

# SERVICE MANUAL

STEREO AMPLIFIER

**SANSUI AU-7700**



**Sansui**

SANSUI ELECTRIC CO., LTD.

This service manual is designed for service engineers to repair, adjust, maintain and order the replacement parts of the AU-7700 correctly. When ordering the parts, use the stock number and parts name specifically referring to the Parts Locations & Parts Lists. For general usage and maintenance of the unit, please refer to the Operating Instructions attached with the unit.

## TABLE OF CONTENTS

<u>Section</u>	<u>Title</u>	<u>Page</u>
<b>1.</b>	<b>SPECIFICATIONS</b>	<b>2</b>
<b>2.</b>	<b>BLOCK DIAGRAM AND VALUE OF EACH LEVEL</b>	<b>3</b>
<b>3.</b>	<b>ADJUSTMENT</b>	<b>4</b>
3-1.	Driver Circuit Board Adjustment	4
<b>4.</b>	<b>TROUBLESHOOTING CHART</b>	<b>5</b>
4-1.	Troubleshooting on Power Supply Section	5
4-2.	Troubleshooting on Audio Section	5, 6
<b>5.</b>	<b>PARTS LOCATIONS AND PARTS LISTS</b>	<b>7</b>
5-1.	F-2092 Equalizer & Power Supply Circuit Board	7, 8
5-2.	F-2095 Tone Control Circuit Board	9
5-3.	F-2096 Accessory Switch Circuit Board	10
5-4.	F-2097 Driver & Power Supply Circuit Board	11, 12
5-5.	F-2093 Volume Circuit Board	13
5-6.	F-2094 Accessory Switch Circuit Board	13
5-7.	Other Parts (Front Side)	13, 14
5-8.	Other Parts (Top Side)	15
5-9.	Other Parts (Bottom Side)	16
<b>6.</b>	<b>REPLACEMENT OF POWER TRANSISTORS</b>	<b>17</b>
<b>7.</b>	<b>PACKING LIST</b>	<b>17</b>
<b>8.</b>	<b>ACCESSORY PARTS LIST</b>	<b>17</b>
<b>9.</b>	<b>SCHEMATIC DIAGRAM</b>	<b>18</b>

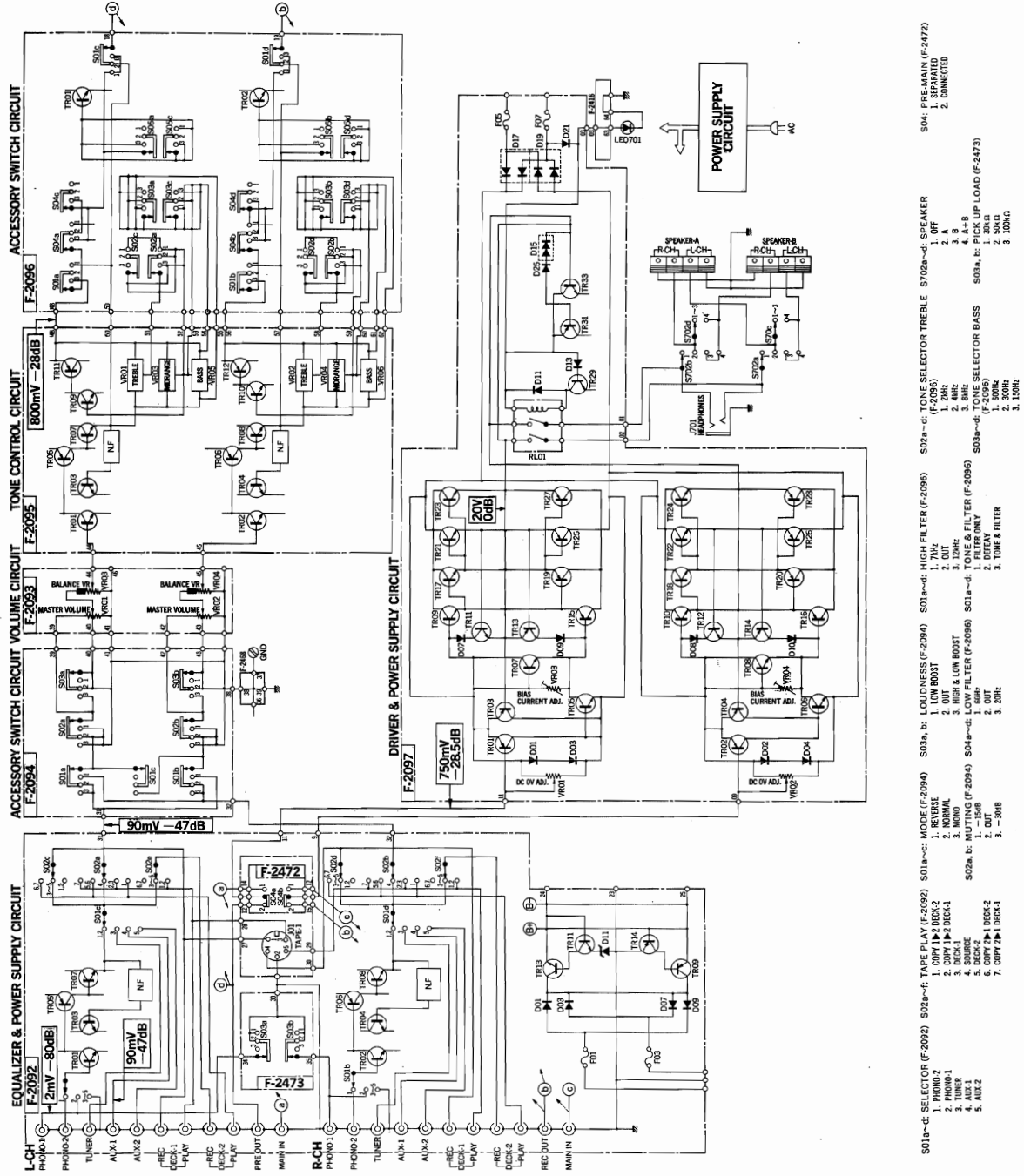
# 1. SPECIFICATIONS

POWER OUTPUT (at rated distortion)  
 CONTINUOUS RMS POWER OUTPUT  
     ..... 54 Watts per channel x 2  
     (both channels driven)  
 LOAD IMPEDANCE ..... 8Ω  
 POWER BAND ..... 20 to 20,000Hz  
 TOTAL HARMONIC DISTORTION  
     ..... less than 0.1% (from AUX)  
     Music power (IHF)..... 250W (4Ω 1,000Hz)  
     140W (8Ω 1,000Hz)  
     Continuous rms power output .. 55+55W (8Ω 1,000Hz)  
 INTERMODULATION DISTORTION (at rated power  
 output 70Hz: 7,000Hz=4: 1 SMPTE method)  
 OVERALL ..... less than 0.15%  
 PREAMPLIFIER ONLY .. less than 0.1%  
 POWER (MAIN) AMPLIFIER ONLY  
     ..... less than 0.1%  
 FREQUENCY RESPONSE (at 1 Watt output)  
 OVERALL ..... 10 to 50,000Hz ±<sup>0.5</sup>dB  
 POWER (MAIN) AMPLIFIER ONLY  
     ..... 5 to 50,000Hz ±<sup>0</sup>dB  
 EQUALIZATION (RIAA curve)  
     ..... 30 to 15,000Hz ±0.5dB  
 DAMPING FACTOR ..... 30 (8Ω)  
 INPUT SENSITIVITY AND INPEDANCE  
 (1kHz, for rated power output)  
 PHONO-1 ..... 2.5mV 30kΩ, 50kΩ, 100kΩ  
     adjustable  
 PHONO-2 ..... 2.5mV 50kΩ  
     (Max. input capability: 300mV at 0.2% total  
     harmonic distortion)  
 TUNER ..... 100mV 50kΩ  
 AUX-1 & -2 ..... 100mV 50kΩ  
 TAPE DECK-1 & -2 (Pin Jacks) .. 100mV 50kΩ  
 TAPE DECK-1 (DIN Socket) .... 100mV 50kΩ  
 MAIN IN ..... 800mV 50kΩ  
 OUTPUT LEVEL (1kHz)  
 TAPE DECK-1 & -2 (Pin Jacks) .. 100mV  
 TAPE DECK-1 (DIN Socket) .... 30mV  
 PRE OUT ..... 800mV  
     (Max. output level: 5V at 0.5% total harmonic  
     distortion)  
 CROSSTALK (1kHz, for rated power output)  
 PHONO-1 & -2 ..... better than 50dB  
 TUNER ..... better than 50dB  
 AUX-1 & -2 ..... better than 55dB  
 TAPE DECK-1 & -2 ..... better than 55dB  
 MAIN IN ..... better than 60dB

