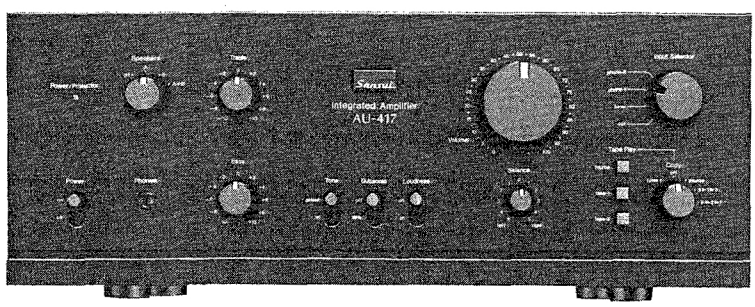
SERVICE MANUAL

INTEGRATED STEREO AMPLIFIER

SANSUI AU-417



Sansui

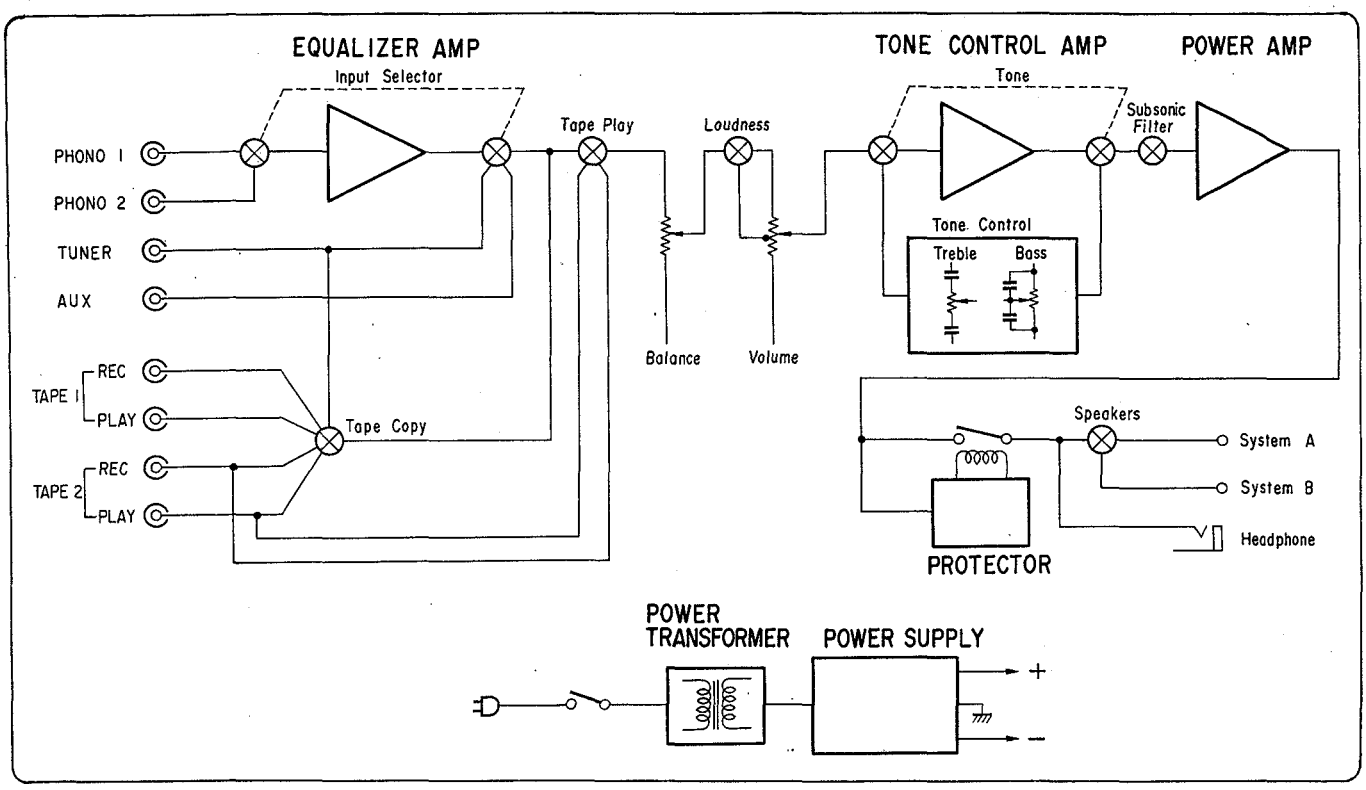
SANSUI ELECTRIC CO., LTD.

