



# Service Manual

# Nakamichi

## SR-4

## SR-4A

### Stereo Receiver



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## 1. GENERAL

### 1.1. Voltage Selector

Voltage selector is installed on the rear panel for Other version of the Nakamichi SR-4.  
This voltage selector can select either 110 V, 120 V, 220 V or 240 V at customer's disposal.

Schematic Ref. No.	Part No.	Description	Q'ty	Schematic Ref. No.	Part No.	Description	Q'ty
01	FA03581A	Package Ass'y (SR-4A)	1	03	0B90194A	Antenna Adapter F	1
	FA03582A	Package Ass'y (SR-4 (Canada))	1	04	0B90198A	AM Loop Antenna	1
	FA03584A	Package Ass'y (SR-4 (Australia))	1	05	0B90242A	Battery	1
	FA03583A	Package Ass'y (SR-4 (Other))	1	06	DA04042A	Remote Control Unit	1
01	0F04022A	Carton Box (SR-4A)	1	—	0D03092B	Poly-Bag 320x340x0.08	1
	0F04024A	Carton Box (SR-4)	1	—	0D04449A	Important Notice Card	1
02	0F04041A	Packing L	1	—	0D04651B	Owner's Manual SR-4/3/2 (English)	1
03	0F04042A	Packing R	1	—	0D04764A	Owner's Manual SR-4E/3E/2E, SR-4/3/2 (English/German/ French)	1
—	0F03670A	Poly-Sheet	1	—	0D04673B	French Text (SR-4/3/2 (Canada))	1
—	0M03457A	Voltage Seal 240V (SR-4 (Australia))	1	—	0D04674B	Owner's Manual Text (SR-4/3/2 (Australia))	1
—	0M03456A	Voltage Seal 220V (SR-4 (Other))	1	—	0D04675B	Owner's Manual Text (SR-4/3/2 (Other))	1
01	DA04037A	Accessory Ass'y (SR-4A)	1	—	DA03873A	Warranty Card Ass'y (SR-4A)	1
	DA04038A	Accessory Ass'y (SR-4 (Canada))	1	—	0F04043A	Poly-Bag 80x150	1
	DA04040A	Accessory Ass'y (SR-4 (Australia))	1	—	0D04766A	Catalogue U.S.A. (SR-4A)	1
	DA04039A	Accessory Ass'y (SR-4 (Other))	1	—			
01	0B90070A	AM Loop Antenna Holder	1				
02	0B90081A	Feeder Antenna	1				

1.2. Package Ass'y and Parts List

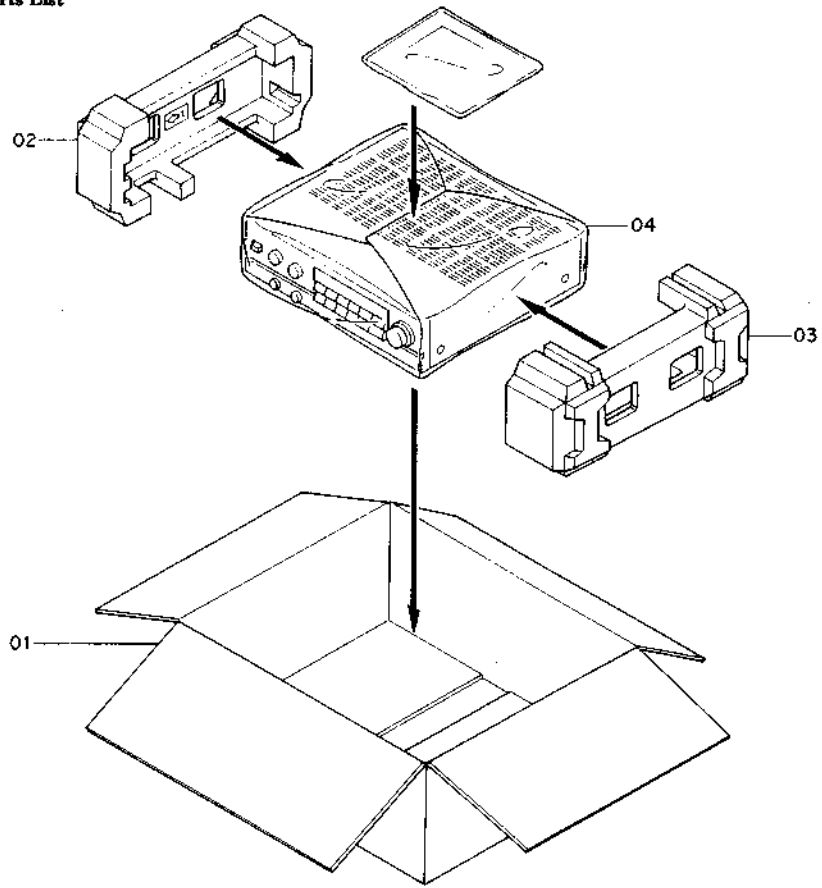
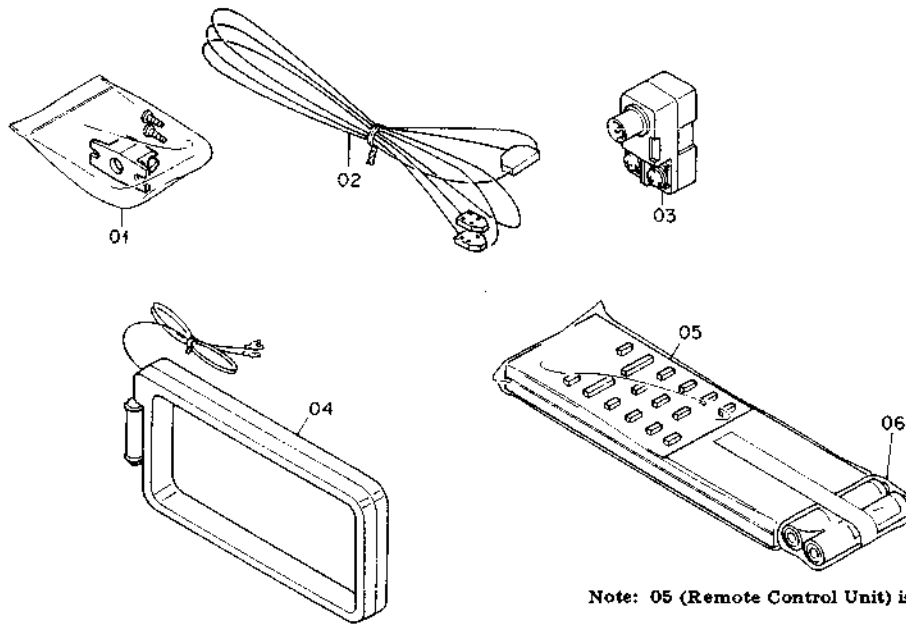


Fig. 1.1

1.3. Accessory Ass'y and Parts List



Note: 05 (Remote Control Unit) is supplied in unit form.

Fig. 1.2

2. PARTS LOCATION FOR ELECTRICAL ADJUSTMENT

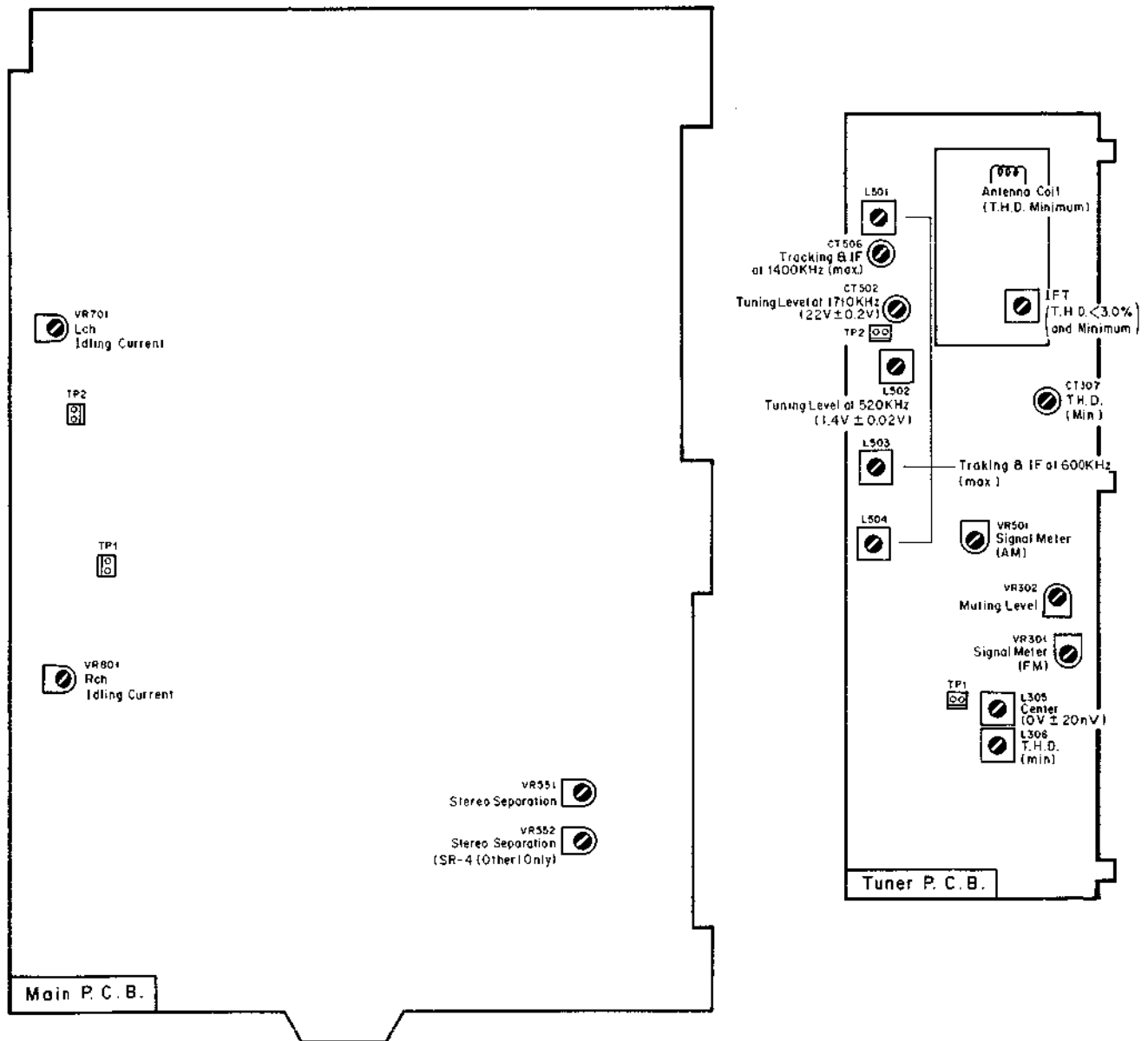


Fig. 2

### 3. ELECTRICAL ADJUSTMENTS

#### 3.1. Power Amplifier Section

STEP	ITEM	SIGNAL SOURCE	OUTPUT CONNECTION	MODE	ADJUSTMENT	REMARKS
1	Idling Current	None	DC Voltmeter between TP2-1 & 2 and TP1-1 & 2 on Main P.C.B.	Input Selector - CD or Aux Output Level - Min. Speaker Selector A/B - OFF	Main P.C.B. VR701 VR801	<ol style="list-style-type: none"> <li>1. Insert shorting plugs into the CD Player Input Jacks.</li> <li>2. Turn ON the power and allow 3 minutes before adjustment. (Top Cover must be installed before adjustment).</li> <li>3. Adjust VR701 (VR801) to obtain 23 mV <math>\pm</math> 1 mV on the DC voltmeter.</li> </ol>

#### 3.2. Tuner Section

Note: Adjustment should be made in a shielded room in principle.

##### 3.2.1. FM Tuner Section

STEP	ITEM	OUTPUT CONNECTION	MODE	ADJUSTMENT	REMARKS
1	Preliminary Step	See Fig. 3.1	Stereo Receiver Input Selector - Tuner Band Selector - FM Tape Monitor - Source  Signal Generator Freq. - 98 MHz RF Level - 65 dBf Modulation - See REMARKS		<ol style="list-style-type: none"> <li>1. Set the Stereo Receiver as indicated in the MODE.</li> <li>2. Adjustment and confirmation should be made after tuning in to the set carrier frequency of the Signal Generator.</li> </ol> <p>Note: Contents of modulation</p> <ol style="list-style-type: none"> <li>1. For U.S.A., Canada &amp; Other (Wide)               <ul style="list-style-type: none"> <li>o Stereo Audio: 1 kHz, 91% Pilot: 19 kHz, 9%</li> <li>o Mono Audio: 1 kHz, 100%</li> </ul> </li> <li>2. For Australia &amp; Other (Narrow)               <ul style="list-style-type: none"> <li>o Stereo Audio: 1 kHz, 51% Pilot: 19 kHz, 9%</li> <li>o Mono Audio: 1 kHz, 60%</li> </ul> </li> </ol>
2	Usable Sensitivity Adjustment	Distortion Meter to Tape 1 Record Output Jacks	Stereo Receiver Same as above  Signal Generator Freq. - 98 MHz RF Level - 12 dBf Modulation - Mono	Tuner P.C.B. Front-end IFT Antenna Coil (See Fig. 2)	<ol style="list-style-type: none"> <li>1. Set the Stereo Receiver to Manual mode by pressing the Tuning Mode button.</li> <li>2. Adjust the IFT to obtain minimum distortion (total harmonic distortion (THD): 3% or less).</li> <li>3. Adjust the distance between windings of antenna coil to obtain minimum distortion.</li> <li>4. Set the frequency of the Signal Generator to 90 MHz/106 MHz and check that the THD is 3% or less.</li> </ol>

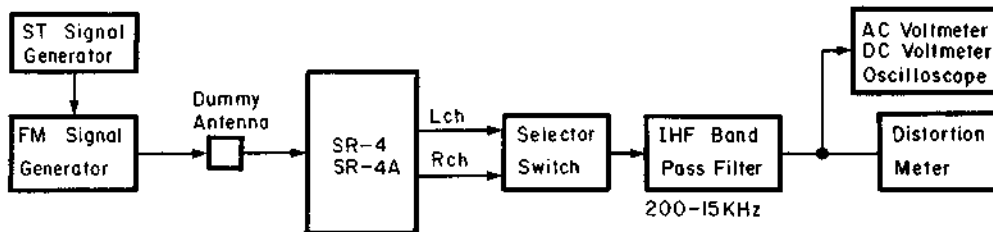


Fig. 3.1

STEP	ITEM	OUTPUT CONNECTION	MODE	ADJUSTMENT	REMARKS
3	Center Voltage and THD Adjustment	DC Voltmeter between TP1-1 & TP1-2 on Tuner P.C.B. and Distortion Meter to Tape 1 Record Jacks	Stereo Receiver Same as above  Signal Generator Freq. - 98 MHz RF Level - 65 dBf Modulation - Mono	Tuner P.C.B. L305 L306	1. Set the Stereo Receiver to Manual mode. 2. Adjust L305 so that the reading on the DC voltmeter is 0 V $\pm$ 20 mV. 3. Adjust L306 to obtain minimum distortion (THD: 0.07% or less). Repeat 2 and 3, if necessary.
4	Muting Level Adjustment	Oscilloscope to Tape 1 Record Output Jacks	Stereo Receiver Same as above  Signal Generator Freq. - 98 MHz RF Level - 29 dBf Modulation - Stereo	Tuner P.C.B. VR302	1. Set the Stereo Receiver to Auto mode. 2. Rotate VR302 fully counterclockwise. Then, return it clockwise gradually until a waveform appears on the oscilloscope. 3. Decrease the RF level of the Signal Generator until the waveform on the oscilloscope disappears. Then increase the RF level gradually until a waveform appears again. At this point, check that the RF level of the Signal Generator is 29 dBf $\pm$ 3 dB.
5	Signal Strength Meter Level Adjustment	None	Stereo Receiver Same as above  Signal Generator Freq. - 98 MHz RF Level - 56 dBf Modulation - Stereo	Tuner P.C.B. VR301	1. Set the Stereo Receiver to Auto mode. 2. Adjust VR301 so that all segments (1-5) of the signal strength meter light up. 3. Decrease the RF level of the Signal Generator to distinguish the segment 5. Next, increase the RF level gradually so that the segment 5 starts illuminating. At this point, check that the RF level of the Signal Generator is 56 dBf $\pm$ 2 dB.
6	Stereo Separation Adjustment	AC Voltmeter to Tape 1 Record Output Jacks	Stereo Receiver Same as above  Signal Generator Freq. - 98 MHz RF Level - 65 dBf Modulation - L or R only	Main P.C.B. VR551  Main P.C.B. VR552 (Other only)	For U.S.A., Canada & Australia versions: 1. Set the Stereo Receiver to Auto mode. 2. Apply modulation to only L channel. 3. Adjust VR551 to obtain minimum reading on the AC voltmeter at the R channel output jack. 4. Apply modulation to only R channel. 5. Check that the reading on the AC voltmeter at the L channel output jack is within $\pm$ 1 dB with respect to the reading in 3. If not, repeat 2 through 4.  For Other version: 1. Set the switches on the rear panel as follows: Freq. Step FM/AM - 100 kHz/10 kHz IF Band - Wide 2. Adjust VR551 by applying the same procedures as mentioned above. 3. Set the switches as follows: Freq. Step FM/AM - 50 kHz/9 kHz IF Band - Narrow 4. Apply the same procedures as mentioned above, except for VR552.

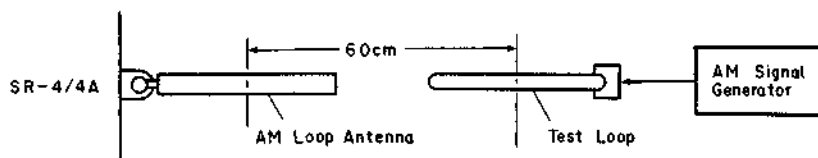


Fig. 3.2

STEP	ITEM	OUTPUT CONNECTION	MODE	ADJUSTMENT	REMARKS
7	Stereo/Mono Selection Check and THD Adjustment		Stereo Receiver Same as above  Signal Generator Freq. - 98 MHz RF Level - 65 dBf Modulation - Stereo/ Mono	Main P.C.B. CT332	1. Set the Stereo Generator to L=R mode. 2. Set the Stereo Receiver to Manual mode and check that the Stereo indicator goes out and stereo outputs disappear. 3. Set the Stereo Receiver to Auto mode and adjust CT332 to obtain minimum distortion (THD; 0.09% or less).

### 3.2.2. AM Tuner Section

STEP	ITEM	OUTPUT CONNECTION	MODE	ADJUSTMENT	REMARKS
1	Tuning Level Adjustment	DC Voltmeter between TP2-1 and TP2-2 on Tuner P.C.B.	Stereo Receiver Input Selector - Tuner Band Selector - AM Tape Monitor - Source  Signal Generator Freq. - 520 (522) kHz/ 1710 (1611) kHz	Tuner P.C.B. L502 CT502	1. Set the frequency of the Signal Generator to 520 kHz (522 kHz for Australia and Other (Narrow)) and make tuning. 2. Adjust L502 to obtain 1.4 V $\pm$ 0.02 V on the DC voltmeter. 3. Change the frequency to 1710 kHz (1611 kHz) and make tuning. 4. Adjust CT502 to obtain 22 V $\pm$ 0.2 V on the DC voltmeter. 5. If satisfactory results are not obtained, repeat 1 through 4.
2	Tracking and IF Adjustment	AC Voltmeter to Tape 1 Record Output Jacks	Stereo Generator Same as above  Signal Generator Freq. - 600 (603) kHz/ 1400 (1404) kHz RF Level - 82 dB $\mu$ /m Modulation - 400 Hz, 30%	Tuner P.C.B. L501 L503 L504 CT506	1. Set the measurement instruments as shown in Fig. 3.2. Set the distance between the AM Loop Antenna of the SR-4/SR-4A and a test loop to 60 cm. To obtain 56 dB $\mu$ /m at the AM Loop Antenna, set the RF level output of the AM Signal Generator to 82 dB $\mu$ /m as loss is 26 dB $\mu$ /m in this setting. 2. Set the frequency of the Signal Generator to 600 kHz (630 kHz for Australia and Other (Narrow)) and make tuning. 3. Adjust L501 to obtain maximum reading on the AC voltmeter. 4. Adjust L503 to obtain maximum reading on the AC voltmeter. 5. Adjust L504 to obtain maximum reading on the AC voltmeter. 6. Set the frequency to 1400 kHz (1404 kHz) and make tuning. 7. Adjust CT506 to obtain maximum reading on the AC voltmeter. 8. Repeat 2 through 7 once.
3	Signal Strength Meter Level Adjustment	None	Stereo Generator Same as above  Signal Generator Freq. - 1000 (999) kHz RF Level - 104 dB $\mu$ /m	Tuner P.C.B. VR501	1. With the same setting as in Step 2, set the RF level output of the AM Signal Generator to 104 dB $\mu$ /m in order to obtain 78 dB $\mu$ /m at the AM Loop Antenna. 2. Set the frequency of the Signal Generator to 1000 kHz (999 kHz for Australia and Other (Narrow)) and make tuning. 3. Adjust VR501 so that the segment 5 of the signal strength meter starts illuminating. Note: Before adjustment, select AM mode and wait for more than three minutes.

#### 4. MECHANISM ASS'Y AND PARTS LIST

##### 4.1. Synthesis

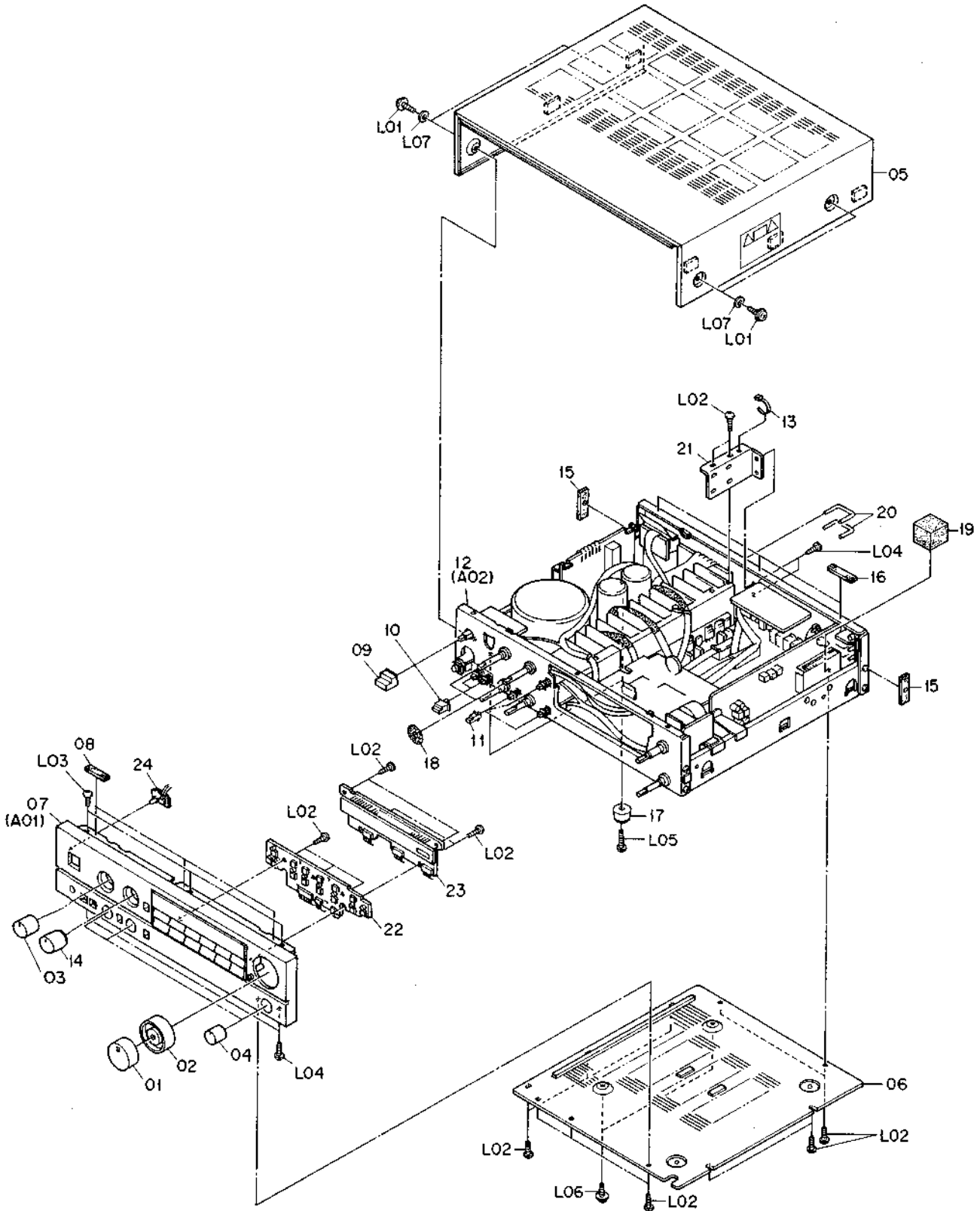


Fig. 4.1



4.2. Front Panel Ass'y (A01)

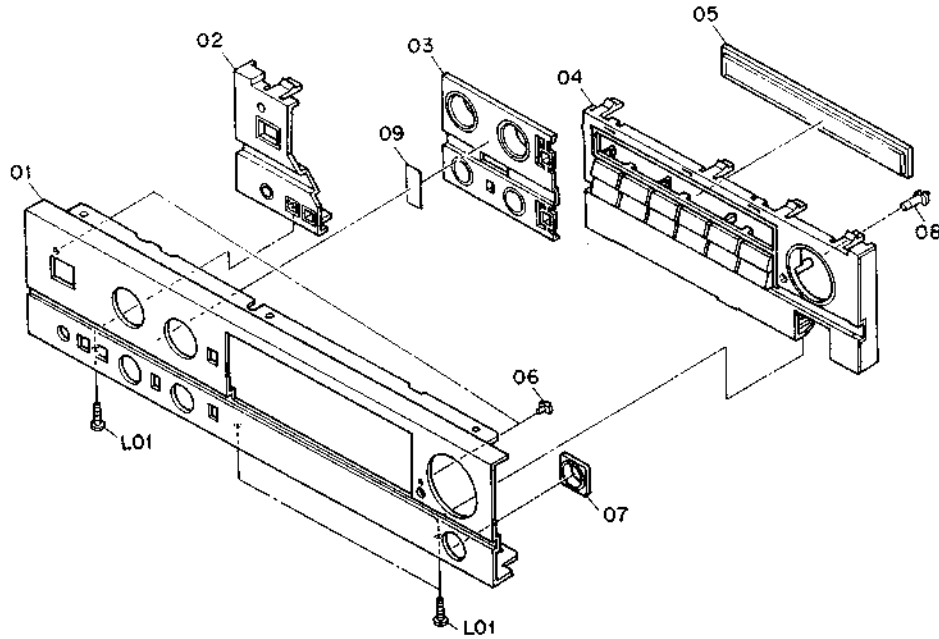


Fig. 4.2

Schematic Ref. No.	Part No.	Description	Q'ty	Schematic Ref. No.	Part No.	Description	Q'ty
		Synthesis Serial No.: D10601001 -		18	0J05258B	Selector Knob Himelon	2
				19	0J05365A	Front-end Cushion	1
				20	0B90256A	U-shape Pin 14	2
01	HA05241A	Volume Knob Ass'y	1	21	0J05204B	Heat Sink Holder C	1
02	HA05242A	Balance Knob Ass'y	1	22	BA06593A	Control Switch P.C.B. Ass'y	1
03	HA05105A	Selector Knob Ass'y	1	23	BA06592A	Display P.C.B. Ass'y (SR-4A & SR-4 (Canada))	1
04	HA05106A	Tone Control Knob Ass'y	3		BA06646A	Display P.C.B. Ass'y (SR-4 (Australia & Other))	1
05	HA05234A	Top Cover Ass'y (SR-4A & SR-4 (Canada & Australia))	1		BA06645A	Power Indicator P.C.B. Ass'y	1
	HA05235A	Top Cover Ass'y (SR-4 (Other)) (Consisting of the followings:)	1	L01	0E03032A	BT4x8 @ Pan Washer-faced (Black Chromate)	4
	(0H04934C)	Top Cover	(1)	L02	0E00868A	BT3x8 @ Binding (SR-4A)	21
	(0J05261A)	Top Cover Cushion	(5)		0E00868A	BT3x8 @ Binding (SR-4)	19
	(0M04377B)	Caution Label	(1)	L03	0E00857A	BT3x6 @ Binding	3
	(MA01001A)	F. Code Labels	(1)	L04	0E00921A	BT3x8 @ Binding (Black Chromate)	4
	(0M04811A)	Voltage Caution Sheet (SR-4 (Other))	(1)	L05	0E00888A	BT3x12 @ Binding	2
	(0M04812A)	Voltage Caution Label (SR-4 (Other))	(1)	L06	0E03157A	BT3x8 @ Binding with Washer	2
				L07	0E03410A	Washer 4.3x8x0.8	4
06	JA04283A	Bottom Cover Ass'y (Consisting of the followings:)	1		0M03917A	Seal (SR-4A)	1
	(0E00888A)	BT3x12 @ Binding	(2)		0M04380A	Barrier Caution Seal CS2 (SR-4A & SR-4 (Canada))	1
	(0J05162A)	Leg T-S	(2)		0M04896A	Fuse Caution Seal (SR-4A & SR-4 (Canada))	1
	(0J05214A)	P.C.B. Cushion	(1)		0M04897A	Serial No. Seal	1
	(0J05309A)	BS Damper 1VR	(2)		MA01003A	US Labels (SR-4A)	1
	(0J05324C)	Bottom Cover	(1)				
	(0J05367A)	Heat Sink Cushion	(1)				
	(0M04377B)	Caution Label	(1)	A01	HA05213A	Front Panel Ass'y (SR-4A)	1
07	HA05213A	Front Panel Ass'y (SR-4A)	1		HA05216A	Front Panel Ass'y (SR-4 (Canada))	1
	HA05216A	Front Panel Ass'y (SR-4 (Canada))	1		HA05215A	Front Panel Ass'y (SR-4 (Australia & Other))	1
	HA05215A	Front Panel Ass'y (SR-4 (Australia & Other))	1			Serial No.: D10601001 -	
08	0J05364A	Top Cover Cushion T4	5				
09	0H04947A	Power Switch Knob	1	01	0H05042A	Front Panel (SR-4A)	1
10	0H04950B	Push Switch Knob 10L	2		0H05043A	Front Panel (SR-4)	1
11	0H04949B	Push Switch Knob 5L	3	02	0H04935C	Front Escutcheon L	1
12	JA04278A	Chassis Ass'y (SR-4A)	1	03	0H04936A	Front Escutcheon C	1
	JA04282A	Chassis Ass'y (SR-4 (Canada))	1	04	HA05224A	Front Escutcheon R Ass'y	1
	JA04280A	Chassis Ass'y (SR-4 (Australia))	1	05	0H04938A	Display Lens	1
	JA04281A	Chassis Ass'y (SR-4 (Other))	1	06	0H05039A	Power Lens	1
13	0B90019A	Insu-Lock SKB80 (SR-4A)	34	07	0H05040A	Loudness Escutcheon	1
	0B90019A	Insu-Lock SKB80 (SR-4)	37	08	0H05041A	Muting Switch Knob	1
14	HA05243A	Selector Knob Ass'y	1	L01	0E00921A	BT3x8 @ Binding (Black Chromate)	3
15	0J05226A	Side Cushion	2				
16	0J05363A	Top Cover Cushion T3	3				
17	0J05162A	Leg T-S	2				

4.3. Chassis Ass'y (A02)

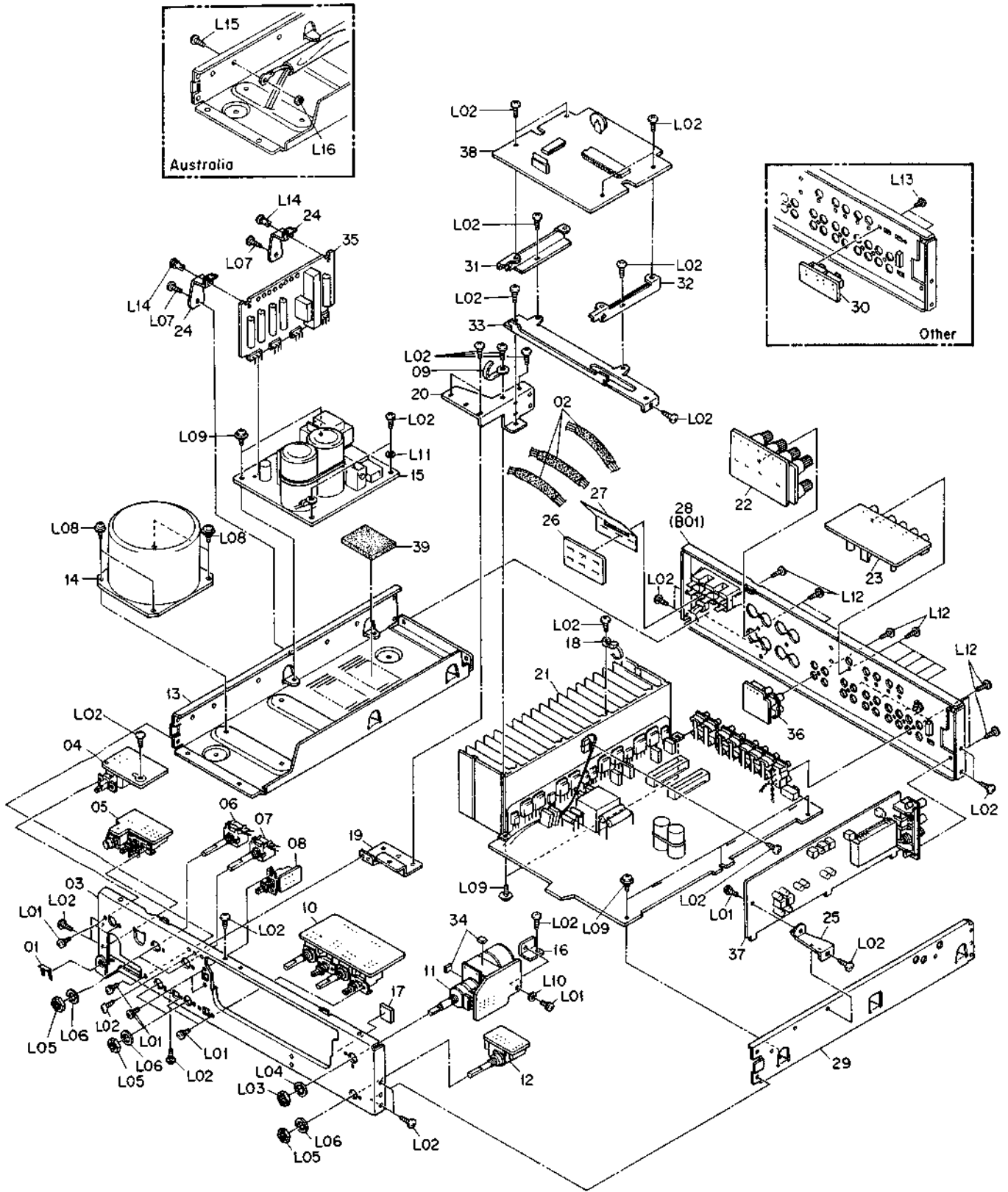


Fig. 4.3

Schematic Ref. No.	Part No.	Description	Qty	Schematic Ref. No.	Part No.	Description	Qty
A02	JA04278A	Chassis Ass'y (SR-4A)	1	L13	0E00945A	M2.6x4 @ Binding (Black Chromate) (SR-4 (Other))	2
	JA04282A	Chassis Ass'y (SR-4 (Canada))	1				
	JA04280A	Chassis Ass'y (SR-4 (Australia))	1				
	JA04281A	Chassis Ass'y (SR-4 (Other))	1	L14	0J05284A	Plastic Rivet 3x4.5	2
		Serial No.: D10601001 -		L15	0E00506A	Nut Hex. M4 (SR-4 (Australia))	1
01	0J05092A	Snap Plate	1	L16	0E00929A	M4x8 @ Binding (SR-4 (Australia))	1
02	0B80126A	Glass Fiber Tube	3	—	0M04898A	Amp. No. Seal	1
03	0J05339A	Front Chassis	1	—	0B80125A	Transformer Wire (SR-4 (Other))	1
04	BA06605A	Power Switch P.C.B. Ass'y (SR-4A & SR-4 (Canada))	1	—	0J05373B	Diode Barrier	1
	BA06615A	Power Switch P.C.B. Ass'y (SR-4 (Australia))	1				
	BA06807A	Power Switch P.C.B. Ass'y (SR-4 (Other))	1				
05	BA06600A	Speaker Switch P.C.B. Ass'y	1				
06	0B70101A	Rotary Switch 370mm	1				
07	0B70102A	Rotary Switch 340mm	1				
08	BA06608A	MM/MC Switch P.C.B. Ass'y	1				
09	0E03145A	Coating Clip CS-9	1				
10	BA06598A	Tone Control P.C.B. Ass'y	1				
11	BA06597A	Volume Motor P.C.B. Ass'y	1				
12	BA06604A	Loudness Volume P.C.B. Ass'y	1				
13	0J05325B	Power Supply Chassis	1				
14	0B50087A	Power Transformer (SR-4A & SR-4 (Canada))	1				
	0B50088A	Power Transformer (SR-4 (Australia))	1				
	0B50089A	Power Transformer (SR-4 (Other))	1				
15	BA06599A	Power Supply P.C.B. Ass'y	1				
16	0J05331A	Motor Holder	1				
17	0J05307A	BS Damper 1R	1				
18	0B90210A	Insu-Lock T30MR-HS	1				
19	0J05323B	Heat Sink Holder B	1				
20	0J05334A	Heat Sink Holder A	1				
21	BA06594A	Main P.C.B. Ass'y (SR-4A & SR-4 (Canada))	1				
	BA06595A	Main P.C.B. Ass'y (SR-4 (Australia))	1				
	BA06596A	Main P.C.B. Ass'y (SR-4 (Other))	1				
22	BA06603A	Speaker Terminal P.C.B. Ass'y	1				
23	BA06602A	Video Amp. P.C.B. Ass'y	1				
24	0J05321A	Fuse P.C.B. Holder	2				
25	0J05322A	Tuner P.C.B. Holder	1				
26	BA06601A	AC Outlet P.C.B. Ass'y (SR-4A & SR-4 (Canada & Other))	1				
27	0J05327B	AC Insulator (SR-4A & SR-4 (Canada & Other))	1				
28	HA05218A	Rear Panel Ass'y (SR-4A)	1				
	HA05220A	Rear Panel Ass'y (SR-4 (Canada))	1				
	HA05222A	Rear Panel Ass'y (SR-4 (Australia))	1				
	HA05221A	Rear Panel Ass'y (SR-4 (Other))	1				
29	0J05202C	Side Chassis	1				
30	BA06611A	IF Band Selector Switch P.C.B. Ass'y (SR-4 (Other))	1				
31	0J05332A	Logic P.C.B. Holder L	1				
32	0J05333A	Logic P.C.B. Holder R	1				
33	0J05340B	P.C.B. Holder	1				
34	0J05366A	Volume Damper	2				
35	BA06606A	Fuse P.C.B. Ass'y (SR-4A & SR-4 (Canada))	1				
	BA06813A	Fuse P.C.B. Ass'y (SR-4 (Australia))	1				
	BA06801A	Fuse P.C.B. Ass'y (SR-4 (Other))	1				
36	BA06607A	Pin Jack P.C.B. Ass'y	1				
37	BA06609A	Tuner P.C.B. Ass'y (SR-4A & SR-4 (Canada))	1				
	BA06620A	Tuner P.C.B. Ass'y (SR-4 (Australia))	1				
	BA06619A	Tuner P.C.B. Ass'y (SR-4 (Other))	1				
38	BA06610A	Logic P.C.B. Ass'y (SR-4A & SR-4 (Canada & Australia))	1				
	BA06621A	Logic P.C.B. Ass'y (SR-4 (Other))	1				
39	0J05380A	P.C.B. Cushion	1				
L01	0E00612A	M3x6 @ Pan (2A)	9				
L02	0E00868A	BT3x8 @ Binding	25				
L03	—	Nut Hex. M9	(1)				
L04	—	Washer	(1)				
L05	—	Nut Hex. M7	(5)				
L06	—	Washer	(5)				
L07	0E00857A	BT3x6 @ Binding	2				
L08	0E03032A	BT4x8 @ Pan Washer-faced (Black Chromate)	4				
L09	0E03157A	BT3x8 @ Binding with Washer	7				
L10	0E03409A	Washer 3.2x5.7x1.2 (Copper)	1				
L11	0J05294A	Washer 3.1x8x1 (Copper)	1				
L12	0E00921A	BT3x8 @ Binding (Black Chromate)	17				

4.4. Rear Panel Ass'y (B01)

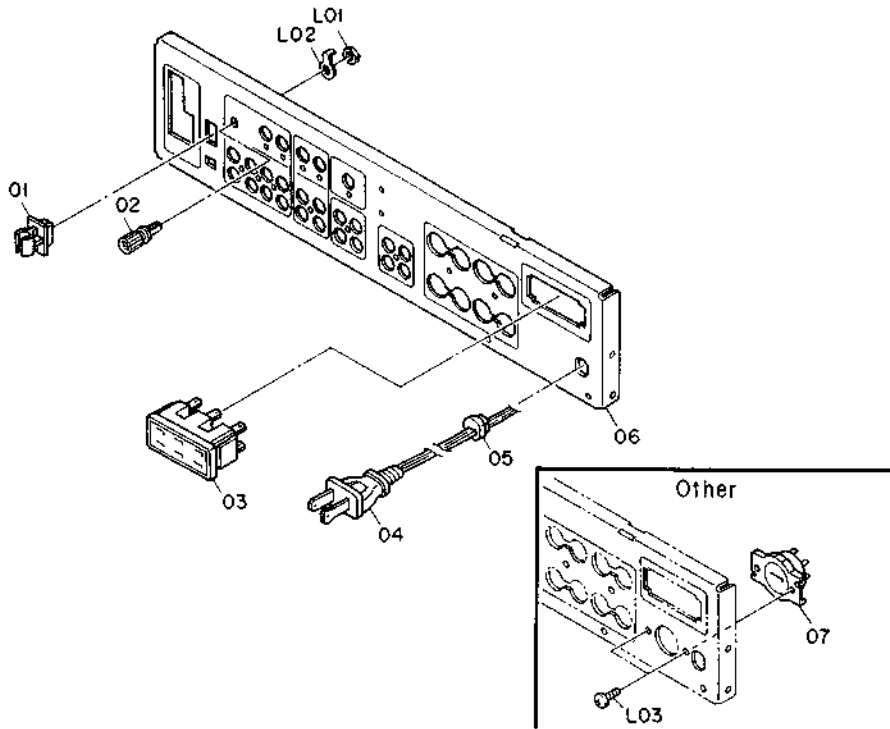


Fig. 4.4

Schematic Ref. No.	Part No.	Description	Qty
B01	HA05218A	Rear Panel Ass'y (SR-4A)	1
	HA05220A	Rear Panel Ass'y (SR-4 (Canada))	1
	HA05222A	Rear Panel Ass'y (SR-4 (Australia))	1
	HA05221A	Rear Panel Ass'y (SR-4 (Other))	1
		Serial No.: D10601001 -	
01	0B90071A	AM Loop Antenna Holder	1
02	0B81604A	Ground Terminal T-5435	1
03	0B81706A	AC Outlet 3P (SR-4A & SR-4 (Canada & Other))	1
04	0B90205A	Power Cord (SR-4A & SR-4 (Canada & Other))	1
05	0B90269A	Power Cord (SR-4 (Australia))	1
	0B08351A	Cord Bushing 4K-4 (SR-4A & SR-4 (Canada & Other))	1
	0B90273A	Cord Bushing 4K-4 (SR-4 (Australia))	1
06	0H05049A	Rear Panel (SR-4A)	1
	0H05045B	Rear Panel (SR-4 (Canada))	1
	0H05047A	Rear Panel (SR-4 (Australia))	1
	0H05046A	Rear Panel (SR-4 (Other))	1
07	0B70049A	Voltage Selector (SR-4 (Other))	1
L01	-	Nut Ground Terminal	(1)
L02	-	Earth Lug (Ground Terminal)	(1)
L03	0E00985A	M3x6 ⊕ Binding (SR-4 (Other))	2

## 5. MOUNTING DIAGRAM AND PARTS LIST

Notes: 1. Mounting diagram shows a dip side view of the printed circuit board.

