	CHART LAMP
L129	S-78084	S.W. 1 OSCILLATOR COIL	P401	58-214	TUNER PLUG (ON CABINET BACK)
L130A	S-78672	B.C. OSCILLATOR COIL	P501	58-235	THREE PIN POWER SUPPLY CONNECTOR
L130B	S-78672	L.W. OSCILLATOR COIL	P502	58-316	AC-INPUT PLUG
L132	149-311	IRON CORE SLEEVE	J401	78-644	TUNER OUTPUT JACK
L133	149-311	IRON CORE SLEEVE	J402	44-34	HEADPHONE JACK
L201	INT203TOP	2ND IF TRANSFORMER PRI 10.7 MHz	J403	44-84	TUNER JACK (ON CABINET BACK)
L202	INT203BOT	2ND IF TRANSFORMER SEC 10.7 MHz	J501	78-1101	BATTERY SOCKET
L203	S-23757	5.2 UH CHOKE COIL	BT501	Z4NL	1½V BATTERY (9 REQUIRED)
L204	INT206TOP	3RD IF TRANSFORMER PRI 10.7 MHz	LS401	49-1143	4" X 6" P.M. SPEAKER
L205	INT206BOT	3RD IF TRANSFORMER SEC 10.7 MHz	M201	122-38	METER (TUNING AND BATTERY LEVEL)
L206	INT207TOP	3RD TRANSFORMER PRI 455 KHz	Z201	105-96	INTEGNET
L207	INT207BOT	3RD TRANSFORMER SEC 455 KHz	E1	1-19	WAVEROD
L208	20-1256	10.7 MHz TRAP COIL			
L209	INT208BOT	RATIO DETECTOR TRANSFORMER PRI 10.7 MHz			
L210	INT208TOP	RATIO DETECTOR TRANSFORMER SEC 10.7 MHz			

AUDIO CHASSIS COMPONENTS 500MDR70 LATER PRODUCTION

PART NO.	REF. CODE	DESCRIPTION	PART NO.	REF. CODE	DESCRIPTION
S-23757		5.2 UH CHOKE COIL	63-7135		VOLUME CONTROL & SWITCH
S-75005		DIAL LIGHT SOCKET & STRIP	63-7528		BFO CONTROL & SWITCH
		ASSEM.	63-7529		TONE CONTROL BASS & TREBLE
S-78651		CONTROL MTG. BRACKET ASSEM.	63-7530		MANUAL GAIN CONTROL &
		WITH SWITCHES			SWITCH
S-78717		PULLEY & BRACKET ASSEM.	63-9921-78		1800 OHM RESISTOR 1/4W. $\pm 5\%$
S-78739		DIAL CORD & EYELET & SPRING	63-9921-80		2200 OHM RESISTOR 1/4W. $\pm 5\%$
		ASSEM. (POINTER)			(2 REQ.)
S-78740		DIAL CORD & EYELET ASSEM.	63-9921-82		2700 OHM RESISTOR 1/4W. $\pm 5\%$
		(APPROX. 21 INCHES LONG)			(3 REQ.)
S-78741		DIAL CORD & EYELET ASSEM.	63-9921-84		3300 OHM RESISTOR 1/4W. $\pm 5\%$
		(APPROX. 13 INCHES LONG)			(4 REQ.)
S-85229-01		WAVE MAGNET ANTENNA	63-9921-90		5600 OHM RESISTOR 1/4W. $\pm 5\%$
		ASSEM.	63-9921-94		8200 OHM RESISTOR 1/4W. $\pm 5\%$
S-90843		DIAL SCALE & DRUM ASSEM.	63-9921-96		10K OHM RESISTOR 1/4W. $\pm 5\%$
12-4850		METER MTG. BRACKET			(2 REQ.)
20-1256		10.7 MHZ TRAP COIL	63-9921-98		12K OHM RESISTOR 1/4W. $\pm 5\%$
22-13		.0033 MF CERAMIC DISC			(2 REQ.)
		CAPACITOR $\pm 10\%$ 500V.	63-9922		15K OHM RESISTOR 1/4W. $\pm 5\%$
22-2379		12 PF CERAMIC DISC CAPACITOR			(2 REQ.)
		500V. (2 REQ.)	63-9922-02		18K OHM RESISTOR 1/4W. $\pm 5\%$
22-2467		47 PF CERAMIC DISC CAPACITOR	63-9922-04		22K OHM RESISTOR 1/4W. $\pm 5\%$
		500V. (2 REQ.)	63-9922-10		39K OHM RESISTOR 1/4W. $\pm 5\%$
22-2595		60 PF CERAMIC DISC CAPACITOR	63-9922-18		82K OHM RESISTOR 1/4W. $\pm 5\%$
		500V.	63-9922-22		120K OHM RESISTOR 1/4W. $\pm 5\%$
22-2654		50 PF CERAMIC DISC CAPACITOR	63-9922-36		470K OHM RESISTOR 1/4W. $\pm 5\%$
		500V.	63-10559-32		22 OHM RESISTOR 1/4W. $\pm 5\%$
22-2703		220 PF CERAMIC DISC CAPACITOR	63-10559-36		33 OHM RESISTOR 1/4W. $\pm 5\%$
		500V. (2 REQ.)	63-10559-42		56 OHM RESISTOR 1/4W. $\pm 5\%$
22-2729		.001 MF CERAMIC DISC	63-10559-48		100 OHM RESISTOR 1/4W. $\pm 5\%$
		CAPACITOR 25V.	63-10559-50		120 OHM RESISTOR 1/4W. $\pm 5\%$
22-2884		5 MF ELECTROLYTIC CAPACITOR	63-10559-56		220 OHM RESISTOR 1/4W. $\pm 5\%$
		12V. (2 REQ.)			(3 REQ.)
22-2898		13 PF CERAMIC DISC CAPACITOR	63-10559-58		270 OHM RESISTOR 1/4W. $\pm 5\%$
		12V.	63-10559-62		390 OHM RESISTOR 1/4W. $\pm 5\%$
22-2985		500 MF ELECTROLYTIC	63-10559-64		470 OHM RESISTOR 1/4W. $\pm 5\%$
		CAPACITOR 12V.			(5 REQ.)
22-3034		.05 MF CERAMIC DISC CAPACITOR	63-10559-66		560 OHM RESISTOR 1/4W. $\pm 5\%$
		+100% -50% 25V. (11 REQ.)	63-10559-68		680 OHM RESISTOR 1/4W. $\pm 5\%$
22-3255		330 PF CERAMIC DISC CAPACITOR			(4 REQ.)
		500V. (2 REQ.)	63-10559-70		820 OHM RESISTOR 1/4W. $\pm 5\%$
22-3256		10 MF ELECTROLYTIC	63-10559-72		1000 OHM RESISTOR 1/4W. $\pm 5\%$
		CAPACITOR 6V.			(4 REQ.)
22-3393		.01 MF DISC CAPACITOR 25V.	63-10565-74		1200 OHM RESISTOR 1/2W. $\pm 5\%$
22-3748		.001 MF DISC CAPACITOR	63-10567-12		3.3 OHM RESISTOR 1/2W. $\pm 10\%$
		1000V. (2 REQ.)			(2 REQ.)
22-3751		20 PF CERAMIC DISC CAPACITOR	63-10567-32		22 OHM RESISTOR 1/2W. $\pm 10\%$
		$\pm 5\%$ 500V.	63-10567-36		33 OHM RESISTOR 1/2W. $\pm 10\%$
22-3753		20 MF ELECTROLYTIC	63-10567-46		82 OHM RESISTOR 1/2W. $\pm 10\%$
		CAPACITOR 3V.	63-10567-56		220 OHM RESISTOR 1/2W. $\pm 10\%$
22-3856		11 PF CERAMIC DISC CAPACITOR	63-10567-64		470 OHM RESISTOR 1/2W. $\pm 10\%$
		$\pm 5\%$ 500V.	63-10567-72		1K OHM RESISTOR 1/2W. $\pm 10\%$
22-3919		22 PF CERAMIC DISC CAPACITOR	73-88		4-40 X 1/8 ALLEN HEAD SET
		$\pm 5\%$ 500V.			SCREW
22-3939		26 PF DISC CAPACITOR 500V.	78-1838		TRANSISTOR SOCKET (4 REQ.)
22-4571		200 MF ELECTROLYTIC	78-1842		TRANSISTOR SOCKET (6 REQ.)
		CAPACITOR +100% -10% 15V.	79-174-14		# 18 YELLOW SLEEVING (27 REQ.)
22-4718		1000 PF GMV FEED THRU	80-1140		DIAL CORD TENSION SPRING
		CAPACITOR 100V. (4 REQ.)			(2 REQ.)
22-5092		30 PF DISC CAPACITOR 500V.	83-3588		7 LUG TERMINAL STRIP (PART
22-5192		300 MF ELECTROLYTIC			OF S-78651)
		CAPACITOR 15V.	83-4997		4 LUG TERMINAL STRIP (PART
22-5413		100 MF ELECTROLYTIC			OF S-78651)
		CAPACITOR 6V.	83-5187		11 LUG TERMINAL STRIP
22-5432		18 PF DISC CAPACITOR 500V.	83-5268		8 LUG TERMINAL STRIP
		(2 REQ.)	85-1014		SLIDE SWITCH BANDWIDTH
22-5583		.22 MF CAPACITOR 50V.			(PART OF S-78651)
22-5586		43 PF DISC CAPACITOR 500V.	85-1015		SLIDE SWITCH DIAL LIGHT
		(2 REQ.)			(PART OF S-78651)
22-5596		.33 MF CAPACITOR 50V. (2 REQ.)	86-389		CONNECTOR TERMINAL (1 USED
22-5652		.027 MF CAPACITOR 50V.			ON EACH WHITE WIRE &
22-5709		.68 MF DISC CAPACITOR 3V.			BLACK WIRE)
22-5761		470 PF DISC CAPACITOR 1KV.	86-441		INSULATED FEED THRU
22-5819		6 PF DISC CAPACITOR 500V.			TERMINAL
22-5989		.02 MF CERAMIC CAPACITOR 16V.	93-1043		SPRING WASHER SHAKEPROOF
22-7141-12		1000 MF ELECTROLYTIC	93-1792		3/8 O.D. X .257 I.D. X .062 THK.
		CAPACITOR +100% -10% 16V.			WASHER
22-7143		1 MF ELECTROLYTIC CAPACITOR	93-1825		3/8 O.D. X .257 I.D. X .031 THK.
		+100% -10% 50V. (2 REQ.)			WASHER
34-552		DRIVE GEAR	94-1487		SPACER (1 USED ON EACH
34-662		GEAR			114-621 SCREW)
44-34		MINIATURE JACK	95-2604		2ND I.F. PRIMARY AM
52-1458		SHIELDED LEAD			TRANSFORMER
54-139		3/8-32 X 9/16 PALNUT (4 REQ.)	95-2605		2ND I.F. SECONDARY AM
54-560		1/4-32 X 3/8 PALNUT			TRANSFORMER
59-904		DIAL POINTER	95-2606		3RD I.F. AM TRANSFORMER
63-1796		1800 OHM RESISTOR 1/2W. $\pm 10\%$	95-2607		4TH I.F. AM TRANSFORMER
63-1806		3300 OHM RESISTOR 1/2W. $\pm 10\%$	95-2608		RATIO DETECTOR FM
63-1817		5600 OHM RESISTOR 1/2W. $\pm 10\%$			TRANSFORMER
63-1824		8200 OHM RESISTOR 1/2W. $\pm 10\%$	95-2610		2ND & 3RD I.F. FM
63-1834		15K OHM RESISTOR 1/2W. $\pm 10\%$			TRANSFORMER (2 REQ.)
63-1857		51K OHM RESISTOR 1/2W. $\pm 5\%$	95-2611		10.7 MC I.F. WEATHERBAND
63-1861		68K OHM RESISTOR 1/2W. $\pm 5\%$			TRANSFORMER
63-4251		39K OHM RESISTOR 1/4W. $\pm 10\%$	95-2613		RF OUTPUT WEATHERBAND
		(2 REQ.)			TRANSFORMER

