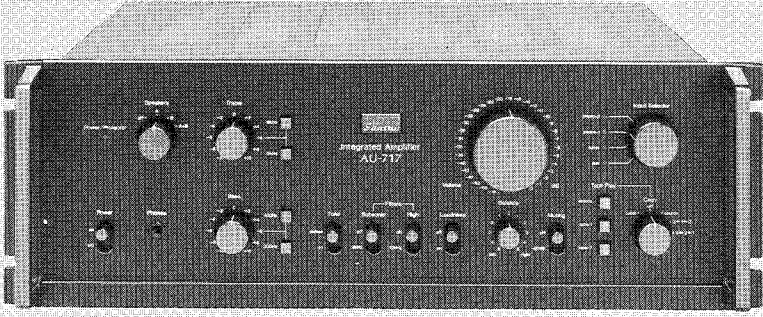


SERVICE MANUAL

INTEGRATED STEREO AMPLIFIER

SANSUI AU-517/717



SPECIFICATIONS

AU-517

- Power output**
Min. RMS, both channels driven, from 20 to 20,000 Hz, with no more than 0.025% total harmonic distortion
65 watts per channel into 8 ohms
- Load impedance** 8 ohms
- Power bandwidth** 20 to 20,000 Hz at or below rated min. RMS power output and total harmonic distortion
- Total harmonic distortion (POWER AMP IN)**
 less than 0.025% at or below rated min. RMS power output
- Intermodulation distortion (70 Hz:7 kHz = 4:1 SMPTE method)**
 less than 0.025%
- Frequency response (at 1 watt) (POWER AMP IN)**
 0 to 200,000 Hz +0 dB -3 dB
- RIAA curve deviation (PHONO)** +0.2 dB -0.2 dB (20 to 20,000 Hz)
- Damping factor** approximately 60 at 8 ohms load
- Input sensitivity and impedance (1 kHz, for rated power output)**
 PHONO 2.5 mV/47 kilohms (Max. input capability: 320 mV at 1 kHz, less than 0.01% harmonic distortion)
 AUX, TAPE 150 mV/47 kilohms
- Output level (1,000 Hz)**
 TAPE REC (pin jack) 150mV/47 kilohms
 PRE OUT 1V/47 kilohms
- Channel separation (1 kHz, at rated power output)**
 PHONO better than 60 dB
 AUX better than 65 dB
- Hum and noise (short-circuit, A-network)**
 PHONO 78 dB
 AUX 100 dB
- Controls**
 BASS +10 dB (50 Hz)
 TREBLE +10 dB (15 kHz)
 SUBSONIC FILTER -3 dB (16 Hz), 6 dB/oct
 LOUDNESS (-30 dB) 9 dB at 50 Hz
 7 dB at 10 kHz
- Power requirements**
 Power voltage 100, 120, 220, 240V (50/60Hz)
 120V (Usable 110 - 130V)
 60 Hz (for U.S.A. & Canada only)
- Power consumption**
 Maximum consumption 660 watts
 Rated consumption 345 watts 420 VA
- Dimensions** 430 mm (16-15/16") W
 168 mm (6-5/8") H
 389 mm (15-3/8") D
- Weight** 16.5 kg (36.4 lbs) net
 18.5 kg (40.8 lbs) packed

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



SANSUI ELECTRIC CO., LTD.

1. SPECIFICATIONS

AU-717

Power output

Min. RMS, both channels driven, from 20 to 20,000 Hz, with no more than 0.025% total harmonic distortion
85 watts per channel into 8 ohms

Load impedance 8 ohms

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

Total harmonic distortion (POWER AMP IN) less than 0.025% at or below rated min. RMS power output

Intermodulation distortion (70 Hz: 7 kHz = 4:1 SMPTE method) less than 0.025%

Frequency response (at 1 watt) (POWER AMP IN) 0 to 200,000 Hz +0 dB -3 dB

RIAA curve deviation (PHONO) +0.2 dB -0.2 dB (20 to 20,000 Hz)

Damping factor approximately 60 at 8 ohms load

Input sensitivity and impedance (1 kHz, for rated power output)

PHONO 2.5 mV/47 kilohms
(Max. input capability; 350 mV at 1 kHz, less than 0.01% total harmonic distortion)

AUX, TAPE 150 mV/47 kilohms

Output level (1,000 Hz)

TAPE REC (pin jack) 150 mV/47 kilohms

PRE OUT 1 V/47 kilohms

Channel separation (1 kHz, at rated power output)

PHONO better than 60 dB

AUX better than 65 dB

Hum and noise (short-circuit, A-network)

PHONO 78 dB

AUX 100 dB

Controls

BASS ±10 dB (50 Hz)

Tone selector 200, 400 Hz

TREBLE ±10 dB (15 kHz)

Tone selector 3, 6 kHz

SUBSONIC FILTER -3 dB (16 Hz), 6 dB/oct

HIGH FILTER -3 dB (10 kHz), 6 dB/oct

MUTING -20 dB

LOUDNESS (-30 dB) 9 dB at 50 Hz

7 dB at 10 kHz

Power requirements

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

Power consumption

Maximum consumption 735 watts

Rated consumption 425 watts 500 VA

Dimensions

430 mm (16-15/16") W

168 mm (6-5/8") H

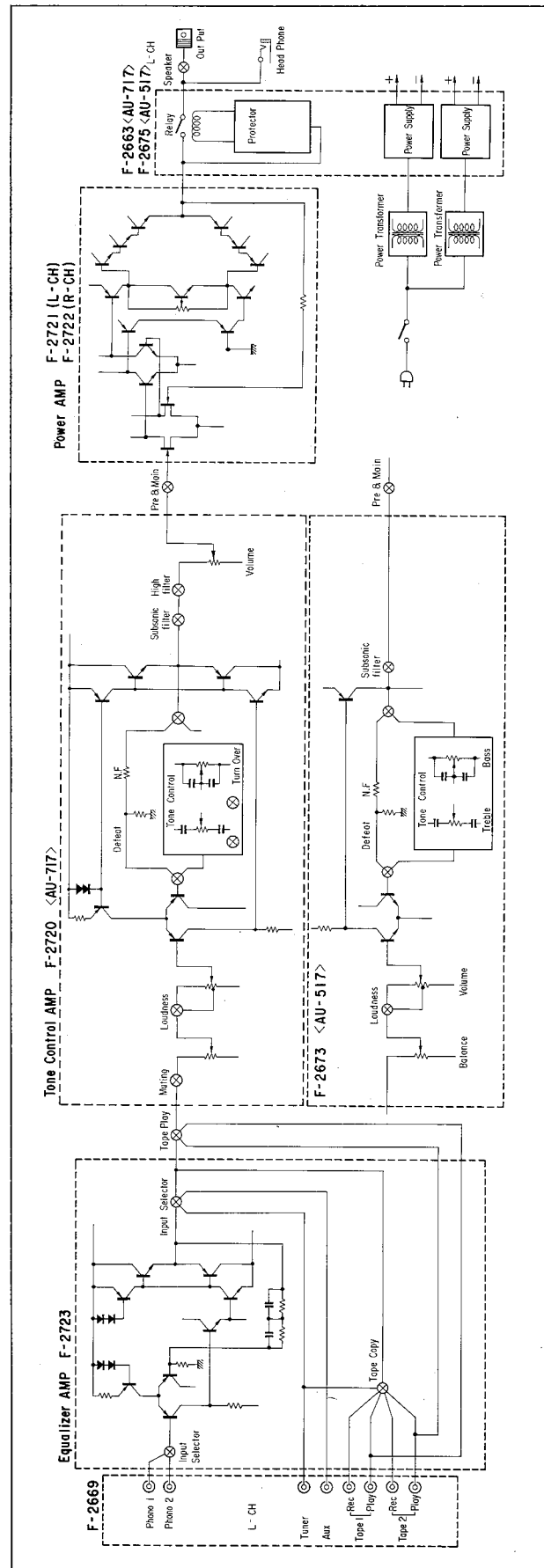
389 mm (15-3/8") D

Weight

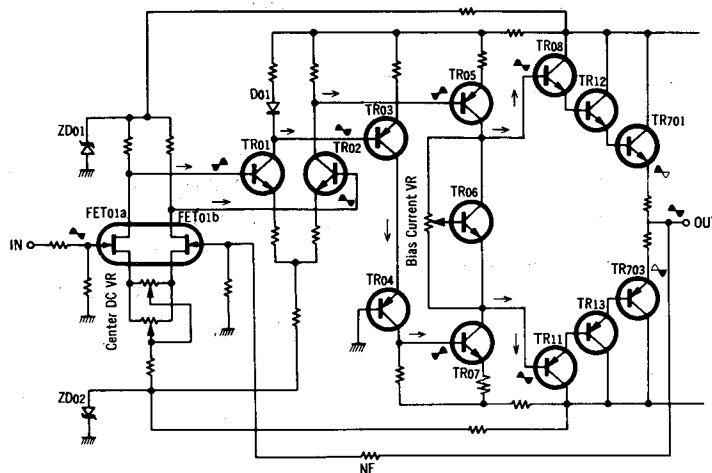
17.8 kg (39.2 lbs) net

19.8 kg (43.7 lbs) packed

2. BLOCK DIAGRAM



3. ADVANTAGE AND OPERATION OF POWER AMPLIFIER CIRCUITRY SECTION



3-1. Advantage

- ◇ There is necessity not to decrease the phase response till DC range in order to increase the music signal response of extremely low frequency range. Therefore, this amplifier is employing no capacitors except ones for phase compensation, and has an almost perfect transient characteristics.
- ◇ The first stage FET (2SK97) is a dual FET of even characteristics and has a large Gm and no-leakage current at normal temperature.
To avoid the influence by temperature drift, such as center voltage (0V) deviation, this FET is used as differential amplifier and operates at cross point which is the optimum point of drain current (at about 3mA) against the temperature drift.
- ◇ Transistors, TR05 and TR07, the push-pull pre-driver stage functions as current differential amplifier that the stabilized operation can be obtained. In addition, the collector current of these transistors is enough high to make linearity excellent.
- ◇ Since this Amplifier employs phase advancer circuits [C06, C08, C15, R29, C16 and R30], which have not been frequently used, to compensate the phase characteristics on high frequency range and is also made to have enough

current on each stage to increase the through-rate, the performance on high frequency range is conspicuously improved.

