

**REALISTIC<sup>®</sup>**

# Service Manual

31-2071

**STA-21**

**AM/FM STEREO RECEIVER**

**Catalog Number : 31-2071**



CUSTOM MANUFACTURED FOR RADIO SHACK  A DIVISION OF TANDY CORPORATION

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# 1. ELECTRICAL PERFORMANCE SPECIFICATIONS

## AM BAND

	UNIT	NOMINAL	LIMIT
Range	(kHz)	510 — 1650	520 — 1620
IF	(kHz)	455	-----
Antenna Sensitivity for S/N 20 dB	( $\mu$ V/m)		
at 600 kHz		200	500
at 1000 kHz		200	500
at 1400 kHz		200	500
Terminal Sensitivity (20 dB S/N)	( $\mu$ V)	10	-----
ACA at S/N 6 dB sensitivity at 1000 kHz	(dB)	28	20
AGC Distortion at 1000 kHz, 100 mV/m, 80% Mod.	(%)	4	10
AGC Figure of Merit	(dB)	45	38
IF Rejection at 600 kHz	(dB)	32	27
Image Rejection at 1400 kHz	(dB)	45	35
Distortion at 5 mV/m 30% Mod.	(%)	1.5	3.5
Tapeout Level at 5 mV/m 30% Mod. 400 Hz	(mV)	250	200
Fidelity 5 mV/m Input, -6 dB Down (1 kHz = 0 dB)	(Hz)	50 — 2500	-----
Whistle Modulation of 2nd and 3rd Harmonic			
at 1 and 5 mV/m	(%)	5	10
Calibration Accuracy at 600 kHz	(kHz)	---	$\pm$ 25
at 1400 kHz	(kHz)	---	$\pm$ 50

## FM BAND

	UNIT	NOMINAL	LIMIT
Range (For UL and C.S.A. Models)	(MHz)	86.5 — 108.5	88 — 108
Range (For European and Australian Models)	(MHz)	87.5 — 108.5	87.5 — 108
IF	(MHz)	10.7	-----
IHF Sensitivity at 90, 98 and 106 MHz	( $\mu$ V)	2.8	5.0
FM S/N Ratio at 98 MHz, 1 mV Input	(dB)	60	55
FM Limiting -3 dB	( $\mu$ V)	3.2	7.1
IF Rejection at 90 MHz	(dB)	80	70
Image Rejection at 106 MHz	(dB)	50	45
Capture Ratio	(dB)	3	6
ACA $\pm$ 400 kHz at 100 $\mu$ V	(dB)	45	30
Audio THD 400 Hz, 75 kHz Dev.	(%)	0.5	1.0
Audio THD 400 Hz, 22.5 kHz Dev.	(%)	0.3	0.8
Calibration Accuracy at 90 MHz	(kHz)	-----	$\pm$ 500
at 106 MHz	(kHz)	-----	$\pm$ 500
AFC Holding Range with 1 mV Signal	(kHz)	$\pm$ 200	300 — 800
AM Suppression	(dB)	38	30
Maximum Signal Handling Capacity	(V)	0.2	0.1
Tapeout Level 1 mV 75 kHz Dev. 400 Hz Mod.	(mV)	750	750 $\pm$ 2.5 dB

All Sets must meet the Requirements of the FCC.

Frequency Response must meet the 75  $\mu$  sec. De-emphasis for UL and C.S.A. Approved Models (50  $\mu$  sec. De-emphasis for European and Australian Models).

## FM MPX

	UNIT	NOMINAL	LIMIT
Stereo Indicator "ON" Point	( $\mu$ V)	10	20
Separation at 1 mV 100 Hz	(dB)	29	22
1 kHz	(dB)	34	27
10 kHz	(dB)	26	20
Stereo Distortion 1 mV 1 kHz	(%)	0.6	2.0
38 kHz Rejection	(dB)	42	35
SCA Rejection	(dB)	42	35

## AUDIO SECTION

	UNIT	NOMINAL	LIMIT
Input Impedance PHONO MAG.	(K ohm)	50	
AUX	(K ohm)	100	
Output Power at THD 1% 8 ohms			
Both Channels Driven at 1 kHz	(W)	11	8.5
Power Bandwidth 8 ohms Both Channels Driven			
THD 1%, 20 Hz — 20 kHz	(W)	8.5	7
Sensitivity for Rated Power			
PHONO MAG.	(mV)	2.5	3.5
AUX	(mV)	150	200
Tape In	(mV)	150	200
Frequency Response at AUX (1 W $\pm$ 2 dB)	(Hz)	15 — 30 K	20 — 20 K
Bass Action at 100 Hz	(dB)	$\pm$ 10	$\pm$ 10 $\pm$ 2.5
Treble Action at 10 kHz	(dB)	$\pm$ 10	$\pm$ 10 $\pm$ 2.5
Min. Volume Hum and Noise	(mV)	1	3
Max. Volume Hum and Noise Tone Max. at AUX	(mV)	15	70
Signal to Noise Ratio			
PHONO MAG. 5 mV Input (Input Short)	(dB)	60	55
AUX 200 mV Input	(dB)	65	55
Cross Talk at 1 kHz AUX	(dB)	46	40
Bass Compensation at 100 Hz -30 dB Volume	(dB)	+9	+9 $\pm$ 2
Treble Compensation at 10 kHz -30 dB Volume	(dB)	+4	+4 $\pm$ 2
Tapeout Level PHONO MAG. at 3 mV 1 kHz	(mV)	200	200 $\pm$ 2 dB
AUX at 200 mV 1 kHz	(mV)	200	200 $\pm$ 2 dB
PHONO MAG. Eq. Response at 100 Hz	(dB)	+13	+13 $\pm$ 2
at 10 kHz	(dB)	-13	-13 $\pm$ 2
Tapeout Level (DIN Connector)			
AM 5 mV/m Input 30% Mod.	(mV)	25	25 $\pm$ 3 dB
FM 1 mV Input 22.5 kHz Dev.	(mV)	25	25 $\pm$ 3 dB
AUX 200 mV Input	(mV)	25	25 $\pm$ 3 dB
PHONO MAG. Overload	(mV)	80	60

### NOTE:

The supply voltage is 120 volt AC (for UL and C.S.A. Models) (use 220/240 volt AC for European and Australian Models), from a regulated power supply. The Power Source must insulated from other equipment connected to antenna or output. The room temperature is 25 degrees C.

Nominal Specs represent the design specs; all units should be able to approximate these — some will exceed and some may drop slightly below these specs.

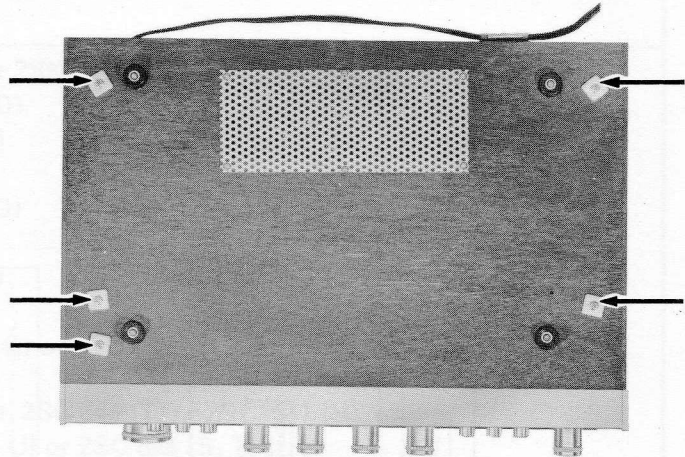
Limit Specs represent the absolute worst condition which still might be considered acceptable; in no case should a unit perform to less than within any Limit Specs.



## 2. DISASSEMBLY INSTRUCTIONS

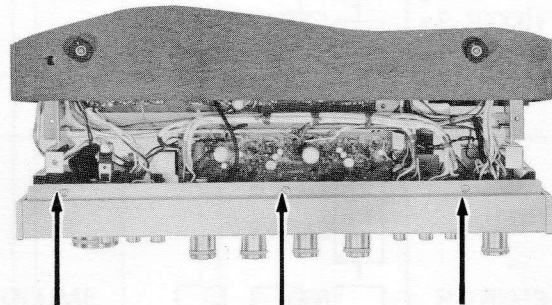
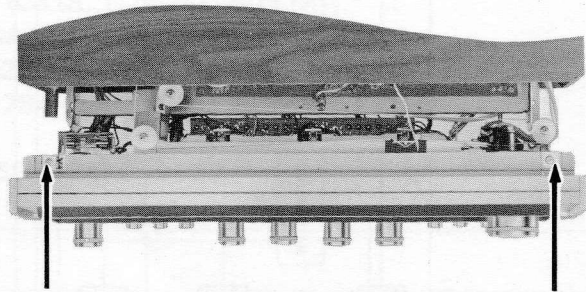
### 1) To remove chassis from wooden cabinet.

Turn the cabinet upside down and remove the five Pan head screws from the cabinet bottom.



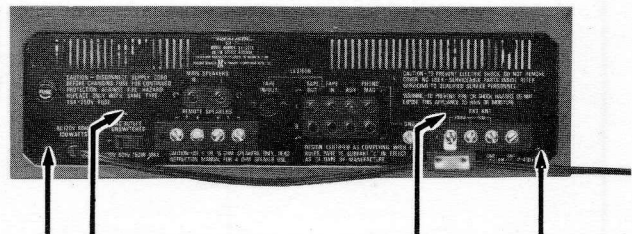
### 2) Removal of front panel (Aluminum panel)

- Remove the chassis from wooden cabinet as described in 1).
- Pull out the main chassis.
- Remove the two Pan head screws from the top and the three Pan head screws from the bottom of the front panel.
- Remove knobs and pull off panel.

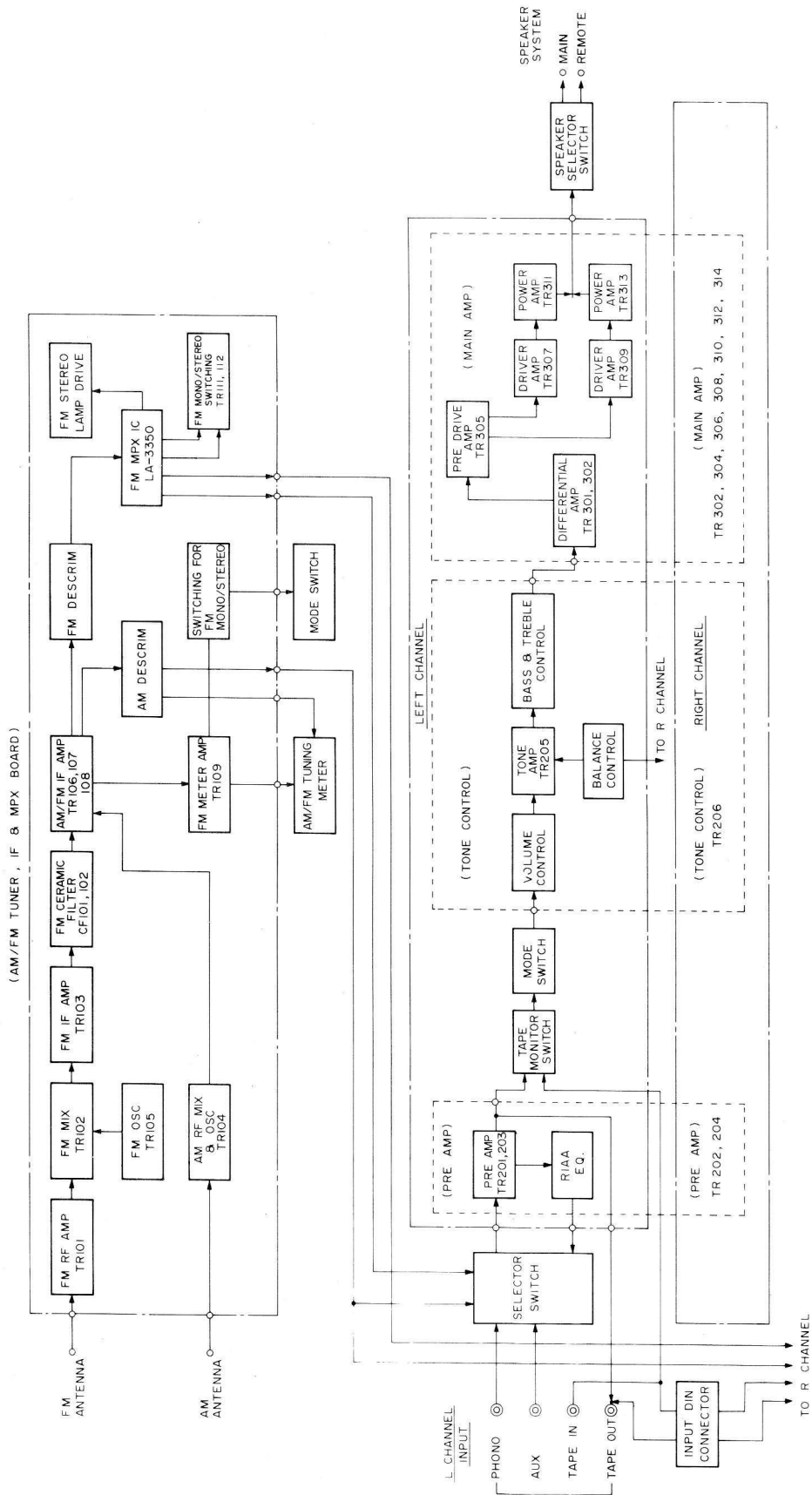


### 3) To remove rear panel from chassis.

Remove the four Pan head screws from the rear panel.



