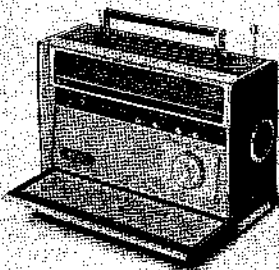




Set using ISO screws

# CRF-5080

*GEP Model  
General Export Model*



## SPECIFICATIONS






















<b>Circuit System:</b>	13-transistor 8-diode superheterodyne 6-transistors and 1 diode for auxiliary circuit	<b>Selectivity</b> at $\pm 10$ kHz off-resonance:	35 dB at 1,400 kHz
<b>Frequency Coverage:</b>	FM 87.5 - 108 MHz (3.42 - 2.79 m)	<b>Power Output</b> at 10 % distortion:	1.8 W maximum 2.7 W
	LW 150 - 400 kHz (2,000 - 750 m)	<b>Current Drain</b> at zero signal:	FM 40 mA, MW 35 mA maximum 320 mA
	MW 530 - 1,605 kHz (568 - 187 m)		
	SW1 1.6 - 3.5 MHz (187 - 86 m)	<b>Power Requirement:</b>	DC eight "D" size flashlight batteries 12 volts or car battery by using SONY car battery cord DCC-2AW AC house current 100 V, 120 V, 220 V or 240 V AC, 50 Hz or 60 Hz
	SW2 3.5 - 9.0 MHz (186 - 33 m)		
SW3 9.0 - 14.0 MHz (33 - 21 m)			
SW4 14 - 21 MHz (21 - 14 m)			
SW5 21 - 26 MHz (14 - 11 m)		<b>Speaker:</b>	10 cm x 15 cm (4" x 6"), 8 $\Omega$
<b>Intermediate Frequency:</b>	FM 10.7 MHz LW/MW/SW 455 kHz	<b>Dimensions:</b>	340 mm (W) x 230 mm (H) x 160 mm (D) (13 3/4" x 9 1/4" x 6 3/8")
<b>Antenna System:</b>	FM telescopic antenna or external antenna (impedance 75 $\Omega$ )	<b>Weight:</b>	6.6 kg (14 lb 9 oz) overall with batteries
	LW/MW built-in ferrite bar antenna or external antenna (high impedance)		
	SW telescopic antenna or external antenna (high impedance)		
<b>Sensitivity</b> at 50 mW output, S/N 6 dB:	FM 0.7 $\mu$ V (1-3 dB)		
	LW 62 $\mu$ V/m (36 dB/m)		
	MW 24 $\mu$ V/m (27 dB/m)		
	SW1 1.2 $\mu$ V (11 dB)		
	SW2 1 $\mu$ V (10 dB)		
	SW3 1 $\mu$ V (9 dB)		
	SW4 1.2 $\mu$ V (11 dB)		
	SW5 1.3 $\mu$ V (12 dB)		

**SONY**<sup>®</sup>  
**SERVICE MANUAL**






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## Hardware Nomenclature

<b>P</b> - Pan Head Screw . . . . .			<b>E</b> - Retaining Ring (L Washer) . . . . .	
<b>K</b> - Flat Countersunk Head Screw . . . . .			W - Washer . . . . .	
<b>B</b> - Binding Head Screw . . . . .			SW - Spring Washer . . . . .	
<b>RK</b> - Oval Countersunk Head Screw . . . . .			LW - Lock Washer . . . . .	
<b>T</b> - Trust Head Screw . . . . .			N - Nut . . . . .	
<b>R</b> - Round Head Screw . . . . .				
<b>F</b> - Flat Fillister Head Screw . . . . .				
<b>SC</b> - Set Screw . . . . .				

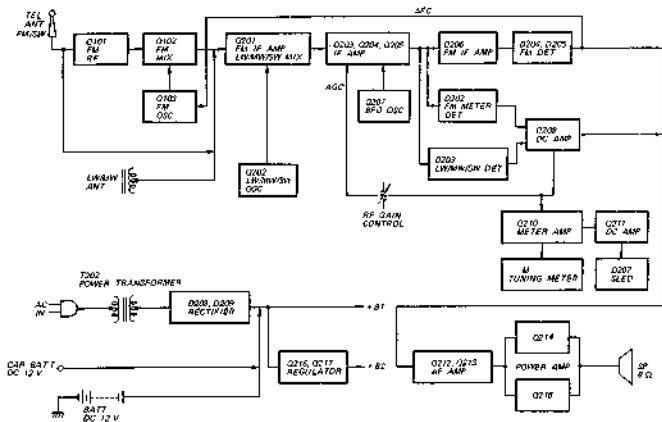
  

<b>Example</b>	
Type of Slot	
Length in mm (L)	
Diameter in mm (D)	
Type of Head	

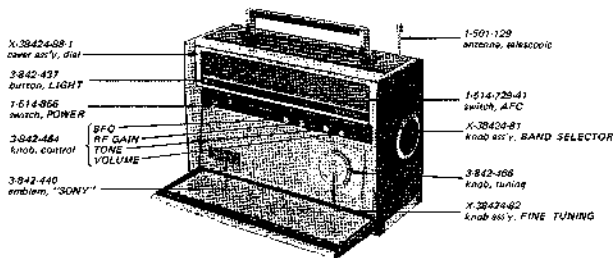
When ordering replacement parts, you should use **PART NUMBER** listed on the Parts List or shown in the **EXPLODED VIEW**. The reference number should not be used for ordering purposes.

