

# SERVICE MANUAL

## INTEGRATED STEREO AMPLIFIER

# SANSUI AU-417



### SPECIFICATIONS

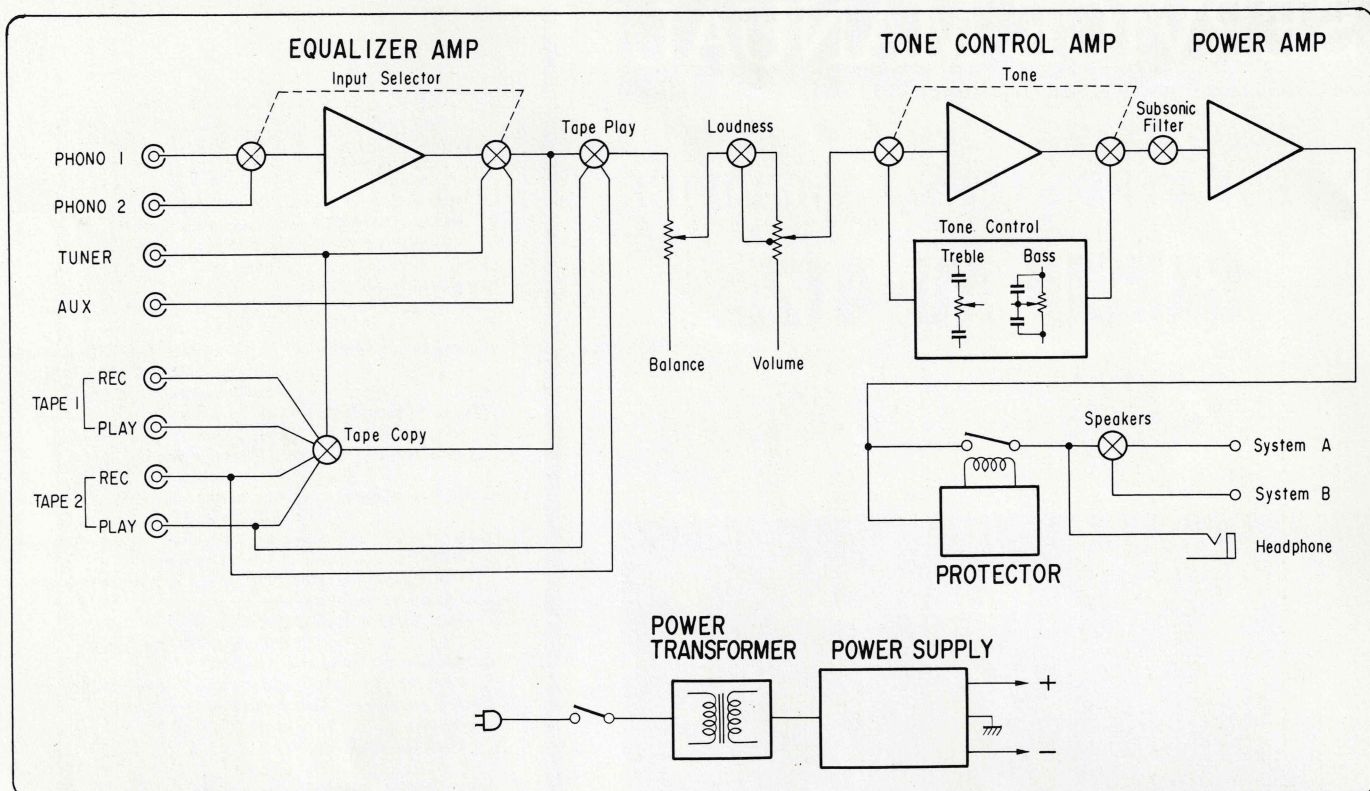
- Power output**  
Min. RMS, both channels driven, from 20 to 20,000 Hz, with no more than 0.02 % total harmonic distortion  
65 watts per channel into 8 ohms
- Load impedance** . . . . . 8 ohms
- Total harmonic distortion**  
. . . . . less than 0.02 % at or below rated min. RMS power output
- Intermodulation 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.

