

SERVICE MANUAL

STEREO AMPLIFIER



SANYO

JA 2003

(EUROPE)



SPECIFICATIONS

NOTE:

The below mentioned specifications are mainly based on the IHF measurements standard. They can therefore not directly be compared with specifications based on the DIN standard or other standards.

Continuous output power	30 W x 2 (at 8 ohms, 0.1% distortion)
Total harmonic distortion	0.08% (25 W output, 8 ohms)
Input sensitivity and impedance	
PHONO	2.5 mV/47 kohms
AUX/TUNER/TAPE PLAY	150 mV/47 kohms
Phono overload level	120 mV RMS (at 1 kHz)
Output level	
TAPE REC	150 mV
Frequency response	10 Hz — 40 kHz (AUX)
Tone control response	
BASS	±8 dB (at 100 Hz)
TREBLE	±8 dB (at 10 kHz)
High filter response	8 kHz (—6 dB/oct.)
Loudness control response (Vol. —30 dB)	
100 Hz/10 kHz	+8 dB/+4 dB
Signal to noise ratio	70 dB
Power requirements	AC: 220 V, 50 Hz
Power consumption	140 W
Dimensions (Approx.)	420 (W) x 250 (D) x 88 (H) mm
	(16-1/2" x 9-13/16" x 3-1/2")
Weight (Approx.)	4.9 kg (10 lbs. 13 ozs.)

* Specifications subject to change without notice.

WM-6350

ADJUSTMENT

1. ADJUSTMENT OF BIAS

* CONDITIONS

VOLUME CONTROL: "0" (Minimum)
BALANCE CONTROL VOLUME: "0" (Center)
BASS CONTROL VOLUME: "0" (Center)
TREBLE CONTROL VOLUME: "0" (Center)
FUNCTION SWITCH: TUNER
MONITOR SWITCH: SOURCE
HIGH FILTER SWITCH: OFF
LOUDNESS SWITCH: OFF
SPEAKER SWITCH(A): ON
SPEAKER SWITCH(B): OFF
OUTPUT LOAD: NO LOAD

After the power switch is turned on, adjust SVR701 and SVR801 respectively as follows.

L-channel: SVR701 for 2~3 mV reading between the both leads of R716.

R-channel: SVR801 for 2~3 mV reading between the both leads of R817.

2. ADJUSTMENT OF POWER LEVEL METER

* CONDITIONS

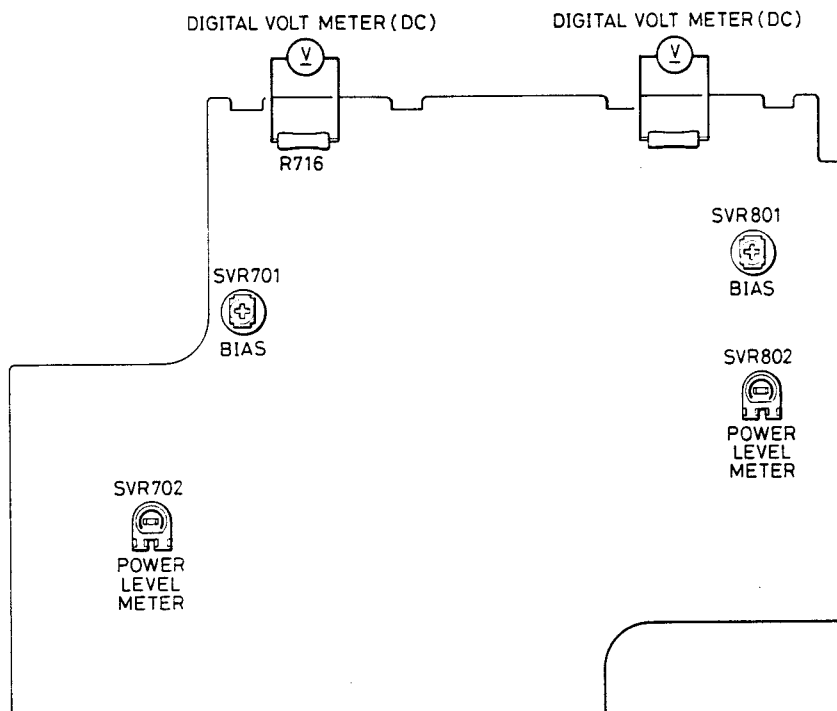
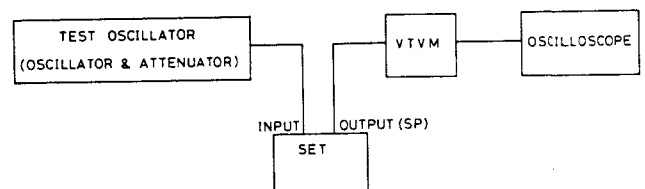
INPUT SIGNAL: 1 kHz, 150 mV