AUDIO CHASSIS COMPONENTS 500MDR70 LATER PRODUCTION (Cont'd.)

PART NO.	REF. CODE	DESCRIPTION	PART NO.	REF. CODE	DESCRIPTION
95-2634		BFO TRANSFORMER	12-3515		SLIDE BRACKET
95-2985		RF INPUT TRANSFORMER	12-3517		TUNER SLIDE
95-2986		OSCILLATOR WEATHER BAND TRANSFORMER			BRACKET
100-218		DIAL LIGHT LAMP (2 REQ.)	19-322		SPEED CLIP (3
103-31		CRYSTAL DIODE			USED ON 12-3514)
103-44		GERMANIUM DIODE	20-1256		TRAP COIL (10.7 MHZ)
103-140		ZENER DIODE 6.4V. 1/4W.	22-2379		12 PF DISC
103-141		DIODE (2 REQ.)			CAPACITOR $\pm 5\%$
105-96		INTEGNET			500V.
112-2099		6-20 X 1/4 SPECIAL PAN HD. THREAD FORMING SCREW (2 MT. S-78651 CONTROL BRACKET)	22-2729		.001 MF DISC
					CAPACITOR +50%
113-40		6-32 X 1/4 PHILLIPS RD. HD. MACHINE SCREW (2 MT. 78717 PULLEY & BRACKET)			-30% 25V.
113-182		8-32 X 1/4 PHILLIPS RD. HD. MACHINE SCREW (2 MT. S-78651 CONTROL BRACKET & 1 MTS. S-78717 PULLEY & BRACKET)	22-2731		10 PF DISC
					CAPACITOR $\pm .5$ PF
113-210		8-32 X 7/8 X 5/16 AF HEX HD. SLOTTED W/WASHER MACHINE SCREW			500V.
114-39		8-32 X 1/4 X 1/4 AF HEX HD. THREAD FORMING SCREW TYPE C CADMIUM (3 MT. RF TUNER)	22-3066		10 PF GIMMICK
114-571		4-24 X 3/16 HEX SLOTTED HD. THREAD FORMING SCREW TYPE B STAT. BRONZE (2 MT. S-75005 DIAL LIGHT SOCKET)			CAPACITOR (PART OF S-58098)
114-621		8-18 X 1 X 1/4 AF HEX HD. W/WASHER THREAD FORMING SCREW TYPE B CADMIUM (2 MT. S-85229-01 WAVEMAGNET ANT.)	22-3309		1.8 PF GIMMICK
114-802		8-18 X 5/16 X 1/4 AF HEX WASHER HD. THREAD FORMING SCREW TYPE B STAT. BRONZE			CAPACITOR $\pm 10\%$
121-430		TRANSISTOR 1ST AUDIO & PRE-DRIVER (2 REQ.)	22-3393		500V.
121-441		TRANSISTOR DRIVER			.01 MF DISC
121-692		TRANSISTOR WB RF, WB MIXER & WB OSCILLATOR (3 REQ.)			CAPACITOR +80%
121-701		TRANSISTOR VOLTAGE REGULATOR	22-3849		-50% 25V. (1 PART OF S-58098, 4 REQ.)
121-872		TRANSISTOR 1ST I.F. AM-FM, 2ND I.F. AM-FM, 3RD I.F. AM-FM & BFO (4 REQ.)			20 PF DISC
122-38		TUNING METER	22-4613		CAPACITOR
126-1554		RADIATION SHIELD			1000 PF FEED THRU
149-311		IRON CORE (2 REQ.)	22-5319		CAPACITOR +100%
149-333		IRON CORE SLEEVE (3 REQ.)			-20% 500V. (5 REQ.)
166-105		BUMPER (2 REQ.)	22-5320		38 PF DISC
					CAPACITOR (PART OF S-58096)
					42 PF DISC
					CAPACITOR (PART OF S-58098)
			24-1170		TUNER COVER
			54-633		SOCKET MTG. NUT
					(2 PART OF S-79040)
			56-493		GUIDE PIN (USED ON S-64842)
			56-497		DRIVE PIN (2 PART OF S-64842)
			63-9921-78		1800 OHM
					RESISTOR 1/4W.
					$\pm 5\%$
			63-9921-79		2K OHM RESISTOR
					1/4W. $\pm 5\%$
			63-9921-94		8200 OHM
					RESISTOR 1/4W.
					$\pm 5\%$
			63-9921-98		12K OHM RESISTOR
					1/4W. $\pm 5\%$
			63-10559-36		33 OHM RESISTOR
					1/4W. $\pm 5\%$
			63-10559-56		220 OHM RESISTOR
					1/4W. $\pm 5\%$ (1 PART OF S-58098, 2 REQ.)
			63-10559-72		1K OHM RESISTOR
					1/4W. $\pm 5\%$
			63-10559-76		1500 OHM
					RESISTOR 1/4W.
					$\pm 5\%$
			79-72		#5 EXTRUDED
					PLASTIC
					SLEEVING - 1"
			79-174-12		#18 YELLOW
					SLEEVING (5 REQ.)
			80-1467		RETAINING SPRING
					(RETAINS S-64842)
			80-1672		SPRING (USED AGAINST THREADS OF S-64842)
					RETAINING SPRING
			80-1951		(MTS. EA. 94-613)
			86-441		INSULATED FEED-THRU TERMINAL
					(3 REQ.)
			94-613		IRON CORE
					INSULATED
					BUSHING (3 MT. ON 12-3517)
			95-2609		1ST I.F.
					TRANSFORMER - FM
			103-39		SILICON DIODE - AFC (TYPE IN3182
					VOLTAGE
					VARIABLE
					CAPACITOR)
			112-1467		2-56 X 5/16 PHILLIPS
					PAN HD. SCREW
					(STOP SCREW USED ON S-64842)
RF TUNER COMPONENTS					
S-45000		SERIES ANTENNA COUPLING COIL			
S-58142		PULLEY & BUSHING ASSEM.			
S-58179		DRIVE CORD & EYELET ASSEM. (2 REQ. VARIABLE CAPACITOR)			
S-78077		S.W. 1 ANTENNA COIL (2-4 MHZ)			
S-78078		S.W. 2 ANTENNA COIL (4-9 MHZ)			
S-78079		31 M ANTENNA COIL (9.4-10 MHZ)			
S-78080		25M ANTENNA COIL (11.4-12.2 MHZ)			
S-78081		19M ANTENNA COIL (14.7-15.7 MHZ)			
S-78082		16M ANTENNA COIL (17.1-18.5 MHZ)			
S-78083		13M ANTENNA COIL (20.7-22.4 MHZ)			
S-78084		S.W. 1 OSCILLATOR COIL			
S-78091		S.W. 1 MIXER COIL (2-4 MHZ)			
S-78092		S.W. 2 MIXER COIL (4-9 MHZ)			
S-78093		31M MIXER COIL (9.4-10 MHZ)			
S-78096		16M MIXER COIL (17.1-18.5 MHZ)			
S-78097		13M MIXER COIL (20.7-22.4 MHZ)			
S-78650		FM TUNER			
		S-58095 FM TUNING COIL (3 REQ.)			
		S-58096 ANTENNA COIL ASSEM.			
		S-58098 DETECTOR COIL ASSEM.			
		S-64842 SHAFT ASSEM.			
		S-79040 TUNER HOUSING ASSEM.			
		12-3514 COIL MTG. BRACKET			

AUDIO CHASSIS COMPONENTS 500MDR70 LATER PRODUCTION (Cont'd.)