SPECIFICATIONS

Power output
Min. RMS, both channels driven, from 20 to 20,000 Hz, with no more than 0.02 % total harmonic distortion
65 watts per channel into 8 ohms
Load impedance . . . . . 8 ohms
Total harmonic distortion
. . . . . less than 0.02 % at or below rated min. RMS power output
Intermodulation distortion (70 Hz : 7 kHz = 4:1 SMPTE method)
. . . . . less than 0.02 % at or below rated min. RMS power output
Frequency response (at 1 watt)
. . . . . 5 to 100,000 Hz +0 dB –3 dB
Damping factor (1 kHz, both channels driven)
. . . . . 60 into 8 ohms
RIAA curve deviation (PHONO, 20 Hz to 20 kHz)
. . . . . +0.2 dB, –0.2 dB
Input sensitivity and impedance (1 kHz, for rated power output)
PHONO . . . . . 2.5 mV/47 kilohms
(Max. input capability; 300 mV at 1 kHz, less than 0.01 % total harmonic distortion)
AUX, TUNER, TAPE PLAY
. . . . . 150 mV/47 kilohms
Output level and impedance (1,000 Hz)
TAPE REC (pin jack). 150 mV into 47 kilohms/600 ohms
Channel separation (1 kHz, at rated power output)
PHONO . . . . . 60 dB
AUX, TUNER, TAPE PLAY
. . . . . 65 dB
Hum and noise (short-circuit, A-network)
PHONO . . . . . 80 dB
AUX, TUNER, TAPE PLAY
. . . . . 100 dB
Controls
BASS . . . . . ±10 dB (50 Hz)
TREBLE . . . . . ±10 dB (15 kHz)
SUBSONIC . . . . . –3 dB (16 Hz), 6 dB/oct
LOUDNESS (VOLUME control: –30 dB position)
. . . . . 9 dB at 50 Hz
7 dB at 10 kHz
Power requirements
Power voltage . . . . . 100, 120, 220, 240 V (50/60 Hz)
For U.S.A. & Canada
. . . . . 120 V (60 Hz)
Power consumption
Maximum consumption
. . . . . 300 watts
Rated consumption
. . . . . 200 watts 240 VA
Dimensions . . . . . 430 mm (16-15/16") W
168 mm (6-5/8") H
395 mm (15-9/16") D
Weight . . . . . 12.2 kg (26.9 lbs) net
14.3 kg (31.5 lbs) packed

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

1. BLOCK DIAGRAM



2. ADJUSTMENTS

2-1. Driver Circuit Board Adjustments (See the picture of top view on page 7.)

Note: 1. Master Volume . . . . . Minimum
2. Room Temperature . . . . . 18°C ~ 28°C
3. For adjustment, run the unit for more than 3 minutes after the power is switched on.

