

31-2003

REALISTIC[®]

Service Manual

STA-730 AM/FM STEREO RECEIVER

Catalog number: 31-2003



CUSTOM MANUFACTURED FOR RADIO SHACK, A DIVISION OF TANDY CORPORATION

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SPECIFICATIONS

		NOMINAL	LIMIT	UNIT
FM SECTION				
1.	FREQUENCY COVERAGE	87.4–109*	88–108	MHz
2.	FREQUENCY READOUT ACCURACY			
	90 MHz	±50	±100	kHz
	98 MHz	±50	±100	kHz
	106 MHz	±50	±100	kHz
3.	USABLE SENSITIVITY	1.7	2.4	μV
	(NOISE & DISTORTION –30 dB)	9.8	12.8	dBf
4.	IMAGE REJECTION (at 106 MHz)	55	50	dB
5.	IF REJECTION (at 90 MHz)	80	70	dB
6.	FULL LIMITING (at –3 dB)	1.2	1.8	μV
7.	IF BANDWIDTH (6 dB down)		±150	kHz
8.	DISTORTION (1 mV INPUT)	0.15	0.5	%
9.	SIGNAL-TO-NOISE RATIO (1 mV INPUT)	70	65	dB
10.	DE-EMPHASIS (at 50~10000 Hz)	±1.5	±2	dB
11.	DISCRIMINATOR BANDWIDTH (Peak-to-Peak)	400	300	kHz
12.	AFC HOLDING RANGE (with 1 mV signal)	±1200	±800	kHz
13.	OUTPUT VOLTAGE			
	(at 75 kHz dev., 400 Hz mod., 1 mV input)	MONO 0.75	0.75±3 dB	V
		STEREO 0.7	0.7±3 dB	V
14.	MUTING THRESHOLD	6	4–10	μV
15.	OVERLOAD (THD at 98 MHz, 100% mod.) 100 mV RF INPUT	0.3	0.8	%
16.	SPURIOUS RESPONSE at 98 MHz ANTENNA INPUT 3 μV, 1/2 IF, 103.35 MHz	80	70	dB
17.	CAPTURE RATIO (1 mV INPUT)	1.0	2.5	dB
18.	ALTERNATE CHANNEL SELECTIVITY (100 μV INPUT)	55	45	dB
19.	50 dB QUIETING SENSITIVITY at 98 MHz	3.0 16.1	6.0 20.8	μV dBf
MPX SECTION				
1.	STEREO SEPARATION			
	(100% mod., 1 mV input, with Low Pass Filter)	100 Hz 1 kHz 10 kHz	40 45 38	28 32 25
				dB dB dB
2.	DISTORTION			
	(100% mod., 1 mV input)	1 kHz	0.3	0.8
				%
3.	STEREO BEACON SENSITIVITY (pilot 8%)		5–12	μV
4.	RESIDUAL 19 kHz & 38 kHz (1 mV input)		30	dB
5.	SUPPRESSION OF SCA INTERFERENCE (1 mV input)		40	dB
AM SECTION				
1.	FREQUENCY COVERAGE	510–1660	520–1620	kHz
2.	FREQUENCY READOUT ACCURACY			
	600 kHz		±15	kHz
	1,000 kHz		±20	kHz
	1,400 kHz		±40	kHz
3.	USABLE SENSITIVITY 600 kHz, 1000 kHz, 1400 kHz			
	(400 Hz, 30% mod., noise & distortion –20 dB)	Radiated 320	600	μV/m
		Terminal 25	40	μV
4.	IMAGE REJECTION (at 1,400 kHz)		40	dB
5.	IF REJECTION (at 600 kHz)		28	dB
6.	AGC FIGURE OF MERIT (from 100 mV/m at 1,000 kHz)		35	dB
7.	DISTORTION	0.8	2.0	%
	(400 Hz, 30% mod., 5 mV/m input)			
8.	IF BANDWIDTH (6 dB down)		6–14	kHz

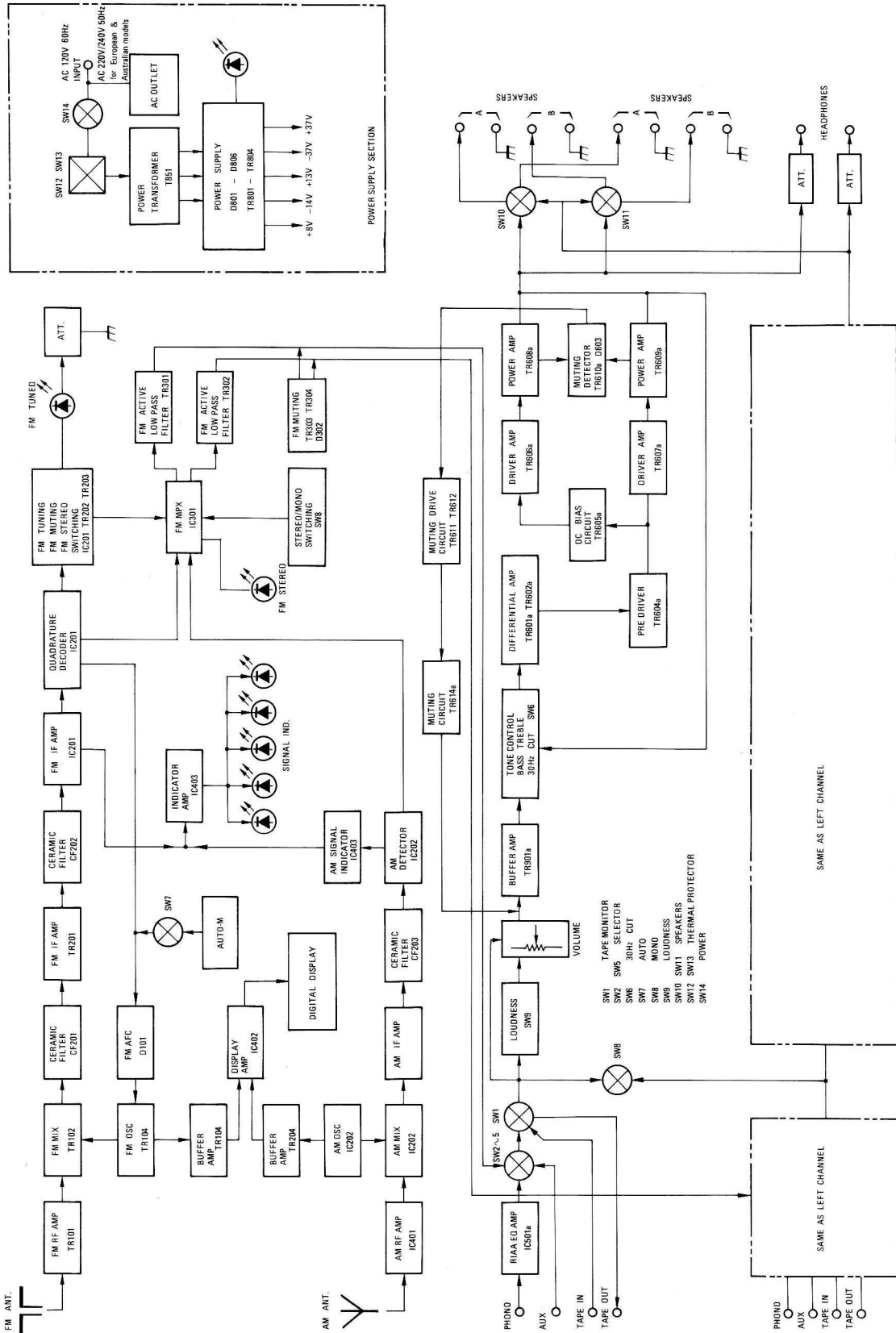
		NOMINAL	LIMIT	UNIT	
9.	OUTPUT VOLTAGE (400 Hz, 30% mod., 5 mV/m input)	250	200	mV	
10.	AUDIO RESPONSE (5 mV/m input from 50 Hz to 2.3 kHz, 0 dB @1,000 kHz)	-4	-6	dB	
11.	SELECTIVITY 200 μ V/m	32	25	dB	
12.	SIGNAL-TO-NOISE RATIO (1,000 kHz, with antenna input 10 mV/m)	50	40	dB	
13.	AM BEAT 1 ~ 50 mV/m 50 ~ 100 mV/m		10 15	% %	
AUDIO SECTION					
1.	RMS OUTPUT POWER (distortion <0.15%, 20 Hz ~ 20 kHz) BOTH CHANNELS DRIVEN	8 Ω	30	27	W
2.	IM DISTORTION (at 20 W output 70/7,000 Hz 4/1)		0.03	0.08	%
3.	HARMONIC DISTORTION (at 20 W output)	20 Hz 1,000 Hz 20,000 Hz	0.02 0.02 0.03	0.05 0.05 0.08	% % %
4.	FREQUENCY RESPONSE (AUX, 8 Ω load, 1 W output)	+1, -1.5 dB	15-25K	20-20K	Hz
5.	INPUT SENSITIVITY (for 27 W output)	PHONO AUX TAPE MON	2.5 160 160	2.5 \pm 0.3 160 \pm 30 160 \pm 30	mV mV mV
6.	INPUT IMPEDANCE	PHONE AUX TAPE MON	50K 50K 50K		ohm ohm ohm
7.	TONE CONTROL	BASS TREBLE	100 Hz 10 kHz	\pm 10 \pm 10	dB dB
8.	EQUALIZATION RIAA: 30 ~ 15,000 Hz			RIAA \pm 2	dB
9.	PHONO AMP OVERLOAD CAPABILITY (at 0.2%)		140	110	mV
10.	LOUDNESS COMPENSATION (volume -30 dB)	10 kHz 100 kHz	+4 +7	+4 \pm 2 +7 \pm 2	dB dB
11.	CHANNEL SEPARATION (AUX input 100 ~ 10,000 Hz)		45	40	dB
12.	SIGNAL-TO-NOISE RATIO (input shorted) 10 mV input, IHF-A	PHONO AUX	81 92	76 85	dB dB
13.	RESIDUAL NOISE		0.7	1.5	mV
14.	LOAD IMPEDANCE			4-16	ohm
15.	POWER SOURCE	120 Volts, 60 Hz AC*			
	21 WATTS, No Signal				
	130 WATTS, Full Signal (27 WATTS, 8 Ω , BOTH CHANNELS)				

* 220/240 VAC, 50 Hz for European and Australian Models.

* European models must not be able to tune to below 87.5 MHz.

NOTE: 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 Spec.

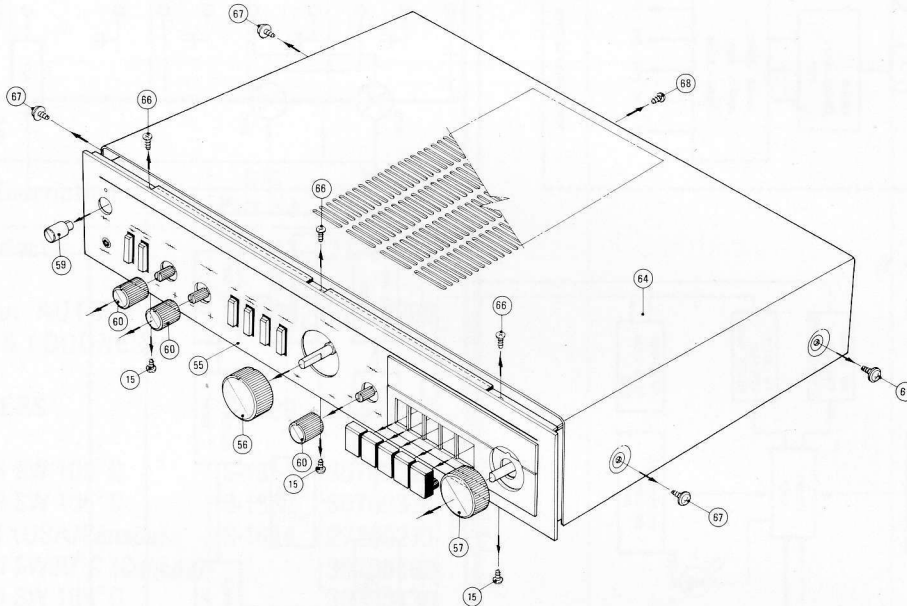
BLOCK DIAGRAM



DISASSEMBLY INSTRUCTIONS

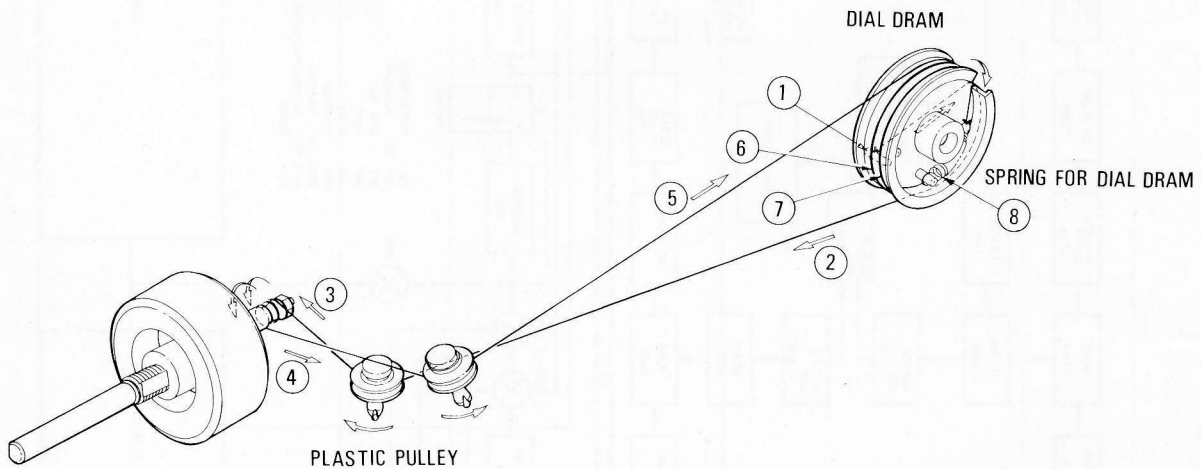
1. To remove chassis from metal enclosure
Remove five screws (#67 & #68) from sides and back.
2. To remove the Front Panel
Pull off the tuning knob.
Remove six screws (#15 & #66) from top and bottom of the Front Panel then remove the Front Panel.