- ◇ To avoid the voltage deviation, regulated power supply circuit composed of ZD01, ZD02 is employed.

3-2. Operation

The use of differential amplification at first stage dual FET, (FET01, FET02) and connection of the FET to the differential amplifier composed of TR01, TR02, make possible to obtain enough gain and remarkable low distortion. The output signals of TR01 and TR02 are uniphase. The output signal of TR02 adds to TR05, on the other hand, the output phase of TR01 is inverted by TR03, then, it becomes input signal of TR04 and TR07 which are cascoded connection. The output signals at TR05 and TR07 are inphase that the operation of this stage is push-pull drive and current differential amplification. The power amplifier of the final stage is composed of SEPP (Single Ended Push-Pull) symmetry complementary in 3-stage darlington connection type. TR09 and TR10 are composing current limiter circuit to protect power transistor from break-down by overload.

4. ADJUSTMENTS

4-1. Driver Circuit Board Adjustments (See the picture of top view on page 3.)

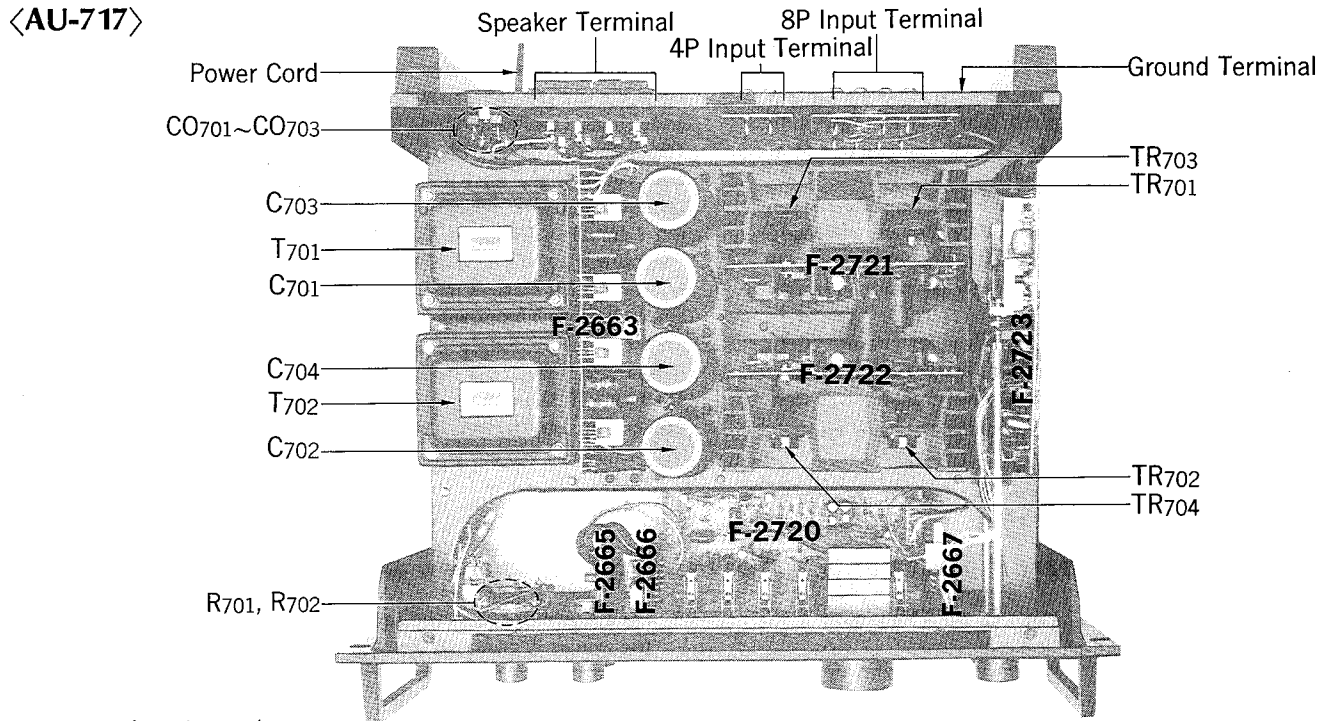
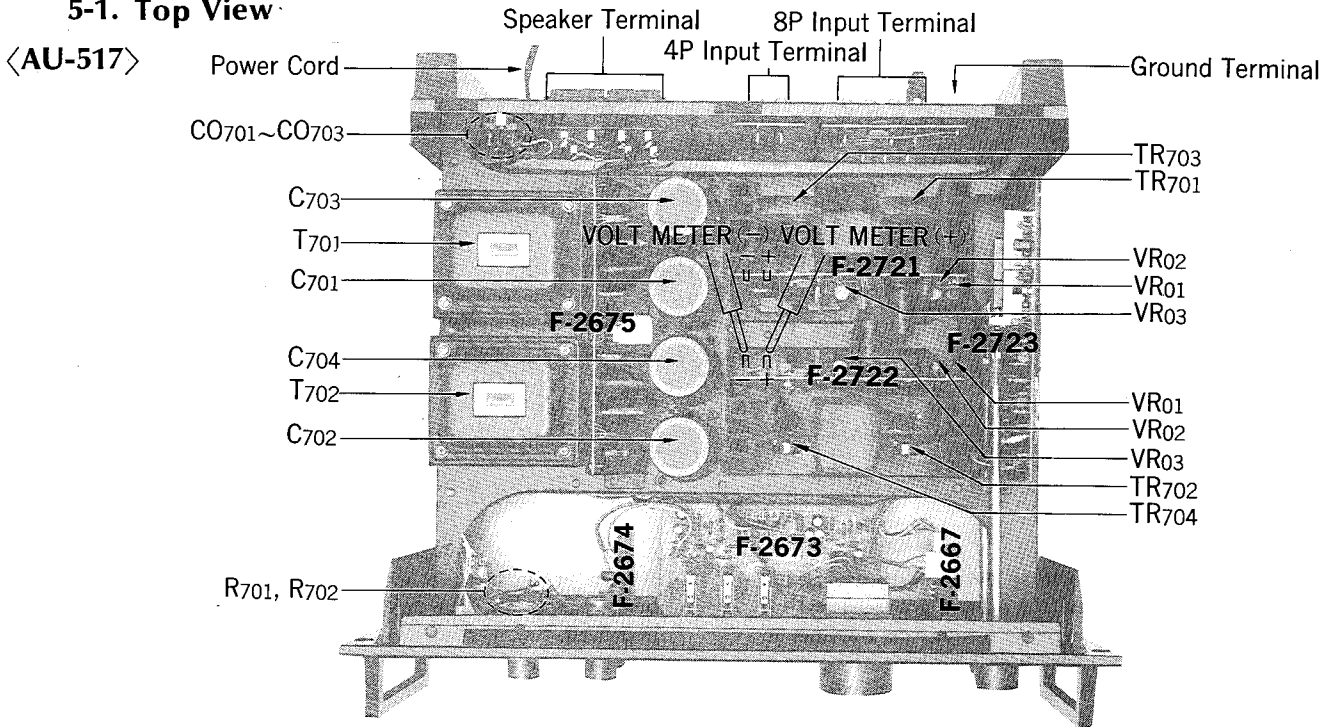
- Note: 1. Master Volume.....Minimum
2. Room Temperature.....