# 3. BLOCK DIAGRAM



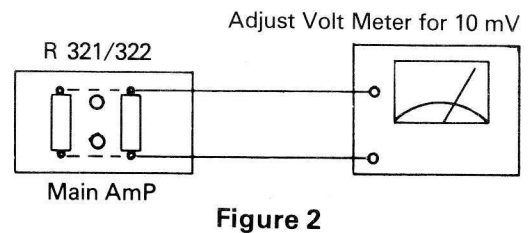
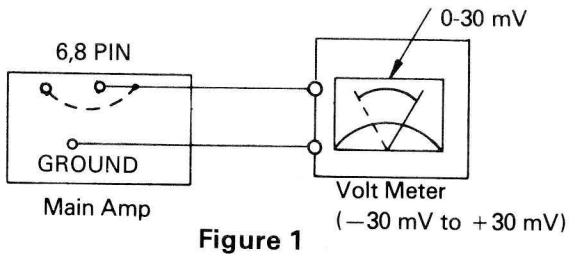
# 4. ALIGNMENT INSTRUCTIONS

## MAIN AMPLIFIER AND RESET CIRCUIT ADJUSTMENT/CHECK

- NOTE**
- Maintain line voltage at 120 volts. (UL, C.S.A.) (Use 220/240 VAC For European & Australian Models.)
  - Set SELECTOR Switch to AUX.
  - Set MODE Switch to STEREO.
  - See P.C.B. illustrations for alignment points/adjustments.

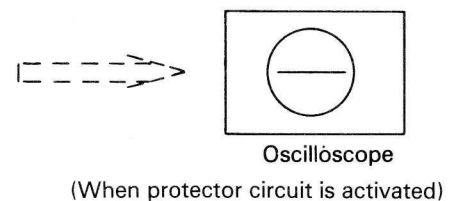
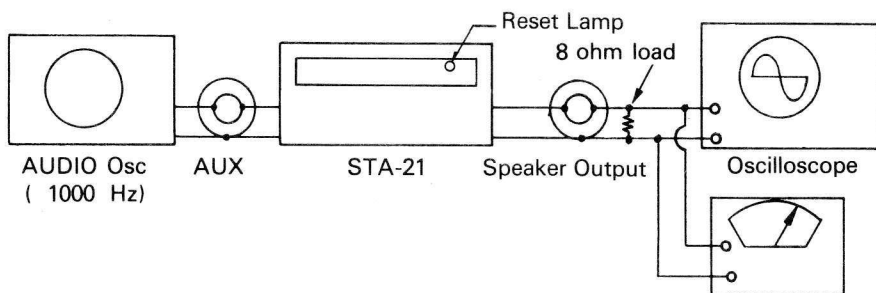
### MAIN AMPLIFIER ADJUSTMENT

STEP	ADJUSTMENT	EQUIPMENT	CONNECTION	AUDIO FREQ.	LEVEL	ADJUSTMENT
1	Check DC Balance by measuring DC voltage across Output of L and R channel.	DC Volt Meter	See Fig. 1	No signal	DC voltage should be less than 30 mV.	Select of R305 (L channel) R306 (R channel)
2	Idling current adjustment	DC Volt Meter	See Fig. 2	No signal	Adjust voltage across Emitter resistors R321 and R322 to 10 mV. (8 Ω Load)	R329 R330



### RESET CIRCUIT ADJUSTMENT

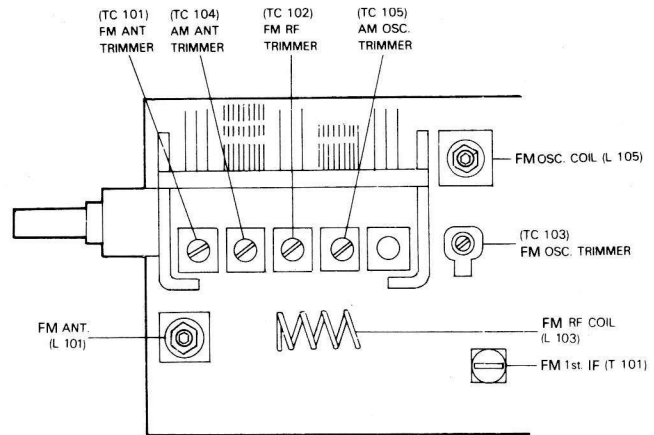
STEP	ADJUSTMENT	EQUIPMENT	CONNECTION	AUDIO FREQ.	SETTING	LEVEL	ADJUSTMENT
1	Turn trimmer resistor R 332 counterclockwise (minimum value).						
2		Audio Osc. V.T.V.M.	Figure 3	1000 Hz	VOLUME: Max BASS, TREBLE & BALANCE: Center	Adjust input to AUX 1 to get output level of about 3 Volts (8 ohm load)	
3	Reset circuit adjustment	Audio Osc. V.T.V.M.	Figure 4	1000 Hz	Same as above	Adjust R 332 so output drops to zero (RESET comes "on") when output speaker terminals are shorted: DO NOT ADJUST PAST THIS POINT.	R 332



## EQUIPMENT REQUIRED

1. AM Signal Generator
2. AC Voltmeter
3. Oscilloscope

## TUNER COIL & TRIMMER LOCATIONS



## AM IF & RF ALIGNMENT

- NOTES:**
- Signal generator output should be no higher than necessary to obtain an output reading.
  - Maintain line voltage at 120 volts. (UL, C.S.A.) (Use 220/240 VAC For European & Australian Models.)
  - Set SELECTOR Switch to AM.
  - See P.C.B. illustrations for alignment points/adjustments.

STEP	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	DIAL SETTING	INDICATOR	ADJUSTMENT	REMARKS
1	Connect standard loop ANTENNA to Signal Generator and radiate signal into the AM Ferrite antenna. See Fig. 5.	455 kHz (400 Hz, 30% MOD)	Point of non-interference (near 600 kHz)	AC Voltmeter to TAPE OUT JACK	T 106 T 107 T 108 T 109	Adjust for maximum reading.
2	Same as above	600 kHz (400 Hz, 30% MOD)	600 kHz	Same as above	T 105 (OSC Coil) L 106 (AM ANT Coil)	Adjust for maximum reading.
3	Same as above	1400 kHz (400 Hz, 30% MOD)	1400 kHz	Same as above	TC 105 (OSC Trimmer) TC 104 (ANT Trimmer)	Adjust for maximum reading.
4	Repeat steps 2 and 3 until no further change is noticed.					
5	Same as step 1	1000 kHz (400 Hz, 30% MOD) Output level to 100 mV/m	Point of non-interference and no signal	AM Strength Meter	Select value of R 160	Meter Pointer on Receiver should indicate between 80% and 90% on the Meter.

## AM ALIGNMENT SET-UP

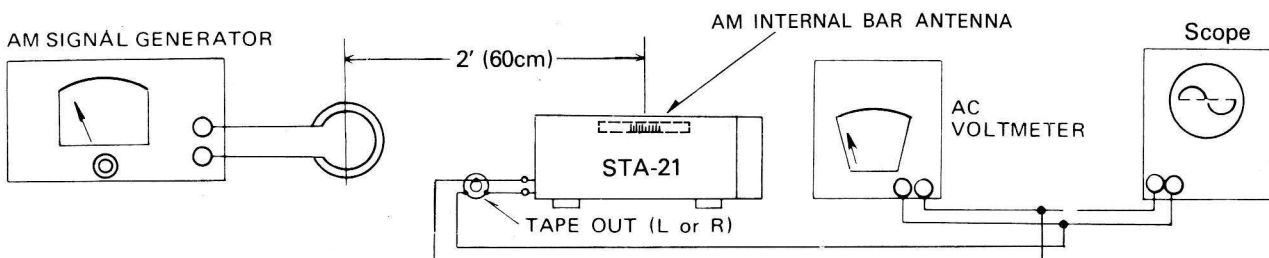


Figure 5

## FM RF & IF ALIGNMENT

### EQUIPMENT REQUIRED

1. FM Signal Generator . . . . . Output Level: 1 mV
2. Sweep Generator

3. AC Voltmeter
4. Oscilloscope
5. Distortion Meter

- NOTE**
- Signal Generator output should be no higher than necessary to obtain an output reading.
  - Set SELECTOR Switch to FM.
  - Maintain Line voltage at 120 volts. (UL, C.S.A.) (220/240 VAC For European & Australian Models.)
  - Refer to P.C.B. illustrations for test points/adjustments.

STEP	GENERATOR COUPLING	GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUSTMENT	REMARKS
1	Sweep Generator to "FM ANT" terminal on FM Front end board	10.7 MHz (1400 kHz Sweep)	Any dial setting where no noise or interference exists	Scope to TP 7 at R 151 (MPX input) AM/FM/MPX Board	T 101, 102, 103, 104 (Primary) FM IFT	Adjust for maximum amplitude and proper linearity between $\pm 150$ kHz markers. Refer to Fig. 7.
2	Sweep Generator to FM Antenna Terminal thru FM Dummy antenna (300 ohm)	"	"	"	T101, 102 FM IFT	"
3	Same as above	"	"	"	T 104 FM IFT. (Primary and Secondary)	Ajust for symmetrical "S" curve as shown in Fig. 6.
4	Signal Generator to FM Antenna Terminal thru FM Dummy antenna (300 ohm)	98 MHz (400 Hz, 100% MOD)	Tune for Maximum reading on meter	Distortion Meter to TAPE OUT Jack	T 104 FM Discrim. (Secondary)	Adjust for minimum distortion.
5	Same as above	*86.5 MHz See Note in step 7	Tuning gang fully closed	AC Voltmeter and Scope to TAPE OUT Jack	L 105 (FM OSC)	Adjust for maximum reading on meter.
6	Same as above	108.5 MHz	Tuning gang fully opened	"	TC 103 (FM OSC Trimmer)	"
7	Repeat STEPs (5) and (6) until Tuning Range Covers exactly from 86.5 MHz to 108.5 MHz. (*European models must not be able to tune below 87.5 MHz.)					
8	Signal Generator to FM Dummy antenna (300 ohm)	90 MHz	90 MHz Tune to Signal	AC Voltmeter and Scope to TAPE OUT Jack	L 101 (FM ANT Coil) L 103 (FM RF Coil; stretch or squeeze)	Adjust for maximum reading on meter.
9	Same as above	106 MHz	106 MHz Tune to Signal	"	TC 101 (FM ANT Trimmer) TC 102 (FM RF Trimmer)	"
10	Repeat STEPs (8) and (9) until no further improvement is noticed.					
11	Same as STEP (8) ANT. input: 1 mV	98 MHz	98 MHz Tune to Signal	—	T110	Adjust for maximum reading on meter.
12	Same as STEP (8) ANT. input: 100 mV	"	"	—	VR101	Adjust so the Meter Pointer on Receiver is full scale.

## FM ALIGNMENT SET-UP

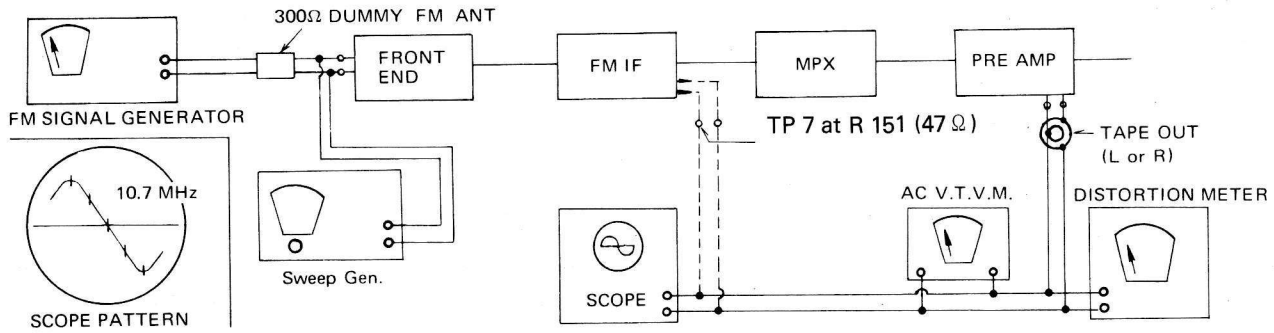


Figure 6

Figure 7

## FM STEREO ALIGNMENT

### Equipment Required

1. Stereo Modulator . . . . . Connect Stereo Modulator to EXT. Mod. terminal FM signal generator.  
Modulation Level of 19 kHz Pilot Signal ...8 – 10 %
2. FM Signal Generator . . . . . Output Level ... 1 mV  
Frequency ..... Approximately 98 MHz  
Deviation ..... 75 kHz 100 % modulation of composite signal
3. Audio Generator
4. AC Voltmeter
5. Oscilloscope
6. Distortion Meter
7. Frequency Counter

**Note:** See P.C.B. illustration for alignment/test points.

### Preliminaries

Set SELECTOR switch to FM STEREO.

## MULTIPLEX & SEPARATION ALIGNMENT

STEP	SIGNAL GENERATOR COUPLING	STEREO MODULATION	INDICATOR	ADJUSTMENT	REMARKS
1	Connect to FM Antenna terminal thru FM dummy antenna(300 Ω)	Mono. 1 kHz (1000 Hz, No Mod) Input 1 mV	Counter connected to TP 14 at Pin No 12 of IC	VR 103	Adjust for 19 kHz ± 50 Hz on Counter. Refer to Fig. 8.
2	Same as above	Composite MPX Signal 1 kHz on Left channel ONLY	AC Voltmeter connected for TAPE OUT jack of Right channel	VR 102 (Separation)	Adjust for minimum reading. Refer to Fig. 9.
3	Same as above	Composite MPX Signal 1 kHz on Right channel ONLY	AC Voltmeter connected for TAPE OUT jack of left channel	Same as above	Same as above
4	Repeat STEPs 2 and 3 until AC Voltmeter reading is at least -33 dB re same channel output (i.e. 33 dB separation).				
5	Same as step 1	Composite Signal 1 kHz	AC Voltmeter connected to TAPE OUT jack		With 10 μV antenna input signal, stereo indicator lamp should come on.