HUM AND NOISE (IHF)  
 PHONO-1 & -2 ..... better than 75dB  
 TUNER ..... better than 85dB  
 AUX-1 & -2 ..... better than 85dB  
 TAPE DECK-1 & -2 ..... better than 85dB  
 MAIN IN ..... better than 100dB  
 SWITCHES AND CONTROLS  
 BASS (±5 steps)..... ±13dB at 50Hz  
 TONE SELECTOR (TURNOVER FREQUENCIES)  
     ..... 150Hz, 300Hz, 600Hz  
 MIDRANGE (±5 steps) .. ±5dB at 1kHz  
 TREBLE (±5 steps)..... ±13dB at 15kHz  
 TONE SELECTOR (TURNOVER FREQUENCIES)  
     ..... 2kHz, 4kHz, 8kHz  
 LOUDNESS (Volume Control: - 30dB)  
 LOW BOOST ..... +10dB at 50Hz  
 HIGH & LOW BOOST .. +10dB at 50Hz  
     +8dB at 10kHz  
 LOW FILTER ..... -3dB at 20Hz (12dB/oct.)  
     -3dB at 60Hz (12dB/oct.)  
 HIGH FILTER ..... -3dB at 7kHz (6dB/oct.)  
     -3dB at 12kHz (12dB/oct.)  
 MUTING ..... -30dB, -15dB  
 OTHERS  
 TRANSISTORS ..... 57  
 DIODES ..... 22  
 ZENER DIODES ..... 3  
 LED ..... 1  
 POWER REQUIREMENTS .. 100, 117, 220, 240V, 50/60Hz  
 POWER CONSUMPTION .. 120W (rated), 350W (max.)  
 DIMENSIONS ..... 434mm (17 1/8") W  
     130mm (5 1/8") H  
     315mm (12 3/8") D  
 WEIGHT ..... 12.3kg (27.1 lbs) Net,  
     14.0kg (30.9 lbs) Packed

\* Design and specification subject to change without notice for improvements.

## 2. BLOCK DIAGRAM AND VALUE OF EACH LEVEL



**Condition of Level Measuring**  
 \*Value of each level in block diagram was measured by the followings.  
 1. MASTER VOLUME control ... Maximum  
 2. BASS, MIDRANGE, TREBLE & BALANCE volume controls .... Center

- 3. TONE & FILTER switch controls ..... TONE & FILTER
- 4. Input ... PHONO-1, 2 2mV 1kHz Sine Wave  
 AUX-1, 2 90mV 1kHz Sine Wave

(output impedance of 600Ω at an audio oscillator)  
 5. Output ... 20V (50W) 8Ω  
**Note:** Each voltage value is for reference and measured by a VTVM. In some recorders, the actual voltage value is in minor difference from the reference value.

### 3. ADJUSTMENT

#### 3-1. Driver Circuit Board Adjustment (See Fig. 3-1, 3-2 and 3-3)

- Note:**
1. Confirm the AC power supply voltage.
  2. MASTER VOLUME .....Minimum
  3. SPEAKERS Selector.....A
  4. Make the SP terminals free (no load).
  5. For adjustment, run the unit for more than 3 minutes after the power is switched ON.
  6. Room temperature should be 18~28°C (65~83°F) for bias current adjustment.

STEP	SUBJECT	EQUIPMENT	MEASURE OUTPUT	ADJUST	ADJUST FOR	CONDITION
1	DC 0V L-ch	DC volt meter	SP terminal L-ch (See Fig. 3-3)	F-2097 VR01	0V ±10mV	◦Turn volumes of VR03, VR04 CCW
2	DC 0V R-ch	Same as above	SP terminal R-ch (See Fig. 3-3)	F-2097 VR02	Same as above	
The unit installing quick acting fuses						
3-1	Bias current L-ch	DC milliammeter	F-2097 F01	F-2097 VR03	45 ±10mA	◦Step down meter's range accordingly
4-1	Bias current R-ch	Same as above	F-2097 F02	F-2097 VR04	Same as above	
※The unit not installing quick acting fuses						
3-2	Bias current L-ch	DC milliammeter	Between a red wire & plus side of C602 on F-2416 (See Fig. 3-2)	F-2097 VR03	45 ±10mA	◦Step down meter's range accordingly
4-2	Bias current R-ch	Same as above	Between other red wire & plus side of C602 on F-2416 (See Fig. 3-2)	F-2097 VR04	Same as above	

※ Bias current adjustment on the unit not installing quick acting fuses.

- 1) Disconnect a red wire (plus side) from C602 on F-2416 which goes to driver & power supply circuit board, F-2097, then confirm that collector voltage +41V of power transistor, TR23 (L-ch) or TR24 (R-ch) on F-2097 is not supplied.

- 2) Adjust VR03 (L-ch) or VR04 (R-ch) so that bias current on one channel at the disconnected points between A and B (see Fig. 3-2) is 45±10mA.

- 3) After connecting the red wire again, adjust it on another channel as same as steps 1) and 2).

Fig. 3-1

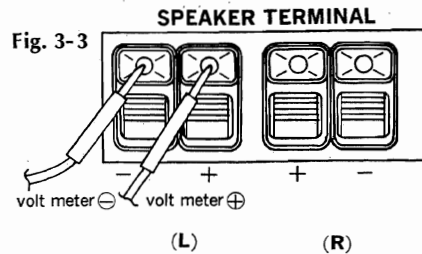
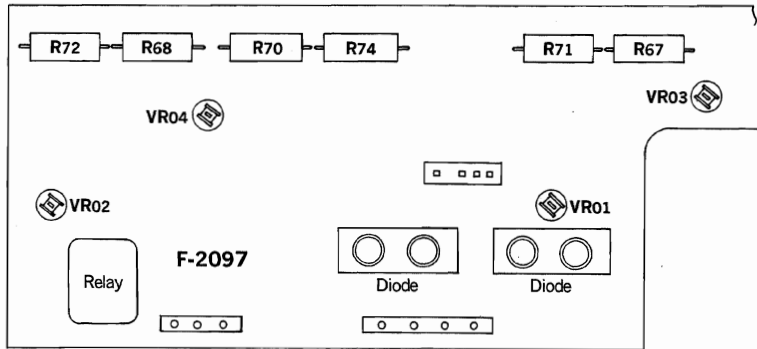
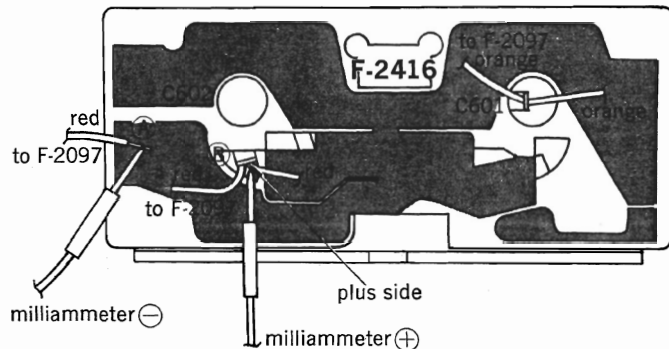


Fig. 3-2



## 4. TROUBLESHOOTING CHART

### 4-1. Troubleshooting on Power Supply Section

Symptom	Check Point	Cause & What to Do
<b>1. No power supplied to each section</b>		
1-1. Indicator lamp for power not lighted		1. Power supply cord open 2. Imperfect contact of power switch, S701 3. Power fuse, F701 open 4. Defective power transformer, T701 5. F07 on F-2097 open 6. Defective D21 on F-2097 7. Imperfect contact of voltage selector, PU01
1-2. Indicator lamp for power lighted		
1) $\pm 41V$ not supplied to collector on each power transistors (+41V, TR21~TR24, -41V, TR25~TR28)		8. F05 or F07 on F2097 open 9. Defective D17 or D19 on F-2097
2) +24V not supplied to terminal <span style="border: 1px solid black; padding: 0 2px;">24</span> and -25V not supplied to terminal <span style="border: 1px solid black; padding: 0 2px;">25</span> on F-2092		10. Defective power transformer, T701 11. F01 (or F03) on F-2092 open 12. Defective D01, D03, D07 or D09 on F-2092 13. Defective TR09, TR11, TR13 or TR15 on F-2092