3. For adjustment, run the unit for more than 3 minutes after the power is switched on.

STEP	SUBJECT	EQUIPMENT	MEASURE OUTPUT	ADJUST	ADJUST FOR	CONDITION
1.	DC 0V L-CH	DC Volt Meter	Speaker Terminal	F-2721 VR01, VR02	DC 0V ±5mV	<ul style="list-style-type: none"> ◦ Set VR01 and VR02 to center position. ◦ Then, for the purpose of proceeding the accurate adjustment, set the voltage to 0 volt by VR01 first and VR02 next.
2.	DC 0V R-CH	Same as above	Same as above	F-2722 VR01, VR02	DC 0V ±5mV	
3.	Bias Current L-CH	Same as above	TP Terminal (+) (-) of F-2721	F-2721 VR03	DC 20mV ±1mV	<ul style="list-style-type: none"> ◦ By turning VR03 counterclockwise, the bias current is decreased gradually.
4.	Bias Current R-CH	Same as above	TP Terminal (+) (-) of F-2722	F-2722 VR03	DC 20mV ±1mV	

5. OTHER PARTS

5-1. Top View



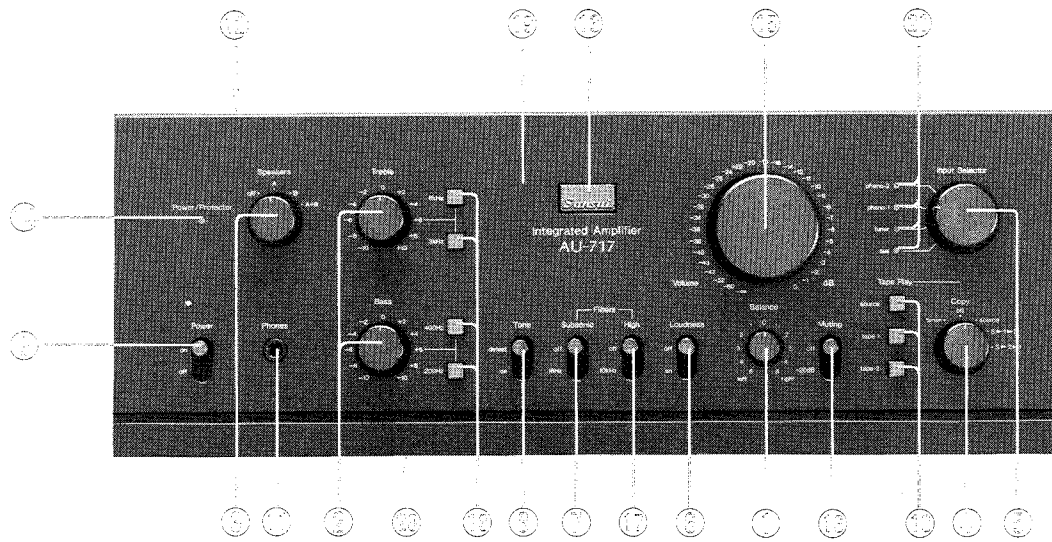
Parts List <AU-517/717>

Parts No.	Stock No.	Description
C705	0659801	0.01µF 150V M.C.
C707-714	0602109	1.0µF 100V M.C.
R701, 702	0202221	220Ω 2W N.I.R.
CO701-703	2450060	AC Outlet XX
	5066280	AC Outlet EU, BS
	2290190	Speaker Terminal
	3800010	Power Cord XX
	3800190	Power Cord EU
	3800320	Power Cord BS
	2300060	Power Fuse Holder XX
	2300090	Power Fuse Holder EU, BS
	2410091	Voltage Selector Plug XX
	2410830	Voltage Selector Socket XX

Parts No.	Stock No.	Description
	2411240	Voltage Selector SW EU, BS
	2230052	Ground Terminal
AU-517 Only		
TR701, 702	0306450-2	25C1403A R, O, Y } Transistor
TR703, 704	0300830-2	2SA745A R, O, Y }
C701-704	0559518	12000µF 63V E.C.
T701, 702	4002590	Power Transformer XX
	4002594	Power Transformer EU, BS
	4002592	Power Transformer UL, CSA
F701	0432270	3.5A 125V } Power Fuse XX
	0432500	7A 125V }
	0435140	2.5A Power Fuse EU, BS

Parts No.	Stock No.	Description
AU-717 Only		
TR701, 702	0305840-2	25C1116 R, O, Y } Transistor
TR703, 704	0300520-2	2SA747 R, O, Y }
C701-704	0559520	15000µF 63V E.C.
T701, 702	4002580	Power Transformer XX
	4002584	Power Transformer EU, BS
	4002582	Power Transformer UL, CSA
F701	0432290	5A 125V } Power Fuse XX
	0434060	10A 250V }
	0435150	3.15A Power Fuse EU, BS

5-2. Front View <AU-717>



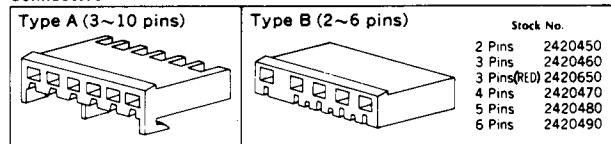
Parts List <AU-517/717>

Parts No.	Stock No.	Description	Parts No.	Stock No.	Description	Parts No.	Stock No.	Description
1	{ 5318850	N-7 Type Knob	10	{ 5326620	Push Switch Knob	6	{ 5326611	Lever Switch Knob
	{ 1015170, 1	250kΩ (MN) × 2 Balance Volume L=25 P=5		{ 5286721	Knob Guide		{ 1171130	Lever Switch, Loudnes
2	{ 5318840	K-7 Type Knob	11	{ 2430290	Push Switch, Tape Play	7	{ 5326611	Lever Switch Knob
	{ 1015230, 1	100kΩ (C) × 2 Treble, Bass Volume L=25 P=7		{ 5006670	Head Phone Jack		{ 1171130	Lever Switch, Subsonic Filter
3	{ 5318840	K-7 Type Knob	13	{ 5336600	Banner	15	{ 5318860	H-7 Type Knob
	{ 1101780, 1	Rotary Switch, Speakers		{ 0319110	Sansui Badge		{ 1090280	150kΩ × 2 5kΩ × 2 Volume L=25 P=9
4	{ 5318840	K-7 Type Knob	14	{ 5507070	Light Emittred Diode Leg	16	{ 5326611	Lever Switch Knob
	{ 1190410	Rotary Switch, Tape Copy					{ 1171120	Lever Switch, Muting
5	{ 5318830	1-7 Type Knob	AU-517 Only			17	{ 5326611	Lever Switch Knob
	{ 1190410	Rotary Switch, Input Selector	6	{ 5326611	Lever Switch, Loudnes		{ 1171130	Lever Switch, High Filter
8	{ 5326611	Lever Switch Knob	7	{ 5326611	Lever Switch Knob	18	{ 5326620	Push Switch, Subsonic Filter
	{ 1171150	Lever Switch, Tone Defeat		{ 1171120	Lever Switch, Subsonic Filter		{ 5286721	Knob Guide
9	{ 5326611	Lever Switch Knob	15	{ 5318860	H-7 Type Knob	19	{ 1131400	Push Switch, Turn Over
	{ 1171430	Lever Switch, Power		{ 1090250	150kΩ × 2 Volume L=25 P=7		{ 7007570	Front Panel Ass'y
	{ 1171610	Lever Switch, Power EU, BS		19	{ 7007580		Front Panel Ass'y	{ 5058730
			20	{ 5058740	Bottom Plate	21	{ 0319110	Light Emittred Diode

● Figures

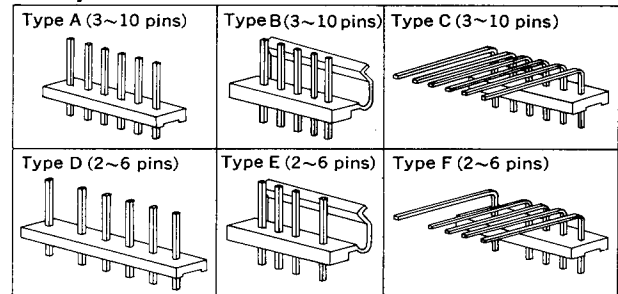
Connectors & Pin Ass'y

Connectors



NOTE: Since stock number of female connectors (type B) with wires are not shown in each parts list of Complete circuit board, please refer to the above parts list when ordering the connector.