## FM STEREO ALIGNMENT SET-UP

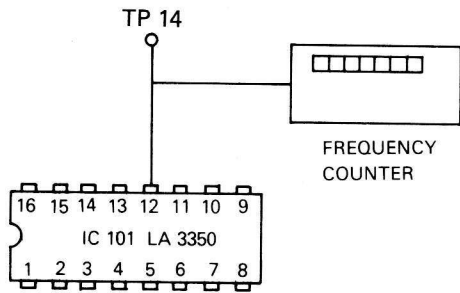


Figure 8

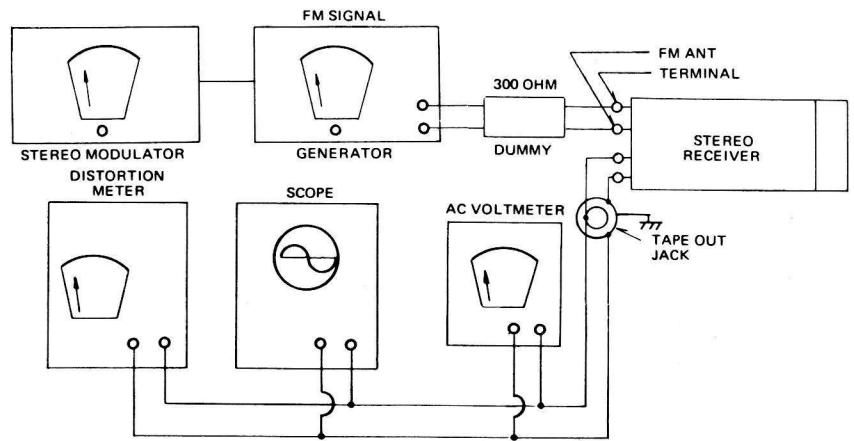


Figure 9

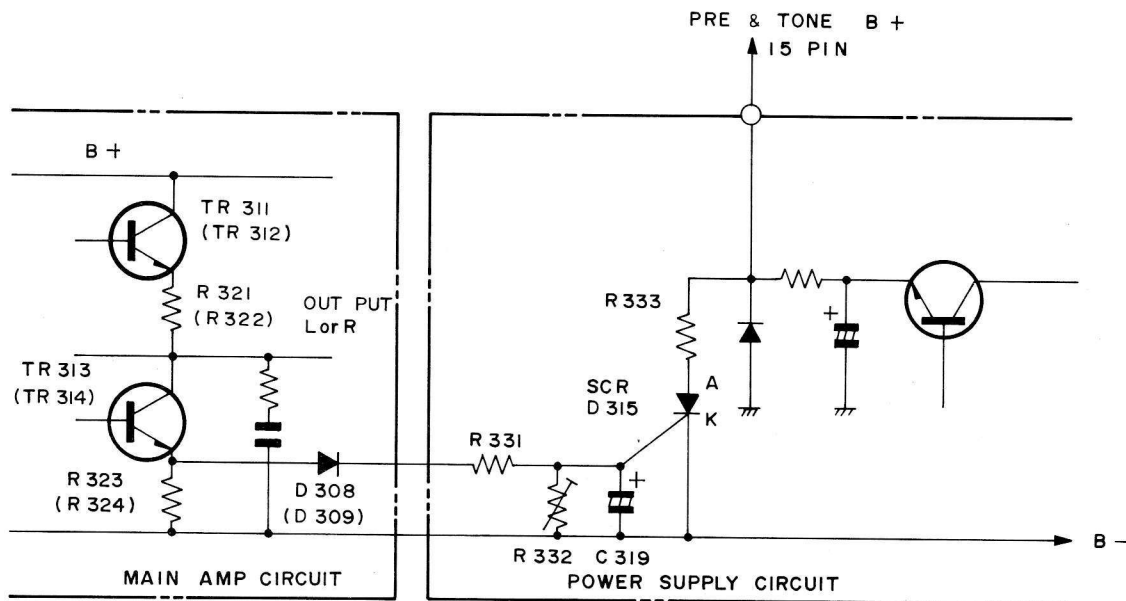
## BRIEF DESCRIPTION OF PROTECTIVE CIRCUIT

If speaker terminals are shorted, or Load impedance of one channel (Left or Right) comes less than 4 ohms, excessively high current flows from Emitter to Collector of TR 313 (or TR 314) and a high voltage appears across R 323 (or R 324).

This high voltage goes to Gate of SCR D315 after being rectified by D 308 (or D 309). When the voltage between Cathode and Gate increases to about 0.7 V, SCR D315 will be turned on. Voltage at Pin No. 15 on Power Supply Board goes to -1 V to 0V, PRE AMP and TONE circuits will stop functioning and thus protect MAIN Amp.

If this should occur, the amplifier will automatically shut down and output will drop to zero. Turn the receiver off to reset the protective circuit.

When the problem is corrected, turn the receiver on again.



## 5. TROUBLE SHOOTING

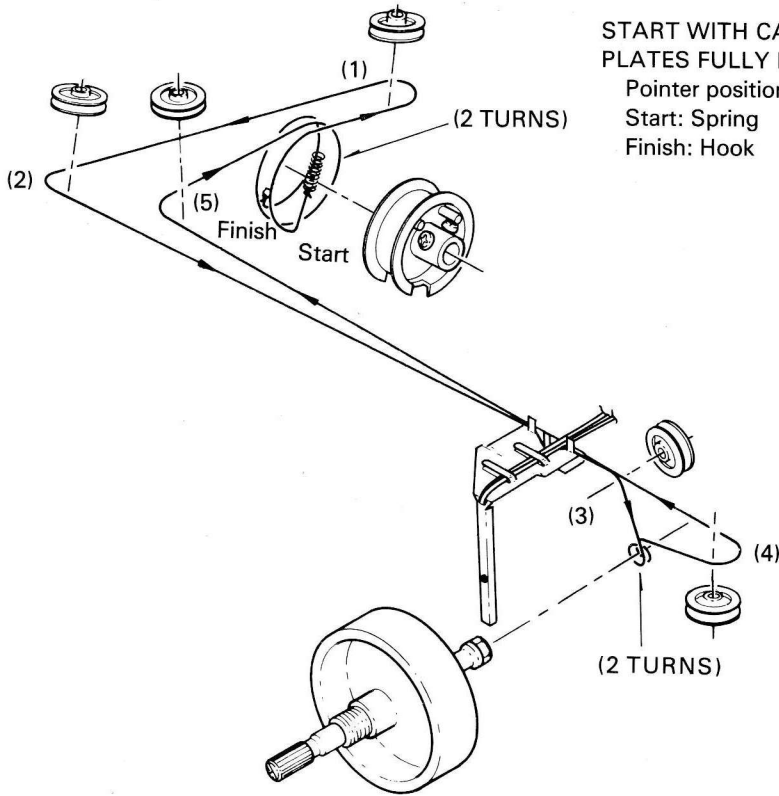
Symptom	Cause/Remedy
1) No output.	1) Faulty AC power cord. * Replace the cord. 2) Defective power switch. * Replace the switch. 3) Broken wire in the power transformer. * Replace the transformer.
2) Pilot lamp does not light.	1) Broken lamp. * Replace the lamp. 2) Open in the power transformer tertiary winding. * Replace the power transformer.
3) Pilot lamp lights but no speaker output.	1) Defective capacitor C 326 or C 327. * Replace the defective capacitor(s). 2) Defective diode D 301, 302, 303 or 304. * Replace the defective diode(s). 3) Defect in the power transformer secondary winding. * Replace the power transformer.
4) Blows fuse.	1) Defective diode D 301-304 in the rectifier circuit. * Replace the defective diode(s). 2) Short-circuit in the rectifier circuit. * Remove the short. 3) Short-circuit in power transistor circuitry TR 311-314. * Repair circuit and/or Replace the defective transistor.
5-1) No output one channel with VOLUME at maximum and BALANCE at center, when a test signal is applied to the terminal of non-operating channel of the BALANCE control R 249.	1) Defective transistor TR 205, 206 or TR 301-314. * Replace the defective transistor(s). 2) Defective resistor or capacitor of TONE or MAIN AMP circuit. * Replace the defective part(s).
5-2) No output when a test signal is applied to the input terminals.	1) Defective transistor, resistor or capacitor of PRE AMP circuit. * Replace the defective part(s). 2) Defective MONO/STEREO or TAPE MONITOR switch. * Replace or repair the switch(es). 3) Defective Selector switch. * Replace the Selector switch.
6) Speaker works normally but headphone does not work.	1) Defective R 401 (left) or R 402 (right). * Change it.
7) All the inputs work normally except "AUX" input.	1) Poor contact in "AUX" input jack. * Replace or repair it. 2) Defective resistor R 501, 502, 503 or 504. * Replace it. 3) Poor contact in selector switch. * Repair or replace the switch.
8) "PHONO" input no operative.	1) Poor contact in "PHONO" input jack. * Repair or replace it. 2) Faulty selector switch. * Repair or replace the switch.



Symptom	Cause/Remedy
9) "TAPE OUT" inoperative.	1) Poor contact in "TAPE OUT" output jack. * Repair or replace it.
10) No AM or FM. (TUNER B + voltage is not 11-12 V).	1) Broken tertiary winding in the power transformer. * Replace the transformer. 2) Defective diode D 305, 306 or D314. * Change the defective diode(s). 3) Faulty capacitor C 323, 324, or 325. * Change it. 4) Defective resistor R 337. * Replace the resistor. 5) Zener diode D 314 defective. * Replace the diode. 6) Short circuit in TUNER B + circuit. * Remove the short. 7) Poor contact in selector switch. * Repair or replace it.
11) No FM.	1) Poor contact in selector switch. * Repair or replace it. 2) Defective resistor or capacitor of FM Tuner circuit. * Replace the defective part(s). 3) Transistor, diode, IFT, resistor or capacitor of FM Tuner & IF board defective. * Replace the defective part(s). 4) Faulty FM Antenna lead-in/circuitry. * Repair or replace the Antenna lead-in/circuitry.
12) No AM.	1) Poor contact in selector switch. * Repair or replace the switch. 2) Transistor, diode, IFT, resistor or capacitor of AM IF defective. * Replace the defective part(s). 3) Bar-Antenna coil defective. * Repair or replace it.
13) No MPX separation.	1) Improper adjustment. * Readjust it. 2) IC of MPX board defective. * Replace the IC. 3) VR 102 or 103 (Trimmer resistor) defective. * Replace it.
14) No stereo light.	1) STEREO Lamp burned out. * Replace the lamp. 2) Defective IC of MPX board. * Change the defective IC.
15) FM STEREO does not work.	1) Defective IC (LA 3350). * Replace it. 2) Defective VR 102 or 103. * Replace it. 3) Defective transistor, resistor, capacitor or diode of FM MPX circuit. * Replace the defective part(s). 4) Defective STEREO lamp PL 5. * Replace it.

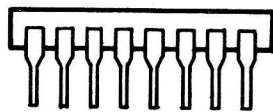
Symptom	Cause/Remedy
16) "LOUDNESS" has no effect.	1) Defective "LOUDNESS" switch. * Replace the switch. 2) Defective C 219, 220, 221, 222, R 245 or R 246. * Replace the defective part(s).
17) "BASS" has no effect.	1) R 251 (100K BASS control) defective. * Replace it. 2) Defective R 237, 238, 239, 240, 241, 242, C 235, 236, 237 or 238 of Tone Control Board. * Replace the defective part(s).
18) "TREBLE" has no effect.	1) Faulty R 250 (100K TREBLE control). * Replace it. 2) Defective C 231, 232, 233, 234, R 243 or 244 of Tone control Board. * Replace the defective part(s).
19) "TAPE IN" inoperative.	1) Poor contact in "TAPE IN" input jack. * Repair or replace it. 2) Faulty "TAPE MONITOR" switch. * Repair or replace the faulty switch.
20) Overload protector circuit does not work.	1) Defective SCR D 315. * Replace the defective SCR. 2) Defective resistor R 331 or 333. * Replace the defective resistor(s). 3) Defective capacitor C 319. * Replace the defective capacitor. 4) Defective diode D 307, 308 or 309. * Replace the defective diode(s). 5) Defective trimmer resistor R 332. * Replace the defective trimmer resistor.
21) DC not balanced within $\pm 30$ mV at output of L/R channel.	1) Defective transistor TR 301 or TR 303 (TR 302 or TR 304) * Replace the defective transistor(s). 2) Incorrect/unsuitable value of R 305/R306. * Select suitable value resistor.