(Refer to Miscellaneous Parts List for descriptions of numbered parts.)



DIAL STRINGING DIAGRAM

Note: Tuning capacitor should be in fully closed position.



ALIGNMENT PROCEDURES

Do not attempt alignment unless the following equipment is available.

- | | | |
|------------------------|------------------------|----------------------|
| 1. AM Signal Generator | 4. FM Signal Generator | 7. Distortion Meter |
| 2. Oscilloscope | 5. Stereo Modulator | 8. DC Voltmeter |
| 3. AC Voltmeter | 6. Audio Generator | 9. Frequency Counter |

Note: Remove line cord antenna from FM external antenna terminal when aligning.

AM IF & RF ALIGNMENT

Output of signal generator should be no higher than necessary to obtain an output reading. Signal Generator Modulation: 30% Press the AM button.						
STEP	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RECEIVER DIAL SETTING	INDICATOR	ADJUSTMENT Refer Fig. 4	REMARKS
1	Refer Fig. 1	455 kHz (400 Hz Mod.)	Point of non-interference (on/about 600 kHz)	AC Voltmeter to TAPE OUT jack	T203 (IFT)	Adjust for maximum reading.
2	Same as Step 1	600 kHz (400 Hz Mod.)	600 kHz	Same as Step 1	L201 (OSC Coil) L251 (ANT Coil)	Same as Step 1
3	Same as Step 1	1400 kHz (400 Hz Mod.)	1400 kHz	Same as Step 1	TC202 (OSC Trimmer) TC201 (ANT Trimmer)	Same as Step 1
4	Same as Step 1	1000 kHz (400 Hz Mod.)	Tune for maximum reading on SIGNAL indicator LED with weak signal	Front Panel Frequency Readout	VR401	Adjust for 1000 kHz reading on Frequency Readout

Note: Remove line cord antenna from FM external antenna terminal when aligning.

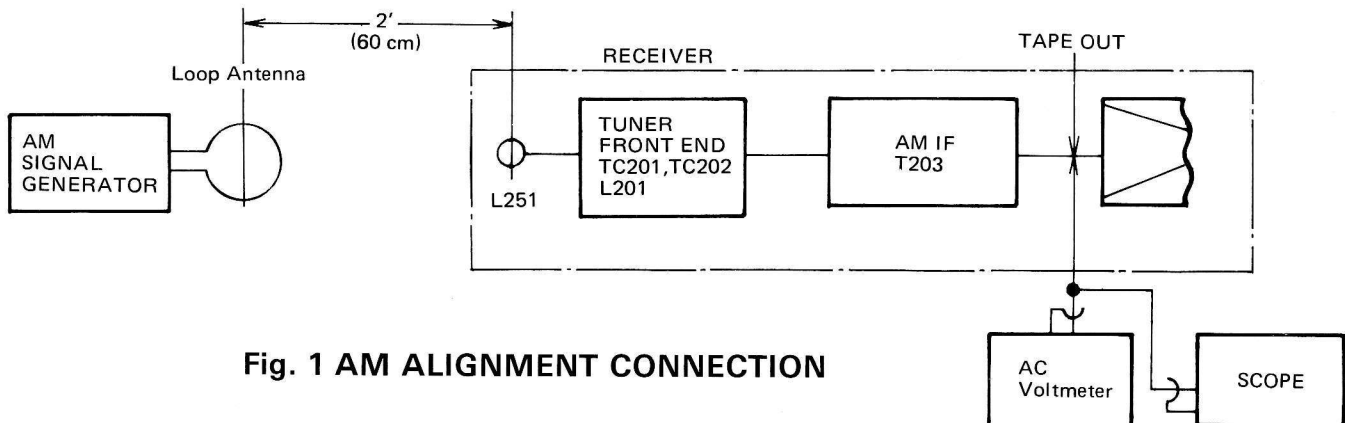


Fig. 1 AM ALIGNMENT CONNECTION

FM RF AND IF ALIGNMENT

Signal generator output should be no higher than necessary to obtain an output reading.

Press the FM button.

Signal Generator deviation: 75 kHz NOTE: Be sure to disconnect FM line cord antenna during alignment.

STEP	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RECEIVER DIAL SETTING	INDICATOR	ADJUSTMENT Refer Fig. 4	REMARKS
1	Connect to FM Antenna Terminal through FM Dummy Antenna (300) Fig. 2	90 MHz (400 Hz Mod.)	90 MHz	AC Voltmeter connected to TAPE OUT jack	L101 (ANT. COIL) L102 (RF COIL) L103 (OSC. COIL)	Adjust for maximum reading on AC Voltmeter.
2	Same as Step 1	106 MHz (400 Hz Mod.)	106 MHz	Same as Step 1	TC101 (ANT. Trimmer) TC102 (RF Trimmer) TC103 (OSC. Trimmer)	Same as Step 1
Repeat step 1 & 2 until no further improvement is possible.						
3	Same as Step 1	90 MHz (400 Hz Mod.)	90 MHz	Same as Step 1	T101 (IFT)	Same as Step 1
4	Same as Step 1	98 MHz (400 Hz Mod.)	98 MHz	DC Voltmeter connected to pin #12 and 13 on PCB #0094A	T201	Adjust for zero reading on DC Voltmeter.
5	Same as Step 1	98 MHz (400 Hz Mod.)	98 MHz	Distortion Meter connected to TAPE OUT jack	T202	Adjust for minimum distortion.
6	Same as Step 1	98 MHz (400 Hz Mod.)	98 MHz	SIGNAL STRENGTH Indicator LED	VR202	Adjust for Full Signal Indication with input of 500 μ V
7	Same as Step 1 (Be sure AUTO-M is off (out).)	98 MHz (400 Hz Mod.)	98 MHz	Same as Step 1	VR201	Adjust for zero reading on AC Voltmeter with SG output level of 6 μ V
8	Same as Step 1	98 MHz (400 Hz Mod.)	Tune for light up to FM TUNED Indicator LED.	Front panel Frequency Readout	VR402	Adjust for 98 MHz reading on Frequency readout

For European model, the lowest frequency of FM tuning range should not be below 87.5 MHz.

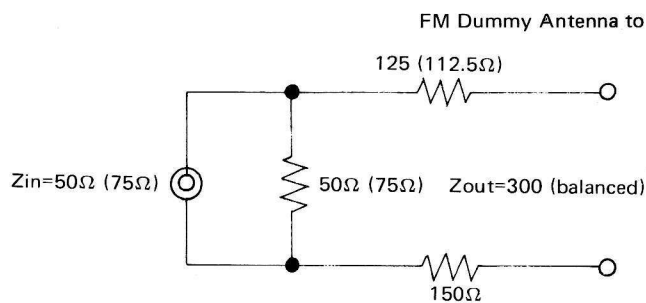


Fig. 2 FM DUMMY ANTENNA

MPX ALIGNMENT

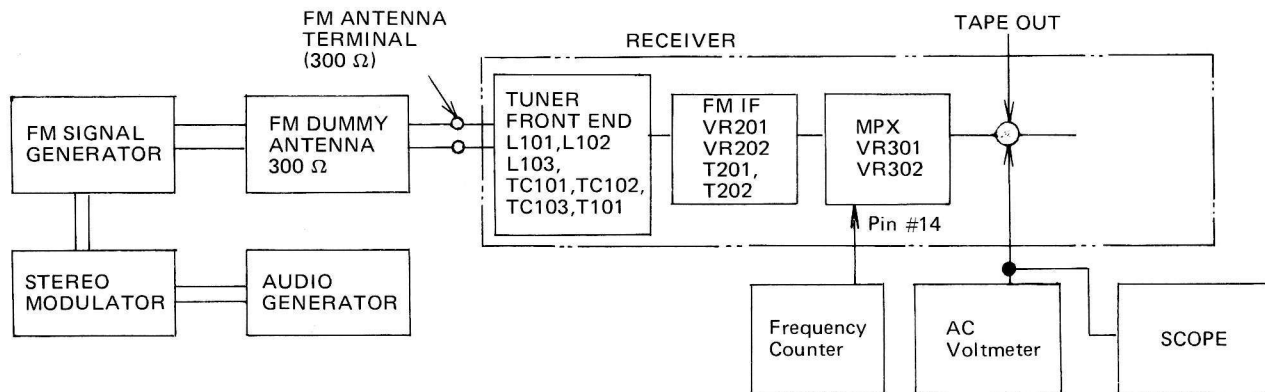


Fig. 3 FM RF, IF AND MPX ALIGNMENT CONNECTION

Press the FM button. Tune for 98 MHz on band. Signal Generator output level: 1000 μ V Deviation: 75 kHz at 100% modulation of composite signal Connect Signal Generator to FM Antenna Terminal through FM Dummy Antenna (300 Ω).						
STEP	19 kHz (PILOT SIGNAL) MODULATION Level	SIGNAL GENERATOR Freq. Set to	OUTPUT INDICATOR Connected to	ADJUST Refer Fig. 4	ADJUST FOR	NOTE
1			Frequency counter connected to Pin #14 and Ground	VR301	19 kHz	
2	8%	Composite 1 kHz R channel	AC Voltmeter connected to TAPE OUT jack of R channel			Adjust input for Audio out- put of about 0.7 V.
3	8%	Composite 1 kHz L channel	AC Voltmeter connected to TAPE OUT jack of R channel	VR302	minimum	AC Voltmeter reading should be at least 32 dB below read- ing in step 2.
4	8%	Composite 1 kHz R channel	AC Voltmeter connected to TAPE OUT jack of L channel	VR302	minimum	Same as Step 3.

If you did not obtain -32 dB readings in steps 3 and 4 (compared with step 2), readjust VR302 until you obtain -32 dB reading for both steps 3 and 4.

MAIN AMPLIFIER ALIGNMENT

INDICATOR	ADJUSTMENT	REMARKS
DC Voltmeter	VR603a,b	Adjust for 0.01 – 0.015 volts across R619 a, b with no signal.

ALIGNMENT POINTS

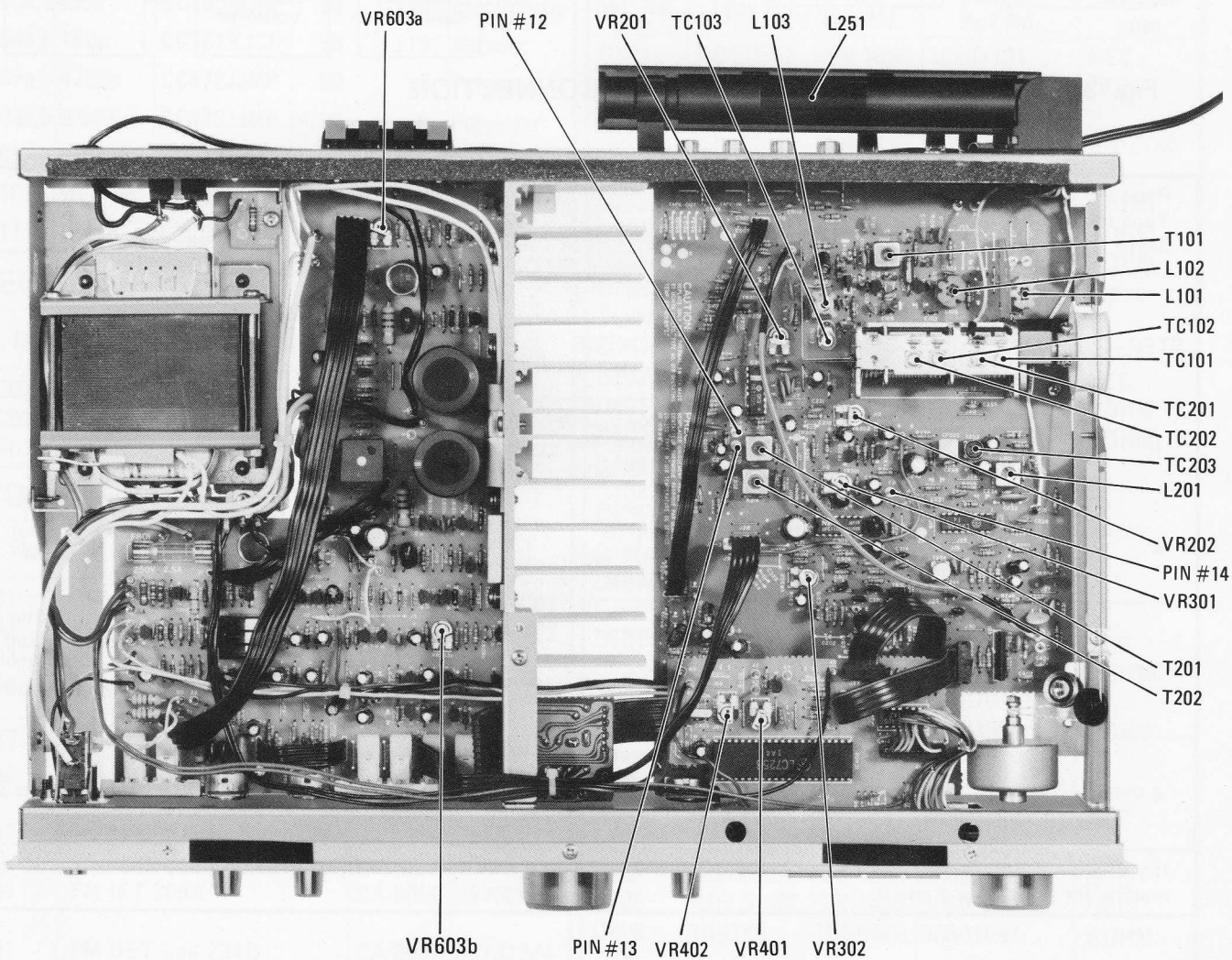
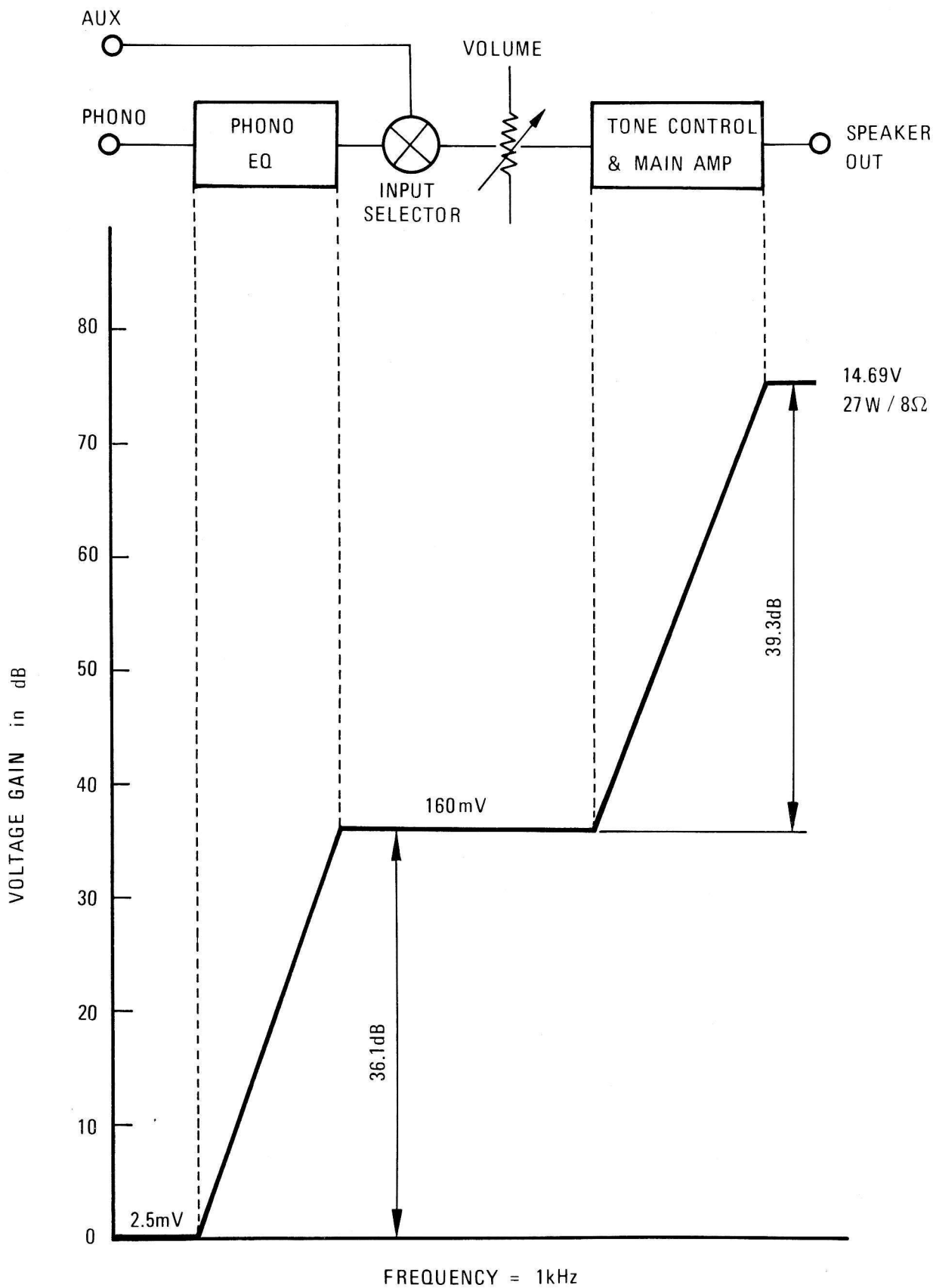