## SECTION 1 OUTLINE

### 1-1. BLOCK DIAGRAM

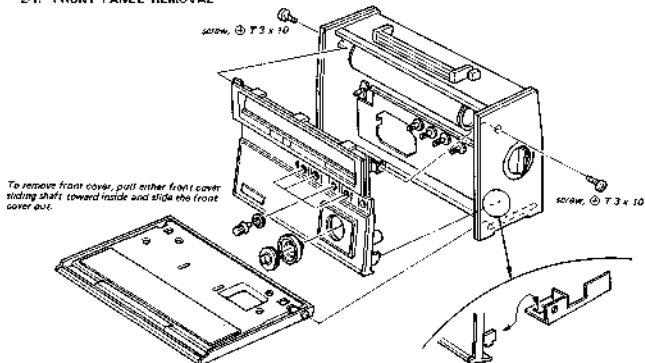


### 1-2. EXTERNAL VIEW

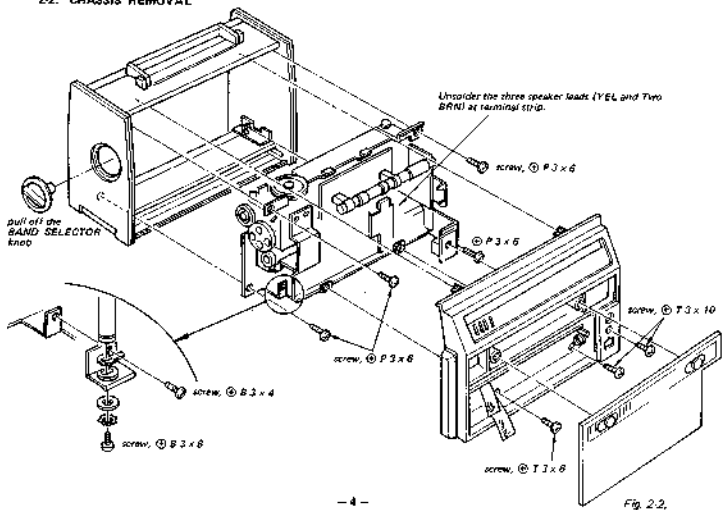


## SECTION 2 DISASSEMBLY AND REASSEMBLY

### 2.1. FRONT PANEL REMOVAL

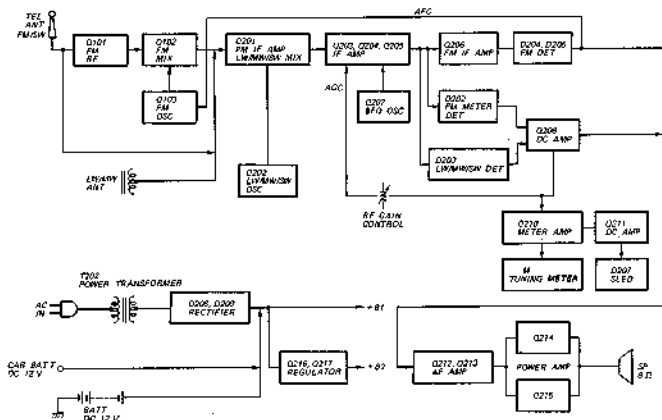


### 2.2. CHASSIS REMOVAL

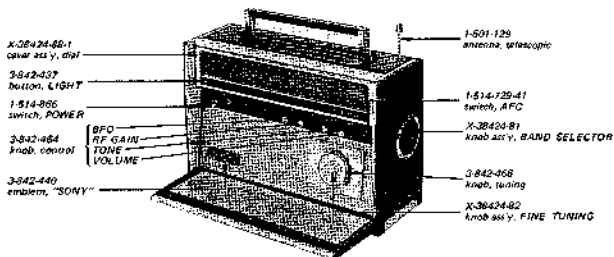


## SECTION 1 OUTLINE

### 1-1. BLOCK DIAGRAM

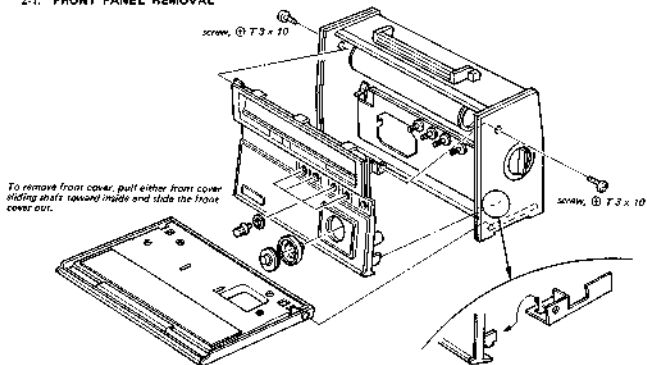


### 1-2. EXTERNAL VIEW

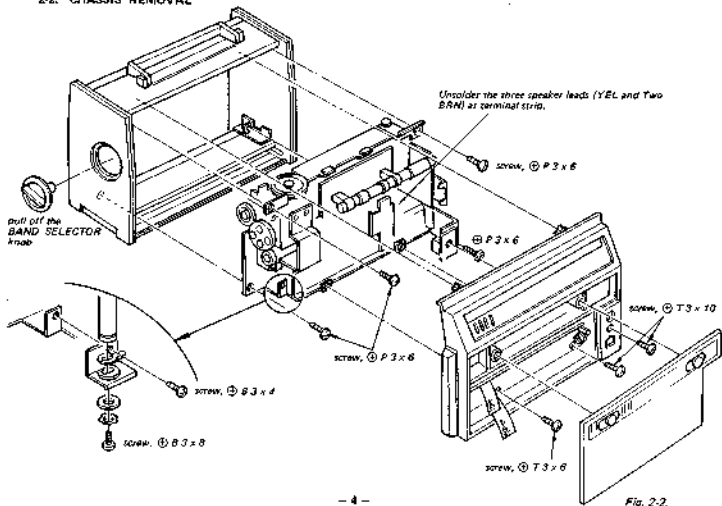


## SECTION 2 DISASSEMBLY AND REASSEMBLY

### 2.1. FRONT PANEL REMOVAL



### 2.2. CHASSIS REMOVAL



## 23. FM FRONT END REMOVAL

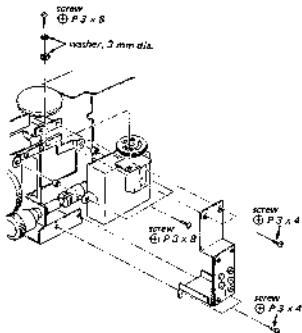


Fig. 2-3.

## 24. FM FRONT END REASSEMBLY

1. Rotate the dial drum fully clockwise and the double gear ass'y fully counterclockwise
2. Set the fm front end with three screws. See Fig. 2-3. above.

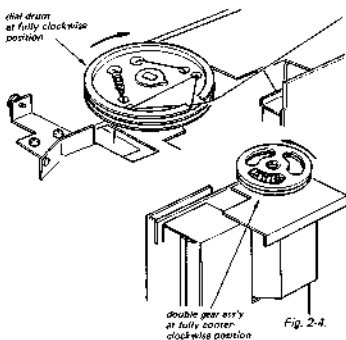


Fig. 2-4.

## 25. DIAL SCALE REASSEMBLY

1. Rotate the BAND SELECTOR knob fully clockwise
2. Set the dial drum adjusting the two machine screws (A) so that it shows FM band and that the tip of the pointer is on the line of FM band as shown in Fig. 2-6.

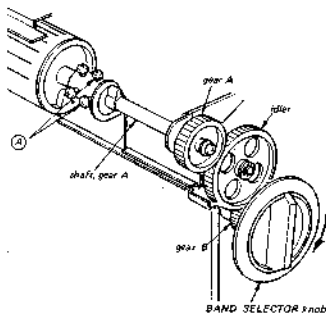


Fig. 2-5.

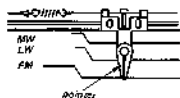


Fig. 2-6.

2-6. CIRCUIT BOARD REMOVAL

1. Remove the chassis
2. Unsolder the 13 wires and capacitor lead shown in Fig. 2-7.
3. Remove the connector A from the band selector switch shaft by wedging with a slot screwdriver in the direction shown by the arrow in Fig. 2-8.
4. Remove the two screws.
5. Remove the circuit board in the direction shown by the arrow in Fig. 2-7.
6. The removed circuit board is shown in Fig. 2-9.

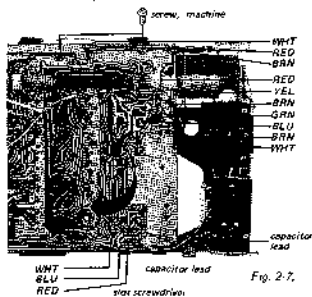


Fig. 2-7.



Fig. 2-8.

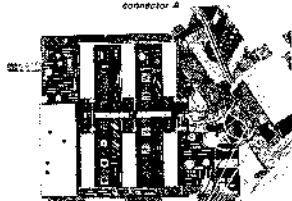


Fig. 2-9.

2-7. DIAL CORD STRINGING

Dial Drum Driving Cord

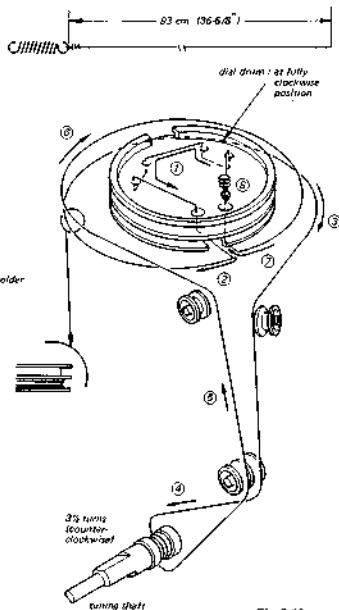


Fig. 2-10.