Pin Ass'y



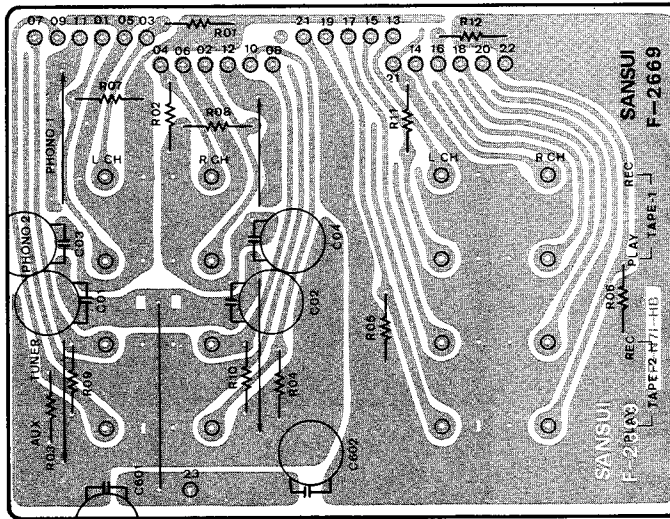
Abbreviations

C.R. : Carbon Resistor	E.C. : Electrolytic Capacitor
S.R. : Solid Resistor	BP.E.C. : Bi-Polar Electrolytic Capacitor
Ce.R. : Cement Resistor	C.C. : Ceramic Capacitor
M.R. : Metal Film Resistor	Mi.C. : Mica Capacitor
F.R. : Fusing Resistor	O.C. : Oil Capacitor
N.I.R. : Non-Inflammable Resistor	P.C. : Polystyrene Capacitor
M.C. : Mylar Capacitor	T.C. : Tantalum Capacitor

6. PARTS LOCATION & PARTS LIST

6-1. F-2669 Input Terminal Circuit Board (AU-517 Stock No. 7595201) (AU-717 Stock No. 7595171)

Conductor Side

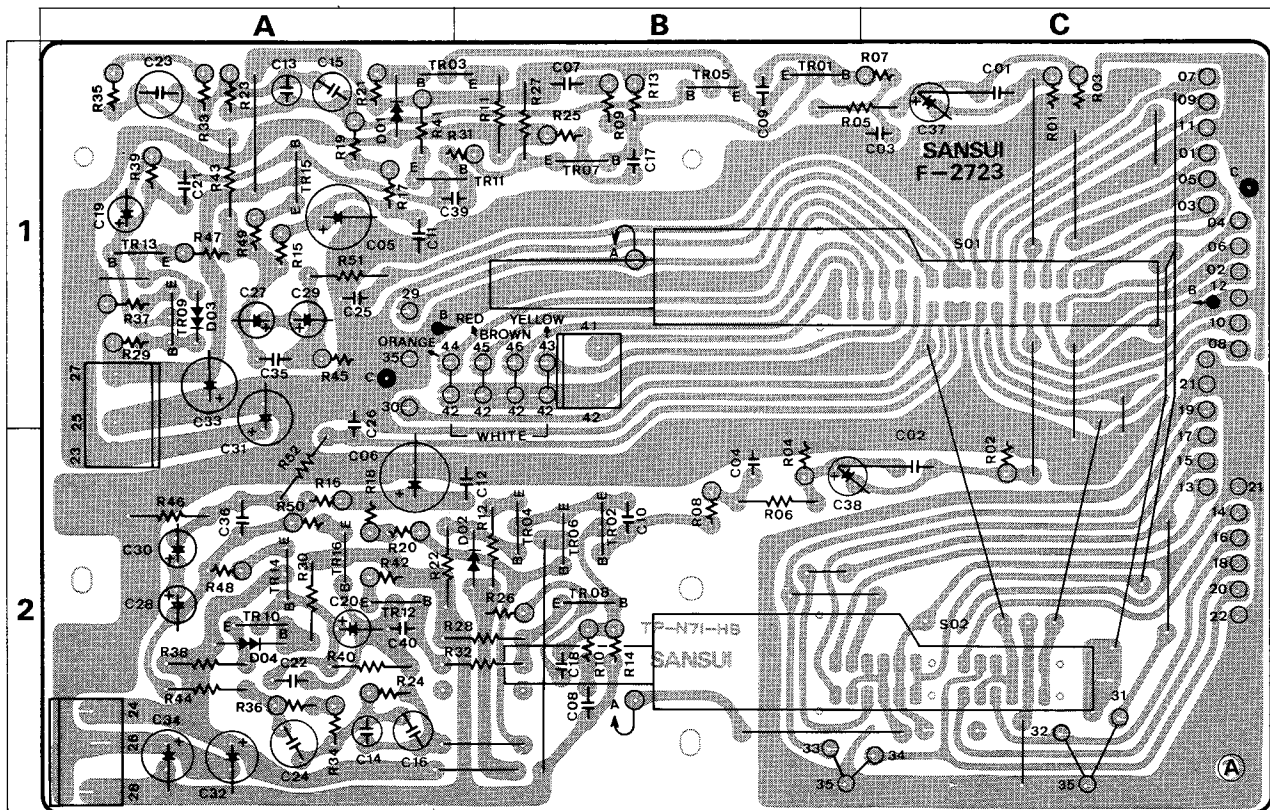


Parts List

Parts No.	Stock No.	Description
	2200480	8P Input Terminal

6-2. F-2723 Equalizer Circuit Board (AU-517 Stock No. 7551171) (AU-717 Stock No. 7551161)

Conductor Side



Parts List

Parts No.	Stock No.	Description	Position
TR01, 02	0300900, 1	2SA906 (G, H)	1 B, 2 B
TR03, 04	0300470, 1	2SA726(W) (F, G)	1 A, 2 B
TR05, 06	0300900, 1	2SA906 (G, H)	1 B, 2 B
TR07, 08	0306290, 1	2SC1400(1) (E, U)	1 B, 2 B
TR09, 10	0300890, 1	2SA750(3) (E, U)	1 A, 2 A
TR11, 12	0306290, 1	2SC1400(1) (E, U)	1 A, 2 A
TR13, 14	0306290, 1	2SC1400(1) (E, U)	1 A, 2 A
TR15, 16	0300890, 1	2SA750(3) (E, U)	1 A, 2 A
D01, 02	0340120	VD1212	1 A, 2 B
D03, 04	0340120	VD1212	1 A, 2 A

Parts No.	Stock No.	Description	Position
C01, 02	0602109	1.0µF 100V M.C.	1 C, 2 C
C07, 08	0620121	120pF	1 B, 2 B
C13, 14	0620151	150pF	1 A, 2 A
C15, 16	0625272	2700pF	1 A, 2 A
C23, 24	0625103	10000pF	1 A, 2 A
R17, 18	0231561	560Ω	1 A, 2 A
R19, 20	0231220	22Ω	1 A, 2 A
R23, 24	0231273	27kΩ	1 A, 2 A
R33, 34	0231153	15kΩ	1 A, 2 A
R35, 36	0231304	300kΩ	1 A, 2 A

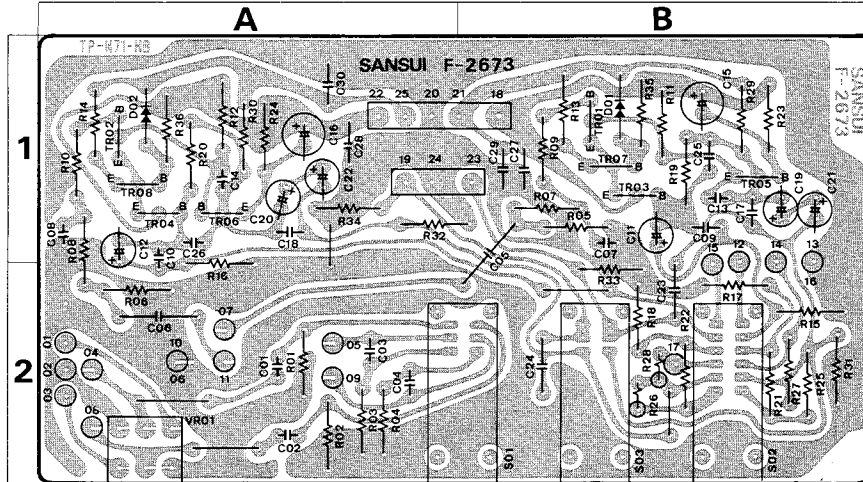
Parts No.	Stock No.	Description	Position
R47, 48	0193820	82Ω	1 A, 2 A
R49, 50	0193820	82Ω 1/4W F.R.	1 A, 2 A
S01	1190420	Input Rotary Switch	1 B, C
S02	1190410	Tape Copy Rotary Switch	2 B, C
	2410920	3P Pin Ass'y Type E	

AU-717 Only

	2410910	2P Pin Ass'y Type E
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6-3. F-2673 Tone Control Circuit Board (AU-517 Stock No. 7561841)

Conductor Side

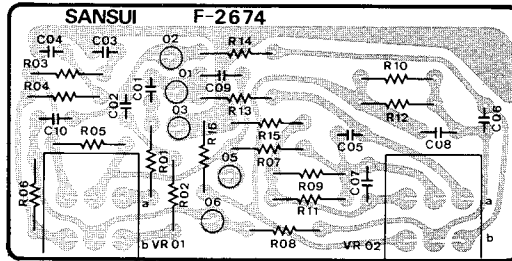


Parts List

Parts No.	Stock No.	Description	Position
TR01,02	0306010,1	2SC1222(2) (U, E)	1 B . 1 A
TR03,04	0306010,1	2SC1222(2) (U, E)	1 B . 1 A
TR05,06	0300890,1	2SA750(3) (E, U)	1 B . 1 A
TR07,08	0306010,1	2SC1222(2) (U, E)	1 B . 1 A
D01,02	0340120	VD1212 Varistor	1 B . 2 B
C01,02	0610361	360pF 50V P.C.	2 A
C05,06	0602338	0.33μF 100V M.C.	
VR01	1015170,1	250kΩ (MN) × 2 Balance VR	2 A
S01	1171120	Loudness Lever Switch	2 A , B
S02	1171150	Tone Defeat Lever Switch	2 B
S03	1171120	Subsonic Filter Lever Switch	2 B
	2410570	5P Pin Ass'y Type D	
	2410920	3P Pin Ass'y Type E	