PART NO.	REF. CODE	DESCRIPTION	PART NO.	REF. CODE	DESCRIPTION
		113-10 6-32 X 3/16" LONG X 1/4 AF HEX HD. MACH. SCREW	63-10559-32		22 OHM RESISTOR 1/4W. $\pm 5\%$
		113-123 4-40 X 3/16" PHILLIPS ROUND HD. MACH. SCREW (JOINS 12-3515 & 12-3517)	63-10559-66		560 OHM RESISTOR 1/4W. $\pm 5\%$
		121-687 TRANSISTOR - FM OSCILLATOR/ MIXER RF FM (2 REQ.)	63-10559-74		1200 OHM RESISTOR 1/4W. $\pm 5\%$
		126-1027 SHIELD			(1 PART OF EA. S-78678 & S-78679)
		126-1331 COIL SHIELD	63-10559-76		1500 OHM RESISTOR 1/4W. $\pm 5\%$
		149-316 IRON CORE & SPRING (USED ON EA. 94-613)			(1 PART OF EA. S-78676 & S-78677)
S-78672		OSCILLATOR COIL (B.C. & L.W.)	79-174-12		# 18 YELLOW SLEEVING (13 REQ.)
S-78674		S.W. 2 OSCILLATOR COIL (4-9 MHZ)	80-209		DIAL CORD TENSION SPRING
S-78675		31M OSCILLATOR COIL (9.4-12.2 MHZ)	83-6983		ANTENNA TERMINAL STRIP (PART OF S-80653)
S-78676		25M OSCILLATOR COIL (11.4-12.2 MHZ)	93-966		LOCKWASHER CADMIUM (2 REQ.)
S-78677		19M OSCILLATOR COIL (14.7-15.7 MHZ)	94-334		STEEL BUSHING (3 REQ.)
S-78678		16M OSCILLATOR COIL (17.1-18.5 MHZ)	113-8		6-32 X 1/4 X 1/4 AF HEX HD. MACH. SCREW (4 REQ.)
S-78679		13M OSCILLATOR COIL (20.7-22.4 MHZ)	113-13		6-32 X 7/16 X 1/4 AF HEX HD. MACH. SCREW (3 REQ.)
S-78689		MIXER COIL (B.C. & L.W.)	113-33		4-40 X 1/4 X 7/32 AF HEX HD. MACH. SCREW
S-78693		25M MIXER COIL (11.4-12.2 MHZ)	114-39		8-32 X 1/4 X 1/4 AF HEX HD. THREAD FORMING SCREW
S-78694		19M MIXER COIL (14.7-15.7 MHZ)			TYPE C CADMIUM (11 REQ.)
S-78724		RF HOUSING ASSEM. - RIVETING COIL MTG. BRACKET, TERMINAL STRIP & CLIP ASSEM.	125-94		RUBBER GROMMET (3 REQ.)
S-78743		ANTENNA TERMINAL STRIP & BRACKET ASSEM.	126-857		COIL SHIELD (2 REQ.)
12-6109		SHAFT SUPPORT BRACKET	149-311		IRON CORE (4 REQ.)
19-322		SPEED CLIP (2 PART OF S-78743)			
19-442		COIL MTG. CLIP (21 PART OF S-78743)			
22-18		.0022 MF CERAMIC DISC CAPACITOR $\pm 10\%$ 500V. (PART OF S-78672)	S-45000		SERIES ANTENNA COUPLING COIL ASSEM.
22-2379		12 PF CERAMIC DISC CAPACITOR 500V. (PART OF S-78675)	S-90975		BRACKET W/4 LUG TERMINAL STRIP & 7 LUG TERMINAL STRIP RIVETING ASSEM.
22-2729		.001 MF CERAMIC DISC CAPACITOR 25V.	22-2594		17 PF CERAMIC DISC CAPACITOR 500V.
22-2979		60 PF CERAMIC DISC CAPACITOR 500V.	22-3034		.05 MF CERAMIC DISC CAPACITOR +100% -50% 25V. (8 REQ.)
22-3034		.05 MF CERAMIC DISC CAPACITOR +100% -50% 25V. (1 PART OF EA. S-78674, S-78693 & S-78694) (7 REQ.)	22-3538		125 PF MICA CAPACITOR 100V.
22-3849		20 PF CERAMIC DISC CAPACITOR 25V. (PART OF S-78677)	22-3749		1000 PF MICA CAPACITOR 100V.
22-3902		SINGLE SECTION TRIMMER CAPACITOR	22-3955		.1 MF CAPACITOR 50V.
22-5037		.005M CERAMIC DISC CAPACITOR 25V.	22-5348		TRIMMER CAPACITOR
22-5092		30 PF CERAMIC DISC CAPACITOR 500V.	22-5459		1500 PF CERAMIC DISC CAPACITOR $\pm 10\%$ 500V.
22-5128		4 PF CERAMIC DISC CAPACITOR 500V. (PART OF S-78676)	22-5585		750 PF CERAMIC DISC CAPACITOR 500V.
22-5276		125 PF CERAMIC DISC CAPACITOR 500V.	22-6017		TRIMMER CAPACITOR
22-5318		34 PF CERAMIC DISC CAPACITOR 500V. (PART OF S-78679)	22-6045		TRIMMER CAPACITOR
22-5432		18 PF CERAMIC DISC CAPACITOR 500V. (PART OF S-78678)	52-1486		COAXIAL CABLE
22-5705		6 SECTION TRIMMER CAPACITOR	52-1781		COAXIAL CABLE (3-3/4)
22-5861		5 SECTION TRIMMER CAPACITOR	54-490		TENSION HEX PALNUT
22-6335		1800 PF POLYSTYRENE CAPACITOR 5% 30V.	63-9921-80		2200 OHM RESISTOR 1/4W. $\pm 5\%$
22-6337		3900 PF POLYSTYRENE CAPACITOR 5% 30V.	63-9921-92		6800 OHM RESISTOR 1/4W. $\pm 5\%$
22-6874		3 SECTION VARIABLE CAPACITOR	63-10559-36		33 OHM RESISTOR 1/4W. $\pm 5\%$
52-2034		75 OHM COAXIAL CABLE	63-10559-46		82 OHM RESISTOR 1/4W. $\pm 5\%$
52-2256		SHIELDED CABLE (USED ON S-80653)	63-10559-48		100 OHM RESISTOR 1/4W. $\pm 5\%$
54-139		3/8-32 X 9/16 PALNUT			(2 REQ.)
54-227		4-40 X 1/4 HEX NUT (2 REQ.)	63-10559-52		150 OHM RESISTOR 1/4W. $\pm 5\%$
57-6678		SWITCH MTG. PLATE	63-10559-66		560 OHM RESISTOR 1/4W. $\pm 5\%$
57-6867		TRIMMER MTG. PLATE			(2 REQ.)
63-1897		470K OHM RESISTOR 1/2W. $\pm 10\%$ (2 USED ON S-80653)	63-10559-68		680 OHM RESISTOR 1/4W. $\pm 5\%$
63-4231		12K OHM RESISTOR 1/4W. $\pm 10\%$ (2 REQ.)	63-10559-72		1K OHM RESISTOR 1/4W. $\pm 5\%$
63-9921-78		1800 OHM RESISTOR 1/4W. $\pm 5\%$ (1 PART OF S-98693)	63-10559-74		1200 OHM RESISTOR 1/4W. $\pm 5\%$
63-9921-80		2200 OHM RESISTOR 1/4W. $\pm 5\%$ (1 PART OF EA. S-78674 & S-78675)	63-10559-76		1500 OHM RESISTOR 1/4W. $\pm 5\%$
63-9921-92		6800 OHM RESISTOR 1/4W. $\pm 5\%$	78-1842		TRANSISTOR SOCKET (1 MTS. EA. 121-871 & 121-872)
63-9922-03		470K OHM RESISTOR 1/4W. $\pm 5\%$ (2 USED ON S-80653)	79-174-12		# 18 YELLOW SLEEVING (6 REQ.)
			95-2002		1ST I.F. TRANSFORMER PRIMARY
			95-2003		1ST I.F. TRANSFORMER SECONDARY
			112-1373		TRIMMER ADJUSTING SCREW
			121-871		TRANSISTOR AM/RF
			121-872		TRANSISTOR AM MIXER & AM OSCILLATOR (2 REQ.)
			149-311		IRON CORE
			</		

AUDIO CABINET

MODEL NO.	REFERENCE CODE	MODEL NO.	REFERENCE CODE	MODEL NO.	REFERENCE CODE
ROYAL D7000Y	A	ROYAL D7000Y1	B	ROYAL D7000Y2	C

NOTE: THIS COMBINED PARTS LIST WILL ENABLE YOU TO MORE EASILY DETERMINE THE PART NUMBER OF PARTS USED ON EACH MODEL, CHASSIS OR ASSEMBLY. EACH OF THESE HAS BEEN ASSIGNED A REFERENCE CODE WHICH IS IN THE COLUMN IMMEDIATELY TO THE RIGHT OF THE PART NUMBER. THE ABSENCE OF A REFERENCE CODE DENOTES THE PART IS USED ON ALL UNITS LISTED.