2. Diode is 1SS53, 1S1555, or 1SS176 unless otherwise specified.

3. Following transistors are interchangeable with each other.

a. 2SA733, 2SA608SP, 2SA1048, 2SA1175

b. 2SC945, 2SC536SP, 2SC2458, 2SC2785

4. Abbreviation for part name:

TR — Transistor, SiD — Silicon Diode, ZD — Zener Diode, Varicap — Variable Capacitance Diode

RK — Carbon Resistor, RM — Metal Film Resistor, RF — Fail Safe Type Resistor, RW — Wire Wound Resistor

CE — Electrolytic Capacitor, CM — Mylar Capacitor, CC — Ceramic Capacitor, CP — PP Capacitor

CMM — Metalized Mylar Capacitor, CSP — Polystyrene Capacitor, C — Mica Capacitor

5.1. Power Switch P.C.B. Ass'y

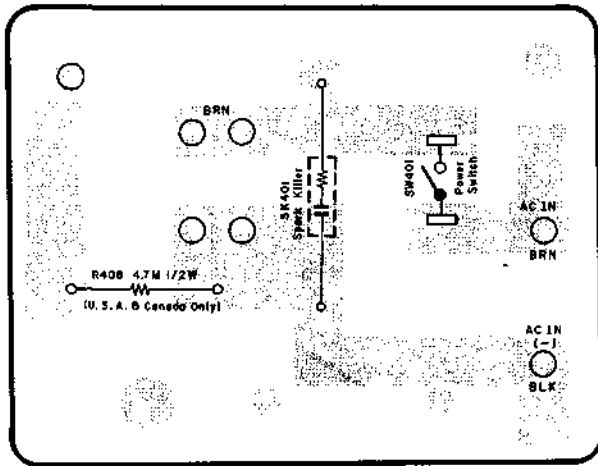


Fig. 5.1

5.2. AC Outlet P.C.B. Ass'y

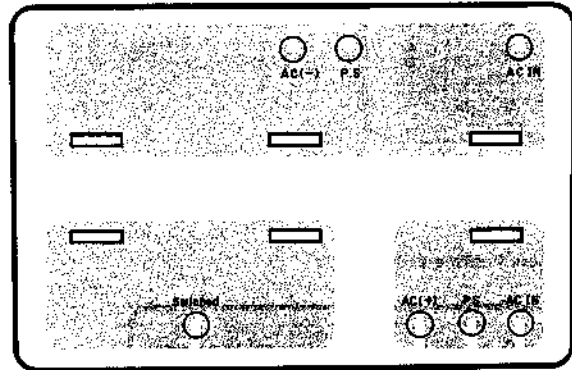


Fig. 5.2

5.3. Power Indicator P.C.B. Ass'y

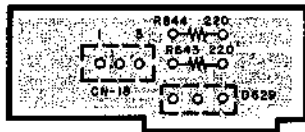


Fig. 5.3

5.4. Pin Jack P.C.B. Ass'y

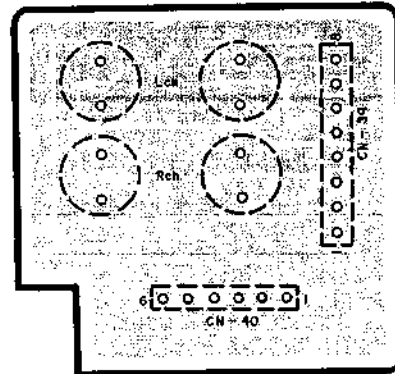


Fig. 5.4

Schematic Ref. No.	Part No.	Description	Schematic Ref. No.	Part No.	Description	Schematic Ref. No.	Part No.	Description
R408	BA06605A	Power Switch P.C.B. Ass'y (SR-4A & SR-4 (Canada))		0B08240A	Spark Killer Q-J0187B (SR-4 (Australia & Other))		BA06645A	Power Indicator P.C.B. Ass'y
	BA06615A	Power Switch P.C.B. Ass'y (SR-4 (Australia))		0B82994A	PD Connector V430 BRN (1)		0B60449A	Power Indicator P.C.B.
	BA06807A	Power Switch P.C.B. Ass'y (SR-4 (Other))		0B82995A	PD Connector V430 BLK (1)		0B12421A	LED SRP-56DWF (GRN/RED)
	0B60448A 0B20057A	Power Switch P.C.B. RK 4.7M 1/2W J (SR-4A & SR-4 (Canada))		0E00037A	Earth Lug B-5 (SR-4A & SR-4 (Canada)) (1)		0B09661A 0B82958A	RK 220 1/6W J 3P Connector RED
SW401 SK401	0B71006A 0B08342A	Power Switch SDL1P Spark Killer ECQ-JC187C (SR-4A & SR-4 (Canada))	0E00752A	Eyelet 2x3 (SR-4 (Australia)) (1)	D629 R643,644 CN18	BA06607A	Pin Jack P.C.B. Ass'y	
			BA06601A	AC Outlet P.C.B. Ass'y (SR-4A & SR-4 (Canada & Other))		CN39,40	0B60435A 0B81013A	Pin Jack P.C.B. Dip Mate 6P WH6D-
			0B60448A 0E00752A	AC Outlet P.C.B. Eyelet 2x3 (1)		0B81710A	4P Pin Jack WH6D-1 (1)	

5.5. IF Band Selector P.C.B. Ass'y

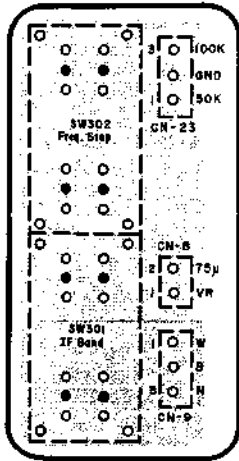


Fig. 5.5

5.6. MM/MC Switch P.C.B. Ass'y

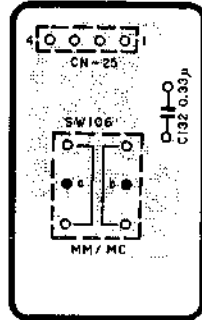


Fig. 5.6

5.7. Speaker Switch P.C.B. Ass'y

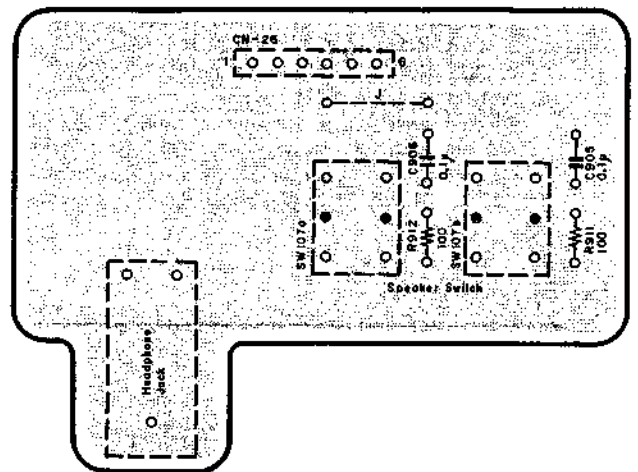


Fig. 5.7

5.8. Loudness Volume P.C.B. Ass'y

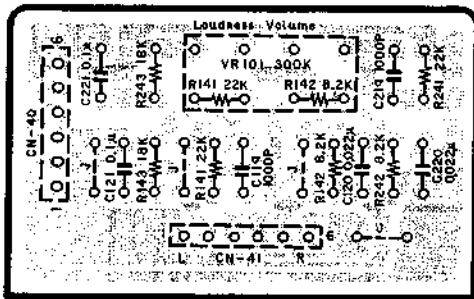


Fig. 5.8

5.9. Volume Motor P.C.B. Ass'y

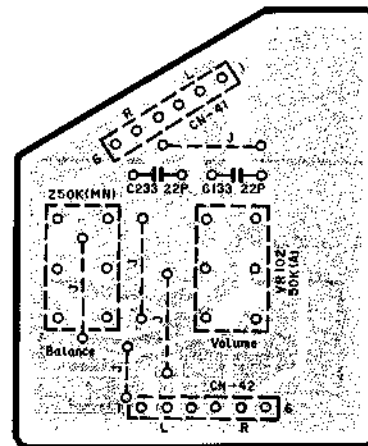


Fig. 5.9

Schematic Ref. No.	Part No.	Description	Schematic Ref. No.	Part No.	Description	Schematic Ref. No.	Part No.	Description
SW301,302 CN8 CN9 CN23	BA06611A	IF Band Selector P.C.B. Ass'y (SR-4 (Other))	R911,912 C905,906 SW107 CN26	BA06600A	Speaker Switch P.C.B. Ass'y	CN40,41	0B81013A	Dip Mate 6P WH6D-1
	0B60445A	Band Selector P.C.B.		0B60444A	Speaker Switch P.C.B.		0B82969A	Ribbon Cable 6P 170mm (2)
	0B70099A	Slide Switch SS091		0B09653A	RK 100 1/6W J		0B82970A	Ribbon Cable 6P 550mm (2)
	0B82948A	2P Connector YEL		0B41298A	CMM 0.1μ 50V J	BA06697A	0B60434B	Volume Motor P.C.B.
	0B82949A	3P Connector RED		0B70098A	Push Switch SPUN22		0B30074A	Volume Motor Ass'y
0B82963A	3P Connector WHT	0B82966A	6P Connector WHT	0B41702A	CSP 22P 50V J	0B41617A	CC 0.1μ 25V Z	
C132 SW106 CN25	BA06608A	MM/MC Switch P.C.B. Ass'y	VR101 R141,241 R142,242 R143,243 C119,219 C120,220 C121,221	BA06604A	Loudness Volume P.C.B. Ass'y	VR102 C183,283 C630 CN19 CN41,42	0B82959A	2P Connector
	0B60436B	MM/MC Switch P.C.B.		0B60433A	Loudness Volume P.C.B.		0B81013A	Dip Mate 6P WH6D-1
	0B41304A	CMM 0.33μ 50V J		0B30075A	VR 300K (B)x2			
	0B70105A	Push Switch SPUN12 6.5mm		0B09709A	RK 22K 1/6W J			
	0B82965A	4P Connector WHT		0B09899A	RK 8.2K 1/6W J			
				0B09707A	RK 18K 1/6W J			
				0B41791A	CSP 1000P 50V J			
				0B41290A	CMM 0.022μ 50V J			
				0B41298A	CMM 0.1μ 50V J			

5.10. Speaker Terminal P.C.B. Ass'y

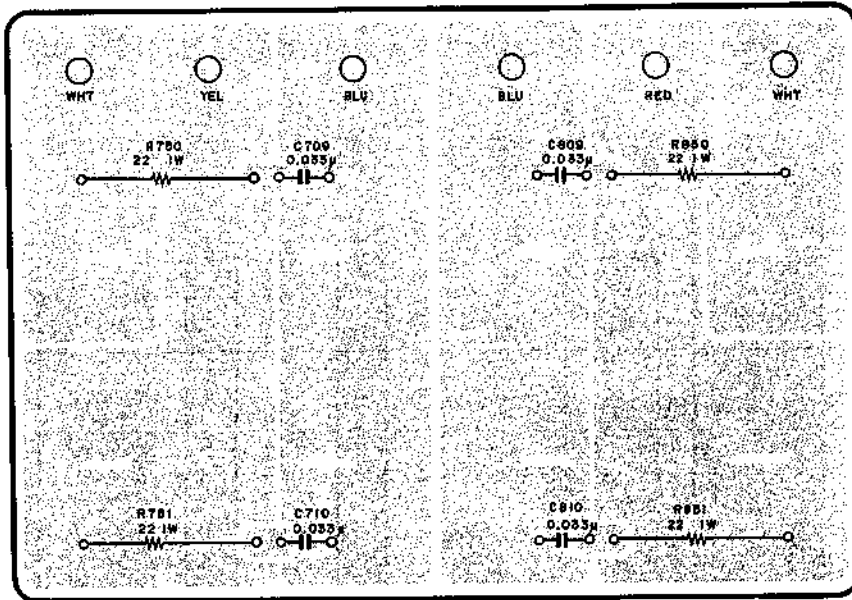


Fig. 5.10

5.11. Tone Control P.C.B. Ass'y

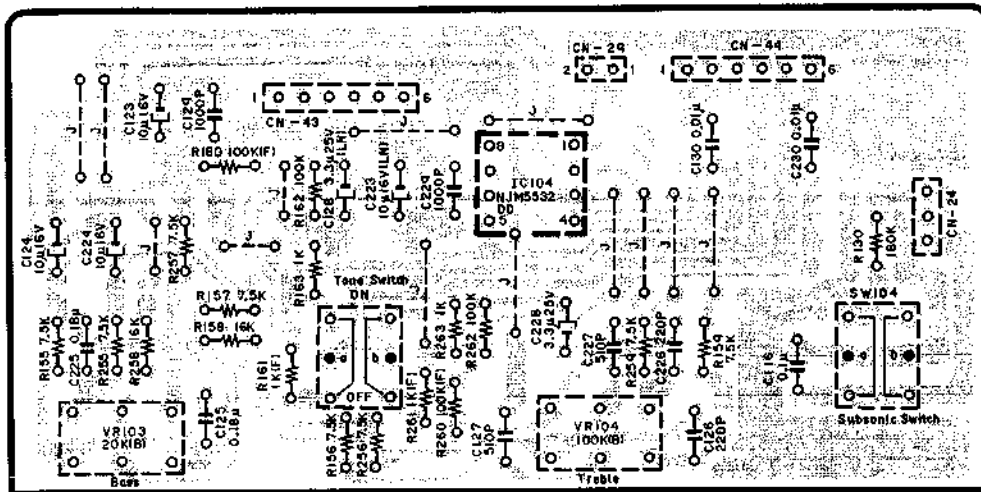


Fig. 5.11

Schematic Ref. No.	Part No.	Description	Schematic Ref. No.	Part No.	Description	Schematic Ref. No.	Part No.	Description
R750,751 850,851 C709,710 809,810	BA06603A	Speaker Terminal P.C.B. Ass'y	IC104 VR103 VR104 R130 R155,156 157,159 255,256 257,259 R158,258 R160,260 R161,261 R162,262 R163,263 SW103,104	BA06598A	Tone Control P.C.B. Ass'y	C116	OB41298A	CMM 0.1µ 50V J
	OB60446A	Speaker Terminal P.C.B.		OB60432A	Tone Control P.C.B.	C123,124 223,224	OB09816A	CE 10µ 16V (LN)
	OB24140A	RF 22 1W		OB11204A	IC NJM5532DD	C125,225	OB41301A	CMM 0.18, 50V J
	OB41292A	CMM 0.033µ 50V J		OB30073A	VR 20K (B)x2	C126,226	OB41788A	CSP 220P10V J
	OB81595B	Speaker Terminal 8P (1)		OB09731A	RK 180K 1/6W J	C127,227	OB41789A	CSP 510P10V J
				OB09698A	RK 7.5K 1/6W J	C128,228	OB40460A	CE 3.3µ 10V (LN)
						C129,229	OB41791A	CSP 1000150V J
						C130,230	OB41286A	CF 0.01µ 50V J
						CN24	OB82964A	3P Connector RED
						CN29	OB83004A	2P Connector RED
				CN43,44	OB81013A	Dip Mate 6		
						WH61-1		
						OB82972A	Ribbon Cable 6P 410mm (1)	
						OB82973A	Ribbon Cable 6P 310mm (1)	





Schematic Ref. No.	Part No.	Description	Schematic Ref. No.	Part No.	Description
	BA06606A	Fuse P.C.B. Ass'y (SR-4A & SR-4 (Canada))		BA06602A	Video Amp. P.C.B. Ass'y
	BA06813A	Fuse P.C.B. Ass'y (SR-4 (Australia))		OB60389E	Video Amp. P.C.B.
	BA06801A	Fuse P.C.B. Ass'y (SR-4 (Other))	IC301	OB11247A	IC $\mu$ PD4052BC
			Q301,303	OB01872A	TR 2SC945L (P,Q)
			304,306		
			Q302,305	OB06013A	TR 2SA733 (P,Q)
R407	OB60447A	Fuse P.C.B.	Q307	OB10062A	TR DTC144ES
SK402	OB24145A	RC 10 2W	Q308	OB10211A	FET 2SJ103
	OB08342A	Spark Killer	Q309	OB06129A	FET 2SK117 (Y)
		ECQ-JC187C (SR-4A & SR-4 (Canada))	Q401	OB08452A	TR 2SD1406 (Y)
	OB08240A	Spark Killer	D301-305	OB06398A	SID 1S5176 (5)
		Q-J0187B (SR-4 Australia & Other)	D401-404	OB12362A	SID S5566B (4)
F403,404	OB90248A	Fuse 6A (SR-4A & SR-4 (Canada & Other))	ZD401	OB12317A	ZD 13V MTZ13B
			R301,302	OB09650A	RK 75 1/6W J
			303		
			R304,316	OB09675A	RK 820 1/6W J
	OB08281A	Fuse T3.15A 250V (SR-4 (Australia))	R305,317	OB09715A	RK 39K 1/6W J
F405	OB08525A	Fuse 2A (SR-4A & SR-4 (Canada & Other))	R306,318	OB09703A	RK 12K 1/6W J
			R307,319	OB09677A	RK 1K 1/6W J
			R308,320	OB09665A	RK 330 1/6W J
			R309,313	OB09669A	RK 470 1/6W J
			321,325		
	OB02240A	Fuse T1.25A 250V (SR-4 (Australia))	R310,322	OB09688A	RK 1.8K 1/6W J
F406	OB08374A	Fuse 1A (SR-4A & SR-4 (Canada & Other))	R311,323	OB09653A	RK 100 1/6W J
			R312,324	OB09661A	RK 220 1/6W J
			R314,326	OB09649A	RK 68 1/6W J
			R315,327	OB09701A	RK 10K 1/6W J
	OB08263U	Fuse T315mA 250V (SR-4 (Australia))	328		
F407	OB08698A	Fuse 0.5A (SR-4A & SR-4 (Canada & Other))	R329,330	OB09725A	RK 100K 1/6W J
			R331,332	OB09749A	RK 1M 1/6W J
			333		
			R334	OB09719A	RK 56K 1/6W J
	OB08252A	Fuse T250mA 250V (SR-4 (Australia))	R401	OB09681A	RK 1.5K 1/6W J
CN21	OB82961A	2P Connector WHT	R402	OB05794A	RK 680 1/4W J
	OB81634A	2P-T Post (1)	C301,302	OB01862A	CE 22 $\mu$ 16V
	OB81740A	6P Terminal (SR-4A & SR-4 (Canada)) (1)	303,304		
			305		
	OB81722A	4P Terminal (SR-4 (Australia & Other)) (1)	C306,310	OB09276A	CC 5P 50V
			C307,311	OB41002A	CP 390P 100V J
			C308,312	OB01400A	CE 100 $\mu$ 16V
			403		
	OB81709A	3P-T Post L Angle (4)	C309,313	OB40082A	CE 1000 $\mu$ 16V
	OB08349B	Fuse Clip (SR-4 (Australia)) (10)	C314,315	OB41298A	CMM 0.1 $\mu$ 50V J
			C401	OB40094A	CE 470 $\mu$ 25V
	OM04137A	Fuse Label T250mA (SR-4 (Australia)) (1)	C402,404	OB01412A	CE 10 $\mu$ 16V
	OM04194A	Fuse Label T315mA (SR-4 (Australia)) (1)	CN21	OB81223A	2P-T Post (WHT)
			CN30	OB81235A	5P-T Post (WHT)
	OM04391A	Fuse Label T1.25A (SR-4 (Australia)) (1)		OB81592B	Pin Jack 1P (5)
	OM04443A	Fuse Label T3.15Ax2 (SR-4 (Australia)) (1)			

5.14. Control Switch P.C.B. Assy

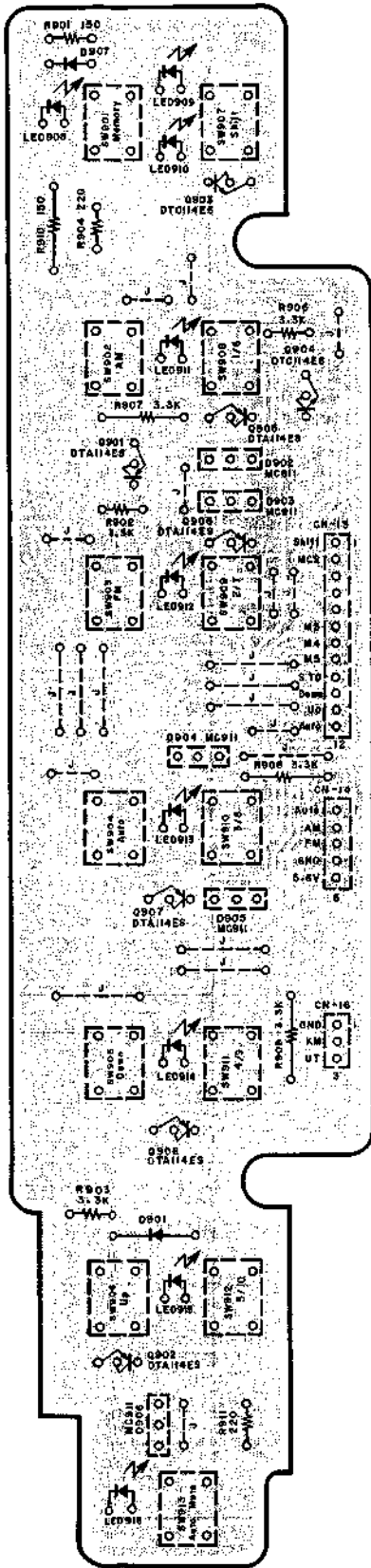


Fig. 5.14

Schematic Ref. No.	Part No.	Description	Schematic Ref. No.	Part No.	Description
	BA06593A	Control Switch P.C.B. Assy		BA06592A	Display P.C.B. Assy (SR-4A & SR-4 (Canada))
	OB60442A	Control Switch P.C.B.		OB60441A	Display P.C.B.
Q901,902	OB10058A	TR DTA114ES	IC951	OB11244A	IC LB1413N
905,906			IC952	OB11160A	IC TD6301A
907,908			IC953	OB11248A	IC ICP-N5-T104
Q903,904	OB10068A	TR DTC114ES	IC954	OB19005A	IC BX-1419
D901	OB06181A	SiD 1SS53	Q951,952	OB10068A	TR DTC114ES
D902,903	OB12391A	SiD MC911	955,956		
904,905			Q953	OB06013A	TR 2SA733 (P,Q)
906			Q954	OB10053A	TR DTA144ES
D907	OB06398A	SiD 1SS176	Q957,958	OB10060A	TR DTA143ES
LED908-916	OB12395A	LED SLR-34PC3F P-Green (9)	D950	OB12414A	Display SL7823-03
			D951	OB06181A	SiD 1SS53
R901	OB09657A	RK 150 1/6W J	R951,952	OB05641A	RK 47K 1/4W J
R902,903	OB09689A	RK 3.3K 1/6W J	R953	OB01888A	RK 10K 1/4W J
906			R954	OB01857A	RK 1K 1/4W J
R904,911	OB09661A	RK 220 1/6W J	R955,989	OB05959A	RK 75 1/4W J
R907,908	OB01681A	RK 3.3K 1/4W J	R956	OB20415A	RK 43 1/4W J
909			R957,958	OB20416A	RK 110 1/4W J
R910	OB05795A	RK 150 1/4W J	987,988		
SW901-913	OB70062A	Tact Switch KHH10910 (13)	R959-982	OB01933A	RK 220 1/4W J (25)
CN13	OB82953A	12P Connector	C951,952	OB40009A	CE 10μ 16V
CN14	OB82954A	5P Connector	C953	OB41787A	CC 0.022μ 25V Z
CN16	OB82956A	3P Connector	C954	OB41555A	CC 0.047μ 25V Z
	0J05209B	LED Reflector (9)	CN10	OB82950A	6P Connector RED
			CN11	OB82951A	6P Connector WHT
			CN15	OB82955A	6P Connector BLK
			OE00846A	BT3x8 @ Pan (2)	
				BA06646A	Display P.C.B. Assy (SR-4 (Australia & Other))
				OB60441A	Display P.C.B.
			IC951	OB11244A	IC LB1413N
			IC952	OB11160A	IC TD6301A
			IC953	OB11248A	IC ICP-N5-T104
			IC954	OB19005A	IC BX-1419
			Q951,952	OB10068A	TR DTC114ES
			955,956		
			Q953	OB06013A	TR 2SA733 (P,Q)
			Q954	OB10053A	TR DTA144ES
			Q957,958	OB10060A	TR DTA143ES
			Q959,961	OB10068A	TR DTC114ES
			962		
			Q960	OB01872A	TR 2SC945L (P,Q)
			D950	OB12414A	Display SL7823-03
			D951	OB06181A	SiD 1SS53
			D952,953	OB06398A	SiD 1SS176
			R951,952	OB05641A	RK 47K 1/4W J
			R953	OB01888A	RK 10K 1/4W J
			R954	OB01857A	RK 1K 1/4W J
			R955,989	OB05959A	RK 75 1/4W J
			R956	OB20415A	RK 43 1/4W J
			R957,958	OB20416A	RK 110 1/4W J
			984-988		
			R959-983	OB01933A	RK 220 1/4W J (7) (26)
			990		
			R991	OB01846A	RK 4.7K 1/4W J
			R992	OB09693A	RK 4.7K 1/6W J
			C951,952	OB40009A	CE 10μ 16V
			C953	OB41787A	CC 0.022μ 25V Z
			C954	OB41555A	CC 0.047μ 25V Z
			CN10	OB82950A	6P Connector RED
			CN11	OB82951A	6P Connector WHT
			CN15	OB82955A	6P Connector BLK
			OE00846A	BT3x8 @ Pan (2)	

5.15. Display P.C.B' Ass'y  
 (1) For SR-4A and SR-4 (Canada)

(2) For SR-4 (Australia & Other)

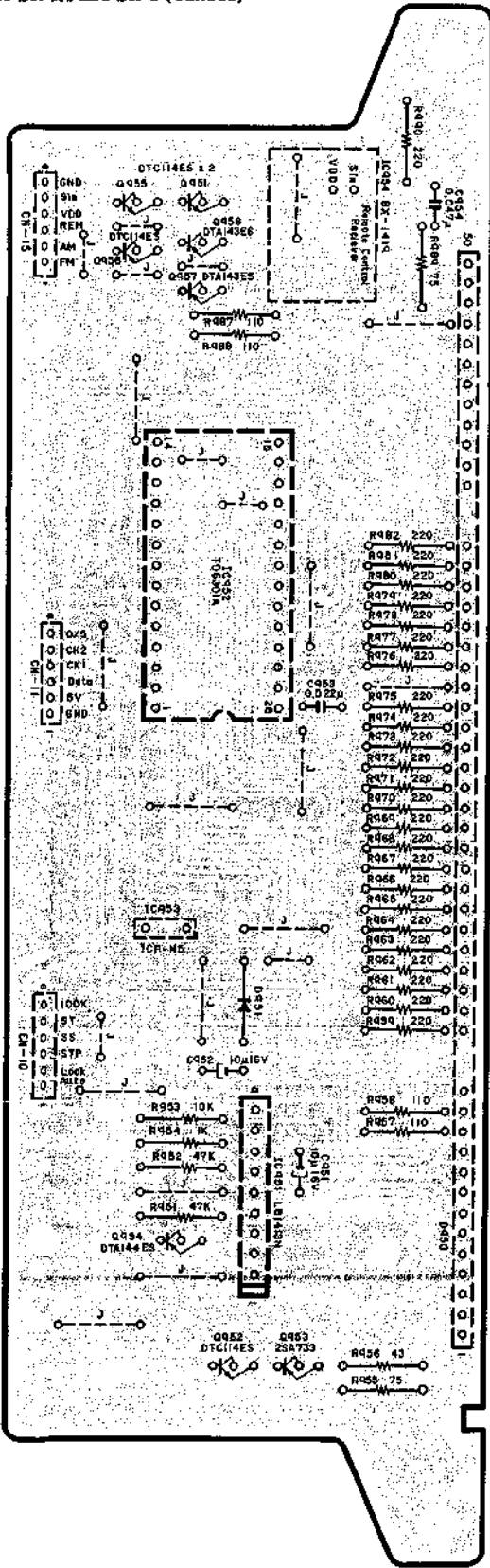


Fig. 5.15.1

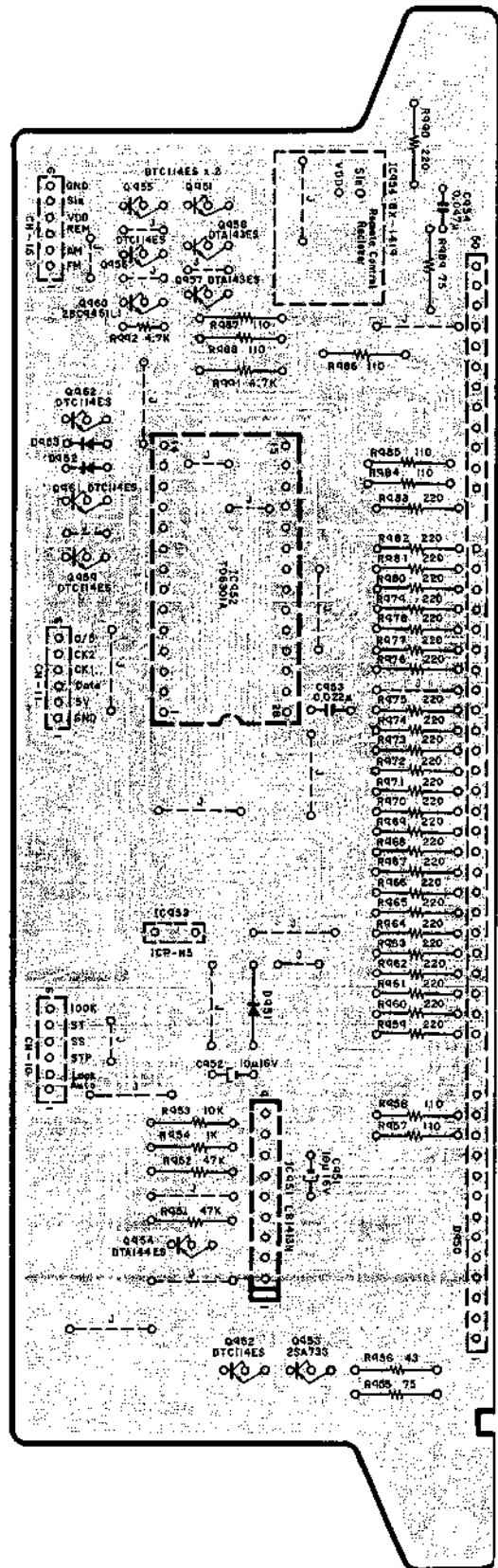


Fig. 5.15.2

5.16. Power Supply F.C.B. Ass'y

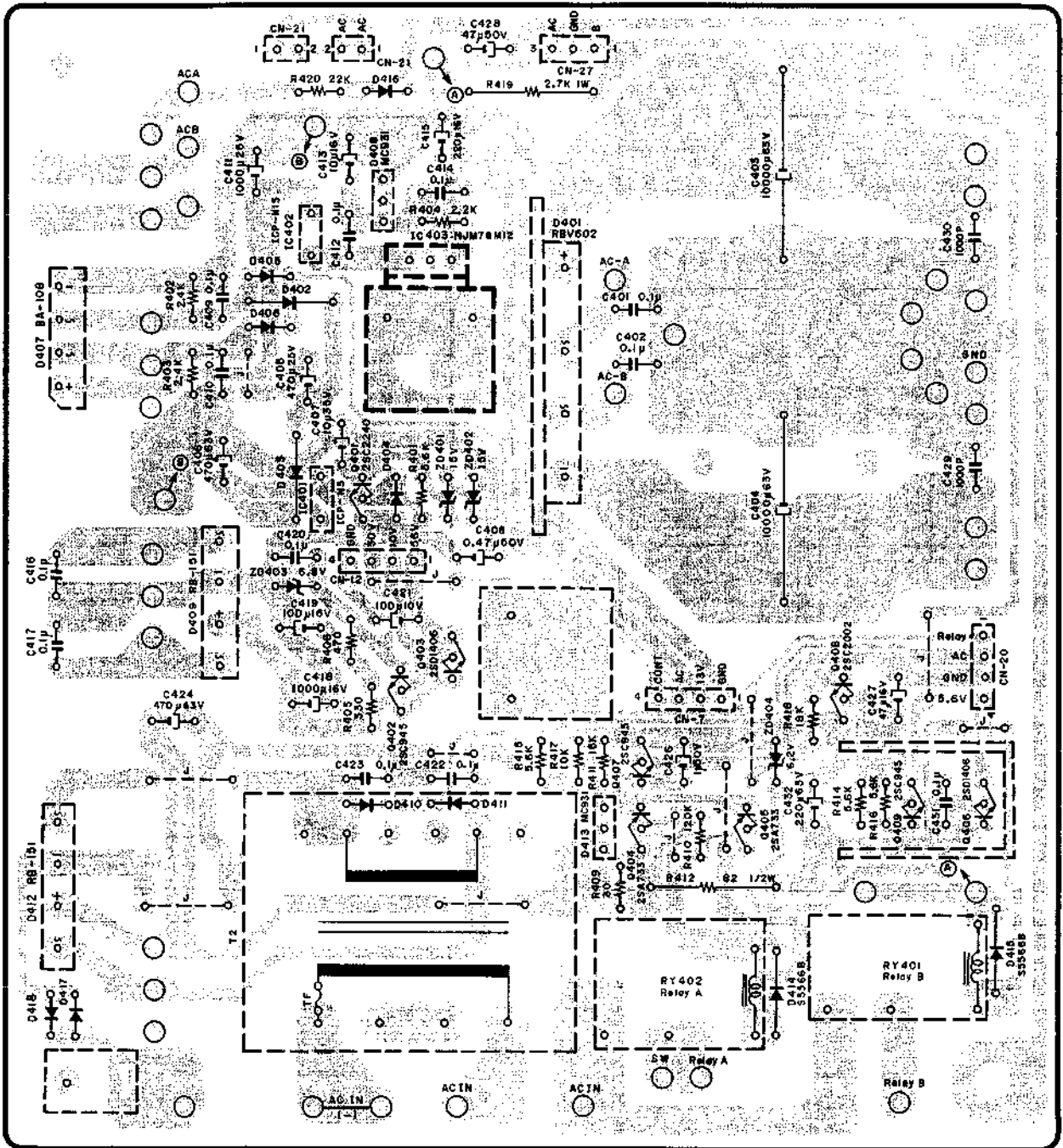


Fig. 5.16

Schematic Ref. No.	Part No.	Description	Schematic Ref. No.	Part No.	Description
	BA06599A	Power Supply P.C.B. Ass'y		OB82997A	PD Connector V150 RED (1)
	OB60440A	Power Supply P.C.B.		OB82998A	PD Connector V150 ORN (1)
IC401	OB11248A	IC ICP-N6-T104		OB82999A	PD Connector V150 YEL (2)
IC402	OB11335A	IC ICP-N15-T104		OB83003A	PD Connector V230 BLU (2)
Q401	OB10078A	TR 2SC2240 (GR)		OB80122A	Vinyl Tube (1)
Q402,407	OB01872A	TR 2SC945L (P,Q)		OB83000A	GND Cable V070 BLU (1)
408				OB90019A	Insu-Lock SKB80 (7)
Q404,405	OB06013A	TR 2SA733 (P,Q)		OB90206A	Insu-Lock SKB4M (1)
Q408	OB06322A	TR 2SC2002 (K,L)		OE03355A	Earth Lug MET31-0113 (1)
D402,403	OB12362A	SID S5566B		0J05309A	BS Damper 1VR (1)
414,415				0J05362A	Earth Plate (1)
D404,405	OB06398A	SID 1SS176		OB11252A	IC 78M12
406,410				OE00612A	M3x6 @Pan (2A) (1)
411,416				0J05351A	TR Heat Sink (1)
417,418				OB06452A	TR 2SD1406 (Y)
D407	OB06282A	SID DBA10B.C.	IC403	OE00612A	M3x6 @Pan (2A) (1)
D408,413	OB12420A	SID MC93		0J05351A	TR Heat Sink (1)
D409,412	OB06183A	SID RB-151	Q403	OB06452A	TR 2SD1406 (Y)
ZD401,402	OB12464A	ZD 15V UTZJ15C		OE00612A	M3x6 @Pan (2A) (1)
ZD403	OB12440A	ZD 6.8V UTZJ6.8C	Q406	0J05351A	TR Heat Sink (1)
ZD404	OB12437A	ZD 6.2V UTZJ6.2C		OB06452A	TR 2SD1406 (Y)
RY401	OB90250A	Relay 24V G6C-1117P		OB08680B	Heat Sink A (1)
RY402	OB90249A	Relay 12V G6C-1117P	D401	OE00972A	Nut Hex. M3 (1)
T2	OB50090A	Power Transformer		OE03319A	M3x8 @Binding (1)
R401,414	OB09695A	RK 5.6K 1/6W J		OB12388A	SID RBV-602
415,416				OE03030A	M3x6 @Binding (1)
R402,403	OB09686A	RK 2.4K 1/6W J		0J05335B	SID Heat Sink (1)
R404	OB09685A	RK 2.2K 1/6W J			
R405	OB09685A	RK 330 1/6W J			
R406	OB09669A	RK 470 1/6W J			
R409	OB09640A	RK 30 1/6W J			
R410	OB09655A	RK 120 1/6W J			
R411	OB09706A	RK 16K 1/6W J			
R412	OB09253A	RF 82 1/2W J			
R417	OB09701A	RK 10K 1/6W J			
R418	OB09707A	RK 18K 1/6W J			
R419	OB24061A	RF 2.7K 1W J			
R420	OB09709A	RK 22K 1/6W J			
C401,402	OB41298A	CMM 0.1μ 50V J			
409,410					
412,414					
416,417					
420,422					
423,431					
C403,404	OB40454A	CE 10000μ 63V			
C405	OB40094A	CE 470μ 25V			
C406,424	OB40134A	CE 470μ 63V			
C407	OB40100A	CE 10μ 35V			
C408	OB40462A	CE 0.47μ 50V			
C411	OB40095A	CE 1000μ 25V			
C413,426	OB01412A	CE 10μ 16V			
C415	OB40079A	CE 220μ 16V			
C418	OB40082A	CE 1000μ 16V			
C419	OB40078A	CE 100μ 16V			
C421	OB40464A	CE 100μ 10V			
C427	OB40077A	CE 47μ 16V			
C428	OB40115A	CE 4.7μ 50V			
C429,430	OB41791A	CSP 1000P 50V J			
C432	OB40132A	CE 220μ 63V			
CN7	OB82947A	4P Connector WHT			
CN12	OB82952A	4P Connector WHT			
CN20	OB82960A	4P Connector RED			
CN27	OB82967A	3P Connector RED			
	OB82983A	PD Connector V340 RED (1)			
	OB82984A	PD Connector V340 WHT (1)			
	OB82985A	PD Connector V290 RED (1)			
	OB82986A	PD Connector V290 WHT (1)			
	OB82987A	PD Connector V330 BLU (1)			
	OB82988A	PD Connector V300 BLU (2)			
	OB82990A	PD Connector V260 YEL (1)			
	OB82991A	PD Connector V150 RED (2)			
	OB82992A	PD Connector V150 WHT (1)			
	OB82993A	PD Connector V100 BLU (1)			
	OB82996A	PD Connector V130 BLK (2)			