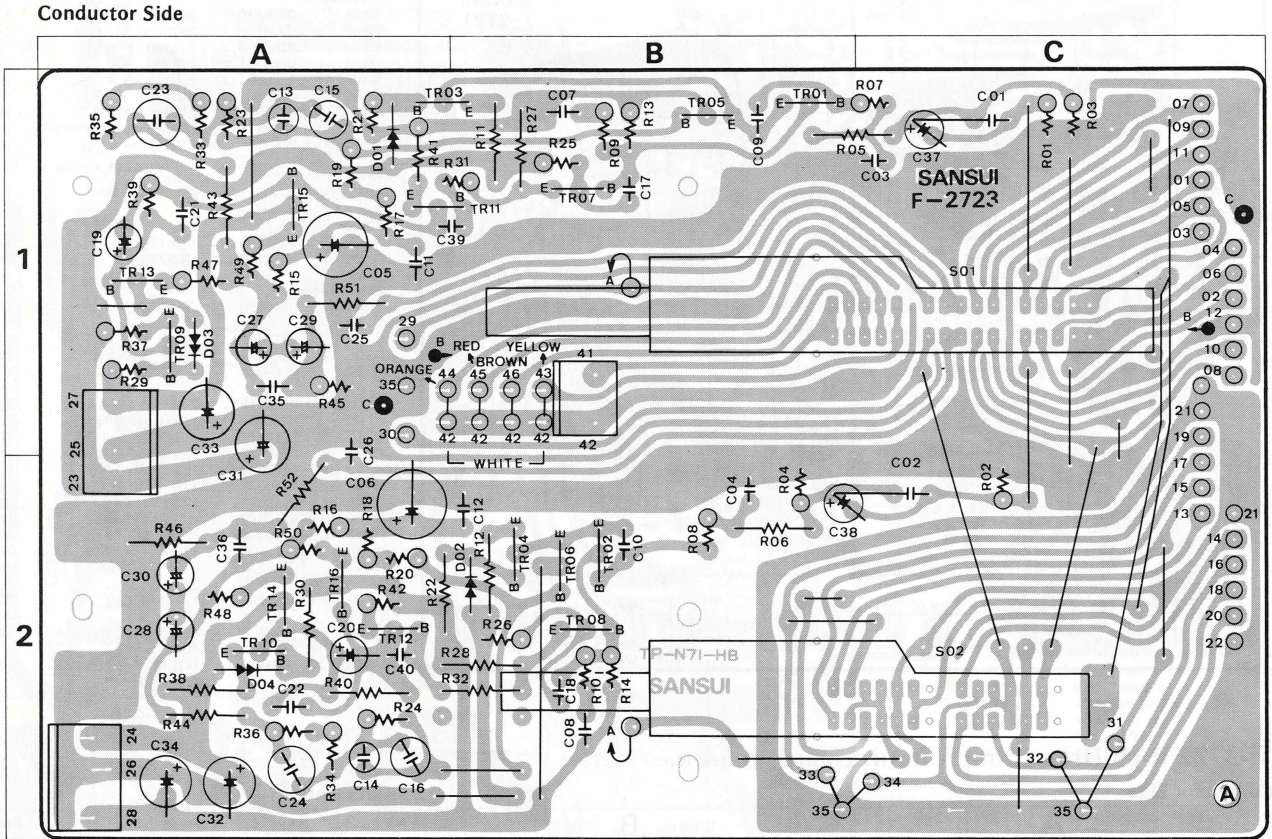
STEP	SUBJECT	EQUIPMENT	MEASURE OUTPUT	ADJUST	ADJUST FOR	REMARKS
1.	DC 0V L-CH	DC Volt Meter	Speaker Terminal	F-2721 VR01	DC 0V ± 5 mV	○ By turning VR03 counterclockwise, the bias current is decreased gradually.
2.	DC 0V R-CH	Same as above	Same as above	F-2722 VR01	DC 0V ± 5 mV	
3.	Bias Current L-CH	Same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

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

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.