Fig. 4

LEVEL DIAGRAM



TROUBLESHOOTING

SYMPTOM	CAUSE AND REMEDY
1. Receiver not operative; POWER indicator does not light.	A) Faulty AC power cord Replace. B) Defect in the power switch Replace. C) Broken wire in the power transformer Replace the transformer. D) Blown power fuse F801 Replace.
2. Fuse blows when power is turned on.	A) Power transformer T851 defective Replace. B) Short in the primary or secondary of the transformer circuitry Repair the short. C) Damaged rectifier D801 Replace the rectifier. D) Short circuit in the rectifier circuit Repair the short.
3. POWER indicator lights but no sound from either channel.	A) SPEAKERS switch SW10 or SW11 defective Replace the defective switch(es). B) Defect in transistors TR606a,b-TR609a,b of Main Amp Board #6100 Replace the defective transistor(s).
4. A speakers do not work.	A) Speaker switch SW10 defective Replace.
5. B speakers do not work.	A) Speaker switch SW11 defective Replace.
6. One channel does not work with VOLUME at maximum with a test signal applied to the center terminal of VOLUME control VR702 of the dead channel.	A) Defective TR901 Replace. B) Defect in transistor TR601–TR610 of Main Amp Board #6100 Locate and correct the defect. C) Break in copper foil of printed circuit board #6100 Repair or replace circuit board(s). D) Short in speaker output terminal Repair the short. E) Defective resistor R901, R603, R604, R606–R612, R615–R619 Replace the defective resistor(s). F) Defective capacitor C901, C904, C604, C617, C618 Replace the defective capacitor(s).

SYMPTOM	CAUSE AND REMEDY
7. Same as (6) above but channel operates when test signal is applied as in (6).	A) Defective PHONO switch SW2 or TAPE MON switch SW1 Repair or replace the switch(es). B) Defective BALANCE control VR701 Replace. C) Resistor R701 or R702 defective Replace the resistor.
8. Speakers work normally but headphones do not work.	A) Headphone plug does not mate with jack. Replace the plug. B) Defective resistor R637a,b Replace.
9. All inputs work normally except for AUX input.	A) Poor contact in AUX input jack Repair or replace the jack. B) Faulty AUX switch SW3 Repair or replace the switch. C) Defective resistor R510 Replace.
10. PHONO input not operative	A) Defective IC501 Replace. B) Faulty resistor R501, R503–R509 Replace the faulty resistor(s). C) Faulty capacitor C501–503 Replace the faulty capacitor(s). D) Poor contact in PHONO input jack Repair or replace the jack. E) Faulty PHONO switch SW2 Repair or replace the switch.
11. TAPE MON not operative	A) Defective TAPE MON switch SW1 Repair or replace. B) Defective contact in TAPE IN jack(s) Repair or replace the jack(s).
12. FM does not operate.	A) Short circuit in Tuner B + circuit Repair the short. B) Defective FM (SW5) switch Repair or replace the switch(es). C) Resistor R212 or R301, defective Replace the defective resistor(s). D) Capacitor C301 defective Replace. E) Defective IC IC201 or IC301 Replace the defective IC(s). F) Defective IFT T101 Replace.

SYMPTOM	CAUSE AND REMEDY
	<p>G) Defective transistor TR101, TR102, TR103, TR201 or coil L101, L103 Replace the defective component(s).</p> <p>H) Faulty lead-in Repair the faulty lead-in.</p>
13. Poor multiplex separation	<p>A) Improper adjustment Readjust VR302 (refer to ALIGNMENT PROCEDURE on page 9).</p> <p>B) Transistor TR301, TR302 or IC IC301 of Tuner Board #0094 defective Replace the defective component(s).</p> <p>C) Variable resistor VR301 or VR302 defective Replace the defective variable resistor(s).</p>
14. Stereo indicator does not light.	<p>A) Defective indicator LED D301 Replace.</p> <p>B) Improper adjustment of VR301 of Tuner Board #0094 Make readjustment (Refer to MPX ALIGNMENT on page 9.)</p> <p>C) Defective IC IC301 or resistor R318 Replace the defective component(s).</p>
15. FM volume not sufficient	<p>A) If volume of both L and R channels not enough: Front-End section defective, or faulty IFT T101 IC IC201 or transistor TR201 of Tuner Board #0094 Locate and replace the defective component(s).</p> <p>B) If sound of one channel not enough: Defective TR301 in case of L channel, or defective TR302 in case of R channel Replace the defective transistor.</p>
16. AM does not operate	<p>A) Damaged IC202 of Tuner Board #0094 Replace.</p> <p>B) Defective L201, T203, T204 or CF203 Replace the defective component(s).</p> <p>C) One of resistors of Tuner Board #0094 (AM section) defective Replace the defective resistor.</p> <p>D) One of capacitors of Tuner Board #0094 (AM section) defective Replace the defective capacitor.</p> <p>E) AM switch SW4 defective Repair or replace.</p> <p>F) Defective Tuning gang capacitor Repair or replace.</p> <p>G) Damaged AM Bar antenna L251 Repair or replace.</p>

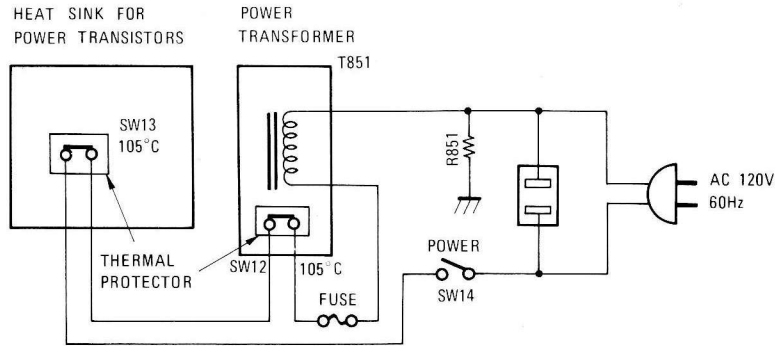
SYMPTOM	CAUSE AND REMEDY
17. LOUDNESS has no effect.	A) Defective LOUDNESS switch SW9 Replace the switch. B) Defective capacitor C701, C702 or resistor R703 Replace the defective component(s). C) Defective VOLUME control VR702 Replace.
18. Stereo-Mono not effective	A) Defective MONO switch SW8 Replace.
19. TAPE MONitor not effective	A) Defective TAPE MON switch SW1 Replace. B) Poor contact in TAPE MON IN jacks Repair or replace the jack(s).
20. BASS control has no effect.	A) BASS control VR902 defective Replace. B) Defective capacitor C908, C909 or resistor R907, R908 Replace the defective component(s).
21. TREBLE control has no effect.	A) TREBLE control VR901 defective Replace. B) Defective capacitor C906, C907 or resistor R905, R906 Replace the defective component(s).
22. Excessive noise with PHONO input	A) Faulty IC501 Replace. B) Faulty R501–R504, C501 or C506 Replace the faulty component(s).
23. Noisy VOLUME control	A) Defective VOLUME control VR702 Replace the variable resistor. B) Defective capacitor C503, C901, C904 or C618 Replace the defective capacitor(s).
24. SIGNAL STRENGTH indicator LED not functioning	A) Defective LED D403–D408 or IC403 Replace the defective component(s). B) In case of FM reception, VR202 or D201 defective Replace the defective component(s). C) In case of AM reception, IC401 or R250 defective Replace the defective component(s).
25. AUTO-Magic AFC has no effect when AUTO-M switch is ON.	A) Defective D102, R109, R215 or C220 Replace the defective component(s).

SYMPTOM	CAUSE AND REMEDY
26. 30 Hz CUT has no effect.	A) Defective 30 Hz CUT switch SW6 Replace. B) Defective C905 Replace.
27. Frequency counter FIP does not light when FM button is pressed in.	A) Resister R817 defective Replace. B) TR803, R811, R407, C406, C407 defective Replace the defective component(s).
28. Frequency counter misreads in AM or FM reception.	A) Defective crystal XR401 Replace. B) Defective IC IC402 or transistor TR401 Replace the defective component(s).
29. Frequency counter misreads in only AM reception.	A) Defective AM switch SW4 Replace. B) Defective TR204, R231 or VR402 Replace the defective component(s).

NOTES:

1. This Receiver has two built-in overload thermal protectors for abnormal operation. When the temperature of the thermal protector [one is installed with heat sink (SW14, 105°C) and the other with power transformer (SW12, 105°C)] does rise abnormally ($105 \pm 5^\circ\text{C}$), the thermal protector will automatically cut out, and as soon as the temperature goes down sufficiently ($35 \pm 15^\circ\text{C}$)—the thermal protector turns back on automatically.

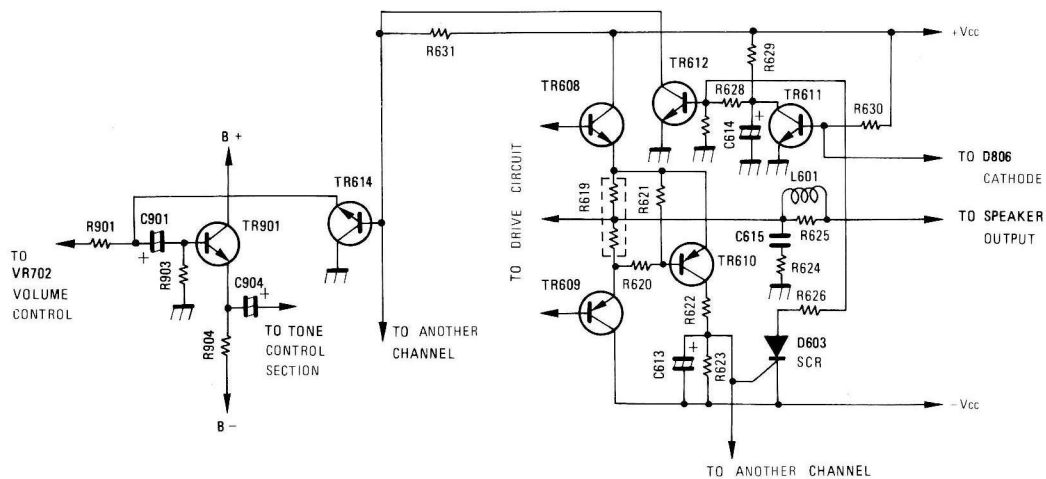
If the Receiver does turn itself off, check ventilation and speaker connections.



2. Transistors TR610a and TR610b protect audio output stage when abnormally high current flows in TR608a,b and TR609a,b due to excessive input drive, or a too low impedance load connected at output. TR610a,b are not normally biased on and collectors of these transistors (through SCR D603, transistors TR612 and TR614) cut inputs of power amplifier stage.

