

SERVICE MANUAL

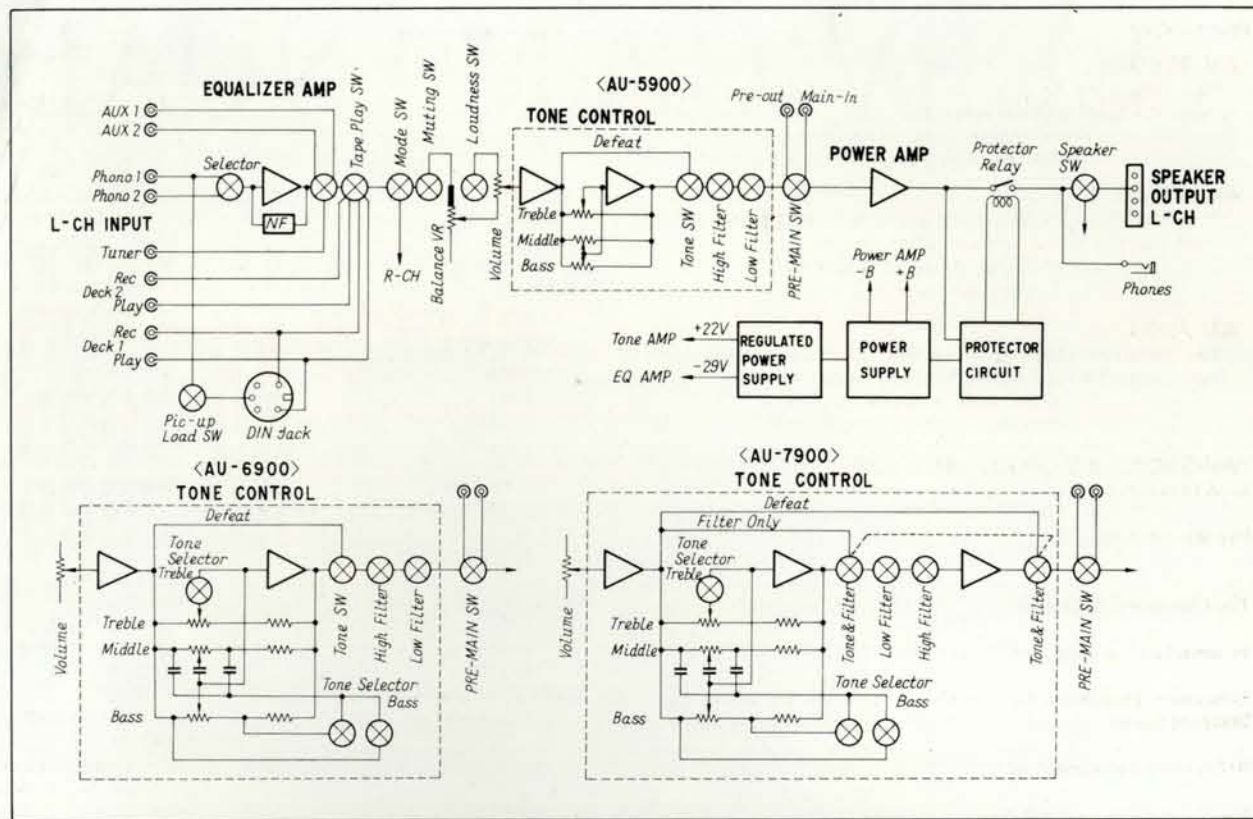
STEREO AMPLIFIER
SANSUI AU-5900
AU-6900
AU-7900



Sansui

SANSUI ELECTRIC CO., LTD.

1. BLOCK DIAGRAM



◆ LIST OF CIRCUIT BOARD

FUNCTION OF CIRCUIT BOARD	AU-5900	AU-6900	AU-7900
Equalizer & Regulated Power Supply Circuit Board	F-2599	F-2599	F-2599
Switching Circuit Board between Pre- and Main-Amp.	F-2600	F-2600	F-2600
Switching Circuit Board for Pick-up Load	F-2601	F-2601	F-2601
Lever Switch Circuit Board	F-2602	F-2602	F-2609
Volume & Balance Volume Circuit Board	F-2603	F-2603	F-2608
Tone Control Circuit Board	F-2604	F-2606	F-2610
Filter Unit Circuit Board	F-2605	F-2607	F-2611
Power Amplifier Circuit Board	F-2596	F-2596	F-2596
Earth Circuit Board	F-2598	F-2598	F-2598

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1. SPECIFICATIONS

Power output

<AU-5900>
 Min. RMS, both channels driven, from 20 to 20,000 Hz, with no more than 0.1% total harmonic distortion
 45 watts per channel into 8 ohms
 45 watts per channel into 4 ohms

<AU-6900>
 Min. RMS, both channels driven, from 20 to 20,000 Hz, with no more than 0.1% total harmonic distortion
 60 watts per channel into 8 ohms
 60 watts per channel into 4 ohms

<AU-7900>
 Min. RMS, both channels driven, from 20 to 20,000 Hz, with no more than 0.1% total harmonic distortion
 75 watts per channel into 8 ohms
 75 watts per channel into 4 ohms

<AU-5900> <AU-6900> <AU-7900>
Load impedance 4, 8 ohms (SYSTEM-A or B)
 8 ohms (SYSTEM A + B)

Power bandwidth 20 to 20,000 Hz at or below rated min. RMS power output and total harmonic distortion less than 0.1% at or below rated min. RMS power output

Total harmonic distortion less than 0.1%

Intermodulation distortion (70 Hz : 7 kHz = 4 : 1 SMPTE method) less than 0.1%

Frequency response (at 1 watt) 10 to 50,000 Hz ±0.5 dB

Damping factor approximately 80 at 8 ohm load

RIAA curve deviation (PHONO) +0.3dB, -0.3dB (30 Hz to 15 kHz)

Input sensitivity and impedance (1 kHz, for rated power output)
 PHONO-1 2.5 mV/30, 50 100 kilo-ohms

PHONO-2 2.5 mV/50 kilo-ohms
 (Max. input capability: 250 mV at 1 kHz, less than 0.1% total harmonic distortion)

TUNER 130 mV/50 kilo-ohms
 AUX-1, 2 130 mV/50 kilo-ohms

TAPE-1, 2 PLAY (pin jacks) 130 mV/50 kilo-ohms
 TAPE-1 REC/PLAY (DIN socket) 130 mV

MAIN IN 700 mV/50 kilo-ohms

Output level (1,000 Hz)
 TAPE-1, 2 REC (pin jacks) 130 mV
 TAPE-1 REC/PLAY (DIN socket) 30 mV
 PRE OUT 700 mV

Channel separation (1 kHz, at rated power output)
 PHONO-1, 2 better than 50dB
 TUNER better than 55dB
 AUX-1, 2 better than 55dB
 TAPE-1, 2 PLAY better than 55dB
 MAIN IN better than 60dB

Hum and noise (IHF)
 PHONO-1, 2 better than 75dB
 TUNER better than 90dB
 AUX-1, 2 better than 90dB
 TAPE-1, 2 PLAY better than 90dB
 MAIN IN better than 100dB

<AU-5900>
Controls
 BASS ±13dB (50 Hz)
 MIDRANGE ±5dB (1.5 kHz)
 TREBLE ±13dB (15 kHz)
 LOUDNESS (Volume Control : -30dB)

LOW BOOST +10dB (50 Hz)
 HIGH & LOW BOOST +8dB (10 kHz)
 +10dB (50 Hz)

LOW FILTER -3dB (20, 60 Hz), 12dB/oct.
 HIGH FILTER -3dB (7 kHz), 6dB/oct.

MUTING 0, -15, -30dB

Power requirements
 Power voltage 100, 120, 220, 240 V
 50/60 Hz
 120 V (Usable 110-130 V)
 60 Hz (for U.S.A. & Canada only)

Power consumption 176 watts (rated)
 490 watts, 576 VA (max.)

Dimensions 430 mm (16-15/16") W
 132 mm (5-1/4") H
 340 mm (13-7/16") D

Weight 14.2 kg (31.3 lbs) net
 16.1 kg (35.5 lbs) packed

<AU-6900>
Controls
 BASS ±13dB (50 Hz)
 MIDRANGE ±5dB (1.5 kHz)
 TREBLE ±13dB (15 kHz)
 LOUDNESS (Volume Control : -30dB)

LOW BOOST +10dB (50 Hz)
 HIGH & LOW BOOST +8dB (10 kHz)
 +10dB (50 Hz)

LOW FILTER -3dB (70 Hz), 6dB/oct.
 HIGH FILTER -3dB (7 kHz), 6dB/oct.

MUTING 0, -20dB

Power requirements

Power voltage 100, 120, 220, 240 V
 50/60 Hz
 120 V (Usable 110-130 V)
 60 Hz (for U.S.A. & Canada only)

Power consumption 106 watts (rated)
 300 watts, 362 VA (max.)

Dimensions 430 mm (16-15/16") W
 132 mm (5-1/4") H
 312 mm (12-5/16") D

Weight 11.5 kg (25.4 lbs) net
 13.2 kg (29.1 lbs) packed

<AU-6900>

Controls
 BASS ±13dB (50 Hz)
 Tone selector (turnover frequency) 300, 600 Hz

MIDRANGE ±5dB (1.5 kHz)
 TREBLE ±13dB (15 kHz)
 Tone selector (turnover frequency) 2, 4 kHz

LOUDNESS (Volume Control : -30dB)
 LOW BOOST +10dB (50 Hz)
 HIGH & LOW BOOST +8dB (10 kHz)
 +10dB (50 Hz)

LOW FILTER -3dB (70 Hz), 6dB/oct.
 HIGH FILTER -3dB (7 kHz), 6dB/oct.

MUTING 0, -20dB

Power requirements
 Power voltage 100, 120, 220, 240 V
 50/60 Hz
 120 V (Usable 110-130 V)
 60 Hz (for U.S.A. & Canada only)

Power consumption 132 watts (rated)
 370 watts, 435 VA (max.)

Dimensions 430 mm (16-15/16") W
 132 mm (5-1/4") H
 340 mm (13-7/16") D

Weight 12.9 kg (28.4 lbs) net
 14.8 kg (32.6 lbs) packed

<AU-7900>
Controls
 BASS ±13dB (50 Hz)
 Tone selector (turnover frequency) 150, 300, 600 Hz

MIDRANGE ±5dB (1.5 kHz)
 TREBLE ±13dB (15 kHz)
 Tone selector (turnover frequency) 2, 4, 8 kHz

LOUDNESS (Volume Control : -30dB)
 LOW BOOST +10dB (50 Hz)
 HIGH & LOW BOOST +8dB (10 kHz)
 +10dB (50 Hz)

LOW FILTER -3dB (20, 60 Hz), 12dB/oct.
 HIGH FILTER -3dB (7 kHz), 6dB/oct.