Schematic Ref. No.	Part No.	Description	Schematic Ref. No.	Part No.	Description
	BA06610A	Logic P.C.B. Ass'y (SR-4 & SR-4 (Canada & Australia))	C622	OB41290A	CMM 0.022 $\mu$ 50V J
	BA06621A	Logic P.C.B. Ass'y (SR-4 (Other))	C623	OB41278A	CMM 2200P 50V J
			C625	OB01412A	CE 10 $\mu$ 16V
	OB60439A	Logic P.C.B.	C626,627	OB41734A	CC 220P 50V J
	OB11159A	IC TD6104	C633	OB40076A	CE 33 $\mu$ 16V
IC601	OB11161A	IC TC9147BP	CN1	OB81238A	5P-T Post YEL
IC602	OB06219A	IC $\mu$ PD4081BC	CN2	OB81242A	6P-T Post YEL
IC603	OB11279A	IC LM6416E	CN6	OB81226A	2P-T Post YEL
IC604	OB06178A	IC $\mu$ PD4011BC	CN10	OB81241A	6P-T Post RED
IC605	OB11250A	IC LB1645N	CN11	OB81239A	6P-T Post WHT
IC606	OB11334A	IC DT5A114E	CN12	OB81231A	4P-T Post WHT
IC607,608	OB10088A	TR 2SC1815L (GR)	CN13	OB81263A	12P-T Post WHT
Q601,602	OB01872A	TR 2SC945L (P,Q)	CN14	OB81235A	5P-T Post WHT
Q603,608			CN15	OB81240A	6P-T Post BLK
Q604,605	OB10068A	TR DTC114ES	CN16	OB81230A	3P-T Post YEL
Q606,607	OB10058A	TR DTA114ES	CN17	OB81223A	2P-T Post WHT
613			CN18	OB81229A	3P-T Post RED
Q610	OB06013A	TR 2SA733 (P,Q)	CN19	OB81225A	2P-T Post RED
Q611	OB10211A	FET 2S1103 (GR,BL)	CN20	OB81233A	4P-T Post RED
			CN22	OB81224A	2P-T Post BLK
			CN23	OB81227A	3P-T Post WHT (SR-4 (Other))
D600	OB06398A	SiD 1SS176 (26)	CN28	OB82979A	2P Connector
602-618					
621,622					
624,625					
626,627					
630,631					
D601,623	OB12363A	SiD MA700			
D619,620	OB06181A	SiD 1SS53			
D632	OB12420A	SiD MC931			
ZD628	OB12437A	ZD 6.2V UTZJ6.2C			
L601	OB51239A	Micro Coil			
		LAL02T220K			
X601	OB92006A	Crystal 7.2MHz			
		FYX-TE725S17			
X602	OB02307A	Resonator 800kHz			
		KBR800H			
M601	OB40241A	Lithium Battery 3V			
		CR2330-1GV5			
R600,619	OB09749A	RK 1M 1/6W J			
620,623					
624,632					
636					
R602,604	OB09701A	RK 10K 1/6W J			
606,621					
R603	OB09699A	RK 8.2K 1/8W J			
R605,610	OB09677A	RK 1K 1/6W J			
630,650					
R607	OB24114A	RK 1K 1/2W J			
R608	OB09661A	RK 220 1/6W J			
R609,611	OB09725A	RK 100K 1/6W J			
612,615					
618,617					
628,634					
635,646					
647					
R613,614	OB09721A	RK 68K 1/6W J			
R618,622	OB09719A	RK 56K 1/6W J			
625					
R627	OB09697A	RK 6.8K 1/6W J			
R628,629	OB09717A	RK 47K 1/6W J			
R631	OB09737A	RK 330K 1/6W J			
R633	OB09733A	RK 220K 1/6W J			
R637,639	OB09689A	RK 3.3K 1/6W J			
R638	OB09683A	RK 1.8K 1/6W J			
R640,641	OB09694A	RK 5.1K 1/6W J			
R645	OB09706A	RK 16K 1/6W J			
R648,649	OB09685A	RK 2.2K 1/6W J			
C600	OB41708A	CC 22P 50V J			
C601	OB01403A	CE 47 $\mu$ 16V			
C602,612	OB41787A	CC 0.022 $\mu$ 25V Z			
616-621		(9)			
634					
C603	OB41187A	CC 39P 50V J			
C604,629	OB41553A	CC 0.01 $\mu$ 25V Z			
C605	OB09586A	CC 2200P 50V K			
C606,614	OB01405A	CE 1 $\mu$ 50V			
624,628					
635					
C607	OB09288A	CC 1000P 50V K			
C608	OB40108A	CE 47 $\mu$ 35V			
C609	OB09327A	CE 0.33 $\mu$ 50V (LN)			
C610,632	OB41298A	CMM 0.1 $\mu$ 50V J			
C611	OB01400A	CE 100 $\mu$ 16V			
C613	OB41709A	CC 47P 50V J			
C615	OB40111A	CE 0.47 $\mu$ 50V			





5.18. Tuner P.C.B. Ass'y  
 (1) For SR-4A and SR-4 (Canada)

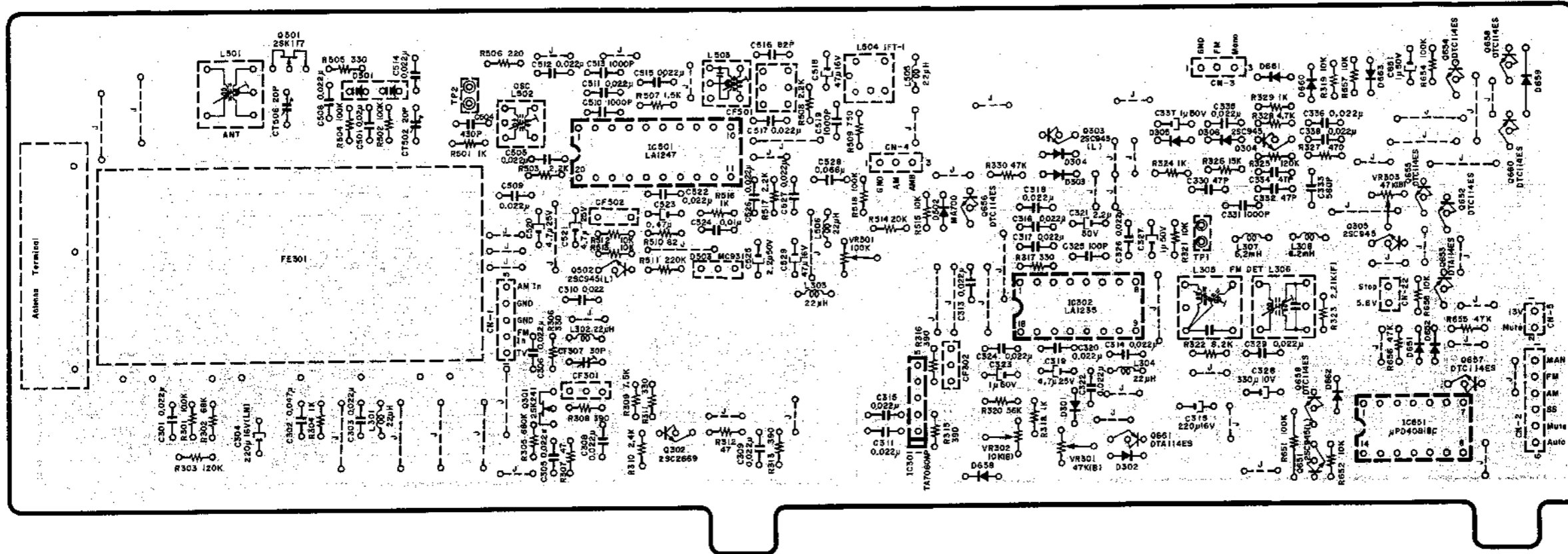


Fig. 5.18.1

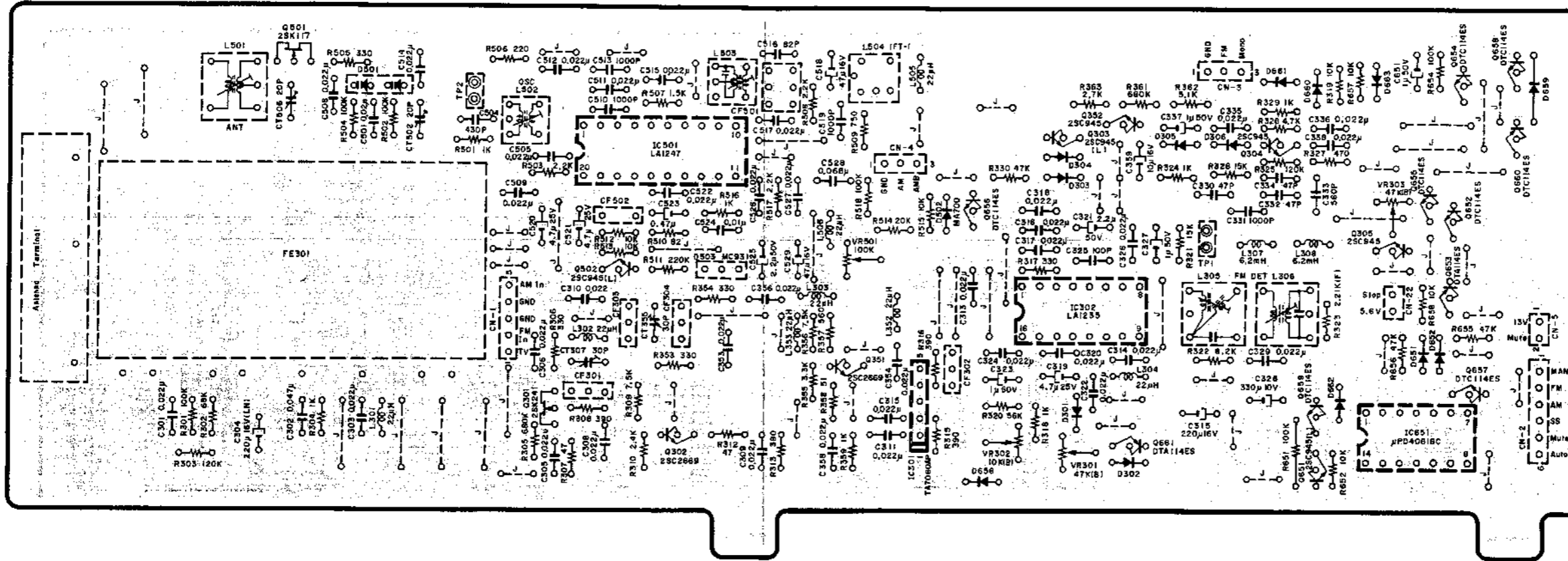


Fig. 5.18.2

Schematic Ref. No.	Part No.	Description	Schematic Ref. No.	Part No.	Description	Schematic Ref. No.	Part No.	Description	Schematic Ref. No.	Part No.	Description	Schematic Ref. No.	Part No.	Description
	BA06620A	Tuner P.C.B. Ass'y (SR-4 (Australia))	R319	OB09701A	RK 10K 1/6W J	C325	OB41071A	CC 100P 50V J	R514	OB09708A	RK 20K 1/6W J	D659	OB06181A	SiD 1SS53
	- FM -		R320	OB09719A	RK 56K 1/6W J	C328	OB40066A	CE 330µ 10V	CF501	OB41701A	Ceramic Filter SFZ450G3L	R651,654	OB01889A	RK 100K 1/4W J
			R321,326	OB09705A	RK 15K 1/6W J	C330,332	OB09280A	CC 47P 50V J	CF502	OB92003A	Resonator 450 kHz BFU450C4N	R652,657	OB09701A	RK 10K 1/6W J
IC301	OB11156A	IC TA7060AP	R322	OB09689A	RK 8.2K 1/6W J	C331	OB41007A	CC 1000P 25V M	CT502,506	OB42005A	C Trimmer 20P	R653	OB09707A	RK 18K 1/6W J
IC302	OB11157A	IC LA1235	R323	OB25228A	RM 2.21K 1/6W F	C333	OB09379A	CC 560P 50V K	C501,505	OB41787A	CC 0.022µ 25V Z	R655,656	OB09717A	RK 47K 1/6W J
Q301	OB10127A	FET 2SK241 (GR)	R327	OB09689A	RK 47K 1/6W J	C335	OB09818A	CE 10µ 16V (LN)	508,509			R651	OB01405A	CE 1µ 50V
Q302,351	OB10174A	TR 2SC2669 (O.Y)	R328	OB09693A	RK 4.7K 1/6W J	C338	OB81596A	Antenna Terminal F (1)	511,512					
Q303,304	OB01872A	TR 2SC945L (P.Q)	R330	OB09717A	RK 47K 1/6W J	C359			514,515					
305,352			R355	OB09689A	RK 3.3K 1/6W J				517,522					
D301,302	OB06398A	SiD 1SS176	R357	OB09671A	RK 560 1/6W J				526					
303,304			R358	OB09646A	RK 51 1/6W J				C504	OB41401A	CP 430P 50V J	CN1	OB60438A	Tuner P.C.B.
305,306			R362	OB09694A	RK 5.1K 1/6W J				C501,513	OB41007A	CC 1000P 25V M	CN2	OB82941A	5P Connector YEL
VR301,303	OB32084A	Semi VR 47K (B)	R363	OB09687A	RK 2.7K 1/6W J	IC501	OB11243A	IC LA1247	519			CN3	OB82942A	6P Connector YEL
VR302	OB32080A	Semi VR 10K (B)	CF301,302	OB41700A	Ceramic Filter SFE10.7MX2H-A	Q501	OB06129A	FET 2SK117 (Y)	C516	OB41711A	CC 82P 50V K	CN4	OB81227A	3P-T Post WHT
L301,302	OB51239A	Micro Coil 22µH				D501	OB01872A	TR 2SC945L (P.Q)	C518,529	OB01403A	CE 47µ 16V	CN5	OB81230A	3P-T Post YEL
303,304			CT307,355	OB41614A	Ceramic Filter SFE10.7MS3GH15A	D502	OB12386A	Vari-Cap. KV1226Y	C520,521	OB01402A	CE 4.7µ 25V	CN9	OB82945A	2P Connector WHT
352,353			C301,303	OB41787A	C Trimmer 30P	D503	OB12363A	SID MA700	C523	OB40111A	CC 0.01µ 25V Z	CN22	OB81238A	5P-T Post YEL
L305	OB51240A	FM Det. Coil A	C303,306			L501	OB51238A	Antenna Coil	C524	OB41553A	CC 2.2µ 50V	TP1,2	OB82962A	2P Connector BLK
L306	OB51241A	FM Det. Coil B	305,306			L502	OB51235A	Osc. Coil	C525	OB09372A	CC 2200P 50V K		OB81634A	2P-T Post
L307,308	OB51243A	Choke Coil	308,309			L503	OB51234A	AM IFT2	C528	OB41296A	CCM 0.068µ 50V J		0J05326B	Earth Plate (1)
FE301	OB91016A	Front-end	310,311			L504	OB51233A	AM IFT1						
R301	OB09725A	RK 100K 1/6W J	312,316			L505,506	OB51239A	Micro Coil LAL02TA220K						
R302	OB09721A	RK 68K 1/6W J	317,318											
R303,325	OB09727A	RK 120K 1/6W J	324,326			VR501	OB32086A	Semi VR 100K (B)						
R304,318	OB09677A	RK 1K 1/6W J	329,335			R501,516	OB09677A	RK 1K 1/6W J						
324,329			336,338			R502,504	OB09725A	RK 100K 1/6W J						
359			353,354			518								
R305,361	OB09745A	RK 680K 1/6W J	356,358			R503,508	OB09685A	RK 2.2K 1/6W J						
R306,317	OB09665A	RK 330 1/6W J	620,622			517								
353,354			C302	OB41294A	CMM 0.047µ 50V J	R505	OB09665A	RK 330 1/6W J	IC651	OB06219A	IC µPD4081BC			
R307,312	OB09645A	RK 47 1/6W J	C304	OB40420A	CE 220µ 18V (LN)	R506	OB09661A	RK 220 1/6W J	Q651	OB01872A	TR 2SC945L (P.Q)			
R308,313	OB09687A	RK 390 1/6W J	C313,314	OB41290A	CMM 0.022µ 50V J	R507	OB09681A	RK 1.5K 1/6W J	Q652	OB10062A	TR DTC144ES			
315,316			C315	OB40079A	CE 220µ 16V	R509	OB09674A	RK 750 1/6W J	Q653,660	OB10058A	TR DTA114ES			
R309,356	OB09698A	RK 7.5K 1/6W J	C319	OB01402A	CE 4.7µ 25V	R510	OB09651A	RK 82 1/6W J	661					
R310	OB09686A	RK 2.4K 1/6W J	C321	OB09372A	CE 2.2µ 50V	R511	OB09733A	RK 220K 1/6W J	Q654,655	OB10068A	TR DTC114ES			
			C323,327	OB01405A	CE 1µ 50V	R512,513	OB09701A	RK 10K 1/6W J	656,657					
			337			515			658,659					
									D651,652	OB06398A	SiD 1SS176			
									658,660					
									661,662					
									663					

(3) For SR-4 (Other)

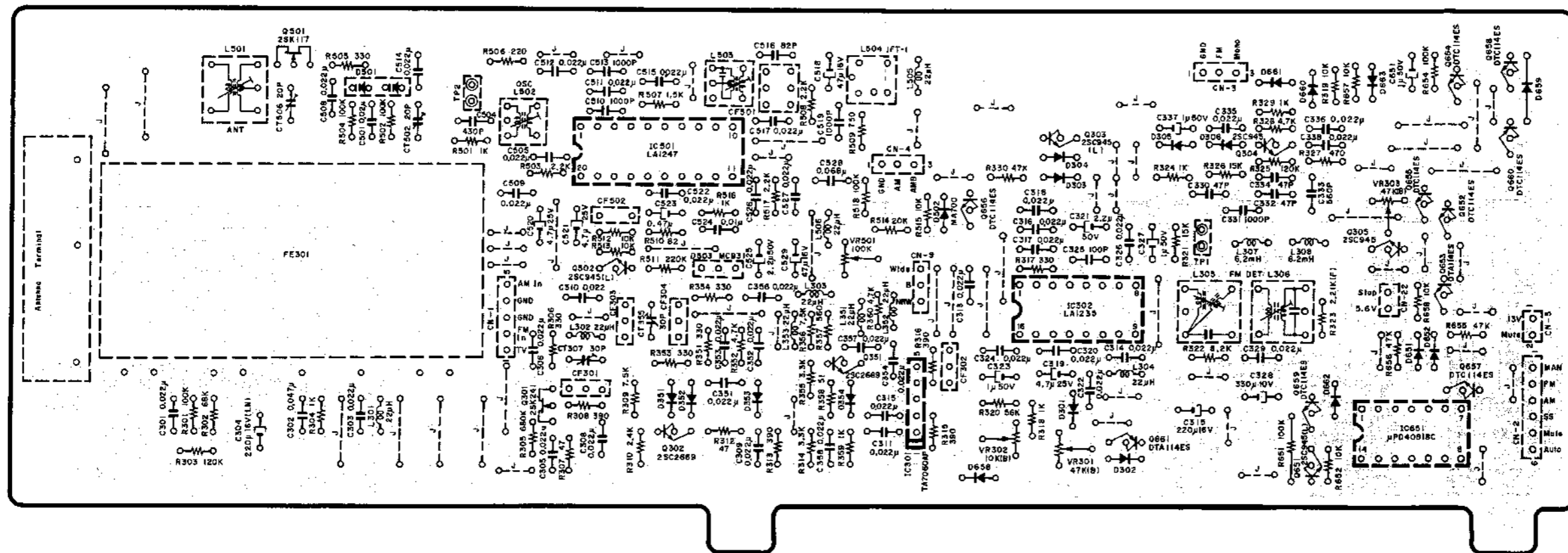


Fig. 5.18.3

Schematic Ref. No.	Part No.	Description	Schematic Ref. No.	Part No.	Description	Schematic Ref. No.	Part No.	Description	Schematic Ref. No.	Part No.	Description	Schematic Ref. No.	Part No.	Description
	BA06619A	Tuner P.C.B. Ass'y (SR-4 (Other))	R308,313,315,316, R309,356, R310, R314,355, R319, R320, R321,326, R322, R323, R328,352, R330, R357, R358, CF301,302	OB09667A, OB09698A, OB09686A, OB09689A, OB09701A, OB09719A, OB09705A, OB09699A, OB25228A, OB09669A, OB09693A, OB09717A, OB09671A, OB09646A, OB41700A	RK 390 1/6W J, RK 7.5K 1/6W J, RK 2.4K 1/6W J, RK 3.3K 1/6W J, RK 10K 1/6W J, RK 56K 1/6W J, RK 15K 1/6W J, RK 8.2K 1/6W J, RM 2.21K 1/6W F, RK 470 1/6W J, RK 4.7K 1/6W J, RK 47K 1/6W J, RK 560 1/6W J, RK 51 1/6W J	C313,314, C815, C319, C321, C823,327, C337, C325, C328, C330,332, C334, C331, C333, CN9	OB41290A, OB40079A, OB01402A, OB09372A, OB01405A, OB41071A, OB40066A, OB09280A, OB41007A, OB09379A, OB81229A, OB81596A	CMM 0.022µ 50V J, CE 220µ 16V, CE 4.7µ 25V, CE 2.2µ 50V, CE 1µ 50V, CC 100P 50V J, CE 330µ 10V, CC 47P 50V J, CC 1000P 25V M, CC 560P 50V K, 3P-T Post RED, Antenna Terminal F (1)	R506, R507, R509, R510, R511, R512,513, R515, R514, CF501	OB09661A, OB09681A, OB09674A, OB09651A, OB09733A, OB09701A, OB09708A, OB41701A, OB92003A, OB42005A, OB41787A	RK 220 1/6W J, RK 1.5K 1/6W J, RK 750 1/6W J, RK 82 1/6W J, RK 220K 1/6W J, RK 10K 1/6W J, RK 20K 1/6W J, Ceramic Filter SFZ450G3L, Resonator 450 kHz BFU450C4N, C Trimmer 20P, CC 0.022µ 25V Z	Q653,660,661, Q654,655,656,657,658,659, D651,652,658,660,661,662,663, R651,654, R652,657,658, R653, R655,656, C651	OB10058A, OB10068A, OB06398A, OB06181A, OB01889A, OB09701A, OB09707A, OB09717A, OB01405A	TR DTA114ES, TR DTC114ES, SID 1SS176, SID 1SS53, RK 100K 1/4W J, RK 10K 1/6W J, RK 18K 1/6W J, RK 47K 1/6W J, CE 1µ 50V
		- FM -												
IC301, IC302, Q301, Q302,351, Q303,304, Q305, D301,302,303,304,305,306,351,352,353,354, VR301,303, VR302, L301,302,303,304,351,352,353, L305, L306, L307,308, FE301, R301, R302, R303,325, R304,318,324,329,359, R305, R306,317,851,353,354, R307,312	OB11156A, OB11157A, OB10127A, OB10174A, OB01872A, OB06398A, OB32084A, OB32080A, OB51239A, OB51240A, OB51241A, OB51243A, OB91016A, OB09725A, OB09721A, OB09727A, OB09677A, OB09745A, OB09665A, OB09645A	IC TA7060AP, IC LA1235, FET 2SK241 (GR), TR 2SC2669 (O,Y), TR 2SC945L (P,Q), SID 1SS176, Semi VR 47K (B), Semi VR 10K (B), Micro Coil 22µH, FM Det. Coil A, FM Det. Coil B, Choke Coil, Front-end, RK 100K 1/6W J, RK 68K 1/6W J, RK 120K 1/6W J, RK 1K 1/6W J, RK 680K 1/6W J, RK 330 1/6W J, RK 47 1/6W J	R308,313,315,316, R309,356, R310, R314,355, R319, R320, R321,326, R322, R323, R328,352, R330, R357, R358, CF301,302, CT307,355, C301,303, CT307,355, C301,303, D501, D502, D503, L501, L502, L503, L504, L505,506, VR501, R501,516, R502,504,518, R503,508,517, R505, OB41294A, OB40420A	OB09667A, OB09698A, OB09686A, OB09689A, OB09701A, OB09719A, OB09705A, OB09699A, OB25228A, OB09669A, OB09693A, OB09717A, OB09671A, OB09646A, OB41700A, OB41746A, OB41614A, OB41787A, OB11243A, OB06129A, OB01872A, OB12386A, OB12363A, OB12420A, OB51236A, OB51235A, OB51234A, OB51233A, OB51239A, OB32086A, OB09677A, OB09725A, OB09685A, OB09665A	RK 390 1/6W J, RK 7.5K 1/6W J, RK 2.4K 1/6W J, RK 3.3K 1/6W J, RK 10K 1/6W J, RK 56K 1/6W J, RK 15K 1/6W J, RK 8.2K 1/6W J, RM 2.21K 1/6W F, RK 470 1/6W J, RK 4.7K 1/6W J, RK 47K 1/6W J, RK 560 1/6W J, RK 51 1/6W J, IC LA1247, FET 2SK117 (Y), TR 2SC945L (P,Q), Vari-Cap. KV1226Y, SID MA700, SID MC931, Antenna Coil, Osc. Coil, AM IFT2, AM IFT1, Micro Coil LAL02TA220K, Semi VR 100K (B), RK 1K 1/6W J, RK 100K 1/6W J, RK 2.2K 1/6W J, RK 330 1/6W J	C313,314, C815, C319, C321, C823,327, C337, C325, C328, C330,332, C334, C331, C333, CN9, IC501, Q501, Q502, D501, D502, D503, L501, L502, L503, L504, L505,506, VR501, R501,516, R502,504,518, R503,508,517, R505, OB41294A, OB40420A	OB41290A, OB40079A, OB01402A, OB09372A, OB01405A, OB41071A, OB40066A, OB09280A, OB41007A, OB09379A, OB81229A, OB81596A, OB11243A, OB06129A, OB01872A, OB12386A, OB12363A, OB12420A, OB51236A, OB51235A, OB51234A, OB51233A, OB51239A, OB32086A, OB09677A, OB09725A, OB09685A, OB09665A	CMM 0.022µ 50V J, CE 220µ 16V, CE 4.7µ 25V, CE 2.2µ 50V, CE 1µ 50V, CC 100P 50V J, CE 330µ 10V, CC 47P 50V J, CC 1000P 25V M, CC 560P 50V K, 3P-T Post RED, Antenna Terminal F (1), IC LA1247, FET 2SK117 (Y), TR 2SC945L (P,Q), Vari-Cap. KV1226Y, SID MA700, SID MC931, Antenna Coil, Osc. Coil, AM IFT2, AM IFT1, Micro Coil LAL02TA220K, Semi VR 100K (B), RK 1K 1/6W J, RK 100K 1/6W J, RK 2.2K 1/6W J, RK 330 1/6W J	R506, R507, R509, R510, R511, R512,513, R515, R514, CF501, CT502,506, C501,505,508,509,511,512,514,515,517,522,526, C504, C510,513,519, C516, C518,529, C520,521, C523, C524, C525, C527, C528, IC651, Q651, Q652	OB09661A, OB09681A, OB09674A, OB09651A, OB09733A, OB09701A, OB09708A, OB41701A, OB92003A, OB42005A, OB41787A, OB41401A, OB41007A, OB41711A, OB01403A, OB01402A, OB40111A, OB41553A, OB09372A, OB09586A, OB41296A, OB06219A, OB01872A, OB10062A	RK 220 1/6W J, RK 1.5K 1/6W J, RK 750 1/6W J, RK 82 1/6W J, RK 220K 1/6W J, RK 10K 1/6W J, RK 20K 1/6W J, Ceramic Filter SFZ450G3L, Resonator 450 kHz BFU450C4N, C Trimmer 20P, CC 0.022µ 25V Z, CP 430P 50V J, CC 1000P 25V M, CC 82P 50V K, CE 47µ 16V, CE 4.7µ 25V, CE 0.47µ 50V, CC 0.01µ 25V Z, CE 2.2µ 50V, CC 2200P 50V K, CMM 0.068µ 50V J, IC µPD4081BC, TR 2SC945L (P,Q), TR DTC144ES	Q653,660,661, Q654,655,656,657,658,659, D651,652,658,660,661,662,663, R651,654, R652,657,658, R653, R655,656, C651, CN1, CN2, CN3, CN4, CN5, CN9, CN22, TP1,2, OB60438A, OB82941A, OB82942A, OB81227A, OB81230A, OB82945A, OB81238A, OB82962A, OB81634A, OJ05326E, Tuner P.C.B., 5P Connector YEL, 6P Connector YEL, 3P-T Post WHT, 3P-T Post YEL, 2P Connector WHT, 5P-T Post YEL, 2P Connector BLK, Earth Plate (1)		
		- AM -												
		- Control -												

5.19. Main P.C.B. Ass'y  
 (1) For SR-4A and SR-4 (Canada & Australia)

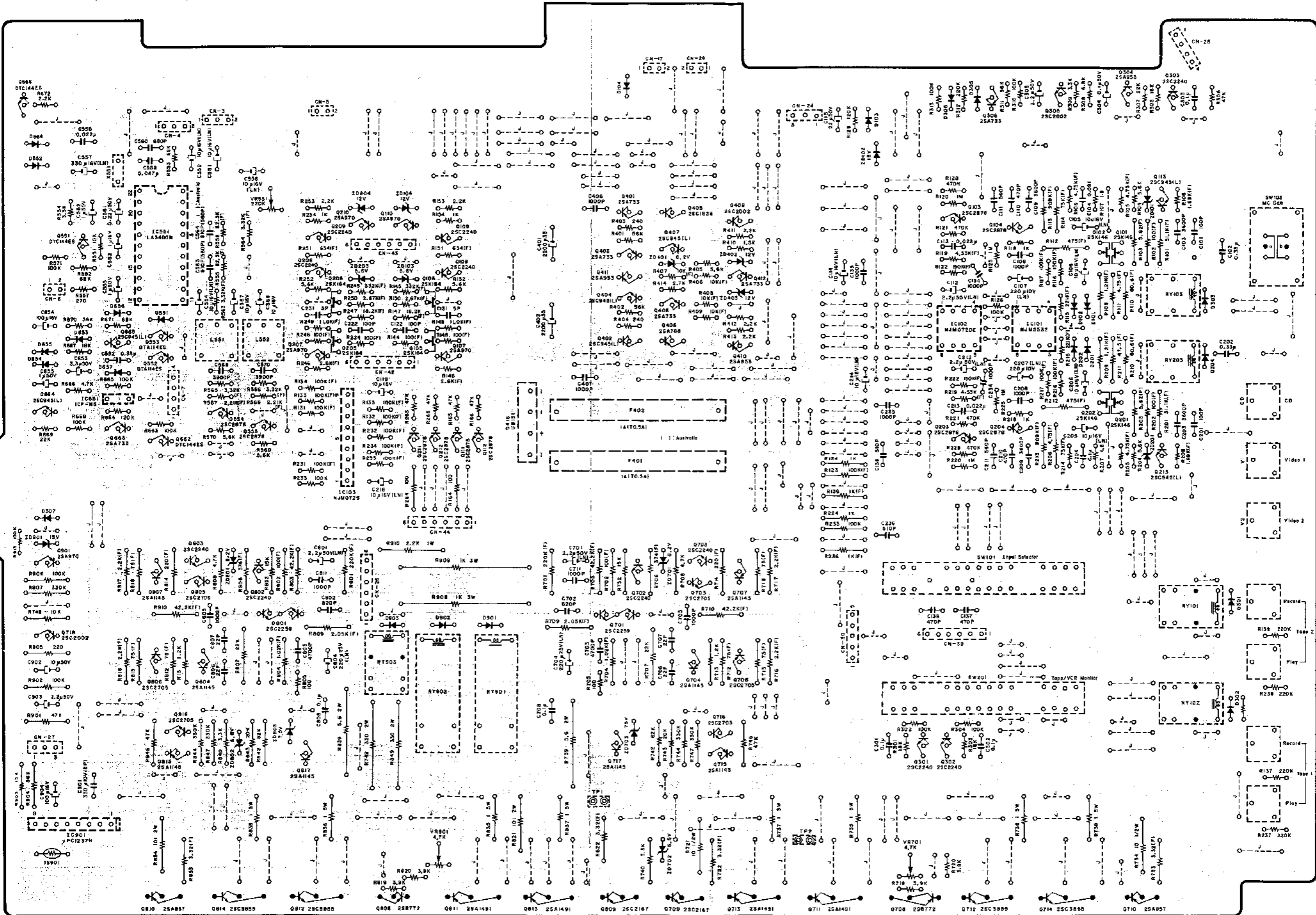


Fig. 5.19.1

Schematic Ref. No.	Part No.	Description	Schematic Ref. No.	Part No.	Description	Schematic Ref. No.	Part No.	Description	Schematic Ref. No.	Part No.	Description	Schematic Ref. No.	Part No.	Description
	BA06594A	Main P.C.B. Ass'y (SR-4A & SR-4 (Canada))	R105,106	OB25260A	RM 4.75K 1/6W F		OB83007A	PD Connector V130 (1)	R739,839	OB24137A	RF 5.6 2W	C406,407	OB41791A	CSP 1000P 50V J
	BA06595A	Main P.C.B. Ass'y (SR-4 (Australia))	R107,207	OB09611A	RK 1.8 1/6W J		OB83008A	PD Connector V150 (1)	R749,849	OB24138A	RF 330 2W	CN29	OB81225A	2P-T Post RED
	— MPX —		R108,208	OB25217A	RM 1.69K 1/6W F		OB83009A	PD Connector V170 (1)	R752,852	OB01683A	RK 15K 1/4W J	F401,402	OB08374A	Fuse 1A (SR-4A & SR-4 (Canada))
IC551	OB11245A	IC LA3400N	R109,209	OB22635A	RM 1.21K 1/4W F		OB83010A	PD Connector V90 (1)	C701,801	OB09933A	CE 2.2μ 50V (LN)		OB08457A	Fuse T500mA 250V (SR-4 (Australia))
IC651	OB11248A	IC ICP-N5-T104	R110,210	OB09891A	RM 80.6 1/4W F		OB83002A	Ribbon Cable 6P 190mm (1)	C702,802	OB41223A	CP 820P 100V J		OB08349B	Fuse Clip (SR-4 (Australia))
Q551,662	OB10062A	TR DTC144ES	R111,211	OB22643A	RM 47.5 1/4W F		OB81020A	2P Pin Jack (1)	C703,803	OB40421A	CE 220μ 25V (LN)		OM04957A	Fuse Label T500mAx2 (SR-4 (Australia))
Q552,553	OB10058A	TR DTA114ES	R112,212	OB22576A	RM 47.5 1/4W F		OB81593A	4P Pin Jack (2)	C704,804	OB41225A	CP 1000P 100V J			
Q554,555	OB06299A	TR 2SC2878	R113,213	OB09561A	RM 909K 1/4W F		OB81594A	6P Pin Jack (1)	C705,805	OB41702A	CSP 22P 50V J			
Q663	OB06013A	TR 2SA733 (P,Q)	R114,214	OB09562A	RM 75K 1/4W F		— Flat Amp. —		C706,707					
Q664,665	OB01872A	TR 2SC945L (P,Q)	R115,215	OB25420A	RM 221K 1/6W F		IC103	OB11070A	IC NJM072S					
D551,552	OB06398A	SiD ISS176	R116,117	OB25387A	RM 100K 1/6W F		Q105,106	OB10193A	FET 2SK184 (GR)					
650,653			R121,128				Q105,106							
654,655			R122,222	OB25212A	RM 1.50K 1/6W F		Q107,110	OB10050A	TR 2SA970 (BL)					
656,657			R123,223	OB09305A	RM 100K 1/4W F		Q108,109	OB06142A	TR 2SC2240 (BL)					
664			R124,224	OB09491A	RM 1K 1/4W F		Q111,112	OB06299A	TR 2SC2878					
L551,552	OB51237A	MPX Filter TF-1042B-1013-00 Semi VR 220K (B) Ceramic Filter CSB456F11	R126	OB09725A	RK 100K 1/6W J		Q111,112							
VR551	OB32066A		R129	OB09727A	RK 120K 1/6W J		ZD103,203	OB12433A	ZD 5.6V UTZJ5.6B					
X551	OB90172A		C101,201	OB41703A	CSP 100P 50V J		ZD104,204	OB12457A	ZD 12V UTZJ12B					
R551	OB09701A		C102,202	OB41304A	CMM 0.33μ 50V J		D104	OB06398A	SiD ISS176					
R552,553	OB09721A		C103,109	OB41238A	CP 3600P 100V J		R131-135	OB25387A	RM 100K 1/6W F					
671			C104,204	OB09868A	CMM 0.1μ 50V J		R136,236	OB25195A	RM 1.00K 1/6W F					
R554	OB09689A		C105,106	OB09816A	CE 10μ 16V (LN)		R144,148	OB25099A	RM 100 1/6W F					
R555,556	OB25379A		C107,207	OB40422A	CE 220μ 10V (LN)		R145,245	OB25437A	RM 332K 1/6W F					
R557	OB09663A		C110,210	OB41225A	CP 1000P 100V J		R146,246	OB25238A	RM 2.80K 1/6W F					
R563,564	OB25245A		C111,211	OB41117A	CP 470P 100V G		R147,247	OB25316A	RM 18.2K 1/6W F					
565,566			C112,212	OB09933A	CE 2.2μ 50V (LN)		R149,249	OB25295A	RM 11.0K 1/6W F					
R567,568	OB25228A		C113,213	OB05582A	CM 0.022μ 50V J		R150,250	OB25236A	RM 2.67K 1/6W F					
R569,570	OB09695A		C115	OB40117A	CE 22μ 50V		R151,251	OB25176A	RM 634 1/6W F					
R571,663	OB09725A		C134,135	OB41791A	CSP 1000P 50V J		R152,252	OB09695A	RK 5.6K 1/6W J					
665,668			C136,236	OB41789A	CSP 510P 50V J		R153,253	OB09685A	RK 2.2K 1/6W J					
R664	OB09727A		SW105	OB70078A	Slide Switch SSSP12		R154,254	OB09677A	RK 1K 1/6W J					
R666	OB09693A						R164,264	OB09653A	RK 100 1/6W J					
R667	OB09707A						R165,166	OB09717A	RK 47K 1/6W J					
R669	OB09709A						C118,218	OB09816A	CE 10μ 16V (LN)					
R670	OB09719A		Q301,302	OB06142A	TR 2SC2240 (BL)		C122,222	OB41703A	CSP 100P 50V J					
R672	OB09685A		Q303	OB06372A	TR 2SA953 (K,L)		C131,231	OB41809A	CMM 5P 50V Z					
C551,552	OB09816A		Q304	OB06322A	TR 2SC2002 (K,L)		CN42,43	OB81013A	Dip Mate 6P WH6D-1					
554,555			Q305	OB06013A	TR 2SA733 (P,Q)			OB82971A	Ribbon Cable 6P 230mm (1)					
C553,555	OB01405A	CE 1μ 50V	D301-306	OB06398A	SiD ISS176 (6)			— Power Amp. —						
562,655			RY101,102	OB09243A	Relay 24V G5A237P									
C557	OB40418A	CE 330μ 16V (LN)	R137,139	OB09733A	RK 220K 1/6W J									
C558	OB41290A	CMM 0.022μ 50V J	287,239											
C559	OB41555A	CC 0.047μ 25V Z	312											
C560	OB09287A	CC 680P 50V K	R301,303	OB09707A	RK 18K 1/6W J									
C561	OB40023A	CE 0.22μ 50V	305	OB09725A	RK 100K 1/6W J									
C563,564	OB41409A	CP 910P 50V J (SR-4A & SR-4 (Canada))	R302,304	OB09717A	RK 47K 1/6W J									
			310,313	OB09709A	RK 22K 1/6W J									
C567,568	OB01412A	CE 10μ 16V	R306	OB09697A	RK 6.8K 1/6W J									
C569,570	OB41281A	CMM 3900P 50V J	R307	OB09689A	RK 3.3K 1/6W J									
C652	OB41304A	CMM 0.33μ 50V J	R308	OB09719A	RK 56K 1/6W J									
C653	OB01863A	CE 3.3μ 50V	R309	OB41217A	CP 470P 100V J									
C654	OB01400A	CE 100μ 16V	R311	OB41298A	CMM 0.1μ 50V J									
CN3	OB82943A	3P Connector WHT	C304	OB40265A	CE 0.1μ 50V									
CN4	OB82944A	3P Connector YEL	C305	OB40027A	CE 2.2μ 50V									
CN5	OB81223A	2P-T Post WHT	SW101	OB70100A	Slide Switch ESA26132									
CN6	OB82946A	2P Connector YEL	SW201	OB70103A	Slide Switch ESA26572									
CN7	OB81231A	4P-T Post WHT	CN17	OB82957A	2P Connector WHT									
			CN24	OB81229A	3P-T Post RED									
			CN25	OB81231A	4P-T Post WHT									
			CN30	OB82968A	5P Connector WHT									
			CN39	OB81013A	Dip Mate 6P WH6D-1									
				OB82750A	PD Connector V80 (1)									
				OB82751A	PD Connector V80 (3)									
				OB82752A	PD Connector V80 (1)									
				OB82992A	PD Connector V150 WHT (2)									
IC101	OB11204A	IC NJM5532DD												
IC102	OB11005A	IC NJM072DE												
Q101,102	OB10195A	FET 2SK146 (BL,V)												
Q103,104	OB06299A	TR 2SC2878												
Q113,213	OB01872A	TR 2SC945L (P,Q)												
D101,102	OB06398A	SiD ISS176												
103,201														
ZD101,201	OB12451A	ZD 10V UTZJ10B												
ZD102	OB12469A	ZD 18V UTZJ18B												
RY103,203	OB90243A	Relay G5A237P												
R101,201	OB09453A	RM 51.1K 1/4W F												
R102,202	OB22567A	RM 100 1/4W F												
R103,203	OB22684A	RM 5.6K 1/4W F												
R104,204	OB09695A	RK 5.6K 1/6W J												