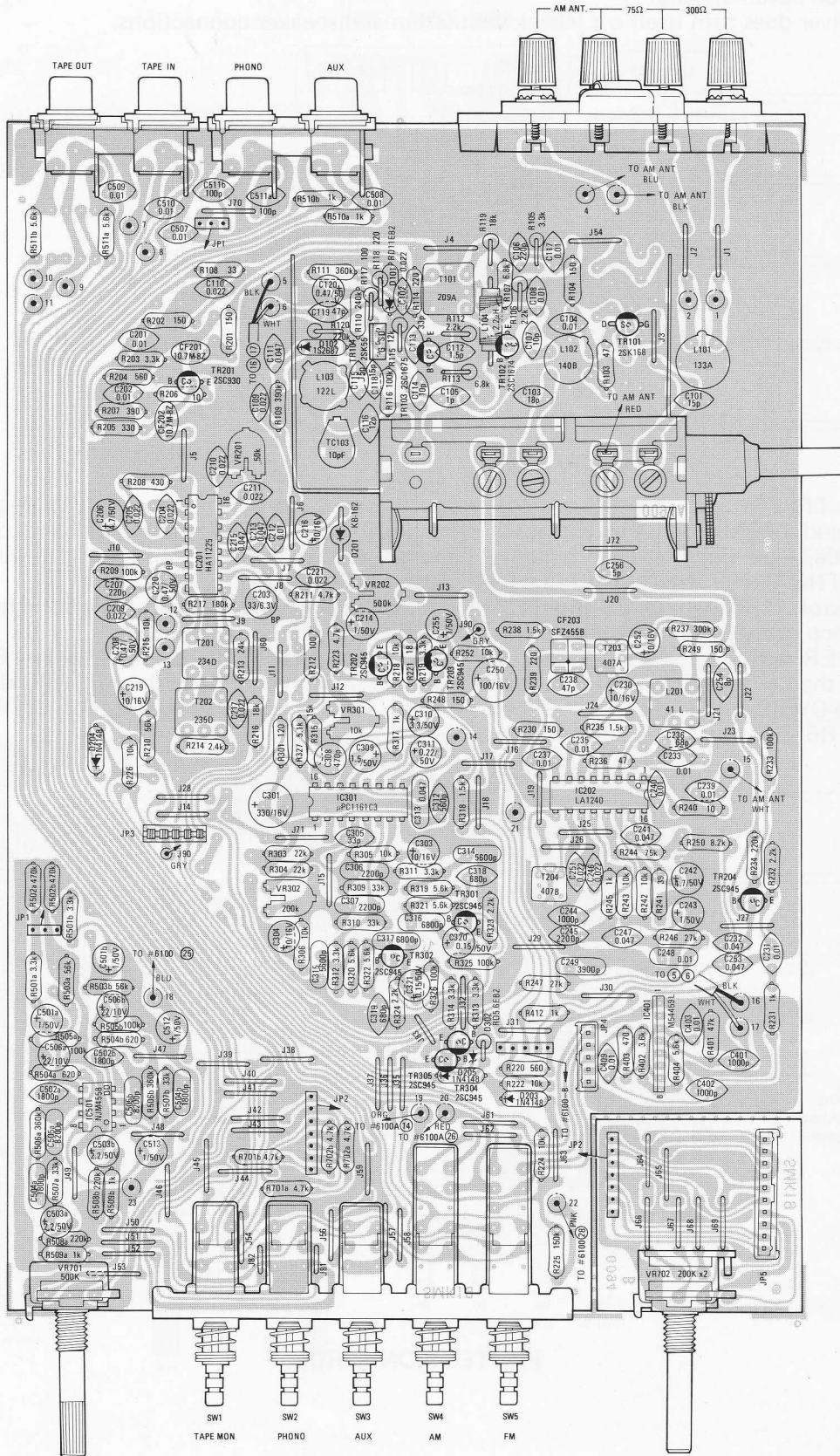
Also transistors TR611, TR612 and TR614 circuits protect the speakers against high level switching clicks and pop noises when power switch is turned on/off.

When POWER switch is first set to ON, TR612 is not biased ON by time constant of R629 and C614. As soon as the C614 finishes charging, the TR612 will turn on and cause the TR613 and TR614 to turn off. When POWER switch is OFF, the TR611 will turn on by charged voltage of C614 and C803 and cause the TR612 to turn off and as a result, TR614 to turn on.

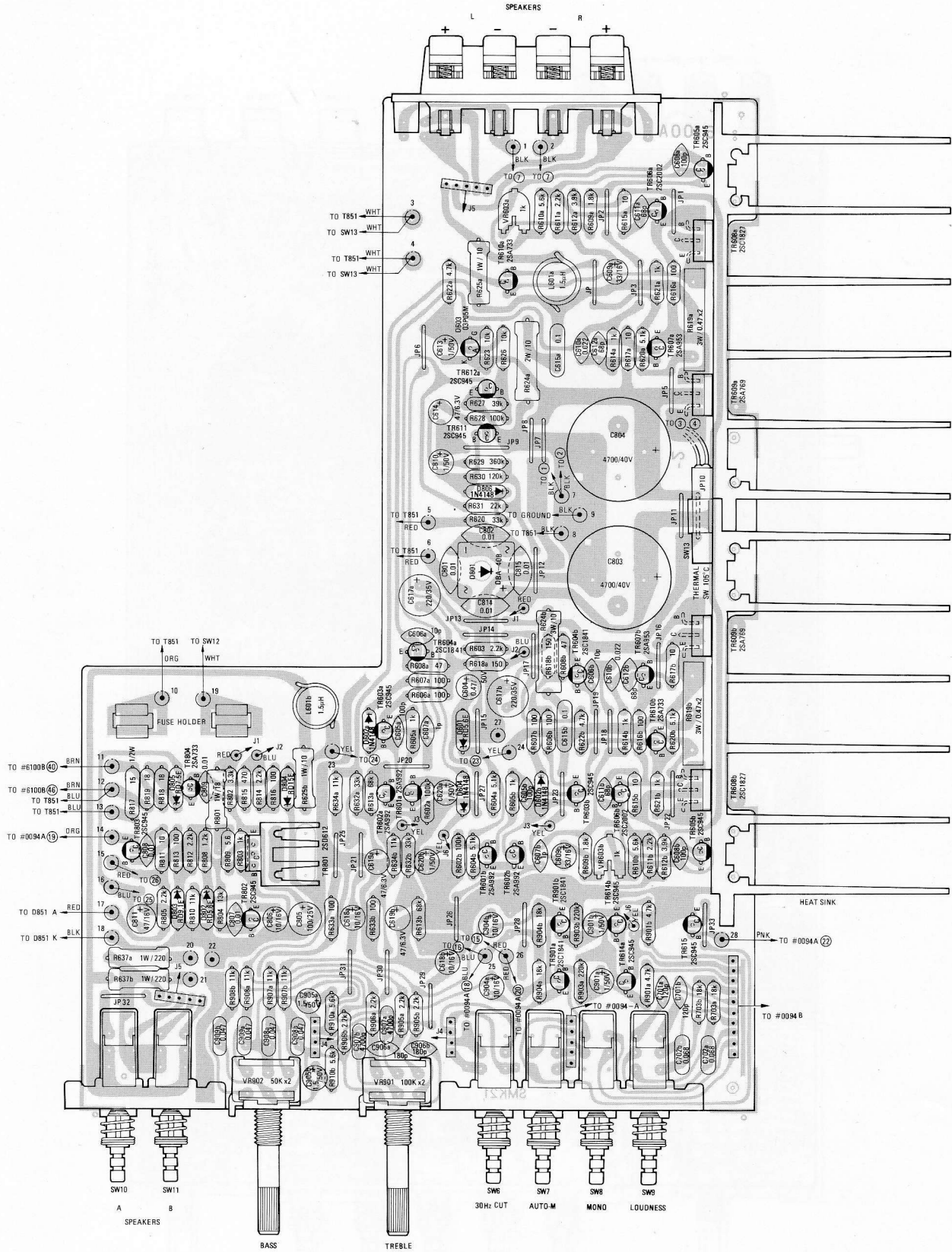


PROTECTION CIRCUIT

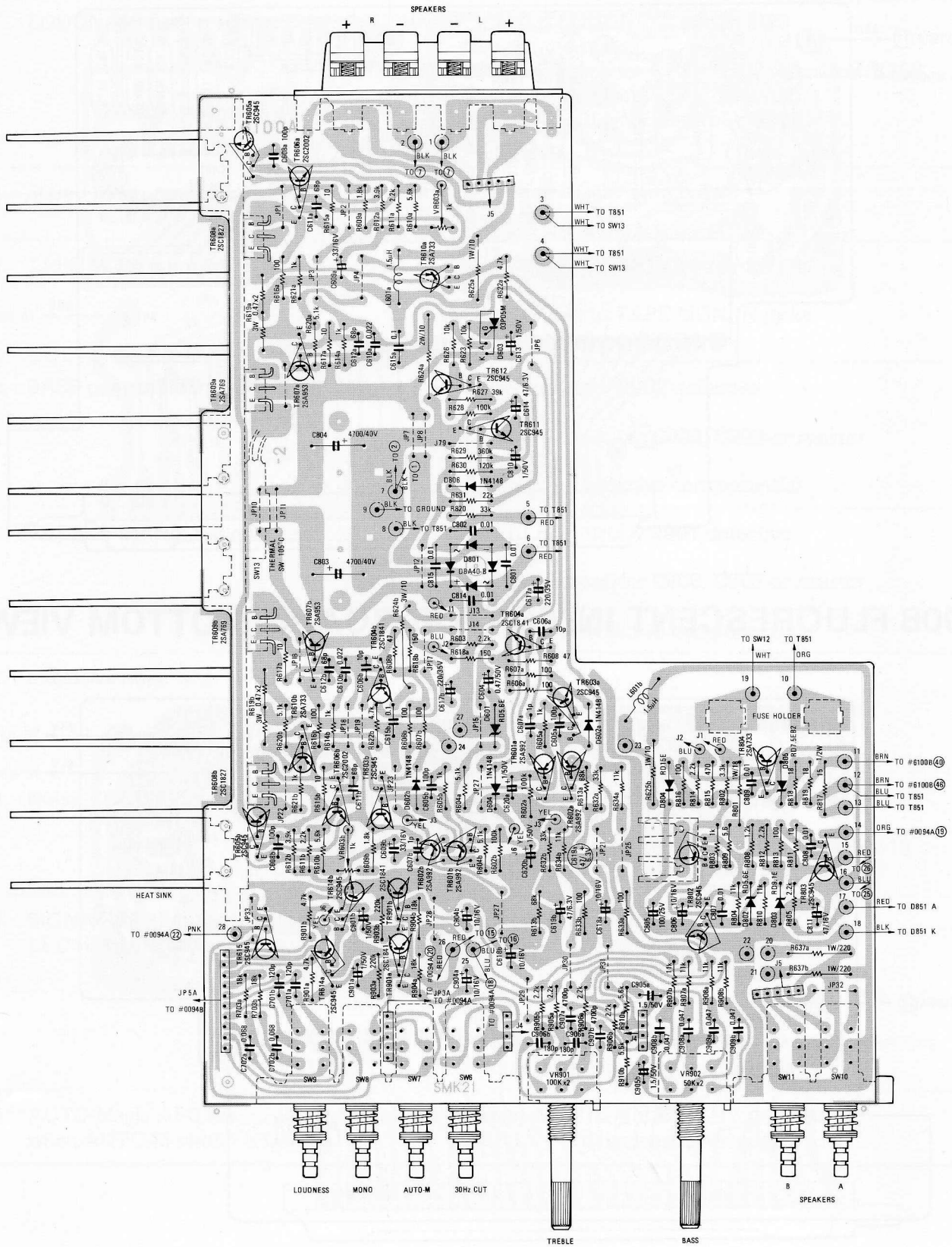
0094A, B TUNER, PRE-AMP & VOLUME BOARD (TOP VIEW)



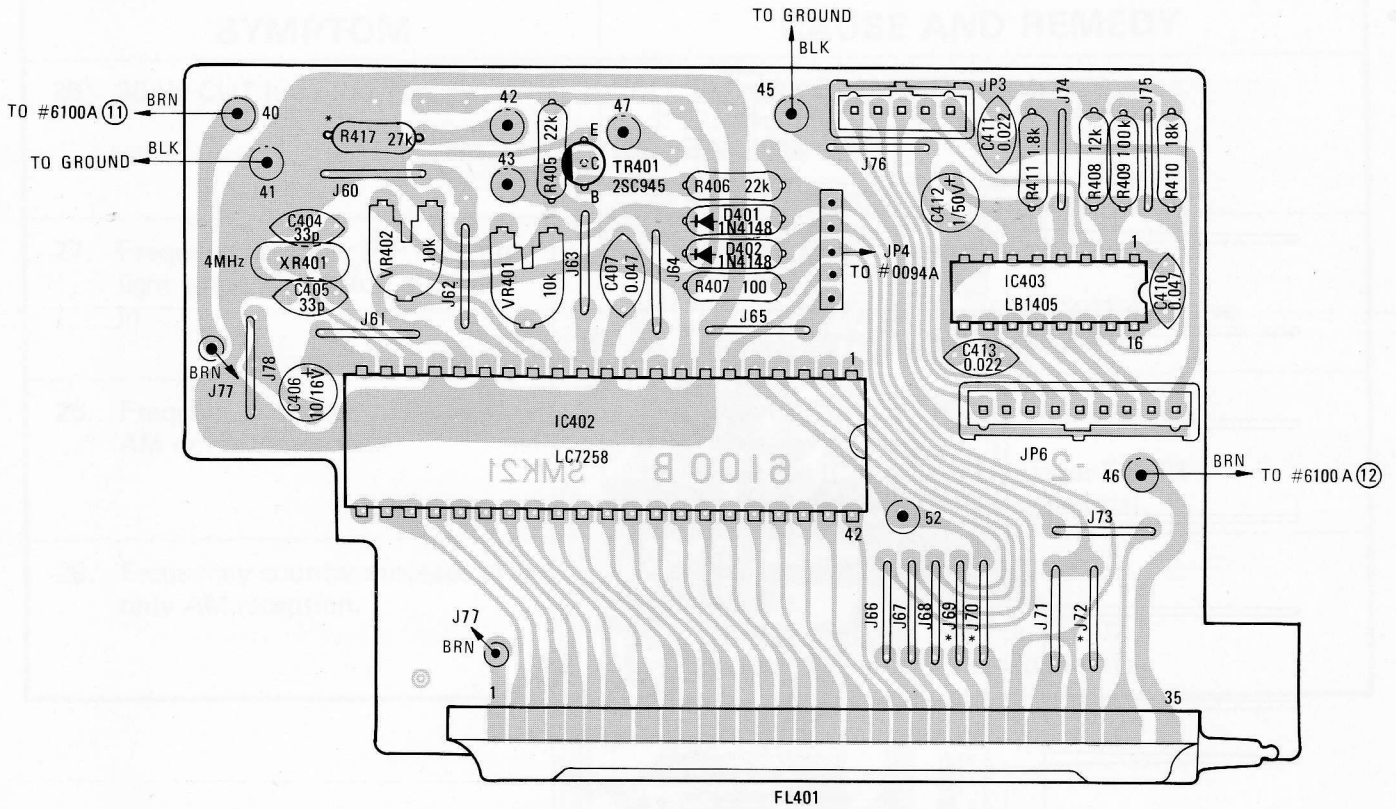
6100A MAIN AMP BOARD (TOP VIEW)