## 6. DIAL STRINGING DIAGRAM

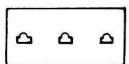
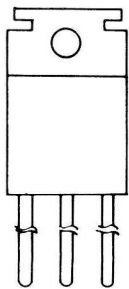
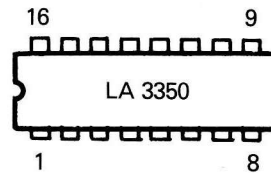


START WITH CAPACITOR SET AT MINIMUM,  
 PLATES FULLY MESHED  
 Pointer position: HIGH END  
 Start: Spring  
 Finish: Hook

## 7. IC & TRANSISTOR LEAD IDENTIFICATION

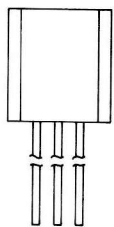


LA 3350

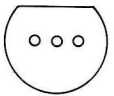


B C E

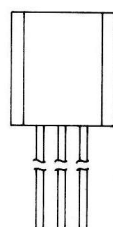
2SD 330  
 2SC 288  
 2SC 790



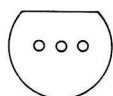
ECB



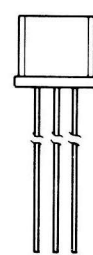
2SC 945 2SC 1047  
 2SC 900 2SC 1359  
 2SC 923 2SA 539  
 2SC 644 2SA 561  
 2SC 815 2SA 495  
 2SC 734 2SC 828  
 2SC 829  
 2SC 930



GAK



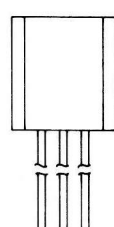
M 21C  
 2SF 657



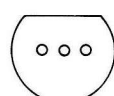
GDS



2SK 19



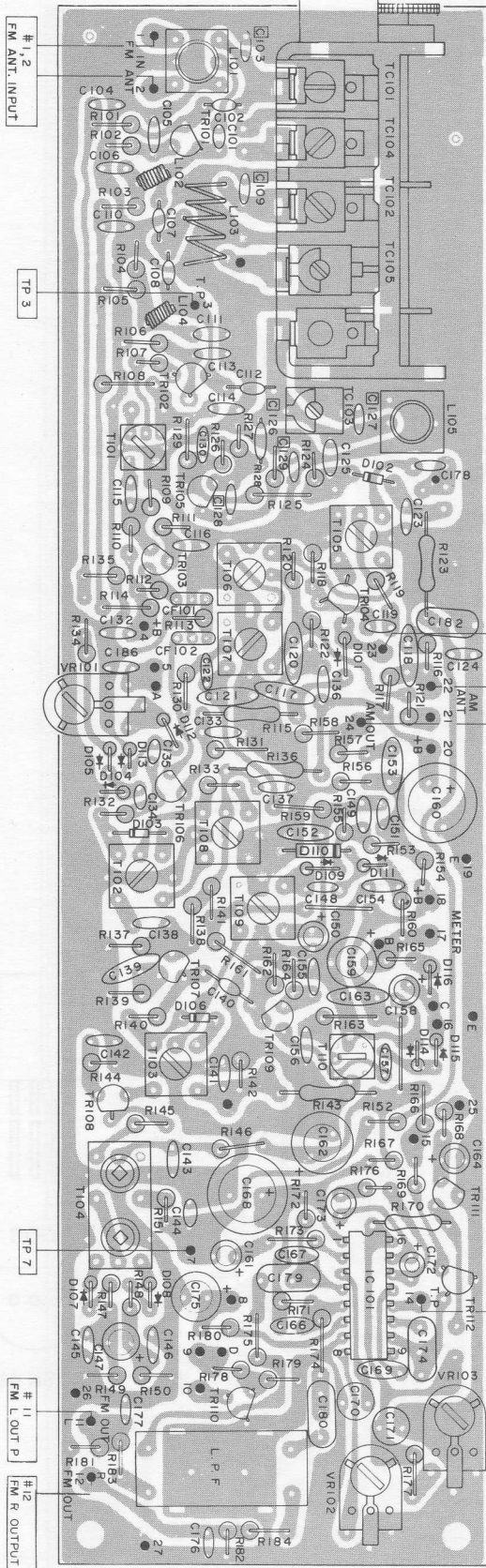
GDS



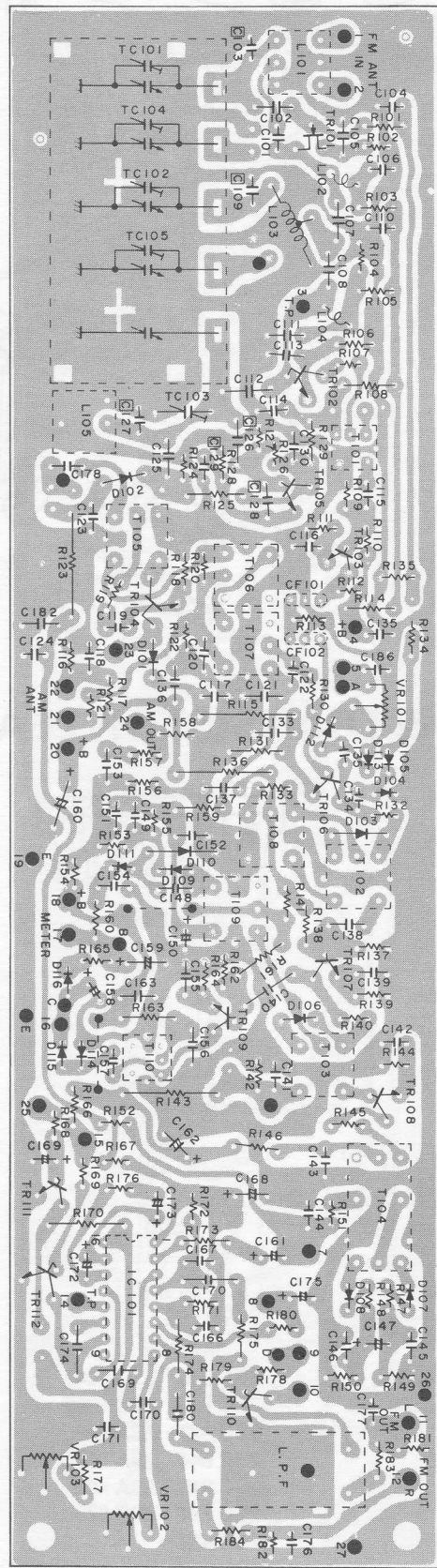
2SK 41

# 8. AM/FM TUNER, IF & MPX ASSEMBLED BOARD (TOP & BOTTOM VIEWS)

TOP VIEW



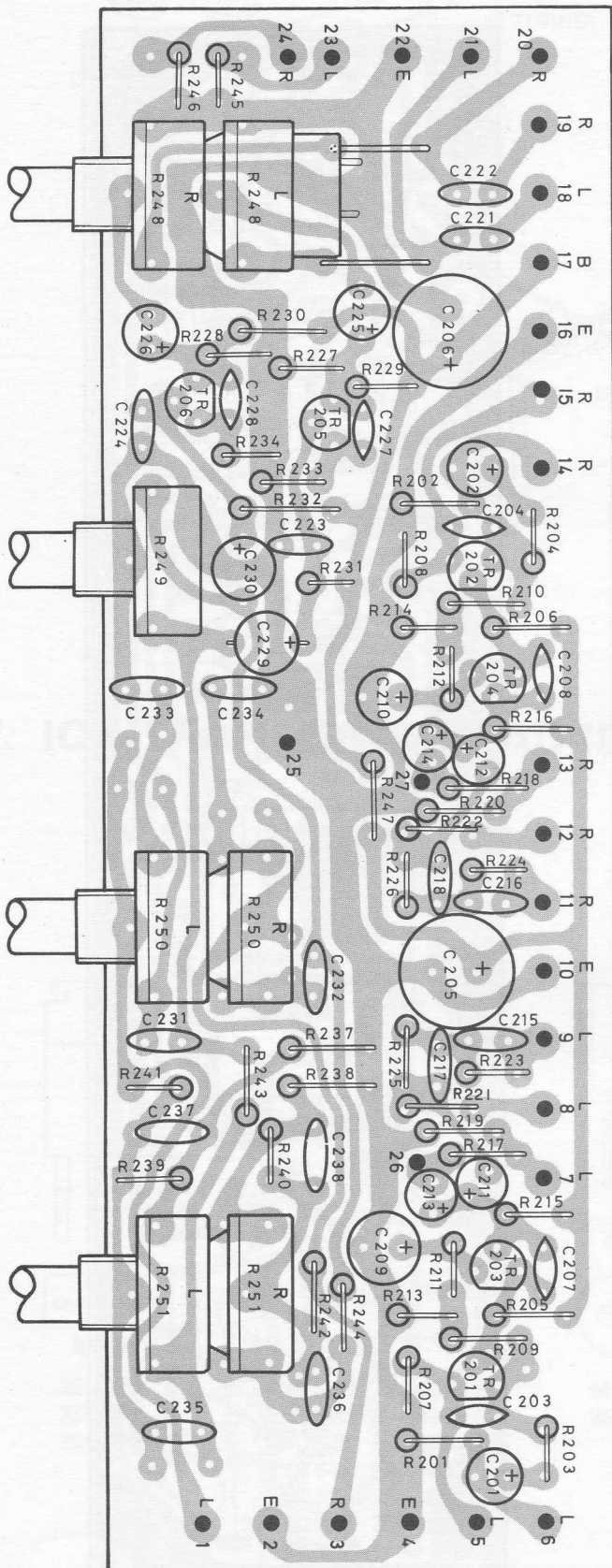
BOTTOM VIEW



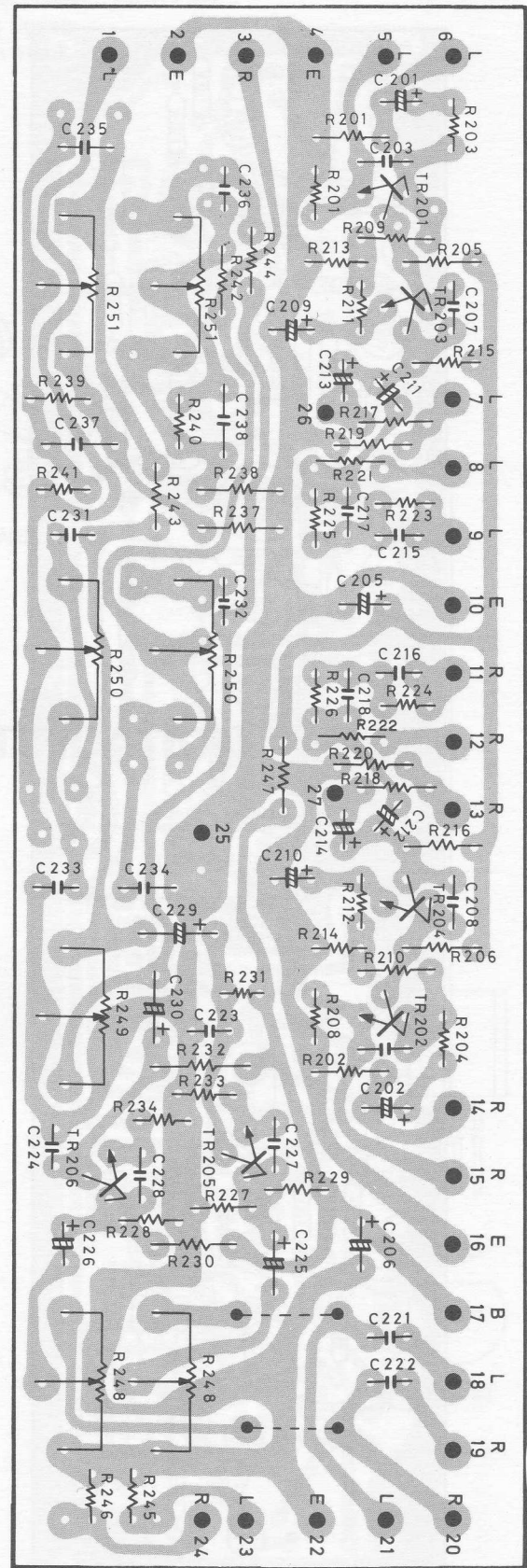


# 9. PRE & TONE AMP ASSEMBLED BOARD (TOP & BOTTOM VIEWS)

TOP VIEW



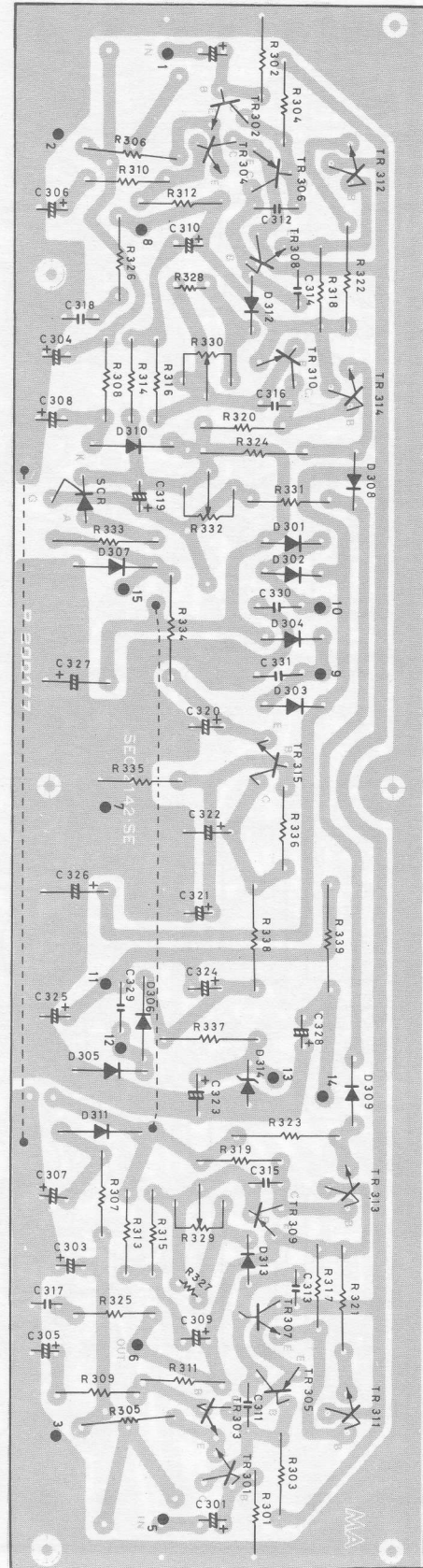
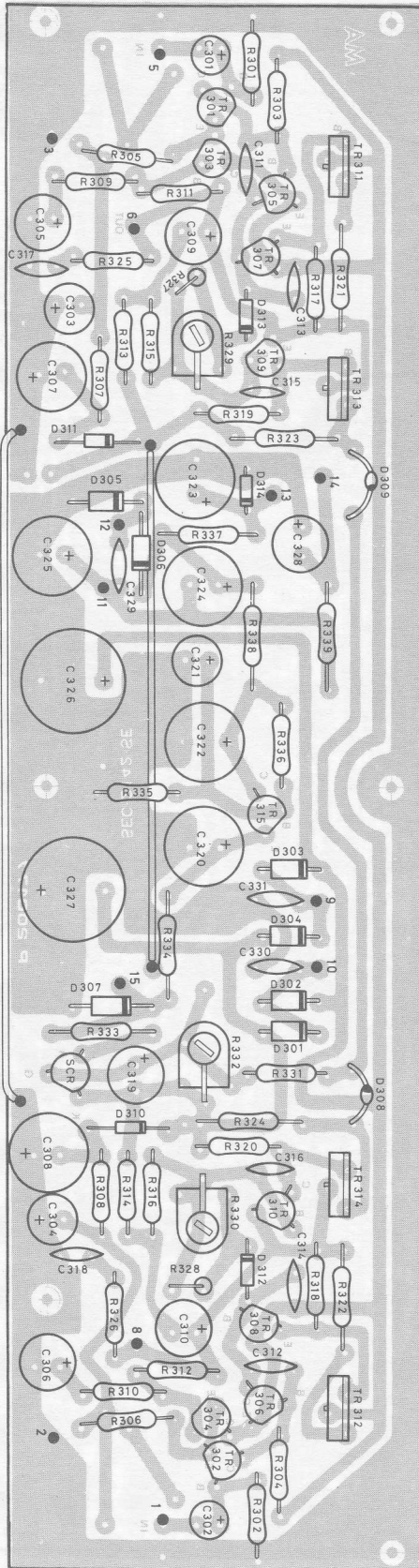
BOTTOM VIEW