MUTING 0, -15, -30dB

Power requirements
 Power voltage 100, 120, 220, 240 V
 50/60 Hz
 120 V (Usable 110-130 V)
 60 Hz (for U.S.A. & Canada only)

Power consumption 176 watts (rated)
 490 watts, 576 VA (max.)

Dimensions 430 mm (16-15/16") W
 132 mm (5-1/4") H
 340 mm (13-7/16") D

Weight 14.2 kg (31.3 lbs) net
 16.1 kg (35.5 lbs) packed

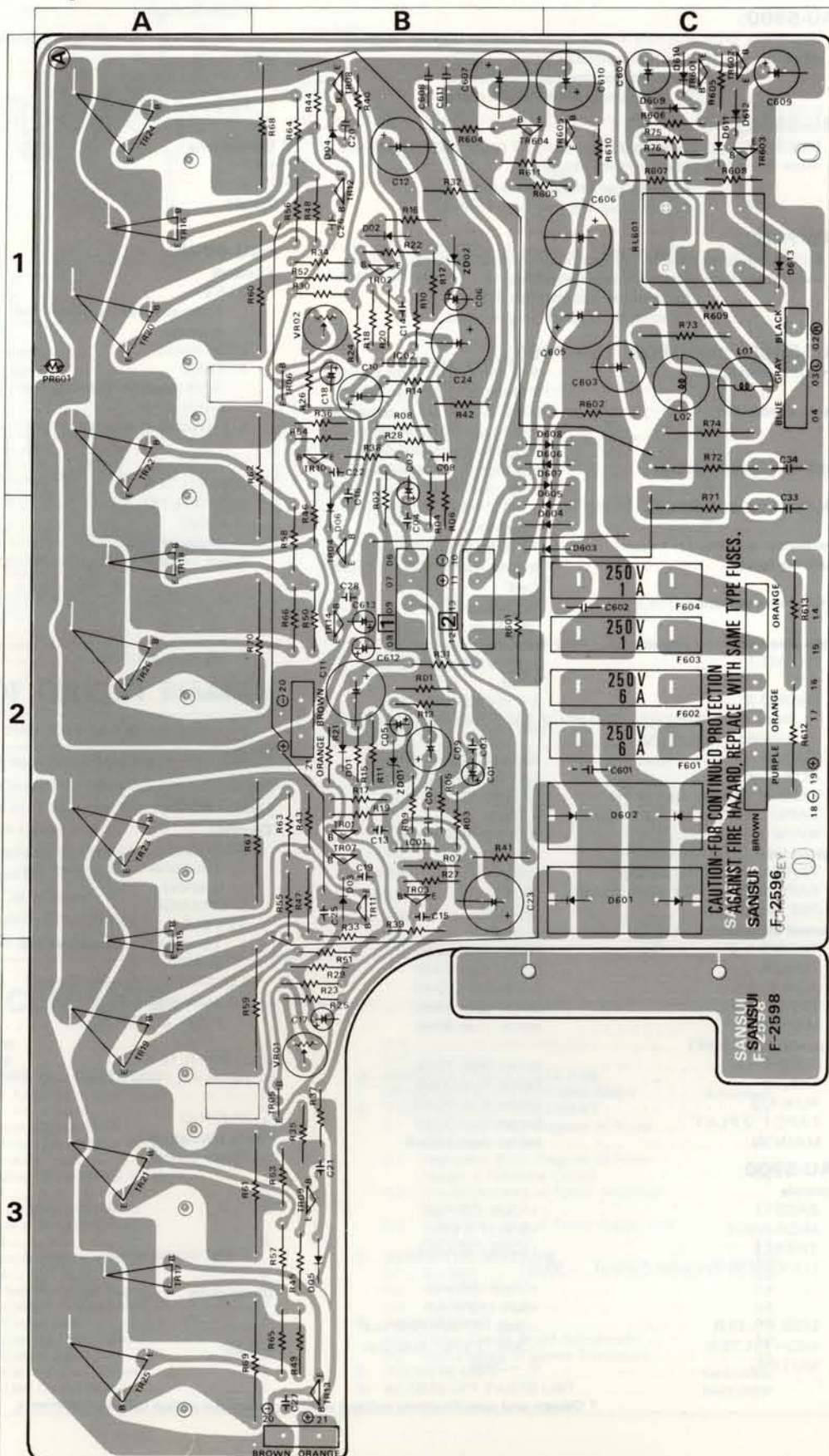
* Design and specifications subject to change without notice for improvements.

3. PARTS LOCATION AND PARTS LIST

*Value and Stock No. of most Resistors and Capacitors are shown in Common Parts List attached.

3-1. F-2596 Power Amplifier Circuit Board

Conductor Side



◇AU-5900

(F-2596: Stock No. 7571361)

Parts List

Parts No.	Stock No.	Description	Position
TR01.02	0300760.1	2SA917-1, 2	2 B . 1 B
TR03.04	0306360.1	2SC1951-1, 2	2 B
TR05.06	0305732	2SC711 (F)	3 B . 1 B
TR07.08	0305951.2	2SC945 (Q, P)	2 B . 1 B
TR09.10	0300510.1	2SA733 (P, Q)	3 B . 1 B
TR11.12	0306360.1	2SC1951-1, 2	2 B . 1 B
TR13.14	0300760.1	2SA917-1, 2	3 B . 2 B
TR15.16	0308501.2	2SD357 (D, E)	2.3A. 1 A
TR17.18	0303371.2	2SB527 (D, E)	3A. 2 A
TR19.20	0306211.2	2SC1619A (R, O)	3 A. 1 A
TR21.22	0308560.1	2SB545A (1) (S, R)	3 A. 1 A
TR23.24	0306211.2	2SC1619A (R, O)	1 C
TR25.26	0300631.2	2SA808A (R, O)	1 C
IC01.02	0360290.1	2SA798 (F, G) IC	2 B . 1 B
D01.02	0340120	VD1212 Varistor	2 B . 1 B
D03.04	0311160	152473D	2 B . 1 B
D05.06	0311160	152473D	3 B . 2 B
D07	0311290	SS-5	2 C
D09	0311300	SS-3R	2 C
D11	0310350	10D2	2 B . C
D13	0310350	10D2	2 B . C
D15	0310350	10D2	2 B . C
D17	0310350	10D2	1 B . C
D19	0310350	10D2	1 B . C
D21	0340120	VD1212 Varistor	1 C
D23	0311160	152473D	1 C
D25	0311160	152473D	1 C
D27	0340120	VD1212 Varistor	1 C
D29	0310340	10D1 Diode	1 C
ZD01.02	0315970	EQA01-13R Zener Diode	2 B . 1 B
PR01	0320120	Posistor	1 A
C01	0655103	10000 pF	2 C
C02	0655103	10000 pF	2 C
R11.12	0103392	3.9kΩ $\frac{1}{2}$ W C.R.	2 B . 1 B
R13.32	0191221	220Ω $\frac{1}{4}$ W Fuse Resistor	2 B . 1 B
R14.42	0191221	220Ω $\frac{1}{4}$ W Fuse Resistor	2 B . 1 B
R17.48	0103820	82Ω $\frac{1}{2}$ W C.R.	3 B . 2 B
R19.56	0103689	68Ω $\frac{1}{2}$ W C.R.	2 B . 1 B
R21.58	0103689	68Ω $\frac{1}{2}$ W C.R.	3 B . 2 B
R23.60	0133438	0.33Ω 3W Ce.R.	3 B . 1 B
R25.72	0104479	4.7Ω 1W M.R.	2 C . 1 C
R27.74	0104479	4.7Ω 1W C.R.	1 C
R29.80	0105222	2.2kΩ 2W C.R.	2 B
R31.82	0202121	120Ω 2W M.R.	1 C
R33.64	0210470	47Ω $\frac{1}{2}$ W M.R.	1 B
R35.66	0103392	3.9kΩ $\frac{1}{2}$ W C.R.	1 C
R37.68	0104271	270Ω 1W C.R.	1 C
R39.70	0210470	47Ω $\frac{1}{2}$ W M.R.	1 B . C
R41.72	0105332	3.3kΩ 2W C.R.	2 C
R43.74	0105332	3.3kΩ 2W C.R.	2 C
L01.02	4290210	Filter Coil	1 C
RL01	1150250.1	Relay Switch	1 C
VR01.02	1035050	470Ω (B) Semi-Variable Resistor	3 B . 1 B
F01	0431290	AC Fuse 6A 250V	2 C
F02	0431290	AC Fuse 6A 250V	2 C
F03	0431220	AC Fuse 1A 250V	2 C
F04	0431220	AC Fuse 1A 250V	2 C
2410590		Pin Ass'y, Type D	
2310051		Fuse Holder	

◇AU-6900

(F-2596: Stock No. 7571341)

Parts List

Parts No.	Stock No.	Description	Position
TR01.02	0300760.1	2SA917-1, -2	2 B . 1 B
TR03.04	0306360.1	2SC1951-1, -2	2 B
TR05.06	0305732	2SC711 (F)	3 B . 1 B
TR07.08	0305951.2	2SC945 (Q, P)	2 B . 1 B
TR09.10	0300510	2SA733 (P, Q)	3 B . 1 B
TR11.12	0306360	2SC1951-1, -2	2 B . 1 B
TR13.14	0300760	2SA917-1, -2	3 B . 2 B
TR15.16	0308441	2SD382 (M, L)	2.3A. 1 A
TR17.18	0303271.2	2SB537 (M, L)	3 A. 2 A
TR19.20	0306211.2	2SC1619A (R, O)	3 A. 1 A
TR21.22	0308560.1	2SB545A (1) (S, R)	3 A. 1 A
TR23.24	0306211.2	2SC1619A (R, O)	1 C
TR25.26	0300631.2	2SA808A (R, O)	1 C
IC01.02	0360290.1	2SA798 (F, G) IC	2 B . 1 B
D01.02	0340120	VD1212 Varistor	2 B . 1 B
D03.04	0311160	152473D	2 B . 1 B
D05.06	0311160	152473D	3 B . 2 B
D07	0311310	SS-5	2 C
D09	0311320	SS-5R	2 C
D11	0310350	10D2	2 B . C
D13	0310350	10D2	2 B . C
D15	0310350	10D2	2 B . C
D17	0310350	10D2	1 B . C
D19	0310350	10D2	1 B . C
D21	0340120	VD1212 Varistor	1 C
D23	0311160	152473D	1 C
D25	0311160	152473D	1 C
D27	0340120	VD1212 Varistor	1 C
D29	0310340	10D1 Diode	1 C
ZD01.02	0315970	EQA01-13R Zener Diode	2 B . 1 B
PR01	0320120	Posistor	1 A
C01	0655103	10000 pF	2 C
C02	0655103	10000 pF	2 C
R11.12	0103392	3.9kΩ $\frac{1}{2}$ W C.R.	2 B . 1 B
R13.32	0191221	220Ω $\frac{1}{4}$ W Fuse Resistor	2 B . 1 B
R14.42	0191221	220Ω $\frac{1}{4}$ W Fuse Resistor	2 B . 1 B
R17.48	0103820	82Ω $\frac{1}{2}$ W C.R.	3 B . 2 B
R19.56	0103689	68Ω $\frac{1}{2}$ W C.R.	2 B . 1 B
R21.58	0103689	68Ω $\frac{1}{2}$ W C.R.	3 B . 2 B
R23.60	0133438	0.33Ω 3W Ce.R.	3 B . 1 B
R25.72	0104479	4.7Ω 1W M.R.	2 C . 1 C
R27.74	0104479	4.7Ω 1W C.R.	1 C
R29.80	0105222	2.2kΩ 2W C.R.	2 B
R31.82	0202121	120Ω 2W M.R.	1 C
R33.64	0210470	47Ω $\frac{1}{2}$ W M.R.	1 B
R35.66	0103392	3.9kΩ $\frac{1}{2}$ W C.R.	1 C
R37.68	0104271	270Ω 1W C.R.	1 C
R39.70	0210470	47Ω $\frac{1}{2}$ W M.R.	1 B . C
R41.72	0105332	3.3kΩ 2W C.R.	2 C
R43.74	0105332	3.3kΩ 2W C.R.	2 C
L01.02	4290210	Filter Coil	1 C
RL01	1150250.1	Relay Switch	1 C
VR01.02	1035050	470Ω (B) Semi-Variable Resistor	3 B . 1 B
F01	0431300	7A AC Fuse	2 C
F02	0431300	7A AC Fuse	2 C
F03	0431220	1A AC Fuse	2 C
F04	0431220	1A AC Fuse	2 C
2410590		Pin Ass'y, Type D	
2310050		Fuse Holder	