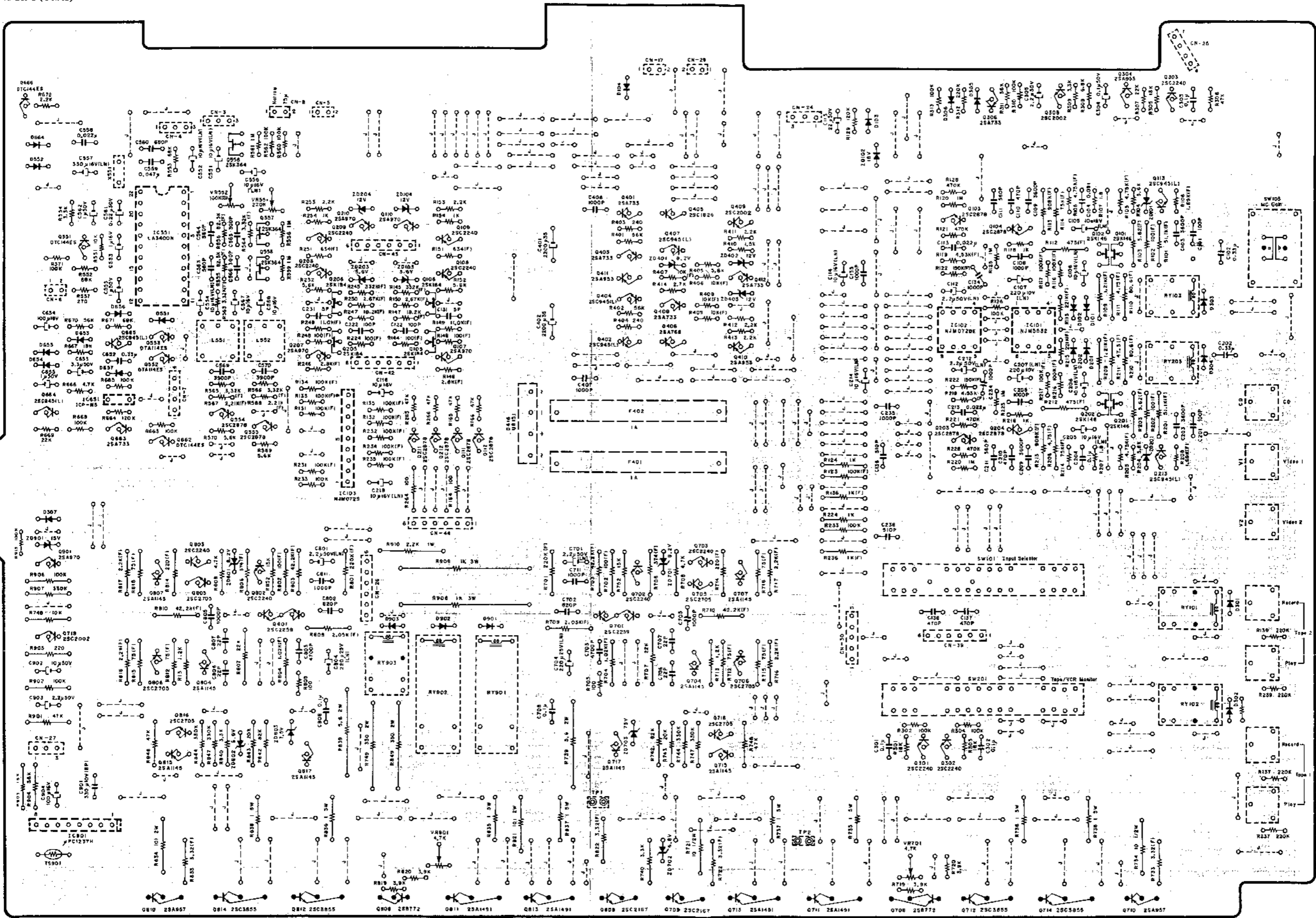


Fig. 15.19.2

Schematic Ref. No.	Part No.	Description	Schematic Ref. No.	Part No.	Description	Schematic Ref. No.	Part No.	Description	Schematic Ref. No.	Part No.	Description	Schematic Ref. No.	Part No.	Description
	BA06696A	Main P.C.B. Ass'y (SR-4 (Other))	R104,204	OB09695A	RK 5.6K 1/6W J		OB83007A	PD Connector V130 (1)	R739,839	OB24137A	RF 5.6 2W	C406,407	OB41791A	CSP 1000P 50V J
	-- MPX --		R105,106	OB25260A	RM 4.75K 1/6W F		OB83008A	PD Connector V150 (1)	R749,849	OB24138A	RF 330 2W	CN29	OB81225A	2P-T Post RED
IC551	OB11245A	IC LA3400N	205,206				OB83009A	PD Connector V170 (1)	R752,852	OB01683A	RK 15K 1/4W J	F401,402	OB08374A	Fuse 1A
IC651	OB11248A	IC ICP-N5-T104	R107,207	OB09611A	RK 1.8 1/6W J		OB83010A	PD Connector V90 (1)	C701,801	OB09933A	CE 2.2µ 50V (LN)			-- Miscellaneous --
Q551,662	OB10062A	TR DTC144ES	R108,208	OB25217A	RM 1.69K 1/6W F		OB83002A	Ribbon Cable 6P 190mm (1)	C702,802	OB41223A	CP 820P 100V J			
Q552,553	OB10058A	TR DTA114ES	R109,209	OB22635A	RM 1.21K 1/4W F		OB81020A	2P Pin Jack (1)	C703,803	OB41282A	CMM 4700P 50V J	Q708,808	OB60431B	Main P.C.B.
Q554,555	OB06299A	TR 2SC2878	R110,210	OB09891A	RM 80.6 1/4W F		OB81593A	4P Pin Jack (2)	C704,804	OB40421A	CE 220µ 25V (LN)	Q709,809	OB10206A	TR 2SC2167 Pair
Q556,557	OB10151A	FET 2SK364	R111,211	OB22643A	RM 47.5 1/4W F		OB81594A	6P Pin Jack (1)	C705,805	OB41225A	CP 1000P 100V J	Q710,810	OB10207A	TR 2SA957 Pair
Q663	OB06013A	TR 2SA733 (P,Q)	R112,212	OB22576A	RM 47.5 1/4W F				C706,707	OB41702A	CSP 22P 50V J	Q711,713	OB10177A	TR 2SA1491
Q664,665	OB01872A	TR 2SC945L (P,Q)	R113,213	OB09561A	RM 909K 1/4W F				C708,808	OB41594A	CM 0.1µ 100V J	811,813		
D551,552	OB06398A	SID 1SS176	R114,214	OB09562A	RM 75K 1/4W F				C711,811	OB41791A	CSP 1000P 50V J	Q712,714	OB10179A	TR 2SC3855
650,653			R115,215	OB25420A	RM 221K 1/6W F				TP1,2	OB81634A	2P-T Post	812,814		
654,655			R116,117	OB25387A	RM 100K 1/6W F				CN44	OB81013A	Dip Mate 6P WH6D-1	TS901	OB90247A	Thermistor UP62
656,657			216,217										OE00868A	BT3x8 @ Binding (5)
664			R118,218	OB09677A	RK 1K 1/6W J	IC103	OB11070A	IC NJM072S		OB82980A	PD Connector V440 RED (1)		OE03138A	M3x10 @ Binding (14)
L551,552	OB51237A	MPX Filter TP-1042B-1013-00	R119,219	OB25258A	RM 4.53K 1/6W F	Q105,106	OB10193A	FET 2SK184 (GR)		OB82981A	PD Connector V440 WHT (2)			
VR551	OB32066A	Semi VR 220K (B)	R120,125	OB09749A	RK 1M 1/6W J	205,206	OB10050A	TR 2SA970 (BL)		OB82982A	PD Connector V440 YEL (1)		QJ05328A	Insulator Sheet (2)
VR552	OB32086A	Semi VR 100K (B)	220,225			Q107,110	OB06142A	TR 2SC2240 (BL)		OB83007A	PD Connector V130 (2)		QJ05329A	Main P.C.B. Holder L (1)
X551	OB90172A	Ceramic Filter CSB456F11	R122,222	OB25212A	RM 1.50K 1/6W F	Q108,109	OB06299A	TR 2SC2878					QJ05330A	Main P.C.B. Holder R (1)
R551	OB09701A	RK 10K 1/6W J	R123,223	OB09305A	RM 100K 1/4W F	208,209							QJ05349A	Thermistor Holder (1)
R552,553	OB09721A	RK 68K 1/6W J	R124,224	OB09491A	RM 1K 1/4W F	Q111,112							QJ05352A	Main Heat Sink (1)
671			R126	OB09725A	RK 100K 1/6W J	211,212								
R554	OB09689A	RK 3.3K 1/6W J	R129	OB09727A	RK 120K 1/6W J	ZD103,203	OB12433A	ZD 5.6V UTZJ5.6B	IC901	OB11246A	IC µPC1237H			
R555,556	OB25379A	RM 82.5K 1/6W F	C101,201	OB41703A	CSP 100P 50V J	ZD104,204	OB12457A	ZD 12V UTZJ12B	Q715,717	OB10204A	TR 2SA1145 (O,Y) Pair			
R557	OB09663A	RK 270 1/6W J	C102,202	OB41304A	CMM 0.33µ 50V J	D104	OB06398A	SID 1SS176	815,817	OB10205A	TR 2SC2705 (O,T) Pair			
R558,559	OB09749A	RK 1M 1/6W J	C103,109	OB41238A	CP 3600P 100V J	R131-135	OB25387A	RM 100K 1/6W F (10)	Q716,816	OB10205A	TR 2SC2002 (K,L) Pair			
561			203,209			C104,204	OB25195A	RM 1.00K 1/6W F	Q718	OB06322A	TR 2SC2002 (K,L)			
R560,562	OB09725A	RK 100K 1/6W J	C105,106	OB09868A	CMM 0.1µ 50V J	R136,236	OB25099A	RM 100 1/6W F	D307,901	OB10050A	TR 2SA970 (BL) SID			
571,663			C107,207	OB40422A	CE 220µ 10V (LN)	R144,148			902,903	OB12439A	ZD 6.8V UTZJ6.8B			
665,668			C108,208	OB41225A	CP 1000P 100V J	R146,246			ZD702,802	OB12442A	ZD 7.5V UTZJ7.5B			
R563,564	OB25245A	RM 3.32K 1/6W F	C110,210	OB41117A	CP 470P 100V G	R147,247			ZD703,803	OB12463A	ZD 15V UTZJ15B			
565,566			C111,211	OB41119A	CP 560P 100V G	R149,249			RY901,902	OB90199A	Relay 24V			
567,568	OB25228A	RM 2.21K 1/6W F	C112,212	OB09933A	CE 2.2µ 50V (LN)	R150,250								
R569,570	OB09695A	RK 5.6K 1/6W J	C113,213	OB05582A	CM 0.022µ 50V J	R151,251								
R664	OB09727A	RK 120K 1/6W J	C115	OB40117A	CE 22µ 50V	R152,252								
R666	OB09693A	RK 4.7K 1/6W J	C134,135	OB41791A	CSP 1000P 50V J	R153,253								
R667	OB09707A	RK 18K 1/6W J	234,235			R154,254								
R669	OB09709A	RK 22K 1/6W J	C136,236	OB41789A	CSP 510P 50V J	R164,264								
R670	OB09719A	RK 56K 1/6W J	SW105	OB70078A	Slide Switch SSSP12	R165,166								
R672	OB09685A	RK 2.2K 1/6W J				265,266								
C551,552	OB09816A	CE 10µ 16V (LN)	Q301,302	OB06142A	TR 2SC2240 (BL)	C118,218	OB09816A	CE 10µ 16V (LN)						
554,556			303			C122,222	OB41703A	CSP 100P 50V J						
557,558			Q304	OB06372A	TR 2SA953 (K,L)	C131,231	OB41609A	CMM 5P 50V Z						
C557	OB40418A	CE 330µ 16V (LN)	Q305	OB06322A	TR 2SC2002 (K,L)	CN42,43	OB81013A	Dip Mate 6P WH6D-1						
C558	OB41290A	CMM 0.022µ 50V J	Q306	OB06013A	TR 2SA733 (P,Q)		OB82971A	Ribbon Cable 6P 230mm (1)						
C559	OB41555A	CC 0.047µ 25V Z	D301-306	OB06398A	SID 1SS176 (6)									
C560	OB09287A	CC 680P 50V K	RY101,102	OB90243A	Relay 24V G5A237P									
C561	OB40023A	CE 0.22µ 50V	R137,139	OB09733A	RK 220K 1/6W J									
C563,564	OB41404A	CP 560P 50V J	237,239			Q701,801	OB10125A	TR 2SC2259						
C565,566	OB41397A	CP 300P 50V J	312			Q702,703	OB06142A	TR 2SC2240 (BL)						
C567,568	OB01412A	CE 10µ 16V	R301,303	OB09707A	RK 18K 1/6W J	802,803								
C569,570	OB41281A	CMM 3900P 50V J	305			Q704,707	OB10204A	TR 2SA1145 (O,Y)						
C652	OB41304A	CMM 0.33µ 50V J	R302,304	OB09725A	RK 100K 1/6W J	804,807								
C653	OB01863A	CE 3.3µ 50V	310,313			Q705,706	OB10205A	TR 2SC2705 (O,T)						
C654	OB01400A	CE 100µ 16V	R306	OB09717A	RK 47K 1/6W J	805,806								
CN3	OB82943A	3P Connector WHT	R307	OB09709A	RK 22K 1/6W J	ZD701,801	OB12445A	ZD 8.2V UTZJ8.2B						
CN4	OB82944A	3P Connector YEL	R308	OB09697A	RK 6.8K 1/6W J	VR701,801	OB32078A	Semi VR 4.7K (B)						
CN5	OB81223A	2P-T Post WHT	R309	OB09689A	RK 3.3K 1/6W J	R701,801	OB09472A	RM 220K 1/4W F						
CN6	OB82946A	2P Connector YEL	R311	OB09719A	RK 56K 1/6W J	R702,802	OB22567A	RM 100 1/4W F						
CN7	OB81231A	4P-T Post WHT	C137,138	OB41217A	CP 470P 100V J	R703,710	OB22747A	RM 42.2K 1/4W F						
CN8	OB81226A	2P-T Post YEL	C301,302	OB41298A	CMM 0.1µ 50V J	803,810								
			303			R704,804	OB22550A	RM 1.02K 1/4W F						
			C304	OB40265A	CE 0.1µ 50V	R705,805	OB01679A	RK 100 1/4W J						
			C305	OB40027A	CE 2.2µ 50V	R706,806	OB25486A	RM 374 1/4W F						
			SW101	OB70100A	Slide Switch	R707,807	OB24111A	RF 22K 1/2W J						
						R708,808	OB01846A	RK 4.7K 1/4W J						
						R709,809	OB22748A	RM 2.05K 1/4W F						
						R712,715	OB22632A	RM 75 1/4W F						
						718,812								
						815,818								
						R713,813								
						R714,814								
						R716,717								
						816,817								
						R719,720								
						819,820								
						R721,734								
						821,834								
						R722,733								
						822,833								
						R735-738								
						835-838								

6. SCHEMATIC DIAGRAMS

6.1. IC Block Diagrams

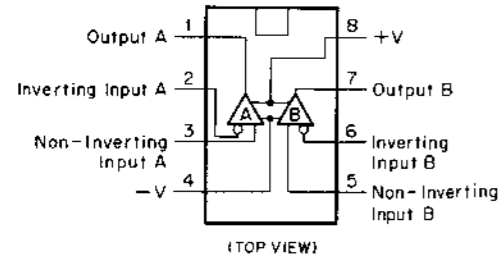


Fig. 6.1.1 Operational Amp. IC NJM072DE, NJM5532DD

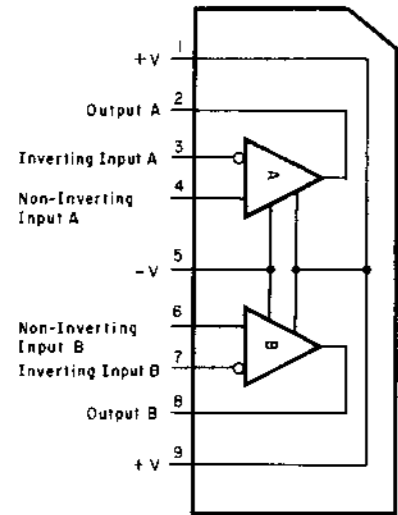


Fig. 6.1.2 Operational Amp. IC NJM072S

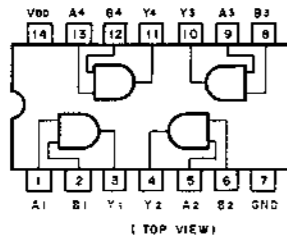


Fig. 6.1.3 AND Gate C-MOS IC  $\mu$ PD4081BC

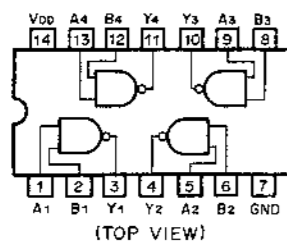


Fig. 6.1.4 NAND Gate C-MOS IC  $\mu$ PD4011BC

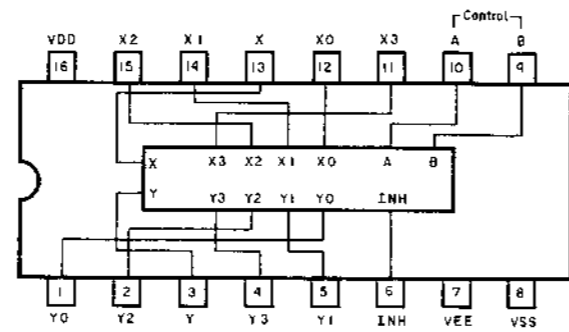


Fig. 6.1.5 Analog Multiplexers/Demultiplexers IC  $\mu$ PD4052BC

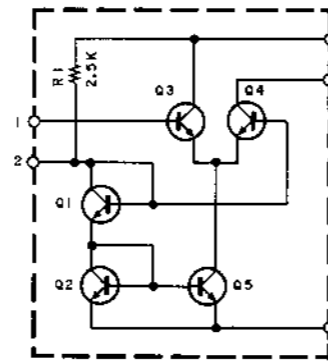


Fig. 6.1.6 FM IF Amp. IC TA7060AP

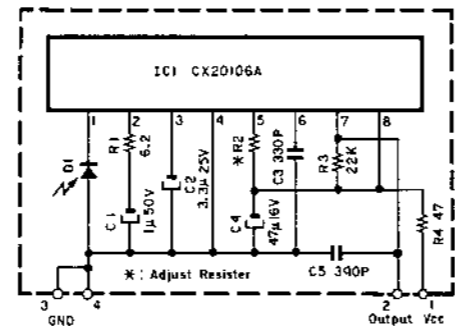


Fig. 6.1.7 Remote Control Receiver IC BX-1419

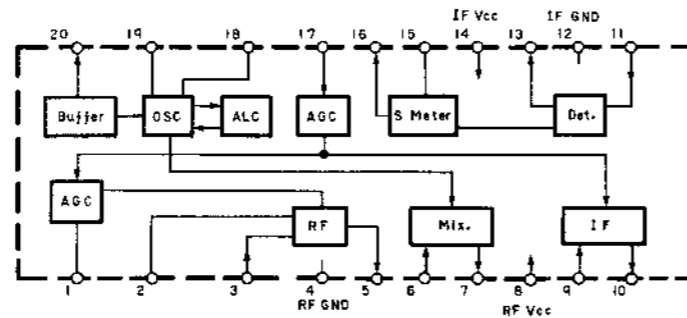


Fig. 6.1.8 AM Tuner IC LA1247

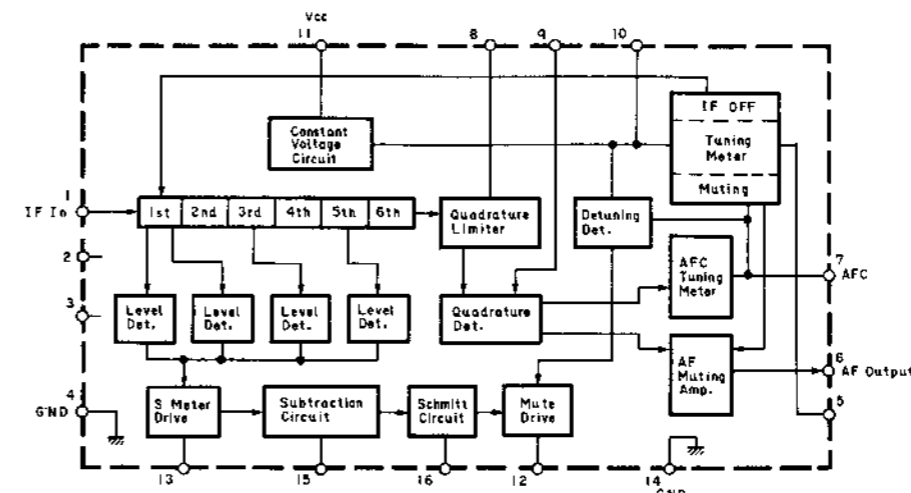


Fig. 6.1.9 FM IF System IC LA1235

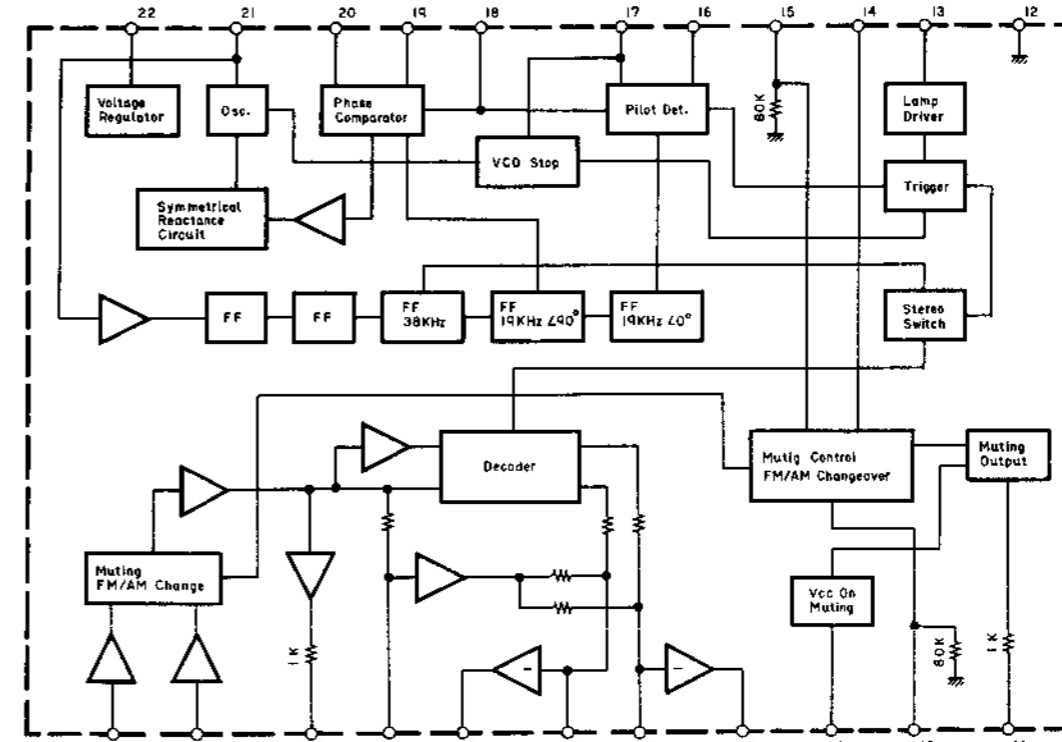


Fig. 6.1.10 FM Stereo Demodulator IC LA3400N

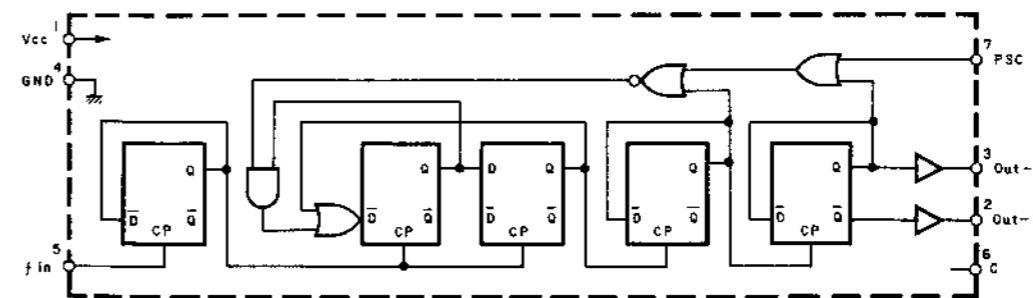


Fig. 6.1.11 ECL Prescaler (FM) IC TD6104





3.17. Main P.C.B. Assy

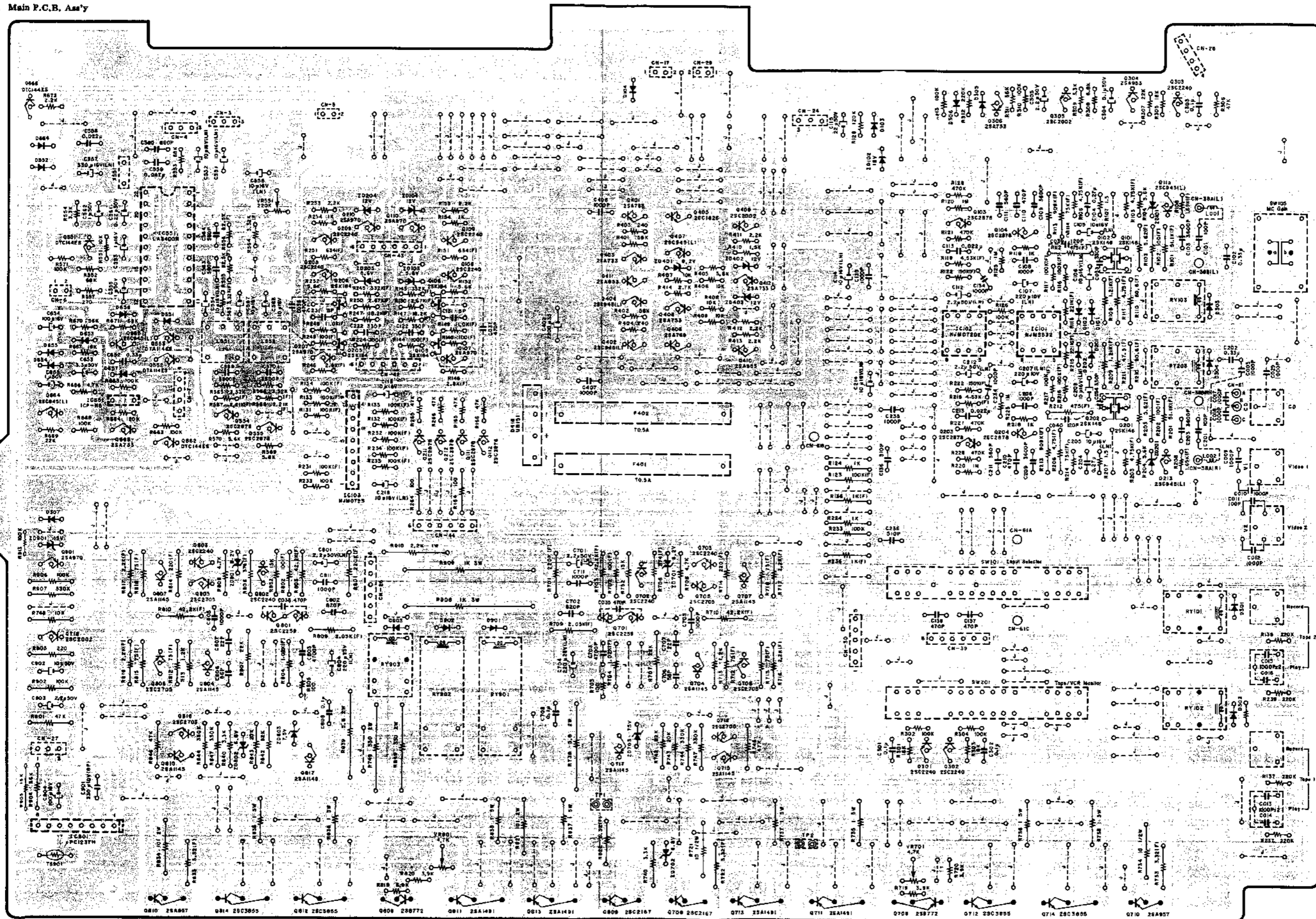


Fig. 3.17

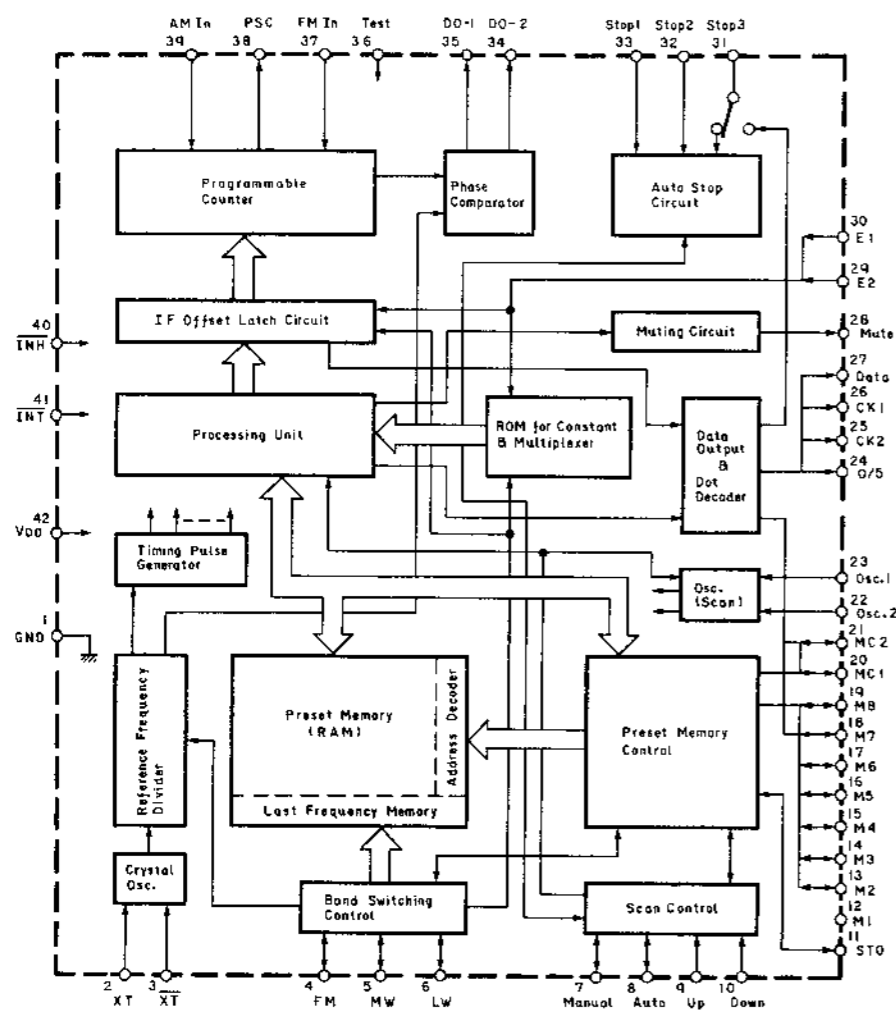


Fig. 6.1.12 FM/MW/LW 3-Band Digital Tuning (Static Method) IC TC9147BP

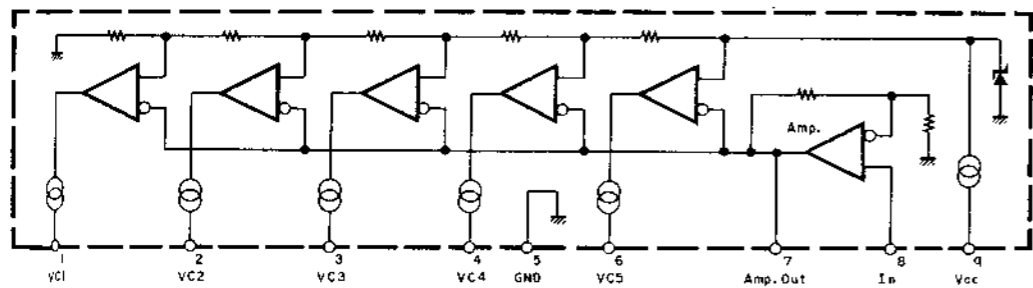


Fig. 6.1.13 Signal Meter Driver IC LB1413N

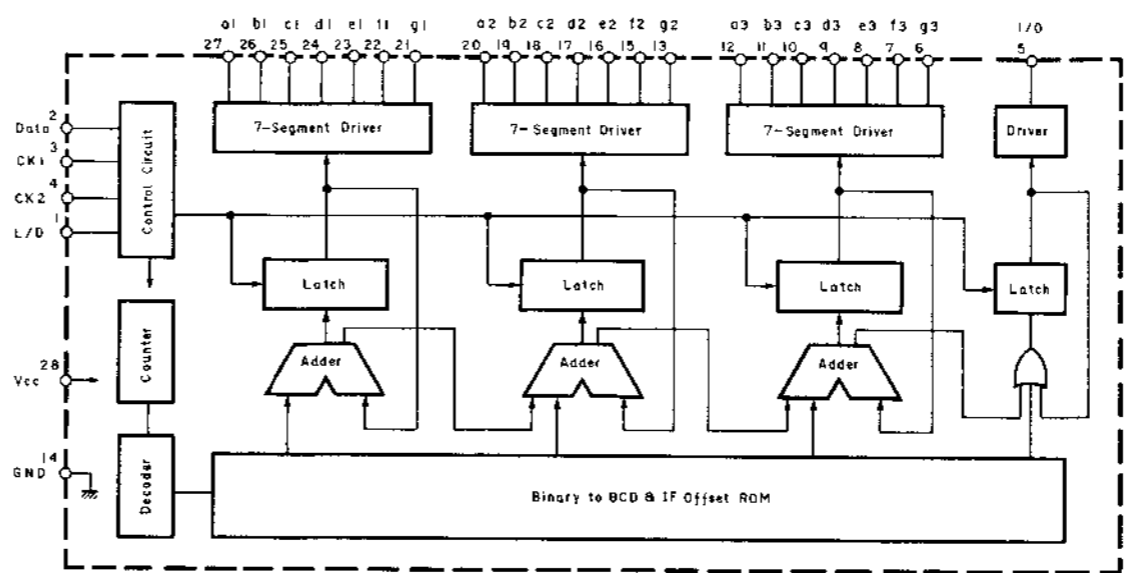


Fig. 6.1.14 Indicator Driver IC TD6301A

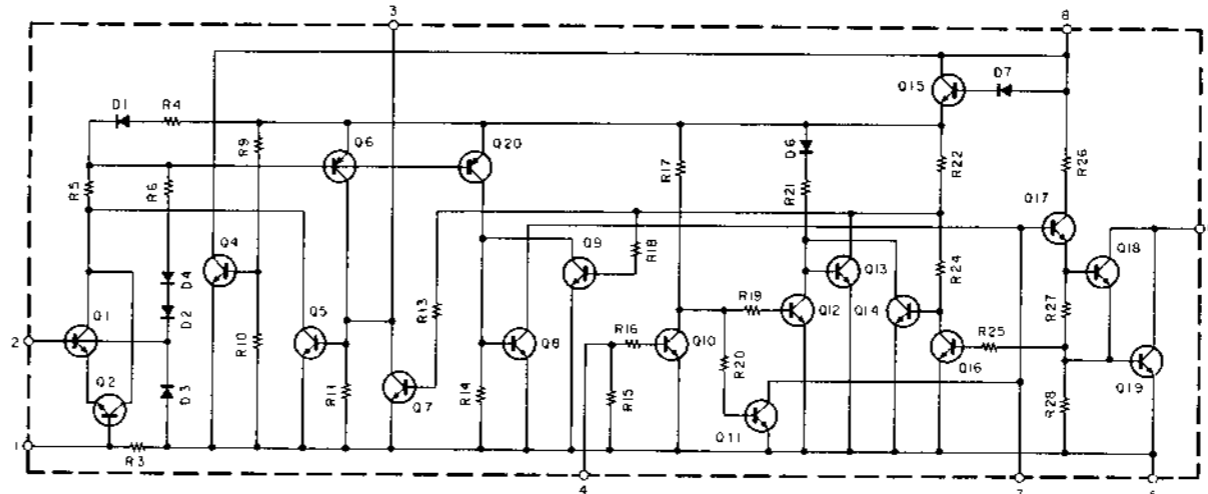
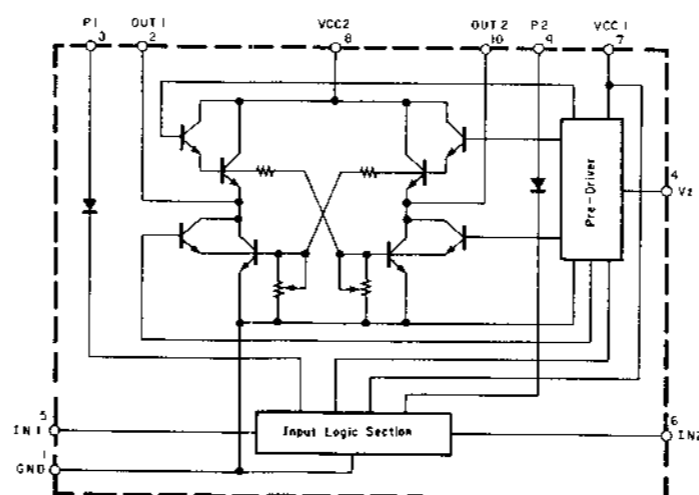


Fig. 6.1.15 Motor Control IC LB1645N



INPUT	OUTPUT	OPERATION		
IN1	IN2	OUT1	OUT2	
0	0	0	0	Braking
1	0	1	0	Forward (Reverse)
0	1	0	1	Reverse (Forward)
1	1	0	0	Braking

Fig. 6.1.16 Power Amp./Speaker Protector IC μPC1237H

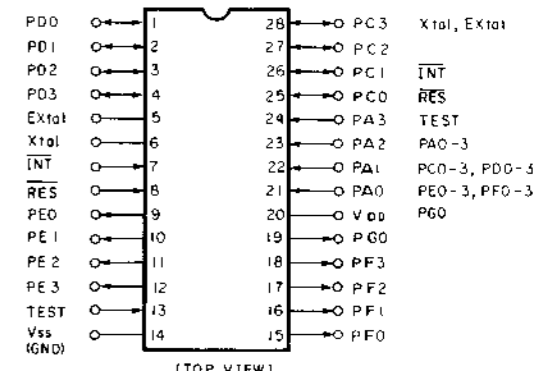
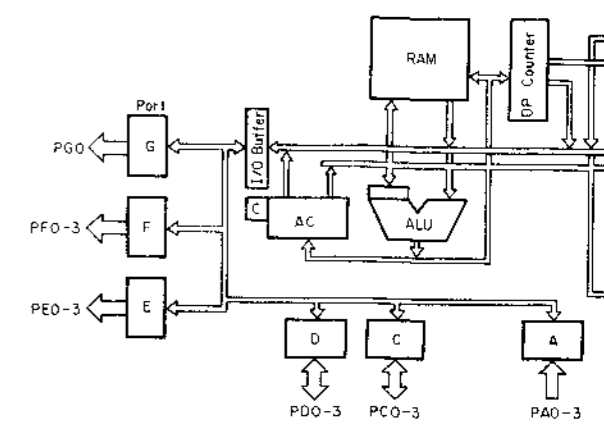
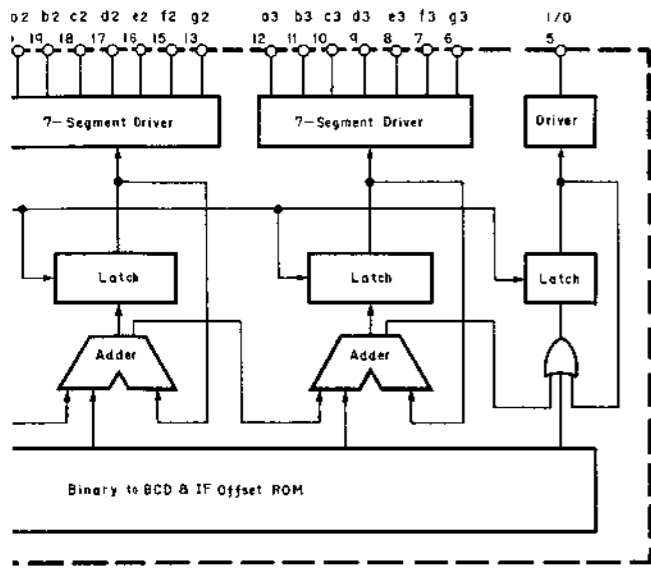


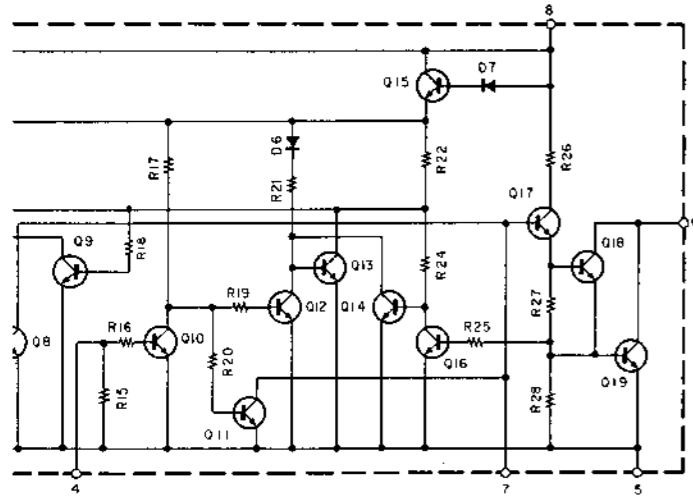
Fig. 6.1.17 Microprocessor LB6416E

Function of Micro-processor LB6416E

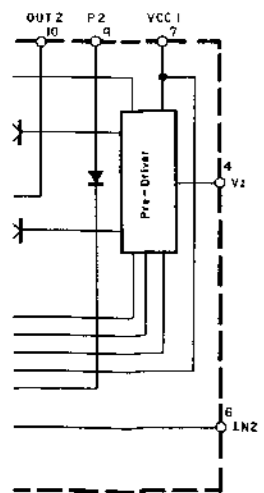
Pin No.	Signal Name	In/Out	Description
1	Power-ON	Out	Power-ON becomes "H" (reset) when power switch is turned "L". "L" signal causes relay on the Power Supply ON, as a result power type circuits. Power ON/OFF control the Remote Control Power ON/OFF but Control Unit causes it to be changed, which is OFF of the power (Active "L")
2	Seek-up	Out	Becomes "L" upon the Up button on the (Active "L")
3	Seek-down	Out	Becomes "L" upon the Down button on the (Active "L")
4	M1	Out	Becomes "L" upon the Pusher button 1-6 on the unit. Refer to Shift Lock-shift (pin No. 12)
5	EX	-	Resonator (800 kHz)
6	X	-	Resonator (800 kHz)
7	INT	In	Interrupt used. Connected to



Calculator Driver IC TD6301A



Remote Control IC LB1645N



Speaker Protector IC μPC1237H

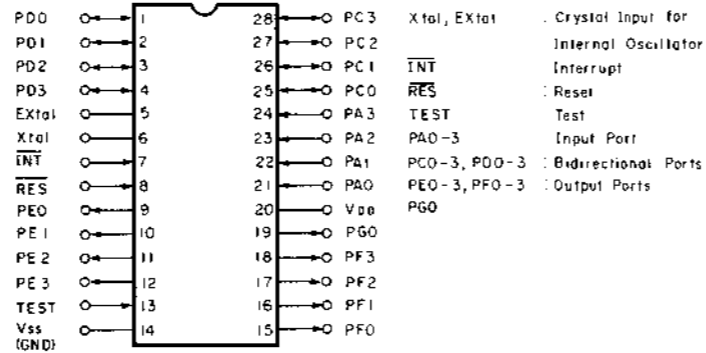
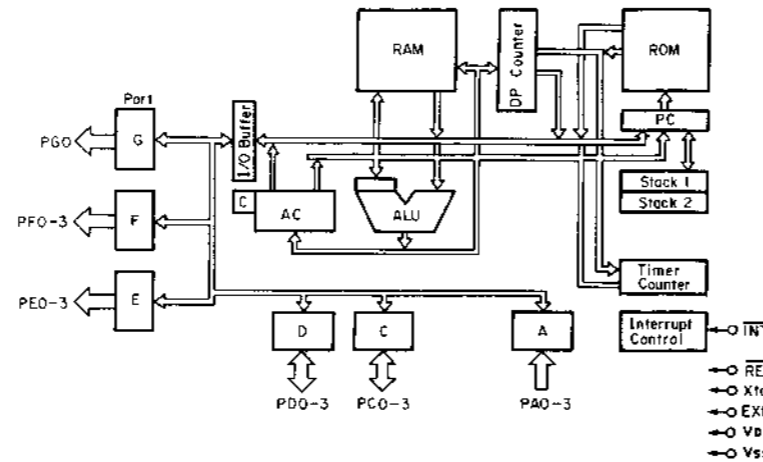
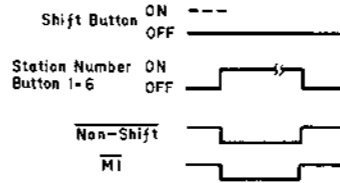
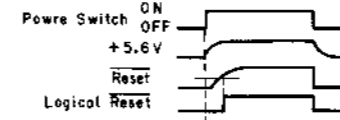


Fig. 6 1.17 Microprocessor LB6416E

Function of Micro-processor LB6416E

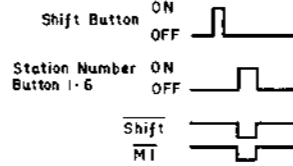
Pin No.	Signal Name	In/Out	Description
1	Power-ON	Out	Power-ON becomes "L" when Reset becomes "H" (reset is released), after the Power switch is turned ON. Power-ON = "L" signal causes relays RY401 and RY402 on the Power Supply P.C.B. Ass'y to turn ON, as a result power is supplied to respective circuits. Power ON/OFF control is possible through the Remote Control Unit. Pressing of the Power ON/OFF button on the Remote Control Unit causes the state of Power-ON to be changed, which enables turning ON and OFF of the power to the circuits. (Active "L")
2	Seek-up	Out	Becomes "L" upon push of the Seek Up/Down button on the Remote Control Unit. (Active "L")
3	Seek-down	Out	Becomes "L" upon push of the Seek Up/Down button on the Remote Control Unit. (Active "L")
4	M1	Out	Becomes "L" upon push of the Station Number button 1-6 on the Remote Control Unit. Refer to Shift (pin No. 11) and Non-shift (pin No. 12). (Active "L")
5	EX	-	Resonator (800 kHz) is connected.
6	X	-	
7	INT	In	Not used. Connected to +5 V.