# 10. MAIN AMP & POWER SUPPLY ASSEMBLED BOARD (TOP & BOTTOM VIEWS)

TOP VIEW

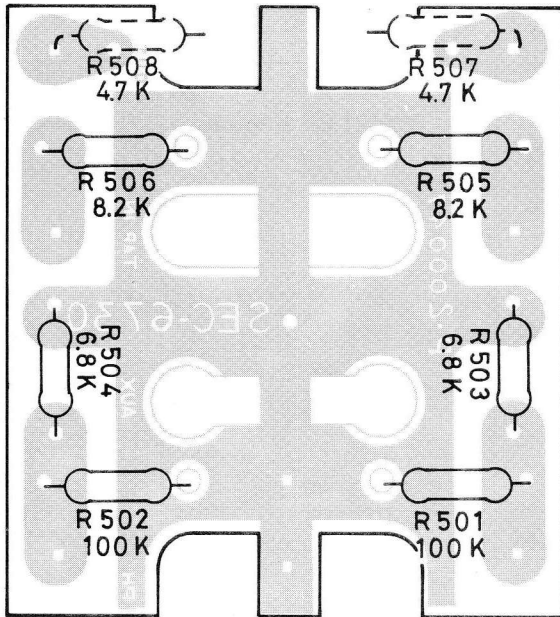
BOTTOM VIEW



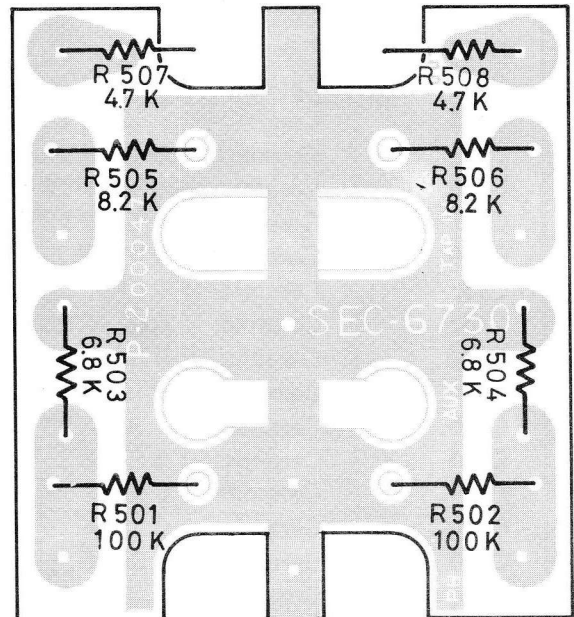


# 11. JACK ASSEMBLED BOARD (TOP & BOTTOM VIEWS)

TOP VIEW



BOTTOM VIEW



# 12. ELECTRICAL PARTS LIST

REF. NO.	DESCRIPTION	RS PART NO.	MFD. PART NO.
<b>CAPACITORS</b>			
C101	Ceramic 1 pF 25 WV		
C102	Ceramic 30 pF 25 WV		
C103	Ceramic 15 pF 25 WV (NPO)		
C104	Ceramic 0.01 $\mu$ F 25 WV		
C105	Ceramic 0.01 $\mu$ F 25 WV		
C106	Ceramic 0.01 $\mu$ F 25 WV		
C107	Ceramic 30 pF 25 WV		
C108	Ceramic 10 pF 25 WV		
C109	Ceramic 15 pF 25 WV (NPO)		
C110	Ceramic 0.01 $\mu$ F 25 WV		
C111	Ceramic 150 pF 25 WV		
C112	Ceramic 1 pF 25 WV		
C113	Ceramic 0.01 $\mu$ F 25 WV		
C114	Ceramic 0.01 $\mu$ F 25 WV		
C115	Ceramic 0.01 $\mu$ F 25 WV		
C116	Ceramic 0.01 $\mu$ F 25 WV		
C117	Ceramic 0.04 $\mu$ F 25 WV		
C118	Ceramic 0.04 $\mu$ F 25 WV		
C119	Mylar 0.01 $\mu$ F 50 WV		

REF. NO.	DESCRIPTION	RS PART NO.	MFD. PART NO.
C120	Ceramic 0.04 $\mu$ F 25 WV		
C121	Ceramic 0.04 $\mu$ F 25 WV		
C122	Mylar 0.0047 $\mu$ F 50 WV		
C123	Ceramic 0.01 $\mu$ F 25 WV		
C124	Ceramic 0.01 $\mu$ F 25 WV		
C125	Ceramic 7 pF 25 WV		
C126	Ceramic 7 pF 25 WV (NPO)		
C127	Ceramic 18 pF 25 WV (N470)		
C128	Ceramic 15 pF 25 WV (NPO)		
C129	Ceramic 10 pF 25 WV (NPO)		
C130	Ceramic 0.01 $\mu$ F 25 WV		
C131	Ceramic 0.01 $\mu$ F 25 WV		
C132	Ceramic 0.02 $\mu$ F 25 WV		
C133	Ceramic 0.02 $\mu$ F 25 WV		
C134	Ceramic 10 pF 25 WV		
C135	Ceramic 30 pF 25 WV		
C136	Ceramic 0.02 $\mu$ F 25 WV		
C137	Ceramic 0.02 $\mu$ F 25 WV		
C138	Ceramic 0.01 $\mu$ F 25 WV		
C139	Ceramic 0.04 $\mu$ F 25 WV		
C140	Ceramic 5 pF 25 WV		
C141	Ceramic 0.01 $\mu$ F 25 WV		
C142	Ceramic 0.02 $\mu$ F 25 WV		
C143	Ceramic 0.02 $\mu$ F 25 WV		
C144	Ceramic 220 pF 25 WV		
C145	Ceramic 100 pF 25 WV		
C146	Ceramic 100 pF 25 WV		
C147	Electrolytic 10 $\mu$ F/10 V		
C148	Ceramic 220 pF 25 WV		
C149	Mylar 0.015 $\mu$ F 50 WV		
C150	Electrolytic 10 $\mu$ F/10 V		
C151	Mylar 0.015 $\mu$ F 50 WV		
C152	Ceramic 0.04 $\mu$ F 25 WV		
C153	Mylar 0.047 $\mu$ F 50 WV		
C154	Ceramic 0.02 $\mu$ F 25 WV		
C155	Ceramic 0.01 $\mu$ F 25 WV		
C156	Ceramic 0.01 $\mu$ F 25 WV		
C157	Ceramic 100 pF 25 WV		
C158	Electrolytic 4.7 $\mu$ F/10 V		
C159	Electrolytic 100 $\mu$ F/10 V		
C160	Electrolytic 470 $\mu$ F/16 V		
C161	Electrolytic 3.3 $\mu$ F/16 V		
C162	Electrolytic 220 $\mu$ F/16 V		
C163	Ceramic 0.04 $\mu$ F 25 WV		
C164	Electrolytic 1 $\mu$ F/50 V		
C166	Mylar 0.015 $\mu$ F 50 WV		
C167	Mylar 0.015 $\mu$ F 50 WV		
C168	Electrolytic 330 $\mu$ F/16 V		
C169	Mylar 0.047 $\mu$ F 50 WV		
C170	Polystyrene 680 pF 50 WV		
C171	Polystyrene 1500 pF 50 WV		



REF. NO.	DESCRIPTION	RS PART NO.	MFD. PART NO.
C172	Aluminium 0.22 $\mu$ F/25 V		
C173	Aluminium 0.47 $\mu$ F/25 V		
C174	Mylar 0.1 $\mu$ F 50 WV		
C175	Electrolytic 47 $\mu$ F/16 V		
C176	* Mylar 0.0056 $\mu$ F 50 WV (0.0033 $\mu$ F For European & Australian models).		
C177	* Mylar 0.0056 $\mu$ F 50 WV (0.0033 $\mu$ F For European & Australian models).		
C178	Mylar 0.0018 $\mu$ F 50 WV		
C179	Aluminium 0.22 $\mu$ F/25 V		
C180	Aluminium 0.22 $\mu$ F/25 V		
C182	Mylar 0.1 $\mu$ F 50 WV		
C186	Ceramic 0.02 $\mu$ F 50 WV		
C201/202	Electrolytic 1 $\mu$ F/16 V		
C203/204	Ceramic 100 pF 25 WV		
C205	Electrolytic 470 $\mu$ F/25 V		
C206	Electrolytic 1000 $\mu$ F/25 V		
C207/208	Ceramic 100 pF 25 WV		
C209/210	Electrolytic 100 $\mu$ F/10 V		
C211/212	Electrolytic 4.7 $\mu$ F/25 V		
C213/214	Electrolytic 3.3 $\mu$ F/16 V		
C215/216	Mylar 0.0033 $\mu$ F 50 WV		
C217/218	Mylar 0.012 $\mu$ F 50 WV		
C219/220	Mylar 0.15 $\mu$ F 50 WV		
C221/222	Ceramic 300 pF 25 WV		
C223/224	Ceramic 820 pF 25 WV (YP)		
C225/226	Electrolytic 0.47 $\mu$ F/25 V		
C227/228	Ceramic 220 pF 25 WV		
C229/230	Electrolytic 1 $\mu$ F/25 V		
C231/232	Mylar 0.0012 $\mu$ F 50 WV		
C233/234	Mylar 0.01 $\mu$ F 50 WV		
C235/236	Mylar 0.01 $\mu$ F 50 WV		
C237/238	Mylar 0.1 $\mu$ F 50 WV		
C301/302	Electrolytic 3.3 $\mu$ F/16 V		
C303/304	Electrolytic 10 $\mu$ F/16 V		
C305/306	Electrolytic 100 $\mu$ F/16 V		
C307/308	Electrolytic 220 $\mu$ F/25 V		
C309/310	Electrolytic 100 $\mu$ F/25 V		
C311/312	Ceramic 50 pF 25 WV		
C313/314	Ceramic 100 pF 25 WV		
C315/316	Ceramic 100 pF 25 WV		
C317/318	Mylar 0.047 $\mu$ F 50 WV		
C319	Electrolytic 220 $\mu$ F/25 V		
C320	Electrolytic 220 $\mu$ F/25 V		
C321	Electrolytic 10 $\mu$ F/25 V		
C322	Electrolytic 470 $\mu$ F/25 V		
C323/324	Electrolytic 470 $\mu$ F/16 V		
C325	Electrolytic 470 $\mu$ F/16 V		
C326/327	Electrolytic 2200 $\mu$ F/25 V		
C329/330	Ceramic 0.01 $\mu$ F 50 WV		
C331/332	Ceramic 0.01 $\mu$ F 50 WV		
C333	Ceramic 0.01 $\mu$ F 50 WV		
C334/335	Ceramic 500 pF 25 WV		