#### Parts List

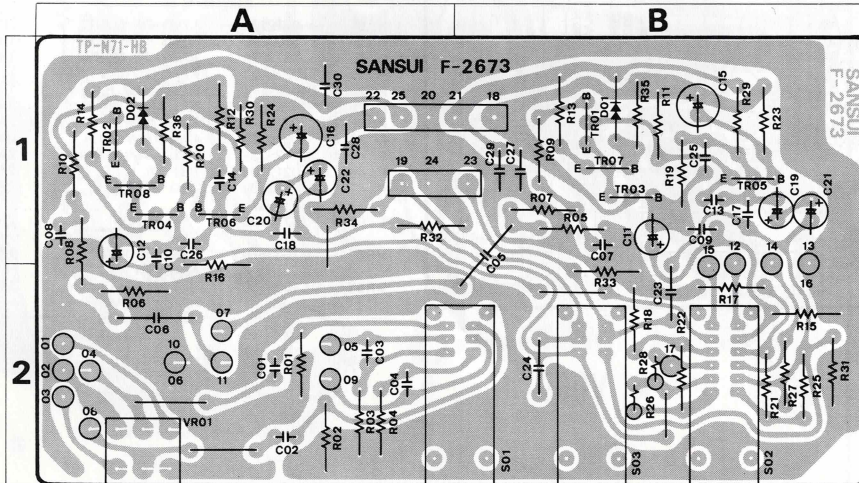
Parts No.	Stock No.	Description	Position
•Transistors			
TR01, 02	0300900, 1	2SA906 G, H	1B, 2B
TR03, 04	0300470, 1	2SA726 F, G	1A, 2A
TR05, 06	0300900, 1	2SA906 G, H	1B, 2B
TR07, 08	0306290, 1	2SC1400 (1) E, U	1B, 2B
TR09, 10	0300890, 1	2SA750 (3) E, U	1A, 2A
TR11, 12	0306290, 1	2SC1400 (1) E, U	1A, 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 100VW 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 50VW P.C.	1A, 2A
C 23, 24	0625103	10000pF 50VW 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



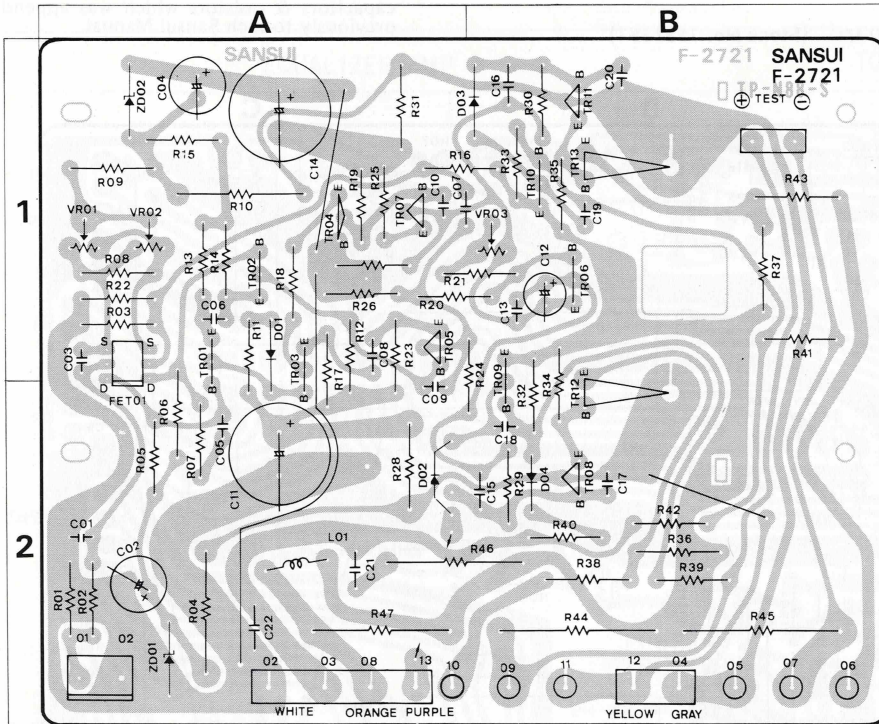
#### Parts List

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 100VW 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