Pointer Driving Cord

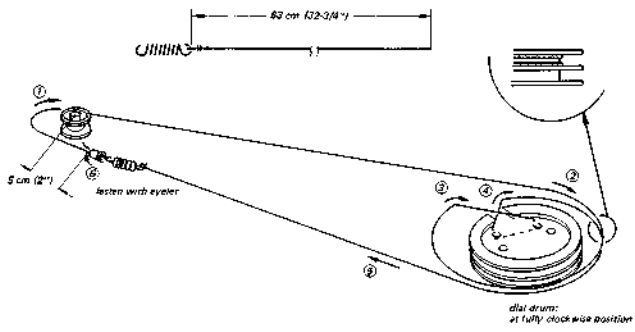


Fig. 2-11.

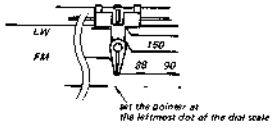


Fig. 2-12.

## SECTION 3 CIRCUIT ADJUSTMENTS

**Test Equipment/Tools Required:**

- Rf signal generator (for fm and a-m)
- Loop antenna
- VTVM
- 8 Ω resistor
- 0.01 μF ceramic capacitor
- Screwdriver for alignment

**Modulation:**

- FM 400 Hz, ±22.5 kHz frequency-modulated signal
- AM 400 Hz, 30% amplitude-modulated signal

**VOLUME Control Setting:** Mechanical mid position

**TONE Control Setting:** Mechanical mid position

**AFC Switch:** OFF

**BFO Control Setting:** OFF

**RF Gain Control Setting:** NORMAL

**Preparation**

**VTVM Connection:**

To EARPHONE jack with 8 Ω load resistor in parallel

### 3-1. FM IF ALIGNMENT

Setup is shown in Fig. 3-1.

Set the POWER switch to ON.

Set the BAND SELECTOR to FM

Connect the rf signal generator to the FM ext ant terminal after detaching antenna lug as shown in Fig. 3-2.

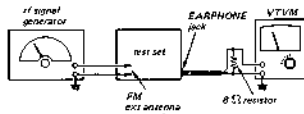


Fig. 3-1. FM i-f alignment, frequency coverage and tracking adjustment setup

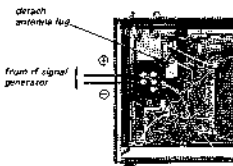


Fig. 3-2. Rf signal generator coupling

Rf Signal Generator Frequency	Rf Signal Modulation	Adjust	Remarks
10.7 MHz	400 Hz, 30% a-m modulation	IFT F-4 See Fig. 3-6	Adjust for minimum meter reading(**).
10.7 MHz	400 Hz, ±22.5 kHz fm modulation	IFT F101 IFT H-2(**2) IFT F-3 See Fig. 3-4 and Fig. 3-6.	Set the tuning knob at the best signal position Adjust for maximum meter reading

**Note:\***1. Minimum output will be observed at both extremes of the discriminator. The real null point will be obtained in the middle of the core thread length and maximum output will be obtained at both sides of the true null point. Slowly and carefully turn the core to obtain minimum output.

**Note:\***2. IFT F-2 is visible to adjust from rear part of the set. Remove the front panel and adjust IFT F-2 from front part. (See Fig. 3-4).

### 3-2. AM IF ALIGNMENT

A-m if alignment can be eliminated except when necessary. The ceramic filter CFT is factory preset and if transformer IFT A1 is shielded by shield case. The intermediate frequency of the set is characterized by the ceramic filter because a ceramic filter has peculiar vibrating frequency which depends on its size.

#### Preparation:

POWER switch - ON  
 BAND SELECTOR - MW  
 BFO switch - OFF  
 Rf Signal Generator Coupling:

Loop antenna (See Fig. 3-3)

#### Modulation:

400 Hz 30% amplitude-modulated signal

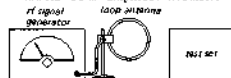


Fig. 3-3. A-m if alignment and bfo osc coil adjustment setup

Modulate the rf signal with 400 Hz a-m modulation. Vary the rf signal around 455 kHz to find if frequency of the set. The dial of the rf signal generator shows if frequency of the set when the output power of the speaker becomes maximum. If the peak of the output power is not found around 455 kHz, adjust the ceramic filter cores after removing front panel and dial drum as shown in Fig. 3-4.

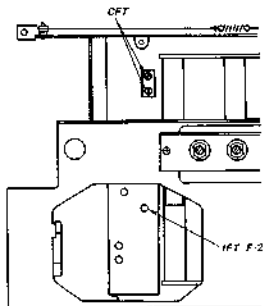


Fig. 3-4. Adjustment locations

### 3-3. BFO OSC COIL ADJUSTMENT

#### Preparation:

POWER switch. ON  
 BAND SELECTOR: MW  
 BFO switch: ON  
 BFO Control Setting:

Mechanical mid position as shown in Fig. 3-5.

Rf Signal Generator Coupling: Loop antenna

Setup: See Fig. 3-3.

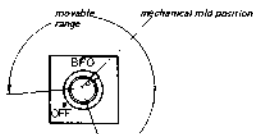


Fig. 3-5. BFO control setting

Rf Signal Generator Frequency	Adjust	Remarks
455 kHz unmodulated signal (*)	BFO osc coil L220 See Fig. 3-6.	Adjust for zero beating

Note: (\*) Tune the rf signal generator frequency to the if frequency of the set which is found in AM IF ALIGNMENT

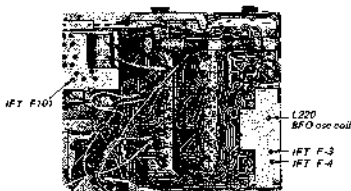


Fig. 3-6. Adjustment locations

3-4. FREQUENCY COVERAGE AND TRACKING ADJUSTMENT

- Setup: FM See Fig. 3-7
- LW/MW See Fig. 3-8.
- SW1 - 5 See Fig. 3-7.

Note: Fully telescope the telescopic antenna.

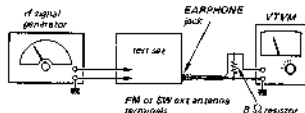


Fig. 3-7. FM/SW1 ~ 5 frequency coverage and tracking adjustment setup

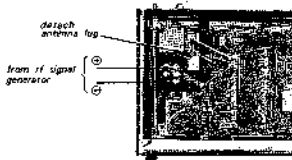


Fig. 3-9 SW1 ~ 5 rf signal generator coupling

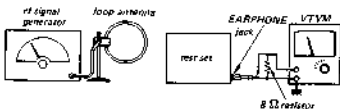


Fig. 3-8. LW/MW frequency coverage and tracking adjustment setup

Note: When adjusting the FM frequency coverage, adjust SW1 with the range between 87.5 MHz and 109.5 MHz. Make the frequency coverage by adjusting osc coil L106 and osc trimmer CT105 with the intended frequency signal from the rf signal generator.