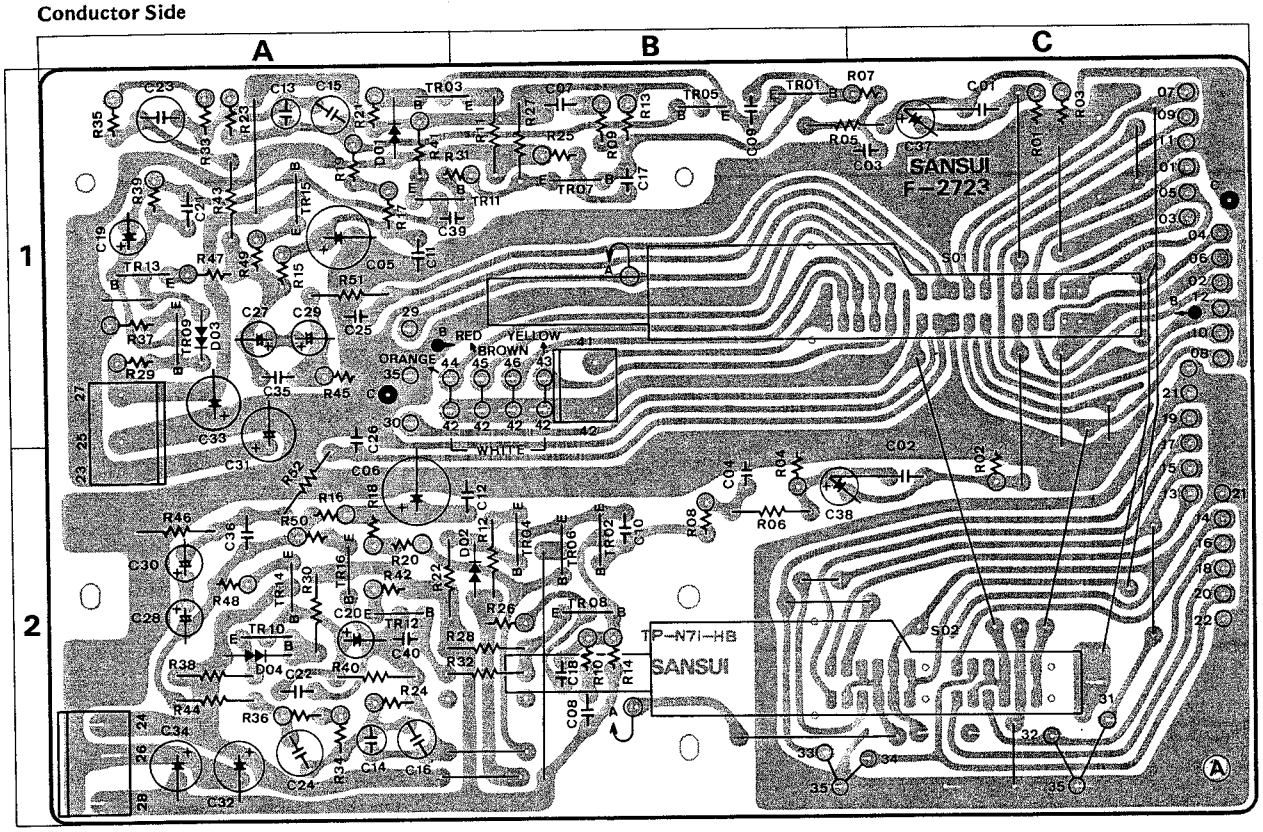
STEP	SUBJECT	EQUIPMENT	MEASURE OUTPUT	ADJUST	ADJUST FOR	REMARKS
1.	DC 0V L-CH	DC Volt Meter	Speaker Terminal	F-2721 VR01	DC 0V ±5 mV	
2.	DC 0V R-CH	Same as above	Same as above	F-2722 VR01	DC 0V ±5 mV	
3.	Bias Current L-CH	Same as above	TP Terminal (+) (−) of F-2721	F-2721 VR03	DC 20 mV ±1 mV	o By turning 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 20 mV ±1 mV	

3. PARTS LOCATION & PARTS LIST

Since some of capacitors and resistors are omitted from parts lists in this Service Manual, refer to the Common Parts List for capacitors & resistors which was appended previously to each Sansui Manual.

3-1. F-2723 Equalizer Amp Circuit Board (Stock No. 7551381)

Conductor Side



Parts List

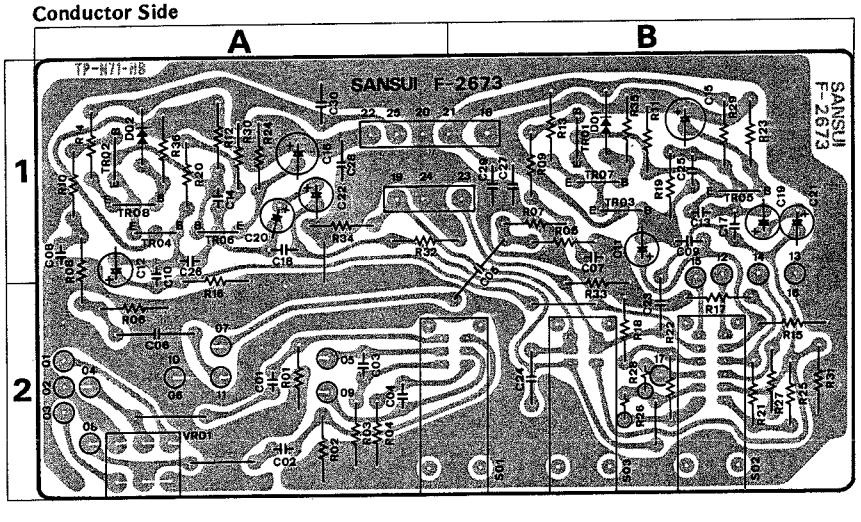
Parts No.	Stock No.	Description	Position
•Transistors			
TR01, 02	0300900, 1	2SA906 G, H	1B.2B
TR03, 04	0300470, 1	2SA726 F, G	1A.2B
TR05, 06	0300900, 1	2SA906 G, H	1B.2B
TR07, 08	0306290, 1	2SC1400 (1) E, U	1B.2B
TR09, 10	0300890, 1	2SA750 (3) E, U	1A.2A
TR11, 12	0306290, 1	2SC1400 (1) E, U	1A.2A
TR13,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