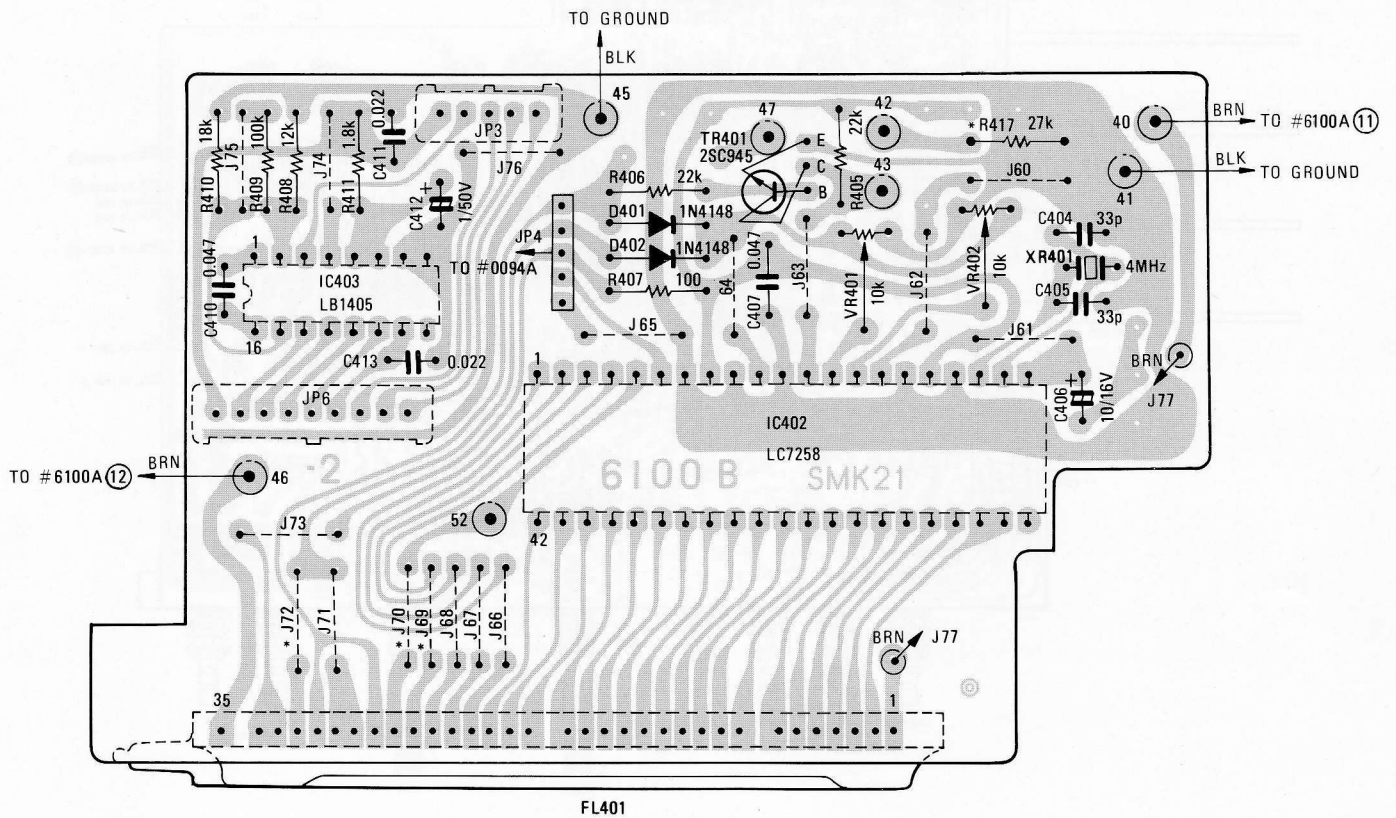
6100A MAIN AMP BOARD (BOTTOM VIEW)



6100B FLUORESCENT INDICATOR BOARD (TOP VIEW)

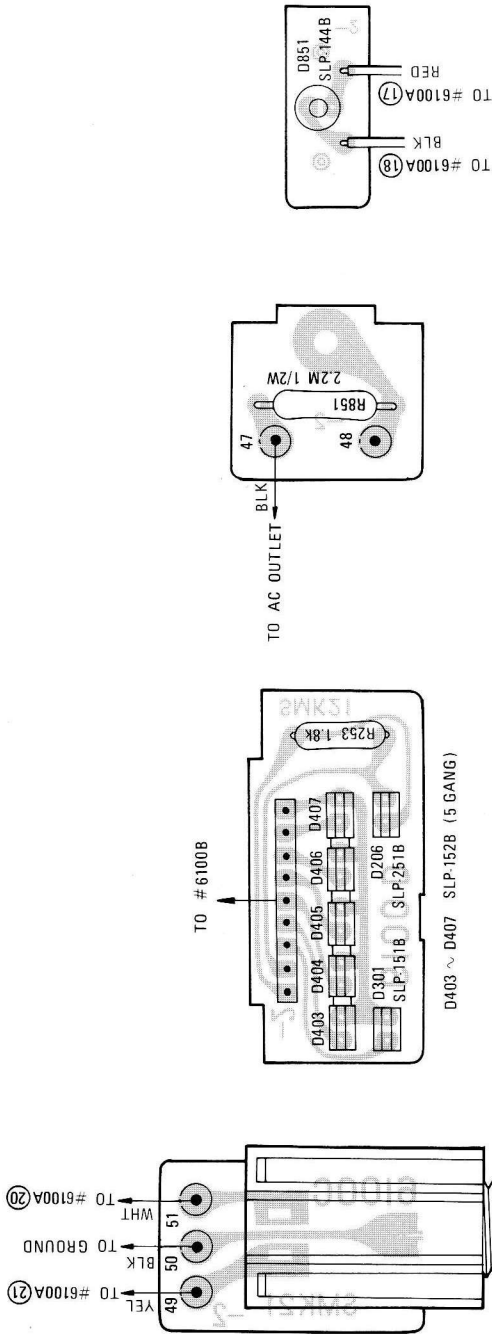


6100B FLUORESCENT INDICATOR BOARD (BOTTOM VIEW)

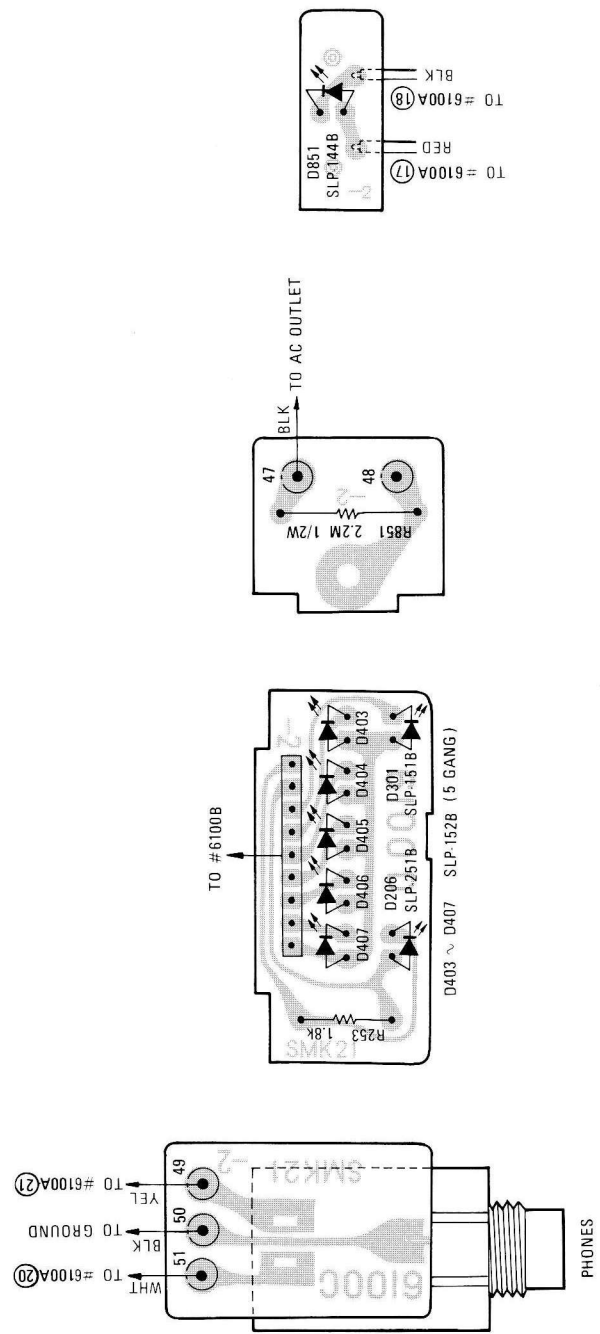


* European & Australian models only

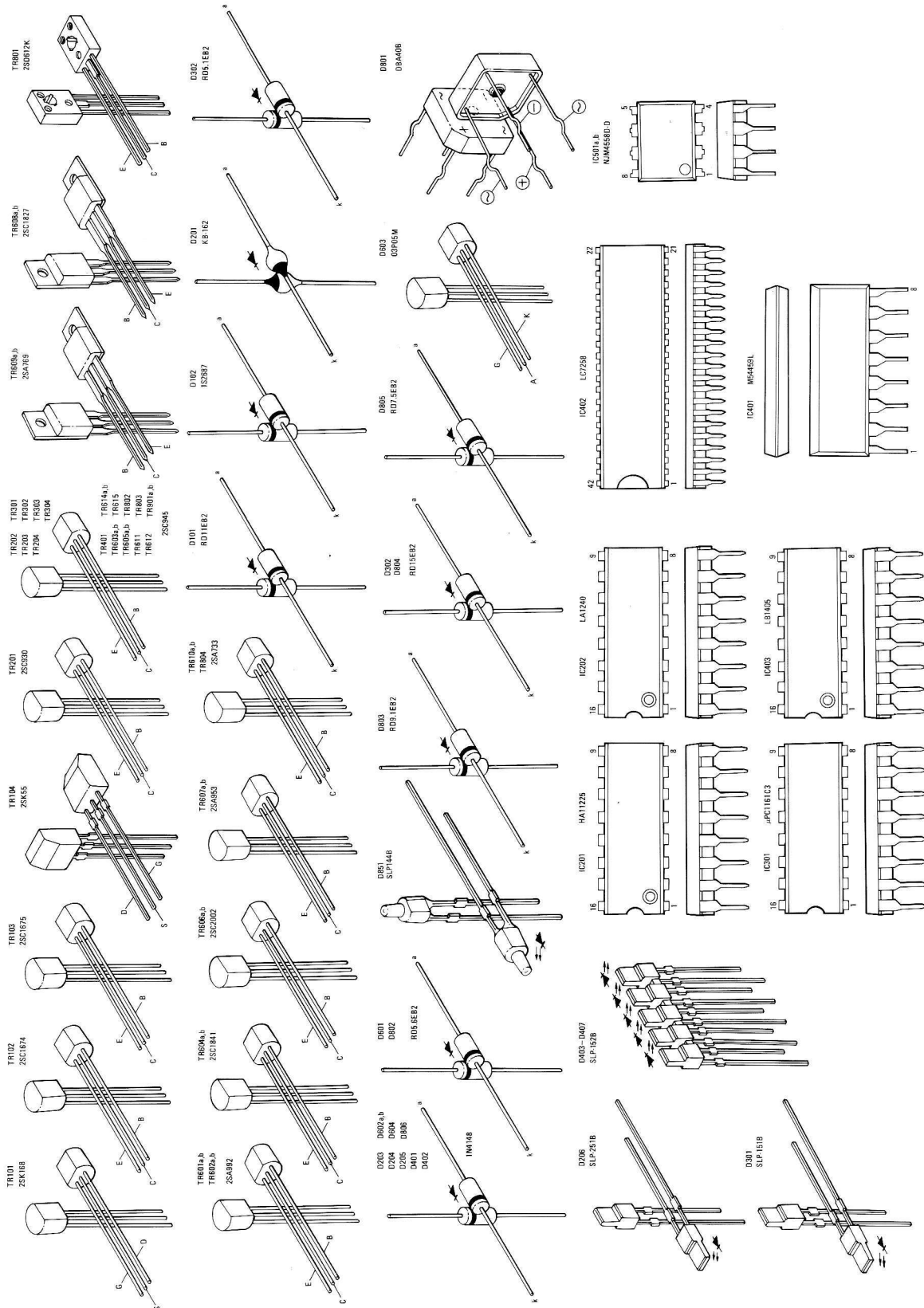
6100C, D, E, F HEADPHONE JACK, SIGNAL LED, LINE TO CHASSIS RESISTOR & POWER INDICATOR BOARD (TOP VIEW)