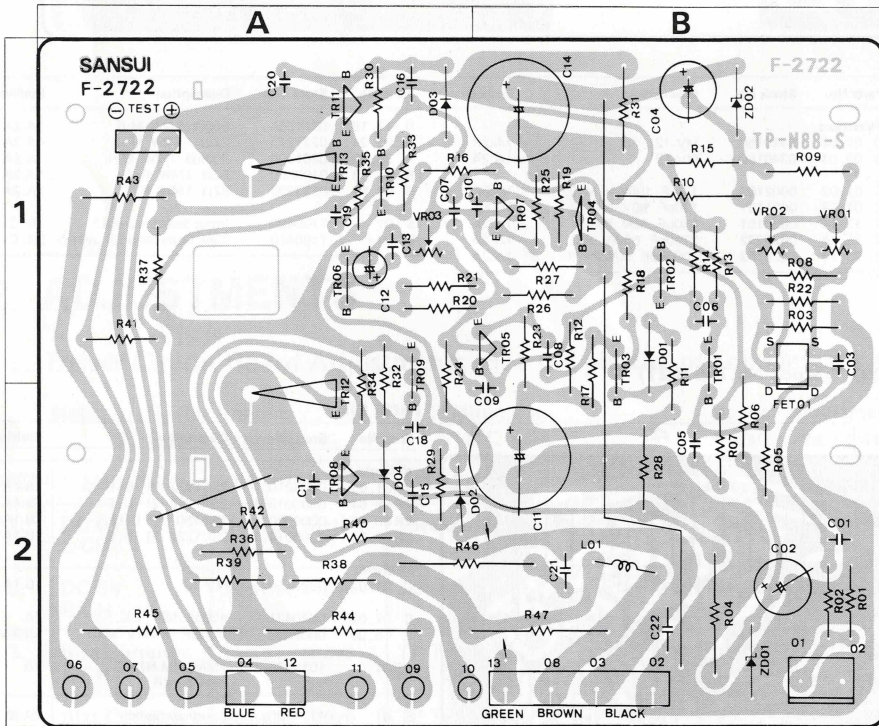


Parts List

Parts No.	Stock No.	Description	Position
<b>•Transistors</b>			
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
<b>•FET</b>			
FET01	0370311, 2	2SK129 L, M	1, 2A
<b>•Diode</b>			
D 01, 02	0311160	1S2473D	1A, 2A
D 04	0311160	1S2473D	2B
<b>•Zener Diodes</b>			
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 OV 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