◇AU-7900

(F-2596: Stock No. 7571351)

Parts List

Parts No.	Stock No.	Description	Position
TR01.02	0300760.1	2SA917-1, 2	2 B . 1 B
TR03.04	0306360.1	2SC1951-1, 2	2 B
TR05.06	0305732	2SC711 (F)	3 B . 1 B
TR07.08	0305951.2	2SC945 (Q, P)	2 B . 1 B
TR09.10	0300510.1	2SA733 (P, Q)	3 B . 1 B
TR11.12	0306360.1	2SC1951-1, 2	2 B . 1 B
TR13.14	0300760.1	2SA917-1, 2	3 B . 2 B
TR15.16	0308441.2	2SD382 (M, L)	2.3A. 1 A
TR17.18	0303271.2	2SB537 (M, L)	3 A. 2 A
TR19.20	0306450.1	2SC1403A (R, O)	3 A. 1 A
TR21.22	0308570	2SD388A (1) (S, R)	3 A. 1 A
TR23.24	0300830.1	2SA745A (R, O)	3 A. 1 A
TR25.26	0303400.1	2SB541A (S, R)	3 A. 1 A
IC01.02	0360290.1	2SA798 (F, G) IC	2 B . 1 B
D01.02	0340120	VD1212 Varistor	2 B . 1 B
D03.04	0311160	152473D	2 B . 1 B
D05.06	0311160	152473D	3 B . 2 B
D07	0311310	SS-5	2 C
D09	0311320	SS-5R	2 C
D11	0310350	10D2	2 B . C
D13	0310350	10D2	2 B . C
D15	0310350	10D2	2 B . C
D17	0310350	10D2	1 B . C
D19	0310350	10D2	1 B . C
D21	0340120	VD1212 Varistor	1 C
D23	0311160	152473D	1 C
D25	0311160	152473D	1 C
D27	0340120	VD1212 Varistor	1 C
D29	0310340	10D1 Diode	1 C
ZD01.02	0315970	EQA01-13R Zener Diode	2 B . 1 B
PR01	0320120	Posistor	1 A
C01	0655103	10000 pF	2 C
C02	0655103	10000 pF	2 C
R11.12	0103392	3.9kΩ $\frac{1}{2}$ W C.R.	2 B . 1 B
R13.32	0191221	220Ω $\frac{1}{4}$ W Fuse Resistor	2 B . 1 B
R14.42	0191221	220Ω $\frac{1}{4}$ W Fuse Resistor	2 B . 1 B
R17.48	0103820	82Ω $\frac{1}{2}$ W C.R.	3 B . 2 B
R19.56	0103689	68Ω $\frac{1}{2}$ W C.R.	2 B . 1 B
R21.58	0103689	68Ω $\frac{1}{2}$ W C.R.	3 B . 2 B
R23.60	0133438	0.33Ω 3W Ce.R.	3 B . 1 B
R25.72	0104479	4.7Ω 1W M.R.	2 C . 1 C
R27.74	0104479	4.7Ω 1W C.R.	1 C
R29.80	0105222	2.2kΩ 2W C.R.	2 B
R31.82	0202121	120Ω 2W M.R.	1 C
R33.64	0210470	47Ω $\frac{1}{2}$ W M.R.	1 B
R35.66	0103392	3.9kΩ $\frac{1}{2}$ W C.R.	1 C
R37.68	0104271	270Ω 1W C.R.	1 C
R39.70	0210470	47Ω $\frac{1}{2}$ W M.R.	1 B . C
R41.72	0105332	3.3kΩ 2W C.R.	2 C
R43.74	0105332	3.3kΩ 2W C.R.	2 C
L01.02	4290210	Filter Coil	1 C
RL01	1150250.1	Relay Switch	1 C
VR01.02	1035050	470Ω (B) Semi-Variable Resistor	3 B . 1 B
F01	0431350	AC Fuse 8A 250V	2 C
F02	0431350	AC Fuse 8A 250V	2 C
F03	0431220	1A AC Fuse	2 C
F04	0431220	1A AC Fuse	2 C
2410590		Pin Ass'y, Type D	
2310050		Fuse Holder	

3-2. F-2598 Earth Circuit Board

*This F-2598 is a printed circuit board without any component parts.

◇AU-5900

(F-2598: Stock No. 7594021)

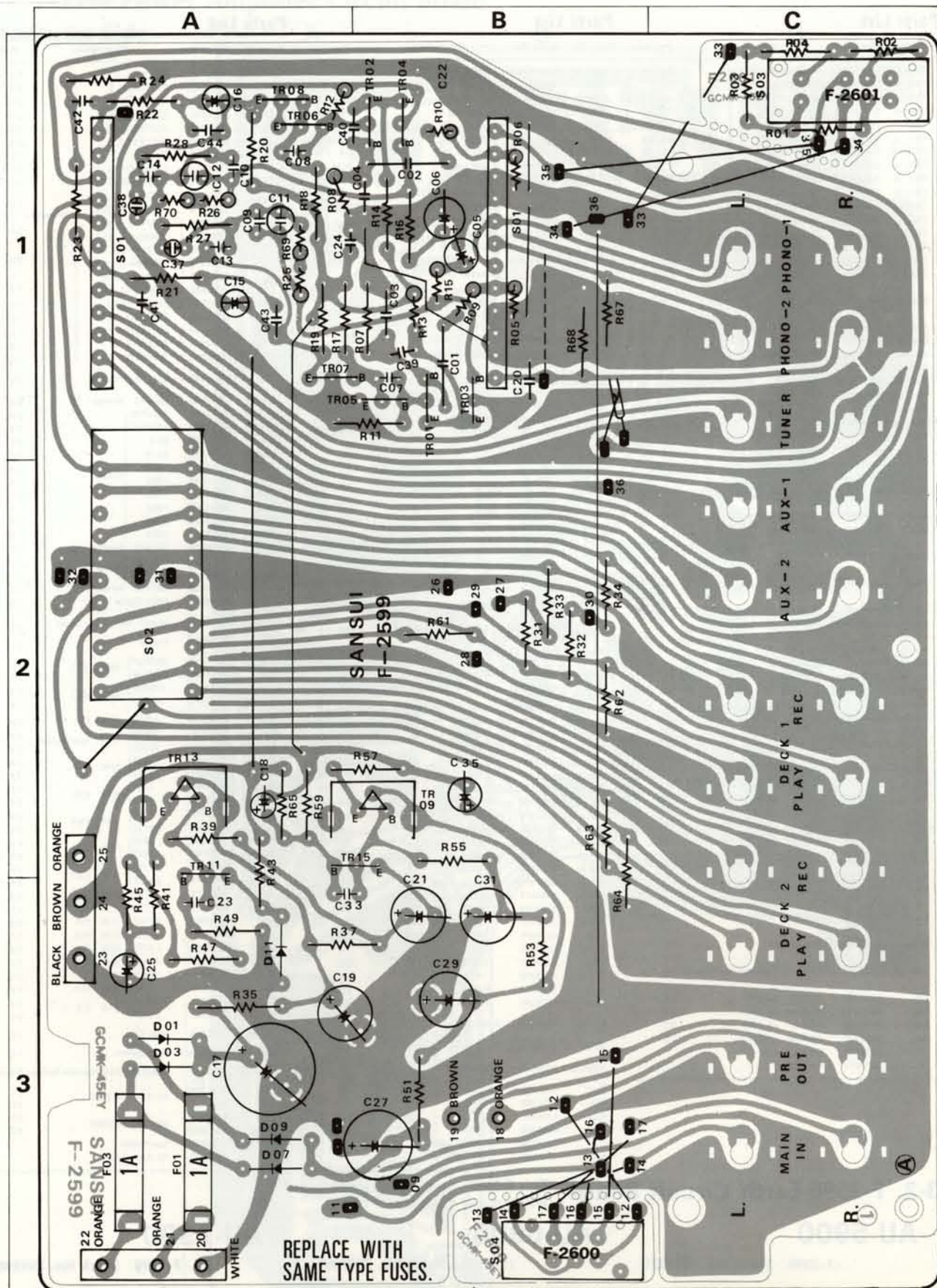
◇AU-6900

(F-2598: Stock No. 7593961)

◇AU-7900

(F-2598: Stock No. 7593981)

3-3. F-2599 Equalizer Circuit Board
Conductor Side



◇AU-5900

(F-2599: Stock No. 7550901)

Parts List

Parts No.	Stock No.	Description	Position
TR01,02	0306010, 1	2SC1222 (U, E)	1 B
TR03,04	0306010, 1	2SC1222 (U, E)	1 B
TR05,06	0300470, 1	2SA726 (W) (F, G)	1 A
TR07,08	0306071, 2	2SC1313 (G, H)	1 A
TR09	0303280-2	2SB526 (C, D, E)	2 B
TR11	0306071, 2	2SC1313 (G, H)	2 A
TR13	0308450-2	2SD356 (C, D, E)	2 A
TR15	0300470, 1	2SA726 (W) (F, G)	2 B, A
D11	0316310	RD-13E B Zener Diode	3 A
C01,02	0602109	1.0µF 100V M.C.	1 B
C11,12	0620102	1000pF	1 A
C37,38	0620101	1000pF	1 A
R35	0201181	180Ω	3 A
R51	0201271	270Ω	3 B
S01	1102550, 1	Rotary Switch	1 A
S02	1102560, 1	Rotary Switch	2 A
	2430250	1P Pin Jack	