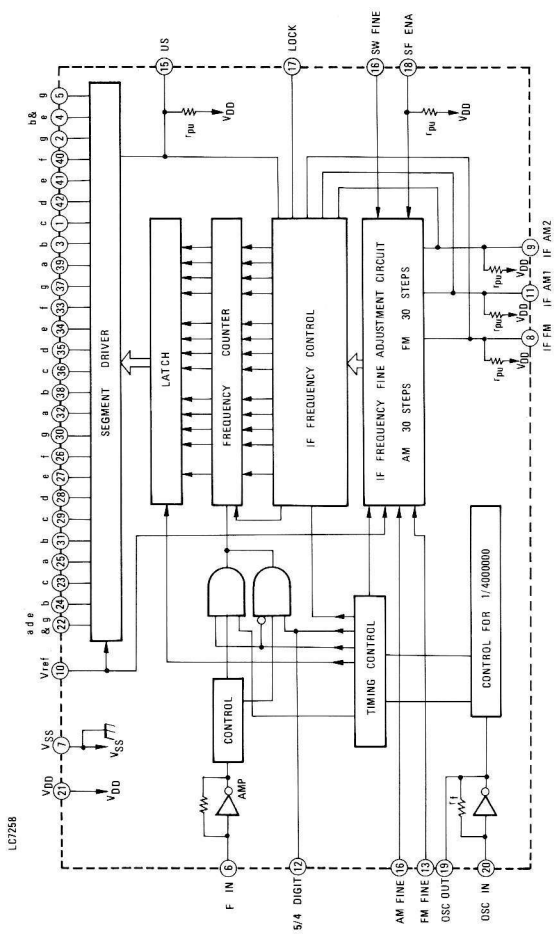
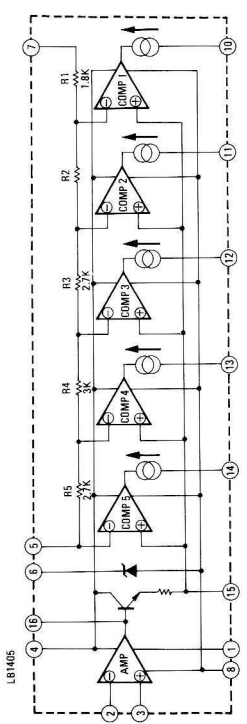
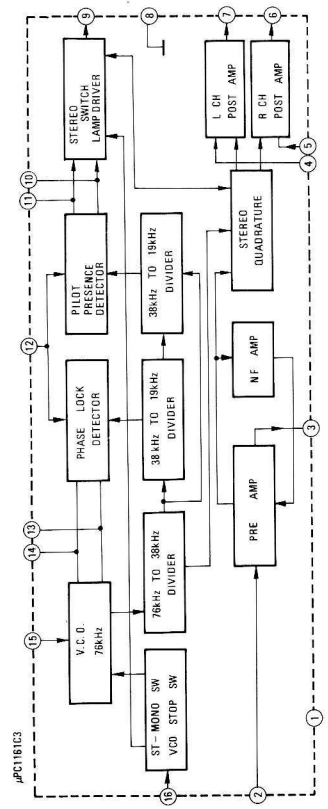
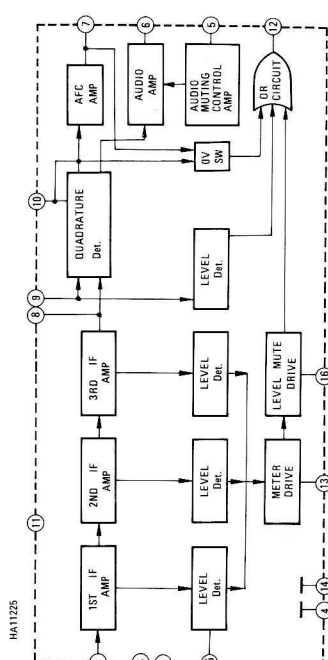
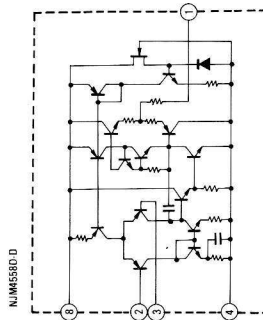
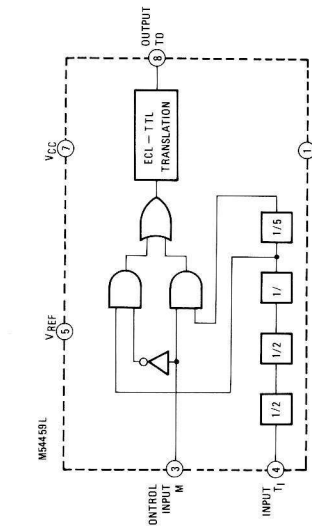
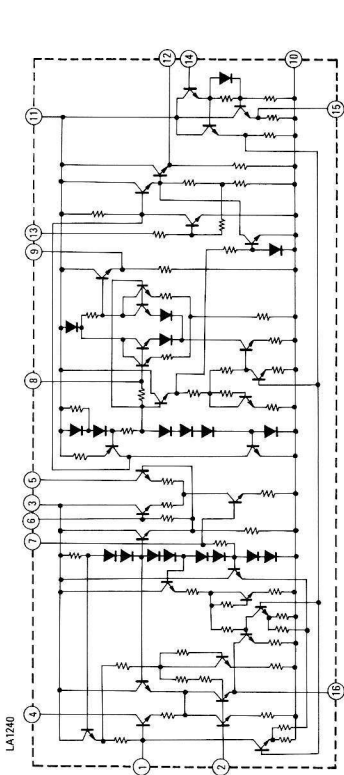
6100C, D, E, F HEADPHONE JACK, SIGNAL LED, LINE TO CHASSIS RESISTOR & POWER INDICATOR BOARD (BOTTOM VIEW)



SEMICONDUCTOR LEAD IDENTIFICATION



IC EQUIVALENT CIRCUIT



ELECTRICAL PARTS LIST

CAPACITORS						Ref. No.	Value (F)	R/S Part No.	Voltage (V)	Tolerance (%)	Material
C101	15p (SH)	CF-7281	50	±10	Ceramic	C218	Not Used				
C102	0.022μ	CC223ZFCP	25	+80 -20	Ceramic	C219	10μ	CC106MDAP	16	±20	Electrolytic
C103	18P (SH)	CF-1226	50	±10	Ceramic	C220	0.47μ	CC474MJAP	50	±20	Electrolytic
C104	0.01μ	CC103KJCP	25	+80 -20	Ceramic	C221	0.022μ	CC223ZFCP	25	+80 -20	Ceramic
C105	1P (CH)	CF-7377	50	±10	Ceramic	C222	Not Used				
C106	220P	CF-1490	50	±10	Ceramic	C223	Not Used				
C107	10P (CH)	CF-1902	50	±10	Ceramic	C230	10μ	CC106MDAP	16	±20	Electrolytic
C108	0.01μ	CC103KJCP	25	+80 -20	Ceramic	C231	0.01μ	CC103ZFCP	25	+80 -20	Ceramic
C109	0.022μ	CC223ZFCP	25	+80 -20	Ceramic	C232	0.047μ	CC473ZFCP	25	+80 -20	Ceramic
C110	0.022μ	CC223ZFCP	25	+80 -20	Ceramic	C233	0.01μ	CC103KJCP	50	±10	Ceramic
C111	0.047μ	CC473ZFCP	25	+80 -20	Ceramic	C234	Not Used				
C112	15P (UJ)	CF-1814	50	±10	Ceramic	C235	0.01μ		50	±10	Ceramic
C113	33p (UJ)	CF-7287	50	±10	Ceramic	C236	68p	CF-1959	50	±10	Ceramic
C114	10p (UJ)	CF-1946	50	±10	Ceramic	C237	0.01μ	CC103ZFCP	25	+80 -20	Ceramic
C115	15p (UJ)	CF-1814	50	±10	Ceramic	C238	47p	CF-1366	50	±10	Ceramic
C116	12p (SH)	CF-7378	50	±10	Ceramic	C239	0.01μ	CC103ZFCP	25	+80 -20	Ceramic
C117	0.01μ	CC103ZFCP	25	+80 -20	Ceramic	C240	0.01μ	CC103ZFCP	25	+80 -20	Ceramic
C118	15p (TH)	CF-1836	50	±10	Ceramic	C241	0.047μ	CC473ZFCP	25	+80 -20	Ceramic
C119	47P	CF-1336	50	±10	Ceramic	C242	4.7μ	CC475MJAP	50	±20	Electrolytic
C120	0.47μ	CC474MJAP	50	±20	Electrolytic	C243	1μ	CC105MJAP	50	±20	Electrolytic
C201	0.01μ	CC103ZFCP	25	+80 -20	Ceramic	C244	1000p	CC102KJCP	25	±10	Ceramic
C202	0.01μ	CC103ZFCP	25	+80 -20	Ceramic	C245	2200p		25	±10	Ceramic
C203	33μ	CC336MBAP	6.3	±20	Electrolytic	C246	0.022μ	CC223ZFCP	25	+80 -20	Ceramic
C204	0.022μ	CC223ZFCP	25	+80 -20	Ceramic	C247	0.047μ	CC473ZFCP	25	+80 -20	Ceramic
C205	0.022μ	CC223ZFCP	25	+80 -20	Ceramic	C248	0.01μ	CC103JJHP	50	±5	Polyester
C206	4.7μ	CC475MJAP	50	±20	Electrolytic	C249	3900P	CC392JJMP	50	±5	Polyester
C207	220p	CF-1490	50	±10	Ceramic	C250	100μ	CC107MDAP	16	±20	Electrolytic
C208	0.47μ	CC474MJAP	50	±20	Electrolytic	C251	0.022μ	CC223ZFCP	25	+80 -20	Ceramic
C209	0.022μ	CC223ZFCP	25	+80 -20	Ceramic	C252	10μ	CC106MDAP	16	±20	Electrolytic
C210	0.022μ	CC223ZFCP	25	+80 -20	Ceramic	C253	0.047μ	CC473ZFCP	25	+80 -20	Ceramic
C211	0.022μ	CC223ZFCP	25	+80 -20	Ceramic	C254	8p	CF-1126	50	±10	Ceramic
C212	0.01μ	CC103ZFCP	25	+80 -20	Ceramic	C255	1μ	CC105MJAP	50	±20	Electrolytic
C213	0.047μ	CC473ZFCP	25	+80 -20	Ceramic	C256	5P		50	±0.5P	Ceramic
C214	1μ	CC105MJAP	50	±20	Electrolytic	C301	330μ	CC337MDAP	16	±20	Electrolytic
C215	0.047μ	CC473ZFCP	25	+80 -20	Ceramic	C302	Not Used				
C216	10μ	CC106MDAP	16	±20	Electrolytic	C303	10μ	CC106MDAP	16	±20	Electrolytic
C217	0.022μ	CC223ZFCP	25	+80 -20	Ceramic	C304	10μ	CC106MDAP	16	±20	Electrolytic
						C305	33p	CF-1315	50	±10	Ceramic
						*C306	2200P	CC222JJMP	50	±5	Polyester

*C306: 1200p for Europe/Australia

Ref. No.	Value (F)	R/S Part No.	Voltage (V)	Tolerance (%)	Material	Ref. No.	Value (F)	R/S Part No.	Voltage (V)	Tolerance (%)	Material
*C307	2200P	CC222JJMP	50	±5	Polyester	C512	1μ	CC105MJAP	50	±20	Electrolytic
C308	470p	CC471JJSP	50	±5	Polystyrene	C513	1μ	CC105MJAP	50	±20	Electrolytic
C309	1.5μ		50	±20	Electrolytic	*C515a,b	100p	CC101KJCP	50	±10	Ceramic
C310	3.3μ		50	±20	Electrolytic	C601a,b	Not Used				
C311	0.22μ		50	±20	Electrolytic	C602a,b	Not Used				
C312	560p	CC561KJCP	50	±10	Ceramic	C603a,b	Not Used				
C313	0.047	CC473KJMP	50	±10	Polyester	C604	0.47μ	CC474MJAP	50	±20	Electrolytic
C314	5600P	CC562KJMP	50	±10	Polyester	C605a,b	100p	CC101KJCP	50	±10	Ceramic
C315	5600P	CC562KJMP	50	±10	Polyester	C606a,b	10p	CF-1177	50	±10	Ceramic
C316	6800p	CC682KJMP	50	±10	Polyester	C607a,b	1p	CC010MJCP	50	±20	Ceramic
C317	6800p	CC682KJMP	50	±10	Polyester	C608a,b	100p	CC101KJCP	50	±10	Ceramic
C318	680p	CC681KJCP	50	±10	Ceramic	C609a,b	33μ	CC336MBAP	16	±20	Electrolytic
C319	680p	CC681KJCP	50	±10	Ceramic	C610a,b	0.022μ	CC223ZFCP	25	+80 -20	Ceramic
C320	0.15μ		50	±20	Electrolytic	C611a,b	68p	CC680JJCP	50	±5	Ceramic
C321	0.15μ		50	±20	Electrolytic	C612a,b	68p	CC680JJCP	50	±5	Ceramic
C401	1000p	CC102KJCP	50	±10	Ceramic	C613	1μ	CC105MJAP	50	±20	Electrolytic
C402	1000p	CC102KJCP	50	±10	Ceramic	C614	47μ	CC476MBAP	63	±20	Electrolytic
C403	0.01μ	CC103ZFCP	25	+80 -20	Ceramic	C615a,b	0.1μ	CC104KJMP	50	±10	Polyester
C404	33p	CF-1315	25	±10	Ceramic	C616a,b	Not Used				
C405	33p	CF-1315	25	±10	Ceramic	C617a,b	220μ	CC227MGAP	35	±20	Electrolytic
C406	10μ	CC106MDAP	16	±20	Electrolytic	C618a,b	10μ	CC106MDAP	16	±20	Electrolytic
C407	0.047μ	CC473ZFCP	25	+80 -20	Ceramic	C619a,b	47μ	CC476MBAP	6.3	±20	Electrolytic
C408	Not Used					C620a,b	1μ	CC105MJAP	50	±20	Electrolytic
C409	0.01μ	CC103ZFCP	25	+80 -20	Ceramic	*C622a,b	1000p	CC102KJCP	50	±10	Ceramic
C410	0.047μ	CC473ZFCP	25	+80 -20	Ceramic	*C623a,b	1000p	CC102KJCP	50	±10	Ceramic
C411	0.022μ	CC223ZFCP	25	+80 -20	Ceramic	C701a,b	120p	CC121KJCP	50	±10	Ceramic
C412	1μ	CC105MJAP	50	±20	Electrolytic	C702a,b	0.068μ	CC683JJMP	50	±10	Polyester
C413	0.022μ	CC223ZFCP	50	+80 -20	Ceramic	C801	0.01μ	CC103KUCP	500	±10	Ceramic
C501a,b	1μ	CC105MJAP	50	±20	Electrolytic	C802	0.01μ	CC103KUCP	500	±10	Ceramic
C502a,b	1800p	CC182KJCP	50	±10	Ceramic	C803	4700μ	CC478MHAP	40	+50 -10	Electrolytic
C503a,b	2.2μ	CC225MJAP	50	±20	Electrolytic	C804	4700μ	CC478MHAP	40	+50 -10	Electrolytic
C504a,b	1800p		50	±5	Polyester	C805	100μ	CC107MFAP	25	±20	Electrolytic
C505a,b	8200p	CC822JJMP	50	±5	Polyester	C806	10μ	CC106MDAP	16	±20	Electrolytic
C506a,b	22μ		10	±20	Electrolytic	C807	0.01μ	CC103ZFCP	25	+80 -20	Ceramic
C507	0.01μ	CC103ZFCP	25	+80 -20	Ceramic	C808	0.01μ	CC103ZFCP	25	+80 -20	Ceramic
C508	0.01μ	CC103ZFCP	25	+80 -20	Ceramic	C809	0.01μ	CC103ZFCP	25	+80 -20	Ceramic
C509	0.01μ	CC103ZFCP	25	+80 -20	Ceramic	C810	1μ	CC105MJAP	50	±20	Electrolytic
C510	0.01μ	CC103ZFCP	25	+80 -20	Ceramic	C811	47μ	CC476MBAP	16	±20	Electrolytic
C511a,b	100p	CC101KJCP	50	±10	Ceramic	C812	Not Used				
						C813	Not Used				
						C814	0.01μ	CC103KUCP	500V	±10	Ceramic

*C307: 1200p for Europe/Australia

*C515a,b, C622a,b, C623a,b for European/Australian models only.