Pin No.	Signal Name	In/Out	Description
8	Reset	In	When the Power switch is turned ON or OFF, Reset becomes "L" and this IC is reset. (Active "L")
9	AM	Out	Becomes "L" upon push of the AM/FM button on the Remote Control Unit. (Active "L")
10	FM	Out	Becomes "L" upon push of the AM/FM button on the Remote Control Unit. (Active "L")
11	Shift	Out	When the Station Number button 1-6, 2-7, 3-8, 4-9, or 5-10 on the Remote Control Unit is pressed without pushing the Shift button on the Remote Control Unit, Non-shift and M1, M2, M3, M4, or M5 become "L" simultaneously and station 1, 2, 3, 4, or 5 (not 6, 7, 8, 9, or 10) is selected.
12	Non-shift	Out	When the Station Number button 1-6, 2-7, 3-8, 4-9, or 5-10 on the Remote Control Unit is pressed without pushing the Shift button on the Remote Control Unit, Non-shift and M1, M2, M3, M4, or M5 become "L" simultaneously and station 1, 2, 3, 4, or 5 (not 6, 7, 8, 9, or 10) is selected.



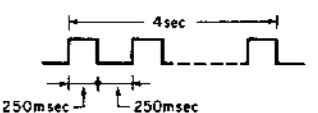
(Station Number 1 select timing chart)

When one of the Station Number buttons is pressed within 2 seconds after the Shift button is pressed, Shift and one of M1 through M5 become "L" simultaneously and one of stations 6 through 10 is selected.



(Station Number 6 select timing chart)

13	TEST	In	Not used.
14	Vss	In	Connected to GND.
15	M2	Out	M2, M3, M4 and M5 become "L" when Station Number buttons 2-7, 3-8, 4-9 and 5-10 on the Remote Control Unit are pressed. Refer to Shift (pin 11) and Non-shift (pin 12). (Active "L")
16	M3	Out	M2, M3, M4 and M5 become "L" when Station Number buttons 2-7, 3-8, 4-9 and 5-10 on the Remote Control Unit are pressed. Refer to Shift (pin 11) and Non-shift (pin 12). (Active "L")
17	M4	Out	M2, M3, M4 and M5 become "L" when Station Number buttons 2-7, 3-8, 4-9 and 5-10 on the Remote Control Unit are pressed. Refer to Shift (pin 11) and Non-shift (pin 12). (Active "L")
18	M5	Out	M2, M3, M4 and M5 become "L" when Station Number buttons 2-7, 3-8, 4-9 and 5-10 on the Remote Control Unit are pressed. Refer to Shift (pin 11) and Non-shift (pin 12). (Active "L")
19	Remote	Out	Becomes L while receiving a signal from the Remote Control Unit. When Remote is "L", the indicator on the Remote Control Sensor lights up. (Active "L")
20	VDD	In	Supplied with +5 V.
21	Sin	In	Receives the output signal from IC954 (Remote Control Receiver) on the Display P.C.B. Ass'y. (Active "L")

Pin No.	Signal Name	In/Out	Description
22	P.Mute	In	Power Mute signal generated at power ON and OFF. (Active "H")
23	K.Mute	In	Becomes "L" upon push of the Audio Mute switch. (Active "L") At the falling edge of K.Mute, a 3-msec width pulse is output from M.PLS (pin 25) to the Audio Mute flip-flop consisting of IC605. The pulse input inverts state of the flip-flop. When the Audio Mute flip-flop is set, audio muting is enabled and Audio Mute indicator lights up.
24	S.Mute	In	If the Volume Up button on the Remote Control Unit is pressed (Vol-up (pin 27) = "L") while S.Mute is at "H", i.e. while the Audio Mute flip-flop consisting of IC605 is being set and audio mute is enabled, a 3-msec width pulse is output from M.PLS (pin 25) to reset the Audio Mute flip-flop and to disable audio mute.
25	M.PLS	Out	Outputs a 3-msec width pulse which inverts state of the Audio Mute flip-flop consisting of IC605. Pulse is output in the following cases. (Active "L") 1. When the Audio Mute switch is pressed. (Refer to K.Mute (pin 23).) 2. When the Volume Up button on the Remote Control Unit is pressed while audio muting is being enabled. (Refer to S.Mute (pin 24).)
26	P.IND	Out	Outputs pulse train for 4 seconds in the following cases. The green Power indicator flashes. (Active "H") 1. When reset is released (Reset = "H") after the Power switch is turned ON. 2. When power is turned ON by pressing of the Power ON/OFF button on the Remote Control Unit. 
27	Vol-up	Out	Becomes "L" while the Volume Up/Down button on the Remote Control Unit is being pressed. (Active "L")
28	Vol-down	Out	Becomes "L" while the Volume Up/Down button on the Remote Control Unit is being pressed. (Active "L")



6.2. Schematic Diagrams  
6.2.1. Amplifier Section

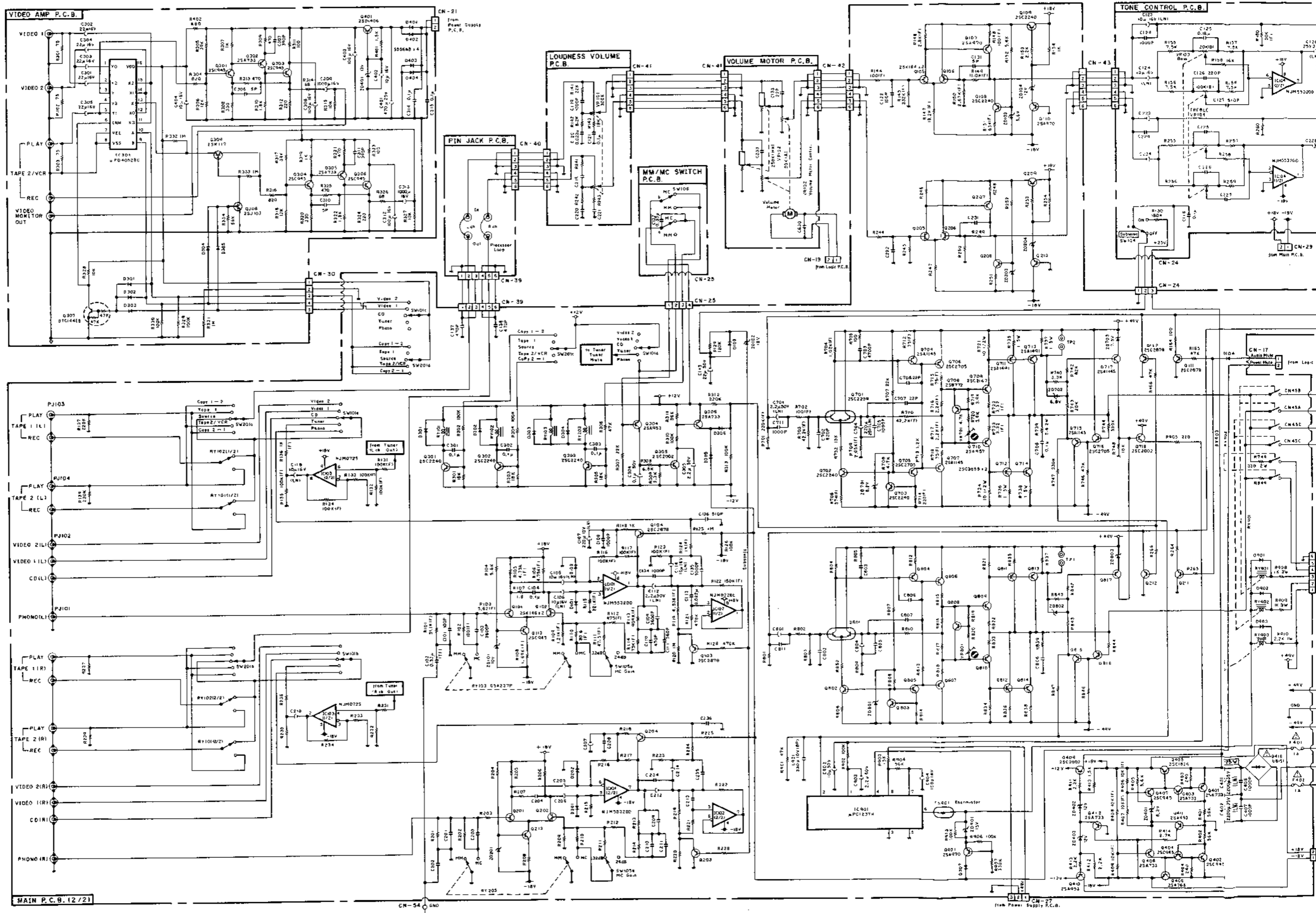
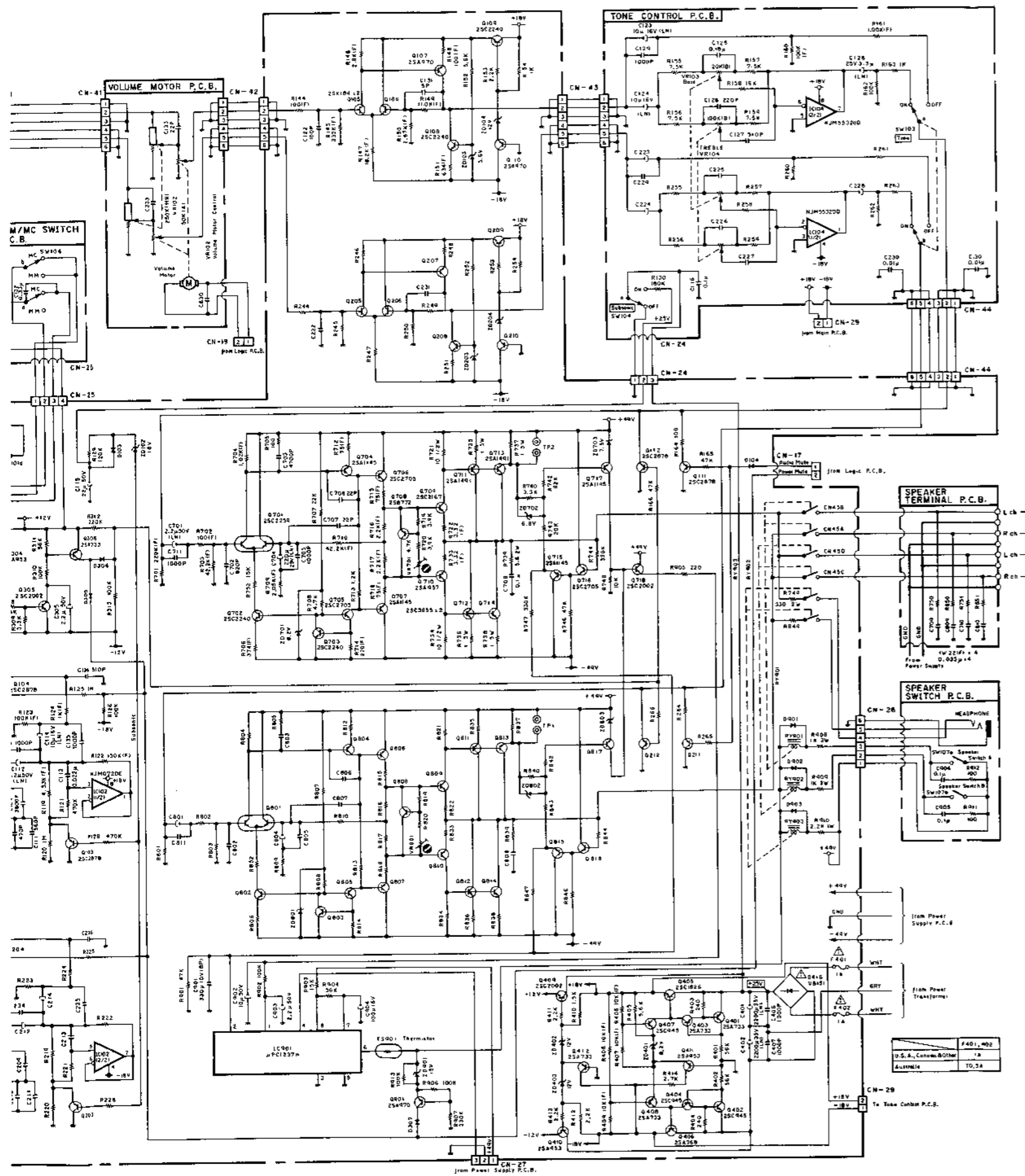


Fig. 6.2.1



- Notes: 1. Diode is 1SS53, 1S1555, or 1SS176 unless otherwise specified.  
 2. 2SA733, 2SA608SP, 2SA1048 and 2SA1175 are interchangeable with each other.  
 3. 2SC945, 2SC536SP, 2SC2458 and 2SC2785 are interchangeable with each other.

6.2.2. Tuner and Power Supply Section  
 (1) For SR-4A and SR-4 (Canada)

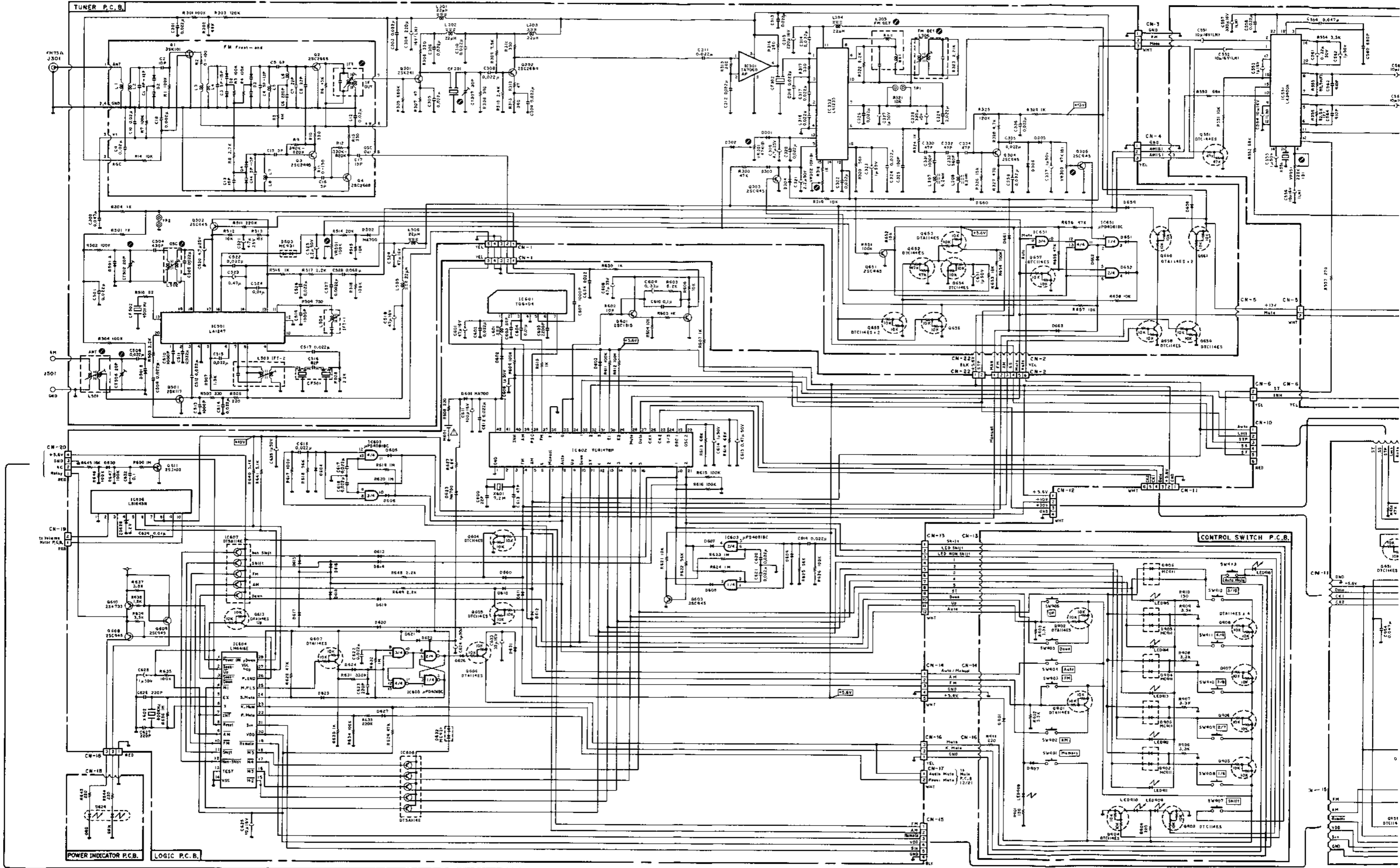


Fig. 6.2.2.1 For SR-4A and SR-4 (Canada)

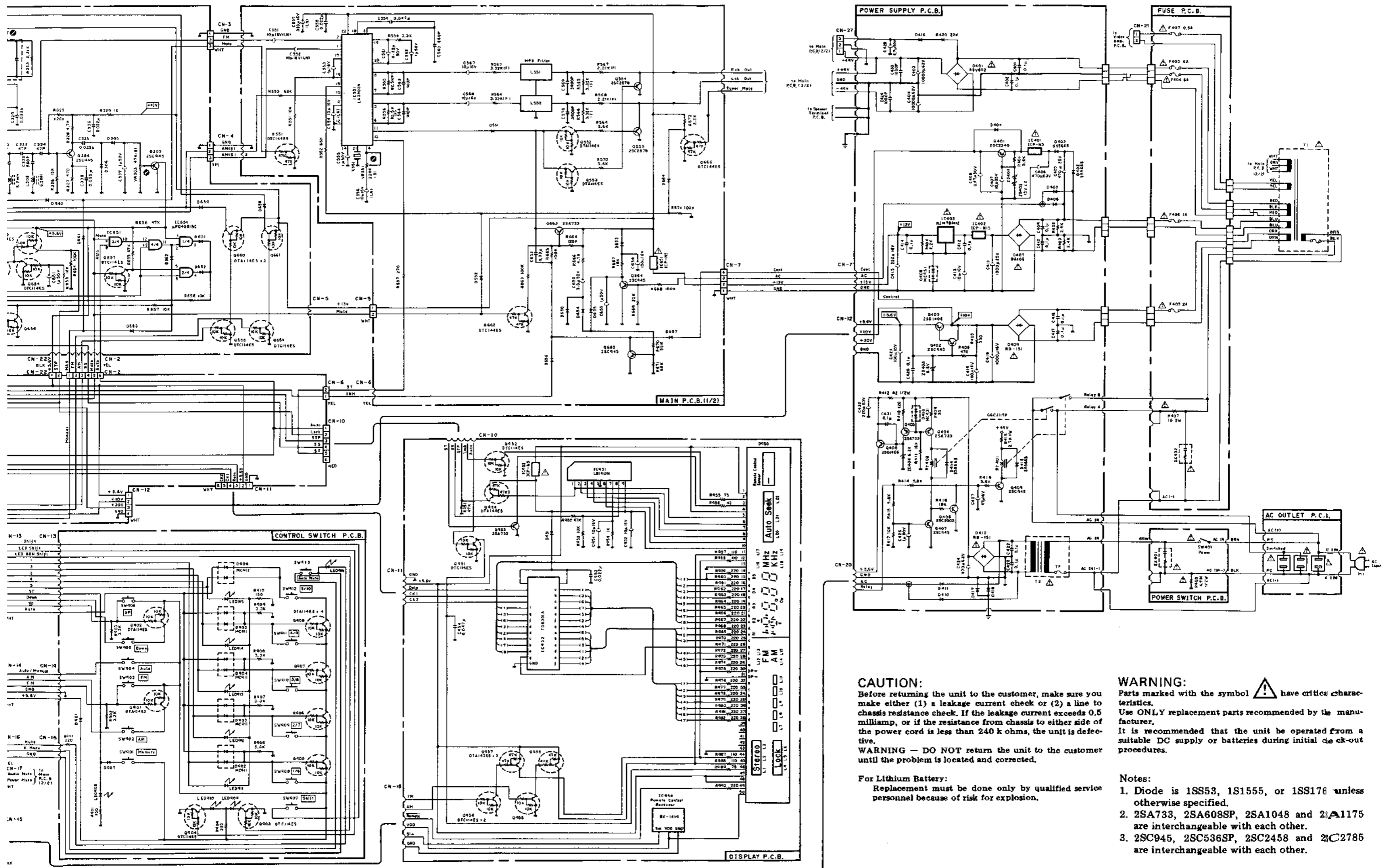


Fig. 6.2.2.1 For SR-4A and SR-4 (Canada)


**CAUTION:**

Before returning the unit to the customer, make sure you make either (1) a leakage current check or (2) a line to chassis resistance check. If the leakage current exceeds 0.5 milliamp, or if the resistance from chassis to either side of the power cord is less than 240 k ohms, the unit is defective. **WARNING — DO NOT** return the unit to the customer until the problem is located and corrected.

**For Lithium Battery:**

Replacement must be done only by qualified service personnel because of risk for explosion.

**WARNING:**

Parts marked with the symbol  have critical characteristics. Use **ONLY** replacement parts recommended by the manufacturer. It is recommended that the unit be operated from a suitable DC supply or batteries during initial check-out procedures.

**Notes:**

1. Diode is 1SS53, 1S1555, or 1SS176 unless otherwise specified.
2. 2SA733, 2SA608SP, 2SA1048 and 2A1175 are interchangeable with each other.
3. 2SC945, 2SC536SP, 2SC2458 and 2C2785 are interchangeable with each other.



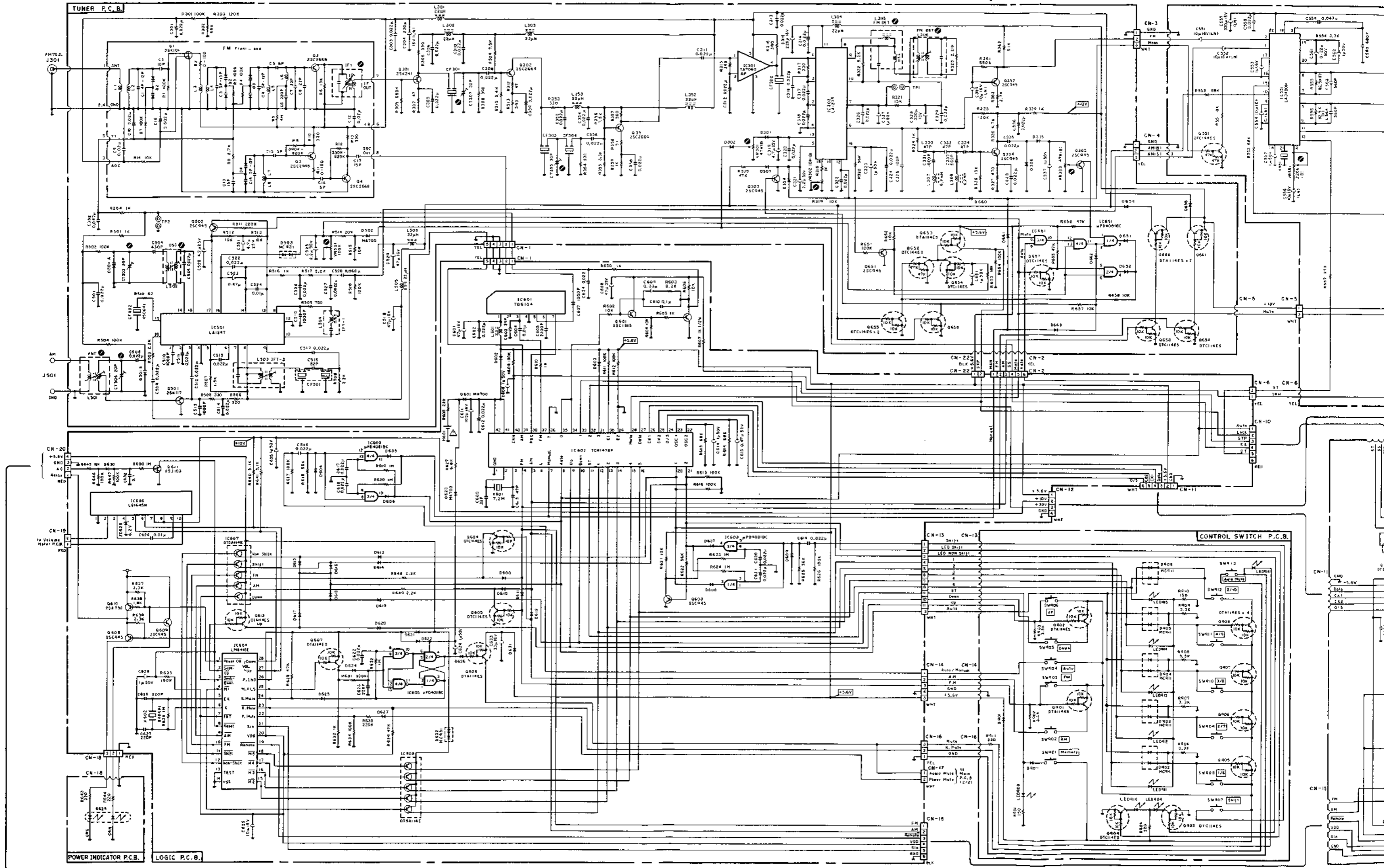


Fig. 6.2.2.2 For SR-4 (Australia)

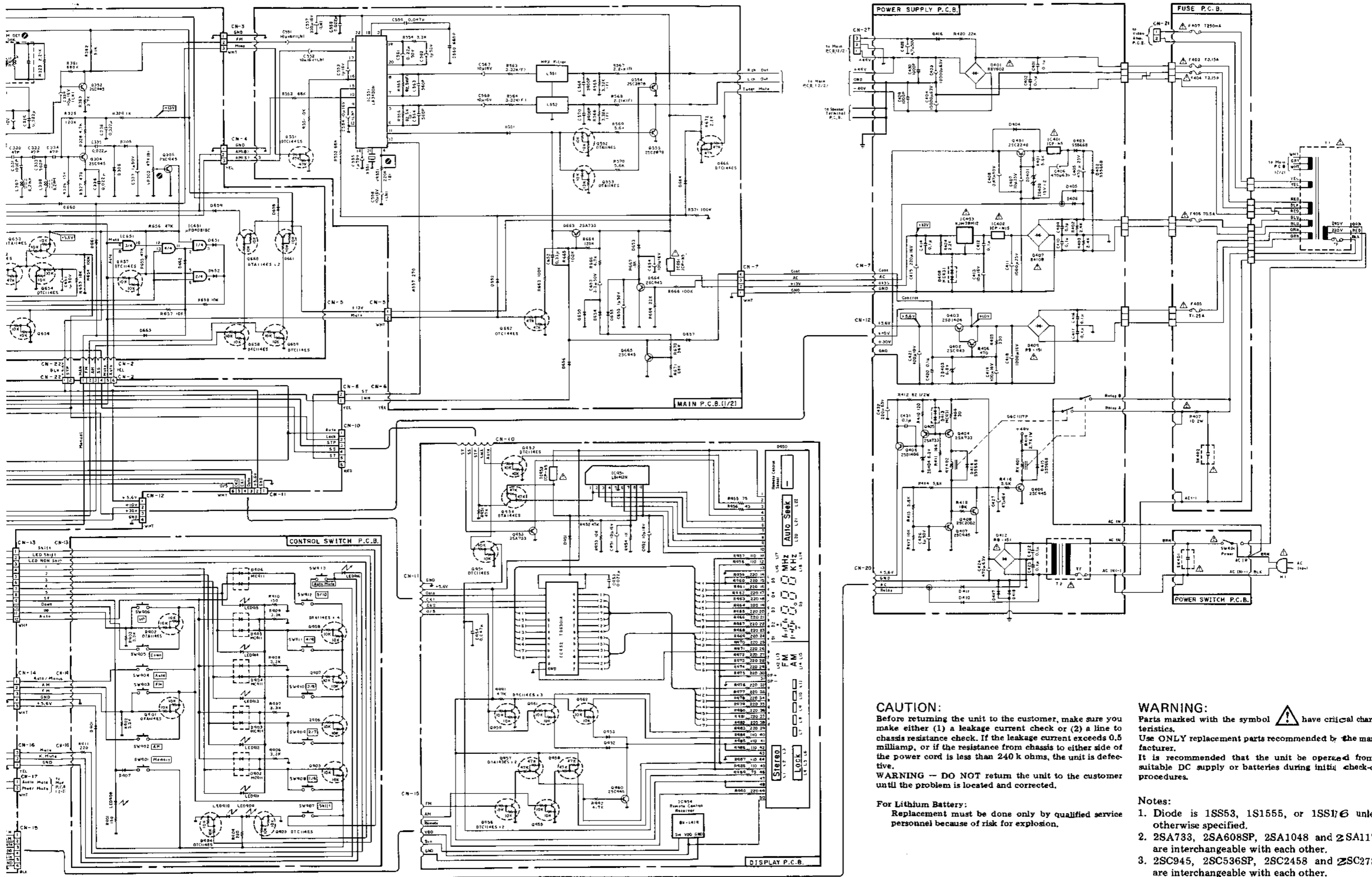


Fig. 6.2.2.2 For SR-4 (Australia)


**CAUTION:**

Before returning the unit to the customer, make sure you make either (1) a leakage current check or (2) a line to chassis resistance check. If the leakage current exceeds 0.5 milliamp, or if the resistance from chassis to either side of the power cord is less than 240 k ohms, the unit is defective.  
**WARNING - DO NOT** return the unit to the customer until the problem is located and corrected.

**For Lithium Battery:**

Replacement must be done only by qualified service personnel because of risk of explosion.

**WARNING:**

Parts marked with the symbol  have critical characteristics. Use **ONLY** replacement parts recommended by the manufacturer. It is recommended that the unit be operated from a suitable DC supply or batteries during initial check-out procedures.

**Notes:**

1. Diode is 1S853, 1S1555, or 1SS116 unless otherwise specified.
2. 2SA733, 2SA608SP, 2SA1048 and 2SA1175 are interchangeable with each other.
3. 2SC945, 2SC536SP, 2SC2458 and 2SC2785 are interchangeable with each other.

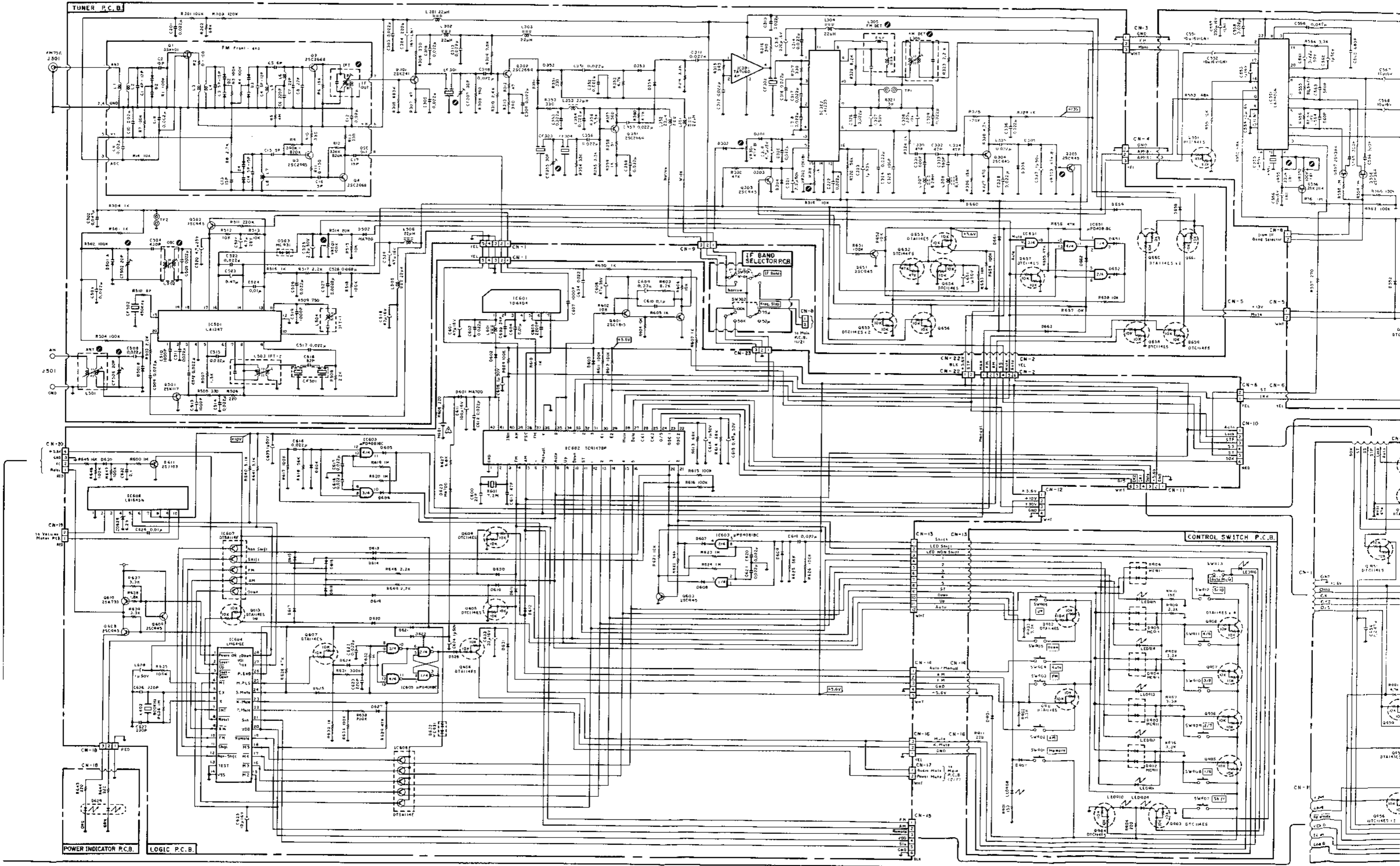


Fig. 6.2.2.3 Sor SR-4 (Other)

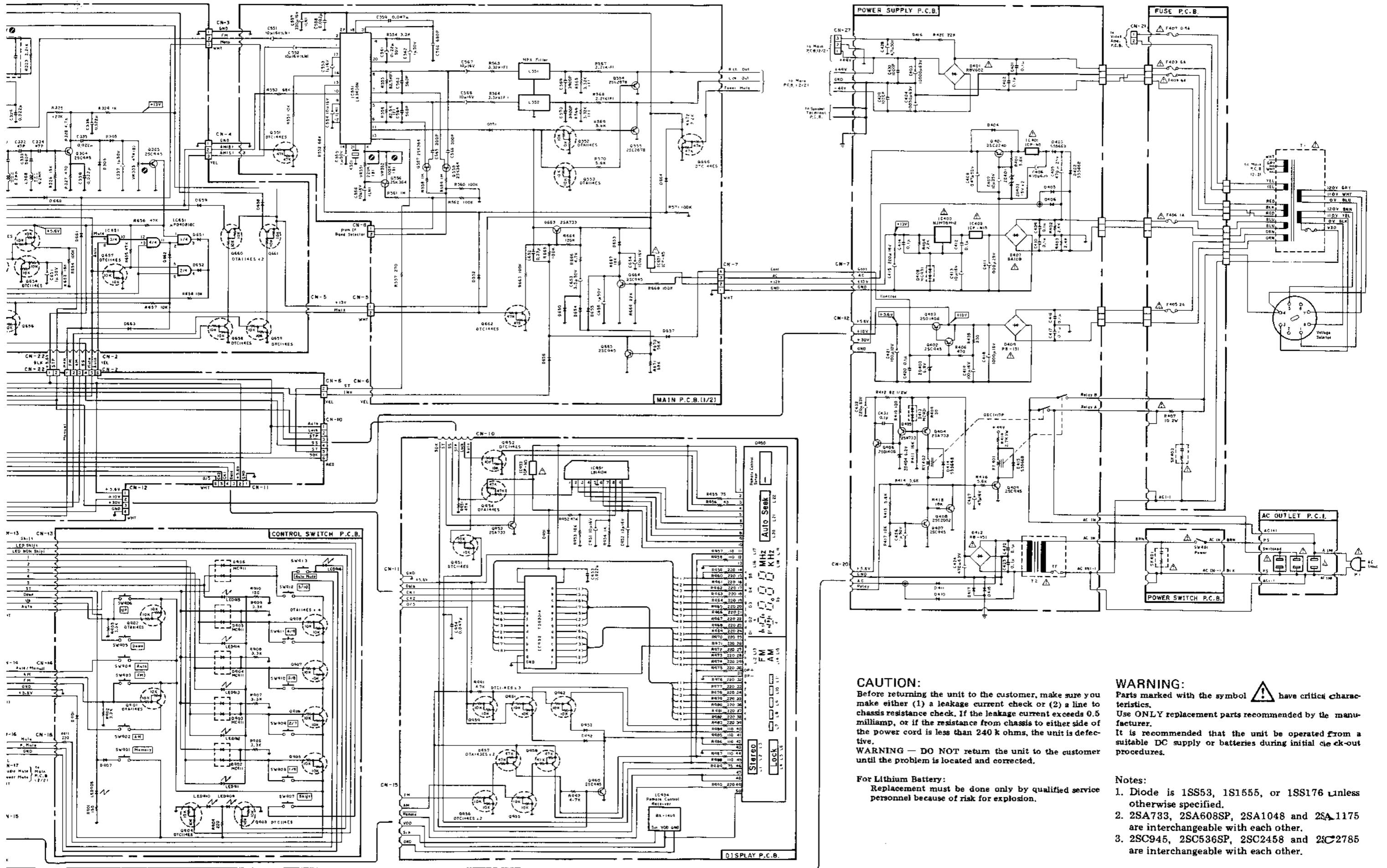


Fig. 6.2.2.3 Sor SR-4 (Other)


**CAUTION:**

Before returning the unit to the customer, make sure you make either (1) a leakage current check or (2) a line to chassis resistance check. If the leakage current exceeds 0.5 milliamp, or if the resistance from chassis to either side of the power cord is less than 240 k ohms, the unit is defective. **WARNING — DO NOT** return the unit to the customer until the problem is located and corrected.

**For Lithium Battery:**

Replacement must be done only by qualified service personnel because of risk for explosion.