PART NO.	REF. CODE	DESCRIPTION	PART NO.	REF. CODE	DESCRIPTION
USING CHASSIS 500MDR70			54-347		6-32 'KEPS' NUT (11 USED ON 112-1438, 4 USED ON 112-2066 & 4 MT. 49-1143) (20 REQ.)
S-78766		HANDLE ASSEM. (2 PART OF S-91160)	54-412		SPEED NUT (4 PART OF S-91160)
S-78772		CHART LIGHT DOOR & SOCKET ASSEM. (PART OF S-78773)	54-789		PALNUT (5 MT. 57-6657)
S-78773		CHART LIGHT & TUNING ESCUTCHEON ASSEM. (PART OF S-91160)	54-794		TINNERMAN SPEED NUT (3 MT. 57-6658)
S-78777		ANTENNA & SLEEVE ASSEM.	54-817		TINNERMAN SPEED NUT (8 MT. 192-418)
S-78778		CONTACT SPRING & STRIP ASSEM. — R.H.	54-853		1/4-32 X 3/8 HEX NUT (USED ON 44-84)
S-78779		CONTACT SPRING & STRIP ASSEM. — L.H.	56-557		UPPER DOOR PIN (2 PART OF S-91160)
S-78786		BRACKET & STUD ASSEM. (2 PART OF S-91160)	56-596		LOWER DOOR PIN (PART OF S-91160)
S-78787		UPPER DOOR & TRIM STRIP ASSEM. (PART OF S-91160)	56-605		LOWER DOOR PIN (PART OF S-91160)
S-78791		CHART LIGHT & TRIM STRIP ASSEM.	57-6649		NAME PLATE (PART OF S-85394)
S-78792		TUNING ESCUTCHEON & TRIM STRIP ASSEM.	57-6657		CABINET TOP (PART OF S-91160)
S-78794		UPPER DOOR & TRIM ASSEM.	57-6658		CABINET BASE PLATE
S-80527		MAP HOUSING & CRYSTAL ASSEM. — TRANS-OCEANIC-ZONE TIME (PART OF S-91160)	57-6679		CHART LIGHT & TUNING ESCUTCHEON (PART OF S-78792)
S-80963		PLATE & STUD ASSEM.	57-6708		SPEAKER ESCUTCHEON
S-85389		CABINET END PLATE ASSEM. — R.H. (PART OF S-91160)			357-181 CONTROL OVERLAY
S-85390		CABINET END PLATE ASSEM. — L.H. (PART OF S-91160)	57-6801	A	883-91 GRILLE BACKING STRIP
S-85392		CABINET BACK ASSEM.	57-6971		938-16 GRILLE
S-85394		LOWER DOOR & TRIM ASSEM.	57-6994		NAME PLATE — TRANS-OCEANIC BATTERY PANEL (PART OF S-90896)
S-90896		BATTERY COVER ASSEM.	57-7330		CORD RETAINING PLATE (2 PART OF S-90896)
S-91088		LOWER DOOR & TRIM ASSEM. — CONTROL COVER & DECORATION (PART OF S-91160)	57-7769		CHASSIS SUPPORT PLATE
S-91089		DIAL SCALE ASSEM. — CIRCULAR COMPASS	58-214		BACKGROUND PLATE FOR SELECTOR KNOB (PART OF S-91160)
S-91160		MAIN CABINET & TRIM ASSEM.	58-316		JACK PLUG (USED ON 44-84)
1-19		TELESCOPIC ANTENNA	59-1048		A.C. INPUT PLUG (PART OF S-85392)
11-247		LINE CORD (PART OF S-90896)	69-262		DIAL SLIDE
15-108		SOCKET SHELL (CABINET BACK ASSEM.)			8-32 X 1/2 PHILLIPS ROUND HD. MACH. SCREW — STAT. BRONZE (3 USED ON S-85392)
16-4205		PACKING CARTON	73-123		8-32 X 1/4 ALLEN HD. CUPPOINT SET SCREW (PART OF 46-9437)
26-2373		DIAL SCALE — COMPASS CIRCULAR 3 IN./8 POINTS (PART OF S-91089)	76-1770		PIVOT SHAFT (PART OF S-78773)
30-328		DECORATIVE TRIM STRIP — LEFT SIDE (PART OF S-91160)	78-1101	A	THREE CONTACT BATTERY SOCKET (CABINET BACK ASSEM.)
30-329		DECORATIVE TRIM STRIP — RIGHT SIDE (PART OF S-91160)	78-1101-01	BC	THREE CONTACT BATTERY SOCKET (CABINET BACK ASSEM.)
30-330		DECORATIVE OVERLAY — RADIO, TRANS-OCEANIC NATIONAL WEATHER SERVICE BAND, ZENITH TRANS-OCEANIC (PART OF S-85394)	78-1834		PILOT LIGHT SOCKET & WIRE (PART OF S-78772)
30-335		DECORATIVE ITEM — LOWER COVER PLATE (PART OF S-91089)	80-1091		DIAL CORD TENSION SPRING
36-710		HANDLE (PART OF S-91160)	80-1998		CONTACT SPRING (PART OF S-85392)
39-75		EARPHONE (PART OF S-90896)	80-2010		HANDLE SPRING (2 PART OF S-91160)
43-965		ANTENNA PIVOT HOUSING	80-2047		CONTACT SPRING (PART OF S-78778)
43-1040		BATTERY CONTAINER (2 REQ.)	80-2048		CONTACT SPRING (PART OF S-78778 & S-78779)
43-1099		BATTERY CONTAINER	80-2078		SPRING (PART OF S-78777)
44-84		JACK — TUNER OR PHONO (FOR 58-214)	80-2159		SPRING — LOWER DOOR (PART OF S-85389 & S-85390)
46-6250		BLUE ANTENNA KNOB (PART OF 1-19)	80-2165		LOWER DOOR SPRING (PART OF S-91160)
46-6251		SPROCKET KNOB (2 USED ON S-78786)	82-262		GROUND STRAP (2 PART OF S-91160)
46-6361		CONTROL KNOB — VOLUME, TONE, MANUAL GAIN (3 REQ.)	83-1475-01	B	LOOP FASTENING STRIP
46-6828		CONTROL KNOB — BFO	83-2785		RUBBER STRIP (USED ON CABINET BACK)
46-7382		TUNING KNOB	83-3024		RUBBER STRIP (PART OF S-91160)
46-9437		BAND SELECTOR CONTROL KNOB	83-4311		CUSHIONING — 12 X 12 (USED ON CABINET)
49-1143		4 X 6 PERMANENT MAGNET	83-6538		TRIM STRIP (USED ON 57-6658)
54-12		6-32 X 5/16 HEX NUT — NICKEL (USED ON S-85392)			

AUDIO CABINET (Cont'd.)

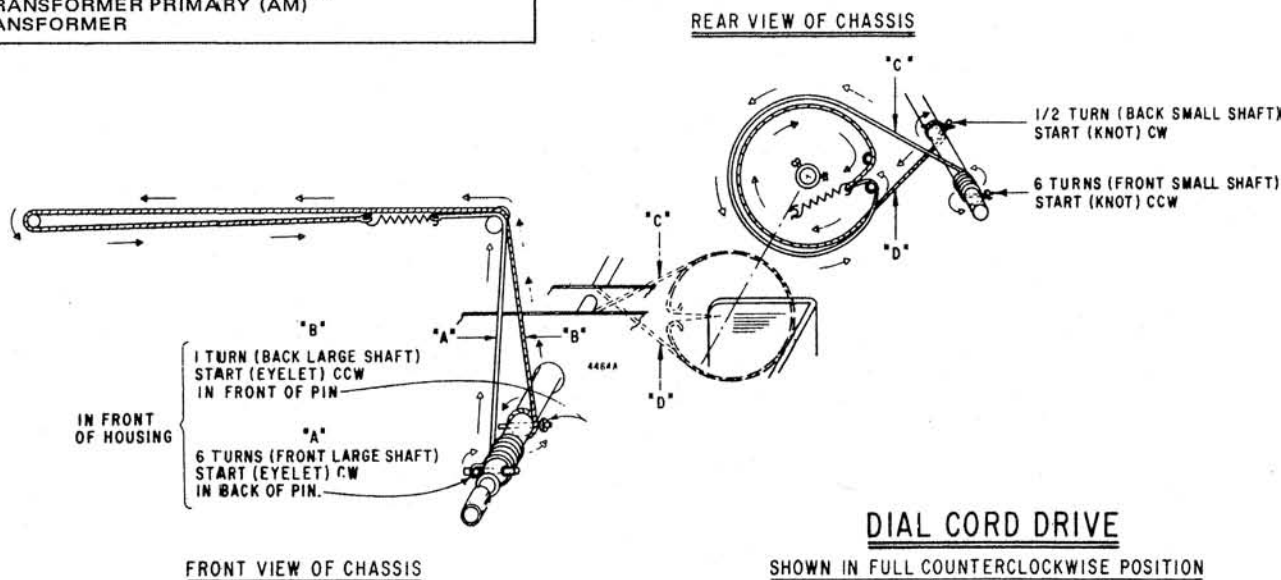
PART NO.	REF. CODE	DESCRIPTION	PART NO.	REF. CODE	DESCRIPTION
83-6543		TIME INDICATOR STRIP (PART OF S-91160)	112-2096		6-20 X 3/8 PHILLIPS FL. HD. SELF TAP. SCREW - CADMIUM (4 MT. 36-710)
83-6544		TRIM STRIP (PART OF S-78787)	112-2097		6-20 X 1/2 PHILLIPS SELF TAP. PAN HD. SCREW - CADMIUM (3 MT. 500MDR70)
83-6545		TRIM STRIP (PART OF S-78794)	112-2122		4-24 X 1/4 SPEC. FLAT TRIM HD. SCREW - CADMIUM (2 MT. S-91088, 6 MT. S-91160) (8 REQ.)
83-6574		TUNING ESCUTCHEON TRIM STRIP (PART OF S-79792)	114-811		6-20 X 1/4 X 1/4 AF HEX HD. SELF TAP. SCREW - STAT. BRONZE (2 MT. EA. S-78786)
83-6575		CHART LIGHT TRIM STRIP (PART OF S-78791)	114-813		6-20 X 3/8 HEX HD. SELF TAP. SCREW - STAT. BRONZE (4 MT. S-78777)
83-7000		LOWER DOOR TRIM STRIP (PART OF S-91088)	114-1095		SPEC. HEX HD. SCREW (USED ON S-85392)
83-7006-01		PROTECTIVE STRIP (USED ON S-85392)	126-1613		HEAT SHIELD
83-7628		GRILLE BACKING STRIP (CABINET ASSEM.)	166-105		BUMPER (4 REQ.)
83-8290-01	AC	INSULATING STRIP WITHOUT PERFORATION (CABINET ASSEM.)	188-140		RETAINING RING (PART OF S-90896)
83-8496		CELLULOSE CUSHIONING	188-155		KNOB CLAMPING RING (PART OF 46-6828, 46-7382 & EA. 46-6361)
85-1043		SLIDE SWITCH (PART OF S-85392)	188-168		RETAINING RING (1 JOINS EA. 46-6251 & S-78786)
86-221		TERMINAL (USED ON BLACK WIRE)	192-418		DIAL CRYSTAL
86-306		TERMINAL (PART OF S-91160)	199-466		ANTENNA SLEEVE
86-323		SPADE TERMINAL (2 USED ON CABINET BACK)	202-3433		SHORT WAVE CHART BOOK
86-618		TERMINAL (PART OF S-91160)	202-3442		INSTRUCTION BOOK
93-799		BRASS WASHER (2 PART OF S-85392)	202-3443		OPERATING SPECIFICATIONS BOOKLET
93-1289		3/16 X 7/16 X 1/32 THICK FIBER WASHER (USED ON CABINET BACK)	202-3659	AB	SERVICE MANUAL
93-1794		.082 X 1/4 X .015 THK. BRASS WASHER (PART OF EA. S-78766 (2 REQ.))	202-4002	C	SERVICE MANUAL
93-1818		SHOULDER WASHER (3 JOIN S-80963 & S-85392)	220-142		CUSHIONING MATERIAL - PACKING
93-1863		VINYL WASHER (PART OF 46-9437)			
93-1884		SPRING WASHER (PART OF S-91089)			POWER SUPPLY COMPONENTS
93-1892		FINISH WASHER (USED ON JACK & PLUG)	S-80964		SWITCH BRACKET & TERMINAL STRIP ASSEM.
94-1549		BUSHING - COVER PANEL (PART OF S-90896)	22-4617		.01 MF DISC CAPACITOR 500V. (2 REQ.)
96-696		PIVOT LEG (PART OF EA. S-78766)	22-6316		500 MF ELECTROLYTIC - 1 SECTION 500V.
97-812		STUD (PART OF S-78786)	23-38	B	SPLICE CAP (2 REQ.)
97-832		STUD (PART OF S-85389 & S-85390)	54-946		"U" SHAPED SPRING NUT
100-218		CHART LIGHT BULB - GE # 123	63-10526-02		3.3 MEGOHM RESISTOR 1/2W. ±20%
101-4976		TRANSISTOR LAYOUT & PATENT LABEL (PART OF S-90896)	63-10567-28		15 OHM RESISTOR 1/2W. ±10%
101-5559		ANTENNA INSTRUCTION LABEL	79-174-08		#18 YELLOW SLEEVING
110-607		GRILLE CLOTH (USED ON S-85392)	83-3672		8 LUG TERMINAL STRIP (PART OF S-80964)
110-664		PADDING - BLACK R. SIDE (PART OF S-91160)	85-818		SLIDE SWITCH (PART OF S-80964)
110-665		PADDING - BLACK L. SIDE (PART OF S-91160)	85-1393	B	CIRCUIT BREAKER - SELF SETTING THERMAL
112-320		6-20 X 3/8 PAN HD. SELF TAP. SCREW - STAT. BRONZE (JOINS 1-19 & 43-965)	86-512		MINIATURE CONTACTS (WIRE RETAINING PIN)
112-1124		4-24 X 11/32 SPEC. FILLISTER HD. SELF TAP. SCREW - BLACK ZINC (4 USED ON S-78786)	95-2671	A	POWER TRANSFORMER
112-1376		4-24 X 3/8 PHILLIPS PAN HD. SELF TAP. SCREW - STAT. BRONZE (2 MT. S-85392)	95-2671-01	B	POWER TRANSFORMER
112-1438		6-32 X 5/16 SPEC. HEX HD. MACH. SCREW (4 USED ON 57-6708, 2 USED ON 57-7769, 5 MT. S-85389 & 6 MT. S-85390)	95-3256	C	POWER TRANSFORMER
112-1714		6-32 X 3/16 PHILLIPS PAN HD. MACH. SCREW - CADMIUM (4 JOIN 83-6544 & S-78794)	112-2072		6-20 X 3/8 PHILLIPS TRUSS HD. SELF TAP. SCREW - STAT. BRONZE (1 MTS. TRANSFORMER & S-80964, 2 USED ON 83-3672)
112-1865		6-20 X 7/16 PHILLIPS PAN HD. SELF TAP. SCREW - CADMIUM (MTS. 500MDR70)	114-1095		SPEC. HEX HD. MACH. SCREW (MTS. TRANSFORMER)
112-2038		6-32 X 5/32 SPEC. AL. HD. MACH. SCREW - STEEL CADMIUM (4 MT. 57-6657)	205-51	B	SILICON GREASE
112-2065-01		4-24 X 1/4 PHILLIPS THD. CUT SPEC. OVAL HD. SCREW - TYPE 25 CHROME (4 USED ON S-91088)	212-76		SILICON RECTIFIER (2 REQ.)
112-2066		6-32 X 5/16 SPEC. AL. HD. MACH. SCREW - CHROME PLATE (4 MT. 36-710)			"OPTIONAL AT EXTRA COST"
112-2071		4-24 X 1/4 PHILLIPS PAN HD. SELF TAP. SCREW - STAT. BRONZE (1 USED ON 80-1091 & 2 USED ON 83-7006-01)	S-75893		SWIVEL BASE ASSEM.
112-2072		6-20 X 3/8 PHILLIPS TRUSS HD. SELF TAP. SCREW - STAT. BRONZE (1 MTS. EA. 57-6994, S-85392 & 3 PART OF S-80963)			16-3527 PACKING CARTON
					57-6618 LEG SUPPORT PLATE (2 REQ.)
					57-6620 BASE SUPPORT - RING
					80-2034 TENSION SPRING (2 REQ.)
					93-1682 SPRING WASHER
					93-1790 BASE WASHER
					96-694 LEG - LEFT (2 REQ.)
					96-695 LEG - RIGHT (2 REQ.)
					112-2041 6-18 X 1/4 PHILLIPS PAN HD. SCREW - NICKEL PLATE (2 MT. EA. LEG SUPPORT)