Parts No.	Stock No.	Description	Position
•Varistors			
D 01, 02	0340150	MV-12	1A.2B
D 03, 04	0340150	MV-12	1A.2A
C 01, 02	0602109	1.0μF 100WV M.C.	1C.2C
C 07, 08	0621121	120pF 50V P.C.	1B.2B
C 13, 14	0620151	150pF 50V P.C.	1A.2A
C 15, 16	0625272	2700pF 50WV P.C.	1A.2A
C 23, 24	0625103	10000pF 50WV P.C.	1A.2A

Parts No.	Stock No.	Description	Position
R 17, 18	0231561	560Ω 1/2W M.R.	1A.2A
R 23, 24	0231273	27kΩ 1/2W M.R.	1A.2A
R 35, 36	0231304	300kΩ 1/2W M.R.	1A.2A
R 47, 48	0193820	82Ω 1/4W F.R.	1A.2A
R 49, 50	0193820	82Ω 1/4W F.R.	1A.2A
S 01	1190420	Input Selector Switch	1B, C
S 02	1190410	Tape Copy Selector Switch	2B, C

3-2. F-2673 Control Amp Circuit Board (Stock No.7562621)

Conductor Side

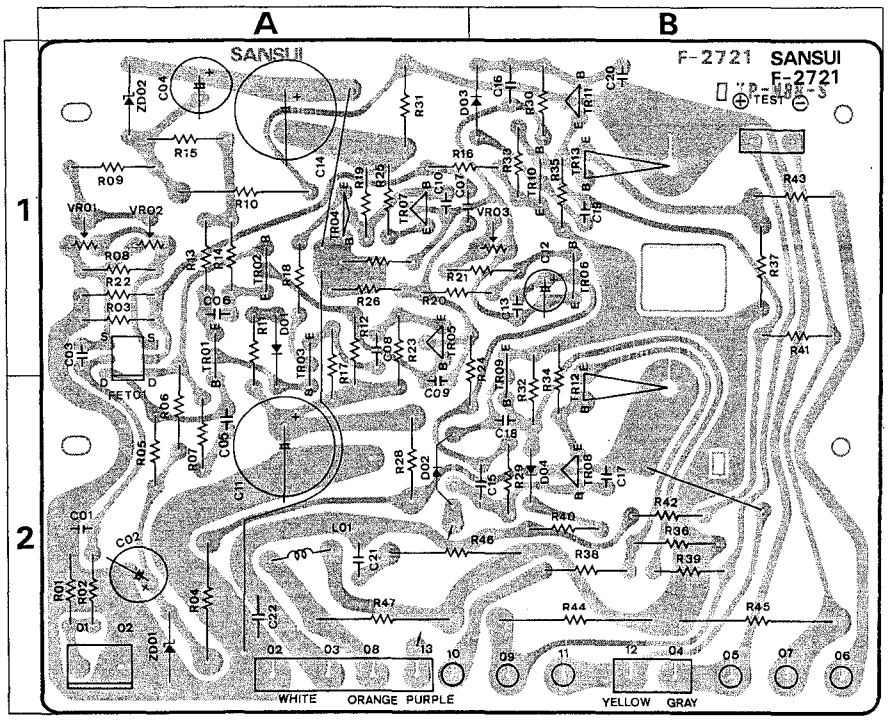


Parts List

Parts No.	Stock No.	Description	Position
•Transistors			
TR01, 02	0306010, 1	2SC1222 (2) U, E	1B.1A
TR03, 04	0306010, 1	2SC1222 (2) U, E	1B.1A
TR05, 06	0300890, 1	2SA750 (3) E, U	1B.1A
TR07, 08	0306010, 1	2SC1222 (2) U, E	1B.1A
•Varistor			
D 01, 02	0340150	MV-12	1B.1A
C 01, 02	0620431	430pF 50V P.C.	2A
C 05, 06	0602338	0.33μF 100WV M.C.	1B.2A
VR01	1015270, 1	250kΩ (M.N) x 2 Balance VR	2A
S 01	1171120	Loudness Switch	2A, B
S 02	1171150	Tone Defeat Switch	2B
S 03	1171120	Subsonic Filter Switch	2B

3-3. F-2721 L-ch Driver Amp Circuit Board (Stock No. 7572111)