◇AU-6900

(F-2599: Stock No. 7550861)

Parts List

Parts No.	Stock No.	Description	Position
TR01,02	0306010, 1	2SC1222 (U, E)	1 B
TR03,04	0306010, 1	2SC1222 (U, E)	1 B
TR05,06	0300470, 1	2SA726 (W) (F, G)	1 A
TR07,08	0306071, 2	2SC1313 (G, H)	1 A
TR09	0303280-2	2SB526 (C, D, E)	2 B
TR11	0306071, 2	2SC1313 (G, H)	2 A
TR13	0308450-2	2SD356 (C, D, E)	2 A
TR15	0300470, 1	2SA726 (W) (F, G)	2 B, A
D11	0315970	EQA01-13R Zener Diode	3 A
C01,02	0602109	1.0µF 100V M.C.	1 B
C11,12	0620102	1000pF	1 A
C37,38	0620101	100pF	1 A
R35	0201181	180Ω	3 A
R51	0201271	270Ω	3 B
S01	1102550, 1	Rotary Switch	1 A
S02	1102560, 1	Rotary Switch	2 A
	2430250	1P Pin Jack	

◇AU-7900

(F-2599: Stock No. 7550881)

Parts List

Parts No.	Stock No.	Description	Position
TR01,02	0306010, 1	2SC1222 (U, E)	1 B
TR03,04	0306010, 1	2SC1222 (U, E)	1 B
TR05,06	0300470, 1	2SA726 (W) (F, G)	1 A
TR07,08	0306071, 2	2SC1313 (G, H)	1 A
TR09	0303280-2	2SB526 (C, D, E)	2 B
TR11	0306071, 2	2SC1313 (G, H)	2 A
TR13	0308450-2	2SD356 (C, D, E)	2 A
TR15	0300470, 1	2SA726 (W) (F, G)	2 B, A
D11	0315970	EQA01-13R Zener diode	3 A
C01,02	0602109	1.0µF 100V M.C.	1 B
C11,12	0620102	1000pF	1 A
C37,38	0620101	100pF	1 A
R35	0201271	270Ω	3 A
R51	0201391	390Ω	3 B
S01	1102550, 1	Rotary Switch	1 A
S02	1102560, 1	Rotary Switch	2 A

3-4. F-2600 Switching Circuit Board between Pre and Main Amp.

◇AU-5900

(F-2600: Stock No. 7594011)

Parts List

Parts No.	Stock No.	Description
S04	1110280	Slide Switch

◇AU-6900

(F-2600: Stock No. 7593951)

Parts List

Parts No.	Stock No.	Description
S04	1110280	Slide Switch

◇AU-7900

(F-2600: Stock No. 7593971)

Parts List

Parts No.	Stock No.	Description
S04	1110280	Slide Switch

3-5. F-2601 Switching Circuit Board for Pick-up Load

◇AU-5900

(F-2601: Stock No. 7550911)

Parts List

Parts No.	Stock No.	Description
S03	1110290	Slide Switch

◇AU-6900

(F-2601: Stock No. 7550871)

Parts List

Parts No.	Stock No.	Description
S03	1110290	Slide Switch

◇AU-7900

(F-2601: Stock No. 7550891)

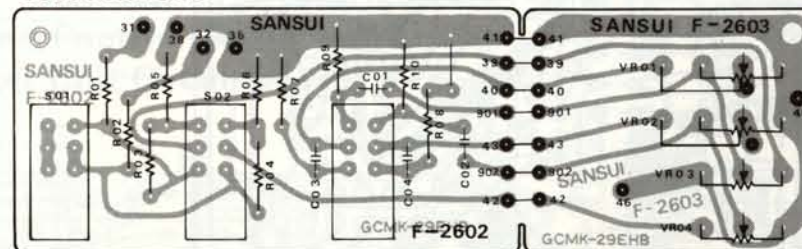
Parts List

Parts No.	Stock No.	Description
S03	1110290	Slide Switch

3-6. F-2602 Lever Switch Circuit Board

3-7. F-2603 Volume & Balance Volume Circuit Board

Conductor Side



◇AU-5900

(F-2602: Stock No. 7594001)

Parts List

Parts No.	Stock No.	Description
S01	1170340	Lever Switch
S02	1170390	
S03	1170390	

◇AU-6900

(F-2602: Stock No. 7593941)

Parts List

Parts No.	Stock No.	Description
S01	1170340	Mode Switch
S02	1170340	Muting Switch

◇AU-5900

(F-2603: Stock No. 7561401)

Parts List

Parts No.	Stock No.	Description
VR01	1060320, 1	250kΩ × 4 (M, N) Variable Resistor

◇AU-6900

(F-2603: Stock No. 7561341)

Parts List

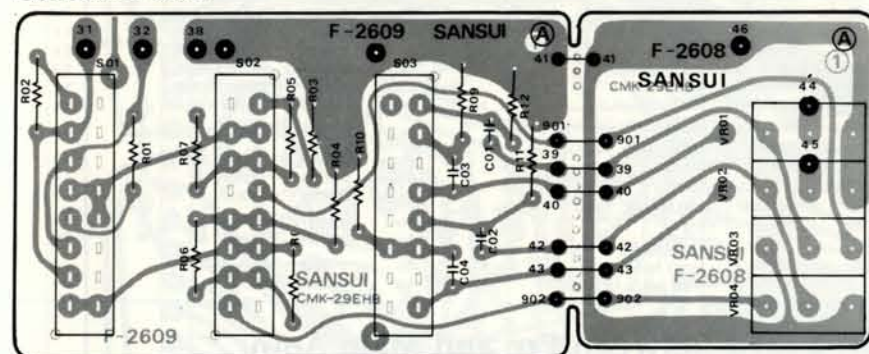
Parts No.	Stock No.	Description
VR01	1060320, 1	250kΩ × 4 (M, N) Variable Resistor

◇AU-7900

3-8. F-2608 Volume & Balance Volume Circuit Board (Stock No. 7561371)

3-9. F-2609 Lever Switch Circuit Board (Stock No. 7593991)

Conductor Side



F-2608 Parts List

Parts No.	Stock No.	Description
VR01	1060320, 1	Master, Balance Volume 250M, N 250KB × 2

F-2609 Parts List

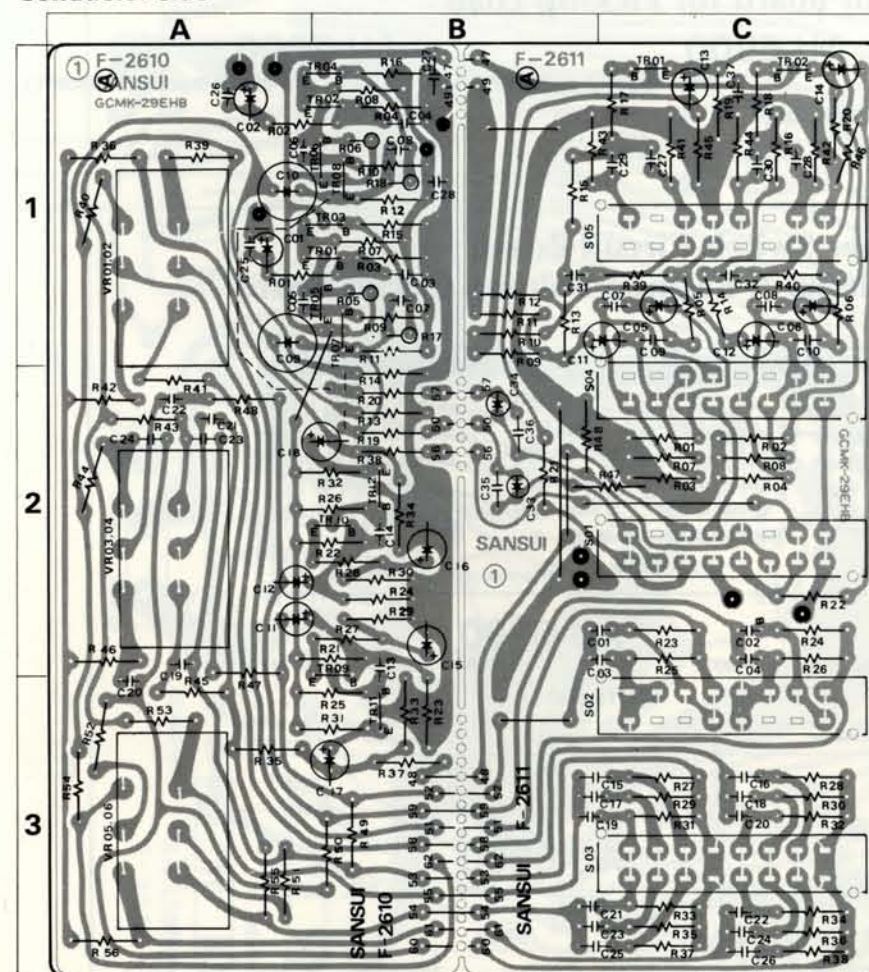
Parts No.	Stock No.	Description
S01	1170500	Lever Switch
S02	1170490	Lever Switch
S03	1170490	Lever Switch

◇AU-7900

3-10. F-2610 Tone Control Circuit Board (Stock No. 7561381)

3-11. F-2611 Filter Circuit Board (Stock No. 7561391)

Conductor Side



F-2610 Parts List

Parts No.	Stock No.	Description	Position
TR01, 02	0306071, 2	25C1313 (G, H)	1 B
TR03, 04	0306071, 2	25C1313 (G, H)	1 B
TR05, 06	0300470, 1	25A726(W)(F, G)	1 B
TR07, 08	0306071, 2	25C1313 (G, H)	1 B
TR09, 10	0306071, 2	25C1313 (G, H)	2 B
TR11, 12	0300470, 1	25A726(W)(F, G)	2 B
VR01	1090060, 1	50KΩ × 2	1 A
VR02	1090060, 1	50KΩ × 2	2 A
VR03	1099060, 1	50KΩ × 2	3 A

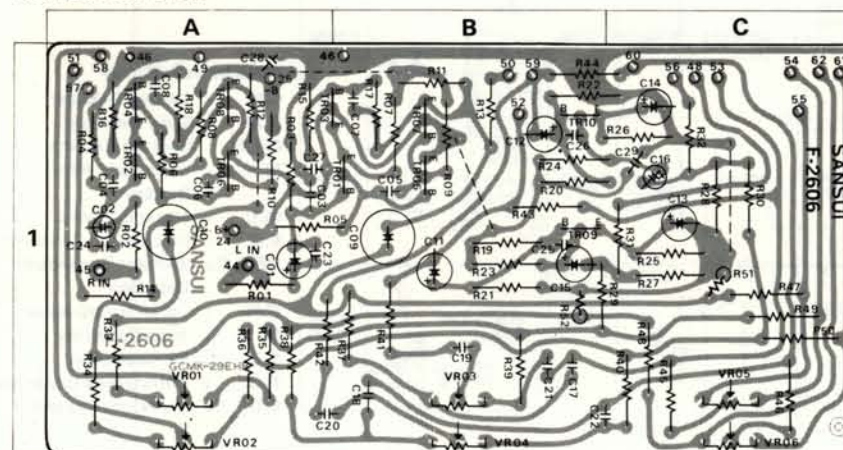
F-2611 Parts List

Parts No.	Stock No.	Description	Position
TR01, 02	0306071, 2	25C1313 (G, H) Transistor	1 C
C01, 02	0621821	820 pF 50V P.C.	3C, B, 2B
C03, 04	0573228	0.22 μF 35V T.C.	2 C
S01	1170500	Tone & Filter Switch	2 C
S02	1170490	Tone Selector, Treble	3 C
S03	1170490	Tone Selector, Bass	3 C
S04	1170490	Low Filter Switch	2 C
S05	1170490	High Filter Switch	1 C