AUDIO CABINET (Cont'd.)

PART NO.	REF. CODE	DESCRIPTION	PART NO.	REF. CODE	DESCRIPTION
"OPTIONAL AT EXTRA COST (Cont'd.)"					
S-75893		SWIVEL BASE ASSEM. (Cont'd.) 112-2043 8-32 X 1/4 PHILLIPS FLAT HD. MACH. SCREW - NICKEL PLATE (3 MT. S-78811) 112-2109 6-32 X 3/8 PHILLIPS FLAT HD. MACH. SCREW (4 MT. LEGS)	Z4NL		188-140 RETAINING RING 199-464 SPACER SLEEVE (USED ON EA. LEG) 202-3070 INSTRUCTION SHEET S-78811 SWIVEL BASE PLATE ASSEM. - TOP 1-1/2V. FLASHLIGHT BATTERY (9 REQ.)

NO.	COIL CHART
L102	ANTENNA (LW AND BC)
L106	13M ANTENNA COIL (TOP)
L107	16M ANTENNA COIL (BOTTOM)
L108	19M ANTENNA COIL (TOP)
L109	25M ANTENNA COIL (BOTTOM)
L110	31M ANTENNA COIL (TOP)
L112	SW2 ANTENNA COIL (BOTTOM)
L113	SW1 ANTENNA COIL (TOP)
L114	13M MIXER COIL (TOP)
L115	16M MIXER COIL (TOP)
L116	19M MIXER COIL (TOP)
L117	25M MIXER COIL (TOP)
L118	31M MIXER COIL (TOP)
L119	SW2 MIXER COIL (TOP)
L120	SW1 MIXER COIL (TOP)
L122A	BC MIXER COIL (TOP)
L122B	LW MIXER COIL (BOTTOM)
L123	13M OSCILLATOR COIL (BOTTOM)
L124	16M OSCILLATOR COIL (BOTTOM)
L125	19M OSCILLATOR COIL (BOTTOM)
L126	25M OSCILLATOR COIL (BOTTOM)
L127	31M OSCILLATOR COIL (BOTTOM)
L128	SW2 OSCILLATOR COIL (BOTTOM)
L129	SW1 OSCILLATOR COIL (BOTTOM)
L130A	BC OSCILLATOR COIL (BOTTOM)
L130B	LW OSCILLATOR COIL (TOP)
L201	2nd IF TRANSFORMER PRIMARY (TOP) } T203
L202	2nd IF TRANSFORMER SECONDARY (BOTTOM) } T203
L204	3rd IF TRANSFORMER PRIMARY (TOP) } T206
L205	3rd IF TRANSFORMER SECONDARY (BOTTOM) } T206
L206	3rd IF TRANSFORMER PRIMARY (TOP) } T207
L207	3rd IF TRANSFORMER SECONDARY (BOTTOM) } T207
L209	RATIO DETECTOR TRANSFORMER PRI (BOTTOM) } T208
L210	RATIO DETECTOR TRANSFORMER (TOP) } T208
NO.	TRANSFORMER CHART
T1	RF INPUT TRANSFORMER (WB)
T2	RF OUTPUT TRANSFORMER (WB)
T3	10.7 MHZ IF TRANSFORMER (WB)
T4	OSCILLATOR TRANSFORMER (WB)
T5	1st IF TRANSFORMER (FM)
T201	1st IF PRIMARY (AM)
T202	1st IF SECONDARY (AM)
T203	2nd IF TRANSFORMER (FM)
T204	2nd IF TRANSFORMER PRIMARY (AM)
T205	2nd IF TRANSFORMER SECONDARY (AM)
T206	3rd IF TRANSFORMER (FM)
T207	3rd IF TRANSFORMER (AM)
T208	RATIO DETECTOR TRANSFORMER (FM)
T209	4th IF TRANSFORMER PRIMARY (AM)
T201	BFO TRANSFORMER

NO.	TRANSISTOR CHART
Q1	121-692 WB RF
Q2	121-692 WB MIXER
Q3	121-692 WB OSCILLATOR
Q4	121-687 RF TRANSISTOR (FM)
Q5	121-687 OSCILLATOR MIXER (FM)
Q101	121-871 RF (AM)
Q102	121-872 MIXER (AM)
Q103	121-872 OSCILLATOR (AM)
Q201	121-872 1st. IF TRANSISTOR (AM-FM)
Q202	121-872 2nd IF TRANSISTOR (AM-FM)
Q203	121-872 3rd IF TRANSISTOR (AM-FM)
Q204	121-872 BFO
Q401	121-430 1st. AUDIO
Q402	121-430 PRE-DRIVER
Q403	121-441 DRIVER
Q404	800-245 MATCHED PAIR OF ONE
Q405	121-678 AND 121-679
Q501	121-701 VOLTAGE REGULATOR
NO.	TRIMMER CHART
C112	BROADCAST ANTENNA TRIMMER
C113	LONG WAVE ANTENNA TRIMMER
C114 (A)	SW2 ANTENNA TRIMMER
C114 (B)	SW1 ANTENNA TRIMMER
C114 (C)	SW2 MIXER TRIMMER
C114 (D)	SW1 MIXER TRIMMER
C114 (E)	SW2 OSCILLATOR TRIMMER
C114 (F)	SW1 OSCILLATOR TRIMMER
C119 (A)	BROADCAST MIXER TRIMMER
C119 (B)	LONG WAVE MIXER TRIMMER
C119 (C)	BROADCAST OSCILLATOR TRIMMER
C119 (D)	LONG WAVE OSCILLATOR TRIMMER
C119 (E)	LONG WAVE OSCILLATOR PADDER
C130	VHF OSCILLATOR TRIMMER
C136	BROADCAST OSCILLATOR PADDER