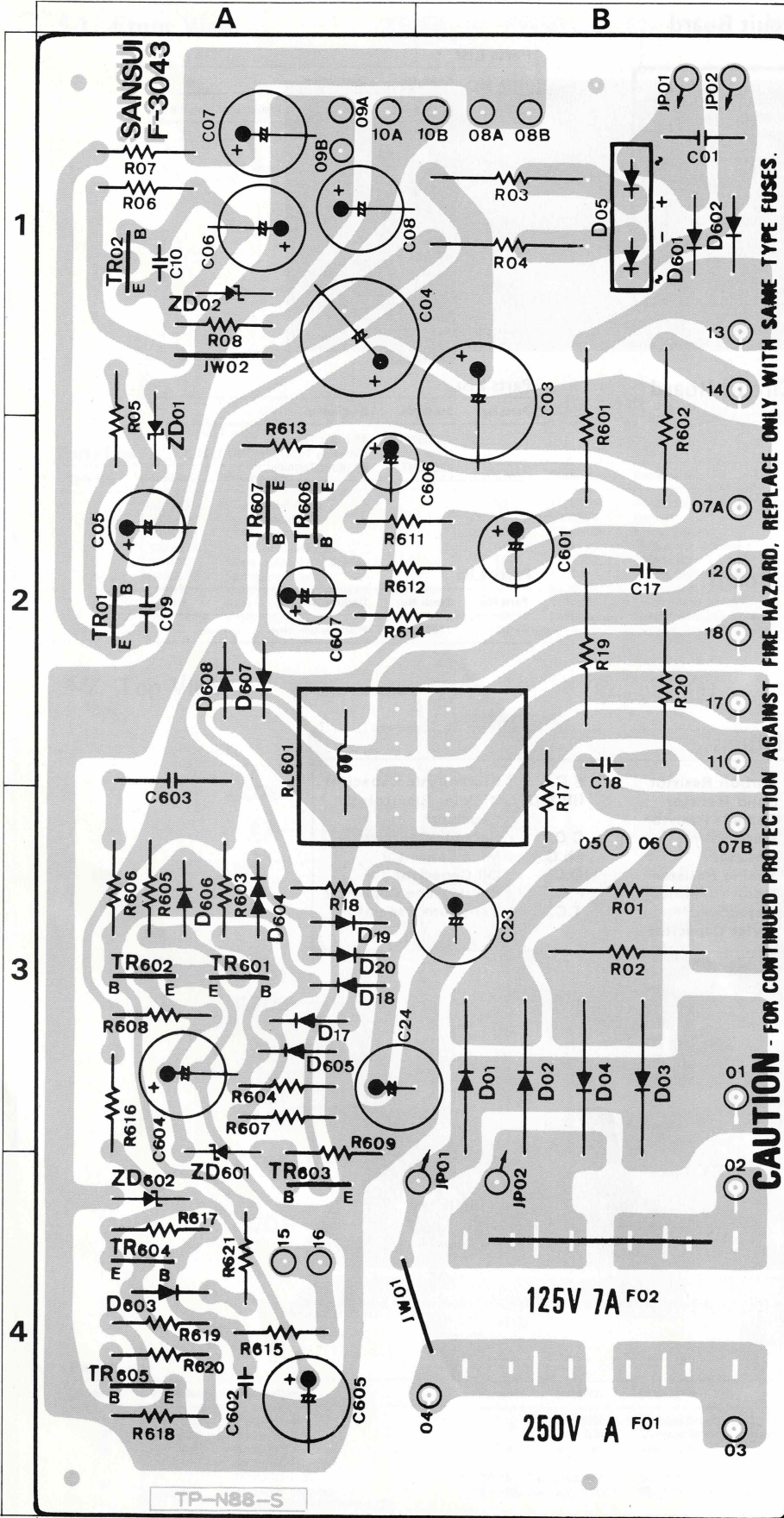
Parts List

Parts No.	Stock No.	Description	Position
<b>•Transistors</b>			
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
<b>•FET</b>			
FET01	0370311, 2	2SK129 L, M	1B
<b>•Diodes</b>			
D 01, 02	0311160	1S2473D	1B, 2A
D 04	0311160	1S2473D	2A
<b>•Zener Diodes</b>			
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	1.5μH RF Coil	2B
VR01	1033570	100Ω (B) DC OV Adjust VR	1B
VR03	1035310	1kΩ (B) Bias Current Adjust VR	1A



3-5. F-3043 Power Supply & Protector Circuit Board (Stock No. 7503341)