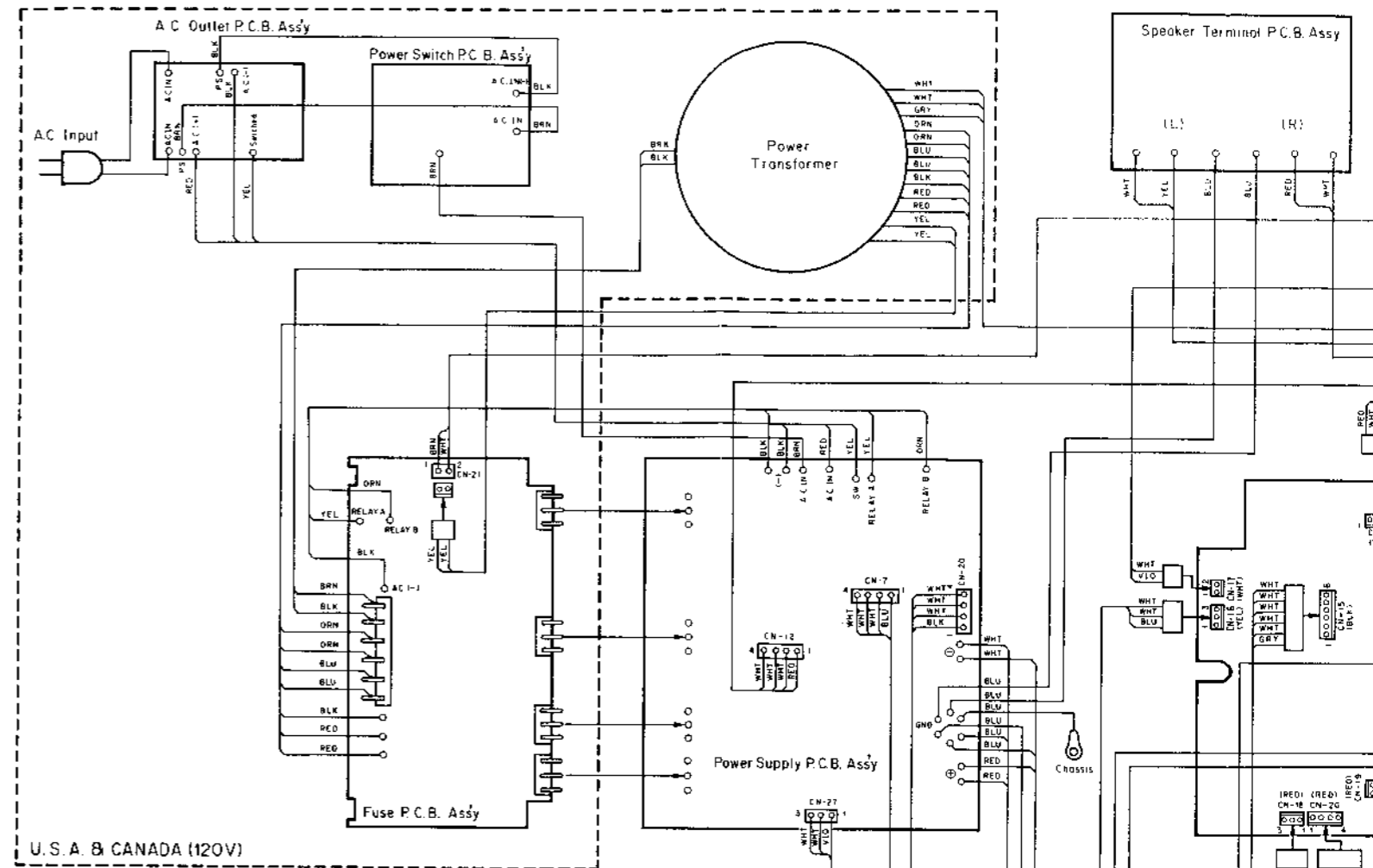
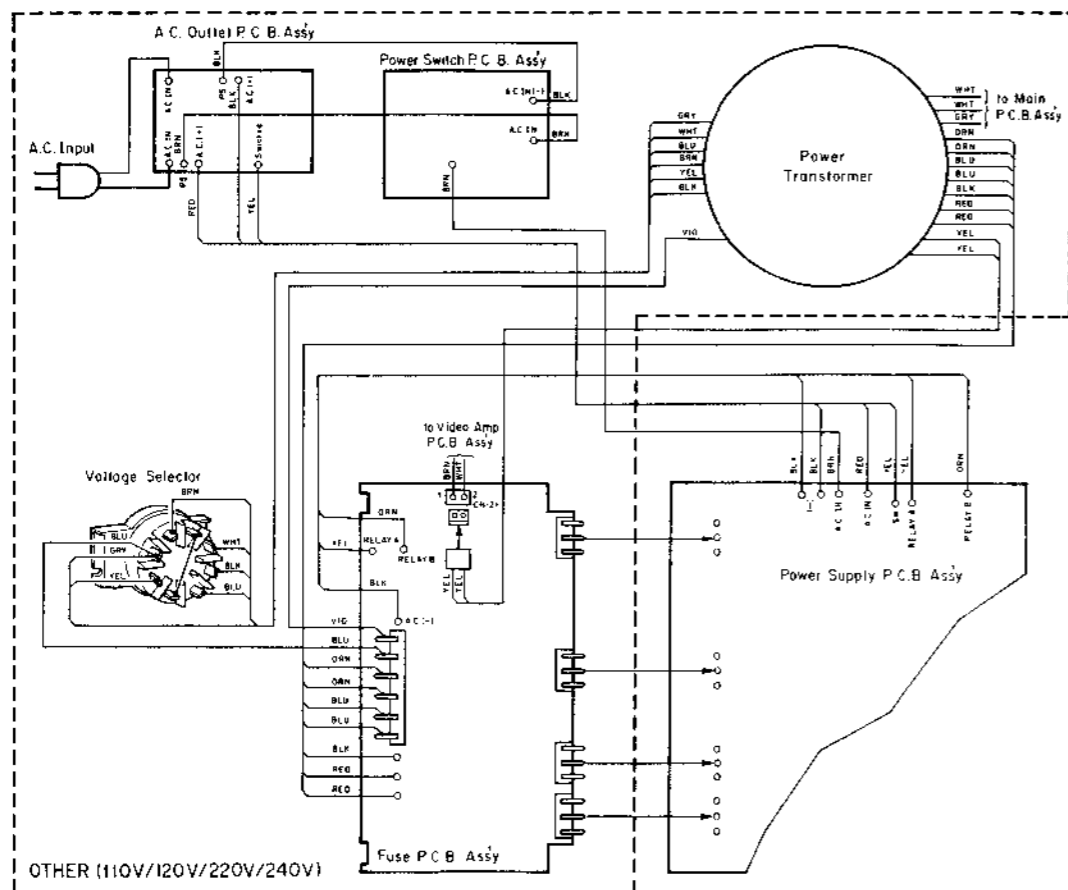
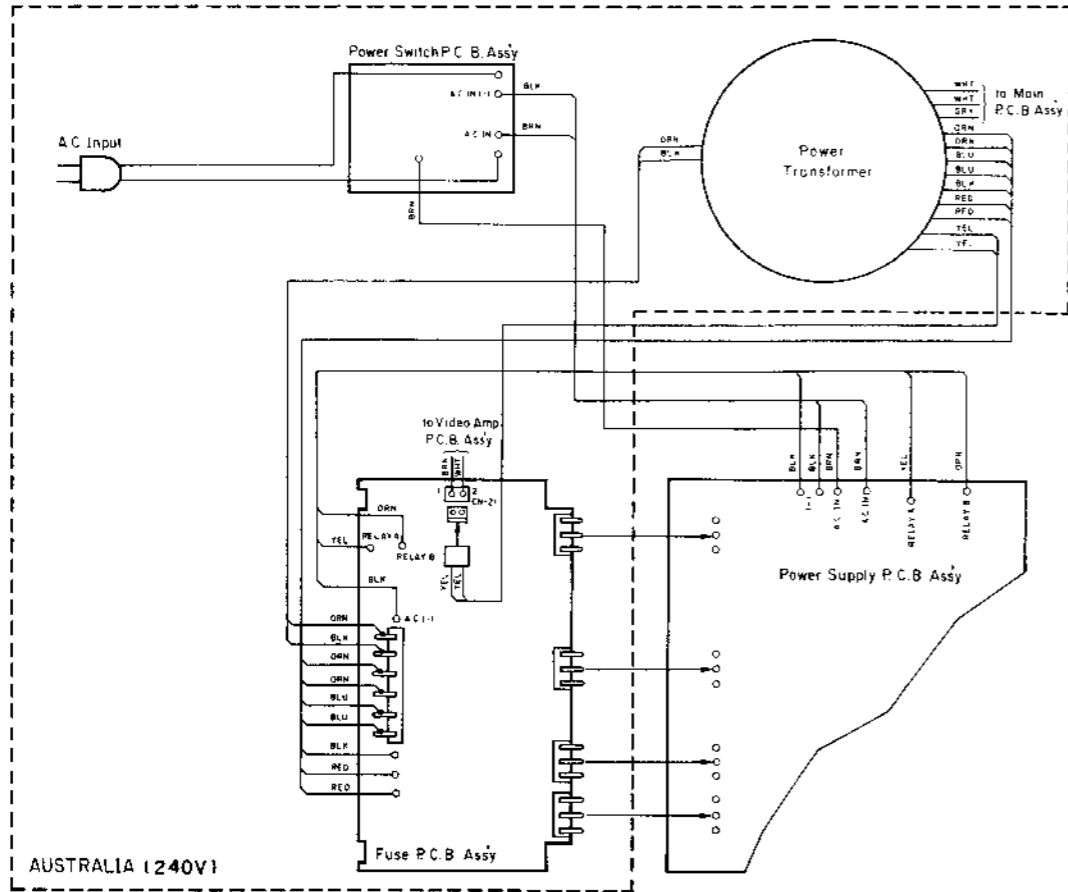
**WARNING:**

Parts marked with the symbol  have critical characteristics. Use **ONLY** replacement parts recommended by the manufacturer. It is recommended that the unit be operated from a suitable DC supply or batteries during initial check-out procedures.

**Notes:**

1. Diode is 1SS53, 1S1555, or 1SS176 unless otherwise specified.
2. 2SA733, 2SA608SP, 2SA1048 and 2SA1175 are interchangeable with each other.
3. 2SC945, 2SC536SP, 2SC2458 and 2SC2785 are interchangeable with each other.

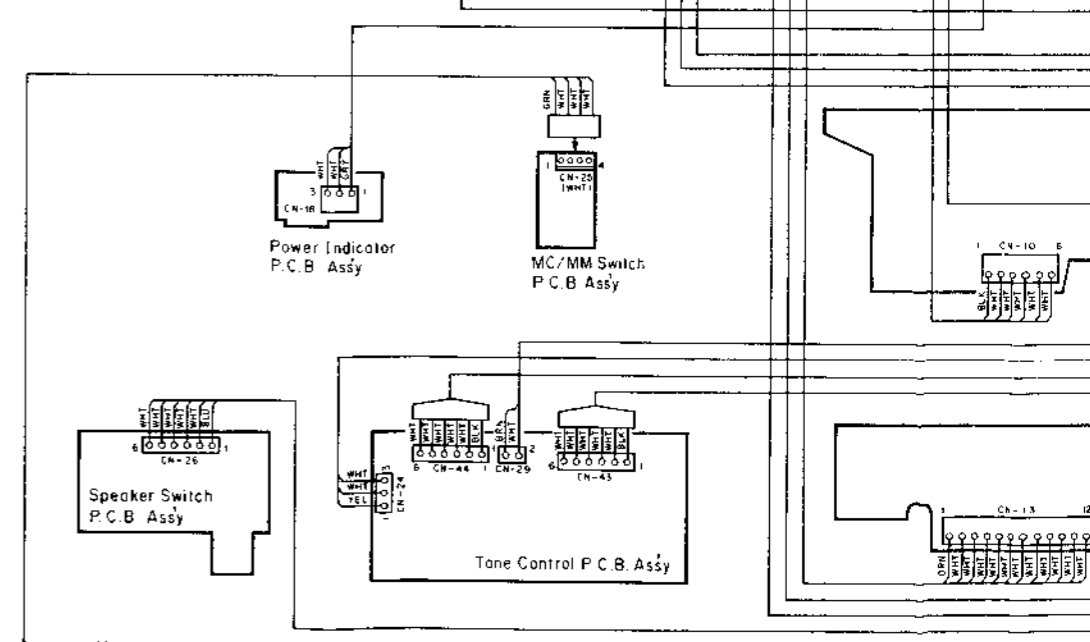
7. WIRING DIAGRAM



Notes:

- Table of wire colors
 

BRN - Brown	BLU - Blue
RED - Red	VIO - Violet
ORN - Orange	GRY - Gray
YEL - Yellow	WHT - White
GRN - Green	BLK - Black
- Component side view of the P.C.B. is illustrated unless otherwise specified.



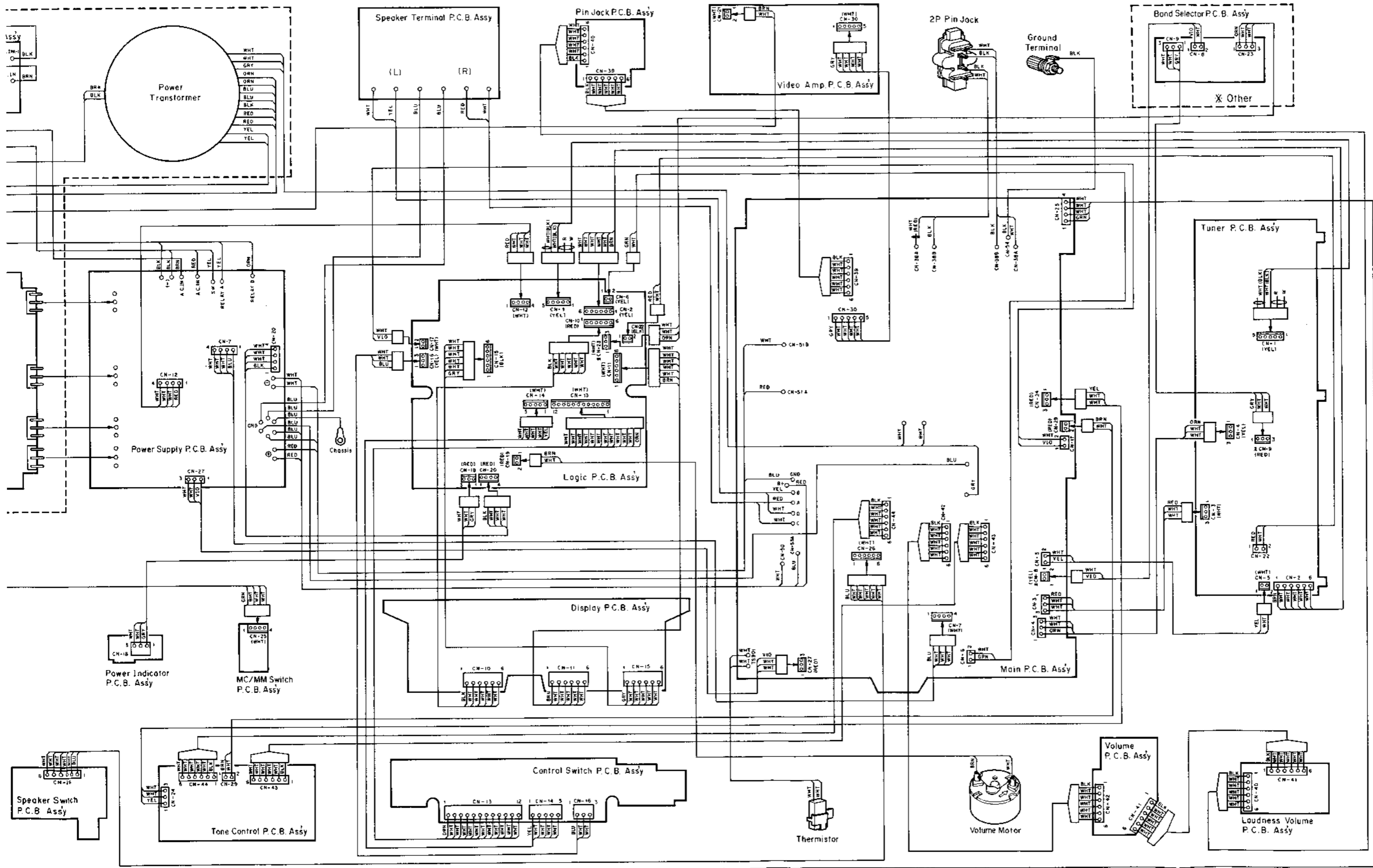


Fig. 7

Schematic Ref. No.	Part No.	Description	Schematic Ref. No.	Part No.	Description	Schematic Ref. No.	Part No.	Description	Schematic Ref. No.	Part No.	Description	Schematic Ref. No.	Part No.	Description
	BA06849A	Main P.C.B. Assy	R113,213	OB09561A	RM 909K 1/4W F		OB83010A	PD Connector V90	C035,036	OB41803A	C 470P 50V J	F401,402	OB08457A	Fuse T500mA 250V
	- MPX -		R114,214	OB09562A	RM 75K 1/4W F		OB83002A	Ribbon Cable 6P	C701,801	OB09983A	CE 2.2u 50V (LN)		OB08349B	Fuse Clip (4)
			R115,215	OB25420A	RM 221K 1/6W F			190mm (1)	C702,802	OB41223A	CP 820P 100V J		OM04957A	Fuse Label T500mAx2 (1)
			R116,117	OB25387A	RM 100K 1/6W F			4P Pin Jack (2)	C703,803	OB41282A	CMM 4700P 50V J			
IC551	OB11245A	IC LA3400N	R118,218	OB09677A	RK 1K 1/6W J		OB81593A	4P Pin Jack (2)	C704,804	OB40421A	CE 220u 25V (LN)			
IC651	OB11248A	IC ICP-N5-T104	R119,219	OB25258A	RM 4.53K 1/6W F		OB81594A	6P Pin Jack (1)	C705,805	OB41225A	CP 1000P 100V J			
Q551,662	OB10062A	TR DTC144ES	R120,125	OB09749A	RK 1M 1/6W J		BA06895A	Phono Input P.C.B. Assy	C706,806	OB41508A	C 56P 50V J			
Q552,553	OB10058A	TR DTA114ES	R121,128	OB09741A	RK 470K 1/6W J				C707,807	OB41702A	CSP 22P 50V J			
Q554,555	OB06299A	TR 2SC2878	R122,222	OB25212A	RM 1.50K 1/6W F	IC103	OB11070A	IC NJM072S	C708,808	OB41594A	CM 0.1u 100V J	Q708,808	OB60431D	Main P.C.B.
Q663	OB06013A	TR 2SA733 (P,Q)	R123,223	OB09305A	RM 100K 1/4W F	Q105,106	OB10193A	FET 2SK184 (GR)	C711,811	OB41791A	CSP 1000P 50V J	Q709,809	OB06303A	TR 2SB772 (P,Q)
Q664,665	OB01872A	TR 2SC945L (P,Q)	R124,224	OB09725A	RM 1K 1/4W F	Q107,110	OB10050A	TR 2SA970 (BL)	TP1,2	OB81634A	2P-T Post	Q710,810	OB10206A	TR 2SC2167 Pair
D551,552	OB06398A	SID 1SS176	R126	OB09727A	RK 100K 1/6W J	Q108,109	OB06142A	TR 2SC2240 (BL)	CN44	OB81013A	Dip Mate 6P	Q711,713	OB10107A	TR 2SA1491 (P,Y,G)
650,653			R129	OB09545A	C 330P 50V J	Q109,109	OB25298A	TR 2SC2878			WH6D-1	811,813	OB10177A	TR 2SA1491 (P,Y,G)
654,655			C033,034	OB09486A	C 120P 50V J	Q111,112	OB06299A	TR 2SC2878			RED (1)	Q712,714	OB10179A	TR 2SC3855 (P,Y,G)
656,657			C039,040	OB09491A	RM 100K 1/4W F	Q112,112	OB12433A	ZD 5.6V UTZJ5.6B			WHT (2)	TS901	OB90247A	Thermistor UP62
664			C101,201	OB09725A	RK 100K 1/6W J	Q113,213	OB06299A	TR 2SC2878			YEL (1)		OE00868A	BT3x8 @ Binding (5)
L551,552	OB51237A	MPX Filter TF-1042B-1013-00	C102,202	OB09727A	RK 120K 1/6W J	Q115	OB83007A	PD Connector V130 (2)					OE03138A	M3x10 @ Binding (14)
VR551	OB32066A	Semi VR 220K (B)	C103,109	OB09545A	C 330P 50V J	C115	OB12433A	ZD 5.6V UTZJ5.6B					OJ05328A	Insulator Sheet (2)
X551	OB90172A	Ceramic Filter CSB456F11	C104,204	OB41377A	CM 0.27u 63V J	C134,135	OB12457A	ZD 12V UTZJ12B					OJ05329A	Main P.C.B. Holder L (1)
R551	OB09701A	RK 10K 1/6W J	C105,106	OB09816A	CE 10u 16V (LN)	SW105	OB25387A	RM 100K 1/6W F (10)	IC901	OB11246A	IC uPC1237H		OJ05330A	Main P.C.B. Holder R (1)
R552,553	OB09721A	RK 68K 1/6W J	114,205				OB25195A	RM 100K 1/6W F	Q715,717	OB10204A	TR 2SA1145 (O,Y) Pair		OJ05349B	Thermistor Holder (1)
R554	OB09689A	RK 3.3K 1/6W J	206,214				OB25099A	RM 100 1/6W F	815,817	OB10205A	TR 2SC2705 (O,T) Pair		OJ05352A	Main Heat Sink (1)
R555,556	OB25379A	RM 82.5K 1/6W F	C107,207	OB40422A	CE 220u 10V (LN)		OB25437A	RM 332K 1/6W F	Q718	OB06322A	TR 2SC2002 (K,L)			
R557	OB09663A	RK 270 1/6W J	C108,208	OB41225A	CP 1000P 100V J		OB25238A	RM 2.80K 1/6W F	Q901	OB10050A	TR 2SA970 (BL)			
R563,564	OB25245A	RM 3.32K 1/6W F	C110,210	OB41117A	CP 470P 100V G		OB25316A	RM 18.2K 1/6W F	D307,901	OB06398A	SID 1SS176		BA06895A	Phono Input P.C.B. Assy
R565,566			C111,211	OB41119A	CP 560P 100V G		OB25296A	RM 11.0K 1/6W F	902,903				OB60460A	Phono Input P.C.B. Coil 20uH
R567,568	OB25228A	RM 2.21K 1/6W F	C112,212	OB09933A	CE 2.2u 50V (LN)		OB25236A	RM 2.67K 1/6W F	ZD702,802	OB12439A	ZD 6.8V UTZJ6.8B		OB51247A	
R569,570	OB09695A	RK 5.6K 1/6W J	C113,213	OB05582A	CM 0.022u 50V J		OB25176A	RM 634 1/6W F	ZD703,803	OB12442A	ZD 7.5V UTZJ7.5B		OB41508A	C 56P 50V J
R571,663	OB09725A	RK 100K 1/6W J	C115	OB40117A	CSP 1000P 50V J		OB09695A	RK 5.6K 1/6W J	ZD901,902	OB12463A	ZD 15V UTZJ15B		OB81020A	2P Pin Jack (1)
R664	OB09727A	RK 120K 1/6W J	C134,135	OB41789A	CSP 610P 50V J		OB09685A	RK 2.2K 1/6W J		OB90199A	Relay 24V		OB82751A	PD Connector V80 (2)
R666	OB09693A	RK 4.7K 1/6W J	SW105	OB70078A	Slide Switch SSSP12		OB09717A	RK 47K 1/6W J	RY903	OB90243A	Relay 24V G5A237P		OB82750A	PD Connector V80 (1)
R667	OB09707A	RK 18K 1/6W J	Q301,302	OB06142A	TR 2SC2240 (BL)		OB09709A	RK 22K 1/6W J	R740,840	OB10681A	RK 3.3K 1/4W J		OB82752A	PD Connector V80 (1)
R669	OB09709A	RK 22K 1/6W J	Q303	OB06372A	TR 2SA953 (K,L)		OB09697A	RK 6.8K 1/6W J	R742,842	OB05668A	RK 82K 1/4W J			
R670	OB09719A	RK 56K 1/6W J	Q305	OB06322A	TR 2SC2002 (K,L)		OB09689A	RK 3.3K 1/6W J	R743,843	OB09509A	RK 20K 1/4W J			
R672	OB09685A	RK 2.2K 1/6W J	Q306	OB06013A	TR 2SA733 (P,Q)		OB09719A	RK 56K 1/6W J	R744,747	OB05627A	RK 330K 1/4W J			
C551,552	OB09816A	CE 10u 16V (LN)	Q307	OB061609A	C 5P 50V Z		OB41007A	CC 1000P 25V (12)	844,847					
C553,555	OB01405A	CE 1u 50V	Q308	OB81013A	Dip Mate 6P				907	OB05641A	RK 47K 1/4W J			
C557	OB40418A	CE 330u16V (LN)	Q309	OB82971A	Ribbon Cable 6P 230mm (1)				R746,846					
C558	OB41290A	CM 0.022u 50V J	Q310						901	OB01888A	RK 10K 1/4W J			
C559	OB41555A	CC 0.047u 25V Z	Q311						R748	OB01889A	RK 100K 1/4W J			
C560	OB09287A	CC 680P 50V K	Q312						R903	OB01683A	RK 15K 1/4W J			
C561	OB40023A	CE 0.22u 50V	Q313						R904	OB05508A	RK 56K 1/4W J			
C563,564	OB41404A	CP 560P 50V J	Q314						R905	OB01933A	RK 220 1/4W J			
C567,568	OB01412A	CE 10u 16V	Q315						R908,909	OB24136A	RF 1K 3W			
C569,570	OB41281A	CM 3900P 50V J	Q316						R910	OB24139A	RF 2.2K 1W			
C652	OB41304A	CMM 0.33u 50V J	Q317						R913	OB09725A	RK 100K 1/6W J			
C653	OB01863A	CE 3.3u 50V	Q318						C901	OB40408A	CE 330u 10V (BP)			
C654	OB01400A	CE 100u 16V	Q319						C902	OB40116A	CE 10u 50V			
CN3	OB82943A	3P Connector WHT	Q320						C903	OB09372A	CE 2.2u 50V			
CN4	OB82944A	3P Connector YEL	Q321						C904	OB01400A	CE 100u 16V			
CN5	OB81223A	2P-T Post WHT	Q322						CN26	OB81239A	6P-T Post WHT			
CN6	OB82946A	2P Connector YEL	Q323						CN27	OB81229A	3P-T Post RED			
CN7	OB81231A	4P-T Post WHT	Q324											
	- Eq. Amp. -		Q325											
IC101	OB11204A	IC NJM5532DD	Q326											
IC102	OB11005A	IC NJM072DE	Q327											
Q101,102	OB10195A	FET 2SK146 (BL,V)	Q328											
Q103,104	OB06299A	TR 2SC2878	Q329											
Q103,203	OB01872A	TR 2SC945L (P,Q)	Q330											
Q113,213	OB06398A	SID 1SS176	Q331											
D101,102			Q332											
103,201			Q333											
202			Q334											
ZD101,201	OB12451A	ZD 10V UTZJ10B	Q335											
ZD102	OB12469A	ZD 18V UTZJ18B	Q336											
RY103,203	OB90243A	Relay G5A237P	Q337											
R101,201	OB09453A	RM 51.1K 1/4W F	Q338											
R102,202	OB22567A	RM 100 1/4W F	Q339											
R103,203	OB22684A	RM 5.62 1/4W F												
R104,204	OB09695A	RK 5.6K 1/6W J												
R105,106	OB25260A	RM 4.75K 1/6W F												
205,206														
R107,207	OB09609A	RK 1.5 1/6W J												
R108,208	OB25217A	RM 1.69K 1/6W F												
R109,209	OB22635A	RM 1.21K 1/4W F												
R110,210	OB09891A	RM 80.6 1/4W F												
R111,211	OB22648A	RM 47.5 1/4W F												
R112,212	OB22576A	RM 475 1/4W F												

3.18. Phono Input P.C.B. Assy

Note: This P.C.B. Assy is included in the Input Selector section of the Main P.C.B. Assy.

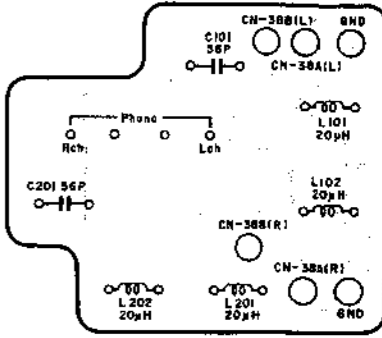


Fig. 3.18







# Service Information



Model Nakamichi SR-4E (Germany)  
 (Stereo Receiver)  
 Serial No. from D10601001 -  
 Subject Service Manual for SR-4E (Germany)

No. OOD-SI-3104 (1/24)  
 Date 24 August 1987

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3. 9.	Tone Control P.C.B. Ass'y	8
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## 1. GENERAL

### 1.1. Introduction

For the following items, refer to the Service Manual SR-4/SR-4A which has already been issued by Nakamichi.

- o Parts Location for Electrical Adjustment
- o Electrical Adjustments: Apply the adjustment procedures for Australia version.
- o IC Block Diagrams
- o Block Diagrams

### 1.2. Package Ass'y and Accessory Ass'y

Schematic Ref. No.	Part No.	Description	Qty	Schematic Ref. No.	Part No.	Description	Qty
	FA03594A	Package Ass'y (SR-4E (Germany))	1		DA04056A	Accessory Ass'y (SR-4E (Germany))	1
01	0F04058A	Carton Box (SR-4E)	1	01	0B90070A	AM Loop Antenna Holder	1
02	0F04041A	Packing L	1	02	0B90081A	Feeder Antenna	1
03	0F04042A	Packing R	1	03	0B90208A	Antenna Adapter EP	1
04	0F03670A	Poly-Sheet	1	04	0B90198A	AM Loop Antenna	1
				05	0B90242A	Battery	1
				06	DA04042A	Remote Control Unit	1
				—	0D03092B	Poly-Bag 320x340x0.08	1
				—	0D04449A	Important Notice Card	1
				—	0D04764B	Owner's Manual SR-4E/3E/2E, SR-4/3/2 (English/German/French)	1
				—	0F04043A	Poly-Bag 80x150	1

## 2. MECHANISM ASS'Y AND PARTS LIST

### 2.1. Synthesis

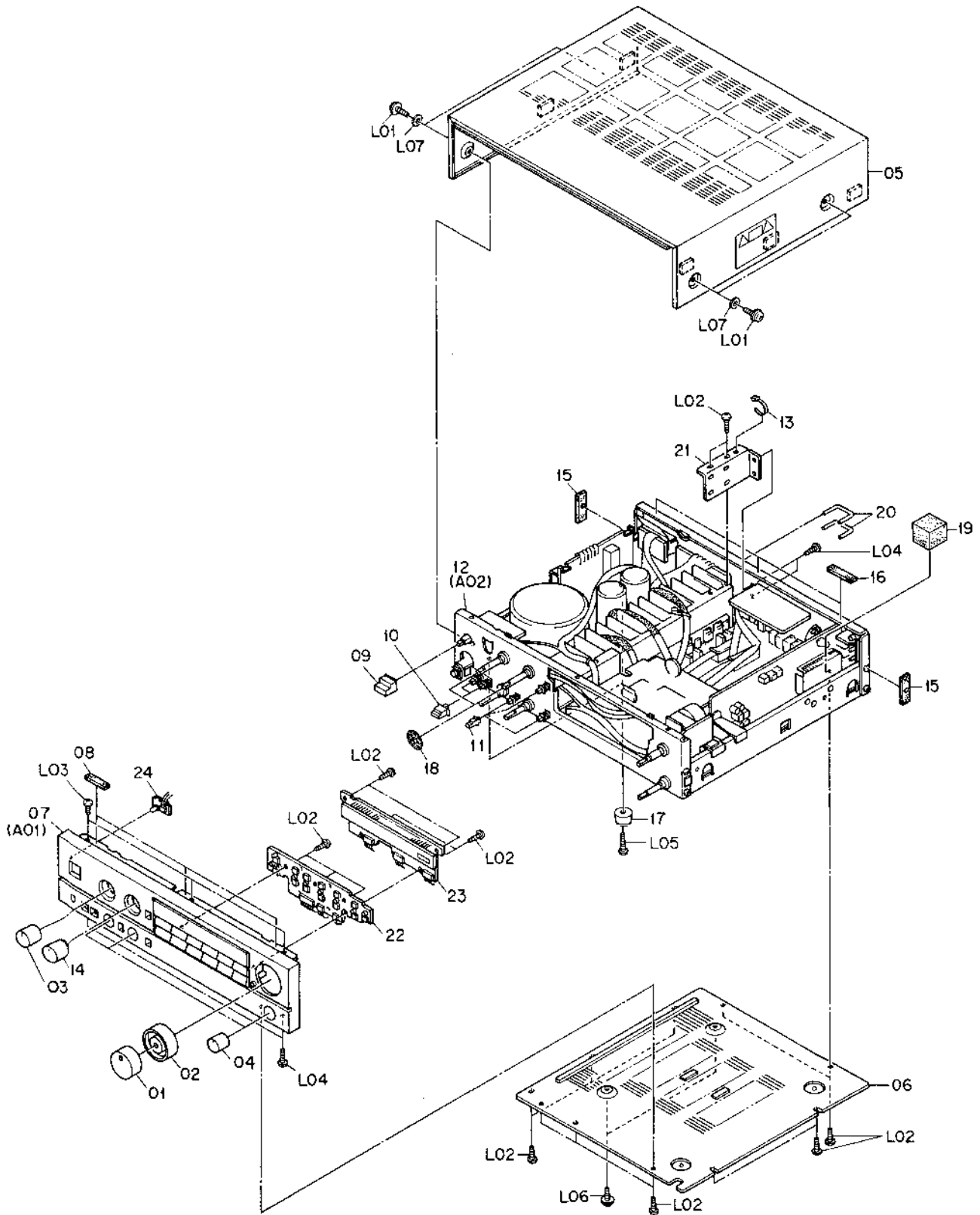


Fig. 2.1

2.2. Front Panel Ass'y (A01)

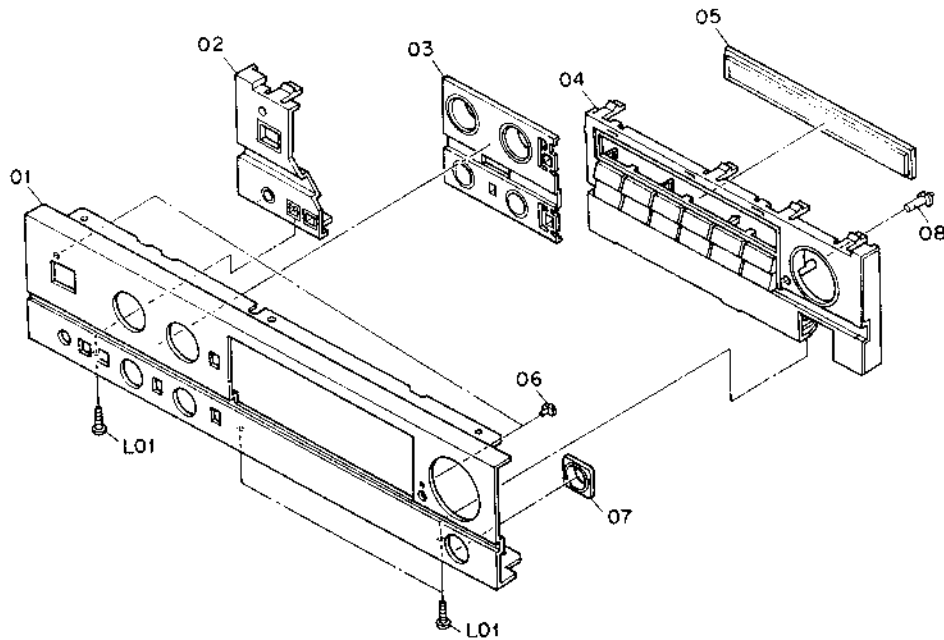


Fig. 2.2

Schematic Ref. No.	Part No.	Description	Qty	Schematic Ref. No.	Part No.	Description	Qty
		<b>Synthesis</b> Serial No.: D10601001 -		<b>A01</b>	<b>HA05271A</b>	<b>Front Panel Ass'y (SR-4E (Germany))</b> Serial No.: D10601001 -	<b>1</b>
01	HA05241A	Volume Knob Ass'y	1				
02	HA05242A	Balance Knob Ass'y	1	01	OH05086A	Front Panel	1
03	HA05105A	Selector Knob Ass'y	1	02	OH04935C	Front Escutcheon L	1
04	HA05106A	Tone Control Knob Ass'y	3	03	OH04936A	Front Escutcheon C	1
05	HA05234A	Top Cover Ass'y (Consisting of the followings:)	1	04	HA05224A	Front Escutcheon R Ass'y	1
	(OH04934C)	Top Cover	(1)	05	OH04938A	Display Lens	1
	(OJ05261A)	Top Cover Cushion	(5)	06	OH05039A	Power Lens	2
	(OM04377B)	Caution Label	(1)	07	OH05040A	Loudness Escutcheon	1
	(MA01001A)	F. Code Labels	(1)	08	OH05041A	Muting Switch Knob	1
06	JA04283A	Bottom Cover Ass'y (Consisting of the followings:)	1	L01	OE00921A	BT3x8 @ Binding (Black Chromate)	3
	(OE00888A)	BT3x12 @ Binding	(2)				
	(OJ05162A)	Leg T-S	(2)				
	(OJ05309A)	BS Damper 1 VR	(2)				
	(OJ05324C)	Bottom Cover	(1)				
	(OJ05367A)	Heat Sink Cushion	(1)				
	(OM04377B)	Caution Label	(1)				
07	HA05271A	Front Panel Ass'y (SR-4E (Germany))	1				
08	OJ05364A	Top Cover Cushion T4	5				
09	OH04947A	Power Switch Knob	1				
10	OH04950B	Push Switch Knob 10L	2				
11	OH04949B	Push Switch Knob 5L	3				
12	JA04289A	Chassis Ass'y (SR-4E (Germany))	1				
13	OB90019A	Insu-Lock SKB80	37				
14	HA05243A	Selector Knob Ass'y	1				
15	OJ05226A	Side Cushion	2				
16	OJ05363A	Top Cover Cushion T3	3				
17	OJ05162A	Leg T-S	2				
18	OJ05258B	Selector Knob Himelon	2				
19	OJ05365A	Front-end Cushion	1				
20	OB90256A	U-shape Pin 14	2				
21	OJ05204B	Heat Sink Holder C	1				
22	BA06593A	Control Switch P.C.B. Ass'y	1				
23	BA06646A	Display P.C.B. Ass'y	1				
24	BA06645A	Power Indicator P.C.B. Ass'y	1				
L01	OE03032A	BT4x8 @ Pan Washer-faced (Black Chromate)	4				
L02	OE00868A	BT3x8 @ Binding	19				
L03	OE00857A	BT3x6 @ Binding	3				
L04	OE00921A	BT3x8 @ Binding (Black Chromate)	4				
L05	OE00888A	BT 3x12 @ Binding	2				
L06	OE03157A	BT3x8 @ Binding with Washer	2				
L07	OE03410A	Washer 4.3x8x0.8	4				
-	OM04897A	Serial No. Seal	1				
-	OM04852A	DBF Label	1				

2.3. Chassis Ass'y (A02)

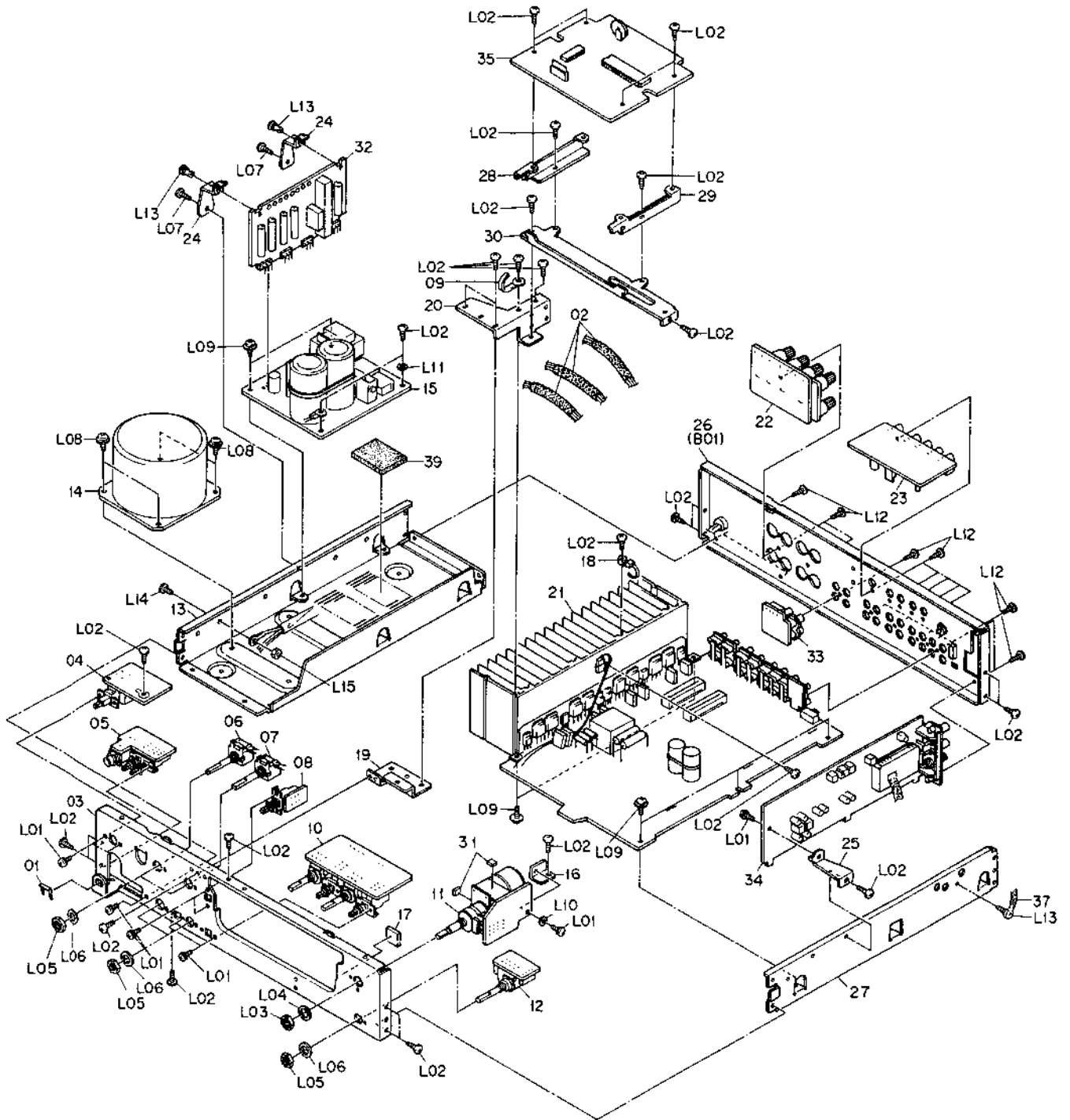


Fig. 2.3

2.4. Rear Panel Ass'y (B01)

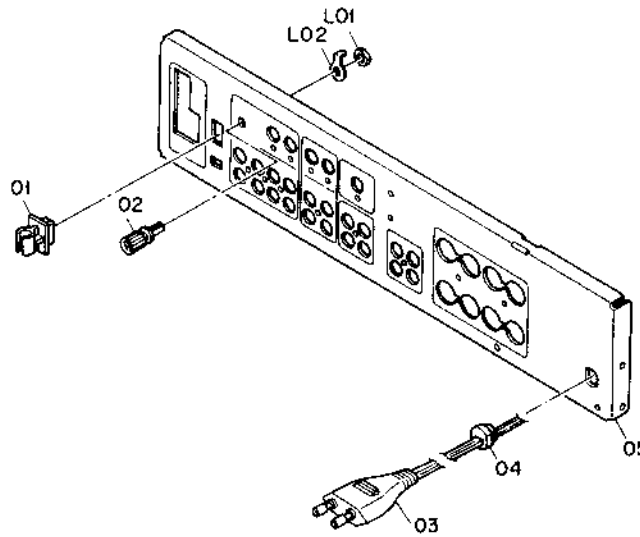


Fig. 2.4

Schematic Ref. No.	Part No.	Description	Qty	Schematic Ref. No.	Part No.	Description	Qty
A02	JA04289A	Chassis Ass'y (SR-4E (Germany)) Serial No.: D10601001 -	1	L16	OE03321A	ST3x6 $\Phi$ Binding	1
01	OJ05092A	Snap Plate	1	—	OJ05373B	Diode Barrier	1
02	OB80126A	Glass Fiber Tube	3	—	OM04956A	Lithium Battery Caution Label	1
03	OJ05339A	Front Chassis	1	—	OM03700A	Earth Mark Label	1
04	BA06845A	Power Switch P.C.B. Ass'y	1	B01	HA05268A	Rear Panel Ass'y (SR-4E (Germany)) Serial No.: D10601001 -	1
05	BA06600A	Speaker Switch P.C.B. Ass'y	1	01	OB90071A	AM Loop Antenna Holder	1
06	OB70101A	Rotary Switch 370mm	1	02	OB81604A	Ground Terminal T-5435	1
07	OB70102A	Rotary Switch 340mm	1	03	OB90270A	Power Cord	1
08	BA06608A	MM/MC Switch P.C.B. Ass'y	1	04	OB08325A	Cord Bushing SR-6W-1	1
09	OE03145A	Coating Clip CS-9	1	05	OH05087A	Rear Panel	1
10	BA06598A	Tone Control P.C.B. Ass'y	1	L01	—	Nut Ground Terminal	(1)
11	BA06597A	Volume Motor P.C.B. Ass'y	1	L02	—	Earth Lug (Ground Terminal)	(1)
12	BA06604A	Loudness Volume P.C.B. Ass'y	1				
13	OJ05325B	Power Supply Chassis	1				
14	OB50088A	Power Transformer	1				
15	BA06599A	Power Supply P.C.B. Ass'y	1				
16	OJ05331A	Motor Holder	1				
17	OJ05307A	BS Damper 1R	1				
18	OB90210A	Insu-Lock T30MR-HS	1				
19	OJ05323B	Heat Sink Holder B	1				
20	OJ05334A	Heat Sink Holder A	1				
21	BA06849A	Main P.C.B. Ass'y	1				
22	BA06843A	Speaker Terminal P.C.B. Ass'y	1				
23	BA06842A	Video Amp. P.C.B. Ass'y	1				
24	OJ05321A	Fuse P.C.B. Holder	2				
25	OJ05322A	Tuner P.C.B. Holder	1				
26	HA05268A	Rear Panel Ass'y (SR-4E (Germany))	1				
27	OJ05202C	Side Chassis	1				
28	OJ05332A	Logic P.C.B. Holder L	1				
29	OJ05333A	Logic P.C.B. Holder R	1				
30	OJ05340B	P.C.B. Holder	1				
31	OJ05366A	Volume Damper	2				
32	BA06848A	Fuse P.C.B. Ass'y	1				
33	BA06844A	Pin Jack P.C.B. Ass'y	1				
34	BA06846A	Tuner P.C.B. Ass'y	1				
35	BA06610A	Logic P.C.B. Ass'y	1				
36	OJ05380A	P.C.B. Cushion	1				
37	OB81738A	GND Wire	1				
L01	OE00612A	M3x6 $\Phi$ Pan (2A)	9				
L02	OE00868A	BT3x8 $\Phi$ Binding	26				
L03	—	Nut Hex. M9	(1)				
L04	—	Washer	(1)				
L05	—	Nut Hex. M7	(5)				
L06	—	Washer	(5)				
L07	OE00857A	BT3x6 $\Phi$ Binding	2				
L08	OE03032A	BT4x8 $\Phi$ Pan Washer-faced (Black Chromate)	4				
L09	OE03157A	BT3x8 $\Phi$ Binding with Washer	7				
L10	OE03409A	Washer 3.2x5.7x1.2 (Copper)	1				
L11	OJ05294A	Washer 3.1x8x1 (Copper)	1				
L12	OE00921A	BT3x8 $\Phi$ Binding (Black Chromate)	17				
L13	OJ05284A	Plastic Rivet 3x4.5	2				
L14	OE00506A	Nut Hex. M4	1				
L15	OE00929A	M4x8 $\Phi$ Binding	1				