### 4-2. Troubleshooting on Audio Section

<b>1. Relay, RL01 inoperative</b> (protector circuit inoperative)		1. F07 on F-2097 open 2. Defective D21 on F-2097 3. Defective D13, D15 or D25 on F-2097 4. Defective TR29, TR31 or TR33 on F-2097 5. Defective relay, RL01 on F-2097 6. Defective TR21 or TR23 (TR22 or TR24) on F-2097 7. Defective TR25 or TR27 (TR26 or TR28) on F-2097
<b>2. Bias current not adjustable to +45mA by VR03 (L-ch) or VR04 (R-ch) on F-2097</b>		8. Defective TR05 or TR07 (TR06 or TR08) on F-2097 9. Defective VR03 (VR04) on F-2097
<b>3. Center Voltage not adjustable to 0V by VR01 (L-ch) or VR02 (R-ch) on F-2097</b>		10. Defective TR05 (TR06) on F-2097 11. Defective VR01 (VR02) on F-2097

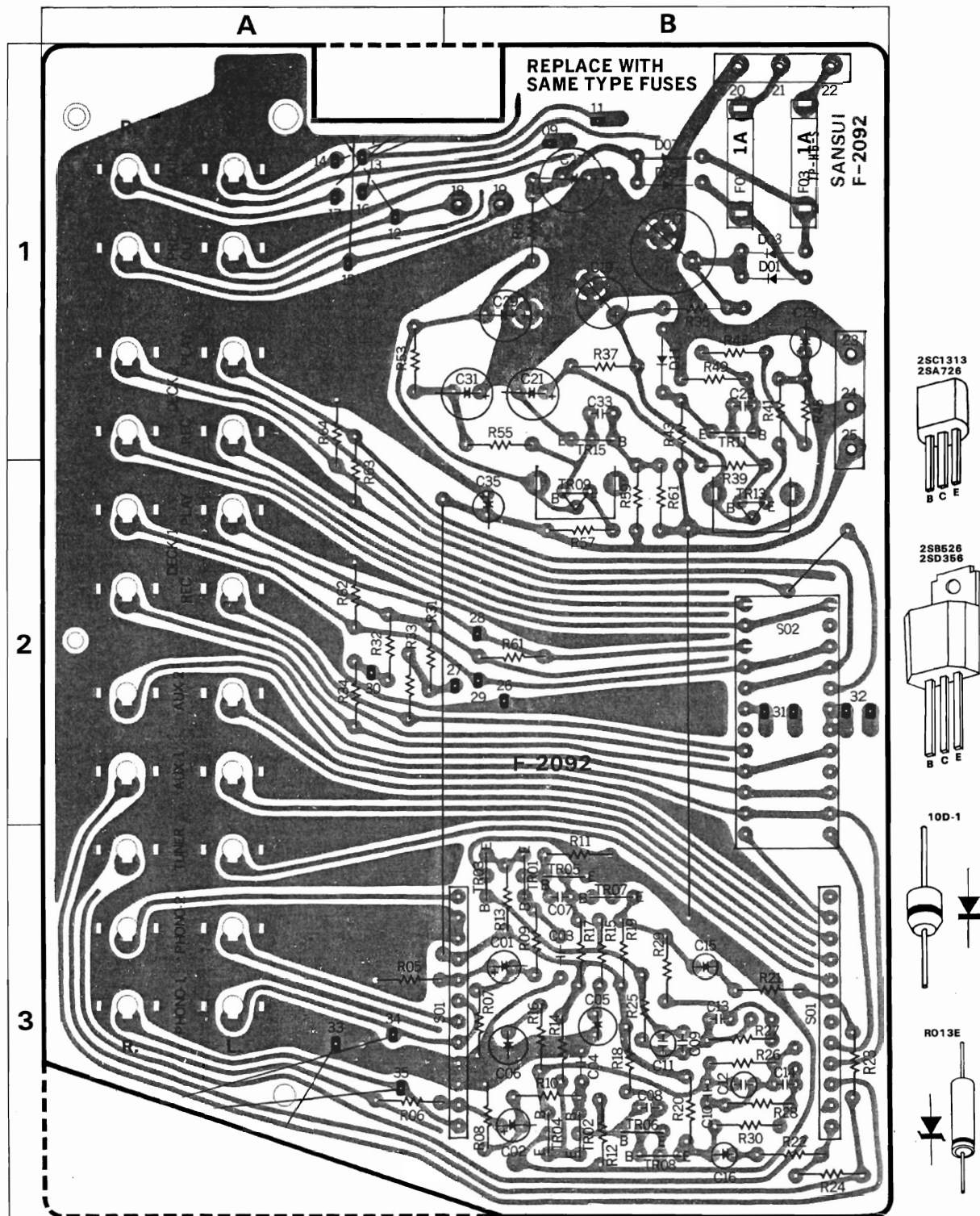
Symptom	Check Point	Cause & What to Do
<b>4. TUNER or AUX input inoperative</b>		
4-1. Both channels inoperative		<ul style="list-style-type: none"> <li>1. Imperfect contact of speakers switch, S702a, c (S702b, d)</li> <li>2. Defective Power Supply Section</li> </ul>
4-2. One channel inoperative		
	* Set MODE switch to REVERSE	
	1) Inoperative channel reverses	<ul style="list-style-type: none"> <li>3. Tuner connected from this set has faulty</li> <li>4. Imperfect contact of SELECTOR switch, S01c (S01d)</li> <li>5. Imperfect contact of TAPE PLAY switch, S02a (S02b)</li> </ul>
	2) Inoperative channel not reverses	
	* Set TONE & FILTER switch to DEFEAT	
	2-1) The inoperative channel becomes operating	<ul style="list-style-type: none"> <li>6. Defective TR09 or TR11 (TR10 or TR12) on F-2095</li> <li>7. Imperfect contact of LOW FILTER switch, S04a, c (S04b, d)</li> <li>8. Defective TR01 (TR02) on F-2096</li> </ul>
	2-2) The inoperative channel is still not operating	<ul style="list-style-type: none"> <li>9. Defective TR01, TR03, TR05 or TR07 (TR02, TR04, TR06 or TR08) on F-2095</li> <li>10. Imperfect contact of PRE-MAIN switch, S04a (S04b)</li> <li>11. Defective Driver &amp; Power Supply Circuit Board</li> </ul>
<b>5. PHONO inoperative</b>		
5-1. Both channels inoperative		1. Refer to 4-1. of 4. Both channels inoperative
5-2. One channel inoperative		
	* Set MODE switch to REVERSE	
	1) Inoperative channel reverses	<ul style="list-style-type: none"> <li>2. Turntable connected from this set has faulty</li> <li>3. Imperfect contact of SELECTOR switch, S01a (S01b)</li> <li>4. Defective TR01, TR03, TR05 or TR07 (TR02, TR04, TR06 or TR08) on F-2092</li> </ul>
	2) Inoperative channel not reverses	5. Refer to 4-2. of 4. One channel inoperative

# 5. PARTS LOCATIONS AND PARTS LISTS

## 5-1. F-2092 Equalizer & Power Supply Circuit Board

(Stock No. 7550580 Complete Circuit Board F-2092)