◇AU-6900

3-12. F-2606 Tone Control Circuit Board (Stock No. 7561351)

Conductor Side



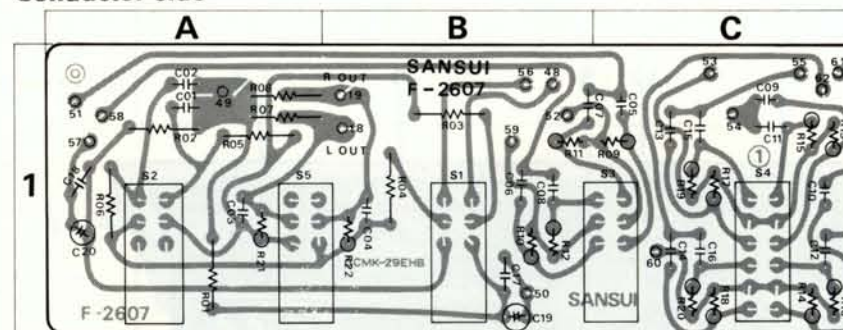
Parts List

Parts No.	Stock No.	Description	Position
TR01, 02	0306071, 2	25C1313 (G, H)	1 B, A
TR03, 04	0306071, 2	25C1313 (G, H)	1 B, A
TR05, 06	0300470, 1	25A726(W)(F, G) Transistor	1 B, A
TR07, 08	0306071, 2	25C1313 (G, H)	1 B, A
TR09, 10	0306071, 2	25C1313 (G, H)	1 B
VR01-04	1015110, 1	50kΩ(B) × 2 Tone Control Volume	2C, B, A

◇AU-6900

3-13. F-2607 Filter Circuit Board (Stock No. 7561361)

Conductor Side



Parts List

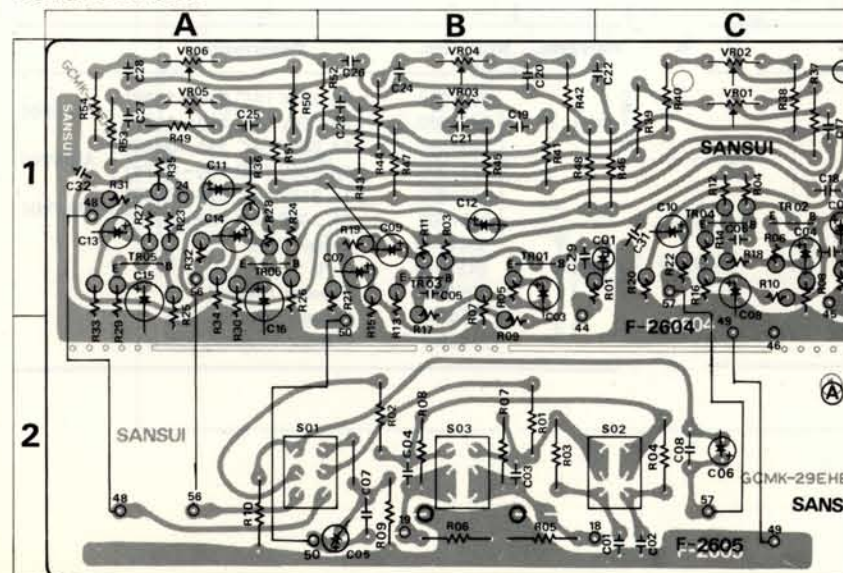
Parts No.	Stock No.	Description	Position
S01	1170340	Tone Switch	1 B
S02	1170340	High Filter Switch	1 A
S03	1170340	Tone Selector (Treble)	1 C
S04	1170360	Tone Selector (Bass)	1 C
S05	1170340	Low Filter Switch	1 A

◇AU-5900

3-14. F-2604 Tone Control Circuit Board (Stock No. 7561411)

3-15. F-2605 Filter Unit Circuit Board (Stock No. 7561421)

Conductor Side



F-2604 Parts List

Parts No.	Stock No.	Description	Position
TR01, 02	0306071	25C1313 (G, H)	1 B, C
TR03, 04	0306071, 2	25C1313 (G, H)	Transistor 1 B, C
TR05, 06	0306071, 2	25C1313 (G, H)	1 A
VR01	1015110, 1	50kΩ (B) × 2	1 C
VR03	1015110, 1	50kΩ (B) × 2	1 B
VR05	1015110, 1	50kΩ (B) × 2	1 A

F-2605 Parts List

Parts No.	Stock No.	Description	Position
S01	1170340	Lever Switch	1 A
S02	1170340		1 C
S03	1170340		1 B

3-16. Figures of Semiconductors

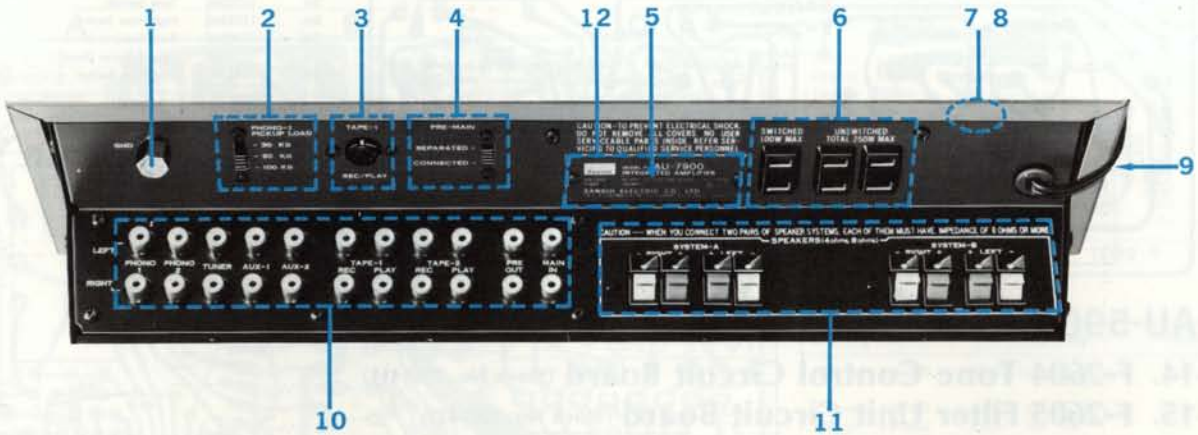
SEMICONDUCTORS	COMPLETE CIRCUIT BOARD	SEMICONDUCTORS	COMPLETE CIRCUIT BOARD	SEMICONDUCTORS	COMPLETE CIRCUIT BOARD	SEMICONDUCTORS	COMPLETE CIRCUIT BOARD
2SA733 2SA917 2SB560 2SC945 2SC12222 2SC1364 2SC1951 2SD438	F-2596 F-2599	2SB527 2SB537 2SD356 2SD357 2SD358	F-2596 F-2599	10D1 10D2	F-2596	SS3 SS5	F-2596
2SA726 2SC711 2SC1313	F-2596 F-2599 F-2606 F-2610 F-2611	2SA745 2SA808A 2SB541 2SB545 2SC1403 2SC1619A 2SD188A 2SD388A	F-2596 F-2599	VD1212	F-2596	SS3R SS5R	F-2596
2SB526	F-2599	2SA798	F-2596		F-2596	EQA01-13R RD-13E	F-2596 F-2599

● 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.C. : Polystyrene Capacitor
- E.C. : Tantalum Capacitor

3-17. Other Parts

(Back Side)



Parts List

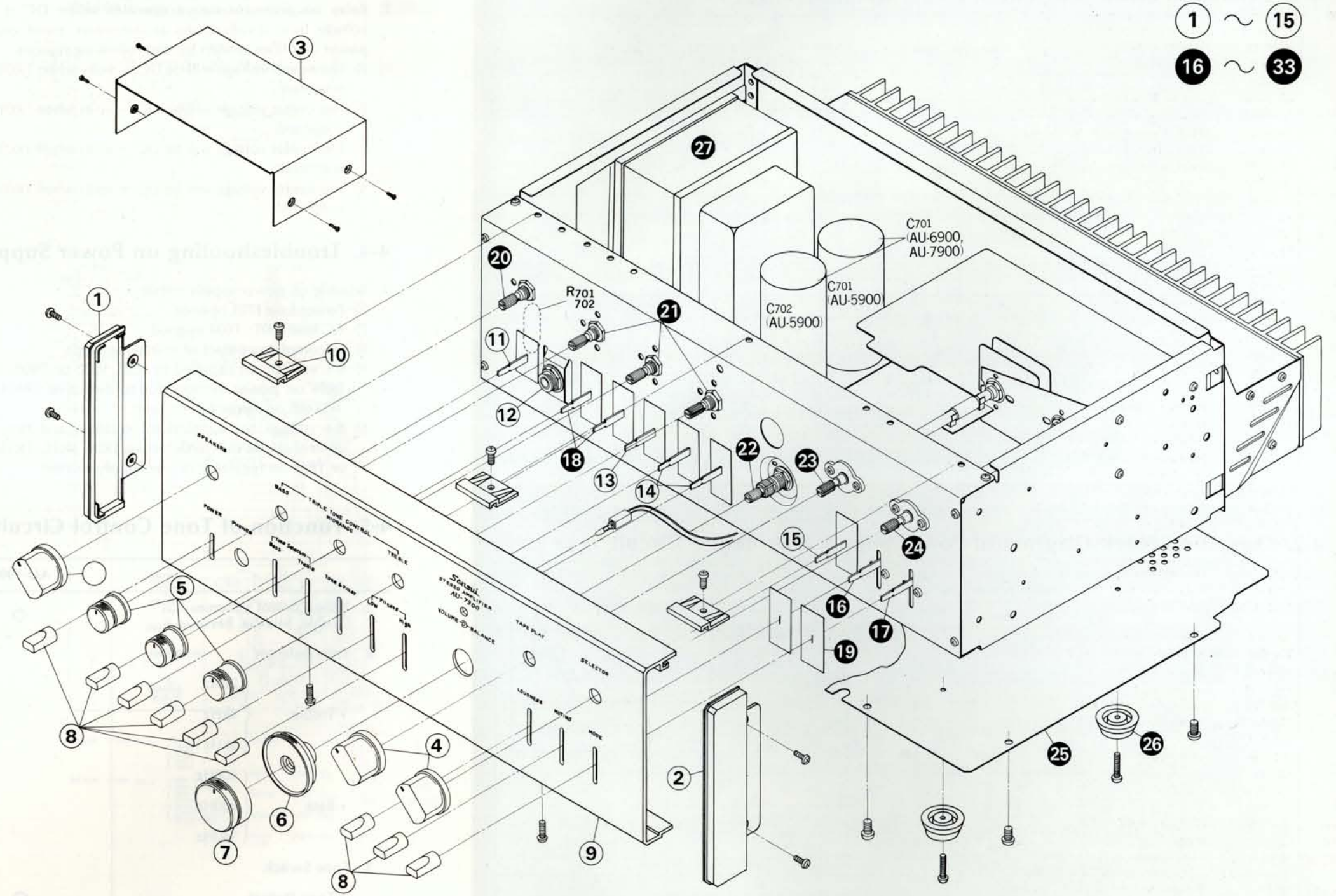
Parts No.	Stock No.	Description
1	2230051	Ground Terminal
2	1110290	Pick-up Load Switch
3	2090040	DIN Jack
4	1110280	PRE-MAIN Switch
5	{ 5388680 }	Name Plate
	{ 5388700 }	
	{ 5388720 }	
6	2450060	AC Outlet
7	2300060	Fuse Holder (Power Fuse)
8		Power Fuse