REF. NO.	DESCRIPTION	RS PART NO.	MFD. PART NO.
C401	Ceramic 0.02 $\mu$ F 50 WV		
C501	Ceramic 0.02 $\mu$ F 25 WV		
C601/602	Mylar 0.1 $\mu$ F 50 WV		
C603	Ceramic (Line pass) 0.01 $\mu$ F 125 V (MR Type) (Use for UL models only) 0.01 $\mu$ F 125 V (CP-3 Type) (Use for C.S.A. models only) 0.01 $\mu$ F 250 V (Use for European & Australian models)		
C604	Ceramic 0.01 $\mu$ F 250 V (Use for European & Australian models only)		
<b>CERAMIC FILTERS</b>			
CF101/102	Ceramic Filter SFE-10.7 MA-8	CA-7536	P-140030 or P-140022
<b>COILS &amp; TRANSFORMERS</b>			
L 101	FM ANT Coil	CA-3164	P-110031
L 102	FM Trap Coil	CB-2171	P-360003
L 103	FM RF Coil	CA-4719	P-340015
L 104	FM Trap Coil	CB-2171	P-360003
L 105	FM OSC Coil (Use for UL & C.S.A. models) FM OSC Coil (Use for European & Australian models)	CA-4528	P-120029  P-120033
LPF101	Low Pass Filter Coil (19 kHz Filter)	CA-3373	P-510006
L106	AM Bar Antenna Coil		P-110066
T101	FM IFT (7F-007)	CA-7265	P-140007
T102/103	FM IFT (10F-011)	CA-7254	P-140011
T104	FM IFT (10F-014)	CA-7286	P-140014
T105	AM OSC Coil (OC-008)	CA-4438	P-120008
T106	AM IFT (OA-011)	CA-7281	P-130011
T107	AM IFT (OA-010)	CA-7428	P-130010
T108	AM IFT (OA-005)	CA-7112	P-130005
T109	AM IFT (OA-012)	CA-7313	P-130012
T110	FM IFT (7F-008) *Power Transformer (Use for UL models only) PRIM: 120 V, 60 Hz SECOND: DC 36 V, 1 A AC 12 V, 0.5 A **Power Transformer (Use for C.S.A. models only) PRIM: 120 V, 60 Hz SECOND: DC 36 V, 1 A AC 12 V, 0.5 A ***Power Transformer (Use for European & Australian models) PRIM: 230 V, 50 Hz SECOND: DC 36 V, 1 A AC 12 V, 0.5 A	TA-0558	P-100357          P-100314  P-100243
<b>DIODES</b>			
D101	Ge Diode 1N-60P		
D102	Varicap 1S-2139B		
D103	Si Diode WG-713		
D104/105	Ge Diode 1N-60P		
D106	Si Diode WG-713		
D107/108	Ge Diode 1N-60P		

REF. NO.	DESCRIPTION	RS PART NO.	MFD. PART NO.
D109/110	Ge Diode 1N-60P		
D111/112	Ge Diode 1N-60P		
D113/114	Ge Diode 1N-60P		
D115	Ge Diode 1N-60P		
D116	Si Diode WG-713		
D301/302	Si Diode SR-1K-2 or 10D-1 (100V, 1A)		
D303/304	Si Diode SR-1K-2 or 10D-1 (100V, 1A)		
D305/306	Si Diode SR-1K-2 or 10D-1 (100V, 1A)		
D307	Si Diode SR-1K-2 or 10D-1 (100V, 1A)		
D308/309	Si Diode KB 162-C-5		
D310/311	Si Diode KB 162-C-5		
D312/313	Si Varistor MV-13		
D314	Zener Diode WZ-130		
<b>FUSE</b>			
	* Fuse 250 V, 1.5 A (Quick Acting) (Use for UL & C.S.A models)	HF-0093	P-250007
	** Fuse 125 V, 4 A (SLO-BLO Acting) (Use for C.S.A. models only)		P-250050
	** Fuse 125 V, 1.5 A (SLO-BLO Acting) (Use for C.S.A. models only)		P-250051
	*** Fuse 250 V, 1.0 A (Quick Acting) (Use for European & Australian models)		P-250013
<b>INTEGRATED CIRCUIT</b>			
IC 101	IC LA-3350 (MPX P.L.L.)		
<b>METER</b>			
	AM/FM Signal Strength Meter	M-0296	P-230038
<b>PILOT LAMPS</b>			
PL1-4	Lamp (Fuse Type) 12 V, 0.15 A	L-0529	P-240038 or P-240056
PL5	Lamp (Lead Type) 6 V, 30 mA LED SE302	L-0444	P-240029
<b>RESISTORS</b>			
	UZ = Radial Type      J = $\pm 5\%$ PZ = Axial Type      K = $\pm 10\%$		
R101	Carbon ¼ W UZ 100K ohm J		
R102	Carbon ¼ W UZ 220 ohm J		
R103	Carbon ¼ W UZ 330 ohm J		
R104	Carbon ¼ W UZ 6.8K ohm J		
R105	Carbon ¼ W UZ 33K ohm J		
R106	Carbon ¼ W UZ 1.5K ohm J		
R107	Carbon ¼ W UZ 820 ohm J		
R108	Carbon ¼ W UZ 330 ohm J		
R109	Carbon ¼ W UZ 3.3K ohm J		
R110	Carbon ¼ W UZ 10K ohm J		
R111	Carbon ¼ W UZ 2.2K ohm J		

REF. NO.	DESCRIPTION	RS PART NO.	MFD. PART NO.
R112	Carbon ¼ W UZ 330 ohm J		
R113	Carbon ¼ W UZ 680 ohm J		
R114	Carbon ¼ W UZ 22 ohm J		
R115	Carbon ¼ W PZ 4.7K ohm J		
R116	Carbon ¼ W UZ 1K ohm J		
R117	Carbon ¼ W UZ 10K ohm J		
R118	Carbon ¼ W UZ 1.5K ohm J		
R119	Carbon ¼ W UZ 12 ohm J		
R120	Carbon ¼ W UZ 27K ohm J		
R121	Carbon ¼ W UZ 4.7K ohm J		
R122	Carbon ¼ W UZ 3.3K ohm J		
R123	Carbon ¼ W PZ 470K ohm J		
R124	Carbon ¼ W UZ 47K ohm J		
R125	Carbon ¼ W UZ 120K ohm J		
R126	Carbon ¼ W UZ 15K ohm J		
R127	Carbon ¼ W UZ 10K ohm J		
R128	Carbon ¼ W UZ 3.3K ohm J		
R129	Carbon ¼ W UZ 100 ohm J		
R130	Carbon ¼ W UZ 1.5K ohm J		
R131	Carbon ¼ W UZ 1K ohm J		
R132	Carbon ¼ W UZ 330 ohm J		
R133	Carbon ¼ W UZ 56K ohm J		
R134	Carbon ¼ W UZ 10K ohm J		
R135	Carbon ¼ W UZ 33K ohm J		
R136	Carbon ¼ W PZ 100 ohm J		
R137	Carbon ¼ W UZ 3.3K ohm J		
R138	Carbon ¼ W UZ 18K ohm J		
R139	Carbon ¼ W UZ 560 ohm J		
R140	Carbon ¼ W UZ 1K ohm J		
R141	Carbon ¼ W UZ 22 ohm J		
R142	Carbon ¼ W UZ 3.3K ohm J		
R143	Carbon ¼ W PZ 2.7K ohm J		
R144	Carbon ¼ W UZ 2.2K ohm J		
R145	Carbon ¼ W UZ 1K ohm J		
R146	Carbon ¼ W UZ 330 ohm J		
R147/148	Carbon ¼ W UZ 1K ohm J		
R149/150	Carbon ¼ W UZ 10K ohm J		
R151	Carbon ¼ W UZ 47 ohm J		
R152	Carbon ¼ W UZ 470K ohm J		
R153	Carbon ¼ W UZ 4.7K ohm J		
R154	Carbon ¼ W UZ 100K ohm J		
R155	Carbon ¼ W UZ 10K ohm J		
R156	Carbon ¼ W UZ 33K ohm J		
R157	Carbon ¼ W UZ 15K ohm J		
R158	Carbon ¼ W UZ 2.2K ohm J		
R159	Carbon ¼ W UZ 4.7K ohm J		
R160	Carbon ¼ W UZ 27K ohm J		
R161	Carbon ¼ W UZ 22K ohm J		
R162	Carbon ¼ W UZ 3.3K ohm J		
R163	Carbon ¼ W UZ 2.7K ohm J		
R164	Carbon ¼ W UZ 1K ohm J		

REF. NO.	DESCRIPTION	RS PART NO.	MFD. PART NO.
R165	Carbon ¼ W UZ 27K ohm J		
R166	Carbon ¼ W UZ 10K ohm J		
R167	Carbon ¼ W UZ 150 ohm J		
R168/169	Carbon ¼ W UZ 4.7K ohm J		
R170	Carbon ¼ W PZ 100 ohm J		
R171/172	Carbon ¼ W UZ 3.3K ohm J		
R173/174	Carbon ¼ W UZ 1K ohm J		
R175/176	Carbon ¼ W UZ 1K ohm J		
R177	Carbon ¼ W UZ 8.2K ohm J		
R178	Carbon ¼ W UZ 10K ohm J		
R179	Carbon ¼ W UZ 100K ohm J		
R180	Carbon ¼ W UZ 270 ohm J		
R181/182	Carbon ¼ W UZ 10K ohm J		
R183/184	Carbon ¼ W UZ 12K ohm J		
R201/202	Carbon ¼ W UZ 100K ohm K		
R203/204	Carbon ¼ W UZ 2.2K ohm K		
R205/206	Carbon ¼ W UZ 100K ohm K		
R207/208	Carbon ¼ W UZ 390 ohm K		
R209/210	Carbon ¼ W UZ 100K ohm K		
R211/212	Carbon ¼ W UZ 560 ohm K		
R213/214	Carbon ¼ W UZ 470 ohm K		
R215/216	Carbon ¼ W UZ 8.2K ohm K		
R217/218	Carbon ¼ W UZ 6.8K ohm K		
R219/220	Carbon ¼ W UZ 100K ohm K		
R221/222	Carbon ¼ W UZ 6.8K ohm K		
R223/224	Carbon ¼ W UZ 22K ohm K		
R225/226	Carbon ¼ W UZ 220K ohm K		
R227/228	Carbon ¼ W UZ 82K ohm K		
R229/230	Carbon ¼ W UZ 1M ohm K		
R231/232	Carbon ¼ W UZ 6.8K ohm K		
R233/234	Carbon ¼ W UZ 560 ohm K		
R235/236	Not used.		
R237/238	Carbon ¼ W UZ 2.7K ohm K		
R239/240	Carbon ¼ W UZ 33K ohm K		
R241/242	Carbon ¼ W UZ 5.6K ohm K		
R243/244	Carbon ¼ W UZ 22K ohm K		
R245/246	Carbon ¼ W UZ 3.3K ohm K		
R247	Carbon ¼ W UZ 560 ohm K		
R301/302	Carbon ¼ W PZ 47K ohm K		
R303/304	Carbon ¼ W PZ 1.8K ohm K		
R305/306	Carbon ¼ W PZ 22K ohm K		
R307/308	Carbon ¼ W PZ 2.2K ohm K		
R309/310	Carbon ¼ W PZ 470 ohm K		
R311/312	Carbon ¼ W PZ 39K ohm K		
R313/314	Carbon ¼ W PZ 2.2K ohm K		
R315/316	Carbon ¼ W PZ 3.3K ohm K		

REF. NO.	DESCRIPTION	RS PART NO.	MFD. PART NO.
R317/318 319/320	*Carbon ¼ W PZ 220 ohm K (Use for UL, European & Australian models)		
	**Metal Oxide 1 W 220 ohm J (Use for C.S.A. models only)		
R321/322 323/324	Metal Oxide 1 W 0.5 ohm J		
R325/326	Carbon ¼ W PZ 10 ohm K		
R327/328	Carbon ¼ W UZ 390 ohm K		
R331	*Carbon ¼ W PZ 330 ohm K (Use for UL, European & Australian models)		
	**Metal Oxide 1 W 330 ohm J (Use for C.S.A models only)		
R333	Metal Oxide 2 W 220 ohm J		
R334	Metal Oxide 1 W 180 ohm J		
R335	Carbon ¼ W PZ 10K ohm K		
R336	Carbon ¼ W PZ 1.5K ohm K		
R337	Metal Oxide 2 W 330 ohm J		
R338	Metal Oxide 1 W 270 ohm J		
R339	Metal Oxide 1 W 820 ohm J		
R401/402	Carbon ½ W PZ 390 ohm K		
R501/502	Carbon ¼ W PZ 100K ohm K		
R503/504	Carbon ¼ W PZ 6.8K ohm K		
R505/506	Carbon ¼ W PZ 8.2K ohm K		
R507/508	Carbon ¼ W PZ 4.7K ohm K		
R601/602	Carbon ¼ W PZ 82K ohm K		
R603/604	Carbon ¼ W PZ 10K ohm K		
R605/606	Carbon ¼ W UZ 220K ohm K		
R607	*Carbon ½ W PZ 2.2M ohm K (Use for UL & C.S.A. models only)		
<b>SCR</b>			
D315	SCR 2SF 657 or M21C		
<b>SWITCHES</b>			
Sb 1/Sb 2	*Power Push Switch (Use for UL & C.S.A. models)	S-7267	P-180188
	**Power Push Switch (Use for European & Australian models)		P-180199
Sa 1 - Sa 6	Rotary Switch (3-7-4)	S-1214	P-180187
	Push Switch (MODE, TAPE MONITOR, SPEAKERS)	S-7266	P-180112