Conductor Side





Parts List

Parts No.	Stock No.	Description	Position
TR01, 02	0306071, 2	2SC1313 (R) (G, H)	Transistor
TR03, 04	0306071, 2	2SC1313 (R) (G, H)	
TR05, 06	0300470, 1	2SA726 (W) (F, G)	
TR07, 08	0306070-2	2SC1313 (R) (F, G, H)	
TR09	0303280-2	2SB526 (C, D, E)	
TR11	0306070-2	2SC1313 (R) (F, G, H)	
TR13	0308450-2	2SD356 (C, D, E)	
TR15	0300470, 1	2SA726 (W) (F, G)	1 B
D01	0310340	10D-1	1 B
D03	0310340	10D-1	1 B
D07	0310340	10D-1	1 B
D09	0310340	10D-1	1 B
D11	0316310	RO13E(B) Zener Diode	1 B
C01, 02	0519103	0.47 $\mu$ F 50V E.C.	2 B
C03, 04	0660330	33pF 50V C.C.	2 B
C05, 06	0532100	10 $\mu$ F 16V E.C.	2 B
C07, 08	0660470	47pF 50V C.C.	2 B
C09, 10	0600826	0.0082 $\mu$ F 50V M.C.	2 B
C11, 12	0621561	560pF 50V P.C.	2 B
C13, 14	0600276	0.0027 $\mu$ F 50V M.C.	2 B
C15, 16	0533339	3.3 $\mu$ F 25V E.C.	2 B
C17	0515221	220 $\mu$ F 50V E.C.	1 B
C19	0514101	100 $\mu$ F 35V E.C.	1 B
C21	0515470	47 $\mu$ F 50V E.C.	1 B
C23	0660221	220pF 50V C.C.	1 B
C25	0513100	10 $\mu$ F 25V E.C.	1 B
C27	0515101	100 $\mu$ F	1 B
C29	0515470	47 $\mu$ F	50V E.C.
C31	0515470	47 $\mu$ F	1 A, B
C33	0660221	220pF 50V C.C.	1 B
C35	0513479	4.7 $\mu$ F 25V E.C.	2 B
C901, 902	0601107	0.01 $\mu$ F	50V M.C.
C903	0515339	3.3 $\mu$ F	
C904, 905	0657223	0.022 $\mu$ F	
C906, 907	0660101	100 pF	50V C.C.
R01, 02	0107563	56k $\Omega$	3 A
R03, 04	0107473	47k $\Omega$	3 A
R05, 06	0107224	220k $\Omega$	3 A
R07, 08	0107224	220k $\Omega$	3 B
R09, 10	0107152	1.5k $\Omega$	3 B
R11, 12	0107822	8.2k $\Omega$	3 B
R13, 14	0107124	120k $\Omega$	3 B
R15, 16	0107821	820 $\Omega$	3 B
R17, 18	0107223	22k $\Omega$	1/4W C.R.
R19, 20	0107472	4.7k $\Omega$	
R21, 22	0107101	100 $\Omega$	3 B
R23, 24	0107563	56k $\Omega$	3 B
R25, 26	0107474	470k $\Omega$	3 B
R27, 28	0107273	27k $\Omega$	3 B
R29, 30	0107561	560 $\Omega$	3 B
R31, 32	0107104	100k $\Omega$	2 A
R33, 34	0107224	220k $\Omega$	2 A
R35	0104181	180 $\Omega$	1 W C.R.
R37	0107272	2.7k $\Omega$	1 B
R39	0107821	820 $\Omega$	2 B
R41	0107220	22 $\Omega$	1 B
R43	0107821	820 $\Omega$	1/4W C.R.
R45	0107392	3.9k $\Omega$	
R47	0107471	470 $\Omega$	1 B
R49	0107682	6.8k $\Omega$	1 B

Parts List

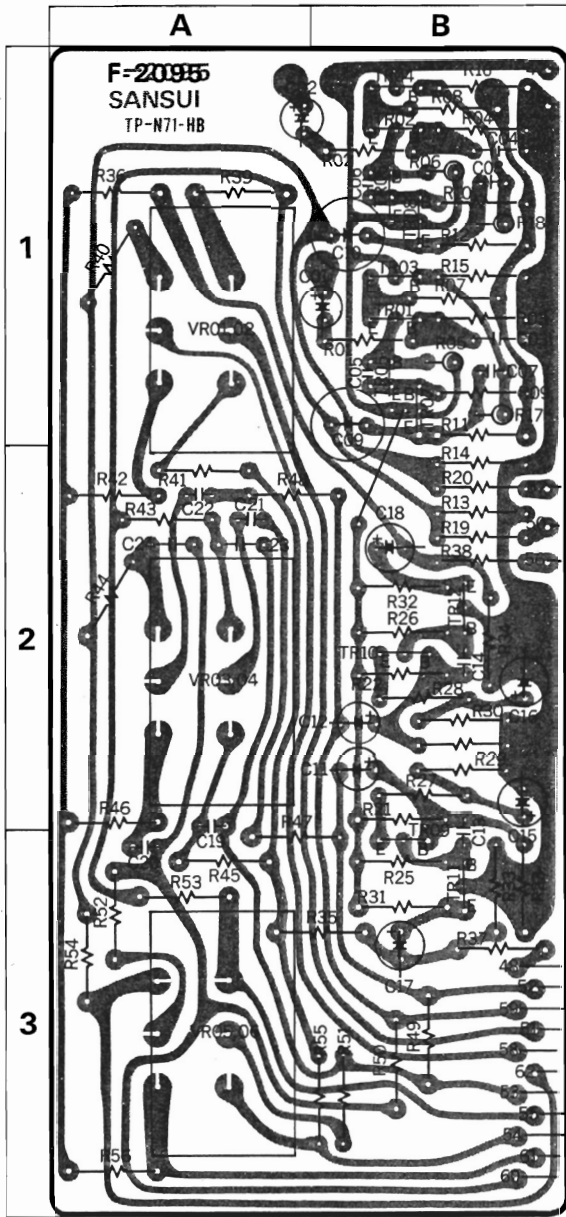
Parts No.	Stock No.	Description	Position
R51	0103331	330 $\Omega$ 1/2W C.R.	1 B
R53	0107392	3.3k $\Omega$	1 A
R55	0107122	1.2k $\Omega$	
R57	0107330	33 $\Omega$	2 B
R59	0107153	15k $\Omega$	2 B
R60	0107153	15k $\Omega$	2 B
R61	0107474	470k $\Omega$	1/4W C.R.
R62	0107474	470k $\Omega$	
R63	0107474	470k $\Omega$	
R64	0107474	470k $\Omega$	
R901, 902	0107104	100k $\Omega$	
S01	1102550	SRE2-4-5	Rotary Switch
S02	1102560	SRE2-6-7	
F01	0430830	1A (20m/m)	Fuse
F03	0430830	1A (20m/m)	
	2310150	Fuse Holder	
	2430250	Pin Jack	
	5936691	Heat Sink	

Abbreviations

C.R.	: Carbon Resistor	B.P.E.C.	: Bi-Polar Electrolytic Capacitor
S.R.	: Solid Resistor	C.C.	: Ceramic capacitor
Ce.R.	: Cement Resistor	Mi.C.	: Mica Capacitor
M.R.	: Metallized Film Resistor	O.C.	: Oil Capacitor
M.C.	: Mylar Capacitor	P.C.	: Polystyrene Capacitor
E.C.	: Electrolytic Capacitor	T.C.	: Tantalum Capacitor

5-2. F-2095 Tone Control Circuit Board (Stock No. 7560820 Complete Circuit Board F-2095)