Parts No.	Stock No.	Description
	{ 0431260 }	3A 250V (AC 220~240V)
	{ 0431280 }	
	{ 0431260 }	
	{ 0431290 }	
	{ 0431270 }	
	{ 0431300 }	7A 250V (AC 100~117V)
	{ 0431300 }	
9	3800330	Power Cord
10	2430250	1 Pin Jack
11	2290160	Speaker Terminal
12	{ 2410091 }	Voltage Selector, Plug
	{ 2410081 }	

Parts List

Parts No.	Stock No.	Description	
1	5304450	Side Panel (left)	
2	5304460	Side Panel (right)	
3	5006550	Bonnet	
4	5318650	Selector Knob, E-11 Type	
5	5318640	Tone Control Knob, S-12 Type	
6	5318670	Balance Volume Knob, W0-9 Type	
7	8318660	Volume Knob, WIE-2	
8	5326520	Lever Switch Knob, E-3 Type	
9	7007290	Front Panel <AU-5900>	
	7007280		<AU-6900>
	7007270		<AU-7900>
9	0319090	Light Emitted Diode	
	5286731	Lever Guide 1	
	5286741	Lever Guide 2	
10	5269880	Panel Stopper	
11	1170330	Power Switch	
12	2430190	Head Phone Jack	
13	1170340	Tone Switch <AU-5900> <AU-6900>	
	1170500	Tone & Filter Switch <AU-7900>	
14	1170340	Filters Switch <AU-5900> <AU-6900>	
	1170490	Filters Switch <AU-7900>	
15	1170340	Loudness Switch <AU-5900> <AU-6900>	
	1170490	Loudness Switch <AU-7900>	
16	1170340	Muting Switch <AU-5900> <AU-6900>	
	1170490	Muting Switch <AU-7900>	
17	1170340	Mode Switch <AU-5900> <AU-6900>	
	1170500	Mode Switch <AU-7900>	
18	1170360	Tone Selector Switch <AU-6900>	
	1170490	Tone Selector Switch <AU-7900>	
19	5047460	Masking, Lever Switch <AU-5900>	
		<AU-6900>	
	5047470	Masking, Lever Switch <AU-7900>	
20	1101560, 1	Speaker Switch	
	1015110, 1	Tone Control Volume <AU-5900>	
		<AU-6900>	
21	1090060, 1	Tone Control Volume <AU-7900>	
22	1060321	Volume/Balance Volume, 250KM, NB x 2	
23	1102560, 1	Tape Play Switch	
24	1102550, 1	Selector Switch	
25	5058221	Bottom Plate <AU-5900>	
	5058241	Bottom Plate <AU-6900> <AU-7900>	
26	5516940	Leg	
27	4002140	Power Transformer <AU-5900>	
	4002110		<AU-6900>
	4002390		<AU-7900>
C701	0559370	10000µF 50V E.C. } <AU-5900>	
C702	0559370	10000µF 50V E.C. }	
C701(702)	0559516	15000µF x 2 63V E.C. (One set as a pair of C701, and C702) <AU-6900> <AU-7900>	
R701, 702	0155221	220Ω 2W C.R. <AU-5900> <AU-6900>	
R701, 702	0163221	220Ω 3W Ce.R. <AU-7900>	

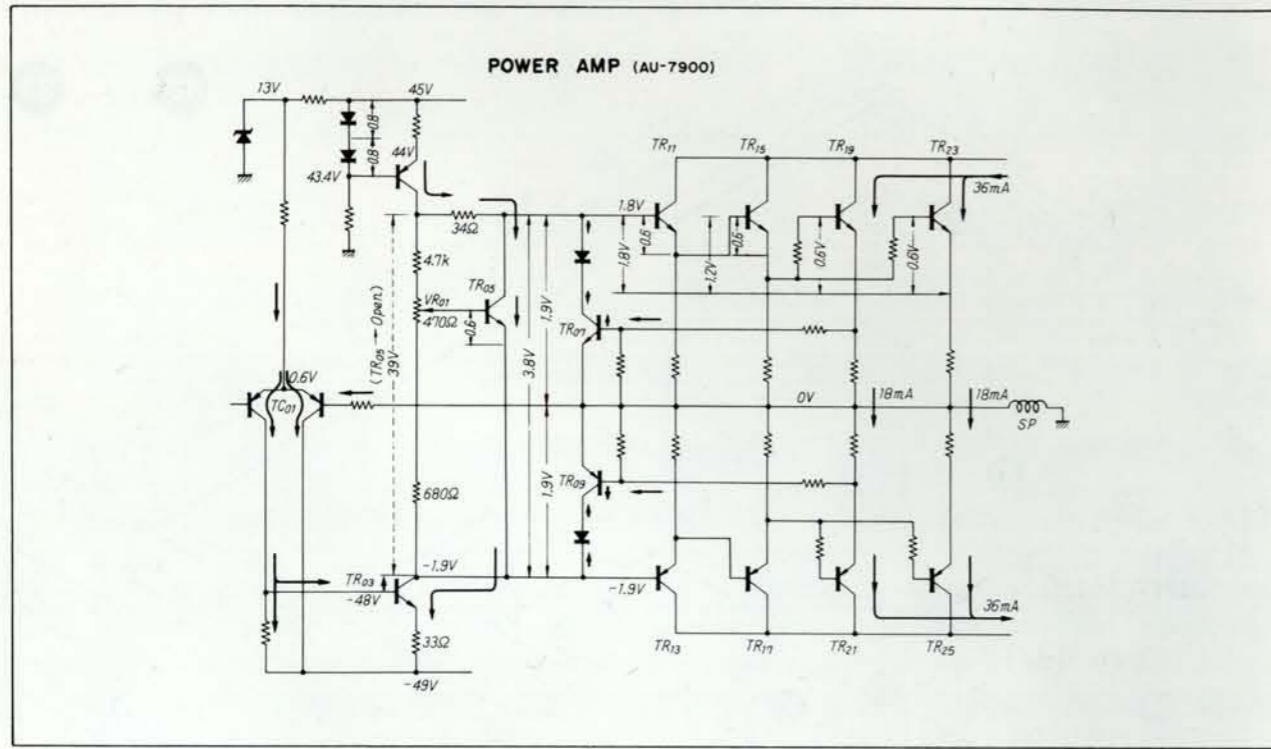
(Exploded View)



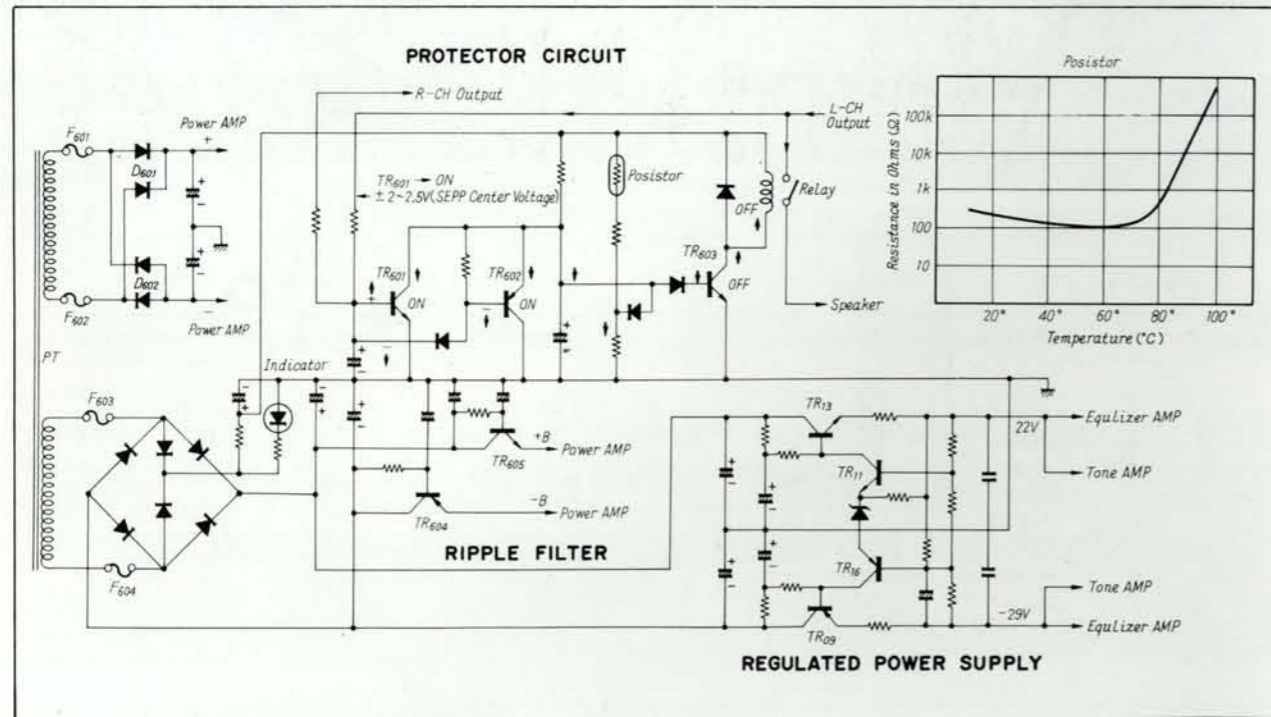
1 ~ 15
16 ~ 33

4. TROUBLESHOOTING CHART

4-1. Operation Block Diagram of Power Amplifier Fig.4-1



4-2. Operation Block Diagram of Power Supply & Protector Circuit Fig.4-2



4-3. Troubleshooting on Power Amplifier Section (See Fig. 4-1)

- Noise occurs due to defective IC01.
- Relay on protector circuit operates when DC \pm voltage from 0 volt occurs at the center point on power amplifier section by the following reasons.
 - The center voltage will be DC + volts when TR01 is shorted.
 - The center voltage will be DC - volts when TR01 is opened.
 - The center voltage will be DC - volts when TR03 is shorted.
 - The center voltage will be DC + volts when TR03 is opened.
- Bias voltage not supplied due to TR05 shorted.
- Bias voltages of TR11 and TR13 are close to $\pm 20V$ due to TR05 opened, then TR11~TR25 will be shorted.
- Power fuse blown out or relay operates due to TR11~TR25 shorted.
- TR06 or TR08 would be shorted due to TR11~TR25 shorted.
- Output signal waveform would be distorted due to unstable characteristics of TR06 or TR08 even if it is not shorted.