Conductor Side

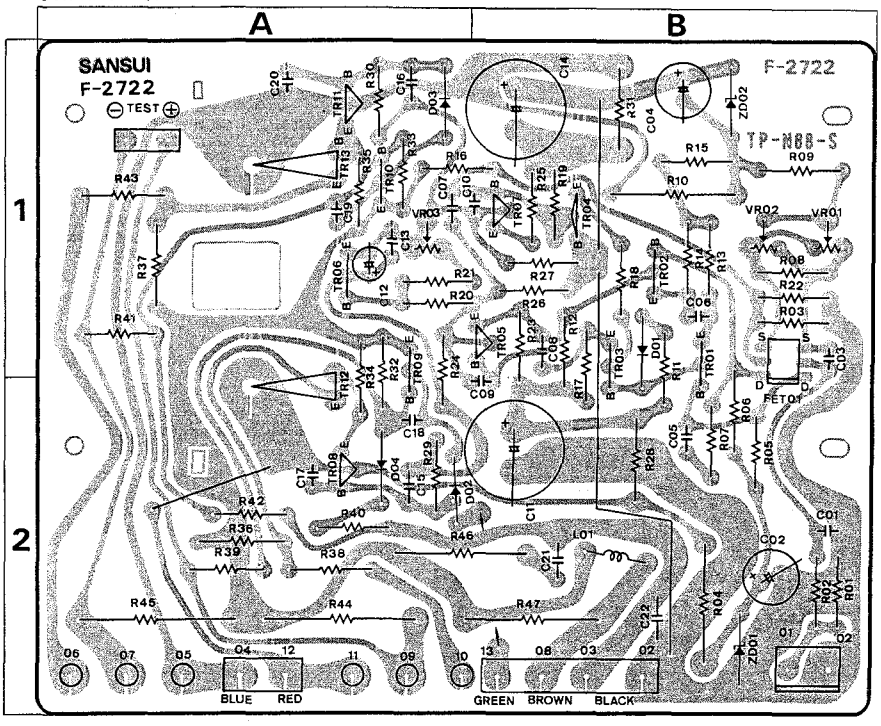


Parts List

Parts No.	Stock No.	Description	Position
•Transistors			
TR01	0306290, 1	2SC1400 (1) E, U	1A
TR02	0306290, 1	2SC1400 (1) E, U	1A
TR03	0300890, 1	2SA750 (3) E, U	1A
TR05	0300791, 2	2SA899 B, V	1A
TR06	0305951, 2	2SC945 Q, P	1B
TR07	0306401, 2	2SC1904 B, V	1A.2B
TR09	0305951, 2	2SC945 Q, P	1B.2B
TR12	0308441 ~ 3	2SD382 M, L, K	1B.2B
TR13	0303271 ~ 3	2SB537 M, L, K	1B
•FET			
FET01	0370311, 2	2SK129 L, M	1, 2A
•Diode			
D 01, 02	0311160	1S2473D	1A.2A
D 04	0311160	1S2473D	2B
•Zener Diodes			
ZD01, 02	0316060	EQA01-22R	1A.2A
C 01	0621101	100pF 50V P.C.	2A
C 05	0620331	330pF 50V P.C.	2A
C 07	0669505	5pF 50V C.C.	1A, B
R 04	0212272	2.7kΩ 2W N.I.R.	2A
R 09	0200392	3.9kΩ 1/2W N.I.R.	1A
R 10	0212272	2.7kΩ 2W N.I.R.	1A
R 17, 19	0210122	1.2kΩ 1/2W N.I.R.	1A
R 23, 25	0191151	150Ω 1/4W F.R.	1A
R 28, 31	0210330	33Ω 1/2W N.I.R.	1A
R 36, 37	0210221	220Ω 1/2W N.I.R.	2B.1B
R 38, 43	0210479	4.7Ω 1/2W N.I.R.	2B.1B
R 44, 45	0135338	0.33Ω 5W Ce.R.	2B
R 46	0212100	10Ω 2W N.I.R.	2A, B
R 47	0212229	2.2Ω 2W N.I.R.	2A
L 01	4210290	1.5μH RF Coil	2A
VR01	1033570	100Ω (B) DC 0V Adjust VR	1A
VR03	1035310	1kΩ (B) Bias Current Adjust VR	1B

3-4. F-2722 R-ch Driver Amp Circuit Board (Stock No. 7572121)