Conductor Side



Parts List

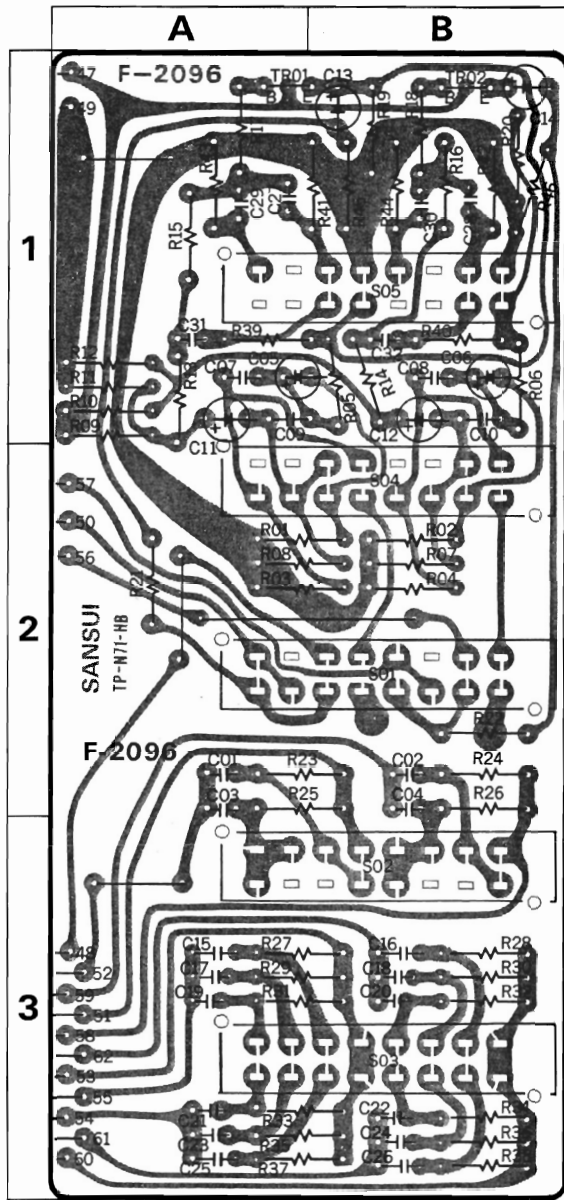
Parts No.	Stock No.	Description	Position	
TR01, 02	0306070, 1	2SC1313 (F, G)	Transistor 1 B	
TR03, 04	0306070, 1	2SC1313 (F, G)		
TR05, 06	0300470, 1	2SA726 (F, G)		
TR07, 08	0306070, 1	2SC1313 (F, G)		
TR09, 10	0306070, 1	2SC1313 (F, G)		
TR11, 12	0300470, 1	2SA726 (F, G)		1 B, 2B. 1B 3 B. 2 B 3 B
C01, 02	0519103	0.47 $\mu$ F 50V E.C.	1 A, B	
C03, 04	0660330	33pF	1 B	
C05, 06	0660470	47pF	50V C.C.	
C07, 08	0660680	68pF		1 B
C09, 10	0533100	10 $\mu$ F 25V BP.E.C.	1, 2B. 1B	
C11, 12	0519105	2.2 $\mu$ F 50V E.C.	2 B	
C13, 14	0660100	10pF 50V C.C.	2, 3B. 2B	
C15, 16	0510100	10 $\mu$ F 16V E.C.	2 B	
C17, 18	0519001	10 $\mu$ F 25V E.C.	3 B. 2 B	
C19, 20	0601686	0.0068 $\mu$ F	50V M.C.	
C21, 22	0601476	0.0047 $\mu$ F		2 A, 3 A
C23, 24	0601686	0.0068 $\mu$ F		2 A
C901, 902	0601107	0.01 $\mu$ F		
C903	0657223	0.022 $\mu$ F 50V C.C.		
R01, 02	0107222	2.2k $\Omega$	1/4W C.R.	
R03, 04	0107124	120k $\Omega$		1 B
R05, 06	0106822	8.2k $\Omega$	1/4W C.R. (E.L.R.)	
R07, 08	0107124	120k $\Omega$		1 B
R09, 10	0107223	22k $\Omega$	1 B	
R11, 12	0107472	4.7k $\Omega$	1/4W C.R.	
R13, 14	0107104	100k $\Omega$		1 B
R15, 16	0107222	2.2k $\Omega$	2 B	
R17, 18	0106183	18k $\Omega$	1/4W C.R. (E.L.R.)	
R19, 20	0107101	100 $\Omega$		1 B
R21, 22	0107824	820k $\Omega$	2 B	
R23, 24	0107154	150k $\Omega$	3 B. 2 B	
R25, 26	0107123	12k $\Omega$	3 B. 2 B	
R27, 28	0107121	120 $\Omega$	2 B	
R29, 30	0107332	3.3k $\Omega$	2 B	
R31, 32	0107332	3.3k $\Omega$	3 B. 2 B	
R33, 34	0107104	100k $\Omega$	2 B. 2 B	
R35, 36	0107101	100 $\Omega$	1/4W C.R.	
R37, 38	0107101	100 $\Omega$		3A, B. 1A 3 B. 2 B
R39, 40	0107272	2.7k $\Omega$	1 A	
R41, 42	0107272	2.7k $\Omega$	2 A	
R43, 44	0107472	4.7k $\Omega$	2 A	
R45	0107472	4.7k $\Omega$	3 A	
R46	0107472	4.7k $\Omega$	2 A	
R47, 48	0107273	27k $\Omega$	3 A, B	
R49, 50	0107223	22k $\Omega$	3 B	
R51, 52	0107222	2.2k $\Omega$	3 B. 3 A	
R53, 54	0107822	8.2k $\Omega$	3 A	
R55, 56	0107822	8.2k $\Omega$	3 B. 3 A	
VR01, 02	1060060, 1	50k $\Omega$ (B) $\times$ 2	Variable Resistor (Stop Type)	
VR03, 04	1060060, 1	50k $\Omega$ (B) $\times$ 2		1 A
VR05, 06	1060060, 1	50k $\Omega$ (B) $\times$ 2		2 A 3 A

2SC1313  
2SA726



### 5-3. F-2096 Accessory Switch Circuit Board (Stock No. 7592130 Complete Circuit Board F-2096)

Conductor Side



### Parts List

Parts No.	Stock No.	Description	Position
TR01,02	0306070, 1	2SC1313® (F, G) Transistor	1A, B, 1B
C01, 02	0621821	820 pF 50V P.C.	2A, 2B
C03, 04	0601156	0.0015 μF 50V M.C.	2A, 2B
C05, 06	0573228	0.22 μF 25V T.C.	1A, B, 1B
C07, 08	0601687	0.068 μF	1A, 1B
C09, 10	0601277	0.027 μF	1A, B, 1B
C11, 12	0519101	1 μF	1A, 1B
C13, 14	0519105	2.2 μF	1B
C15, 16	0601687	0.068 μF	3A, 3B
C17, 18	0601227	0.022 μF	3A, 3B
C19, 20	0601686	0.0068 μF	3A, 3B
C21, 22	0601686	0.0068 μF	3A, 3B
C23, 24	0601227	0.022 μF	3A, 3B
C25, 26	0601687	0.068 μF	3A, 3B
C27, 28	0601106	0.001 μF	1A, 1B
C29, 30	0601156	0.0015 μF	1A, 1B
C31, 32	0601276	0.0027 μF	1A, 1B
R01, 02	0107474	470kΩ	2A, B, 2B
R03, 04	0107474	470kΩ	2A, B, 2B
R05, 06	0107393	39kΩ	1B
R07, 08	0107394	390kΩ	2B, 2A, B
R09, 10	0107274	270kΩ	1A
R11, 12	0107274	270kΩ	1A
R13, 14	0107472	4.7kΩ	1A, 1B
R15, 16	0107123	12kΩ	1A, 1B
R17, 18	0107102	1kΩ	1A, 1B
R19, 20	0107682	6.8kΩ	1B
R21, 22	0107101	100Ω	2A, 2B
R23, 24	0107105	1MΩ	2A, B, 2B
R25, 26	0107105	1MΩ	2A, B, 2B
R27, 28	0107105	1MΩ	3A, B, 3B
R29, 30	0107105	1MΩ	3A, B, 3B
R31, 32	0107105	1MΩ	3A, B, 3B
R33, 34	0107105	1MΩ	3A, B, 3B
R35, 36	0107105	1MΩ	3A, B, 3B
R37, 38	0107105	1MΩ	3A, B, 3B
R39, 40	0107105	1MΩ	1A, B, 1B
R41, 42	0107105	1MΩ	1B
R43, 44	0107105	1MΩ	1A, 1B
R45, 46	0107104	100kΩ	1B
S01	1170500	SLC14351	2A, B
S02	1170490	SLC14301	3A, B
S03	1170490	SLC14301	3A, B
S04	1170490	SLC14301	2A, B
S05	1170490	SLC14301	1A, B