4-4. Troubleshooting on Power Supply and Protector Circuit (See Fig. 4-1)

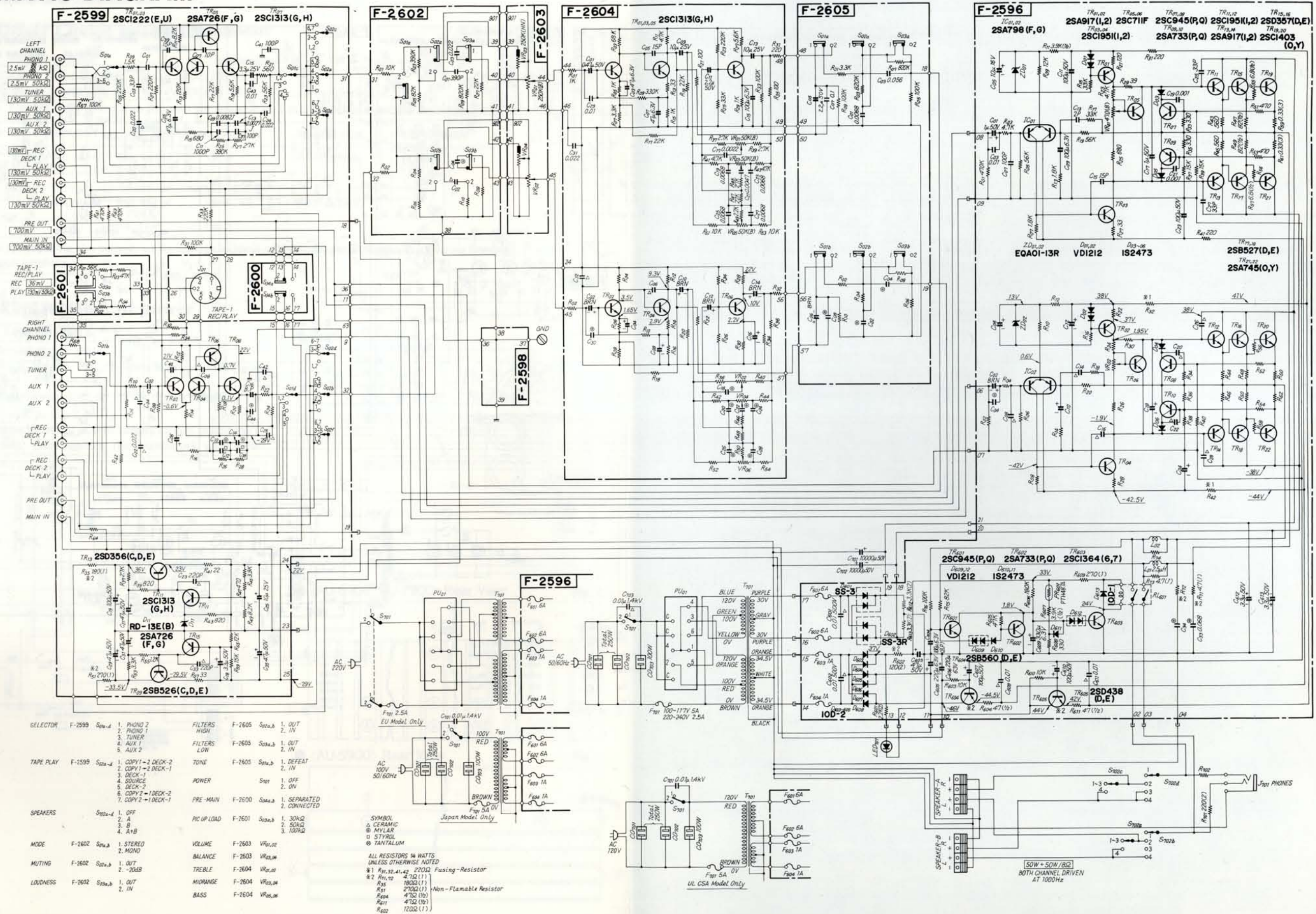
- Trouble on power supply circuit.
 - Power fuse F701 opened.
 - AC fuse F601~F604 opened.
 - Uncomplete contact of voltage selector.
 - B+ voltage not supplied to IC01, IC02 or TR01~TR04 on power section due to defective TR604~TR605 on ripple filter circuit.
 - B+ voltage not supplied to equalizer and tone control circuit due to defective TR09, TR11, TR13 or TR16 on regulated power supply section.
- B+ voltage not supplied to TR11~TR25 on power amplifier section due to defective D601 or D602.
- Troubles on protector circuit.
 - Relay, RL601, is not switched ON due to uncomplete contact of its point.
 - The relay does not operate even if DC voltage ($\pm 2 \sim \pm 2.5V$) occurs at center point on power amplifier section due to defective TR601~TR603.
 - The relay does not operate even if power transistors get heat due to defective posistor.

4-5. Function of Tone Control Circuit

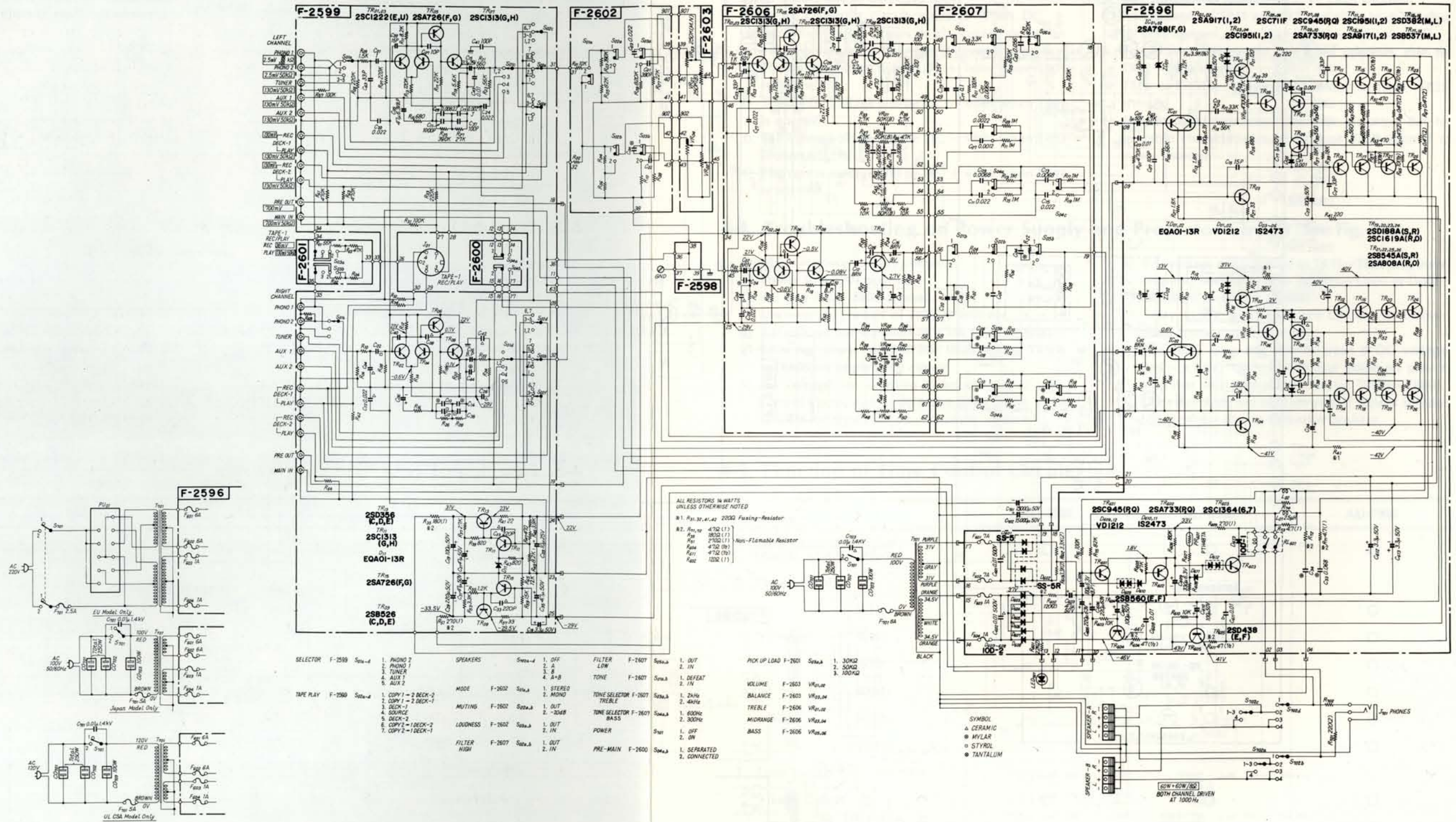
	AU-5900	AU-6900	AU-7900
1. Tone Control Volumes (Treble, Middle, Bass)	○	○	○
2. Tone Selector			
• Treble		○	○
• Bass		○	○
3. Tone Switch			
• Tone Defeat	○	○	○
• Filter Only			○
4. Low Filter	○	○	○
5. High Filter	○	○	○
6. Buffer AMP.			○

5. SCHEMATIC DIAGRAM /5-1. AU-5900

* La présentation et les spécifications sont susceptibles d'être modifiées sans préavis par suite d'améliorations éventuelles.
 * Änderungen, die dem technischen Fortschritt dienen, bleiben vorbehalten.
 * Design and specification subject to change without notice for improvements.