6-4. F-2674 Bass & Treble Volume Circuit Board (AU-517 Stock No. 7561861)

Conductor Side

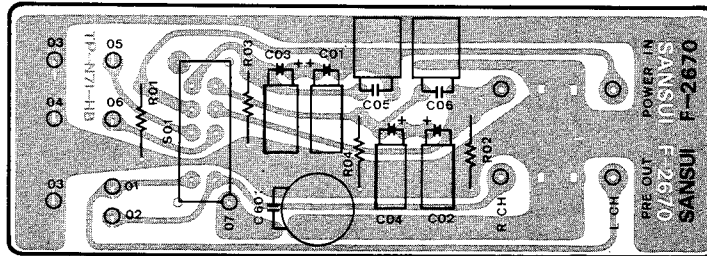


Parts List

Parts No.	Stock No.	Description
VR01,02	1015230,1	100kΩ (C) × 2 Treble, Bass Volume

6-5. F-2670 Pre-Main Switch Circuit Board (AU-517 Stock No. 7595211)
(AU-717 Stock No. 7595191)

Conductor Side

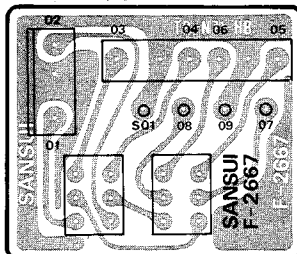


Parts List

Parts No.	Stock No.	Description
S01	1110290	PRE-MAIN Slide Switch
	2200500	4P Input terminal

6-6. F-2667 Tape Play Circuit Board (AU-517 Stock No. 7595181)
(AU-717 Stock No. 7595221)

Conductor Side

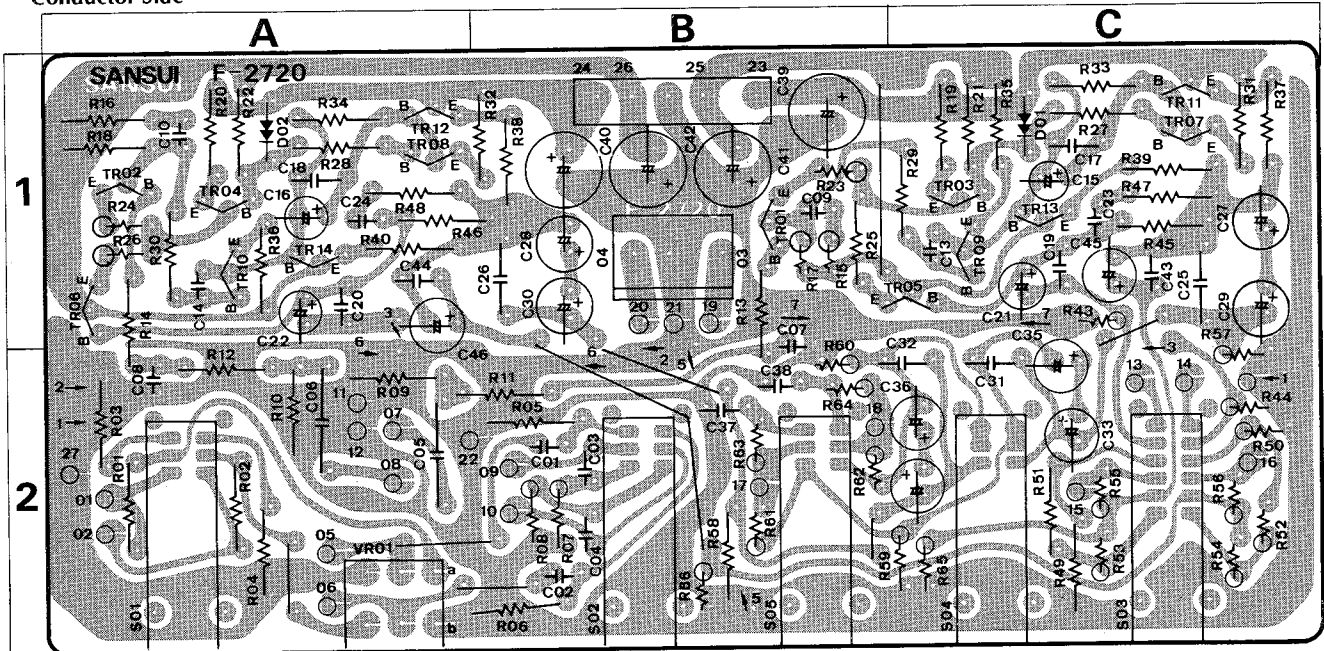


Parts List

Parts No.	Stock No.	Description
S01	1131400	Tape Push Switch
	2410700	6P Pin Ass'y Type F
	2410920	3P Pin Ass'y Type E

6-7. F-2720 Tone Control Circuit Board (AU-717 Stock No. 7561941)

Conductor Side



Parts List

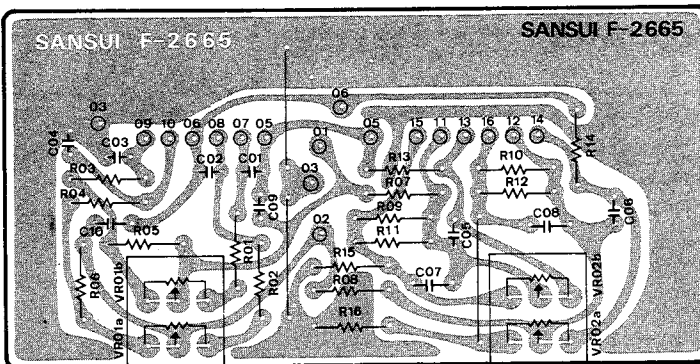
Parts No.	Stock No.	Description	Position
TR01,02	0360370-2	2SA798 (F, G, H)	1 B. 1 A
TR03,04	0300470,1	2SA726(W) (F, G)	1 C. 1 A
TR05,06	0306290,1	2SC1400(1) (E, U)	1 C. 1 A
TR07,08	0300890,1	2SA750(3) (E, U)	1 C. 1 A
TR09,10	0306290,1	2SC1400(1) (E, U)	1 C. 1 A
TR11,12	0306290,1	2SC1400(1) (E, U)	1 C. 1 A
TR13,14	0300890,1	2SA750(3) (E, U)	1 C. 1 A

Parts No.	Stock No.	Description	Position
D01,02	0340120	VD1212 Varistor	1 C. 1 A
C01,02	0420361	360pF 50V P.C.	2 B
C05,06	0602338	0.33μF 100WV M.C.	2 A
C09,10	0620121	120pF 50V P.C.	1 B. 1 A
R37,38	0191820	82Ω	1 C. 1 B
R39,40	0191820	82Ω 1/4W F.R.	1 C. 1 A
VR01	1015170,1	250kΩ(MN)×2 Balance VR	2 A

Parts No.	Stock No.	Description	Position
S01	1171130	Muting SW	2 A
S02	1171130	Loudness SW	2 B
S03	1171150	Tone Defeat SW	2 C
S04	1171130	Subsonic Filter SW	2 C
S05	1171130	High Filter SW	2 B
	2410570	5P Pin Ass'y Type D	
	2410920	3P Pin Ass'y Type E	

6-8. F-2665 Bass & Treble Volume Circuit Board (AU-717 Stock No. 7561851)

Conductor Side

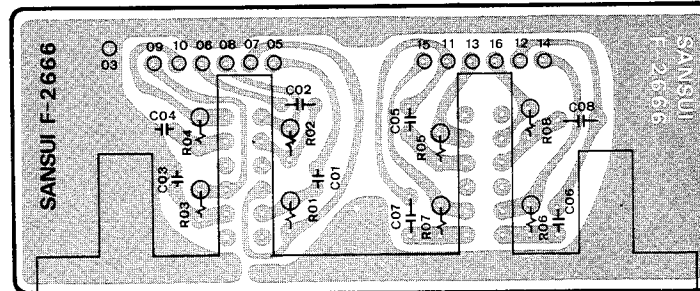


Parts List

Parts No.	Stock No.	Description
VR01,02	1015230,1	100kΩ (C)×2 Treble, Bass Volume

6-9. F-2666 Turn Over Switch Circuit Board (AU-717 Stock No. 7561871)