3. MOUNTING DIAGRAMS AND PARTS LIST

- Notes: 1. Mounting diagram shows a dip side view of the printed circuit board.  
 2. Diode is 1SS53, 1S1555, or 1SS176 unless otherwise specified.  
 3. Following transistors are interchangeable with each other.  
 a. 2SA733, 2SA608SP, 2SA1048, 2SA1175  
 b. 2SC945, 2SC536SP, 2SC2458, 2SC2785  
 4. Abbreviation for part name:  
 TR - Transistor, SiD - Silicon Diode, ZD - Zener Diode, Varicap - Variable Capacitance Diode  
 RK - Carbon Resistor, RM - Metal Film Resistor, RF - Fail Safe Type Resistor, RW - Wire Wound Resistor  
 CE - Electrolytic Capacitor, CM - Mylar Capacitor, CC - Ceramic Capacitor, CP - PP Capacitor  
 CMM - Metalized Mylar Capacitor, CSP - Polystyrene Capacitor, C - Mica Capacitor

3.1. Power Switch P.C.B. Ass'y

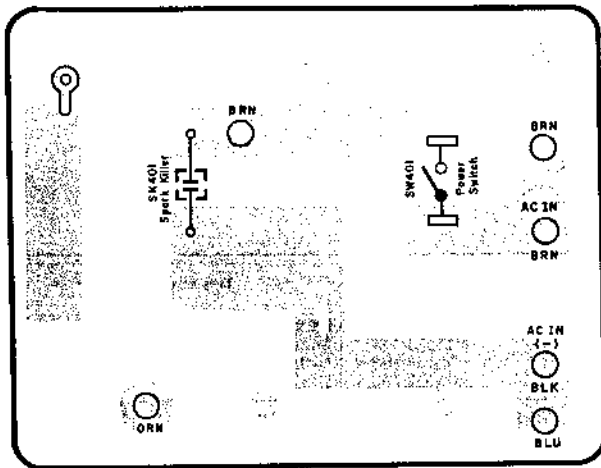


Fig. 3.1

3.2. Pin Jack P.C.B. Ass'y

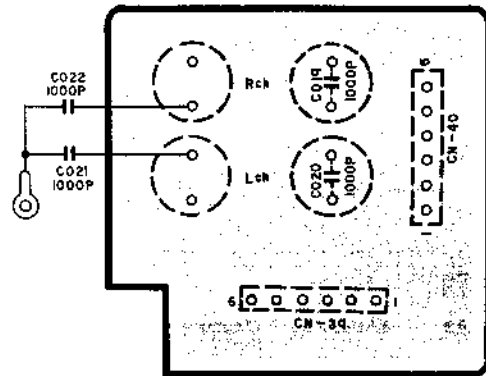


Fig. 3.2

3.3. Power Indicator P.C.B. Ass'y

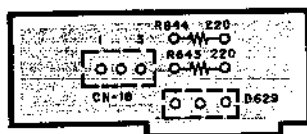


Fig. 3.3

3.4. MM/MC Switch P.C.B. Ass'y

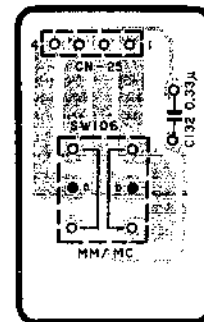


Fig. 3.4

3.5. Speaker Switch P.C.B. Ass'y

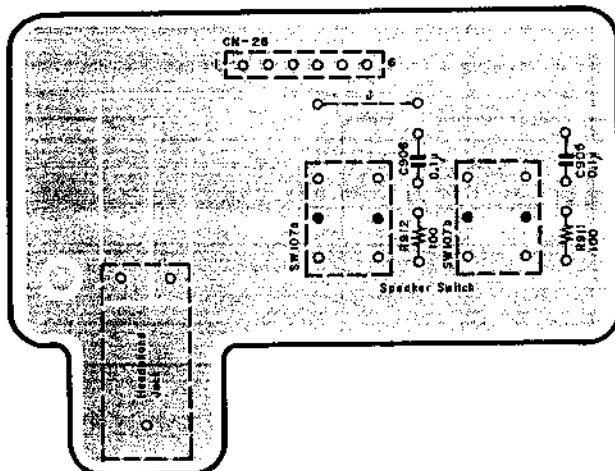


Fig. 3.5

3.6. Loudness Volume P.C.B. Ass'y

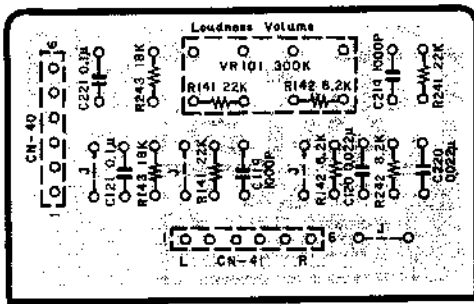


Fig. 3.6

3.7. Volume Motor P.C.B. Ass'y

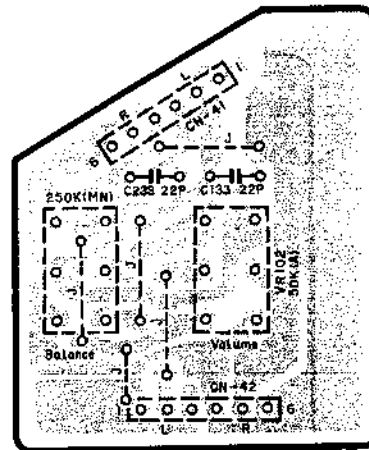


Fig. 3.7

Schematic Ref. No.	Part No.	Description	Schematic Ref. No.	Part No.	Description
SW401 SK401	BA06845A	Power Switch P.C.B. Ass'y	R911,912 C905,906 SW107 CN26	BA06600A	Speaker Switch P.C.B. Ass'y
	OB60443A	Power Switch P.C.B.		OB60444A	Speaker Switch P.C.B.
	OB71006A	Power Switch SDL1P		OB09653A	RK 100 1/6W J
	OB90264A	Spark Killer XE-833		OB41298A	CMM 0.1μ 50V J
	OB82994A	PD Connector V430 BRN (2)		OB70098A	Push Switch SPUN22
	OB82995A	PD Connector V430 BLK (1)		OB82966A	6P Connector WHT
C019,020 021,022 CN39,40	BA06844A	Pin Jack P.C.B. Ass'y	VR101 R141,241 R142,242 R143,243 C119,219 C120,220 C121,221 CN40,41	BA06604A	Loudness Volume P.C.B. Ass'y
	OB60436D	Pin Jack P.C.B.		OB60433D	Loudness Volume P.C.B.
	OB41007A	CC 1000P 25V		OB30075A	VR 300K (B)x2
	OB81013A	Dip Mate 6P WH6D-1		OB09709A	RK 22K 1/6W J
	OB81710A	4P Pin Jack WH6D-1 (1)		OB09699A	RK 8.2K 1/6W J
D629 R643,644 CN18	OB83133A	GND Wire (1)	OB09707A	RK 18K 1/6W J	
	BA06645A	Power Indicator P.C.B. Ass'y	OB41791A	CSP 1000P 50V J	
	OB60449A	Power Indicator P.C.B.	OB41290A	CM 0.022μ 50V J	
	OB12421A	LED SRP-56PDWF (GRN/RED)	OB41298A	CMM 0.1μ 50V J	
C132 SW106 CN25	OB82958A	RK 220 1/6W J 3P Connector RED	OB81013A	Dip Mate 6P WH6D-1	
	BA06608A	MM/MC Switch P.C.B. Ass'y	VR102 C133,233 C630 CN19 CN41,42	BA06597A	Volume Motor P.C.B. Ass'y
	OB60436D	MM/MC Switch P.C.B.		OB60434D	Volume Motor P.C.B.
	OB41304A	CMM 0.33μ 50V J		OB30074A	Volume Motor Ass'y
OB70105A	Push Switch SPUN12 6.5mm	OB41702A		CSP 22P 50V J	
CN25	OB82965A	4P Connector WHT	OB41617A	CC 0.1μ 25V Z	
			OB82959A	2P Connector RED	
			OB81013A	Dip Mate 6P WH6D-1	

3.8. Speaker Terminal P.C.B. Ass'y

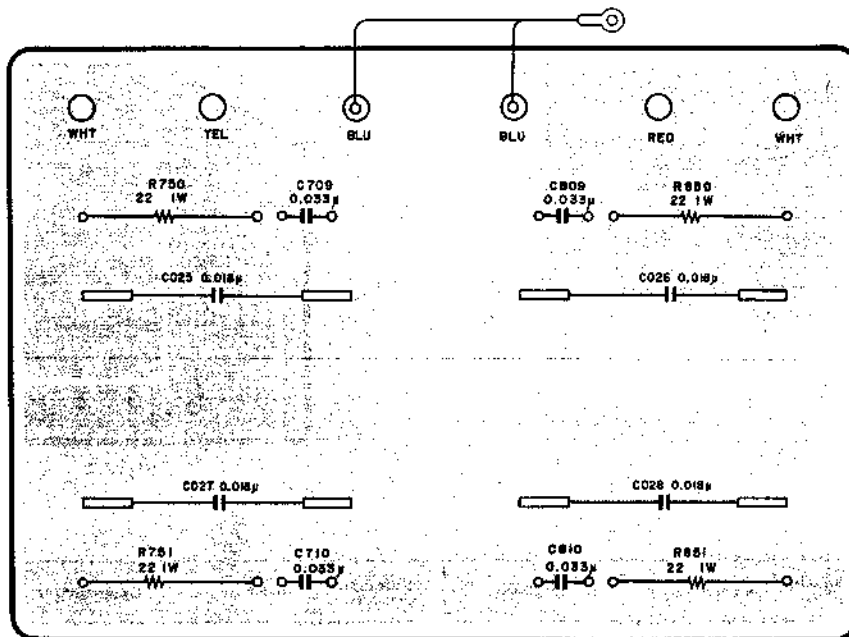


Fig. 3.8

3.9. Tone Control P.C.B. Ass'y

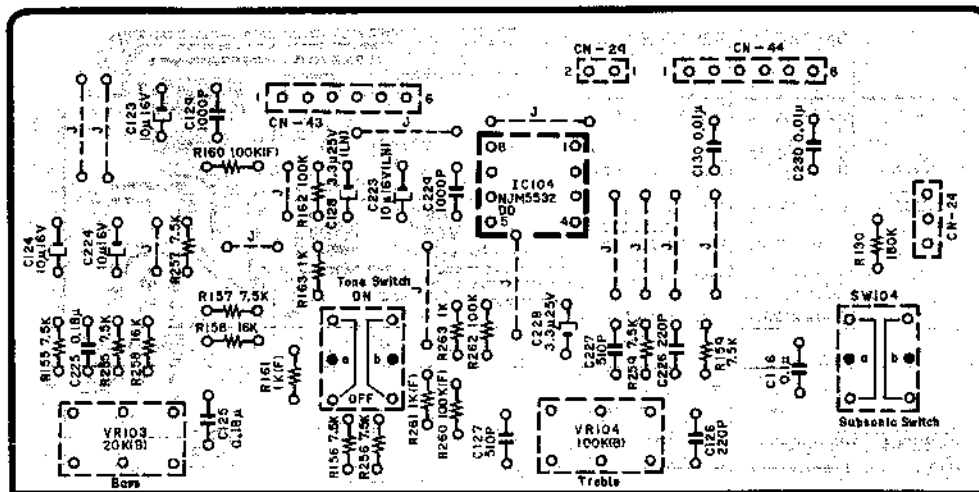


Fig. 3.9

Schematic Ref. No.	Part No.	Description	Schematic Ref. No.	Part No.	Description	Schematic Ref. No.	Part No.	Description
	BA06843A	Speaker Terminal P.C.B Ass'y		BA06598A	Tone Control P.C.B. Ass'y	C125,225	OB41301A	CMM 0.18µ 50V J
	OB60446A	Speaker Terminal P.C.B.	IC104	OB60432D	Tone Control P.C.B. IC NJM5532DD	C126,226	OB41788A	CSP 220P 50V J
R750,751	OB24140A	RF 22 1W	VR103	OB11204A	VR 20K (B)x2	C127,227	OB41789A	CSP 510P 50V J
850,851	OB41289A	CM 0.018µ 50V J	VR104	OB30062A	VR 100K (B)x2	C128,228	OB40460A	CE 3.3µ 50V (LN)
C025,026	OB41292A	CMM 0.033µ 50V J	R130	OB09731A	RK 180K 1/6W J	C129,229	OB41791A	CSP 1000P 50V J
027,028	OB81595B	Speaker Terminal 8P (1)	R155,156	OB09698A	RK 7.5K 1/6W J	C130,230	OB41286A	CM 0.01µ 50V J
C709,710			157,159			CN24	OB82964A	3P Connector RED
809,810	OB83056B	GND Wire (1)	255,256			CN29	OB83004A	2P Connector RED
			257,259			CN43,44	OB81013A	Dip Mate 6P
			R158,258	OB09706A	RK 16K 1/6W J		OB82972A	WH8D-1 Ribbon Cable 6P
			R160,260	OB25387A	RM 100K 1/6W F		OB82973A	Ribbon Cable 6P 410mm (1)
			R161,261	OB25195A	RM 1.00K 1/6W F			Ribbon Cable 6P 310mm (1)
			R162,262	OB09725A	RK 100K 1/6W J			
			R163,263	OB09677A	RK 1K 1/6W J			
			SW103,104	OB70074A	Push Switch 1Key			
			C116	OB41298A	CMM 0.1µ 50V J			
			C123,124	OB09816A	CE 10µ 16V (LN)			
			223,224					



3.10. Fuse P.C.B. Ass'y

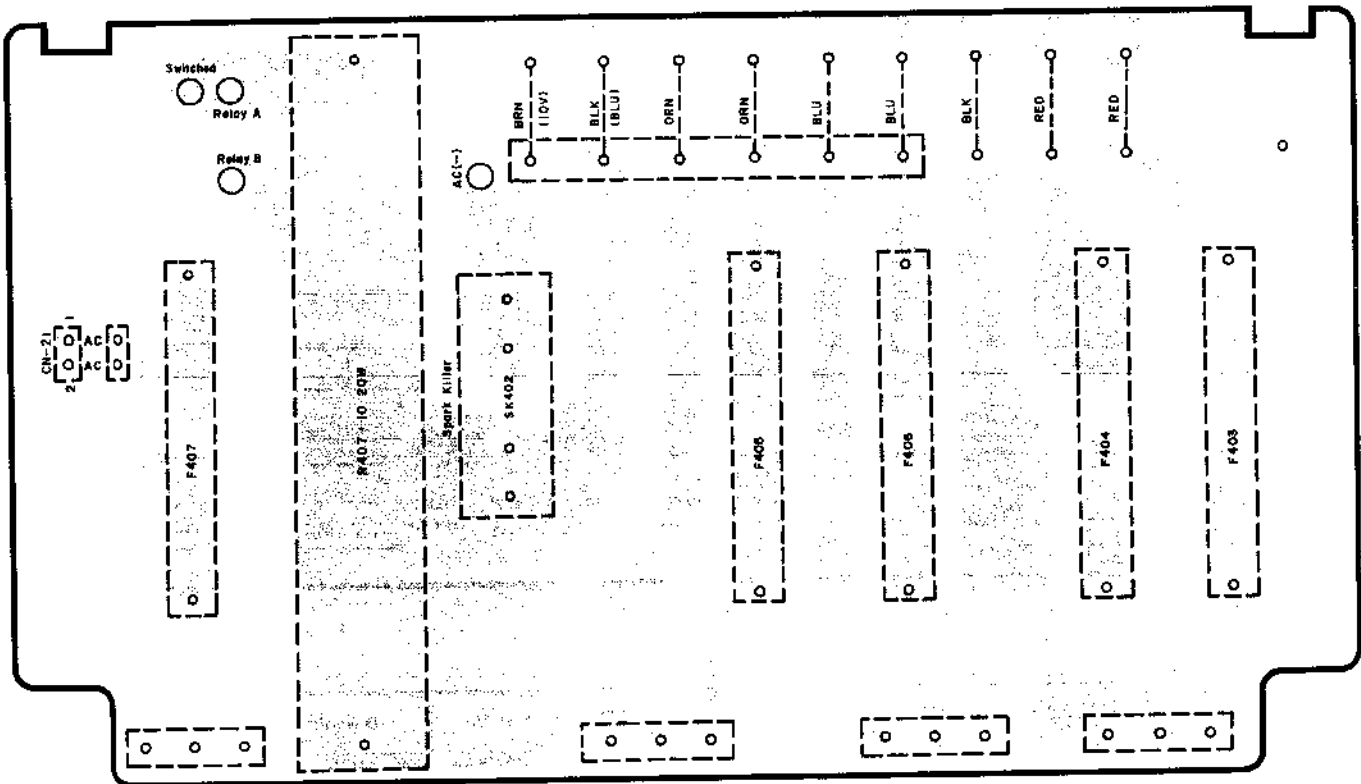


Fig. 3.10

Schematic Ref. No.	Part No.	Description	Schematic Ref. No.	Part No.	Description
	BA06848A	Fuse P.C.B. Ass'y		OM04194A	Fuse Label T315mA (1)
R407	OB60447A	Fuse P.C.B.		OM04391A	Fuse Label T1.25A (1)
SK402	OB24145A	RC 10 2W		OM04443A	Fuse Label T3.15Ax2 (1)
F403,404	OB90264A	Spark Killer			
F405	OB08281A	Fuse T3.15A 250V			
F406	OB02240A	Fuse T1.25A 250V			
F407	OB08263U	Fuse T315mA 250V			
CN21	OB08252A	Fuse T250mA 250V			
	OB82961A	2P Connector WHT			
	OB81634A	2P-T Post (1)			
	OB81740A	6P Terminal (1)			
	OB81709A	3P-T Post L Angle (4)			
	OB08349B	Fuse Clip (10)			
	OM04137A	Fuse Label T250mA (1)			

3.11. Video Amp. P.C.B. Ass'y

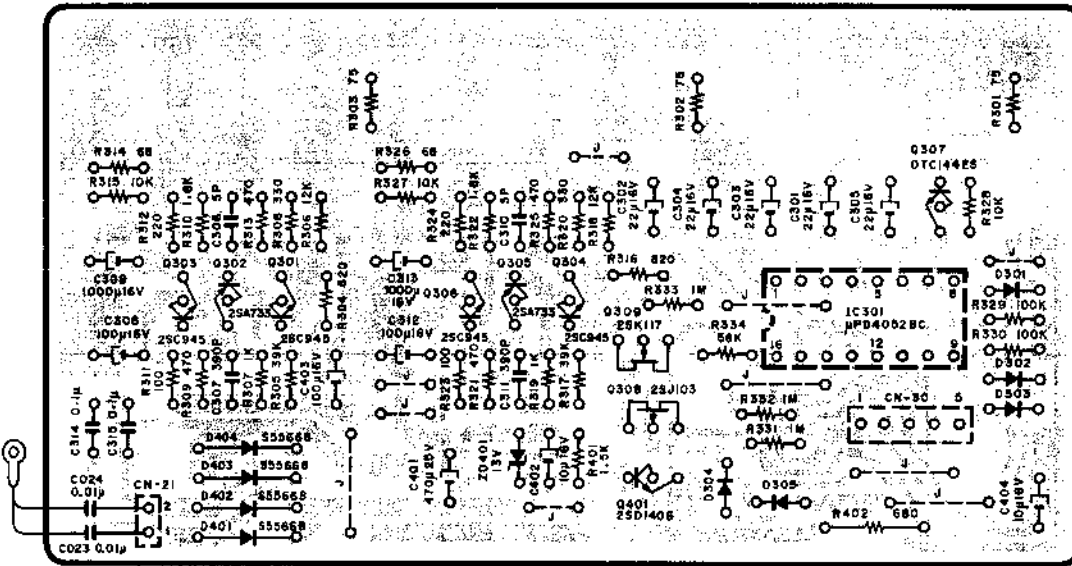


Fig. 3.11

Schematic Ref. No.	Part No.	Description	Schematic Ref. No.	Part No.	Description
	BA06842A	Video Amp. P.C.B. Ass'y	R329,330	OB09725A	RK 100K 1/6W J
			R331,332	OB09749A	RK 1M 1/6W J
			333		
IC301	OB60389E	Video Amp. P.C.B. IC μPD4052BC	R334	OB09719A	RK 56K 1/6W J
Q301,303	OB11247A	TR 2SA733 (P,Q)	R401	OB09681A	RK 1.5K 1/6W J
304,306	OB01872A	TR 2SC945L (P,Q)	R402	OB05794A	RK 680 1/4W J
Q302,305	OB06013A	TR 2SA733 (P,Q)	C022,024	OB41286A	CM 0.01μ 50V J
Q307	OB10062A	TR DTC144ES	C301,302	OB01862A	CE 22μ 16V
Q308	OB10211A	FET 2SJ103	303,304		
Q309	OB06129A	FET 2SK117 (Y)	305		
Q401	OB06452A	TR 2SD1406 (Y)	C306,310	OB09276A	CC 5P 50V
D301-305	OB06398A	SiD 1SS176 (5)	C307,311	OB41002A	CP 390P 100V J
D401-404	OB12362A	SiD S5566B (4)	C308,312	OB01400A	CE 100μ 16V
ZD401	OB12317A	ZD 13V MTZ13B	403		
R301,302	OB09650A	RK 75 1/6W J	C309,313	OB40082A	CE 1000μ 16V
303			C314,315	OB41298A	CMM 0.1μ 50V J
R304,316	OB09675A	RK 820 1/6W J	C401	OB40094A	CE 470μ 25V
R305,317	OB09715A	RK 39K 1/6W J	C402,404	OB01412A	CE 10μ 16V
R306,318	OB09703A	RK 12K 1/6W J	CN21	OB81223A	2P-T Post WHT
R307,319	OB09677A	RK 1K 1/6W J	CN30	OB81235A	5P-T Post WHT
R308,320	OB09665A	RK 330 1/6W J		OB81592B	Pin Jack 1P (5)
R309,313	OB09669A	RK 470 1/6W J		OB83133A	GND Wire 80 (1)
321,325					
R310,322	OB09683A	RK 1.8K 1/6W J			
R311,323	OB09653A	RK 100 1/6W J			
R312,324	OB09661A	RK 220 1/6W J			
R314,326	OB09649A	RK 68 1/6W J			
R315,327	OB09701A	RK 10K 1/6W J			
328					

3.13. Power Supply P.C.B. Ass'y

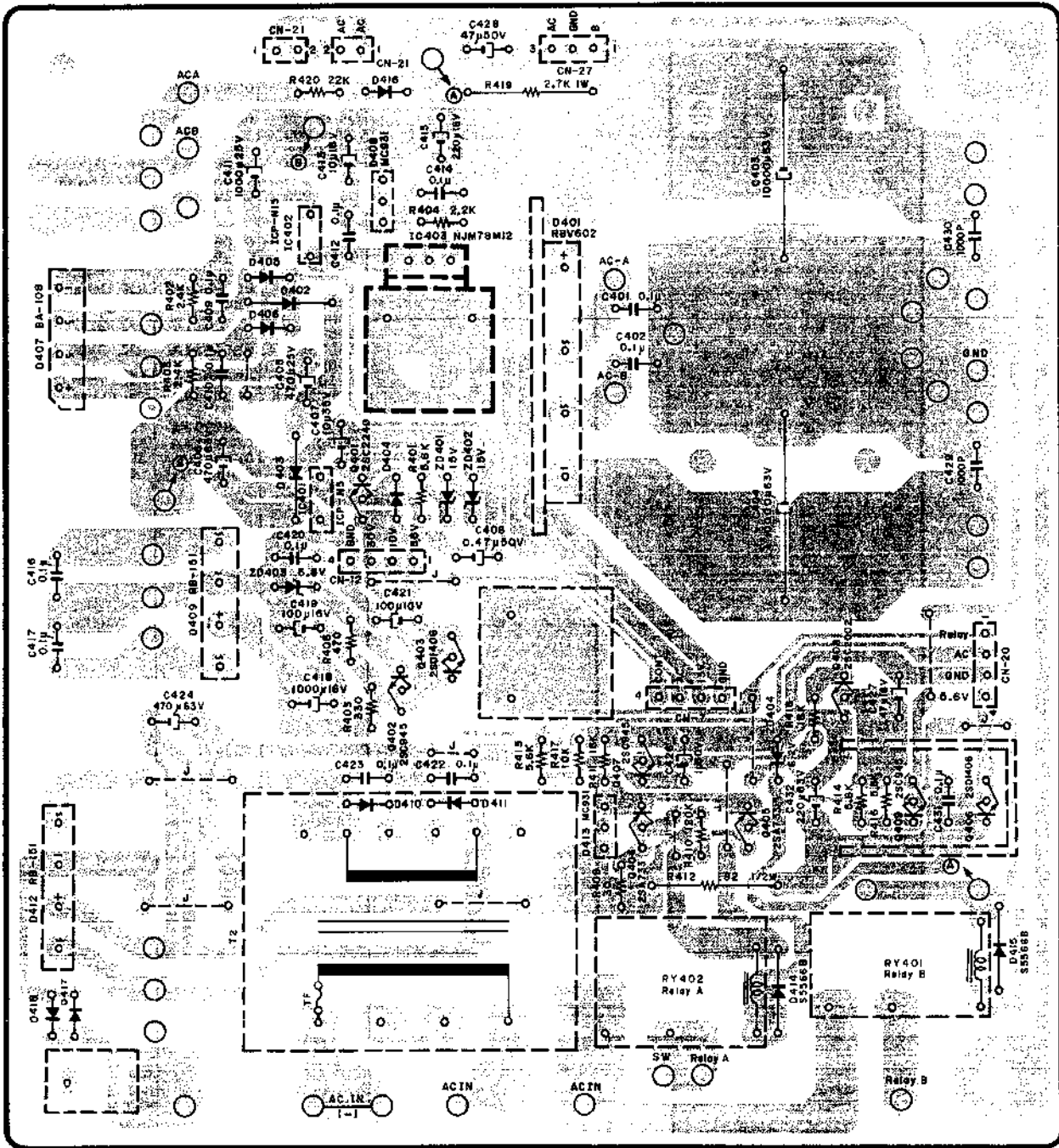


Fig. 3.13

3.12. Control Switch P.C.B. Ass'y

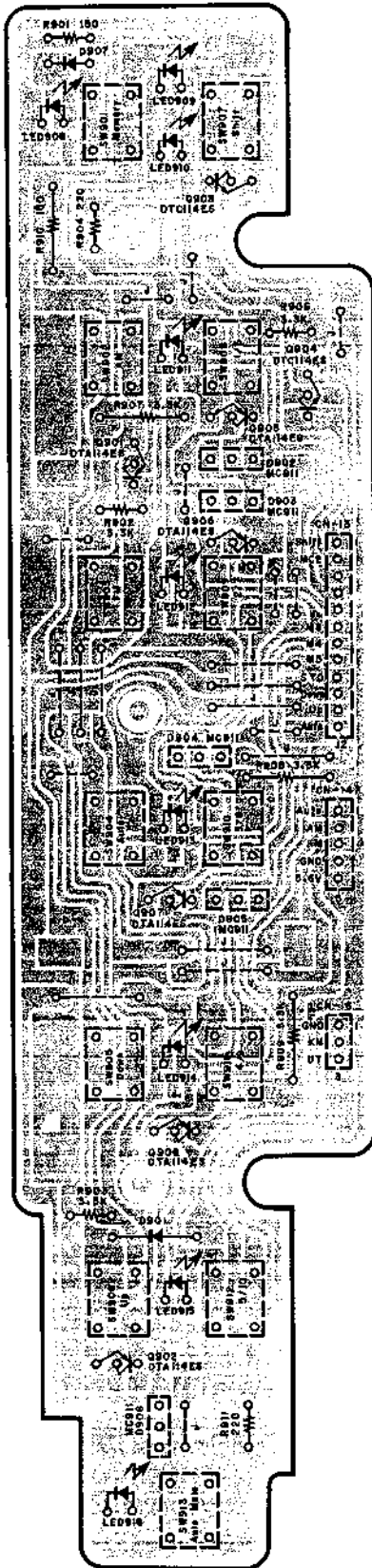


Fig. 3.12

Schematic Ref. No.	Part No.	Description
	BA06593A	Control Switch P.C.B. Ass'y
	0B60442A	Control Switch P.C.B.
Q901,902 905,906 907,908	0B10058A	TR DTA114ES
Q903,904	0B10068A	TR DTC114ES
D901	0B06181A	SID 1SS53
D902,903 904,905 908	0B12391A	SID MC911
D907	0B06398A	SID 1SS176
LED908-916	0B12395A	LED SLR-34PC3F P-Green (9)
R901	0B09657A	RK 150 1/6W J
R902,903 906	0B09689A	RK 3.3K 1/6W J
R904,911	0B09661A	RK 220 1/6W J
R907,908 909	0B01681A	RK 3.3K 1/4W J
R910	0B05795A	RK 150 1/4W J
SW901-913	0B70062A	Tact Switch KHH10910 (13)
CN13	0B82953A	12P Connector WHT
CN14	0B82954A	5P Connector WHT
CN16	0B82956A	3P Connector YEL
	0J05209B	LED Reflector (9)

Schematic Ref. No.	Part No.	Description	Schematic Ref. No.	Part No.	Description
	BA06599A	Power Supply P.C.B. Ass'y		OB82997B	PD Connector V150 RED (1)
	OB60440A	Power Supply P.C.B.		OB82998A	PD Connector V150 ORN (1)
IC401	OB11248A	IC ICP-N5-T104		OB82999B	PD Connector V150 YEL (2)
IC402	OB11335A	IC ICP-N15-T104		OB83003A	PD Connector V230 BLU (2)
Q401	OB10078A	TR 2SC2240 (GR)		OB83000A	GND Cable V070 BLU (1)
Q402,407	OB01872A	TR 2SC945L (P,Q)		OB90019A	Insu-Lock SKB80 (7)
408				OB90206A	Insu-Lock SKB4M (1)
Q404,405	OB06013A	TR 2SA733 (P,Q)		OE03355A	Earth Lug MET31-0113 (1)
Q408	OB06322A	TR 2SC2002 (K,L)		OJ05309A	BS Damper 1VR (1)
D402,403	OB12362A	SID S5566B		OJ05362A	Earth Plate (1)
414,415				OB11252A	IC 78M12
D404,405	OB06398A	SID 1SS176		OE00612A	M3x6 @Pan (2A) (1)
406,410				OJ05351A	TR Heat Sink (1)
411,416				OB06452A	TR 2SD1406 (Y)
417,418				OE00612A	M3x6 @Pan (2A) (1)
D407	OB06282A	SID DBA10B.C.	IC403	OJ05351A	TR Heat Sink (1)
D408,413	OB12420A	SID MC931		OB06452A	TR 2SD1406 (Y)
D409,412	OB06183A	SID RB-151	Q403	OE00612A	M3x6 @Pan (2A) (1)
ZD401,402	OB12464A	ZD 15V UTZJ15C		OJ05351A	TR Heat Sink (1)
ZD403	OB12440A	ZD 6.8V UTZJ6.8C		OB06452A	TR 2SD1406 (Y)
ZD404	OB12437A	ZD 6.2V UTZJ6.2C	Q406	OB06452A	TR 2SD1406 (Y)
RY401	OB90250A	Relay 24V G6C-1117P		OB08680B	Heat Sink A (1)
RY402	OB90249A	Relay 12V G6C-1117P		OE00972A	Nut Hex, M3 (1)
T2	OB50090A	Power Transformer	D401	OE03319A	M3x8 @Binding (1)
R401,414	OB09695A	RK 5.6K 1/6W J		OB12388A	SID RBV-602
415,416				OE03030A	M3x6 @Binding (1)
R402,403	OB09686A	RK 2.4K 1/6W J		OJ05335B	SID Heat Sink (1)
R404	OB09685A	RK 2.2K 1/6W J			
R405	OB09665A	RK 330 1/6W J			
R406	OB09669A	RK 470 1/6W J			
R409	OB09640A	RK 30 1/6W J			
R410	OB09655A	RK 120 1/6W J			
R411	OB09706A	RK 16K 1/6W J			
R412	OB09253A	RF 82 1/2W J			
R417	OB09701A	RK 10K 1/6W J			
R418	OB09707A	RK 18K 1/6W J			
R419	OB24061A	RF 2.7K 1W J			
R420	OB09709A	RK 22K 1/6W J			
C401,402	OB41298A	CMM 0.1μ 50V J			
409,410					
412,414					
416,417					
420,422					
423,431					
C403,404	OB40454A	CE 10000μ 63V			
C405	OB40094A	CE 470μ 25V			
C406,424	OB40134A	CE 470μ 63V			
C407	OB40100A	CE 10μ 35V			
C408	OB40462A	CE 0.47μ 50V			
C411	OB40095A	CE 1000μ 25V			
C413,426	OB01412A	CE 10μ 16V			
C415	OB40079A	CE 220μ 16V			
C418	OB40082A	CE 1000μ 16V			
C419	OB40078A	CE 100μ 16V			
C421	OB40464A	CE 100μ 10V			
C427	OB40077A	CE 47μ 16V			
C428	OB40115A	CE 4.7μ 50V			
C429,430	OB41791A	CSP 1000P 50V J			
C432	OB40132A	CE 220μ 63V			
CN7	OB82947A	4P Connector WHT			
CN12	OB82952A	4P Connector WHT			
CN20	OB82960A	4P Connector RED			
CN27	OB82967A	3P Connector RED			
	OB82983A	PD Connector V340 RED (1)			
	OB82984A	PD Connector V340 WHT (1)			
	OB82985A	PD Connector V290 RED (1)			
	OB82986A	PD Connector V290 WHT (1)			
	OB82987A	PD Connector V330 BLU (1)			
	OB82988A	PD Connector V300 BLU (2)			
	OB82990A	PD Connector V260 YEL (1)			
	OB82991A	PD Connector V150 RED (2)			
	OB82992A	PD Connector V150 WHT (1)			
	OB82993A	PD Connector V100 BLU (1)			
	OB82996A	PD Connector V150 BLK (2)			



Schematic Ref. No.	Part No.	Description	Schematic Ref. No.	Part No.	Description
	BA06610A	Logic P.C.B. Ass'y	CN2	OB81242A	6P-T Post YEL
	OB60439A	Logic P.C.B.	CN6	OB81226A	2P-T Post YEL
IC601	OB11159A	IC TD6104	CN10	OB81241A	6P-T Post RED
IC602	OB11161A	IC TC9147BP	CN11	OB81239A	6P-T Post WHT
IC603	OB06219A	IC $\mu$ PD4081BC	CN12	OB81231A	4P-T Post WHT
IC604	OB11279A	IC LM6416E	CN13	OB81268A	12P-T Post WHT
IC605	OB06178A	IC $\mu$ PD4011BC	CN14	OB81235A	5P-T Post WHT
IC606	OB11250A	IC LB1645N	CN15	OB81240A	6P-T Post BLK
IC607,608	OB11334A	IC DT5A114E	CN16	OB81230A	3P-T Post YEL
Q601,602	OB10088A	TR 2SC1815L (GR)	CN17	OB81223A	2P-T Post WHT
Q603,608	OB01872A	TR 2SC945L (P,Q)	CN18	OB81229A	3P-T Post RED
Q604,605	OB10068A	TR DTC114ES	CN19	OB81225A	2P-T Post RED
Q606,607	OB10058A	TR DTA114ES	CN20	OB81233A	4P-T Post RED
Q610	OB06013A	TR 2SA733 (P,Q)	CN22	OB81224A	2P-T Post BLK
Q611	OB10211A	FET 2SJ103 (GR,BL)	CN28	OB82979A	2P Connector
D600	OB06398A	SID 1SS176 (26)			
602,618					
621,622					
624,625					
626,627					
630,631					
D601,623	OB12363A	SID MA700			
D619,620	OB06181A	SID 1SS53			
D632	OB12420A	SID MC931			
ZD628	OB12437A	ZD 6.2V UTZJ6.2C			
L601	OB51239A	Micro Coil LAL02TA220K			
X601	OB92006A	Crystal 7.2MHz FYX-TE725S17			
X602	OB02307A	Resonator 800kHz KBR800H			
M601	OB90241A	Lithium Battery 3V CR2380-1GV5			
R600,619	OB09749A	RK 1M 1/6W J			
620,623					
624,632					
636					
R602,604	OB09701A	RK 10K 1/6W J			
606,621					
R603	OB09699A	RK 8.2K 1/6W J			
R605,610	OB09677A	RK 1K 1/6W J			
630,650					
R607	OB24114A	RF 1K 1/2W J			
R608	OB09661A	RK 220 1/6W J			
R609,611	OB09725A	RK 100K 1/6W J			
612,615					
616,617					
626,634					
635,646					
647					
R613,614	OB09721A	RK 68K 1/6W J			
R618,622	OB09719A	RK 56K 1/6W J			
625					
R627	OB09697A	RK 6.8K 1/6W J			
R628,629	OB09717A	RK 47K 1/6W J			
R631	OB09737A	RK 330K 1/6W J			
R633	OB09733A	RK 220K 1/6W J			
R637,639	OB09689A	RK 3.3K 1/6W J			
R638	OB09683A	RK 1.8K 1/6W J			
R640,641	OB09694A	RK 5.1K 1/6W J			
R645	OB09706A	RK 16K 1/6W J			
R648,649	OB09685A	RK 2.2K 1/6W J			
C600	OB41708A	CC 22P 50V J			
C601	OB01403A	CE 47 $\mu$ 16V			
C602,612	OB41787A	CC 0.022 $\mu$ 25V Z			
616,621		(9)			
634					
C603	OB41187A	CC 39P 50V J			
C604,629	OB41553A	CC 0.01 $\mu$ 25V Z			
C605	OB09586A	CC 2200P 50V K			
C606,614	OB01405A	CE 1 $\mu$ 50V			
624,628					
635					
C607	OB09288A	CC 1000P 50V K			
C608	OB40103A	CE 47 $\mu$ 35V			
C609	OB09327A	CE 0.33 $\mu$ 50V (LN)			
C610,632	OB41298A	CMM 0.1 $\mu$ 50V J			
C611	OB01400A	CE 100 $\mu$ 16V			
C613	OB41709A	CC 47P 50V J			
C615	OB40111A	CE 0.47 $\mu$ 50V			
C622	OB41290A	CM 0.022 $\mu$ 50V J			
C623	OB41278A	CM 2200P 50V J			
C625	OB01412A	CE 10 $\mu$ 16V			
C626,627	OB41734A	CC 220P 50V J			
C633	OB40076A	CE 33 $\mu$ 16V			
CN1	OB81238A	5P-T Post YEL			

3.15. Display P.C.B. Ass'y

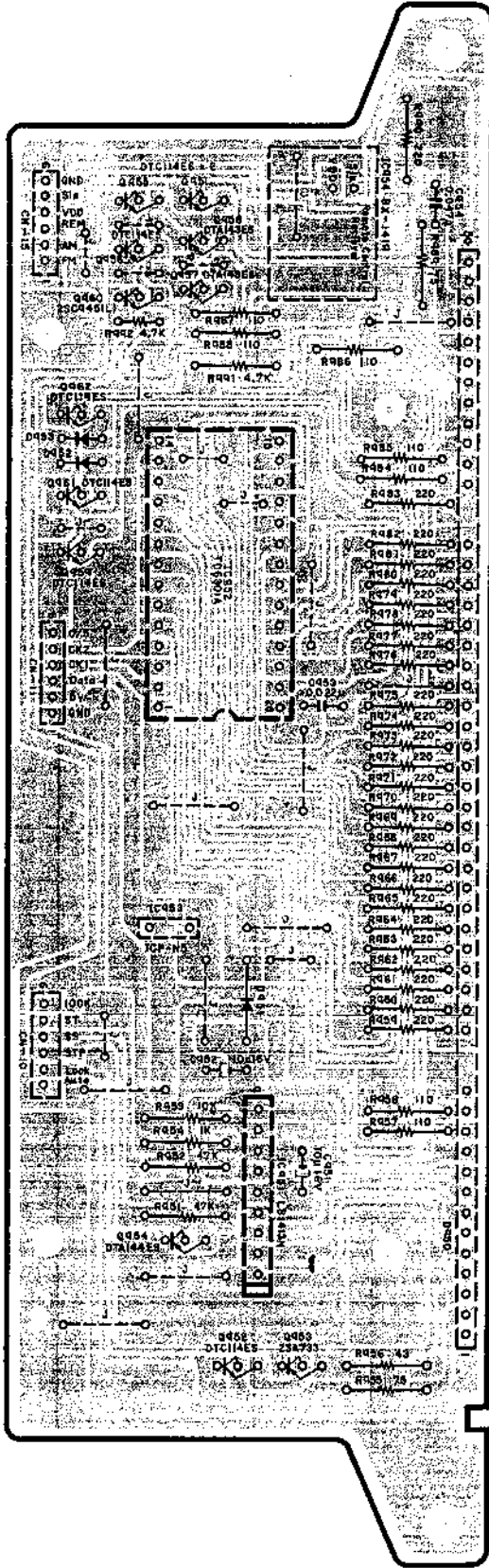


Fig. 3.15

Schematic Ref. No.	Part No.	Description
	<b>BA06646A</b>	<b>Display P.C.B. Ass'y</b>
	OB60441A	Display P.C.B.
IC951	OB11244A	IC LB1413N
IC952	OB11160A	IC TD6301A
IC953	OB11248A	IC ICP-N5-T104
IC954	OB19005A	IC BX-1419
Q951,952	OB10068A	TR DTC114ES
955,956		
Q953	OB06013A	TR 2SA733 (P,Q)
Q954	OB10053A	TR DTA144ES
Q957,958	OB10060A	TR DTA143ES
Q959,961	OB10068A	TR DTC114ES
962		
Q960	OB01872A	TR 2SC945L (P,Q)
D950	OB12414A	Display SL7823-03
D951	OB06181A	SiD 1SS53
D952,953	OB06398A	SiD 1SS176
R951,952	OB05641A	RK 47K 1/4W J
R953	OB01888A	RK 10K 1/4W J
R954	OB01857A	RK 1K 1/4W J
R955,989	OB05959A	RK 75 1/4W J
R956	OB20415A	RK 43 1/4W J
R957,958	OB20416A	RK 110 1/4W J
984-988		(7)
R959-983	OB01933A	RK 220 1/4W J
990		(26)
R991	OB01846A	RK 4.7K 1/4W J
R992	OB09693A	RK 4.7K 1/6W J
C951,952	OB40009A	CE 10µ 16V
C953	OB41554A	CC 0.022µ 25V Z
C954	OB41555A	CC 0.047µ 25V Z
CN10	OB82950A	6P Connector RED
CN11	OB82951A	6P Connector WHT
CN15	OB82955A	6P Connector BLK
	OE00846A	BT3x8 @Pan (2)