Adjustment	RF Signal Generator Coupling	RF Signal Generator Frequency	Receiver Pot/mer Setting	Adjust	Remarks
FM Frequency Coverage	To FM ext ant terminal by attaching ant log (See Fig. 3-2)	80.5 MHz	Fully left	FM osc coil L106	BAND SELECTOR : FM Adjust for maximum meter reading
		109.5 MHz	Fully right	FM osc trimmer CT105	
FM Tracking		80.5 MHz	Tune to 80.5 MHz signal	FM ant coil L103 FM of coil L101	
		109.5 MHz	Tune to 109.5 MHz signal	FM ant trimmer CT101 FM of trimmer CT103	
MW Frequency Coverage	Loop antenna (See Fig. 3-8)	520 kHz	Fully left	MW osc coil L202	BAND SELECTOR : MW Adjust for maximum meter reading
		1.680 kHz	Fully right	MW osc trimmer CT202	

Adjustment	RF Signal Generator Coupling	RF Signal Generator Frequency	Receiver Pointer Setting	Adjust	Remarks
MW Tracking	Loop antenna	1200 kHz	Tune to 120 kHz signal	Position of MW ant coil L210	BAND SELECTOR - MW Adjust for maximum meter reading.
		1500 kHz	Tune to 1500 kHz signal	MW ant trimmer CT205	
LW Frequency Coverage	Loop antenna (See Fig. 3-8)	145 kHz	Fully left	LW ant coil L201	BAND SELECTOR - LW Adjust for maximum meter reading.
		410 kHz	Fully right	LW ant trimmer CT204	
LW Tracking		100 kHz	Tune to 100 kHz signal	Position of LW ant coil L206	
		350 kHz	Tune to 350 kHz signal	LW ant trimmer CT205	
SW1 Frequency Coverage	To SW coil terminals (See Fig. 3-9)	1.57 MHz	Fully left	SW1 ant coil L202	BAND SELECTOR - SW1 Adjust for maximum meter reading.
		3.0 MHz	Fully right	SW1 ant trimmer CT203	
		1.57 MHz	Tune to 1.57 MHz signal	SW1 ant coil L211	
SW1 Tracking		3.0 MHz	Tune to 3.0 MHz signal	SW1 ant trimmer CT210	
SW2 Frequency Coverage	- data -	4.5 MHz	Fully left	SW1 osc coil L204	BAND SELECTOR - SW2 Adjust for maximum meter reading.
		9.2 MHz	Fully right	SW2 osc trimmer CT204	
SW2 Tracking		4.5 MHz	Tune to 4.5 MHz signal	SW2 ant coil L212	
		9.2 MHz	Tune to 9.2 MHz signal	SW2 osc trimmer CT211	
SW3 Frequency Coverage	- data -	8.9 MHz	Fully left	SW3 osc coil L205	BAND SELECTOR - SW3 Adjust for maximum meter reading.
		14.3 MHz	Fully right	SW3 ant trimmer CT205	
SW3 Tracking		8.9 MHz	Tune to 8.9 MHz signal	SW3 ant coil L213	
		14.3 MHz	Tune to 14.3 MHz signal	SW3 ant trimmer CT212	

Adjustment	RF Signal Generator Coupling	RF Signal Generator Frequency	Receiver Pointer Setting	Adjust	Remarks
SW4 Frequency Coverage	To SW coil terminals (See Fig. 3-9)	12.8 MHz	Fully left	SW4 osc coil L206	BAND SELECTOR - SW4 Adjust for maximum meter reading.
		21.4 MHz	Fully right	SW4 ant trimmer CT206	
SW4 Tracking	- data -	13.8 MHz	Tune to 13.8 MHz signal	SW4 ant coil L214	
		21.4 MHz	Tune to 21.4 MHz signal	SW4 ant trimmer CT213	
SW5 Frequency Coverage	- data -	20.7 MHz	Fully left	SW5 osc coil L207	BAND SELECTOR - SW5 Adjust for maximum meter reading.
		27 MHz	Fully right	SW5 ant trimmer CT207	
SW5 Tracking		20.7 MHz	Tune to 20.7 MHz signal	SW5 ant coil L215	
		27 MHz	Tune to 27 MHz signal	SW5 ant trimmer CT214	

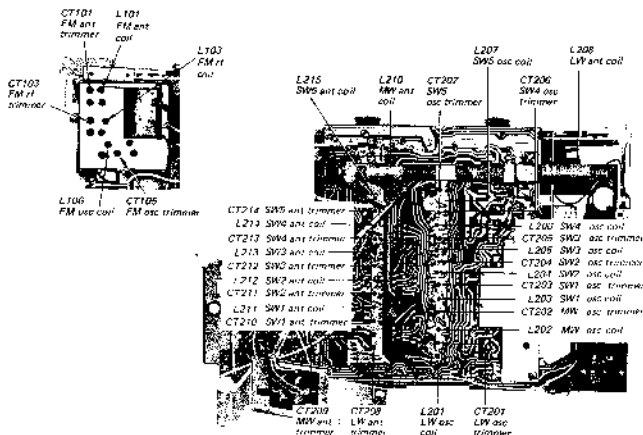
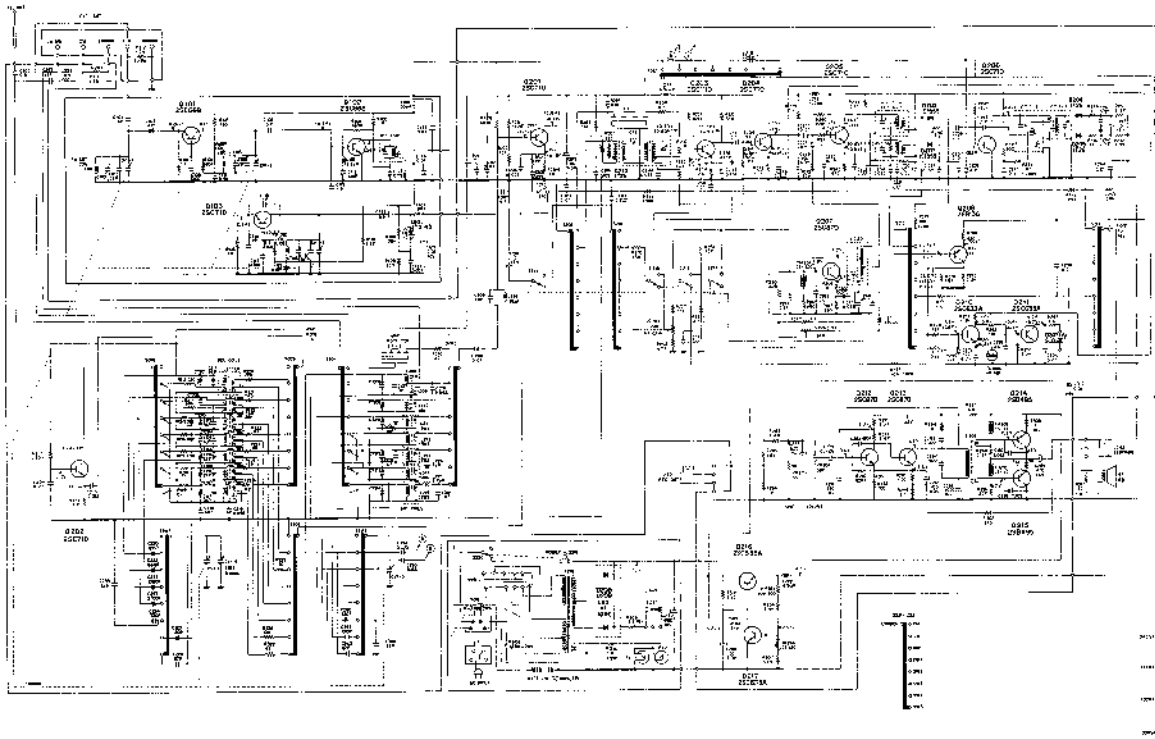


Fig. 3-10. Adjustment locations

SECTION 4  
DIAGRAMS

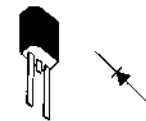
## 4-1. SCHEMATIC DIAGRAM



## Notes:

1. All resistance values in  $\Omega$  and all capacitance values in  $\mu\text{F}$  unless otherwise noted.
2. All voltages measured to ground circuit with a dc voltmeter with no signal applied. Variations may be noted due to normal production tolerances.
3. The values in 1 - 3 measured with band selector set to 1M, in  $\leq 3\text{ MW}$  and in  $\square$  MW with BFO control set to GN.
4. Capacitors marked  $\square$  built in film electrolytic and ceramic filters.