Ref. No.	Value (F)	R/S Part No.	Voltage (V)	Tolerance (%)	Material
C815	0.01 μ	CC103KUCP	500V	\pm 10	Ceramic
C901a,b	1 μ	CC105MJAP	50	\pm 20	Electrolytic
C902a,b	Not Used				
C903a,b	Not Used				
C904a,b	10 μ	CC106MDAP	16	\pm 20	Electrolytic
C905a,b	1.5 μ	CC155MJAP	50	\pm 20	Electrolytic
C906a,b	180p	CC181KJCP	50	\pm 10	Ceramic
C907a,b	4700p	CC472JJMP	50	\pm 5	Polyester
C908a,b	0.047 μ	CC473JJMP	50	\pm 5	Polyester
C909a,b	0.047 μ	CC473JJMP	50	\pm 5	Polyester
*C910	1000p	CC102KJCP	50	\pm 10	Ceramic
*C911	1000p	CC102KJCP	50	\pm 10	Ceramic

CERAMIC FILTERS

Ref. No.	Description	R/S Part No.	Mfr's Part No.
CF201	FM 10.7M-8Z	CA2696	35300030
CF202	FM 10.7M-8Z	CA-2696	35300030
CF203	AM SFZ-455B	C-0869	35300023

COILS & TRANSFORMERS

Ref. No.	Description	R/S Part No.	Mfr's Part No.
L101	FM Ant. Coil 133A	CA-8078	35501331
L102	FM RF Coil 140B	CA-8079	35501402
L103	FM OSC Coil 122L	CA-5345	35501226
L104	Choke Coil 2.2 μ H	CB-2482	35129228
L201	AM OSC Coil 419L	CA-8432	35504196
L251	AM Bar Ant. Coil		35400821
L601a,b	Choke Coil 1.5 μ H		35199016
T101	FM IFT 209A	CA-8080	35702091
T201	FM DET Coil 234D	CA-8062	30702344
T202	FM DET Coil 235D	CA-8071	30702354
T203	AM IFT 407A	CA-7834	35704071
T204	AM IFT 407B	CA-7835	30704072
T851	Power Transformer (USA)	TA-1027	35900421
T851	Power Transformer (Canada)		35900422
T851	Power Transformer (Europe)		35900423
T851	Power Transformer (Australia)		35900424

CRYSTAL

Ref. No.	Description	R/S Part No.	Mfr's Part No.
XR401	X-tal 4MHz HC-18V	MX-2380	35200001

DIODES

Ref. No.	Type No.	R/S Part No.	Mfr's Part No.	Manufacturer
D101	RD11EB2	DX-1606	30602121	NEC
D102	1S2687	DX-1950	30600560	JRC
D201	KB162	DX-0685	30600500	UNIZON
D202	Not Used			
D203	1N4148	DX-0022	30601691	ROHM
D204	1N4148	DX-0022	30601691	ROHM
D205	1N4148	DX-0022	30601691	ROHM
D206	SLP-251B	L-1268	88110005	Sanyo
D301	SLP-151B	L-1146	88110004	Sanyo
D302	RD5.1EB2	DX-1951	30602051	NEC
D401	1N4148	DX-0022	30601691	ROHM
D402	1N4148	DX-0022	30601691	ROHM
D403				
D404				
D405	SLP-152B	L-1145	88150003	Sanyo
D406	(Five Gang)			
D407				
D601	RD5.6EB2	DX-1381	30602061	NEC
D602a,b	1N4148	DX-0022	30601691	ROHM
D603	03P05M	DX-1952	205070001000	
D604	1N4148	DX-0022	30601691	ROHM
D801	DBA-40B		30602251	Sanyo
D802	RD5.6EB2	DX-1381	30602061	NEC
D803	RD9.1EB2	DX-1346	30602101	NEC
D804	RD15EB2	DX-1535	30602141	NEC
D805	RD7.5EB2	DX-1435	30602081	NEC
D806	1N4148	DX-0022	30601691	ROHM
D851	SLP144B	L-1108	88110019	Sanyo

FLUORESCENT INDICATOR PANEL

Ref. No.	Description	R/S Part No.	Mfr's Part No.
FL401	FIP7383	L-1513	88200007

INTEGRATED CIRCUITS

Ref. No.	Type No.	R/S Part No.	Mfr's Part No.	Manufacturer	Substitute	
					Type No.	Manufacturer
IC201 IC202	HA11225 LA1240	MX-4715 MX-4367	30900720 30900460	Hitachi Sanyo		
IC301	μ PC1161C3	MX-5427	30901230	NEC		
IC401 IC402 IC403	M54459L LC7258 LB1405	MX-5426 MX-5428 MX 3836	205433000205 205440000206 30900530	Mitsubishi Sanyo Sanyo		
IC501a,b	NJM4558DD	MX-5304	30900363	JRC	AN6552F	Matsushita

P.C.B. ASSEMBLIES			
Ref. No.	Description	R/S Part No.	Mfr's Part No.
0094A	Tuner & Pre-Amp Board		97009420A
0094B	Volume Board	X-9447	97009420B
6100A	Main Amp. Board	X-9448	97610020A
6100B	Fluorescent Indicator Board	X-9452	97610020B
6100C	Headphone Jack Board	X-9449	97610020C
6100D	SIGNAL LED BOARD	X-9450	97610020D
6100E	Line-to-Chassis Resistor Board		97610020E
6100F	POWER Indicator LED Board	X-9451	97610020F

RESISTORS

Ref. No.	Value (ohm)	R/S Part No.	Wattage (W)	Tolerance (%)	Material
R101	Not Used				
R102	Not Used				
R103	47	N0099EEC	1/4	±5	Carbon
R104	150	N0142EEC	1/4	±5	Carbon
R105	3.3K	N0230EEC	1/4	±5	Carbon
R106	2.2K	N0216EEC	1/4	±5	Carbon
R107	6.8K	N0262EEC	1/4	±5	Carbon
R108	33	N0087EEC	1/4	±5	Carbon
R109	390K	N0414EEC	1/4	±5	Carbon
R110	240K	N0396EEC	1/4	±5	Carbon
R111	360K	N0412EEC	1/4	±5	Carbon
R112	2.2K	N0216EEC	1/4	±5	Carbon
R113	6.8K	N0262EEC	1/4	±5	Carbon
R114	220	N0149EEC	1/4	±5	Carbon
R115	12K	N0288EEC	1/4	±5	Carbon
R116	100K	N0371EEC	1/4	±5	Carbon
R117	100	N0132EEC	1/4	±5	Carbon
R118	220	N0149EEC	1/4	±5	Carbon
R119	18K	N0303EEC	1/4	±5	Carbon
R120	220K	N0396EEC	1/4	±5	Carbon
R201	150	N0142EEC	1/4	±5	Carbon
R202	150	N0142EEC	1/4	±5	Carbon
R203	3.3K	N0230EEC	1/4	±5	Carbon
R204	560	N0176EEC	1/4	±5	Carbon
R205	330	N0159EEC	1/4	±5	Carbon
R206	10	N0063EEC	1/4	±5	Carbon
R207	390	N0162EEC	1/4	±5	Carbon
R208	430	N0165EEC	1/4	±5	Carbon
R209	100K	N0371EEC	1/4	±5	Carbon
R210	56K	N0345EEC	1/4	±5	Carbon
R211	4.7K	N0047EEC	1/4	±5	Carbon
R212	100	N0132EEC	1/4	±5	Carbon
R213	24K	N0526EEC	1/4	±5	Carbon
R214	2.4K	N0219EEC	1/4	±5	Carbon
R215	10K	N0281EEC	1/4	±5	Carbon
R216	18K	N0303EEC	1/4	±5	Carbon

Ref. No.	Value (ohm)	R/S Part No.	Wattage (W)	Tolerance (%)	Material
R217	180K	N0387EEC	1/4	±5	Carbon
R218	10K	N0281EEC	1/4	±5	Carbon
R219	3.3K	N0230EEC	1/4	±5	Carbon
R220	560	N0176EEC	1/4	±5	Carbon
R221	18	N0075EEC	1/4	±5	Carbon
R222	10K	N0281EEC	1/4	±5	Carbon
R223	4.7K	N0047EEC	1/4	±5	Carbon
R224	10K	N0281EEC	1/4	±5	Carbon
R225	150K	N0384EEC	1/4	±5	Carbon
R226	10K	N0281EEC	1/4	±5	Carbon
R230	150	N0142EEC	1/4	±5	Carbon
R231	1K	N0196EEC	1/4	±5	Carbon
R232	2.2K	N0216EEC	1/4	±5	Carbon
R233	100K	N0371EEC	1/4	±5	Carbon
R234	220K	N0376EEC	1/4	±5	Carbon
R235	1.5K	N0206EEC	1/4	±5	Carbon
R236	47	N0099EEC	1/4	±5	Carbon
R237	300K	N0405EEC	1/4	±5	Carbon
R238	1.5K	N0206EEC	1/4	±5	Carbon
R239	220	N0149EEC	1/4	±5	Carbon
R240	10	N0063EEC	1/4	±5	Carbon
R241	39	N0092EEC	1/4	±5	Carbon
R242	10K	N0281EEC	1/4	±5	Carbon
R243	10K	N0281EEC	1/4	±5	Carbon
R244	75K	N0527EEC	1/4	±5	Carbon
R245	1K	N0196EEC	1/4	±5	Carbon
R246	27K	N0316EEC	1/4	±5	Carbon
R247	27K	N0316EEC	1/4	±5	Carbon
R248	150	N0142EEC	1/4	±5	Carbon
R249	150	N0142EEC	1/4	±5	Carbon
R250	8.2K	N0271EEC	1/4	±5	Carbon
R251	Not Used				
R252	10K	N0281EEC	1/4	±5	Carbon
R253	1.8K	N0210EEC	1/4	±5	Carbon
R301	120	N0136EEC	1/4	±5	Carbon
R302	Not Used				
R303	22K	N0311EEC	1/4	±5	Carbon
R304	22K	N0311EEC	1/4	±5	Carbon
R305	10K	N0281EEC	1/4	±5	Carbon
R306	10K	N0281EEC	1/4	±5	Carbon
R307	Not Used				
R308	Not Used				
R309	33K	N0324EEC	1/4	±5	Carbon
R310	33K	N0324EEC	1/4	±5	Carbon
R311	3.3K	N0230EEC	1/4	±5	Carbon
R312	3.3K	N0230EEC	1/4	±5	Carbon
R313	3.3K	N0230EEC	1/4	±5	Carbon
R314	3.3K	N0230EEC	1/4	±5	Carbon
R315	15K	N0297EEC	1/4	±5	Carbon
R316	Not Used				
R317	1K	N0196EEC	1/4	±5	Carbon
R318	1.5K	N0206EEC	1/4	±5	Carbon

Ref. No.	Value (ohm)	R/S Part No.	Wattage (W)	Tolerance (%)	Material
R319	5.6K	N0257EEC	1/4	±5	Carbon
R320	5.6K	N0257EEC	1/4	±5	Carbon
R321	5.6K	N0257EEC	1/4	±5	Carbon
R322	5.6K	N0257EEC	1/4	±5	Carbon
R323	2.2K	N0216EEC	1/4	±5	Carbon
R324	2.2K	N0216EEC	1/4	±5	Carbon
R325	100K	N0371EEC	1/4	±5	Carbon
R326	100K	N0371EEC	1/4	±5	Carbon
R327	5.1K	N0252EEC	1/4	±5	Carbon
R401	47K	N0340EEC	1/4	±5	Carbon
R402	3.6K	N0235EEC	1/4	±5	Carbon
R403	470	N0169EEC	1/4	±5	Carbon
R404	5.6K	N0257EEC	1/4	±5	Carbon
R405	22K	N0311EEC	1/4	±5	Carbon
R406	22K	N0311EEC	1/4	±5	Carbon
R407	100	N0132EEC	1/4	±5	Carbon
R408	12K	N0288EEC	1/4	±5	Carbon
R409	100K	N0371EEC	1/4	±5	Carbon
R410	18K	N0303EEC	1/4	±5	Carbon
R411	1.8K	N0210EEC	1/4	±5	Carbon
R412	1K	N0196EEC	1/4	±5	Carbon
*R417	22K	N0311EEC	1/4	±5	Carbon
R501a,b	3.3K	N0230EEC	1/4	±5	Carbon
R502a,b	470K	N0423EEC	1/4	±5	Carbon
R503a,b	56K	N0345EEC	1/4	±5	Carbon
R504a,b	620	N0181EEC	1/4	±5	Carbon
R505a,b	100K	N0371EEC	1/4	±5	Carbon
R506a,b	360K	N0412EEC	1/4	±5	Carbon
R507a,b	33K	N0324EEC	1/4	±5	Carbon
R508a,b	220K	N0376EEC	1/4	±5	Carbon
R509a,b	1K	N0196EEC	1/4	±5	Carbon
R510a,b	1K	N0196EEC	1/4	±5	Carbon
R511a,b	5.6K	N0297EEC	1/4	±5	Carbon
*R512a,b	470K	N0423EEC	1/4	±5	Carbon
*R513a,b	330K	N0410EEC	1/4	±5	Carbon
R601a,b	Not Used				
R602a,b	100K	N0371EEC	1/4	±5	Carbon
R603	2.2K	N0216EEC	1/4	±5	Carbon
R604a,b	5.1K	N0252EEC	1/4	±5	Carbon
R605a,b	1K	N0196EEC	1/4	±5	Carbon
R606a,b	100	N0132EEC	1/4	±5	Carbon
R607a,b	100	N0132EEC	1/4	±5	Carbon
R608a,b	47	N0099EEC	1/4	±5	Carbon
R609a,b	1.8K	N0210EEC	1/4	±5	Carbon
R610a,b	5.6K	N0257EEC	1/4	±5	Carbon
R611a,b	2.2K	N0216EEC	1/4	±5	Carbon
R612a,b	3.9K	N0237EEC	1/4	±5	Carbon
R613a,b	68K	N0354EEC	1/4	±5	Carbon
R614a,b	1K	N0196EEC	1/4	±5	Carbon
R615a,b	10	RX-0247	1/4	±5	Carbon
R616a,b	100	N0132EEC	1/4	±5	Carbon
R617a,b	10	RX-0247	1/4	±5	Carbon