Conductor Side



Parts List

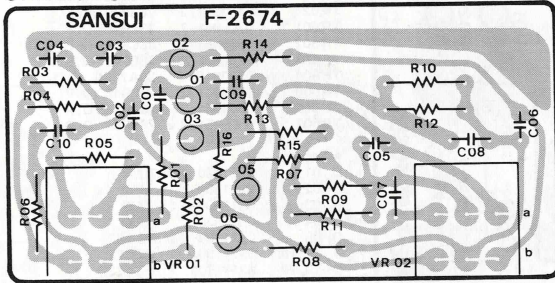
Parts No.	Stock No.	Description	Position
●Transistors			
TR01	0308521, 2	2SD438 E, F	
TR02	0303361, 2	2SB560 E, F	1B
TR601	0305951, 2	2SC945 Q, P	2B
TR602	0305951, 2	2SC945 Q, P	2B
TR603	0305951, 2	2SC945 Q, P	2A
TR604	0300510, 1	2SA733A P, Q	
TR605	0305951, 2	2SC945 Q, P	
TR606	0305951, 2	2SC945 Q, P	
TR607	0305951, 2	2SC945 Q, P	
●Diodes			
D 01	0311530	30D2	1A
D 02	0311530	30D2	2A
D 03	0311530	30D2	1A
D 04	0311530	30D2	1A
D 05	0311700	RB-152	
D 17, 18	0311160	1S2473D	
D 19, 20	0311160	1S2473D	
D 601	0310340	10D1	2A
D 602	0310340	10D1	2A
D 603	0311160	1S2473D	2B
D 605	0311160	1S2473D	2B
D 606	0311160	1S2473D	2B
D 607	0311160	1S2473D	2B
D 608	0310340	10D1	2A
●Varistor			
D 604	0340150	MV-12	2B
●Zener Diodes			
ZD01	0316570	RD33E B	1B
ZD02	0316570	RD33E B	1B
ZD601	0315760	EQA01-06R	2B
ZD602	0316390	RD6.2E B	
C 01	0655103	10000pF 500V C.C.	2B
C 603	0602338	0.33μF 100V M.C.	
R 01	0212272	2.7kΩ 2W N.I.R.	1A
R 02	0212272	2.7kΩ 2W N.I.R.	1A
R 03	0210680	68Ω 1/2W N.I.R.	1B, 2B
R 04	0210680	68Ω 1/2W N.I.R.	1B
R 19, 20	0212100	10Ω 2W N.I.R.	2A
R 601	0212331	330Ω 2W N.I.R.	2B
R 602	0212182	1.8kΩ 2W N.I.R.	2B
R 616	0210472	4.7kΩ 1/2W N.I.R.	
RL601	1150400	Relay	2A
F 01	{ 0432270 0432500	3.5A 125V AC Fuse (220V~240V) 7A 125V AC Fuse (100V~120V)	1A



- The circuit boards, F-2674, F-2911 & F-2921 are not supplied as the assembled, the individual parts on the circuit boards, however are provided for orders.

### 3-6. F-2674 Tone Control Circuit Board

Conductor Side



#### Parts List

Parts No.	Stock No.	Description
VR01, 02	1015360, 1	100kΩ (C) x 2 Treble, Bass Volume

### 3-7. F-2911 Input Terminal Circuit Board

#### Parts List

Parts No.	Stock No.	Description
	2200620	4P Input Terminal (Shorting Type) (PHONO-1, 2)
	2200580	4P Input Terminal