D101 : 17240



D201, D204, D205, D210 : 17285

D202, D203 : 1S1555



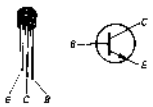
D208, D209 : CD2 or 160C



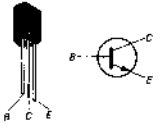
Fig. 4-1.

4.2. MOUNTING DIAGRAM

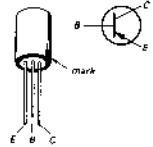
Q101, Q102 : 2SC088



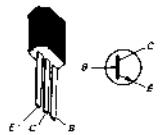
U102, Q201-Q206 : 2SC710  
Q207, Q213 : 2SC870



Q208 : 2S6136  
Q214, U216 : 2S6495



Q210-Q212, Q216, Q217 : 2SC533A



D207 : 5LED

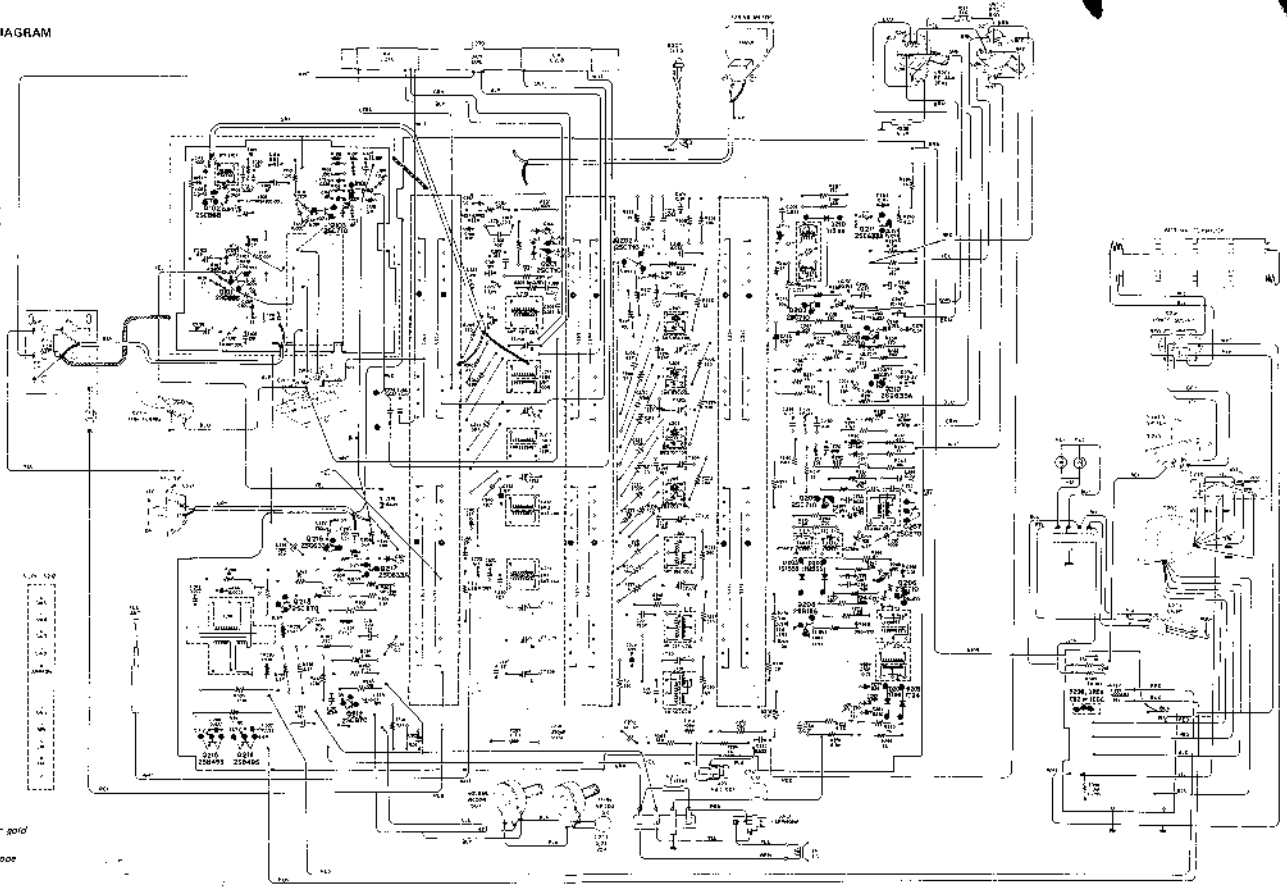
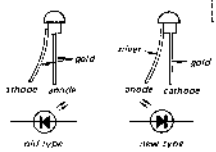


Fig. 4.2





5-2. EXPLODED VIEW(2)