REF. NO.	DESCRIPTION	RS PART NO.	MFD. PART NO.
<b>TRANSISTORS</b>			
TR101	FET 2SK-19(GR) or 2SK-41(F)		
TR102	Si Transistor 2SC 1047 (C, D)		
TR103	Si Transistor 2SC 930 (D, E)		
TR104	Si Transistor 2SC 829 (C)		
TR105	Si Transistor 2SC 1359 (C, D)		
TR106/107 108/109	Si Transistor 2SC 930 (D, E)		
TR110/111 112	Si Transistor 2SC 945 L (P, Q) or 2SC 536 (H)		
TR201/202	Si Transistor 2SC 900 (E, U), 2SC 644 (T) or 2SC1571 (H)		
TR203/204	Si Transistor 2SC 923 (F, E, U) or 2SC 828 (S, T)		
TR205/206	Si Transistor 2SC 900 (E, U), 2SC 644 (T) or 2SC1571 (H)		
TR301/302 303/304	Si Transistor 2SC 923 (U), 2SC 828 (S, T) or 2SC 1571 (H)		
TR305/306	Si Transistor 2SA 539 (K) or 2SA 495 (Y)		
TR307/308	Si Transistor 2SC 815 (L, K) or 2SC 734 (Y, GR)		
TR309/310	Si Transistor 2SA 539 (L, K) or 2SA 561 (Y, GR)		
TR311/312 313/314	Si Transistor 2SD 330 (D, E), 2SC 790 or 2SD 288		
TR315	Si Transistor 2SC 1384 (R, S)		
<b>VARIABLE CAPACITORS</b>			
VC101-105 (with TC101 102/104)	Variable Capacitor FM: 3 gang AM: 2 gang	C-4301	P-150015
TC103	Trimmer Capacitor 1T-P8 8 pF	C-0551	P-160001
TC105	Trimmer Capacitor 1P × 10 10 pF	CA-0249	P-160007
<b>VARIABLE RESISTORS</b>			
VR101	Trimmer Resistor 50K ohm B	P-6343	
VR102	Trimmer Resistor 1K ohm B	P-6344	
VR103	Trimmer Resistor 5K ohm B	P-6342	
R248	Potentiometer 100K ohm B × 2, VOLUME	P-1666	P-170213
R249	Potentiometer 100K ohm W, BALANCE	P-1665	P-170119
R250/251	Potentiometer 100K ohm A × 2, BASS & TREBLE	P-1664	P-170118
R329/330	Trimmer Resistor 500 ohm B	P-6155	
R332	Trimmer Resistor 2K ohm B	P-6345	

# 13. EXPLODED VIEW PARTS LIST

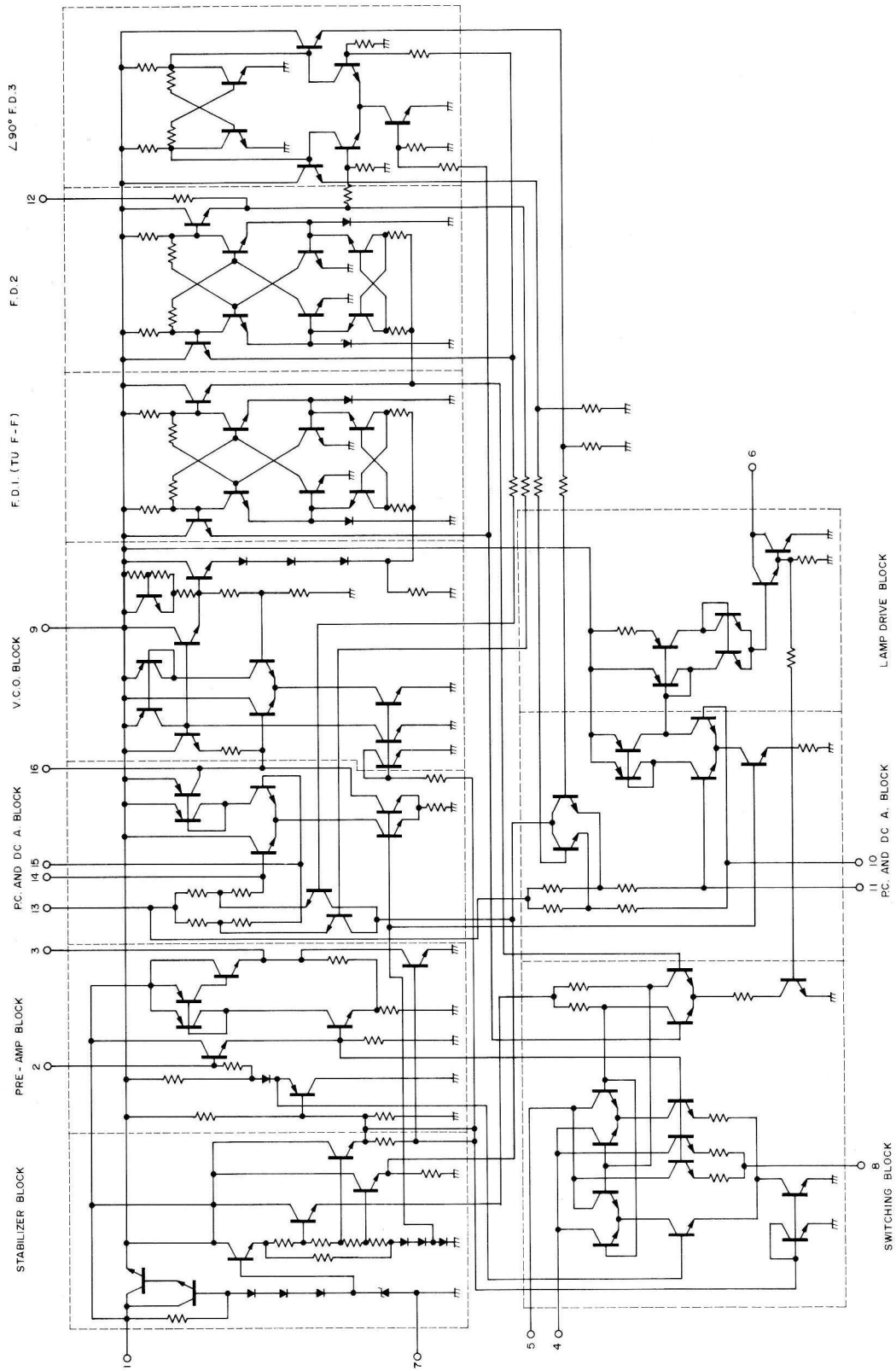
REF. NO.	DESCRIPTION	RS PART NO.	MFD. PART NO.
1	Cabinet Ass'y	Z-2792	P-620049
2	Foot		P-610361
3	Ventilation Board		
4	Fiber Sheet	HB-1114	P-480016
5	AM/FM Tuner, IF & MPX Assembled P.C.B.	X-7171	U-12024
6	Shield Case for L.P.F. Coil		P-410862
7	Dial Pulley	D-0358	P-610328
8	Dial Spring	RB-5300	P-440028
9	Dial String		
10	Pointer Ass'y	D-1183	P-450044
11	AM Bar Antenna	CA-0273	P-110053
12	Antenna Holder	HB-1048	P-610065
13	Antenna Bracket (B)	HB-1058	P-410147
14	Sub Pulley		P-610162
15	Sub Pulley Bracket (C)	HB-2872	P-410772
16	Sub Pulley Bracket (A)	HB-2870	P-410770
17	Main Chassis		P-400056
18	Side Bracket (L)	HB-2868	P-410768
19	Side Bracket (R)	HB-2867	P-410767
20	Sub Pulley Bracket (B)	HB-2871	P-410771
21	Back Panel		
	*Use for UL & C.S.A models	Z-2790	* P-410773
	**Use for European & Australian models		** P-410858
22	Speaker Terminal	J-4453	P-320079
23	Antenna Terminal	J-4453	P-320079
24	Fuse Holder	F-1017	P-260007
25	AC Cord Stopper		
	*Use for UL, C.S.A. & European models	HB-0598	* P-480010
	**Use for Australian models only		** P-610240
	(Cord Bushing) Add for Australian models only		*** P-480078
26	Jack Assembled P.C.B.	X-7174	U-23031
27	5P DIN Connector		P-190036
28	2P RCA Pin Jack	J-0745	P-320057
29	AC Outlet	J-6347	P-190060
30	AC Outlet Bracket	HB-2876	P-410753
31	Shield Sheet	HB-2875	P-410838
32	Power Transformer		
	*Use for UL models only	TA-0558	* P-100357
	**Use for C.S.A. models only		** P-100314
	***Use for European & Australian models		*** P-100243
33	Heat Sink	HH-0182	P-410766



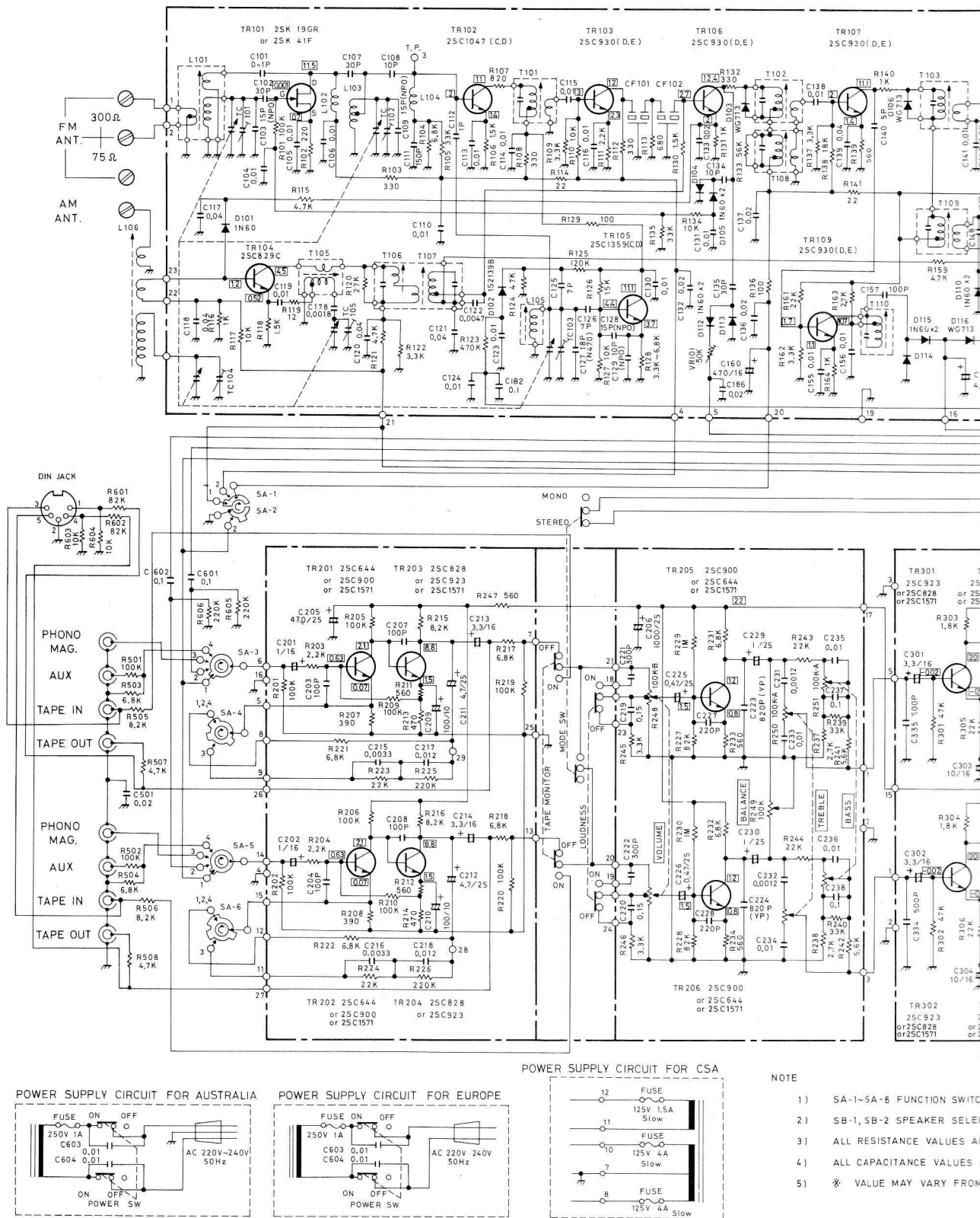
REF. NO.	DESCRIPTION	RS PART NO.	MFD. PART NO.
34	Egg type Lug		
35	MAIN Amp & Power Supply Assembled P.C.B.	X-7137	U-16042
36	Lead Wire Holder	H-2026	P-410030
37	Wire Stay (D)	HB-2425	P-450032
38	Meter Holder	H-3494	P-410216
39	Tuning Meter	M-0296	P-230038
40	Lamp Holder	HB-2423	P-260012
41	Dial Lamp (Fuse Type 12V, 0.15 A)	L-0529	P-240038 or P-240056
42	Lamp Cover		P-410646
43	Stereo Lamp Cover		P-680091
44	Stereo Lamp with Lead (6V, 30 mA)	L-0444	P-240029
45	Push Switch (MODE)	S-7266	P-180112
46	Rotary Switch	S-1214	P-180187
47	Tuning Shaft Ass'y		P-420237
48	Front Chassis		P-400103
49	Dial Scale		
	*Use for UL & C.S.A. models		* P-640113
	**Use for European & Australian models		** P-640116
50	Dial Scale Holder		P-610382
51	Light-intercepting Sheet	HB-2433	P-820258
52	Light-intercepting Cushion	HB-2873	P-480110
53	Headphone Bracket	HB-2869	P-410769
54	PRE AMP & TONE CONTROL Assembled P.C.B.	X-7172	U-14050
55	Push Switch (POWER)	S-7267	P-180188
56	Headphone Jack	J-0444	P-190011
57	Control Knob (165)	K-2190	P-650165
58	Push Knob (168)	K-2189	P-650168
59	Tuning Knob (164)	K-2188	P-650164
60	Front Panel Ass'y	Z-2791	P-700152
61	AC Cord		
	*Use for UL & C.S.A. models	W-1000	* P-310001
	**Use for European models only		** P-320044
	***Use for Australian models only		*** P-310041 or P-310033
62	Line Antenna Bracket (Use for UL, C.S.A. & European models)	HB-1110	P-410029
63	Line Antenna Insulator (Use for UL, C.S.A. & European models)	HB-1053	P-480005