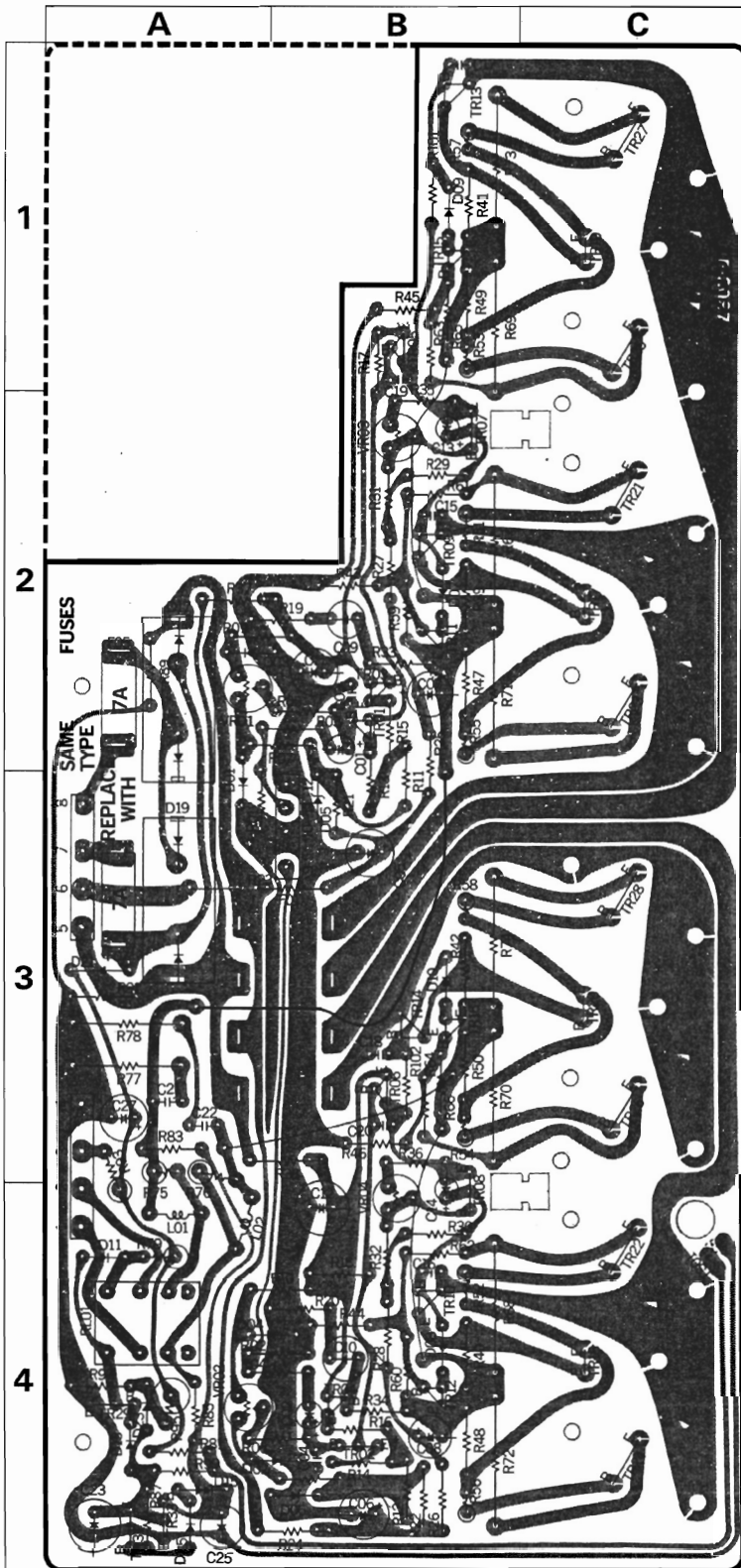
2SC1313



### Abbreviations

<b>C.R.</b> : Carbon Resistor	<b>BP.E.C.:</b> Bi-Polar Electrolytic Capacitor
<b>S.R.</b> : Solid Resistor	<b>C.C.</b> : Ceramic capacitor
<b>Ce.R.</b> : Cement Resistor	<b>Mi.C.</b> : Mica Capacitor
<b>M.R.</b> : Metallized Film Resistor	<b>O.C.</b> : Oil Capacitor
<b>M.C.</b> : Mylar Capacitor	<b>P.C.</b> : Polystyrene Capacitor
<b>E.C.</b> : Electrolytic Capacitor	<b>T.C.</b> : Tantalum Capacitor

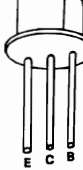
5-4. F-2097 Driver & Power Supply Circuit Board (Stock No. 7570910 Complete Circuit Board F-2097)  
Conductor Side



2SA726  
2SC711



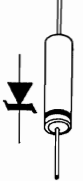
2SC735  
2SA662



2SA606  
2SC959



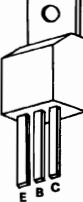
RD-9.1E



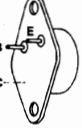
2SC1364  
2SA733  
2SC945



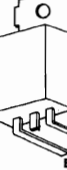
2SC1124



2SC1619  
2SA808



2SD382  
2SB537



1S953



10D-1



1N-60



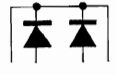
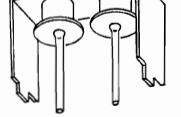
SV-02



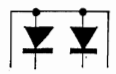
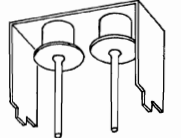
DS-430



SS-5



SS-5R



Parts List

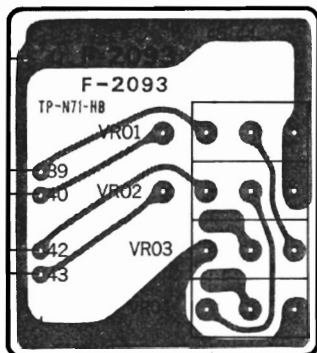
Parts No.	Stock No.	Description	Position	
TR01, 02	0300470, 1	2SA726 (F, G)	} Transistor 2 B . 4 B	
TR03, 04	0300470, 1	2SA726 (F, G)		
TR05, 06	0305900, 1	2SC1124 (1, 2)		
TR07, 08	0305731-3	2SC711 (E, F, G)		
TR09, 10	0305742, 3	2SC959 (L, K)		
TR11, 12	0305640, 1	2SC735 (O, Y)		
TR13, 14	0300212, 3	2SA606 (L, K)		
TR15, 16	0300220, 1	2SA562 (O, Y)		
TR17, 18	0308441, 2	2SD382 (M, L)		
TR19, 20	0303271, 2	2SB537 (M, L)		
TR21, 22	0306190-3	2SC1619 (R, O, Y)		
TR23, 24	0306190-3	2SC1619 (R, O, Y)		
TR25, 26	0300630-3	2SA808 (R, O, Y)		
TR27, 28	0300630-3	2SA808 (R, O, Y)		
TR29	0306130-2	2SC1364 (5, 6, 7)		
TR31	0300510-2	2SA733 (P, Q, R)	4 A	
TR33	0305950-2	2SC945 (R, Q, P)	4 A	
D01, 02	0340090	DS-430	} Diode 2,3A.4A,B	
D03, 04	0340090	DS-430		
D05, 06	0316230	RD-9.1E(B)		
D07, 08	0311050	1S953		
D09, 10	0311050	1S953		
D11	0310340	10D-1		
D13	0311050	1S953		
D15	0310490	SV-02		
D17	0311310	SS-5		
D19	0311320	SS-5R		
D21	0310340	10D-1		
D23	0310331	1N60		
D25	0340090	DS-430		
D27	0310331	1N60		
D28	0310031	1N60		
TS01	0320110	TS3-85 Thermistor	4 C	
C01, 02	0519105	2.2 $\mu$ F 50V E.C.	} 2 B . 4 B	
C03, 04	0660470	49pF 50V C.C.		
C05, 06	0515101	100 $\mu$ F 50V E.C.		
C07, 08	0515470	47 $\mu$ F 50V E.C.		
C09, 10	0530470	47 $\mu$ F 6.3V E.C.		
C11, 12	0515101	100 $\mu$ F 50V E.C.		
C13, 14	0515109	1 $\mu$ F 50V E.C.		
C15, 16	0660100	10pF 50V C.C.		
C17, 18	0660100	10pF 50V C.C.		
C19, 20	0660220	22pF 50V C.C.		
C21, 22	0601687	0.068 $\mu$ F 50V M.C.		
C23	0510471	470 $\mu$ F 6.3V E.C.		
C25	0531101	100 $\mu$ F 10V E.C.		
C27	0515330	33 $\mu$ F 50V E.C.		
C901	0601106	0.001 $\mu$ F 50V M.C.		
C903, 904	0601107	0.01 $\mu$ F 50V M.C.		
R01, 02	0107474	470k $\Omega$		} 1/4 W C.R. 3 A . 4A,B
R03, 04	0107103	10k $\Omega$		
R05, 06	0107104	100k $\Omega$		
R07, 08	0107822	8.2k $\Omega$		
R09, 10	0107393	39k $\Omega$		
R11, 12	0107472	4.7k $\Omega$		
R13, 14	0107220	22 $\Omega$		
R15, 16	0107220	22 $\Omega$		
R17, 18	0107821	820 $\Omega$		
R19, 20	0107332	3.3k $\Omega$		
R21, 22	0103472	4.7k $\Omega$	} 1/2 W C.R. 3 B . 4 B	
R23, 24	0103181	180 $\Omega$		
R25, 26	0103102	1k $\Omega$		
R27, 28	0103472	4.7k $\Omega$		
R29, 30	0107390	39 $\Omega$		
R31, 32	0107682	6.8k $\Omega$		
R33, 34	0107104	100k $\Omega$		
R35, 36	0107122	1.2k $\Omega$		
R37, 38	0103101	100 $\Omega$		
R39, 40	0103102	1k $\Omega$		
R41, 42	0103102	1k $\Omega$		
R43, 44	0107183	18k $\Omega$		
R45, 46	0107183	18k $\Omega$		
R47, 48	0103101	100 $\Omega$		
R49, 50	0103101	100 $\Omega$		
R51, 52	0103100	10 $\Omega$	} 1/2 W C.R. 2 A . 4 B	
R53, 54	0103100	10 $\Omega$		
R55, 56	0103100	10 $\Omega$		
R57, 58	0103100	10 $\Omega$		
R59, 60	0107102	1k $\Omega$		
R61, 62	0107471	470 $\Omega$		
R63, 64	0107471	470 $\Omega$		
R65, 66	0107102	1k $\Omega$		
R67, 68	0133478	0.47 $\Omega$		
R69, 70	0133478	0.47 $\Omega$		
R71, 72	0133478	0.47 $\Omega$		
R73, 74	0133478	0.47 $\Omega$		
R75	0104479	4.7 $\Omega$		
R76	0104479	4.7 $\Omega$		
R77	0105100	10 $\Omega$		
R78	0105100	10 $\Omega$		
R79	0104181	180 $\Omega$		
R81	0107823	82k $\Omega$	} 1/4 W C.R. 4 A	
R83	0107823	82k $\Omega$		
R85	0107104	100k $\Omega$		
R87	0107473	47k $\Omega$		
R89	0103682	6.8k $\Omega$		
R91	0103682	6.8k $\Omega$		
R93	0105182	1.8k $\Omega$		
R95	0105182	1.8k $\Omega$		
R97	0107221	220 $\Omega$		
R99	0107223	22k $\Omega$		
R100, 101	0107102	1k $\Omega$		
RL01	1150251	RABK-2B Relay		4 A
L01, 02	4290210	2.5 $\mu$ H Micro Inductor		4 A , B
F05, 07	0430920	7A (20m/m) Fuse		2 A . 3 A
VR01, 02	1035110	4.7k $\Omega$ (B) } Semi Variable		} Resistor 2 A
VR03, 04	1035070	1k $\Omega$ (B) }		
	2310150	Fuse Holder	} 2 B . 3 , 4 B	
	5937061	Heat Sink		