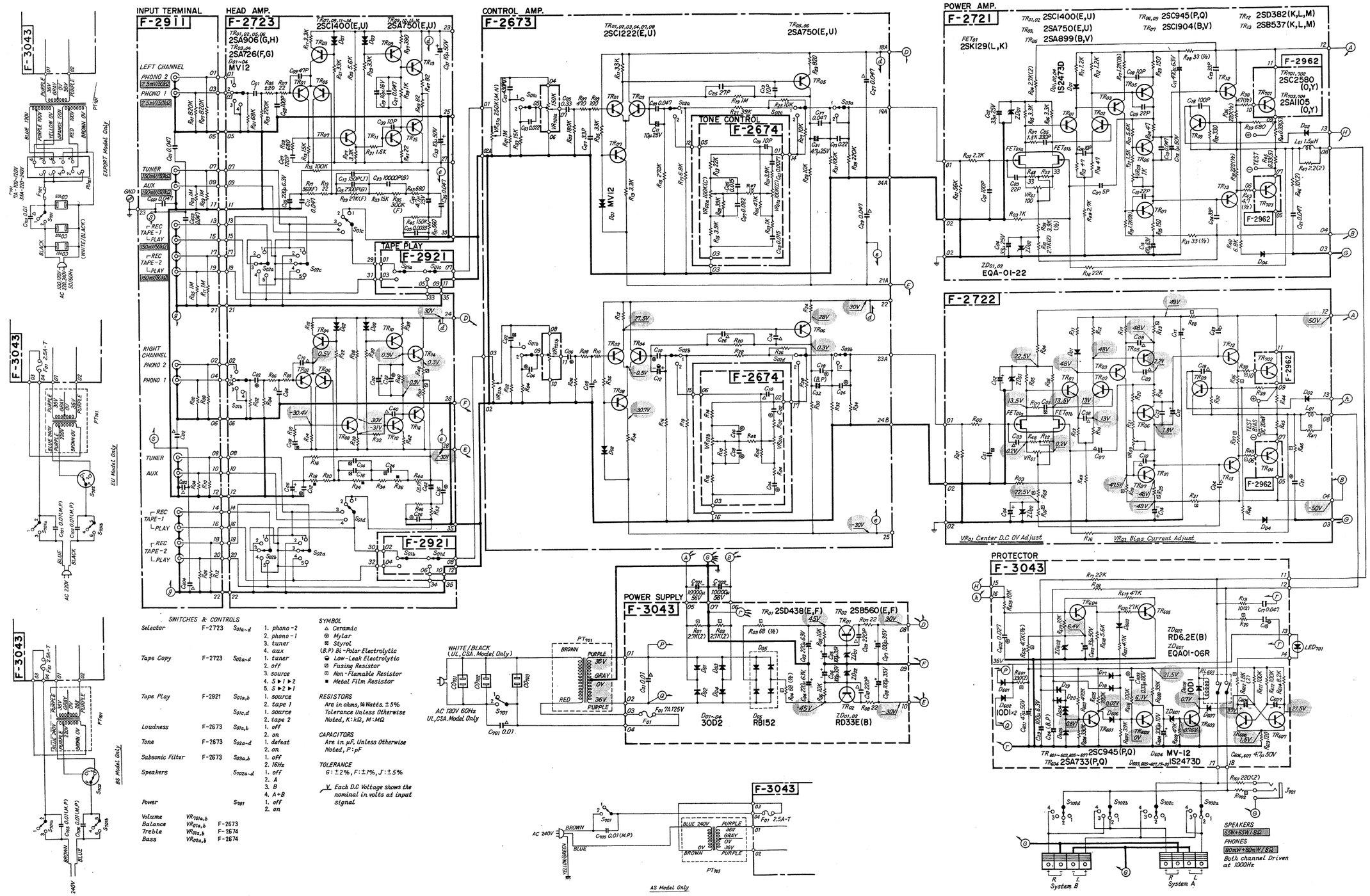
Conductor Side



Parts List

Parts No.	Stock No.	Description	Position
•Transistors			
TR01, 02	0306290, 1	2SC1400 (1) E, U	1B
TR03	0300890, 1	2SA750 (3) E, U	1B
TR05	0300791, 2	2SA899 B, V	1B
TR06	0305951, 2	2SC945 Q, P	1A
TR07	0306401, 2	2SC1904 B, V	1B.2A
TR09	0305951, 2	2SC945 Q, P	1A.2A
TR12	0308441 ~ 3	2SD382 M, L, K	2A
TR13	0303271 ~ 3	2SB537 M, L, K	1A
•FET			
FET01	0370311, 2	2SK129 L, M	1B
•Diodes			
D 01, 02	0311160	1S2473D	1B.2A
D 04	0311160	1S2473D	2A
•Zener Diodes			
ZD01, 02	0316060	EQA01-22R	2B.1B
C 01	0621101	100pF 50V P.C.	2B
C 05	0620331	330pF 50V P.C.	2B
C 07	0669505	5pF 50V C.C.	1A
R 04	0212272	2.7kΩ 2W N.I.R.	2B
R 09	0200392	3.9kΩ 1/2W N.I.R.	1B
R 10	0212272	2.7kΩ 2W N.I.R.	1B
R 17, 19	0210122	1.2kΩ 1/2W N.I.R.	1, 2B.1B
R 23, 25	0191151	150Ω 1/4W F.R.	1B
R 28, 31	0210330	33Ω 1/2W N.I.R.	2B.1B
R 36, 37	0210221	220Ω 1/2W N.I.R.	2A.1A
R 38, 43	0210479	4.7Ω 1/2W N.I.R.	2A.1A
R 44, 45	0135338	0.33Ω 5W Ce.R.	2A
R 46	0212100	10Ω 2W N.I.R.	2A, B
R 47	0212229	2.2Ω 2W N.I.R.	2B
L 01	4210290	1.5μF RF Coil	2B
VR01	1033570	100Ω (B) DC 0V Adjust VR	1B
VR03	1035310	1kΩ (B) Bias Current Adjust VR	1A