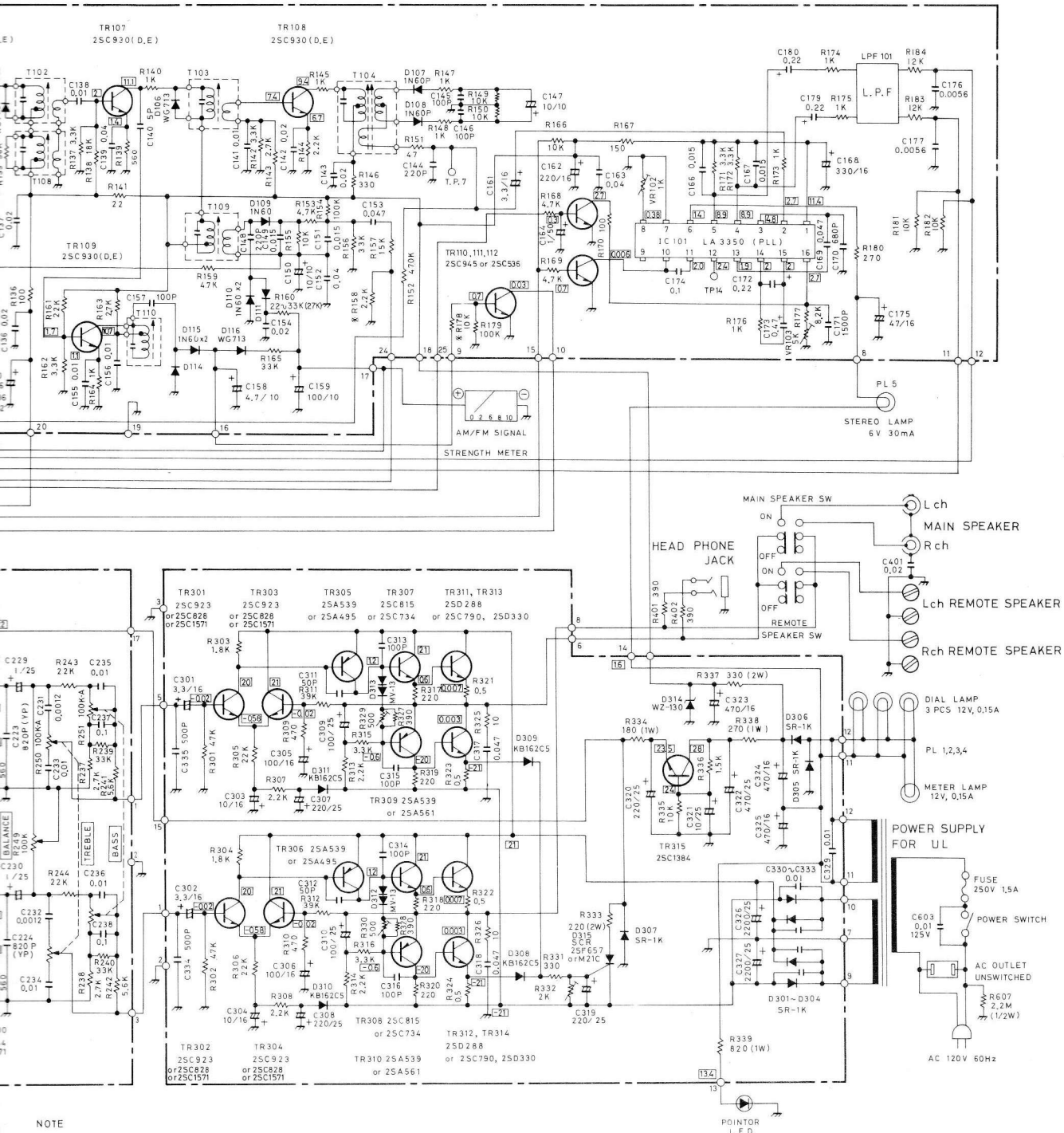
REF. NO.	DESCRIPTION	RS PART NO.	MFD. PART NO.
<b>HARDWARE</b>			
S1	Tapping Screw 3 × 8 BT-2		
S2	Screw with lock washer assembled 3 × 6P		
S3	Tapping Screw 3 × 8 PT-2		
S4	Screw 4 × 20 P		
S5	Screw 3.1 × 10 PW		
S6	Tapping Screw (Black) 3 × 8 BT-2		
S7	Screw 3.1 × 8 PW		
S8	Screw with lock washer assembled 3 × 4 P		
S9	Shaft for Sub Pulley (Screw with Spacer) 3 × 9 × 3		P-420029
S10	GND Screw 4 × 20 P	J-4454	P-420225
S11	Polyethylene Tapping Screw 3 × 8 PT-2		
W1	Washer 4 W		
W2	Washer 3 W		
W3	Square Washer	HW-0578	P-410033
N1	Nut 3 N		
R1	Blind Rivet (YB-340) 2.4 $\phi$ × 10		
R2	Blind Rivet (YB-423) 3.2 $\phi$ × 5.84		
R3	Blind Rivet (YB-429) 3.2 $\phi$ × 7.37		
R4	Nylon Rivet 3 $\phi$ × 5.5		

# 14. IC INTERNAL DIAGRAM



# 15. SCHEMATIC DIAGRAM

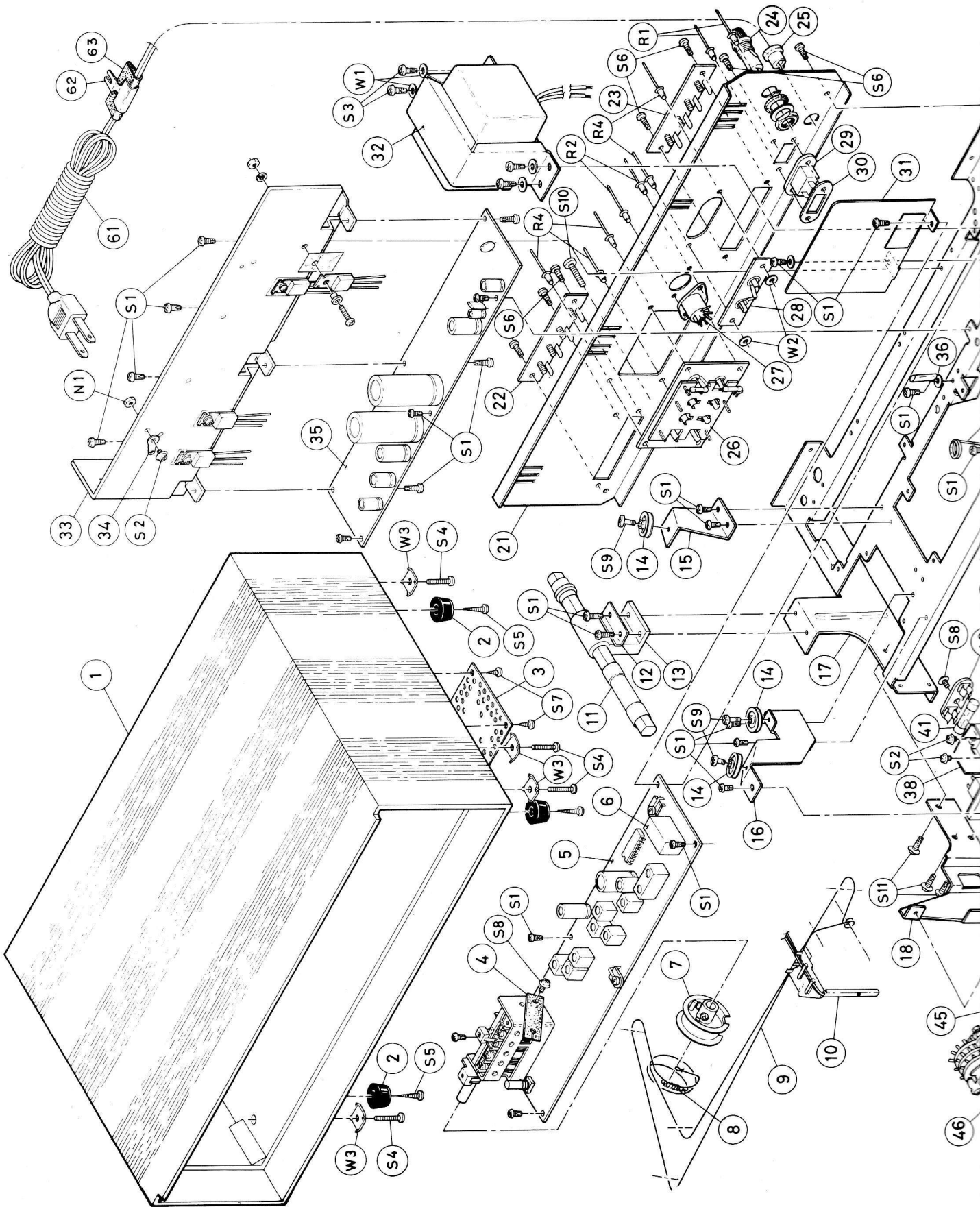


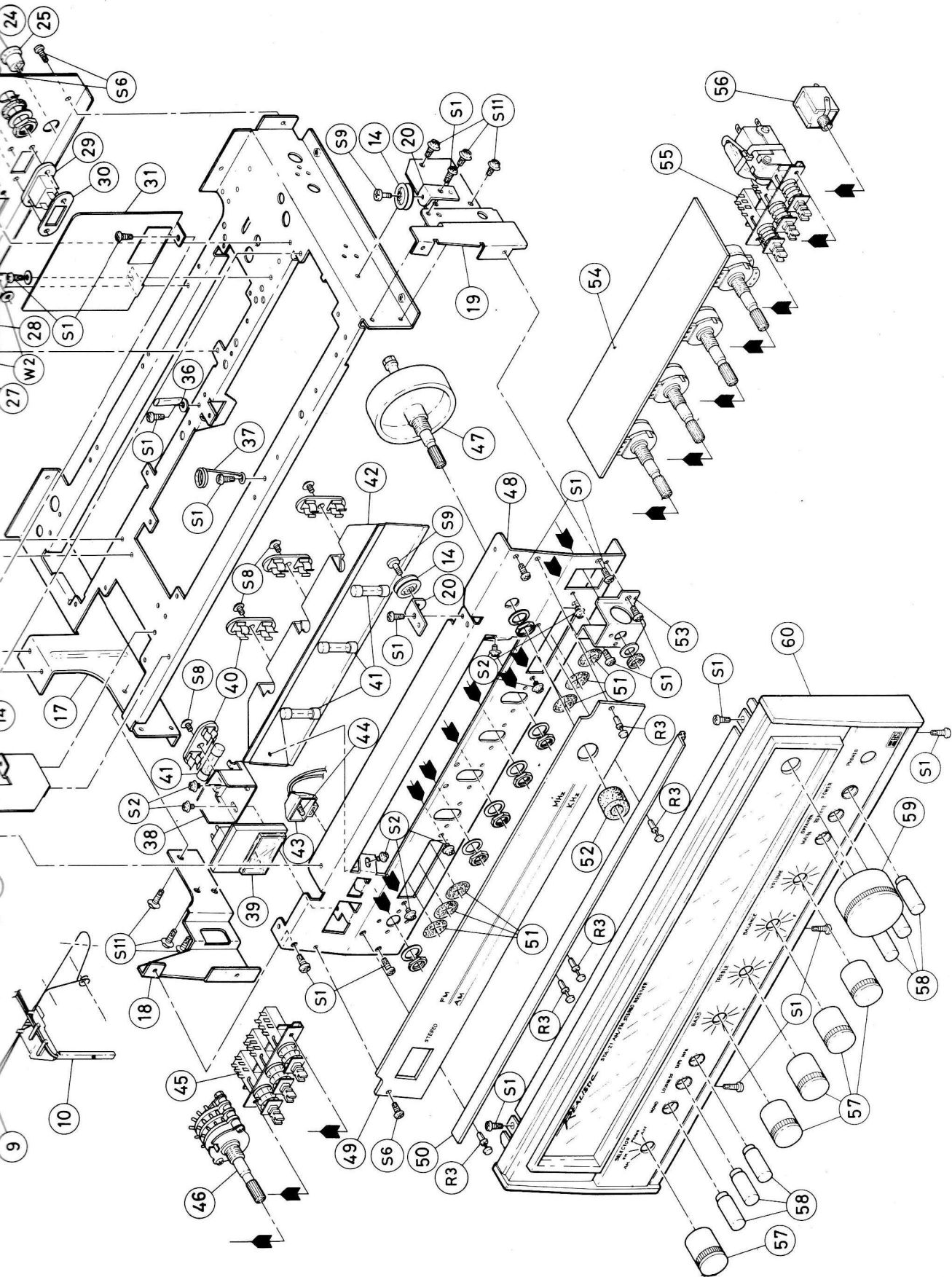


NOTE

- 1) SA-1-5A-6 FUNCTION SWITCH 1-AM, 2-FM, 3-PHONO, 4-AUX
- 2) SB-1, SB-2 SPEAKER SELECTOR SWITCH 1-OFF, 2-A, 3-B, 4 A+B
- 3) ALL RESISTANCE VALUES ARE INDICATED IN "OHM" (K=10<sup>3</sup> OHM, M=10<sup>6</sup> OHM).
- 4) ALL CAPACITANCE VALUES ARE INDICATED IN "uF" (P=10<sup>-6</sup>).
- 5) \* VALUE MAY VARY FROM UNIT TO UNIT FOR OPTIMUM PERFORMANCE.

# 16. EXPLODED VIEW







**RADIO SHACK**  **A DIVISION OF TANDY CORPORATION**

**U.S.A.: FORT WORTH, TEXAS 76102**

**CANADA: BARRIE, ONTARIO, CANADA L4M 4W5**

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