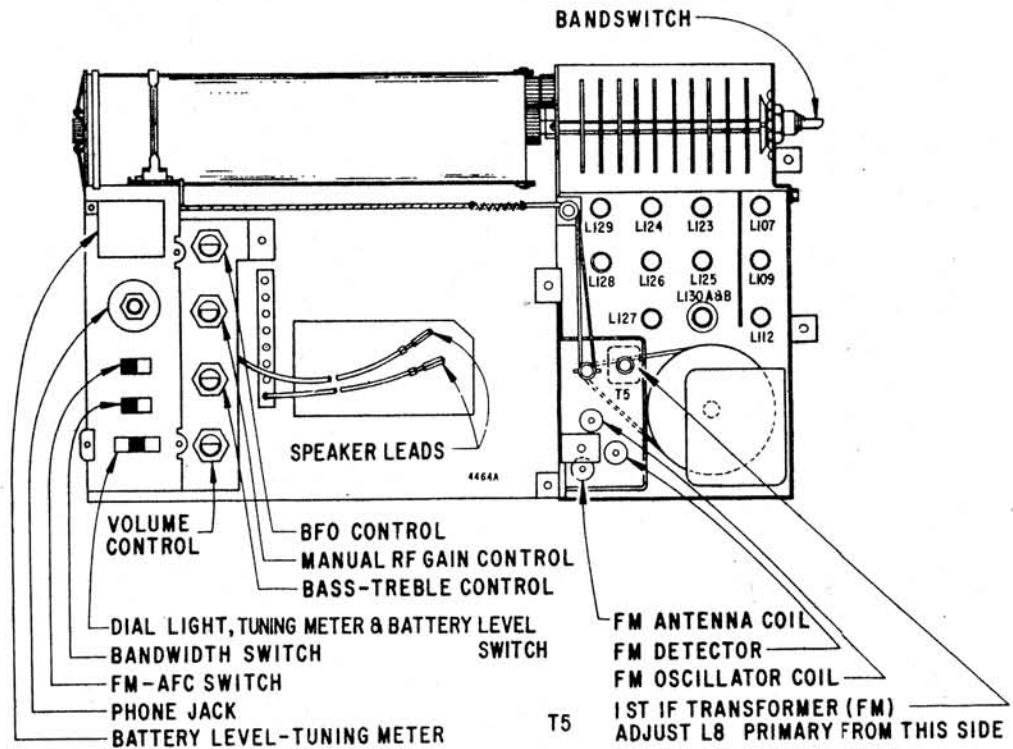
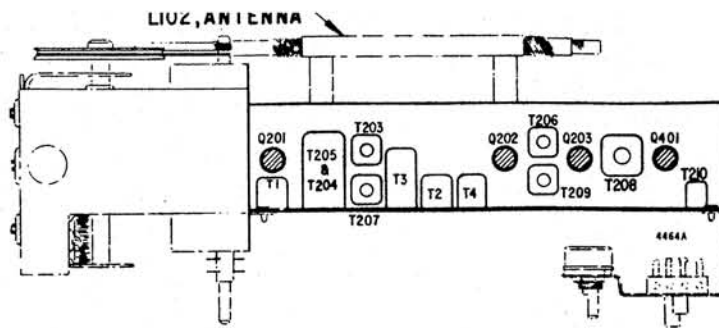
ALIGNMENT PROCEDURE

STEP NO.	CONNECT GENERATOR TO	INPUT SIGNAL FREQUENCY	BAND I	DIAL FREQUENCY	ADJUST	PURPOSE
NOTE - Perform A.M. I.F. and B.F.O. alignment with bandwidth switch in sharp position, manual gain control off. Connect meter across speaker voice coil.						
1	Test Point "5"	455 KHz	BC	1600 KHz	T201, T202, T204 T205, T207, T209	Align A.M. I.F. for max.
NOTE - Turn B.F.O. Control ON and set to mid rotation with bandwidth switch in sharp.						
2*	Test Point "5"	455 KHz	BC	1600 KHz	T210	Adjust BFO for zero beat.
NOTE - Place bandwidth switch to normal and turn B.F.O. to off.						
3*	One turn loop loosely coupled to wavemagnet	1620 KHz	BC	1620 KHz Gang Open	C119C	Set B.C. oscillator to scale
4*		600 KHz	BC	600 KHz	C136	
5		Repeat steps 3 and 4 until minimum change				
6*		1420 KHz	BC	1420 KHz	C112, C119A	Align B.C. antenna and mixer for maximum
7*		600 KHz	BC	600 KHz	L122A	
8*		Repeat steps 6 and 7 until minimum change				
9*		405 KHz	LW	405 KHz Gang Open	C119D	Set L.W. Oscillator to scale.
10*		160 KHz	LW	160 KHz	C119E	
11		Repeat steps 9 and 10 until minimum change				
12*		375 KHz	LW	375 KHz	C113, C119B	Align L.W. Antenna and mixer for maximum
13*		160 KHz	LW	160 KHz	L122B	
14		Repeat steps 12 and 13 until minimum change				
NOTE - Align F.M. with A.F.C. switch off.						
15	Test Point "B" (* *)	10.7 MHz modulated	FM	98 MHz	T5, T203, T206, and top of T208	Align F.M. I.F. and Ratio Detector Pri. Connect meter across voice coil and reduce input so output will not be greater than 0.4 volts.
16		10.7 MHz modulated	FM	98 MHz	Bottom of T208	Align FM Ratio Detector or Sec. Place meter probe on pin 6 of T208 and adjust bottom of T208 to zero after determining that there is a symmetrical swing around this zero point.
17		Repeat steps 15 and 16 until minimum change				
18	FM Antenna Terminals (* *)	98 MHz modulated	FM	98 MHz	L7	Set FM Oscillator to scale-meter across voice coil.
19		98 MHz modulated	FM	98 MHz	L3, L5	Align FM antenna and detector for maximum
20		164 MHz	VHF	164 MHz	T4, T1, T2, T3	Align VHF
21		161 MHz	VHF	161 MHz	C130	Set VHF Oscillator to scale.
22		164 MHz	VHF	164 MHz	T4	
23		Repeat steps 21 and 22 until minimum change				
24		161 MHz	VHF	161 MHz	T2	Adjust T2 for equal output at 161 MHz and 164 MHz.
25		164 MHz	VHF	164 MHz	T2	
26		Repeat steps 24 and 25 until minimum change				
27	3 feet of wire approximately 1 foot from and parallel to Extended Waverod.	3.4 MHz	SW1	3.4 MHz	C114F	Set SW1 Oscillator to scale
28		1.8 MHz	SW1	1.8 MHz	L129	
29		Repeat steps 27 and 28 until minimum change				
30		3.4 MHz	SW1	3.4 MHz	C114B, C114D	Align SW1 Antenna & mixer for maximum
31		1.8 MHz	SW1	1.8 MHz	L120, L113	
32		Repeat steps 30 and 31 until minimum change				
33		8.75 MHz	SW2	8.75 MHz	C114E	Set SW2 Oscillator to scale.
34		3.9 MHz	SW2	3.9 MHz	L128	
35		Repeat steps 33 and 34 until minimum change				
36		8.75 MHz	SW2	8.75 MHz	C114A, C114C	Align SW2 Antenna & mixer for maximum
37		3.9 MHz	SW2	3.9 MHz	L112, L119	
38		Repeat steps 36 and 37 until minimum change				
39		9.7 MHz	31M	9.7 MHz	L110, L118, L127	Align 31M, 25M, 19M, 16M, and 13M Oscillator, Antenna and Mixer.
40		11.8 MHz	25M	11.8 MHz	L109, L117, L126	
41		15.2 MHz	19M	15.2 MHz	L108, L116, L125	
42		17.8 MHz	16M	17.8 MHz	L107, L115, L124	
43		21.6 MHz	13M	21.6 MHz	L106, L114, L123	

* Rock Tuning Capacitor when making adjustment.

** Probe from generator should be isolated through a .05 MFD Capacitor.

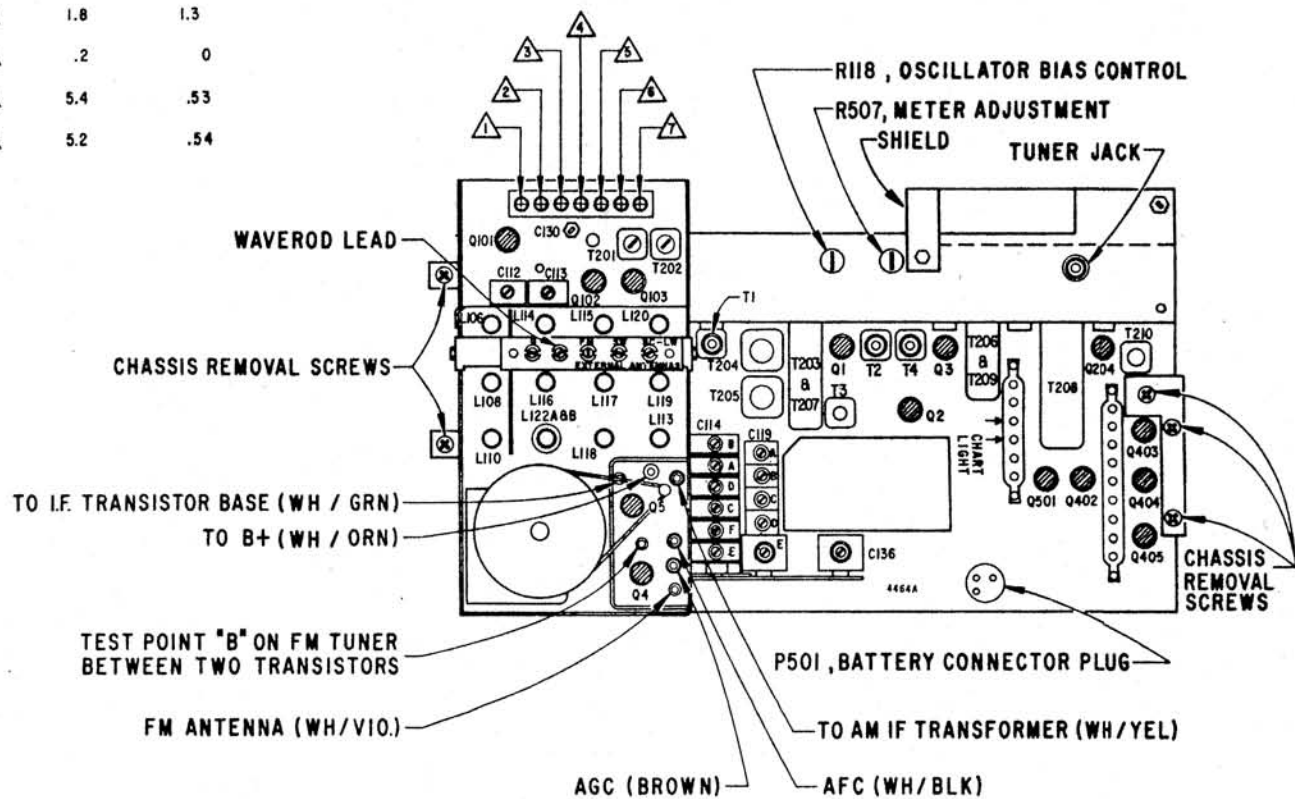
*** Probe from generator should be terminated with the proper resistor to match 72 ohm line output impedance.