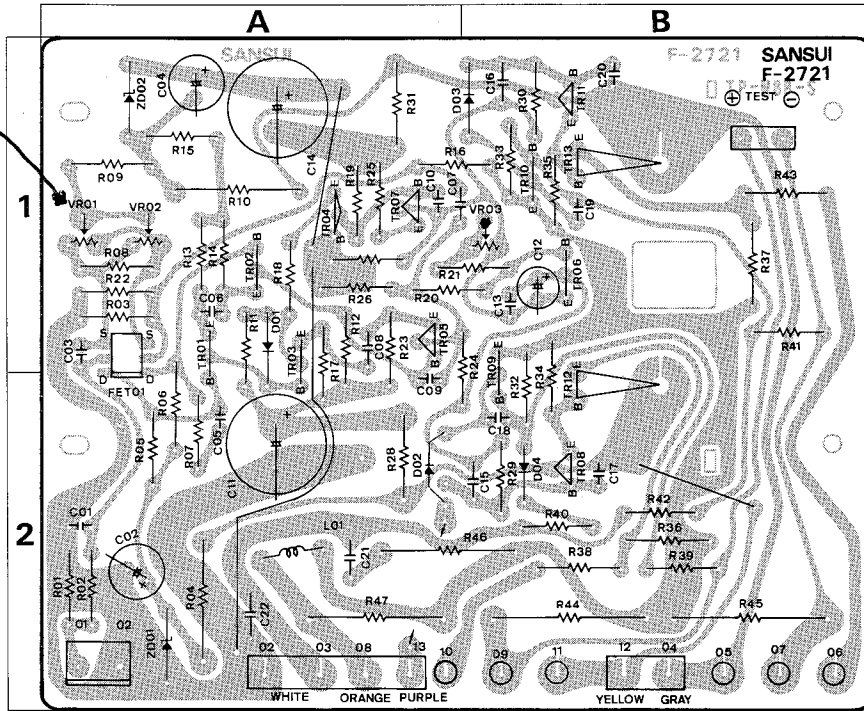
Conductor Side



Parts List

Parts No.	Stock No.	Description
S01	1131410	Turn Over Push SW

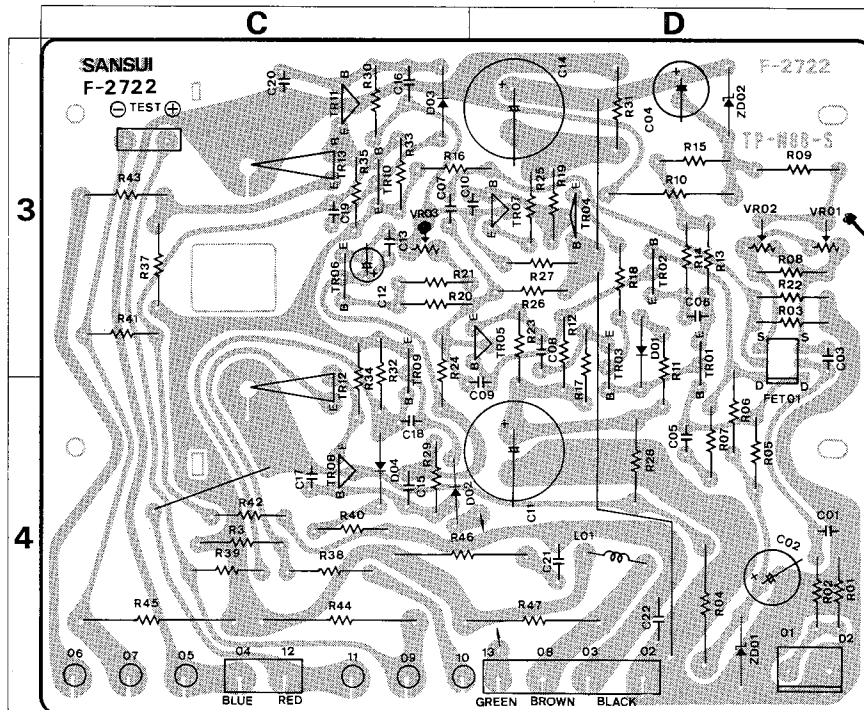
6-10. F-2721 Driver Circuit Board (L-CH) (AU-517 Stock No. 7571721)
 Conductor Side (AU-717 Stock No. 7571741)



Parts List

Parts No.	Stock No.	Description	Position
TR01	0306290.1	25C1400(1)(E, U)	1 A. 3 D
TR02	0306290.1	25C1400(1)(E, U)	1 A. 3 D
TR03	0300890.1	25A750(3) (E, U)	1 A. 3 D
TR04	0300890.1	25A750(3) (E, U)	1 A. 3 D
TR05	0300791.2	25A899 (B, V)	1 A. 3 D
TR06	0305951.2	25C945 (Q, P)	1 B. 3 C
TR07	0306401.2	25C1904 (B, V)	1 A. 3 D
TR08	0306401.2	25C1904 (B, V)	2 B. 4 C
TR09	0305951.2	25C945 (Q, P)	1,2B.3,4C
TR11	0300791.2	25A899 (B, V)	1 B. 3 C
TR12	0308441-3	25D382 (M, L, K)	2 B. 4 C
TR13	0303271.2	25B537 (M, L, K)	1 B. 3 C
FT01	0370251.2	25K97 FET	
D01	0311160	152473D	1 A. 3 D
D02	0311160	152473D	2 A. 4 C
D03	0311160	152473D	1 B. 3 C
D04	{0311160 0311180}	152473D	2 B. 4 C
ZD01	0316170	EQB01-22	2 A. 4 D
ZD02	0316170	EQB01-22	1 A. 3 D
C01	0620101	100pF	2 A. 4 D
C05	0620331	330pF	2 A. 4 D
C07	0669505	5pF	1 B. 3 C
R04	0202222	2.2kΩ	2 W N.I.R.
R05	0231332	3.3kΩ	1/2 W M.R.
R06	0231332	3.3kΩ	1/2 W M.R.
R09	0103992	3.9kΩ	1/2 W C.R.
R10	0202152	1.5kΩ	2 W N.I.R.
R28	0210470	47Ω	1/2 W N.I.R.
R31	0210470	47Ω	1/2 W N.I.R.
R36	0103560	56Ω	2 B. 4 C
R37	0103560	56Ω	1 B. 3 C
R38	0103479	4.7Ω	1/2 W C.R.
R43	0103479	4.7Ω	1 B. 3 C
R44	0135338	0.33Ω	5 W Co.R.
R45	0135338	0.33Ω	2 B. 4 C
R46	0202100	10Ω	2 W N.I.R.
R47	0132229	2.2Ω	2 W Co.R.

6-11. F-2722 Driver Circuit Board (R-ch) (AU-517 Stock No. 7571731)
 Conductor Side (AU-717 Stock No. 7571751)



AU-517 Only

R03	0107102	1kΩ	1/2 W C.R.	1 A. 3 D
R16	0107223	22kΩ	1/2 W C.R.	1A.B.3C.D
R28	0210560	56Ω	1/2 W N.I.R.	2 A. 4 D
R31	0210560	56Ω	1/2 W N.I.R.	1 A. 3 D

AU-717 Only

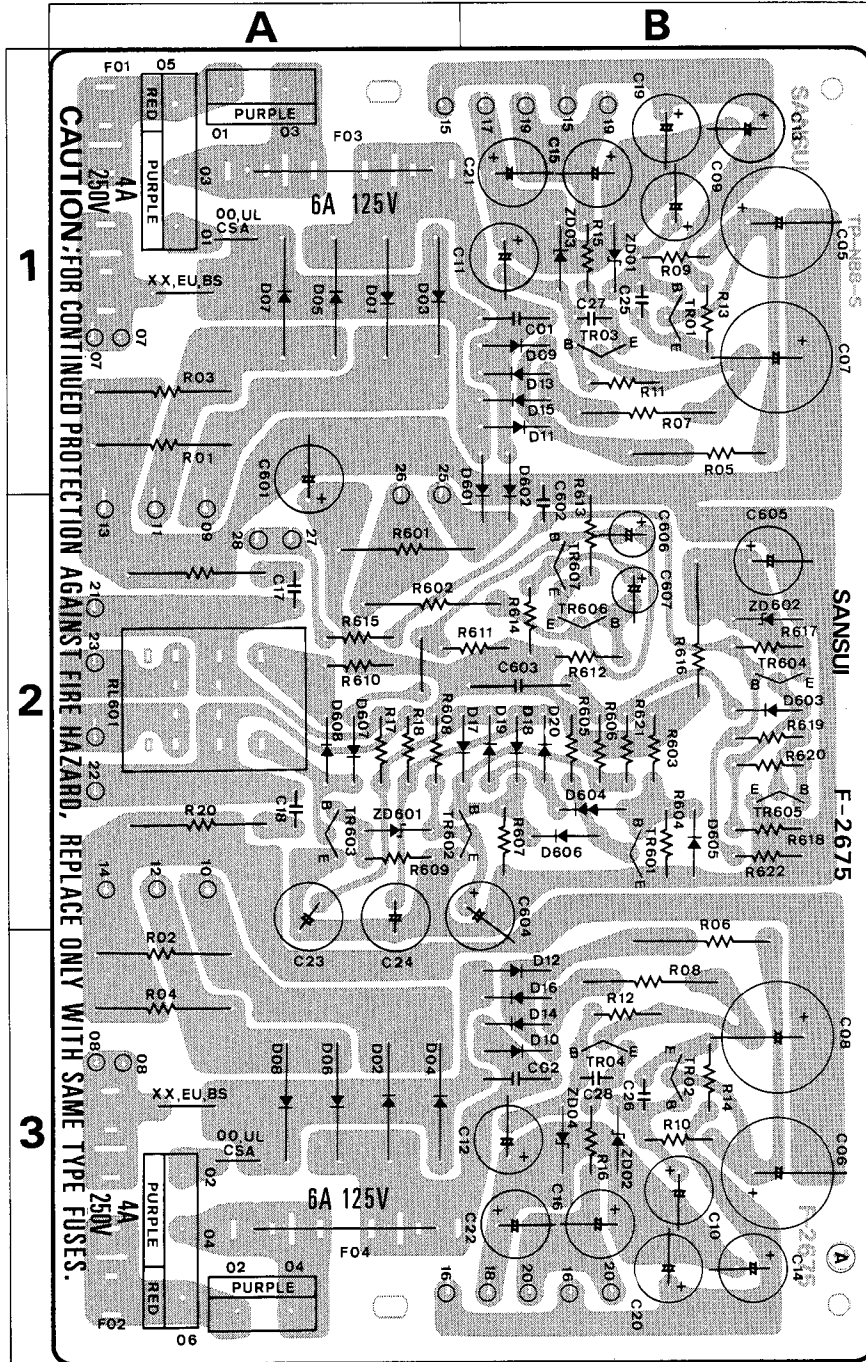
R03	0107122	1.2kΩ		1 A. 3 D
R16	0107273	27kΩ	1/2 W C.R.	1A.B.3C.D
R22	0107103	10kΩ		1 A. 3 D
R28	0210470	47Ω	1/2 W N.I.R.	2 A. 4 D
R31	0210470	47Ω	1/2 W N.I.R.	1 A. 3 D