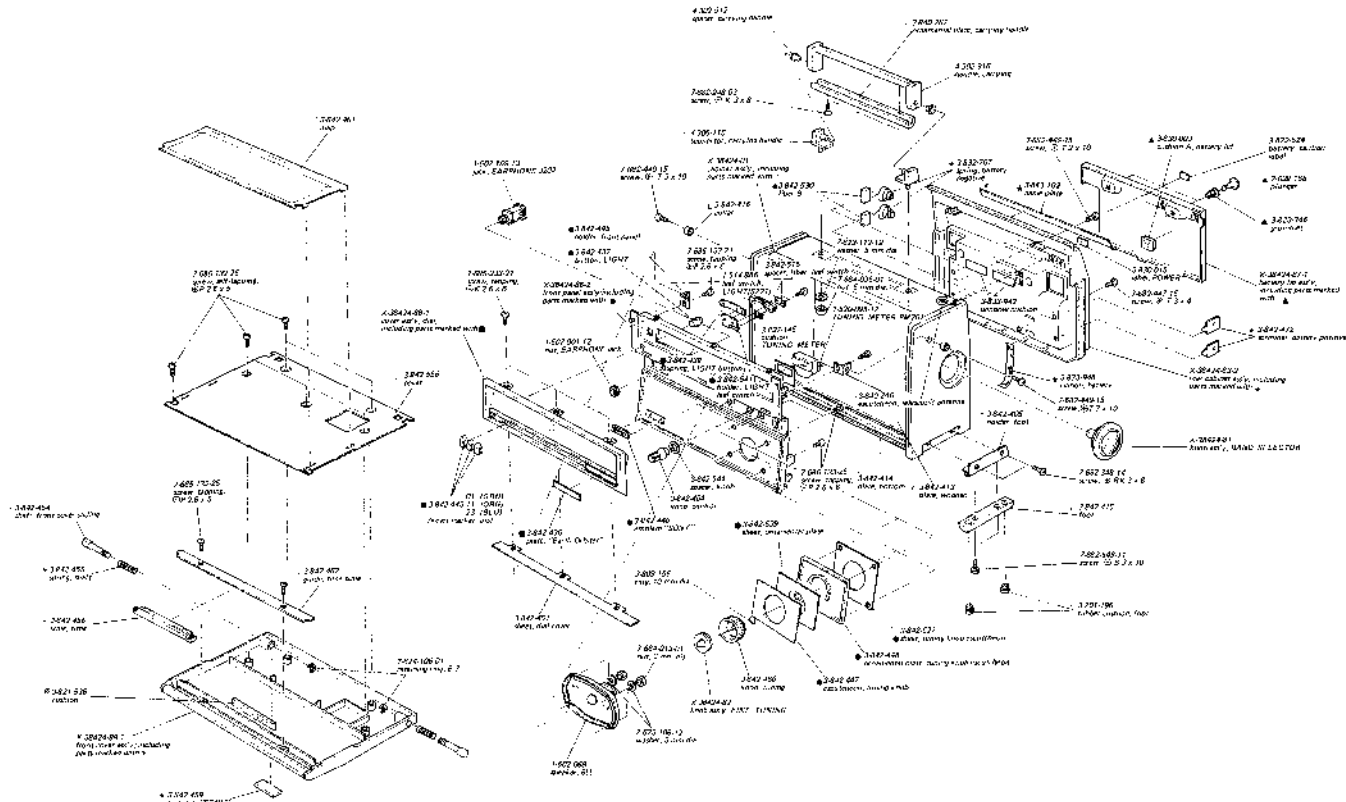


Fig. 52



<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>
C105	1-102-918	0.001 $\mu$ F ceramic	C218	1-105-673-12	0.01 $\mu$ F mylar
C106	.....	.....	C219	1-105-683-12	0.068 $\mu$ F mylar
C107	.....	.....	C220	1-107-087	120 pF silvered mica
C108	1-102-942	5 pF ceramic	C221	1-107-182	360 pF silvered mica
C109	1-102-959	22 pF ceramic	C222	1-103-728	1500 pF styrol
C110	.....	.....	C223	1-102-735	2700 pF styrol
C111	1-105-661-12	0.001 $\mu$ F mylar	C224	1-107-097	350 pF silvered mica
C112	1-107-085	100 pF mica	C225	1-107-088	130 pF silvered mica
C113	1-102-924	0.022 $\mu$ F ceramic	C226	1-107-080	62 pF silvered mica
C114	1-102-924	0.022 $\mu$ F ceramic	C227	1-102-940	3 pF ceramic
C115	1-102-934	1 pF ceramic	C228	1-105-665-12	0.0022 $\mu$ F mylar
C116	1-102-510	12 pF ceramic	C229	.....	.....
C117	1-102-918	0.001 $\mu$ F ceramic	C230	1-102-953	18 pF ceramic
C118	1-102-964	5 pF ceramic	C231	.....	.....
C119	.....	.....	C232	1-102-943	6 pF ceramic
C120	1-107-893	18 pF ceramic	C233	.....	.....
C121	.....	.....	C234	.....	.....
C122	1-105-661-12	0.001 $\mu$ F mylar	C235	.....	.....
C123	1-102-865	8 pF ceramic	C236	.....	.....
C124	1-105-661-12	0.001 $\mu$ F mylar	C237	.....	.....
C125	1-127-021	0.33 $\mu$ F 10 V electrolytic (alox)	C238	.....	.....
C126	1-105-673-12	0.01 $\mu$ F mylar	C239	.....	.....
CT201	1-141-142	capacitor, trimmer	C240	1-107-097	330 pF silvered mica
CT202	1-141-142	capacitor, trimmer	C241	1-107-088	130 pF silvered mica
CT203	1-141-142	capacitor, trimmer	C242	1-107-080	62 pF silvered mica
CT204	1-141-142	capacitor, trimmer	C243	1-105-677-12	0.022 $\mu$ F mylar
CT205	1-141-142	capacitor, trimmer	C244	1-105-677-12	0.022 $\mu$ F mylar
CT206	1-141-142	capacitor, trimmer	C245	1-105-679-12	0.033 $\mu$ F mylar
CT207	1-141-142	capacitor, trimmer	C246	1-107-185	470 pF silvered mica
CT208	1-141-140	capacitor, trimmer	C247	1-105-673-12	0.01 $\mu$ F mylar
CT209	1-141-140	capacitor, trimmer	C248	1-105-679-12	0.033 $\mu$ F mylar
CT210	1-141-140	capacitor, trimmer	C249	1-121-491	100 $\mu$ F 6.3 V electrolytic
CT211	.....	.....	C250	1-105-673-12	0.01 $\mu$ F mylar
CT212	1-141-140	capacitor, trimmer	C251	1-107-068	20 pF silvered mica
CT213	1-141-140	capacitor, trimmer	C252	1-107-085	100 pF silvered mica
CT214	1-141-140	capacitor, trimmer	C253	1-105-679-12	0.033 $\mu$ F mylar
C201	1-105-673-12	0.01 $\mu$ F mylar	C254	1-105-677-12	0.022 $\mu$ F mylar
C202	1-105-673-12	0.01 $\mu$ F mylar	C255	1-121-491	100 $\mu$ F 6.3 V electrolytic
C203	.....	.....	C256	1-105-675-12	0.015 $\mu$ F mylar
C204	1-105-673-12	0.022 $\mu$ F mylar	C257	1-105-673-12	0.01 $\mu$ F mylar
C205	1-121-491	100 $\mu$ F 6.3 V electrolytic	C258	1-105-673-12	0.01 $\mu$ F mylar
C206	1-101-924	0.022 $\mu$ F ceramic	C259	1-105-673-12	0.01 $\mu$ F mylar
C207	1-121-471	10 $\mu$ F 16 V electrolytic	C260	1-105-673-12	0.01 $\mu$ F mylar
C208	1-105-673-12	0.01 $\mu$ F mylar	C261	1-105-661-12	0.001 $\mu$ F mylar
C209	1-105-673-12	0.01 $\mu$ F mylar	C262	1-105-661-12	0.001 $\mu$ F mylar
C210	1-105-677-12	0.022 $\mu$ F mylar	C263	1-121-471	10 $\mu$ F 16 V electrolytic
C211	1-102-960	24 pF ceramic	C264	1-105-673-12	0.01 $\mu$ F mylar
C212	.....	.....	C265	1-105-673-12	0.01 $\mu$ F mylar
C213	1-102-964	36 pF ceramic	C266	1-105-675-12	0.015 $\mu$ F mylar
C214	1-102-947	10 pF ceramic	C267	1-105-677-12	0.022 $\mu$ F mylar
C215	1-102-959	22 pF ceramic	C268	1-102-734	100 pF ceramic
C216	1-102-960	24 pF ceramic	C269	.....	.....
C217	1-102-960	24 pF ceramic	C270	.....	.....