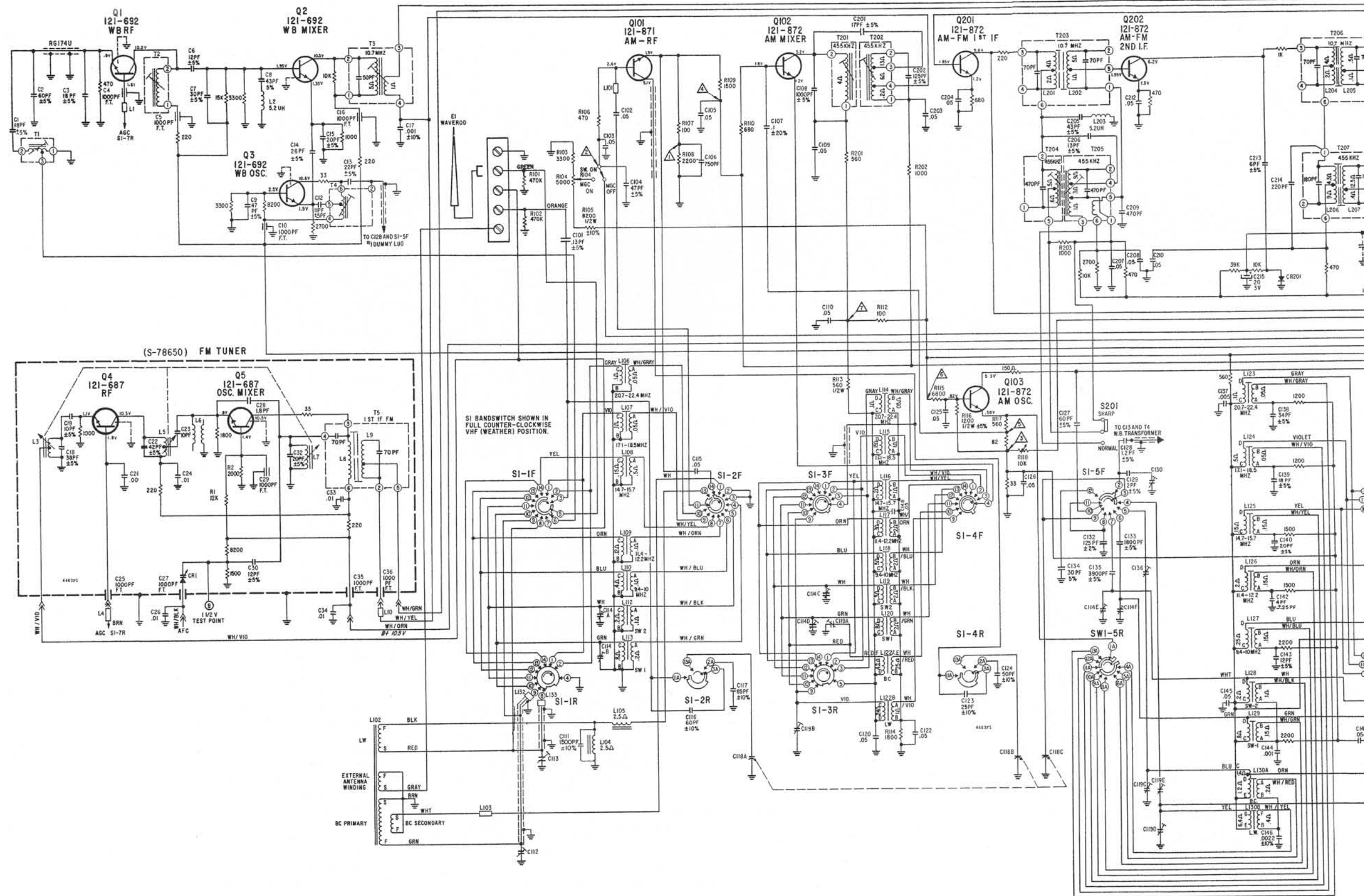


TEST POINT VOLTAGES

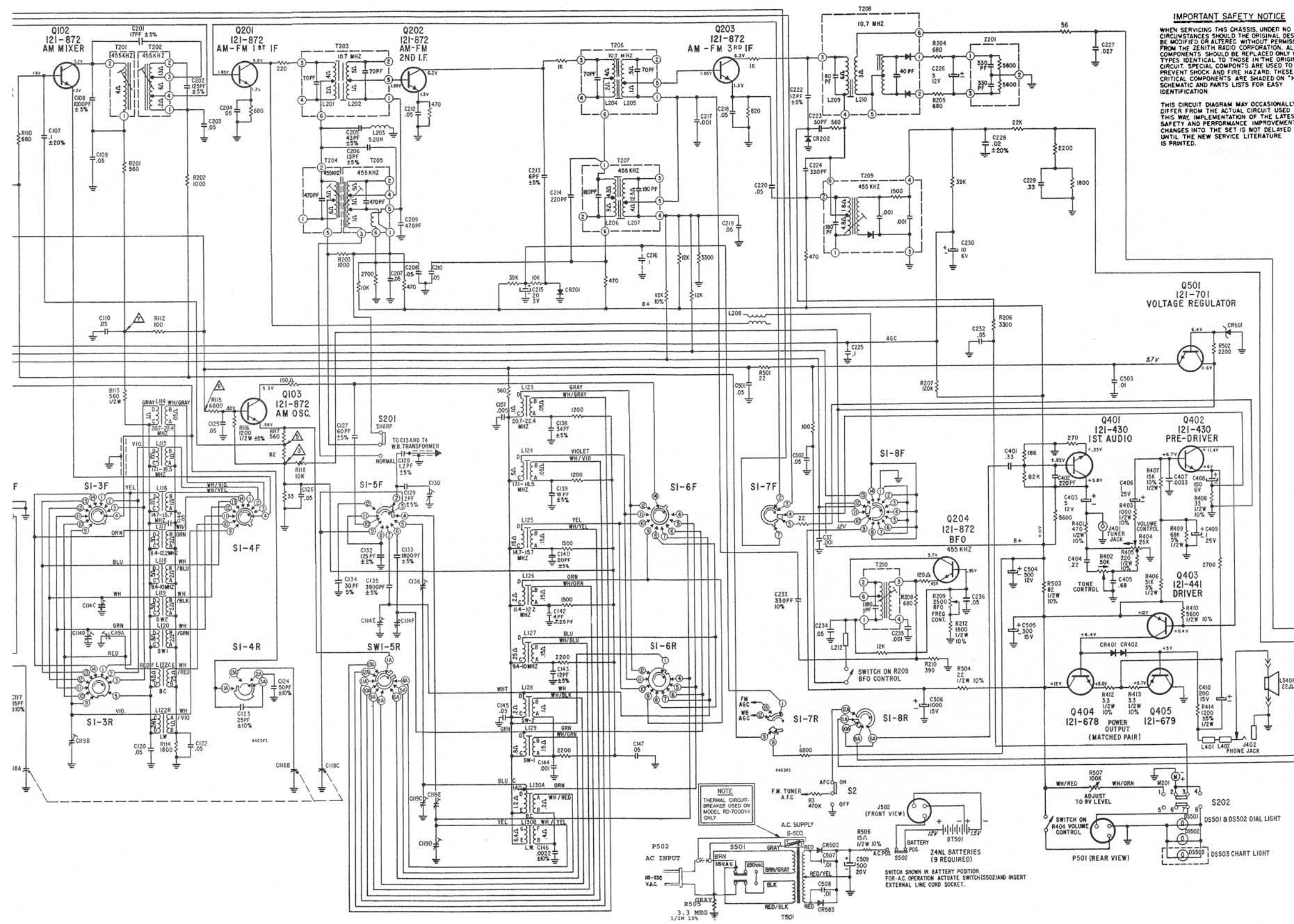
(NO SIGNAL)