Abbreviations

C.R.	: Carbon Resistor	BP.E.C.:	Bi-Polar Electrolytic Capacitor
S.R.	: Solid Resistor	C.C.	: Ceramic capacitor
Ce.R.	: Cement Resistor	Mi.C.	: Mica Capacitor
M.R.	: Metallized Film Resistor	O.C.	: Oil Capacitor
M.C.	: Mylar Capacitor	P.C.	: Polystyrene Capacitor
E.C.	: Electrolytic Capacitor	T.C.	: Tantalum Capacitor

### 5-5. F-2093 Volume Circuit Board

#### Conductor Side



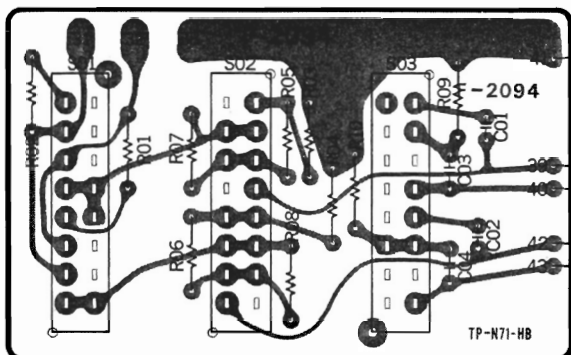
#### Parts List

Parts No.	Stock No.	Description
VR01-04	1060320	250kΩ (MN,B)×4 Variable Resistor

### 5-6. F-2094 Accessory Switch Circuit Board

(Stock No. 7592120 Complete Circuit Board F-2094)

#### Conductor Side



#### Parts List

Parts No.	Stock No.	Description
C01, 02	0660391	390pF 50V C.C.
C03, 04	0601227	0.022μF 50V M.C.
R01, 02	0107103	10kΩ
R03, 04	0107103	10kΩ
R05, 06	0107823	82kΩ
R07, 08	0107184	180kΩ
R09, 10	0107223	22kΩ
S01	1170500	SLC14351
S02	1170490	SLC14301
S03	1170490	SLC14301

} 1/4W C.R.  
} Lever Switch

### 5-7. Other Parts (Front Side)

#### Parts List

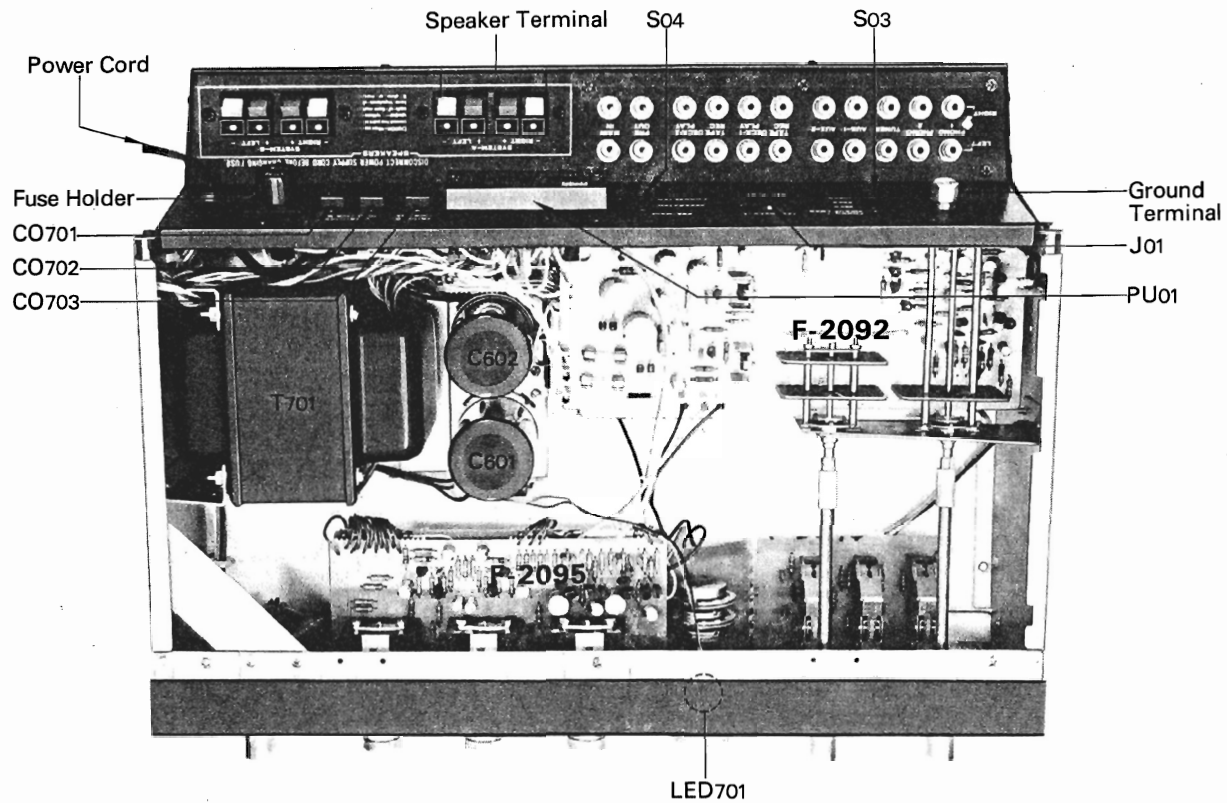
Parts No.	Stock No.	Description
1	5101161	Binding Head Screw, M4×6
2	5109222	Binding Head Tapping Screw, M3×8
3	5309270	Side Panel (Right)
4	5109121	Binding Head Tapping Screw, M3×6
5	5269830	Side Panel Retainer
6	5309260	Side Panel (Left)
7	5109222	Binding Head Tapping Screw, M3×8
8	5122540	Toothed Lock Washer (External), 3φ
9	5006340	Metal Bonnet
10	5317880	S-5 Type Knob
11	5318040	S-5 Type Knob (Tone Control)
12	5326460	E-1 Type Knob (Lever Switch)
13	5318001	W0-3 Type Knob (Volume)
14	5318080	U-5 Type Knob (Balance)
15	5109222	Binding Head Tapping Screw, M3×8
16	{ 5309210	Front Panel
	{ 5269800	Holder (Light Emitted Diode)
17	5109222	Binding Head Tapping Screw, M3×8
18	5269880	Stopper (Front Panel)
19	7726080	Light Emitted Diode (SDB-501A-RD)
20	1101560, 1	Rotary Switch Y-1-4-4 (Speaker)
21	1090060, 1	50kΩ (B)×2 Tone Control Volume
22	1170330	Lever Switch (Power)
23	2430190	Headphone Jack
24	1170490	Lever Switch (Control)
25	1170500	Lever Switch (Control, Mode)
26	1060320	250kΩ (MN, B)×4 Volume, Balance Volume
27	1102560	Rotary Switch SRE2-6-7 (Tape Play)
28	1102550	Rotary Switch SRE2-4-5 (Selector)
29	5109222	Binding Head Tapping Screw, M3×8
30	5166520	Washer Head Tapping Screw, M3×12
31	5516940	Foot
32	5058220	Bottom Plate
33	5047470	Masking (Lever Switch)