0 VOLT

0 VOLTAGE

6-12. F-2675 Power Supply & Protector Circuit Board (AU-517 Stock No. 7502331)

Conductor Side

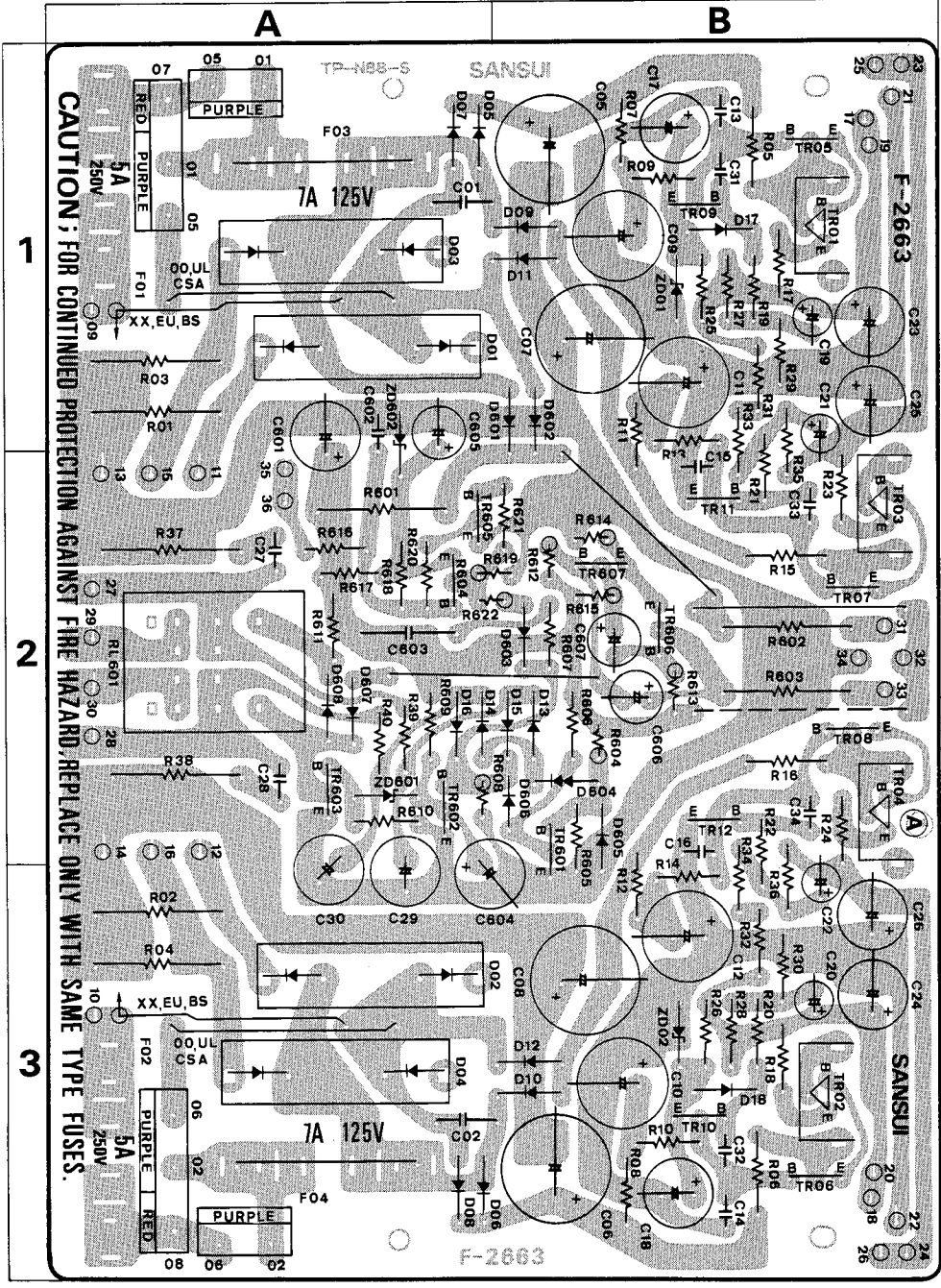


Parts List

Parts No.	Stock No.	Description	Position	Parts No.	Stock No.	Description	Position	Parts No.	Stock No.	Description	Position
TR01, 02	0308521, 2	25D438 (E, F)	1 B . 3 B	D17-18	0311160	1S2473D	2 B	C603	0602338	0.33μF 100WV M.C.	2 B
TR03, 04	0303361, 2	25B560 (E, F)	1 B . 3 B		0311180	1S1588		R01, 02	0202272	2.7kΩ	1 A . 3 A
TR601	0305951, 2	25C945 (Q, P)	2 B		0311160	1S2473D	2 B	R03, 04	0202272	2.7kΩ	1 A . 3 A
TR602	0305951, 2	25C945 (Q, P)	2 B	D19-20	0311180	1S1588	2 B	R05, 06	0210101	100Ω	2 B . 3 B
TR603	0305951, 2	25C945 (Q, P)	2 A	D601	0310350	10D2 (1S2227)	2 A	R07, 08	0210101	100Ω	1 B . 3 B
TR604	0300510, 1	25A733 (P, Q)	2 B	D602	0310350	10D2 (1S2227)	2 A	R19, 20	0202100	10Ω	2 A
TR605	0305951, 2	25C945 (Q, P)	2 B	D603	0311160	1S2473D	2 B	R601	0202391	390Ω	2 B
TR606	0305951, 2	25C945 (Q, P)	2 B	D604	0340120	VD1212 Varistor	2 B	R602	0202222	2.2kΩ	2 B
TR607	0305951, 2	25C945 (Q, P)	2 B	D605	0311160	1S2473D	2 B	R616	0210472	4.7kΩ ½W N.I.R.	2 B
D01, 02	0311530	30D2	1 A . 3 A	D606	0311160	1S2473D	2 B	RL601	1150250	Relay	2 A
D03, 04	0311530	30D2	2 A	D607	0311160	1S2473D	2 B		1150370	Relay	2 A
D05, 06	0311530	30D2	1 A . 3 A	D608	0310340	10D1 (1S2226)	2 A	F01, 02	0435160	4A 125V Power fuse UL, CSA	1 B . 3 B
D07, 08	0311530	30D2	1 A . 3 A	ZD01, 02	0316570	RD33E (B)	1 B . 3 B		0432300	6A 125V AC fuse XX	1 B . 3 B
D09, 10	0310350	10D2 (1S2227)	1 B . 3 B	ZD03, 04	0316570	RD33E (B)	1 B . 3 B		0435160	4A-T AC fuse EU, BS	
D11, 12	0310350	10D2 (1S2227)	1 B . 3 B	ZD601	0315760	EQA01-06R	2 B		2310220	Fuse Holder XX	
D13, 14	0310350	10D2 (1S2227)	1 B . 3 B	ZD602	0316390	RD6.2E (B)	2 B		2310230	Fuse Holder EU, BS	
D15, 16	0310350	10D2 (1S2227)	3 B . 3 B	C01-02	0655103	10000pF 500V C.C.	1 B . 3 B				

6-13. F-2663 Power Supply & Protector Circuit Board (AU-717 Stock No. 7502321)