4. SCHEMATIC DIAGRAM



SWITCHES & CONTROLS

Selector	F-2723	S_{01a-d}	1. phono-2 2. phono-1 3. tuner 4. aux
Tape Copy	F-2723	S_{02a-d}	1. tuner 2. off 3. source 4. S►1►2 5. S►2►1
Tape Play	F-2921	$S_{01a,b}$	1. source 2. tape 1
		$S_{01c,d}$	1. source 2. tape 2
Loudness	F-2673	$S_{01a,b}$	1. off 2. on
Tone	F-2673	S_{02a-d}	1. defeat 2. on
Subsonic Filter	F-2673	$S_{03a,b}$	1. off 2. 16Hz
Speakers		S_{02a-d}	1. off 2. A 3. B 4. A+B
Power		S_{901}	1. off 2. on

Volume	$VR_{701a,b}$		
Balance	$VR_{01a,b}$	F-2673	
Treble	$VR_{01a,b}$	F-2674	
Bass	$VR_{02a,b}$	F-2674	

SYMBOL
- △ Ceramic
- ◎ Mylar
- ⊠ Styrol
- (B,P) Bi-Polar Electrolytic
- ⊖ Low-Leak Electrolytic
- ⊘ Fusing Resistor
- ⊡ Non-Flamable Resistor
- ■ Metal Film Resistor