4. SCHEMATIC DIAGRAMS

4.1. Amplifier Section

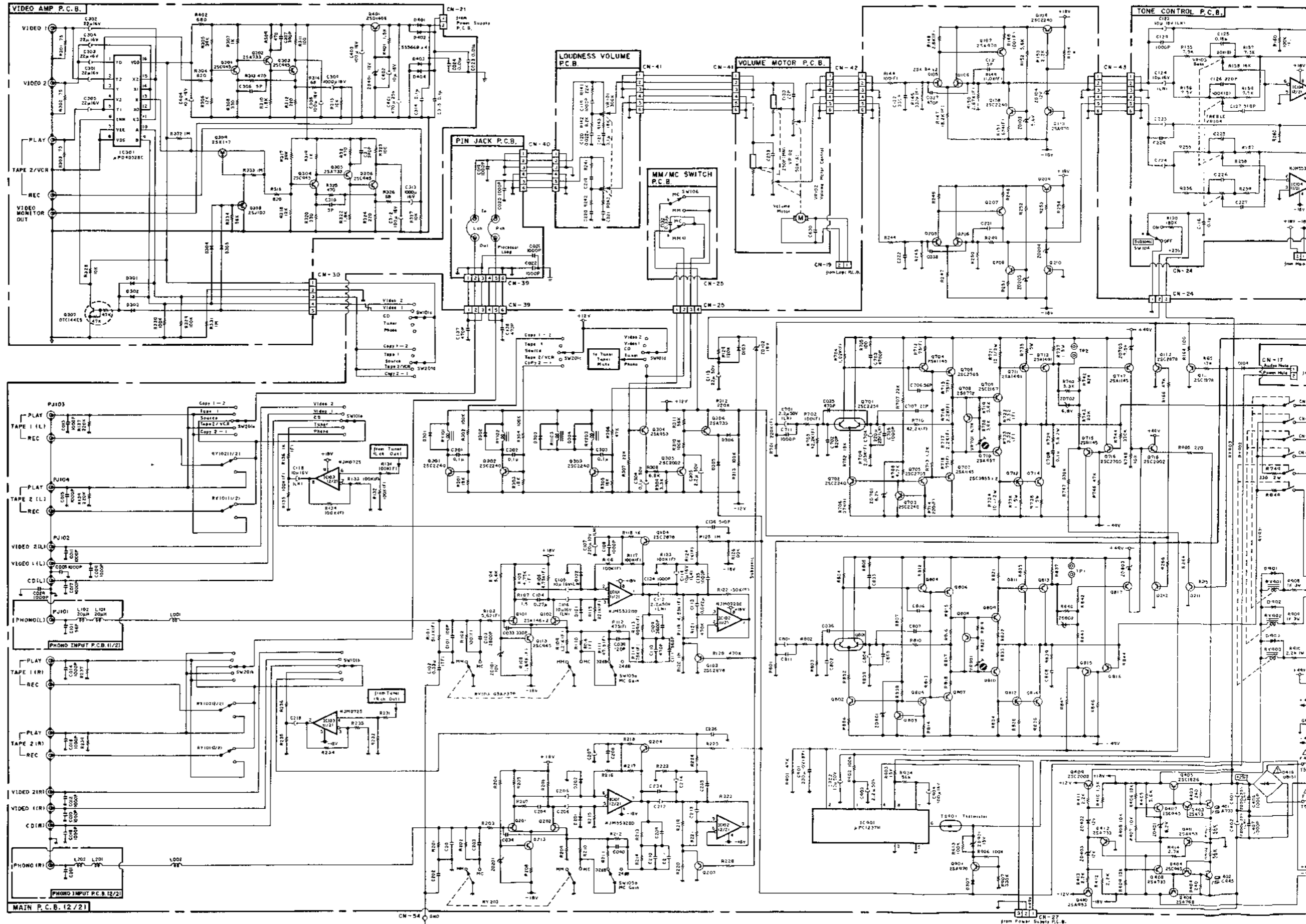


Fig. 4.1

Notes: 1. Diode is 1SS53, 1S1555, or 1SS1/6 unless otherwise  
 2. 2SA733, 2SA608SP, 2SA1048 and 2SA1175 are inte  
 3. 2SC945, 2SC536SP, 2SC2458 and 2SC2785 are inte

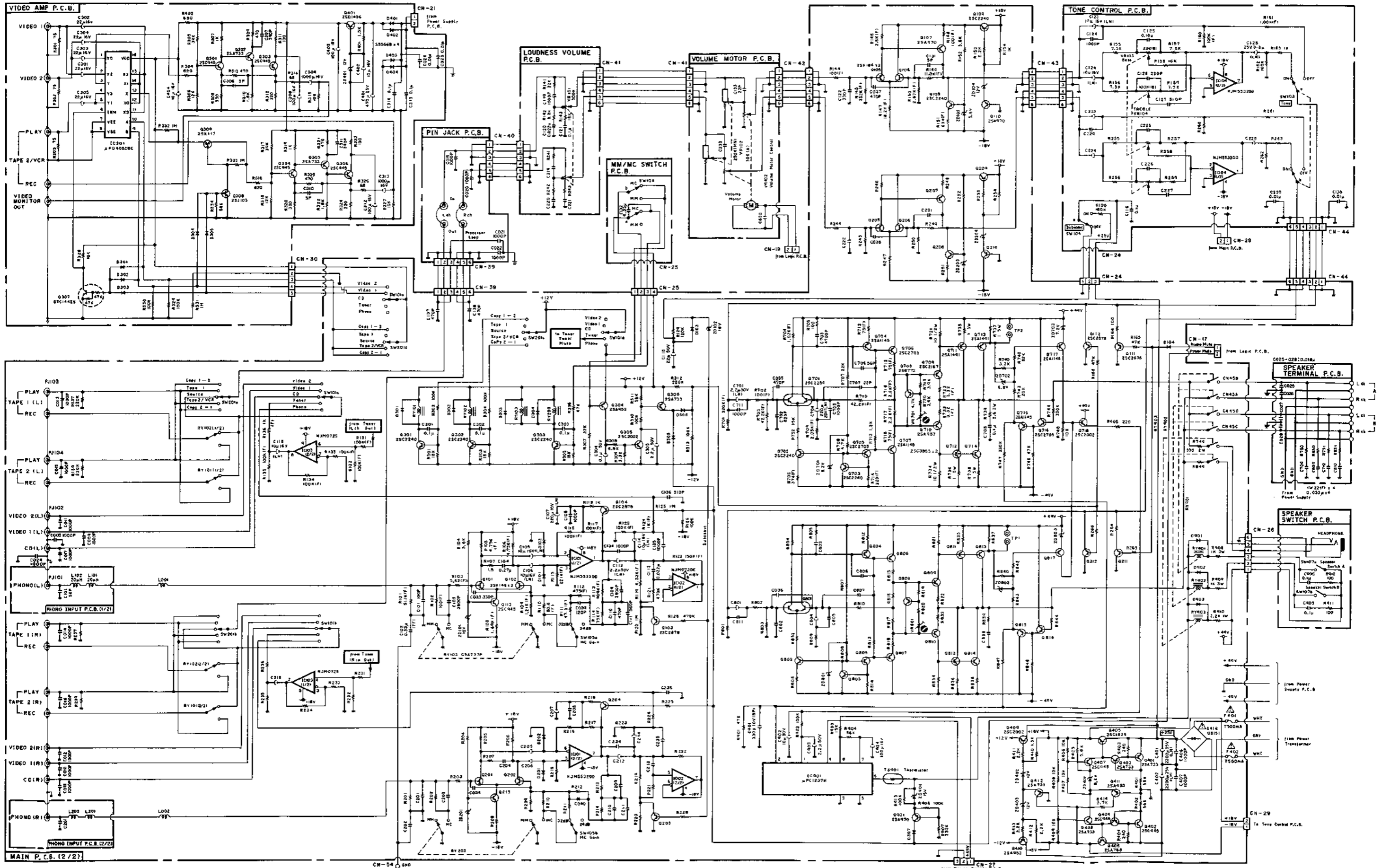


Fig. 4.1

- Notes: 1. Diode is 1SS53, 1S1555, or 1SS176 unless otherwise specified.  
 2. 2SA733, 2SA608SP, 2SA1048 and 2SA1175 are interchangeable with each other.  
 3. 2SC945, 2SC536SP, 2SC2458 and 2SC2785 are interchangeable with each other.

4.2. Tuner and Power Supply Section

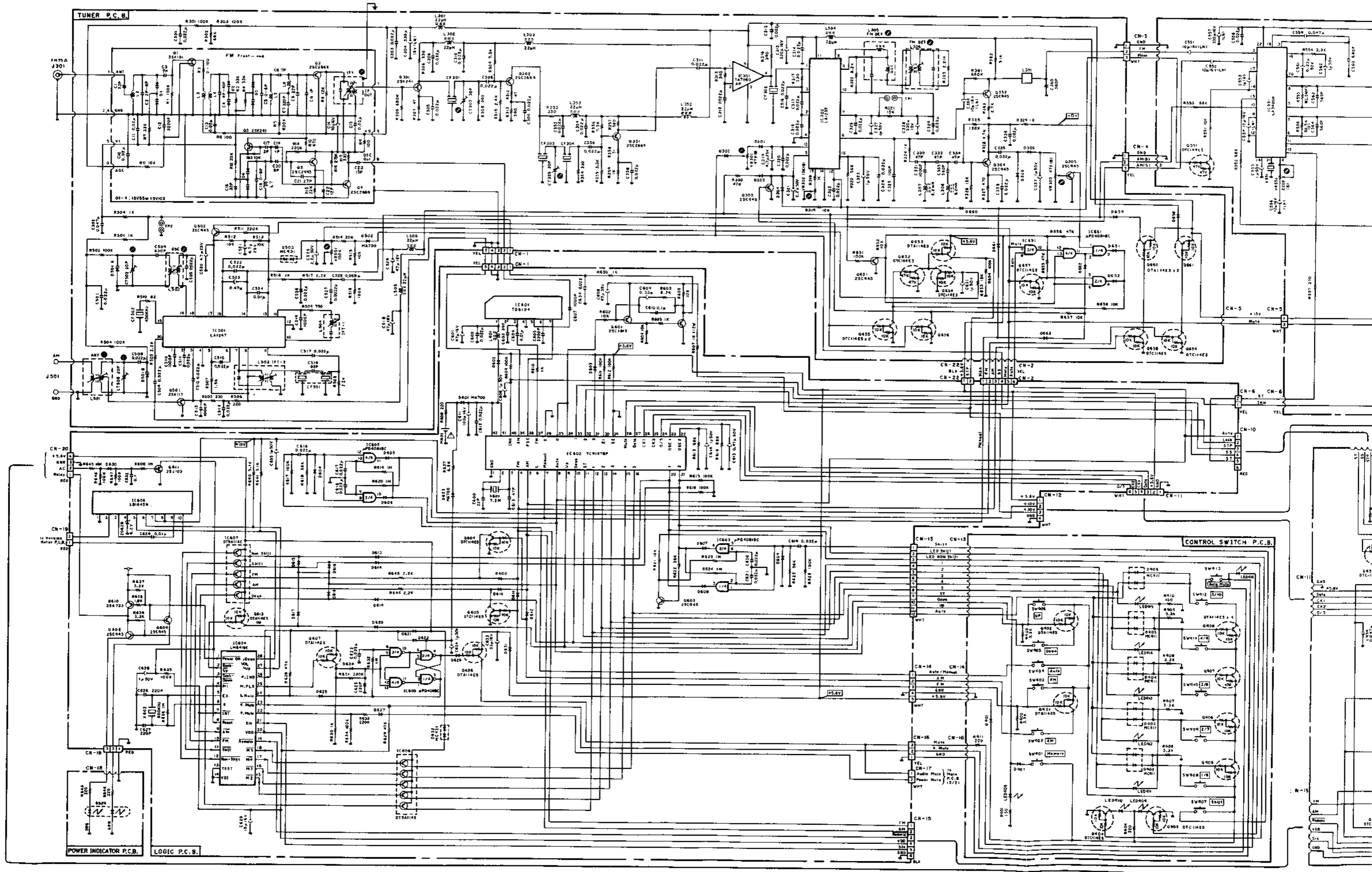
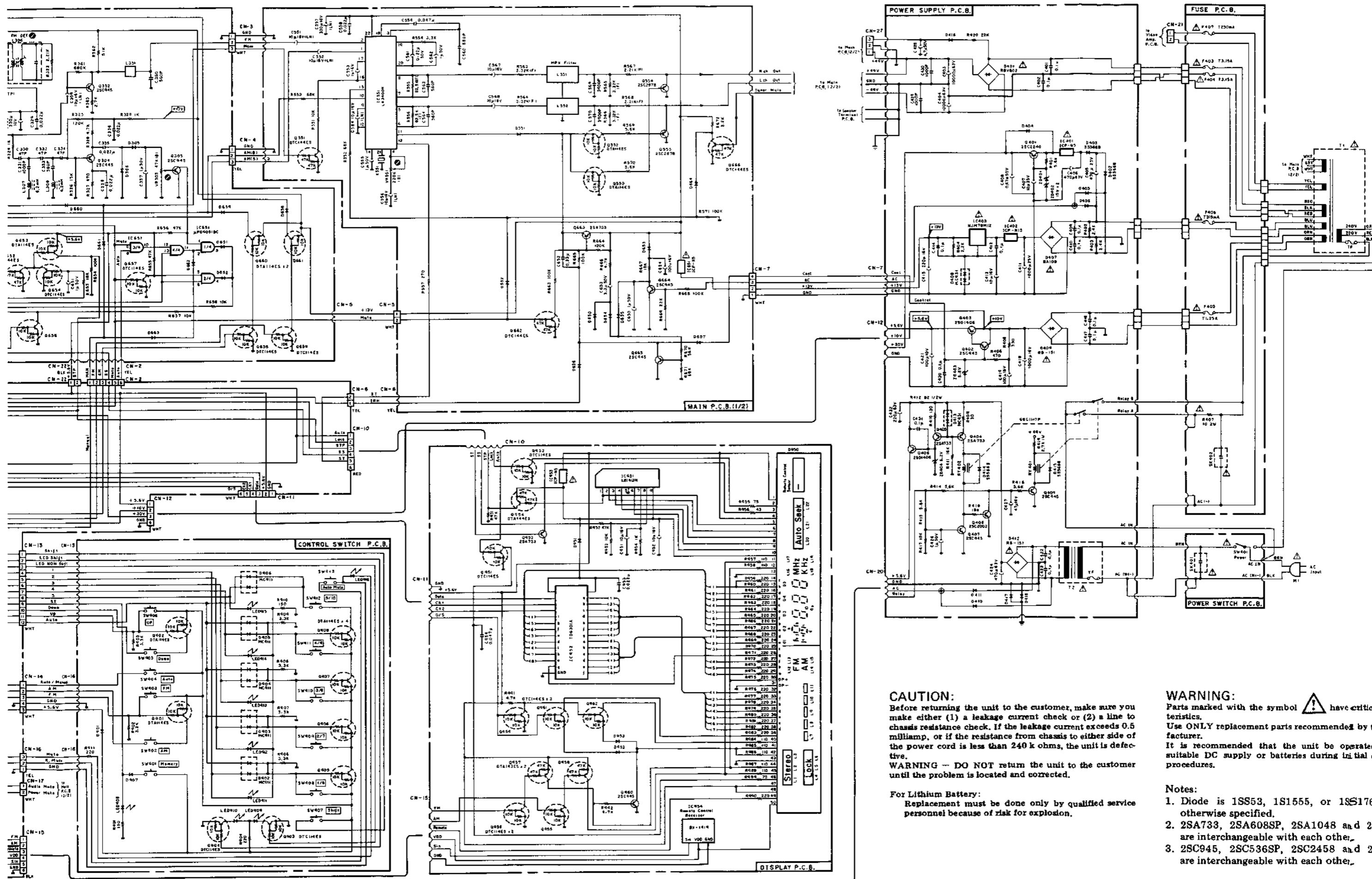



Fig. 4.2



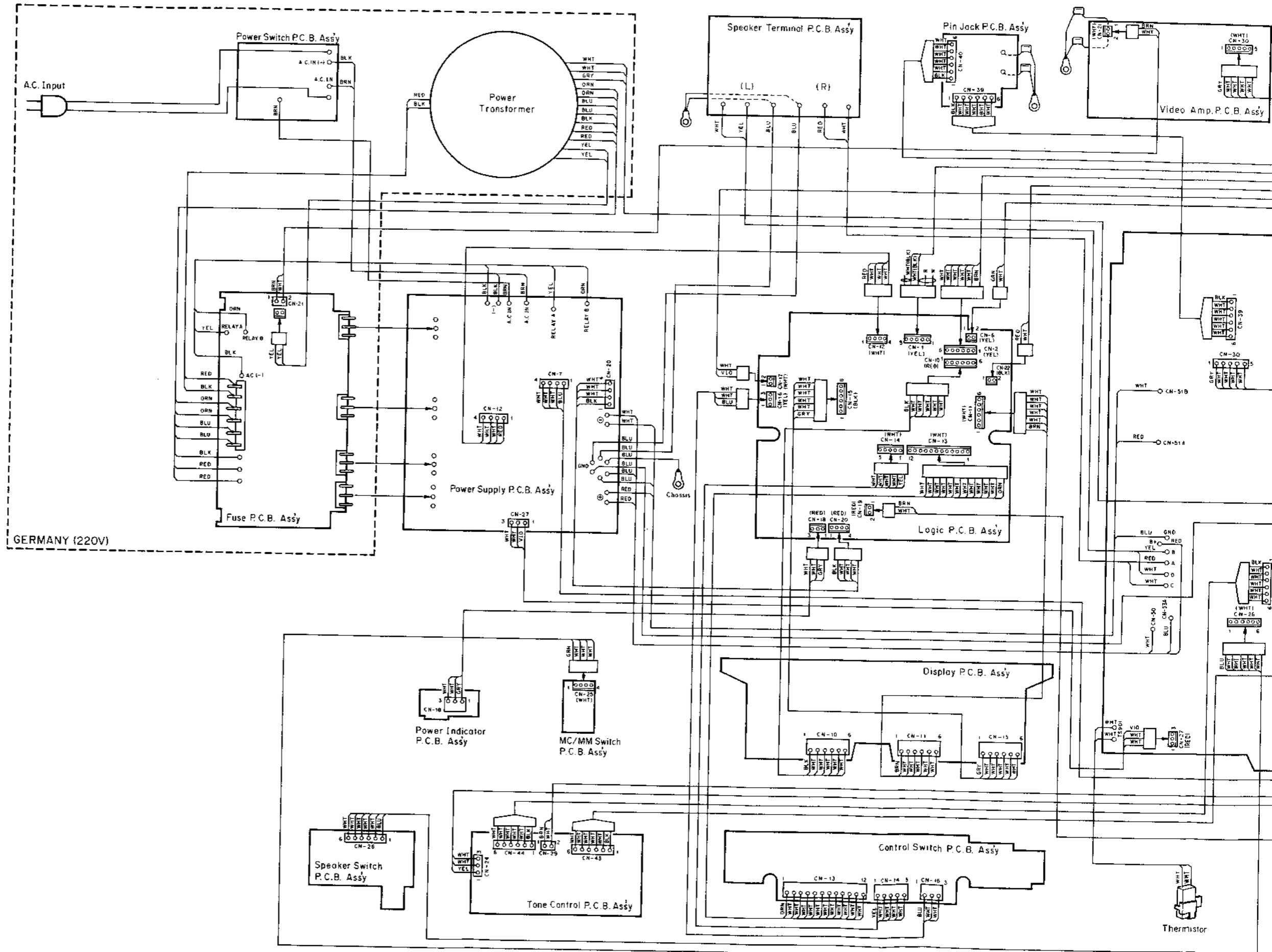
**CAUTION:**  
 Before returning the unit to the customer, make sure you make either (1) a leakage current check or (2) a line to chassis resistance check. If the leakage current exceeds 0.5 milliamp, or if the resistance from chassis to either side of the power cord is less than 240 k ohms, the unit is defective.  
**WARNING - DO NOT** return the unit to the customer until the problem is located and corrected.

**For Lithium Battery:**  
 Replacement must be done only by qualified service personnel because of risk for explosion.

**WARNING:**  
 Parts marked with the symbol  have critical characteristics. Use **ONLY** replacement parts recommended by the manufacturer. It is recommended that the unit be operated from a suitable DC supply or batteries during initial check-out procedures.

- Notes:**
1. Diode is 1SS53, 1S1555, or 1S176 unless otherwise specified.
  2. 2SA733, 2SA608SP, 2SA1048 and 2SA1175 are interchangeable with each other.
  3. 2SC945, 2SC536SP, 2SC2458 and 2SC2785 are interchangeable with each other.

5. WIRING DIAGRAM



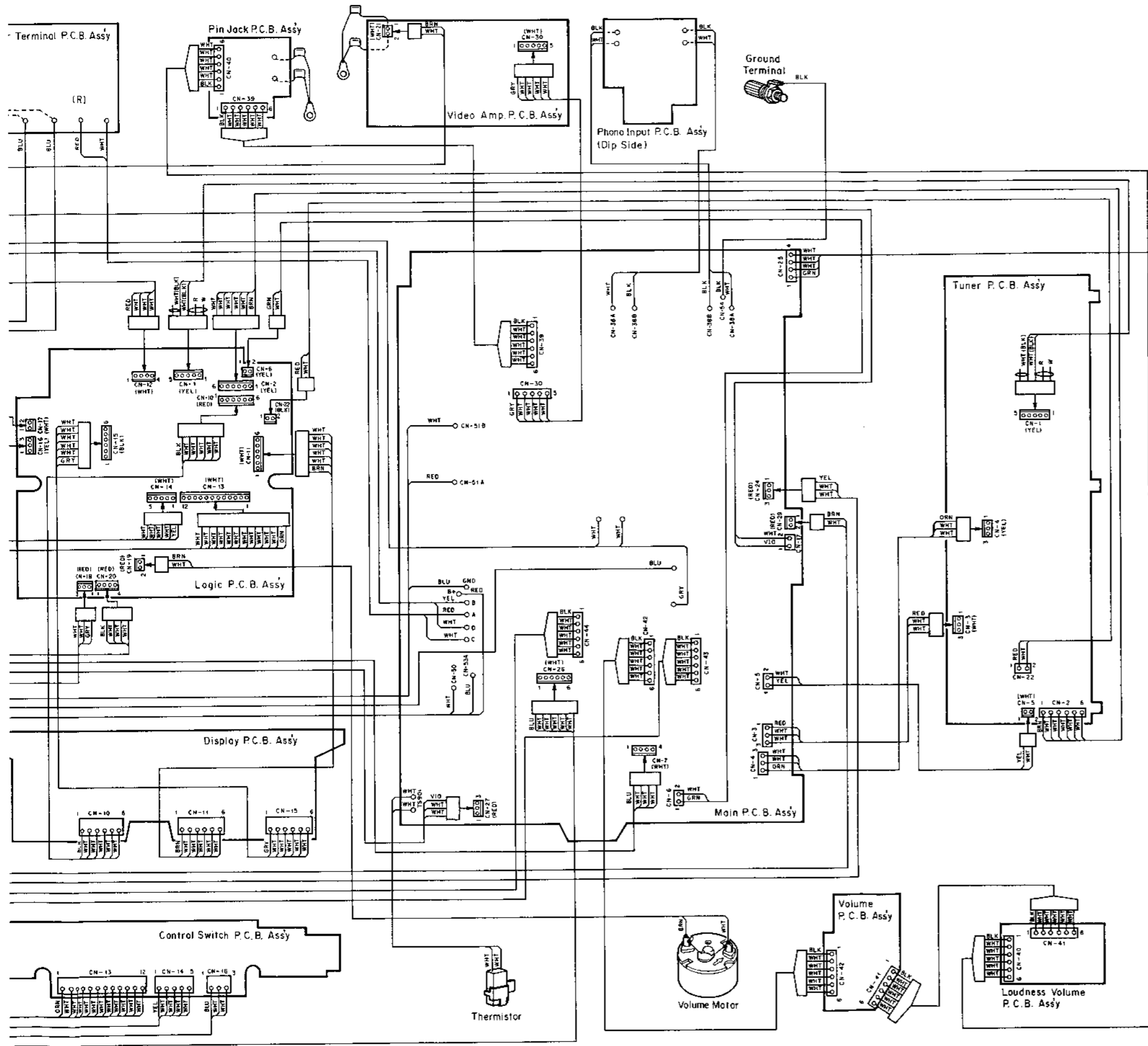
Notes:

1. Table of wire colors

BRN - Brown	BLU - Blue
RED - Red	VIO - Violet
ORN - Orange	GRY - Gray
YEL - Yellow	WHT - White
GRN - Green	BLK - Black

2. Component side view of the P.C.B. is illustrated unless otherwise specified.

Fig. 5



## 6. SPECIFICATIONS

## Power Amplifier Section

Note: Unless noted otherwise specifications are in accordance with IHF-A-202 measured from any high-level input (CD/VIDEO/TAPE) to the speaker output.

Continuous Average Output Power	60 watts per channel into 8 ohms, both channels driven, 20–20,000 Hz at no greater than 0.1% THD
Dynamic Output Power	85 watts per channel into 8 ohms 125 watts per channel into 4 ohms
Dynamic Head Room (8 ohms)	1.5 dB
Power Bandwidth	5–30,000 Hz
Frequency Response	20–20,000 Hz; +0, –1 dB 5–45,000 Hz; +0, –3 dB
Signal to Noise Ratio (A-WTD, Input Shorted)	Better than 105 dB re Rated Power Better than 85 dB (IHF-A-202)
Total Harmonic Distortion (8 ohms, Rated Power, 20 Hz – 20 kHz)	Less than 0.1%
Intermodulation Distortion (8 ohms, Rated Power, 60 Hz:7 kHz, 4:1)	Less than 0.1%
Headphone Rated Output (40 ohms)	140 mW
Output Current Capability	25A peak per channel

## Preamplifier Section

Note: Unless noted otherwise specifications are in accordance with IHF-A-202. Except for Sensitivity, S/N, Tone and Loudness characteristics (which are measured to the speaker outputs), measurements are made from the specified input to Rec. Out.

Sensitivity: (for rated Output)	
Phono MC (Gain: 32/24 dB)	60/160 $\mu$ V
Phono MM	2.5 mV
CD/Tape	200 mV
Video	200 mV
Sensitivity: (for 1-watt output, IHF-A-202)	
Phono MC (Gain: 32/24 dB)	7.8/21 $\mu$ V
Phono MM	0.32 mV
CD/Tape	26 mV
Video	26 mV
Input Impedance	
Phono MC	100 ohms
Phono MM	47 kohms
CD/Tape	20 kohms
Video	20 kohms
Maximum Input Level (1 kHz)	
Phono MC (Gain: 32/24 dB)	3/8 mV
Phono MM	140 mV
Record Output Level/ Impedance	200 mV/1 kohms
Total Harmonic Distortion (1 kHz, to Rec Out, at 1 V)	
Phono MC	Less than 0.003% (either gain)
Phono MM	Less than 0.002%
RIAA Deviation	
Phono MC	30–20,000 Hz $\pm$ 0.5 dB
Phono MM	30–20,000 Hz $\pm$ 0.5 dB
Signal to Noise Ratio (to speaker output, IHF-A-202)	
Phono MC with 32 dB Gain	Better than 71 dB
24 dB Gain	Better than 70 dB
Phono MM	Better than 78 dB

SR-4E (Germany) OOD-SI-3104 (24/24)

**Tone Controls**

Bass . . . . . 20 Hz,  $\pm 10$  dB  
Treble . . . . . 20 kHz,  $\pm 10$  dB  
Variable Loudness . . . . . 20 Hz, +20 dB; 20 kHz, +6 dB  
(re maximum attenuation: -40 dB at 1 kHz)  
Subsonic Filter (Phono Only) . . Cutoff Frequency 20 Hz, -12 dB/octave

**Tuner Section**

**[FM Section]**

Note: All RF levels in microvolts given re 300-ohm antenna input. Modulation: Mono 60%, Stereo Pilot 9%, Stereo Audio Signal 51%. All measurements made at Rec. Out Jack.

Frequency Range . . . . . 87.50-108.00 MHz in 50 kHz steps

IHF Usable Sensitivity . . . . . 11 dBf/1.9  $\mu$ V

(Mono)

50-dB Quieting Sensitivity

Mono . . . . . 23.0 dBf/7.7  $\mu$ V

Stereo . . . . . 43.0 dBf/77.4  $\mu$ V

Signal to Noise Ratio at 65 dBf

Mono . . . . . Better than 72 dB

Stereo . . . . . Better than 67 dB

Muting Threshold . . . . . 30 dBf/17.3  $\mu$ V

Frequency Response . . . . . 20-15,000 Hz  $\pm 1$  dB

Total Harmonic Distortion (1 kHz)

Mono . . . . . Less than 0.20%

Stereo . . . . . Less than 0.25%

Capture Ratio . . . . . 2.0 dB

Alternate Channel Selectivity . . 70 dB ( $\pm 300$  kHz)

Stereo Separation at 100 Hz . . . Better than 43 dB

at 1 kHz . . . . . Better than 43 dB

at 10 kHz . . . . . Better than 27 dB

Spurious Response Rejection . . . Better than 90 dB

Image Rejection . . . . . Better than 75 dB

IF Rejection . . . . . Better than 80 dB

AM Suppression . . . . . Better than 60 dB

**[AM Section]**

Note: Modulation - 400 Hz, 30%

Frequency Range . . . . . 522-1,611 kHz in 9 kHz steps

Sensitivity . . . . . 53 dB $\mu$ /m

Signal to Noise Ratio at 90 . . . . . Better than 52 dB

dB $\mu$ /m

Total Harmonic Distortion . . . . . Less than 0.3%

at 90 dB $\mu$ /m

Selectivity . . . . . Better than 20 dB ( $\pm 9$  kHz)

**General**

Power Source . . . . . 220 V AC, 50/60 Hz

Power Consumption . . . . . 350 watts max.

Dimensions . . . . . 430 (W) x 100 (H) x 370 (D) mm

16-15/16 (W) x 3-15/16 (H) x 14-9/16 (D) inches

Approximate Weight . . . . . 9.8 kg, 21 lbs. 10 oz.

• Specifications and design are subject to change for further improvement without notice.



# 8. BLOCK DIAGRAMS

## 8.1. Tuner Section

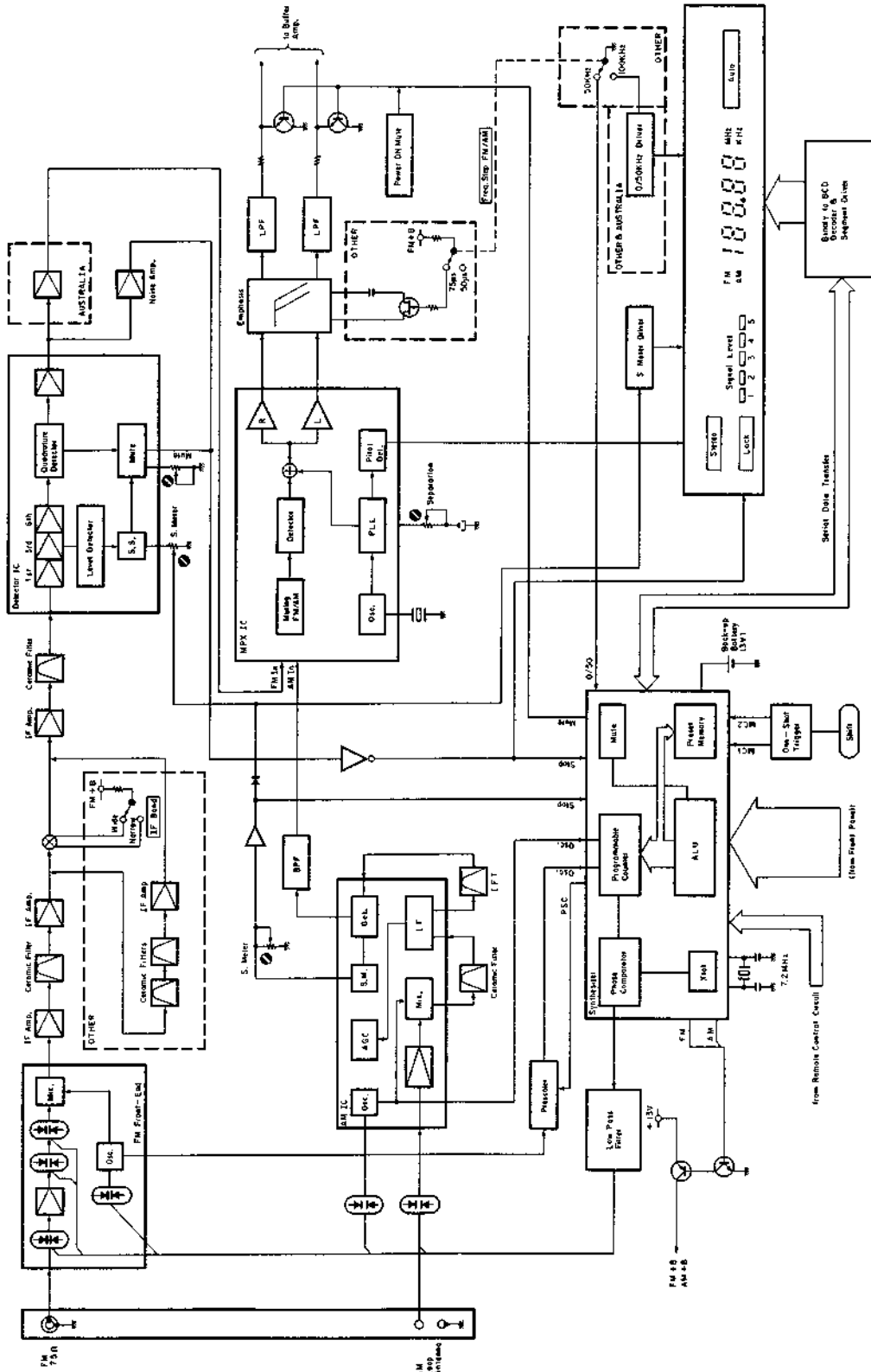


Fig. 8.1



## 9. SPECIFICATIONS

### Power Amplifier Section

Note: Unless noted otherwise specifications are in accordance with IHF-A-202 measured from any high-level input (CD/VIDEO/TAPE) to the speaker output.

Continuous Average Output Power	60 watts per channel into 8 ohms, both channels driven, 20–20,000 Hz at no greater than 0.1% THD
Dynamic Output Power	85 watts per channel into 8 ohms 125 watts per channel into 4 ohms
Dynamic Head Room (8 ohms)	1.5 dB
Power Bandwidth	5–60,000 Hz
Frequency Response	20–20,000 Hz; +0, –0.5 dB 5–75,000 Hz; +0, –3 dB
Signal to Noise Ratio (A-WTD, Input Shorted)	Better than 105 dB re Rated Power Better than 85 dB (IHF-A-202)
Total Harmonic Distortion (8 ohms, Rated Power, 20 Hz – 20 kHz)	Less than 0.1%
Intermodulation Distortion (8 ohms, Rated Power, 60 Hz:7 kHz, 4:1)	Less than 0.1%
Headphone Rated Output (40 ohms)	140 mW
Output Current Capability	25A peak per channel

### Preamplifier Section

Note: Unless noted otherwise specifications are in accordance with IHF-A-202. Except for Sensitivity, S/N, Tone and Loudness characteristics (which are measured to the speaker outputs), measurements are made from the specified input to Rec. Out.

Sensitivity: (for rated Output)	
Phono MC	60/160 $\mu$ V (Gain: 32/24 dB)
Phono MM	2.5 mV
CD/Tape	200 mV
Video	200 mV
Sensitivity: (for 1-watt output per IHF-A-202)	
Phono MC	7.8/21 $\mu$ V (Gain: 32/24 dB)
Phono MM	0.32 mV
CD/Tape	26 mV
Video	26 mV
Input Impedance	
Phono MC	100 ohms
Phono MM	47 kohms
CD/Tape	20 kohms
Video	20 kohms
Maximum Input Level (1 kHz)	
Phono MC	3/8 mV (Gain: 32/24 dB)
Phono MM	140 mV
Record Output Level/ Impedance	200 mV/1 kohms
Total Harmonic Distortion (1 kHz, to Rec Out, at 1 V)	
Phono MC	Less than 0.003% (either gain)
Phono MM	Less than 0.002%
RIAA Deviation	
Phono MC	30–20,000 Hz $\pm$ 0.5 dB
Phono MM	30–20,000 Hz $\pm$ 0.5 dB
Signal to Noise Ratio (to speaker output per IHF-A-202)	
Phono MC with 32 dB Gain	Better than 73 dB
24 dB Gain	Better than 72 dB
Phono MM	Better than 80 dB

**Tone Controls**

Bass . . . . . 20 Hz,  $\pm 10$  dB  
Treble . . . . . 20 kHz,  $\pm 10$  dB  
Variable Loudness . . . . . 20 Hz, +20 dB; 20 kHz, +6 dB  
(re maximum attenuation: -40 dB at 1 kHz)  
Subsonic Filter (Phono Only) . . Cutoff Frequency 20 Hz, -12 dB/octave

**Tuner Section**

(1) SR-4A & SR-4 (Canada & Other (see Note))

Note: Selector switch settings for Other Model  
Frequency Step FM/AM: 100 kHz/10 kHz, De-emphasis: 75  $\mu$ s,  
IF Band: Wide

**[FM Section]**

Note: All RF levels in microvolts given re 300-ohm antenna input. Modulation: Mono 100%, Stereo Pilot 9%, Stereo Audio Signal 91%. All measurements made at Rec. Out Jack.

Frequency Range . . . . . 87.5-108.0 MHz in 100 kHz steps  
IHF Usable Sensitivity . . . . . 11 dBf/1.9  $\mu$ V  
(Mono)  
50-dB Quieting Sensitivity  
Mono . . . . . 14.7 dBf/3.0  $\mu$ V  
Stereo . . . . . 37.5 dBf/41.1  $\mu$ V  
Signal to Noise Ratio at 65 dBf  
Mono . . . . . Better than 82 dB  
Stereo . . . . . Better than 76 dB  
Muting Threshold . . . . . 30 dBf/17.3  $\mu$ V  
Frequency Response . . . . . 20-15,000 Hz  $\pm 1$  dB  
Total Harmonic Distortion (1 kHz)  
Mono . . . . . Less than 0.05%  
Stereo . . . . . Less than 0.07%  
Capture Ratio . . . . . 2.0 dB  
Alternate Channel Selectivity . . 55 dB ( $\pm 400$  kHz)  
Stereo Separation at 100 Hz . . . Better than 46 dB  
at 1 kHz . . . . . Better than 50 dB  
at 10 kHz . . . . . Better than 46 dB  
Spurious Response Rejection . . . Better than 90 dB  
Image Rejection . . . . . Better than 75 dB  
IF Rejection . . . . . Better than 80 dB  
AM Suppression . . . . . Better than 60 dB

**[AM Section]**

Note: Modulation - 400 Hz, 30%

Frequency Range . . . . . 520-1,710 kHz in 10 kHz steps  
Sensitivity . . . . . 53 dB $\mu$ /m  
Signal to Noise Ratio at 90 . . . . Better than 52 dB  
dB $\mu$ /m  
Total Harmonic Distortion . . . . . Less than 0.3%  
at 90 dB $\mu$ /m  
Selectivity . . . . . Better than 20 dB ( $\pm 10$  kHz)

(2) SR-4 (Australia & Other (see Note))

Note: Selector switch settings for Other Model  
Frequency Step FM/AM: 50 kHz/9 kHz, De-emphasis: 50  $\mu$ s,  
IF Band: Narrow

**[FM Section]**

Note: All RF levels in microvolts given re 300-ohm antenna input. Modulation: Mono 60%, Stereo Pilot 9%, Stereo Audio Signal 51%. All measurements made at Rec. Out Jack.

Frequency Range . . . . . 87.5—108.00 MHz in 50 kHz steps  
 IHF Usable Sensitivity . . . . . 11 dBf/1.9  $\mu$ V  
 (Mono)  
 50-dB Quieting Sensitivity  
   Mono . . . . . 21.0 dBf/6.1  $\mu$ V  
   Stereo . . . . . 42.0 dBf/69.0  $\mu$ V  
 Signal to Noise Ratio at 65 dBf  
   Mono . . . . . Better than 74 dB (for Australia), Better than 77 dB (for Other)  
   Stereo . . . . . Better than 69 dB (for Australia), Better than 71 dB (for Other)  
 Muting Threshold . . . . . 30 dBf/17.3  $\mu$ V  
 Frequency Response . . . . . 20—15,000 Hz  $\pm$ 1 dB  
 Total Harmonic Distortion (1 kHz)  
   Mono . . . . . Less than 0.12% (for Australia), Less than 0.15% (for Other)  
   Stereo . . . . . Less than 0.20% (for Australia), Less than 0.25% (for Other)  
 Capture Ratio . . . . . 2.0 dB  
 Alternate Channel Selectivity . . . . . 70 dB ( $\pm$ 300 kHz)  
 Stereo Separation at 100 Hz . . . . . Better than 43 dB  
   at 1 kHz . . . . . Better than 43 dB  
   at 10 kHz . . . . . Better than 37 dB  
 Spurious Response Rejection . . . . . Better than 90 dB  
 Image Rejection . . . . . Better than 75 dB  
 IF Rejection . . . . . Better than 80 dB  
 AM Suppression . . . . . Better than 60 dB

**[AM Section]**

Note: Modulation — 400 Hz, 30%

Frequency Range . . . . . 522—1,611 kHz in 9 kHz steps  
 Sensitivity . . . . . 53 dB $\mu$ /m  
 Signal to Noise Ratio at 90 . . . . . Better than 52 dB  
 dB $\mu$ /m  
 Total Harmonic Distortion . . . . . Less than 0.3%  
 at 90 dB $\mu$ /m  
 Selectivity . . . . . Better than 20 dB ( $\pm$ 9 kHz)

**General**

Power Source . . . . . 110, 120, 220 or 240 V AC, 50/60 Hz (According to country of sale)  
 Power Consumption . . . . . 350 watts max.  
 Convenience Outlets . . . . . Switched: 2, Unswitched: 1 (for U.S.A., Canada & Other only)  
 Dimensions . . . . . 430 (W) x 100 (H) x 370 (D) mm  
   16-15/16 (W) x 3-15/16 (H) x 14-9/16 (D) inches  
 Approximate Weight . . . . . 9.8 kg, 21 lbs. 10 oz.

- Specifications and design are subject to change for further improvement without notice.
- STASIS manufactured under license from Threshold Corporation.
- STASIS is a trademark of Threshold Corporation.

## Service Manual

# Nakamichi SR-4, SR-4A

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