Ref. No.	Value (F)	R/S Part No.	Wattage (W)	Tolerance (%)	Material
R618a,b	150	RX-0350	1/4	±5	Carbon
R619a,b	0.47	N0008FJF	3	±10	Cement
R620a,b	5.1K	N0252EEC	1/4	±5	Carbon
R621a,b	1K	N0196EEC	1/4	±5	Carbon
R622a,b	4.7K	N0047EEC	1/4	±5	Carbon
R623	10K	N0281EEC	1/4	±5	Carbon
R624a,b	10	N0063EHD	2	±10	Metal Oxide
R625a,b	10	N0063EGD	1	±10	Metal Oxide
R626	10K	N0281EEC	1/4	±5	Carbon
R627	39K	N0330EEC	1/4	±5	Carbon
R628	100K	N0371EEC	1/4	±5	Carbon
R629	360K	N0412EEC	1/4	±5	Carbon
R630	120K	N0375EEC	1/4	±5	Carbon
R631	22K	N0311EEC	1/4	±5	Carbon
R632a,b	33K	N0324EEC	1/4	±5	Carbon
R633a,b	100	N0132EEC	1/4	±5	Carbon
R634a,b	11K	N0285EEC	1/4	±5	Carbon
R635	Not Used				
R636	Not Used				
R637a,b	220	N0149EGD	1	±5	Metal Oxide
R701a,b	4.7K	N0047EEC	1/4	±5	Carbon
R702a,b	4.7K	N0047EEC	1/4	±5	Carbon
R703a,b	10K	N0281EEC	1/4	±5	Carbon
R801	18	N0075EGD	1	±10	Metal Oxide
R802	3.3K	N0230EEC	1/4	±5	Carbon
R803	1K	N0196EEC	1/4	±5	Carbon
R804	13K	N0289EEC	1/4	±5	Carbon
R805	2.2K	N0216EEC	1/4	±5	Carbon
R806	Not Used				
R807	Not Used				
R808	1.2K	N0199EEC	1/4	±5	Carbon
R809	5.6	RX-0353	1/4	±5	Carbon
R810	11K	N0285EEC	1/4	±5	Carbon
R811	10	RX-0174	1/4	±5	Carbon
R812	2.2K	N0216EEC	1/4	±5	Carbon
R813	100	N0132EEC	1/4	±5	Carbon
R814	2.2K	N0216EEC	1/4	±5	Carbon
R815	470	RX-0352	1/4	±5	Carbon
R816	100	N0132EEC	1/4	±5	Carbon
R817	15	RX-0247	1/2	±5	Carbon
R818	18	RX-0351	1/4	±5	Carbon
R819	18	RX-0351	1/4	±5	Carbon
R829	33K	N0324EEC	1/4	±5	Carbon
*R851	2.2M	N0454EEC	1/2	±5	Carbon
R901a,b	4.7K	N0047EEC	1/4	±5	Carbon
R902a,b	Not Used				
R903a,b	220K	N0394EEC	1/4	±5	Carbon
R904a,b	18K	N0303EEC	1/4	±5	Carbon
R905a,b	2.2K	N0216EEC	1/4	±5	Carbon
R906a,b	2.2K	N0216EEC	1/4	±5	Carbon

*R417, R512a,b, R513a,b for European/Australian models only.

*R851: Not Used for European/Australian models.

Ref. No.	Value (F)	R/S Part No.	Wattage (W)	Tolerance (%)	
R907a,b	11K	N0285EEC	1/4	5	Carbon
R908a,b	11K	N0285EEC	1/4	5	Carbon
R909	Not Used				
R910a,b	5.6K	N0257EEC	1/4	5	Carbon

SWITCHES

Ref. No.	Description	R/S Part No.	Mfr's Part No.
SW1—	Input Selector	S-1643	27200270
SW5	5 Keys		
SW6—	30Hz Cut, AUTO-M	S-7600	27200269
SW9	MONO & LOUDNESS		
	4 Keys		
SW10 &	SPEAKERS	S-7599	27200268
SW11	A&B		
SW12	Thermal SW 105°C	S-1357	30700320
SW13	Thermal SW 105°C	S-1357	30700320
SW14	POWER (USA/Canada)	S-1644	27200271
SW12	Thermal SW90°C (Canada)		30700180
SW12	Thermal SW 105°C (Europe)		30700430
SW13	Thermal SW 105°C (Europe)		30700430
SW14	POWER (Europe/Australia)		27200281

TRANSISTORS

Ref. No.	Type No.	R/S Part No.	Mrf's Part No.	Manufacturer	Substitute	
					Type No.	Manufacturer
TR101	2SK168		30400241	HITACHI		
TR102	2SC1674		30201111	NEC		
TR103	2SC1675		30201121	NEC		
TR104	2SK55		30400131	HITACHI		
TR201	2SC930		30200271	SANYO		
TR202	2SC945 P,Q		30201693	NEC	2SC1815	TOSHIBA
TR203	2SC945 P,Q		30201693	NEC	2SC1815	TOSHIBA
TR204	2SC945 P,Q		30201693	NEC	2SC1815	TOSHIBA
TR301	2SC945 P,Q		30201693	NEC	2SC1815	TOSHIBA
TR302	2SC945 P,Q		30201693	NEC	2SC1815	TOSHIBA
TR303	2SC945 P,Q		30201693	NEC	2SC1815	TOSHIBA
TR304	2SC945 P,Q		30201693	NEC	2SC1815	TOSHIBA
TR401	2SC945 P,Q		30201693	NEC	2SC1815	TOSHIBA
TR601a,b	2SA992F		30000743	NEC	2SA942	NEC
TR602a,b	2SA992F		30000743	NEC	2SA942	NEC
TR603a,b	2SC945 P,Q		30201693	NEC	2SC1815	TOSHIBA
TR604a,b	2SC1841 E,F		30201601	NEC	2SC2363	SANYO
TR605a,b	2SC945 P,Q		30201693	NEC	2SC1815	TOSHIBA
TR606a,b	2SC2002 L,M		30201613	NEC	2SC2274	SANYO
TR607a,b	2SA953 L,M		30000793	NEC	2SA984	SANYO
TR608a,b	2SC1827 Y,G		30201711	SANKEN		
TR609a,b	2SA769 Y,G		30000881	SANKEN		
TR610a,b	2SA733 P,Q		30000425	NEC	2SA1015	TOSHIBA
TR611	2SC945 P,Q		30201693	NEC	2SC1815	TOSHIBA
TR612	2SC945 P,Q		30201693	NEC	2SC1815	TOSHIBA
TR613	Not Used					
TR614a,b	2SC945 P,Q		30201693	NEC	2SC1815	TOSHIBA
TR615	2SC945 P,Q		30201693	NEC	2SC1815	TOSHIBA
TR801	2SD612 K,F		30300524	SANYO	2SD882	NEC
TR802	2SC945 P,Q		30201693	NEC	2SC1815	TOSHIBA
TR803	2SC945 P,Q		30201693	NEC	2SC1815	TOSHIBA
TR804	2SA733 P,Q		30000425	NEC	2SA1015	TOSHIBA
TR901a,b	2SC1841E, F		30201601	NEC	2SC1815	TOSHIBA

VARIABLE CAPACITORS

Ref. No.	Description	R/S Part No.	Mfr's Part No.
VC101	Tuning Capacitor (Includes TC101, TC102, TC201, TC202)	C-4557	26250101
TC103	Trimmer ECV-1ZW10P32	C-0424	26010023

VARIABLE RESISTORS

Ref. No.	Description	R/S Part No.	Mfr's Part No.
VR201	FM Mute Level Adjust 50K Ω /B	P-0880	28101503
VR202	FM SIGNAL Indicator Level Adjust 500K Ω /B	P-7074	28101504
VR301	19KHz Adjust 10K Ω /B	P-0868	28101103
VR302	FM Stereo Separation Adjust 200K Ω /B	P-3100	28101204
VR401	FM Frequency Adjust 10K Ω /B	P-0868	28101103
VR402	AM Frequency Adjust 10K Ω /B	P-0868	28101103
VR603a,b	Idling Current Adjust 1K Ω /B	P-0839	28101102
VR701	BALANCE Control 500K Ω /G	P-3144	206001002001
VR702a,b	VOLUME Control 200K Ω /Bx2	P-7395	206002101901
VR901a,b	TREBLE Control 100K Ω /Bx2 O	P-5025	206002001801
VR902a,b	BASS Control 50K Ω /Bx2 S	P-4040	206002001701

MISCELLANEOUS PARTS LIST			
Ref. No.	Description	R/S Part No.	Mfr's Part No.
1	Shield Plate A	HB-9827	09111001
2	Shield Plate B	HB-9828	09112001
3	Shield Plate C	HB-9829	09113001
4	Wire Wrap Pin 16mm		19105001
5	4P Pin Jack	J-1356	33041500
6	Antenna Terminal	J-4938	53045000
7	Wire Connector CP-M60	J-4942	87005032
8	5P Wire Connector W/Leads	J-4939	62900232
9	10P Wire Connector W/Leads		62900234
10	Heat Sink for Power Transistor		15152001
11	Heat Sink for TR801		15160001
12	Thermal Protector Fit Bracket		63641001
13	Heat Sink Fit Bracket		63579001
14	Fuse Cramp Holder	HB-9805	34023001
15	Bind Head Screw M3x8		40630081
16	Spring Washer M3		42250341
17	Wire Connector M62-09	J-4941	62900233
18	Socket M60-05	J-7270	87005032
19	Socket M60-09	J-7271	87009032
20	Socket M60-10		87010032
21	8P Speaker Push Terminals Board	J-4940	53083300
22	Fuse 2.5A 250V(UL)	HF-1205	38337225
23	Headphone Jack	J-1357	33032900
24	Wire Connector M60 I=100	J-4939	62900232
25	Pan Head Screw M3x8		40430081
26	Pan Head Screw M3x10		40430101
27	Back Panel		11806A51
28	AC Cord with Plug (UL)		62110085
29	Cord Strain Relief SR-4N-4	HC-3073	74289001
30	Ground Terminal		53013200
31	AC Outlet IR-10 (UL)	J-1358	34114001
32	Line Cord Antenna		63101001
33	Line Cord Antenna Fiber	CA-0739	75017003
34	Front Chassis		03128001
35	Headphone Jack Fit Metal		63640001
36	AC Switch (UL, CSA)	S-1644	27200271
37	Tuning Shaft Assembly	D-3337	23071001
38	Hex Nut M9		41000004
39	Hex Nut M4		41114010
40	Pan Head Screw M3x6		40330061
41	Side Chassis (A)		04088001
42	Side Chassis (B)		04089001
43	PCB Fit Metal		63582001
44	Pulley Fit Metal		63638001
45	Plastic Pulley	RA-0580	84432001
46	Power Transformer Fit Metal		63639001
47	Heat Sink Fit Metal		63580001
48	Dial Dram	D-0279	21005002
49	Cushion Sponge for FIP		74284001
50	Wire Binder		84387001
51	Bind Head SEMS Screw M4x8		40000167
52	Thermal Protector Fit Bracket		63559002
53	Ground Lug		63408001

Ref No.	Description	R/S Part No.	Mfr's Part No.
54	Silicone Tube		31300021
55	Front Panel Assembly		10806A03
56	VOLUME Knob	K-5321	29563001
57	TUNING Knob	K-5322	29564001
58	Selector SW Push Button	K-5323	29565001
59	POWER SW Push Button	K-5324	29566001
60	BASS, TREBLE & BALANCE Knob	K-5325	29567001
61	SPEAKERS & Mode SW Button	K-5326	29568001
62	Bottom Plate		05089001
63	Plastic Foot	F-0382	84544001
64	Top Cover	Z-7024	70087001
65	Bind Head SEMS Screw M3x8		40000182
66	Flat Head Screw Tite B M3x6		40000128
67	Bind Head Screw W/Flange		40000163
68	Blazer Head Screw Tite C M3x8		40530081
69	Bind Head Screw Tite B M3x10		40630101
70	Wire Connector M58 5P		87005030
71	Spring Washer M4		42250441
72	Spring for Dial Dram		19017001
73	Washer M9		42500003
75	Cushion Sponge for Rear Panel		74174001
76	Cushion Sponge for Front Panel		74250001
77	Fiber Sheet		74114001
	Rear Panel (Canada)		11806B52
	Rear Panel (Europe)		11806C51
	Rear Panel (Australia)		11806D51
	Front Panel Assembly (Europe/Australia)		10806C02
	Fuse Clamper (Europe/Australia)		34102001
	Fuse 1.25A 250V (Europe/Australia)		38448212
	AC Cord W/Plug (Canada)		62110086
	AC Cord W/Plug (Europe)		62110096
	AC Cord W/Plug (Australia)		62010013
	AC Receptacle (Canada)		34115001
	AC Receptacle Cover (Europe)		08066001
	AC Cord Strain Relief (Australia)		74045001
	5P Din Socket (Europe/Australia)		34057001
	Line Cord Antenna (Australia)		63247001
	2P Terminal Board (Australia)		51094002

RADIO SHACK, A DIVISION OF TANDY CORPORATION

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