RESISTORS
Are in ohms, ¼ Watts, ±5%
Tolerance Unless Otherwise Noted, K:kΩ, M:MΩ

CAPACITORS
Are in μF, Unless Otherwise Noted, P:pF

TOLERANCE
G:±2%, F:±1%, J:±5%

V Each D.C Voltage shows the nominal in volts at input signal

2SA733
2SA750
2SB560
2SC945
2SC1222
2SC1400
2SD438

2SA726
2SA906

2SB537
2SD382

2SA899
2SC1904

2SA1105
2SC2580

2SK129

10D-1

MV12

1S2473D

EQA01-06R
EQA01-22R
RD6.2E
RD33E

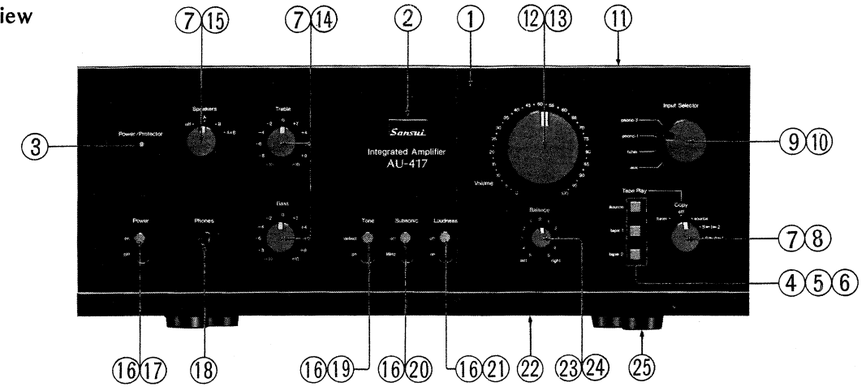
30D-2

RB152

1 2 3 4 5 6

5. OTHER PARTS

5-1. Front View



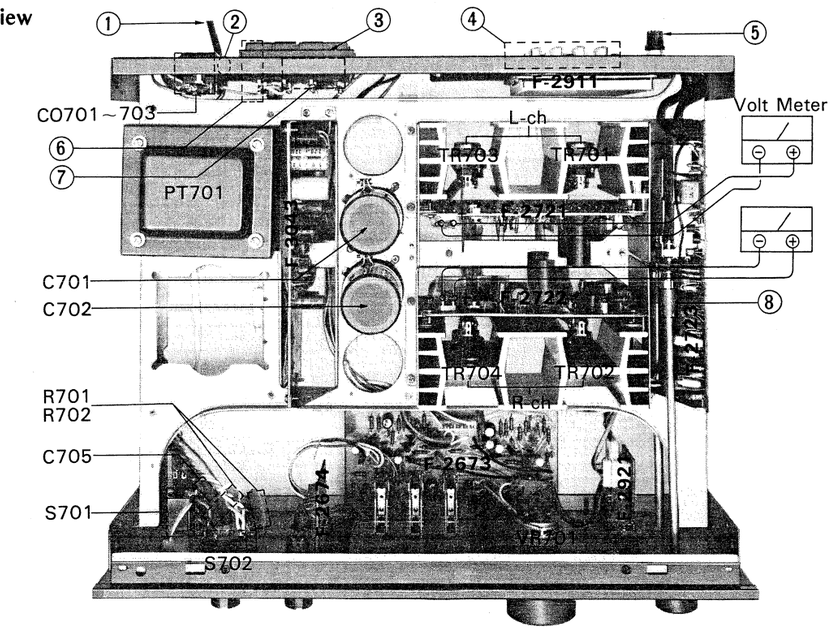
Parts List

Parts No.	Stock No.	Description
1	7008270	Front Panel Ass'y
2	5336600	Sansui Badge
3	0319120	LED
4	5326620	Knob, push switch
5	5286721	Knob Guide, Push Switch
6	6906480	Spring, push switch
7	5318930	Knob, tape copy, speakers, treble, bass
8	1190410	Rotary Switch, tape copy
9	5318920	Knob, selector

Parts No.	Stock No.	Description
10	1190420	Rotary Switch, Input Selector
11	5006821	Bonnet
12	5318910	Knob, Volume
13	1011180	150kΩ x 2 Volume
14	1015360, 1	100kΩ (C) x 2 Treble, Bass Volume
15	1101470, 1	Rotary Switch, speakers
16	5326612	Knob, lever switch
17	1171630	Lever Switch, power
18	2430290	Head Phone Jack Socket

Parts No.	Stock No.	Description
19	1171150	Lever Switch, tone
20	1171120	Lever Switch, subsonic filter
21	1171120	Lever Switch, loudness
22	5059170	Bottom Plate
23	5318940	Knob, balance volume
24	1015340, 1	250kΩ (MN) x 2 Balance Volume
25	5507070	Leg

5-2. Top View



Parts List

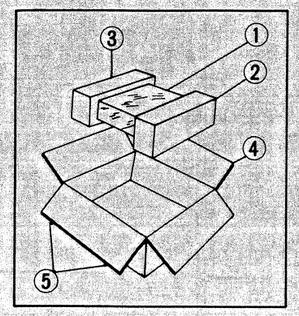
Parts No.	Stock No.	Description
1	3800470	Power Cord
2	3910490	Strain Relief
3	2290190	Speaker Terminal
4	2200620	4P Input Terminal (PHONO-1, 2)
	2200580	4P Input Terminal (TUNER AUX) (TAPE-1, 2)
5	2230190	Ground Terminal
6	2300060	Power Fuse Holder

Parts No.	Stock No.	Description
7	2410091	Voltage Selector, plug
	2410830	Voltage Selector, socket
8	6046041	Shaft Joint
TR701, 702	0306760, 1	2SC2580NLB C, Y
TR703, 704	0301110, 1	2SA1105NLB O, Y
C 701, 702	0559385	10000μF 56V E.C.
C 705	0659801	0.01μF 150V C.C.

Parts No.	Stock No.	Description
R 701, 702	0202221	220Ω 2W N.I.R.
PT 701	4002900	Power Transformer
VR701	1011180, 1	150kΩ x 2 Volume
S 701	1172000	Lever Switch, power
S 702	1101470, 1	Rotary Switch, speakers
CO701~703	2450070	AC Outlet

6. PACKING LIST

Parts No.	Stock No.	Description
1	9116790	Vinyl Cover
2	9028030	Styrofoam Packing (Right Side)
3	9028021	Styrofoam Packing (Left Side)
4	9001800	Carton Case
5	5996080	Curl Stopper



7. ACCESSORY PARTS LIST

Stock No.	Description
9204510	Operating Instructions
9238160	Schematic Diagram
5396720	Rack Mounting Adaptor (each)

MEMO

Sansui

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