<u>Ref. No.</u>	<u>Part No</u>	<u>Description</u>	<u>Ref. No.</u>	<u>Part No</u>	<u>Description</u>
C271			R104	1-244-754	360 k $\Omega$
C272	1-121-471	10 $\mu$ F 16 V electrolytic	R105	1-242-673	1 k $\Omega$
C273	1-105-677-12	0.022 $\mu$ F mylar	R106	1-242-673	1 k $\Omega$
C274	1-121-464	4.7 $\mu$ F 25 V electrolytic	R107	1-242-721	106 k $\Omega$
C275	1-121-491	100 $\mu$ F 6.3 V electrolytic	R108	1-242-709	33 k $\Omega$
C276	1-105-673-12	0.01 $\mu$ F mylar	R109	1-242-721	100 k $\Omega$
C277	1-121-046	0.22 $\mu$ F 10 V electrolytic (alox)	R110	1-242-677	1.5 k $\Omega$
C278	.....	.....	R111	1-242-729	220 k $\Omega$
C279	1-127-045	0.1 $\mu$ F 10 V electrolytic (alox)	R201	1-244-722	110 k $\Omega$
C280	.....	.....	R202	1-244-717	68 k $\Omega$
C281	1-121-421	220 $\mu$ F 16 V electrolytic	R203	1-244-709	33 k $\Omega$
C282	1-102-098	470 pF ceramic	R204	1-244-675	1 k $\Omega$
C283	1-105-677-12	0.022 $\mu$ F mylar	R205	1-244-662	360 $\Omega$
C284	1-105-665-12	0.0022 $\mu$ F mylar	R206	1-244-659	680 $\Omega$
C285	1-121-491	100 $\mu$ F 6.3 V electrolytic	R207	1-244-639	270 $\Omega$
C286	1-121-186	1000 $\mu$ F 16 V electrolytic	R208	1-244-673	1 k $\Omega$
C287	.....	.....	R209	1-244-657	220 $\Omega$
C288	1-105-677-12	0.022 $\mu$ F mylar	R210	1-244-641	47 $\Omega$
C289	1-121-426	470 $\mu$ F 16 V electrolytic	R211	1-244-729	220 k $\Omega$
C290	1-121-491	100 $\mu$ F 6.3 V electrolytic	R212	1-244-673	1 k $\Omega$
C291	.....	.....	R213	1-244-657	220 $\Omega$
C292	1-121-186	1000 $\mu$ F 16 V electrolytic	R214	1-244-659	680 $\Omega$
C293	1-102-951	15 pF ceramic	R215	1-244-667	560 $\Omega$
C294	1-101-924	0.022 $\mu$ F ceramic	R216	1-244-663	470 $\Omega$
C295	1-101-924	0.022 $\mu$ F ceramic	R217	1-244-659	270 $\Omega$
C296	1-105-673-12	0.01 $\mu$ F mylar	R218	1-244-646	75 $\Omega$
C297	1-102-939	2 pF ceramic	R219	1-244-642	51 $\Omega$
C298	1-105-673-12	0.01 $\mu$ F mylar	R220	1-244-657	220 $\Omega$
C299	1-102-963	33 pF ceramic	R221	1-244-658	240 $\Omega$
C300	1-102-963	33 pF ceramic	R222	1-244-667	560 $\Omega$
C301	1-102-953	14 pF ceramic	R223	1-244-656	200 $\Omega$
C302	1-105-677-12	0.022 $\mu$ F mylar	R224	1-244-649	100 $\Omega$
C303	1-101-923	0.01 $\mu$ F ceramic	R225	1-244-651	120 $\Omega$
C304	1-101-923	0.01 $\mu$ F ceramic	R226	1-244-647	82 $\Omega$
C305	1-105-673-12	0.01 $\mu$ F mylar	R227	1-244-636	30 $\Omega$
C306	1-101-923	0.01 $\mu$ F ceramic	R228	1-244-649	100 $\Omega$
C307	1-102-942	5 pF ceramic	R229	.....	.....
C308	1-102-947	10 pF ceramic	R230	1-244-642	51 $\Omega$
C309	1-105-677-12	0.022 $\mu$ F mylar	R231	1-244-721	100 k $\Omega$
C310	1-101-923	0.01 $\mu$ F ceramic	R232	1-244-673	1 k $\Omega$
			R233	1-244-697	30 k $\Omega$
			R234	1-244-658	240 $\Omega$
			R235	1-244-666	510 $\Omega$
			R236	1-244-642	51 $\Omega$
			R237	1-244-697	10 k $\Omega$
			R238	1-244-659	270 $\Omega$
			R239	1-244-673	1 k $\Omega$
			R240	1-244-725	150 k $\Omega$
			R241	1-244-642	51 $\Omega$
			R242	1-244-716	62 k $\Omega$
			R243	1-244-665	470 $\Omega$
			R244	1-244-656	200 $\Omega$
			R245	1-244-723	120 k $\Omega$

## RESISTORS

All resistors are 1/4 W,  $\pm 5\%$ , carbon type resistors unless otherwise noted.

VR201	1-222-580	R.F. GAIN control	20 k $\Omega$ B
VR202	1-222-581	BFO control	5 k $\Omega$ D
VR203	1-222-680	tone control	5 k $\Omega$ A
VR204	1-222-681	VOLUME control	50 k $\Omega$ D
R101	1-242-673	1 k $\Omega$	
R102	1-242-740	620 k $\Omega$	
R103	1-244-655	180 $\Omega$	

<i>Ref. No.</i>	<i>Part No.</i>	<i>Description</i>	<i>Ref. No.</i>	<i>Part No.</i>	<i>Description</i>
C105	1-102-918	0.001 $\mu$ F ceramic	C218	1-105-673-12	0.01 $\mu$ F mylar
C106	.....	.....	C219	1-105-693-12	0.060 $\mu$ F mylar
C107	.....	.....	C220	1-105-087	120 pF silvered mica
C108	1-102-942	5 pF ceramic	C221	1-107-482	360 pF silvered mica
C109	1-102-959	22 pF ceramic	C222	1-103-728	1300 pF styrene
C110	.....	.....	C223	1-103-735	2700 pF styrene
C111	1-105-661-12	0.001 $\mu$ F mylar	C224	1-107-097	330 pF silvered mica
C112	1-107-085	100 pF mica	C225	1-107-088	130 pF silvered mica
C113	1-102-924	0.022 $\mu$ F ceramic	C226	1-107-080	62 pF silvered mica
C114	1-102-924	0.022 $\mu$ F ceramic	C227	1-102-940	3 pF ceramic
C115	1-102-934	1 pF ceramic	C228	1-105-665-12	0.0022 $\mu$ F mylar
C116	1-102-510	12 pF ceramic	C229	.....	.....
C117	1-102-918	0.001 $\mu$ F ceramic	C230	1-102-953	10 pF ceramic
C118	1-102-864	5 pF ceramic	C231	.....	.....
C119	.....	.....	C232	1-102-943	6 pF ceramic
C120	1-102-895	10 pF ceramic	C233	.....	.....
C121	.....	.....	C234	.....	.....
C122	1-105-661-12	0.001 $\mu$ F mylar	C235	.....	.....
C123	1-102-865	5 pF ceramic	C236	.....	.....
C124	1-105-661-12	0.001 $\mu$ F mylar	C237	.....	.....
C125	1-127-021	0.33 $\mu$ F 10 V electrolytic (alox)	C238	.....	.....
C126	1-105-673-12	0.01 $\mu$ F mylar	C239	.....	.....
CT201	1-141-142	capacitor, trimmer	C240	1-107-097	330 pF silvered mica
CT202	1-141-142	capacitor, trimmer	C241	1-107-083	130 pF silvered mica
CT203	1-141-142	capacitor, trimmer	C242	1-107-080	62 pF silvered mica
CT204	1-141-142	capacitor, trimmer	C243	1-105-677-12	0.022 $\mu$ F mylar
CT205	1-141-142	capacitor, trimmer	C244	1-105-677-12	0.022 $\mu$ F mylar
CT206	1-141-142	capacitor, trimmer	C245	1-105-679-12	0.033 $\mu$ F mylar
CT207	1-141-142	capacitor, trimmer	C246	1-107-185	470 pF silvered mica
CT208	1-141-140	capacitor, trimmer	C247	1-105-673-12	0.01 $\mu$ F mylar
CT209	1-141-140	capacitor, trimmer	C248	1-105-679-12	0.033 $\mu$ F mylar
CT210	1-141-140	capacitor, trimmer	C249	1-121-491	100 $\mu$ F 6.3 V electrolytic
CT211	.....	.....	C250	1-105-673-12	0.01 $\mu$ F mylar
CT212	1-141-140	capacitor, trimmer	C251	1-107-068	20 pF silvered mica
CT213	1-141-140	capacitor, trimmer	C252	1-107-085	100 pF silvered mica
CT214	1-141-140	capacitor, trimmer	C253	1-105-679-12	0.033 $\mu$ F mylar
C201	1-105-673-12	0.01 $\mu$ F mylar	C254	1-105-677-12	0.022 $\mu$ F mylar
C202	1-105-673-12	0.01 $\mu$ F mylar	C255	1-121-491	100 $\mu$ F 6.3 V electrolytic
C203	.....	.....	C256	1-105-675-12	0.015 $\mu$ F mylar
C204	1-105-677-12	0.022 $\mu$ F mylar	C257	1-105-673-12	0.01 $\mu$ F mylar
C205	1-121-491	100 $\mu$ F 6.3 V electrolytic	C258	1-105-673-12	0.01 $\mu$ F mylar
C206	1-101-924	0.022 $\mu$ F ceramic	C259	1-105-673-12	0.01 $\mu$ F mylar
C207	1-121-471	10 $\mu$ F 16 V electrolytic	C260	1-105-673-12	0.01 $\mu$ F mylar
C208	1-105-673-12	0.01 $\mu$ F mylar	C261	1-105-661-12	0.001 $\mu$ F mylar
C209	1-105-673-12	0.01 $\mu$ F mylar	C262	1-105-661-12	0.001 $\mu$ F mylar
C210	1-105-673-12	0.022 $\mu$ F mylar	C263	1-121-471	10 $\mu$ F 16 V electrolytic
C211	1-102-960	24 pF ceramic	C264	1-105-673-12	0.01 $\mu$ F mylar
C212	.....	.....	C265	1-105-673-12	0.01 $\mu$ F mylar
C213	1-102-964	36 pF ceramic	C266	1-105-675-12	0.015 $\mu$ F mylar
C214	1-102-962	16 pF ceramic	C267	1-105-677-12	0.022 $\mu$ F mylar
C215	1-102-959	22 pF ceramic	C268	1-102-734	0.01 $\mu$ F ceramic
C216	1-102-960	24 pF ceramic	C269	.....	.....
C217	1-102-960	24 pF ceramic	C270	.....	.....