### 3-8. F-2921 Tape Play Circuit Board

#### Parts List

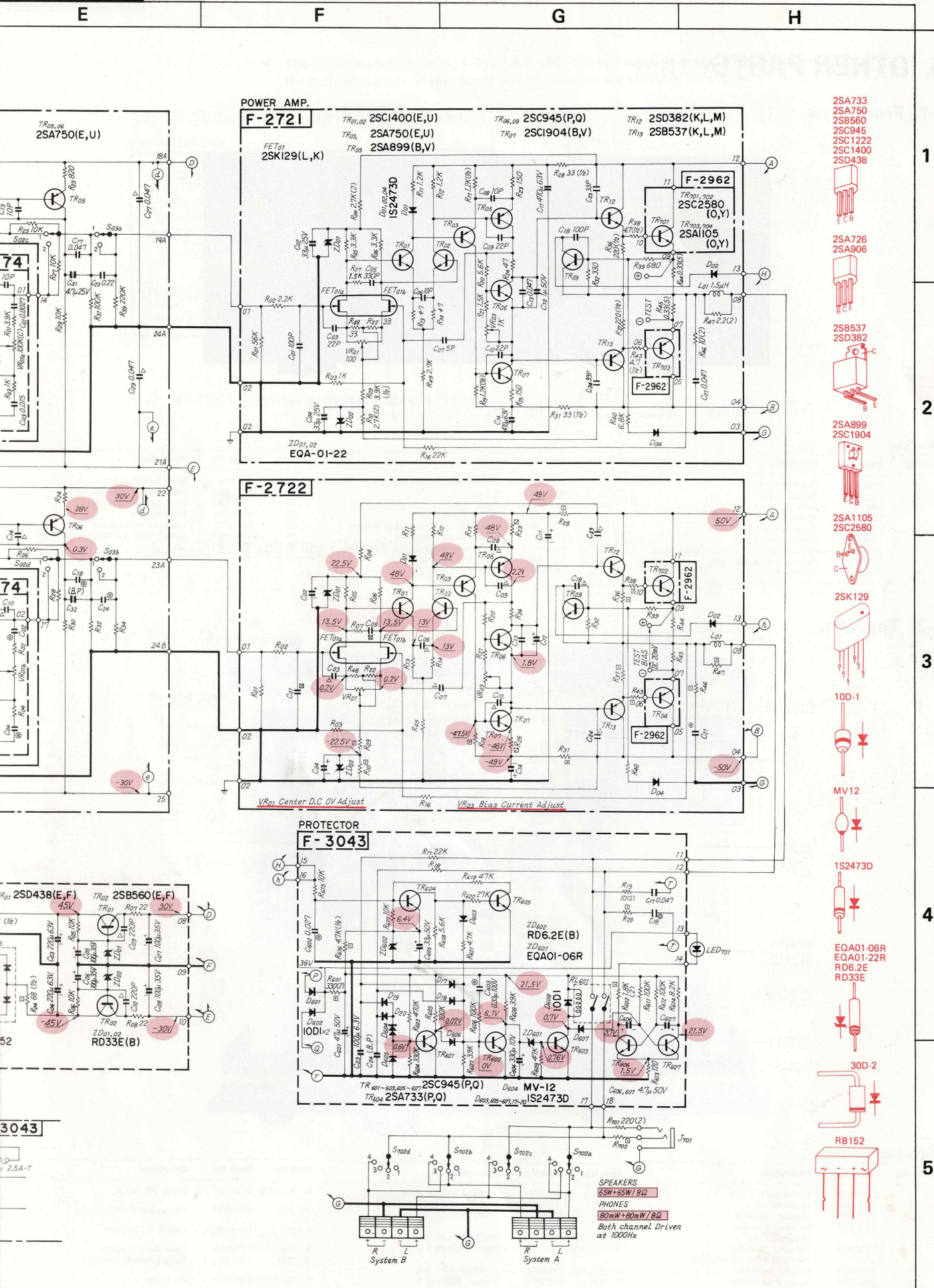
Parts No.	Stock No.	Description
S 01	1131400	Push Switch, tape