	AM	FM
1	1.75	.85
2	2.5	1.5
3	.03	0
4	1.8	1.3
5	.2	0
6	5.4	.53
7	5.2	.54





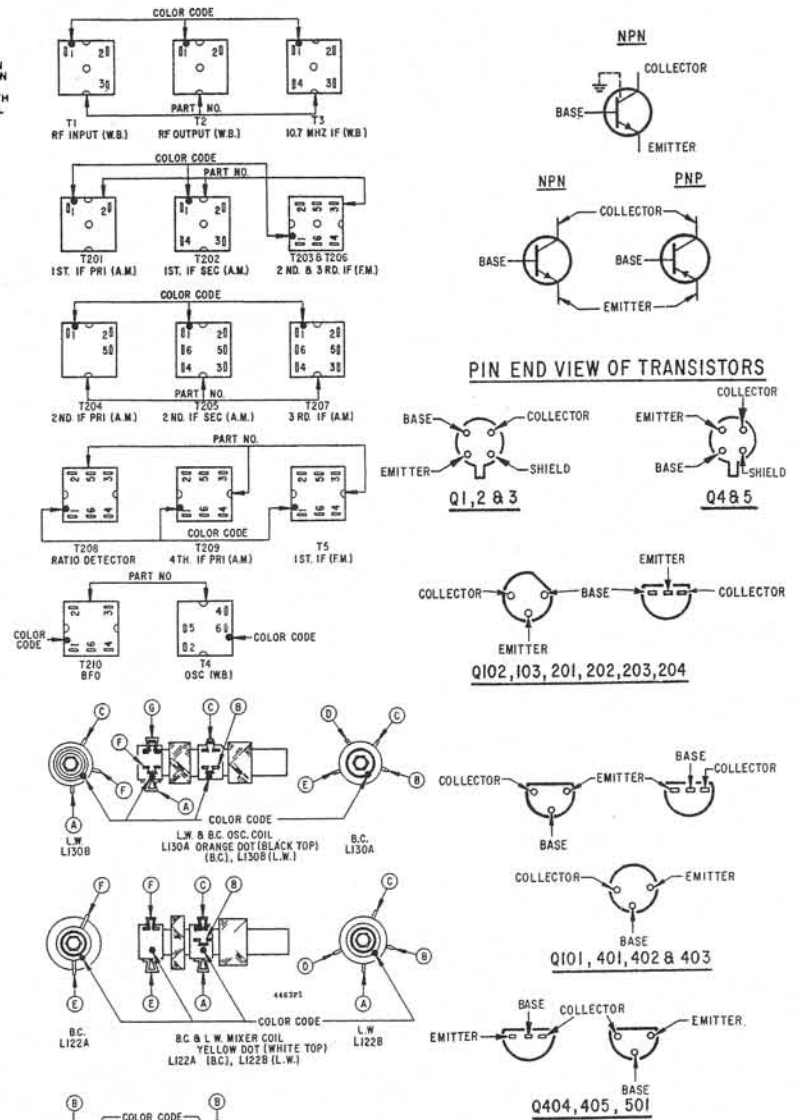
SCHEMATIC



IMPORTANT SAFETY NOTICE

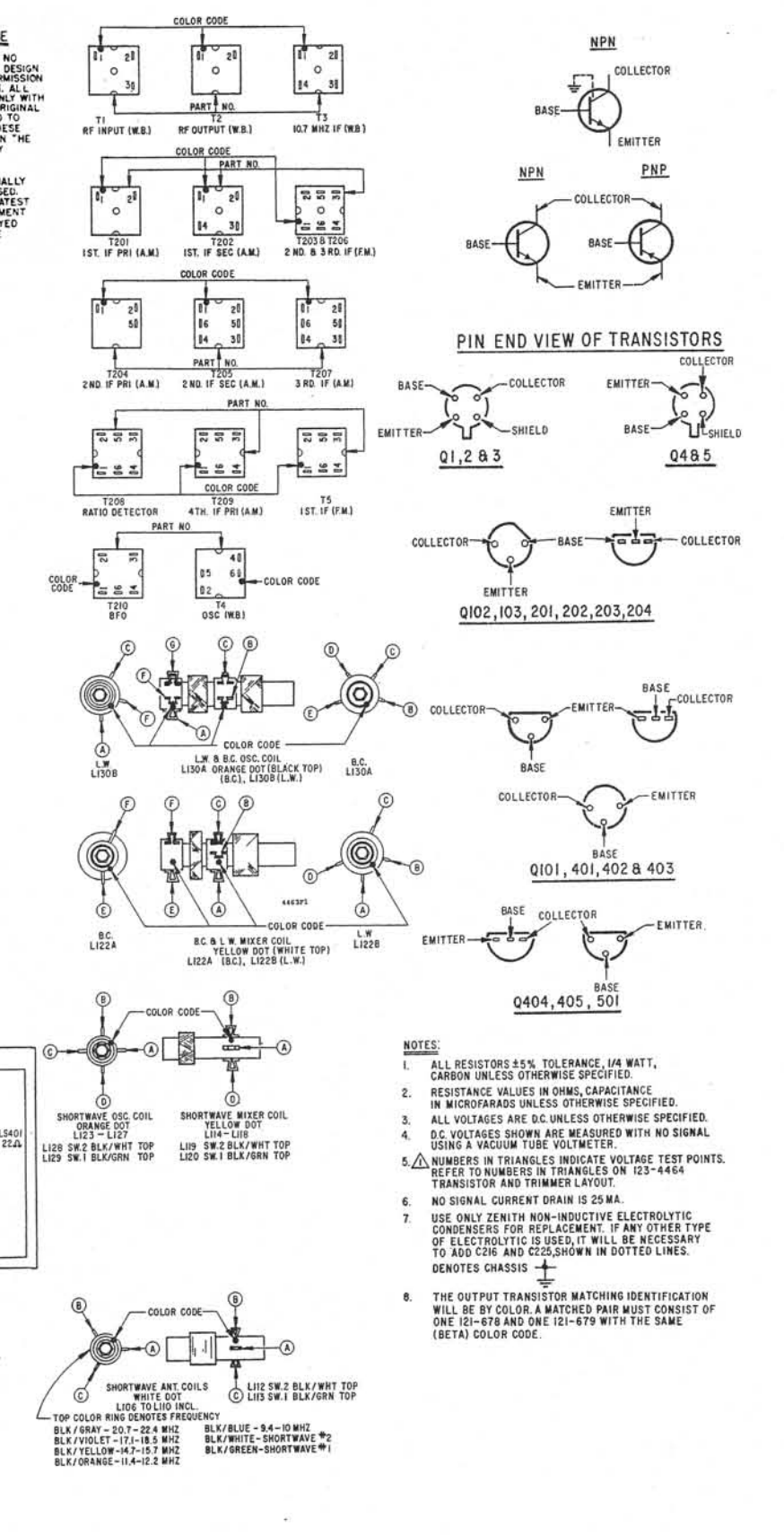
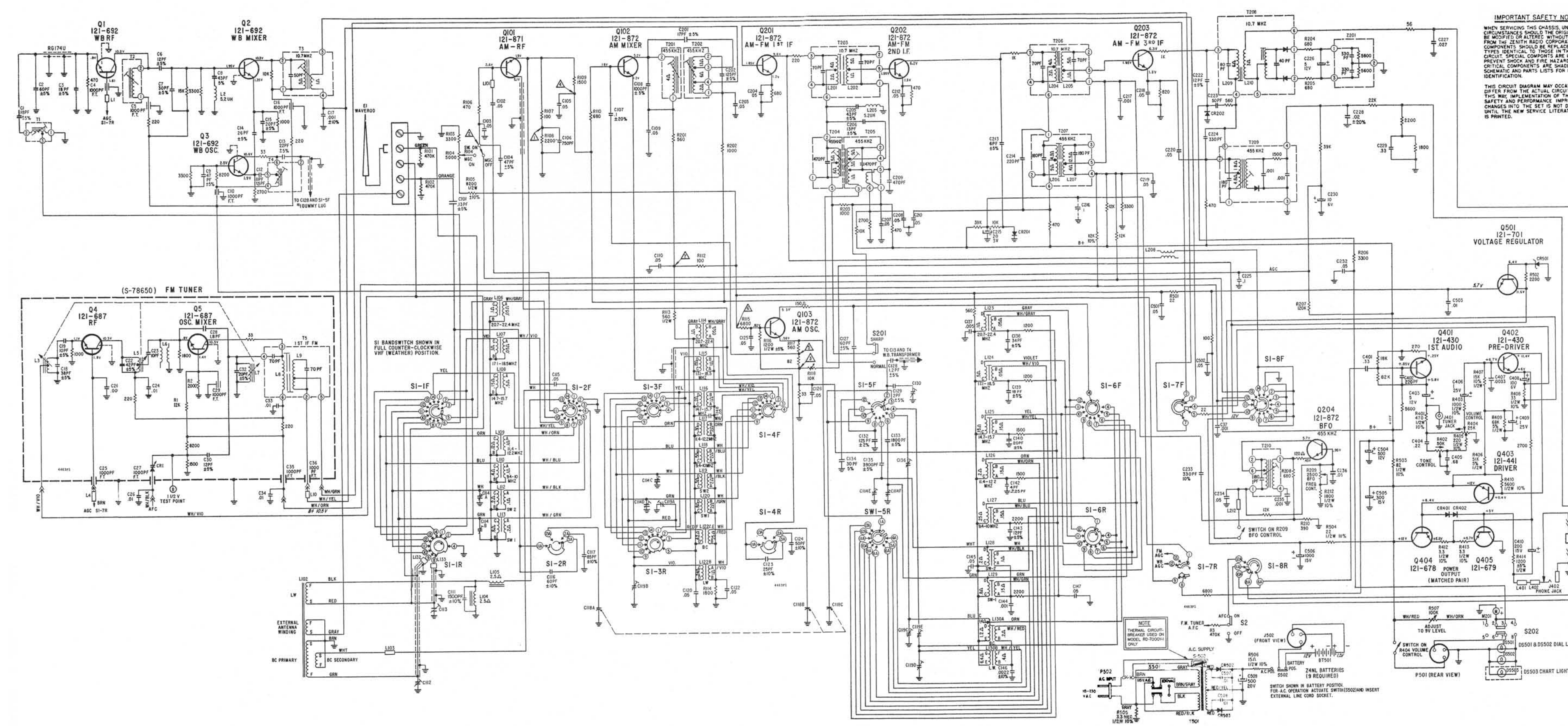
WHEN SERVICING THIS CHASSIS, UNDER NO CIRCUMSTANCES SHOULD THE ORIGINAL DESIGN BE MODIFIED OR ALTERED WITHOUT PERMISSION FROM THE ZENITH RADIO CORPORATION. ALL COMPONENTS SHOULD BE REPLACED ONLY WITH TYPES IDENTICAL TO THOSE IN THE ORIGINAL CIRCUIT. SPECIAL COMPONENTS ARE USED TO PREVENT SHOCK AND FIRE HAZARD. THESE CRITICAL COMPONENTS ARE SHADDED ON THE SCHEMATIC AND PARTS LISTS FOR EASY IDENTIFICATION.

THIS CIRCUIT DIAGRAM MAY OCCASIONALLY DIFFER FROM THE ACTUAL CIRCUIT USED. THIS WAY, IMPLEMENTATION OF THE LATEST SAFETY AND PERFORMANCE IMPROVEMENT CHANGES INTO THE SET IS NOT DELAYED UNTIL THE NEW SERVICE LITERATURE IS PRINTED.



- NOTES:**
- ALL RESISTORS $\pm 5\%$ TOLERANCE, $1/4$ WATT, CARBON UNLESS OTHERWISE SPECIFIED.
 - RESISTANCE VALUES IN OHMS, CAPACITANCE IN MICROFARADS UNLESS OTHERWISE SPECIFIED.
 - ALL VOLTAGES ARE D.C. UNLESS OTHERWISE SPECIFIED.
 - D.C. VOLTAGES SHOWN ARE MEASURED WITH NO SIGNAL USING A VACUUM TUBE VOLTMETER.
 - NUMBERS IN TRIANGLES INDICATE VOLTAGE TEST POINTS. REFER TO NUMBERS IN TRIANGLES ON 123-4464 TRANSISTOR AND TRIMMER LAYOUT.
 - NO SIGNAL CURRENT DRAIN IS 25 MA.
 - USE ONLY ZENITH NON-INDUCTIVE ELECTROLYTIC CONDENSERS FOR REPLACEMENT. IF ANY OTHER TYPE OF ELECTROLYTIC IS USED, IT WILL BE NECESSARY TO ADD C216 AND C225, SHOWN IN DOTTED LINES. DENOTES CHASSIS.
 - THE OUTPUT TRANSISTOR MATCHING IDENTIFICATION WILL BE BY COLOR. A MATCHED PAIR MUST CONSIST OF ONE 121-678 AND ONE 121-679 WITH THE SAME (BETA) COLOR CODE.

SCHEMATIC



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