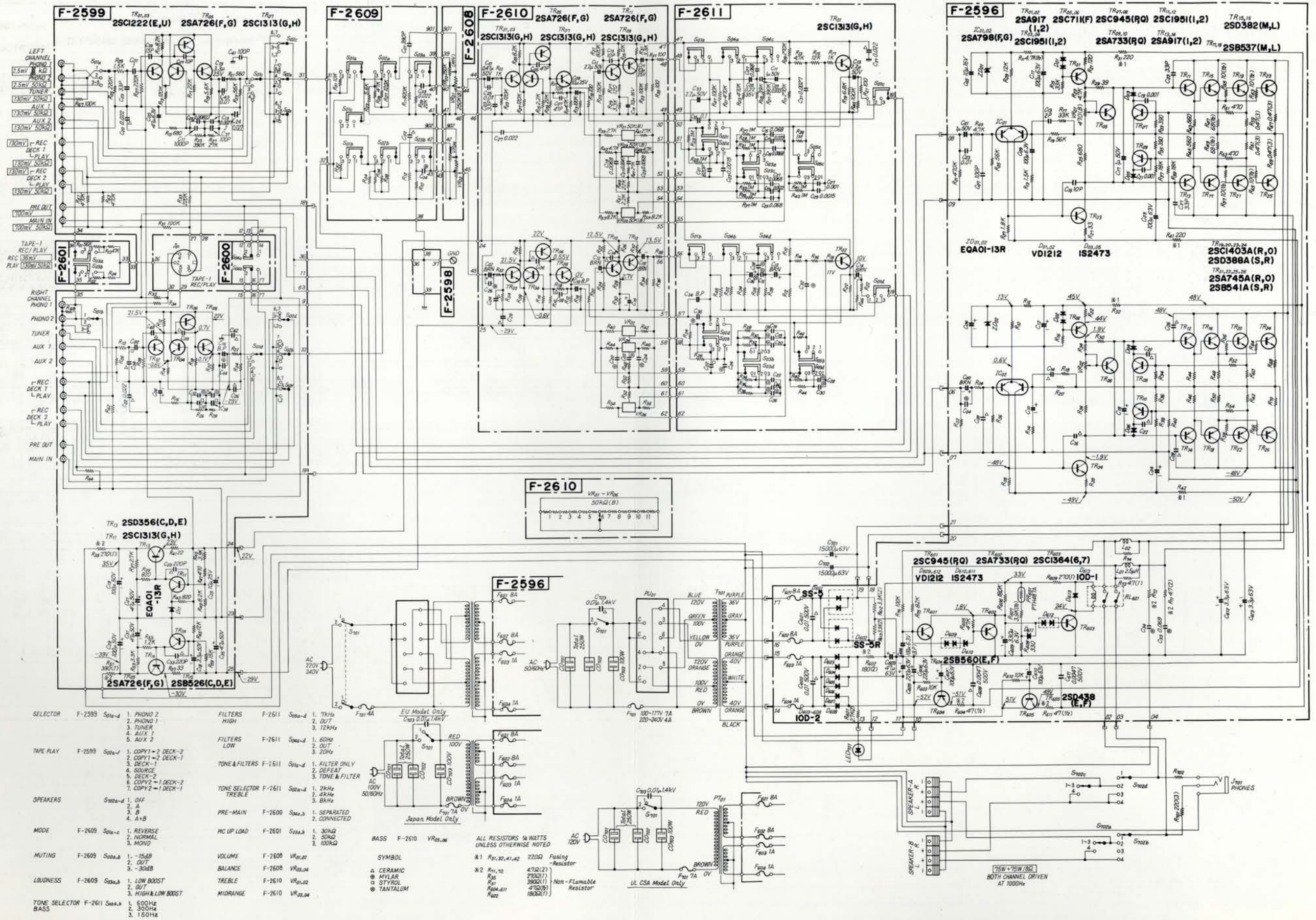


* La présentation et les spécifications sont susceptibles d'être modifiées sans préavis par suite d'améliorations éventuelles.
 * Änderungen, die dem technischen Fortschritt dienen, bleiben vorbehalten.
 * Design and specification subject to change without notice for improvements.



5-3. AU-7900

* La présentation et les spécifications sont susceptibles d'être modifiées sans préavis par suite d'améliorations éventuelles.
 * Änderungen, die dem technischen Fortschritt dienen, bleiben vorbehalten.
 * Design and specification subject to change without notice for improvements.



- | | | | |
|---------------|--------|----------------------------------|---|
| SELECTOR | F-2599 | Seta-d | 1. PHONO 2
2. PHONO 1
3. TUNER
4. AUX 1
5. AUX 2 |
| TAPE PLAY | F-2599 | Seta-d | 1. COPY1-2 DECK-2
2. COPY1-2 DECK-1
3. DECK-1
4. SOURCE
5. DECK-2
6. COPY2-1 DECK-2
7. COPY2-1 DECK-1 |
| SPEAKERS | Seta-d | 1. OFF
2. A
3. B
4. A+B | |
| MODE | F-2609 | Seta-c | 1. REVERSE
2. NORMAL
3. MONO |
| MUTING | F-2609 | Seta-b | 1. -15dB
2. OUT
3. -30dB |
| Loudness | F-2609 | Seta-b | 1. LOW BOOST
2. OUT
3. HIGH&LOW BOOST |
| TONE SELECTOR | F-2611 | Seta-b | 1. 600Hz
2. 300Hz
3. 150Hz |

- | | | | |
|----------------|--------|---------|---|
| FILTERS | F-2611 | Seta-d | 1. 1KHz
2. OUT
3. 12KHz |
| FILTERS | F-2611 | Seta-d | 1. 60Hz
2. OUT
3. 20Hz |
| TONE & FILTERS | F-2611 | Seta-d | 1. FILTER ONLY
2. DEFEAT
3. TONE & FILTER |
| TONE SELECTOR | F-2611 | Seta-d | 1. 2KHz
2. 4KHz
3. 8KHz |
| PRE-MAIN | F-2600 | Seta-b | 1. SEPARATED
2. CONNECTED |
| PC UP LOAD | F-2601 | Seta-b | 1. 30KΩ
2. 50KΩ
3. 100KΩ |
| VOLUME | F-2608 | VR01,02 | |
| BALANCE | F-2608 | VR03,04 | |
| TREBLE | F-2610 | VR01,02 | |
| MIDRANGE | F-2610 | VR03,04 | |

BASS F-2610 VR05,06
 ALL RESISTORS IN WATTS UNLESS OTHERWISE NOTED
 *1 R31,32,41,42 220Ω Fusing Resistor
 *2 R11,12 47Ω(2) 270Ω(1) 390Ω(1) 470Ω(1) 180Ω(1)
 Non-Flammable Resistor
 SYMBOL
 △ CERAMIC
 □ MYLAR
 ○ STYROL
 ⊗ TANTALUM

6. ADJUSTMENT

6-1. Driver Circuit Board Adjustment

- Note:** 1. Master Volume.....Minimum
 2. Room Temperature.....18°C~28°C
 3. Before this adjustment, turn VR01 and VR02 fully counterclockwise.
 4. For this adjustment, run the unit for more than 3 minutes after power is switched ON.

STEP	EQUIPMENT	MESURE OUTPUT	ADJUST	ADJUST FOR	CONDITION
L-CH Bias Current	DC Volt Merer	R59, R61 of F-2596 Fig. 1	VR01 Fig. 1	18mV ±1mV	
R-CH Bias Current	DC Volt Meter	R60, R62 of F-2596 Fig. 1	VR02 Fig. 1	18mV ±1mV	

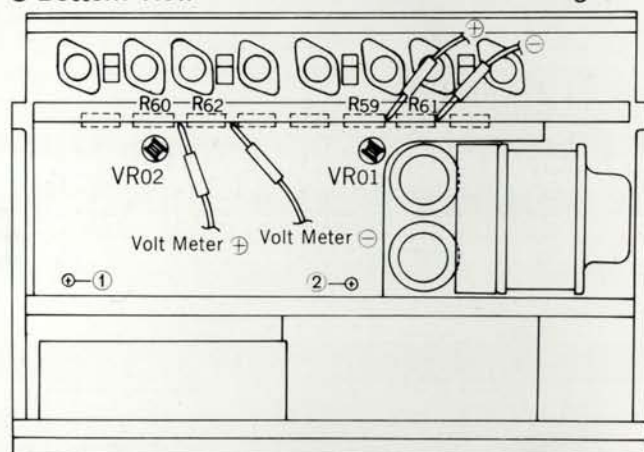
* Instead of measuring bias current, set the voltage to 18mV as Fig. 1, since there are no quick acting fuses on the power amplifier.

$$I_1 = \frac{V_1}{R_{59} + R_{61}}$$

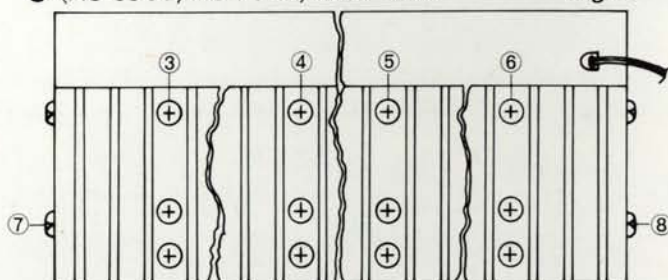
6-2. Replacement of power Transistors

1. Remove bottom plate.
2. Remove screws, ①, ② installing on F-2596 as Fig. 1.
3. Remove screws, ③, ④, ⑤, ⑥, ⑦, ⑧ installing on heat sink as Fig. 2 or Fig. 3.
4. Remove driver & power supply circuit board ass'y (F-2596), then replace the transistors with new ones.

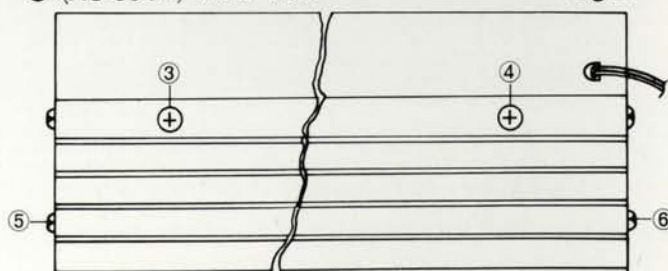
● Bottom View Fig. 1



● <AU-6900, AU-7900> Rear View Fig. 2

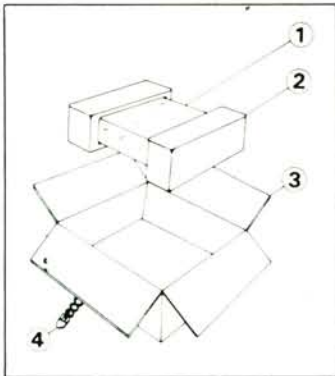


● <AU-5900> Rear View Fig. 3



7. PACKING LIST

Parts No.	Stock No.	Description
1	9116153	Vinyl Cover <AU-5900> <AU-6900>,<AU-7900>
	9116143	
2	9027810	Stylofoam Packing <AU-5900> <AU-6900>,<AU-7900>
	9027970	
3	9009140	Carton Case <AU-5900> <AU-6900> <AU-7900>
	9009080	
	9009160	
4	5996080	Carl Stopper



8. ACCESSORY PARTS LIST

Stock No.	Description
AU-5900 9209600	Operating Instruction
AU-6900 9209630	
AU-7900 9209580	
AU-5900 9237330	SD
AU-6900 9237360	
AU-7900 9237320	
5066250	Input Pin Cover
2410560	Pin Plug



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 TELEPHONE: (03) 323-1111/TELEX: 232-2076