<u>Ref No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>
C271			R104	1-244-724	360 k $\Omega$
C272	1-121-471	10 $\mu$ F 16 V electrolytic	R105	1-242-673	1 k $\Omega$
C273	1-105-677-12	0.022 $\mu$ F mylar	R106	1-242-673	1 k $\Omega$
C274	1-121-464	4.7 $\mu$ F 25 V electrolytic	R107	1-242-721	100 k $\Omega$
C275	1-121-491	100 $\mu$ F 6.3 V electrolytic	R108	1-242-709	33 k $\Omega$
C276	1-105-673-12	0.01 $\mu$ F mylar	R109	1-242-721	100 k $\Omega$
C277	1-127-046	0.22 $\mu$ F electrolytic (alex)	R110	1-242-677	1.5 k $\Omega$
C278	-----	-----	R111	1-242-729	220 k $\Omega$
C279	1-127-045	0.1 $\mu$ F 10 V electrolytic (alex)	R201	1-244-722	110 k $\Omega$
C280	-----	-----	R202	1-244-717	68 k $\Omega$
C281	1-121-421	220 $\mu$ F 16 V electrolytic	R203	1-244-709	33 k $\Omega$
C282	1-102-098	470 pF ceramic	R204	1-244-673	1 k $\Omega$
C283	1-105-677-12	0.022 $\mu$ F mylar	R205	1-244-662	360 $\Omega$
C284	1-105-665-12	0.0022 $\mu$ F mylar	R206	1-244-669	680 $\Omega$
C285	1-121-491	100 $\mu$ F 6.3 V electrolytic	R207	1-244-659	270 $\Omega$
C286	1-121-186	1000 $\mu$ F 16 V electrolytic	R208	1-244-673	1 k $\Omega$
C287	-----	-----	R209	1-244-657	220 $\Omega$
C288	1-105-677-12	0.022 $\mu$ F mylar	R210	1-244-641	47 $\Omega$
C289	1-121-426	470 $\mu$ F 16 V electrolytic	R211	1-244-729	220 k $\Omega$
C290	1-121-491	100 $\mu$ F 6.3 V electrolytic	R212	1-244-673	1 k $\Omega$
C291	-----	-----	R213	1-244-657	220 $\Omega$
C292	1-121-186	1000 $\mu$ F 16 V electrolytic	R214	1-244-669	680 $\Omega$
C293	1-102-951	15 pF ceramic	R215	1-244-667	560 $\Omega$
C294	1-101-924	0.022 $\mu$ F ceramic	R216	1-244-665	470 $\Omega$
C295	1-101-924	0.022 $\mu$ F ceramic	R217	1-244-659	270 $\Omega$
C296	1-105-673-12	0.01 $\mu$ F mylar	R218	1-244-646	75 $\Omega$
C297	1-102-939	2 pF ceramic	R219	1-244-642	51 $\Omega$
C298	1-105-673-12	0.01 $\mu$ F mylar	R220	1-244-657	220 $\Omega$
C299	1-102-963	33 pF ceramic	R221	1-244-658	240 $\Omega$
C300	1-102-963	33 pF ceramic	R222	1-244-667	560 $\Omega$
C301	1-102-953	18 pF ceramic	R223	1-244-656	200 $\Omega$
C302	1-105-677-12	0.022 $\mu$ F mylar	R224	1-244-649	100 $\Omega$
C303	1-101-923	0.01 $\mu$ F ceramic	R225	1-244-651	120 $\Omega$
C304	1-101-923	0.01 $\mu$ F ceramic	R226	1-244-647	82 $\Omega$
C305	1-105-673-12	0.01 $\mu$ F mylar	R227	1-244-636	30 $\Omega$
C306	1-101-923	0.01 $\mu$ F ceramic	R228	1-244-649	100 $\Omega$
C307	1-102-942	5 pF ceramic	R229	-----	-----
C308	1-102-947	10 pF ceramic	R230	1-244-642	51 $\Omega$
C309	1-105-677-12	0.022 $\mu$ F mylar	R231	1-244-721	100 k $\Omega$
C310	1-101-923	0.01 $\mu$ F ceramic	R232	1-244-673	1 k $\Omega$
			R233	1-244-697	10 k $\Omega$
			R234	1-244-658	240 $\Omega$
			R235	1-244-666	510 $\Omega$
			R236	1-244-642	51 $\Omega$
			R237	1-244-697	10 k $\Omega$
			R238	1-244-659	270 $\Omega$
			R239	1-244-673	1 k $\Omega$
			R240	1-244-725	150 k $\Omega$
			R241	1-244-642	51 $\Omega$
			R242	1-244-716	62 k $\Omega$
			R243	1-244-665	470 $\Omega$
			R244	1-244-656	200 $\Omega$
			R245	1-244-723	120 k $\Omega$

## RESISTORS

All resistors are  $\frac{1}{4}$  W,  $\pm 5\%$  carbon type resistors unless otherwise noted.

VR201	1-222-580	RF GAIN control	20 k $\Omega$ B
VR202	1-222-581	BFO control	5 k $\Omega$ D
VR203	1-222-680	TONE control	5 k $\Omega$ A
VR204	1-222-681	VOLUME control	50 k $\Omega$ B
R101	1-242-673	1 k $\Omega$	
R102	1-242-740	620 k $\Omega$	
R103	1-244-655	180 $\Omega$	



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