#### Abbreviations

C.R. : Carbon Resistor	BP.E.C.: Bi-Polar Electrolytic Capacitor
S.R. : Solid Resistor	C.C. : Ceramic capacitor
Ce.R. : Cement Resistor	Mi.C. : Mica Capacitor
M.R. : Metallized Film Resistor	O.C. : Oil Capacitor
M.C. : Mylar Capacitor	P.C. : Polystyrene Capacitor
E.C. : Electrolytic Capacitor	T.C. : Tantalum Capacitor



### 5-8. Other Parts (Top Side)



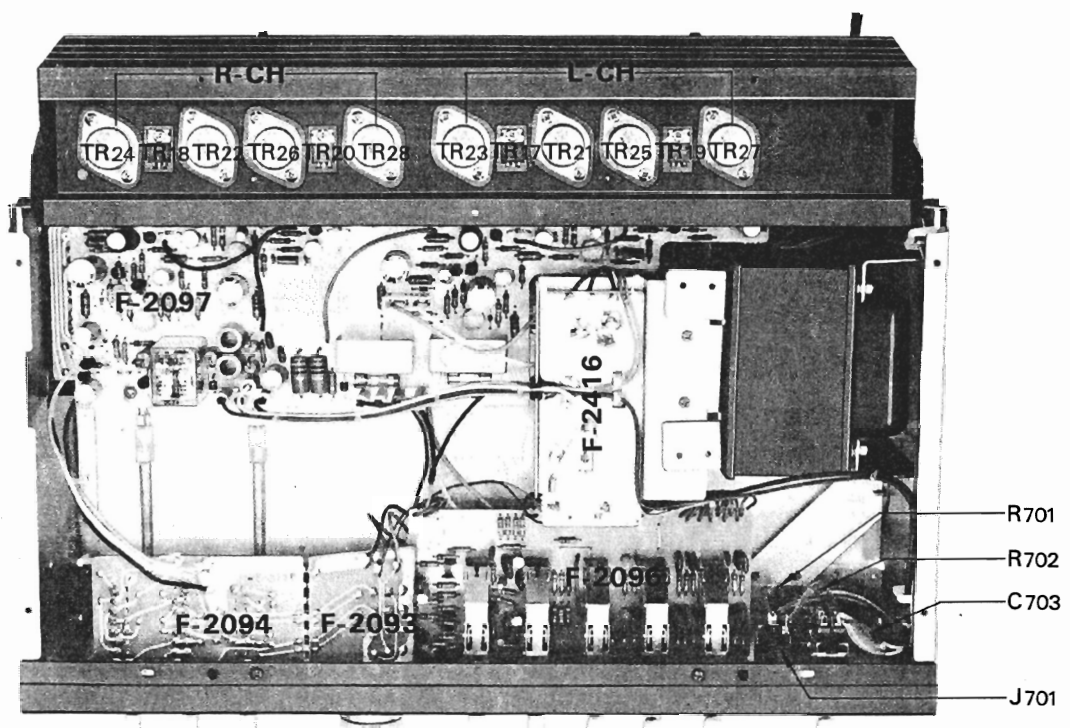
#### Parts List

Parts No.	Stock No.	Description
C601	0559360	10000 $\mu$ F
C602	0559360	10000 $\mu$ F
		50V E.C.
LED701	7726080	SDB-501A-RD Light Emitted Diode
J01	2090040	DIN Jack
S03	1110290	SSB02332
S04	1110280	SSB02230
		Slide Switch
CO701~703	2450050	AC Outlet
F701	{0431290	6A Power Fuse (100~117V)
	{0431260	3A Power Fuse (220~240V)
	{2300060	Fuse Holder
T701	4002110	Power Transformer

Parts No.	Stock No.	Description
PU01	{2410080	Voltage Selector, socket
	{2410090	Voltage Selector, plug
	2290100	4P Speaker Terminal
	3800020	Power Cord (KP-200)
	2230050	Ground Terminal



5-9. Other Parts (Bottom Side)



Parts List

Parts No.	Stock No.	Description
TR17	0308441, 2	2SD382 (M, L)
TR18	0308441, 2	2SD382 (M, L)
TR19	0303271, 2	2SB537 (M, L)
TR20	0303271, 2	2SB537 (M, L)
TR21	0306190~3	2SC1619 (R, O, Y)
TR22	0306190~3	2SC1619 (R, O, Y)
TR23	0306190~3	2SC1619 (R, O, Y)
TR24	0306190~3	2SC1619 (R, O, Y)
TR25	0300630~3	2SA808 (R, O, Y)
TR26	0300630~3	2SA808 (R, O, Y)
TR27	0300630~3	2SA808 (R, O, Y)
TR28	0300630~3	2SA808 (R, O, Y)
C703	0659801	0.01 $\mu$ F 1.4kV C.C.
R701	0104221	220 $\Omega$ } 1W C.R.
R702	0104221	220 $\Omega$ }
J701	2430190	Headphone Jack

Transistor

- Abbreviations**
- C.R. : Carbon Resistor
  - S.R. : Solid Resistor
  - Ce.R. : Cement Resistor
  - M.R. : Metallized Film Resistor
  - M.C. : Mylar Capacitor
  - E.C. : Electrolytic Capacitor
  - BP.E.C.: Bi-Polar Electrolytic Capacitor
  - C.C. : Ceramic capacitor
  - Mi.C. : Mica Capacitor
  - O.C. : Oil Capacitor
  - P.G. : Polystyrene Capacitor
  - T.C. : Tantalum Capacitor

## 6. REPLACEMENT OF POWER TRANSISTORS

- 1) Remove 4 pcs-screws installing on left (or right) side panel.
- 2) Remove 11 pcs-screws installing on bottom plate.
- 3) Remove all connectors and screws, ① and ② (see Fig. 6-1) installing on F-2097.
- 4) Remove screw, ③, ④, ⑤ and ⑥ (see Fig. 6-2) installing heat sink.
- 5) Remove driver & power supply circuit board ass'y (F-2097), then replace the transistors with new ones.

Fig. 6-1

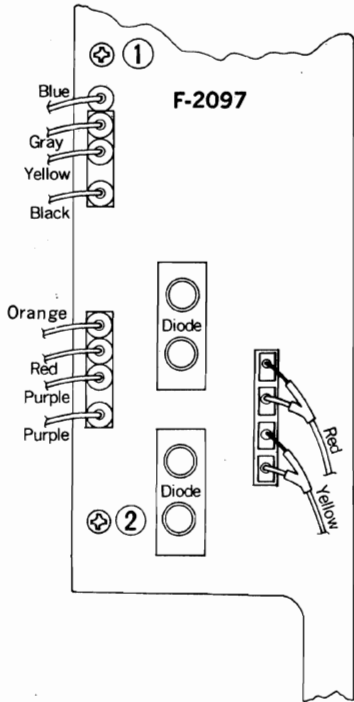
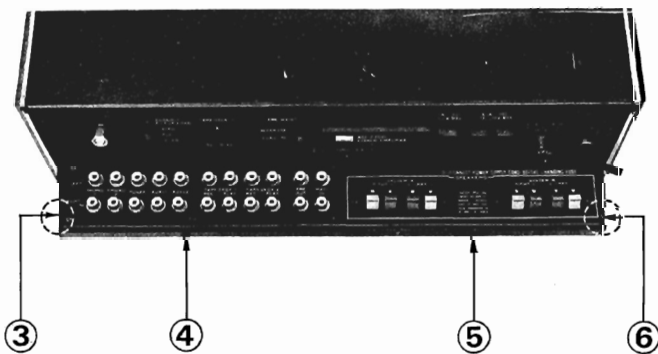
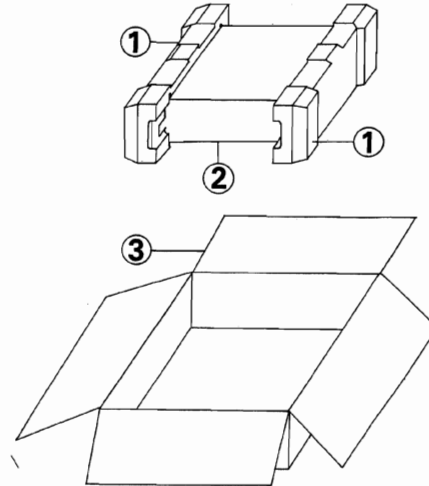


Fig. 6-2



## 7. PACKING LIST

Parts No.	Stock No.	Description
1	9027810	Stylofoam Packing
2	9116152	Vinyl Cover
3	9008051	Carton Case



## 8. ACCESSORY PARTS LIST

Stock No.	Description
5066250	Pin Plug Cover
9208250	Operating Instructions
9228250	Operating Instruction Sheet

# 9. SCHEMATIC DIAGRAM

\* Design and specifications subject to change without notice for improvements.