Conductor Side

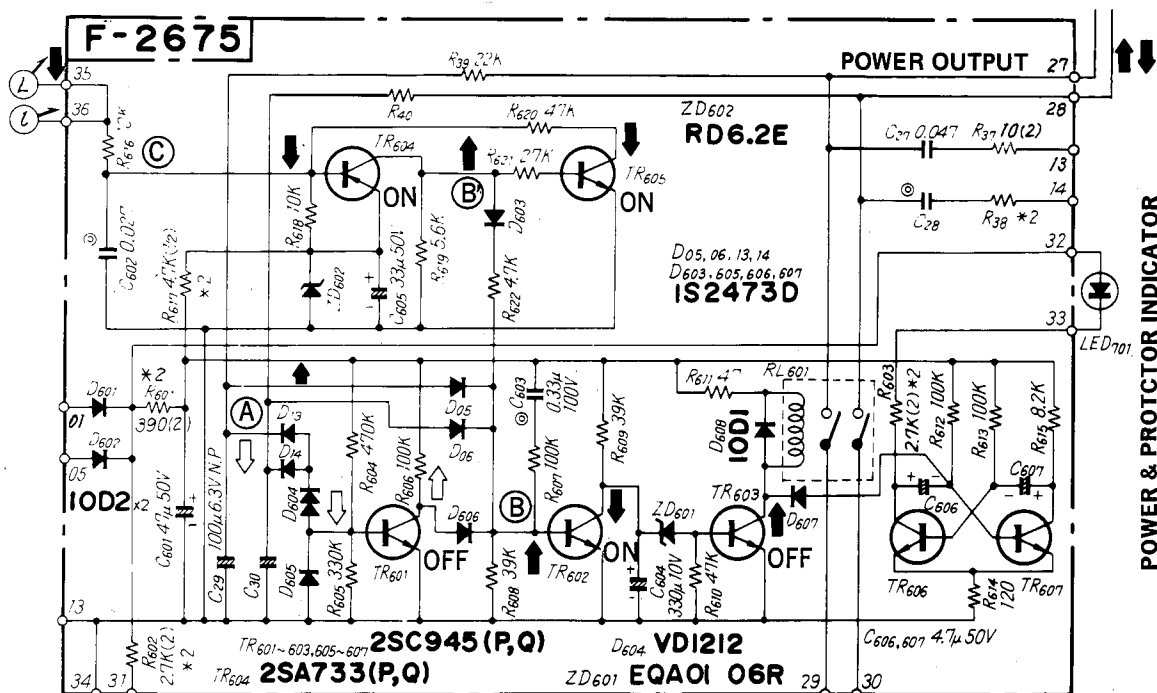


Parts List

Parts No.	Stock No.	Description	Position	Parts No.	Stock No.	Description	Position	Parts No.	Stock No.	Description	Position
TR01, 02	0308451, 2	2SD356 (D, E)	1 B, 3 B	D13-14	0311160	1S2473D	1 B, 1 A	C01, 02	0655103	10000pF	1 A, 3 A
TR03, 04	0303281, 2	2SB526 (D, E)	2 B		0311180	1S1588	Diode	C03, 04	0655103	10000pF	1 A, 3 A
TR05, 06	0306270, 1	2SC1708 (E, U)	1 B, 3 B	D15-16	0311160	1S2473D	1 B, 1 A	C603	0602338	0.33µF	100WV M.C.
TR07, 08	0300710, 1	2SA847(I)(F, G)	2 B		0311180	1S1588	1 B, 1 A	R01, 02	0202332	3.3kΩ	2 W N.I.R.
TR09, 10	0306270, 1	2SC1708 (F, G)	1 B, 3 B	D17-18	0311160	1S2473D	1 B, 3 B	R03, 04	0202332	3.3kΩ	2 W N.I.R.
TR11, 12	0300710, 1	2SA847 (F, G)	2 B		0311180	1S1588	1 B, 3 B	R05, 06	0210101	100Ω	1/2 W N.I.R.
TR601	0305951, 2	2SC945 (Q, P)	2 B	D601	0310350	10D2 (1S2227)	2 A	R15, 16	0210101	100Ω	1/2 W N.I.R.
TR602	0305951, 2	2SC945 (Q, P)	2 A	D602	0310350	10D2 (1S2227)	2 A	R37, 38	0202100	10Ω	2 A
TR603	0305951, 2	2SC945 (Q, P)	2 A	D603	0311160	1S2473D	2 B	R601	0202391	390Ω	2 B
TR604	0300510, 1	2SA733 (P, Q)	2 A	D604	0340120	VD1212	Varistor	R602	0202272	2.7kΩ	2 W N.I.R.
TR605	0305951, 2	2SC945 (Q, P)	2 A	D605	0311160	1S2473D	2 B	R603	0202272	2.7kΩ	2 B
TR606	0305951, 2	2SC945 (Q, P)	1 B	D606	0311160	1S2473D	2 B	R617	0210472	4.7kΩ	1/2 W N.I.R.
TR607	0305951, 2	2SC945 (Q, P)	1 B	D607	0311160	1S2473D	2 B	RL601	1150250	Relay	2 A
				D608	0310340	10D1 (1S2226)	2 A		1150370	Relay	2 A
D01, 02	0311290	SS-3	1 A, 3 A	D609	0340120	VD1212	Varistor	F01, 02	0432290	5A 125V Power fuse UL, CSA	1 A, 3 A
D03, 04	0311300	SS-3R	1 A, 3 A	D610	0340120	VD1212	Varistor	F01-04	0432500	7A 125V AC fuse XX	1 A, 3 B
D05, 06	0310350	10D2 (1S2227)	1 A, 3 A	ZD01, 02	0316310	RD-13E (B)	Zener Diode		0435170	5A-T AC fuse EU, BS	
D07, 08	0310350	10D2 (1S2227)	1 A, 3 A		ZD01	0315760	EA01-06R		2310220	Fuse Holder XX	
D09, 10	0310350	10D2 (1S2227)	1 A, 3 A		ZD02	0316390	RD-6.2E (B)		2310230	Fuse Holder EU, BS	
D11, 12	0310350	10D2 (1S2227)	1 A, 3 A								

8. OPERATION OF PROTECTOR CIRCUIT

This protector circuit contains two functions at abnormal condition; a speaker protector circuit against DC voltage appearing at output, and speaker protector circuit against over-current.



A. Speaker Protection Circuit against DC voltage appearing at output (A)

1. When an abnormal negative voltage appears at output (A), TR601 turns off, TR602 turns on and TR603 turns off so that the relay, RL601, keeps off in order to protect loudspeakers from break-down.
2. While the relay, RL601, keeps OFF, zero voltage (center voltage) controlling TR607 through D607 will increase, resultly the LED701 as protector indicator, starts flickering.
3. When abnormal positive voltage appears at output (A), the voltage is supplied to TR602 directly, and the operation of the protector circuit is same as above mentioned 1.

B. Speaker Protection Circuit against abnormal over-current

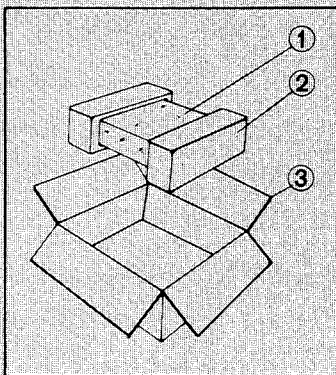
1. At the moment when abnormal excessive current flows into power transistors, a transistor (TR09) detecting excessive over-current, on power stage becomes ON.
2. Then, DC voltage at (C) decreases, resultly TR604 turns on, and positive certain voltage appears at (B)'.
3. As mentioned above, when TR602 turns on, the relay, RL601, keeps OFF; a certain positive voltage at (B)' turns on TR605 too, resultly collector voltage of TR605 decreases and its collector voltage keeps a certain voltage at (C) simultaneously.
4. By keeping a certain DC voltage at (C), the LED701 as protector indicator continues flickering, even though all circuits work completely.

C. Operation of astable multivibrator

1. When control (bias) voltage is not supplied to the base of TR607 in abnormal condition, TR606 and TR607, on astable multivibrator repeat turning (switching) on and off alternately each other by charging and discharging of capacitors, C606 & C607, resultly, the LED701 as protector indicator continues flickering.
2. When the relay, RL601 is turned on, base voltage of TR607 becomes zero volt through D607 and TR606 becomes ON, resultly LED701 as power indicator lights up.

9. PACKING LIST

Parts No.	Stock No.	Description
1	9116670	Vinyl Cover
2	9028020	Stylofoam Packing (L)
	9028030	Stylofoam Packing (R)
3	9009710	Cartom Case (AU-717)
	9009700	Cartom Case (AU-517)



10. ACCESSORY PARTS LIST

Stock No.	Description
9202520	Operating Instructions (AU-517)
9202500	Operating Instructions (AU-717)
5192082	Hexagon Wrench (1.5mm)
9116580	Vinyl Bag For Wrench
9237540	Schematic Diagram (AU-517)
9237550	Schematic Diagram (AU-717)
5396340	Rack Mounting Adaptor (each)
5216100	Rear Stand (each)

MEMO

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