#### Abbreviations

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



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



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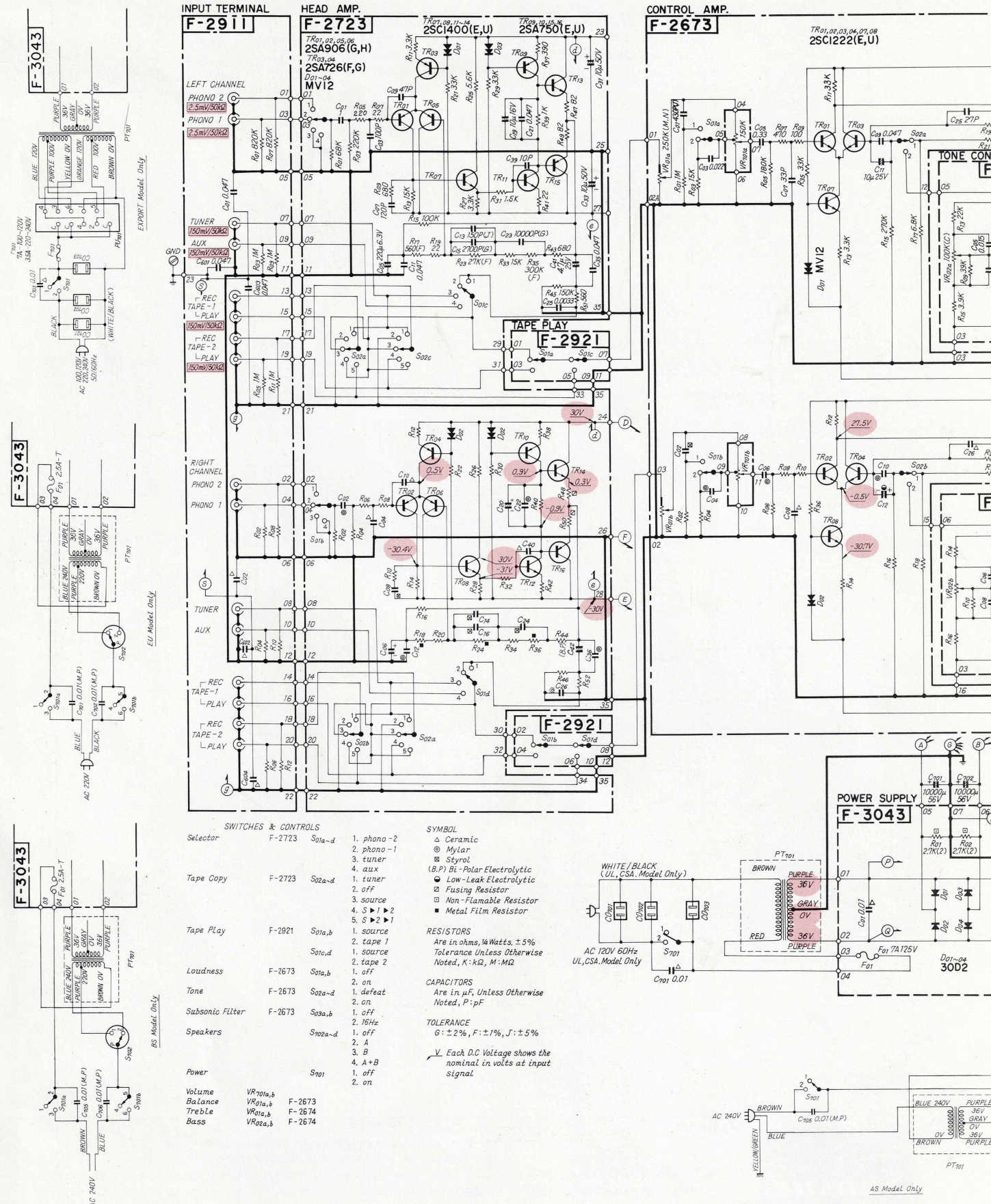
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# 4. SCHEMATIC DIAGRAM



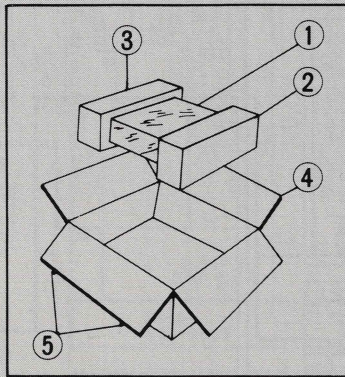


## 6. PACKING LIST

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



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