OUTPUT LOAD: 8 Ω , 100 W, non-inductive resistance

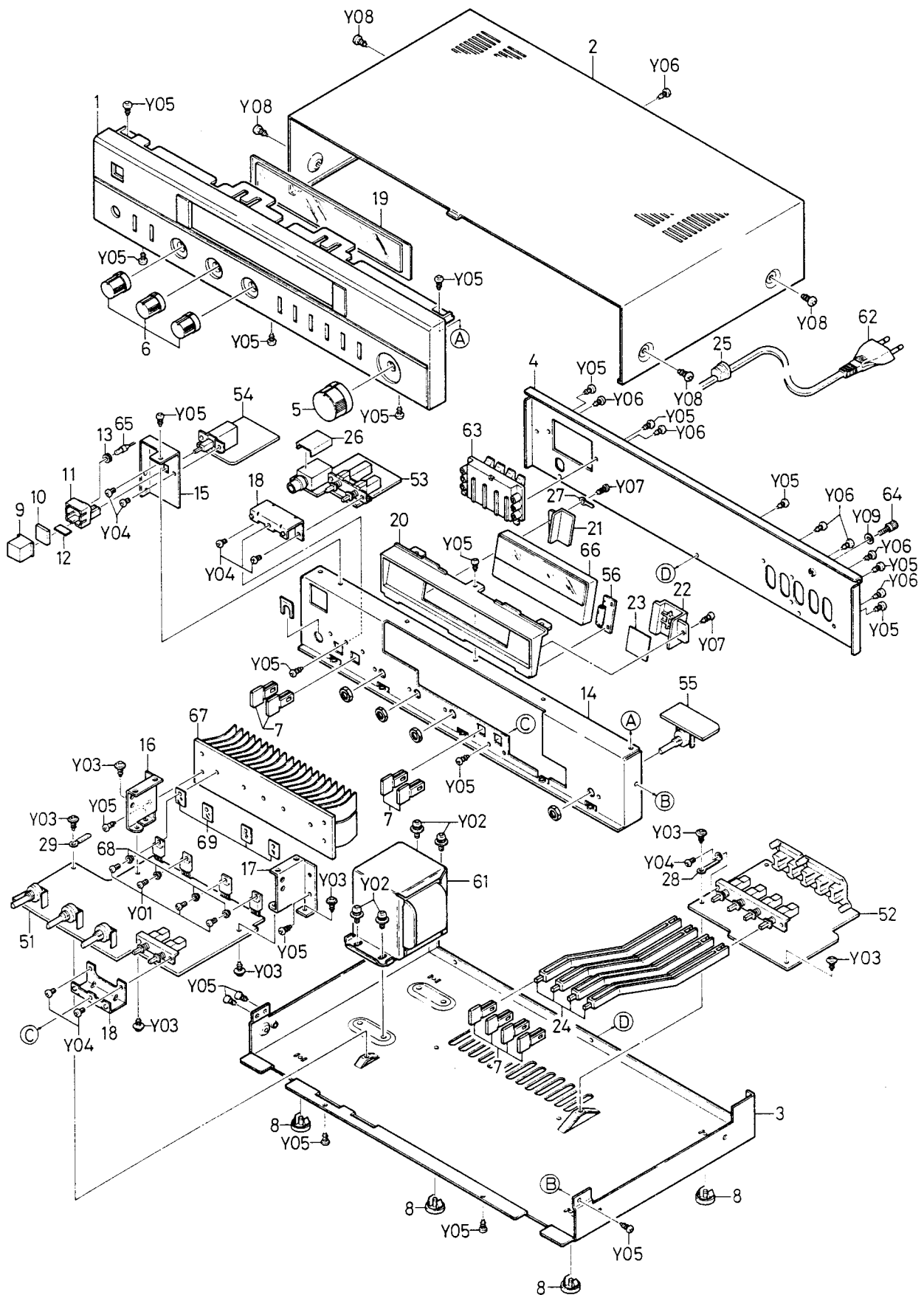
VOLUME CONTROL: "10" (Maximum)

Apply the signal from the test oscillator (1 kHz, 150 mV) as input to the tuner terminals.

Adjust SVR702 (L-channel) and SVR802 (R-channel) so that the power level meter indication becomes 30 W when the speaker (A) output voltage is 30 W (15.5 V).



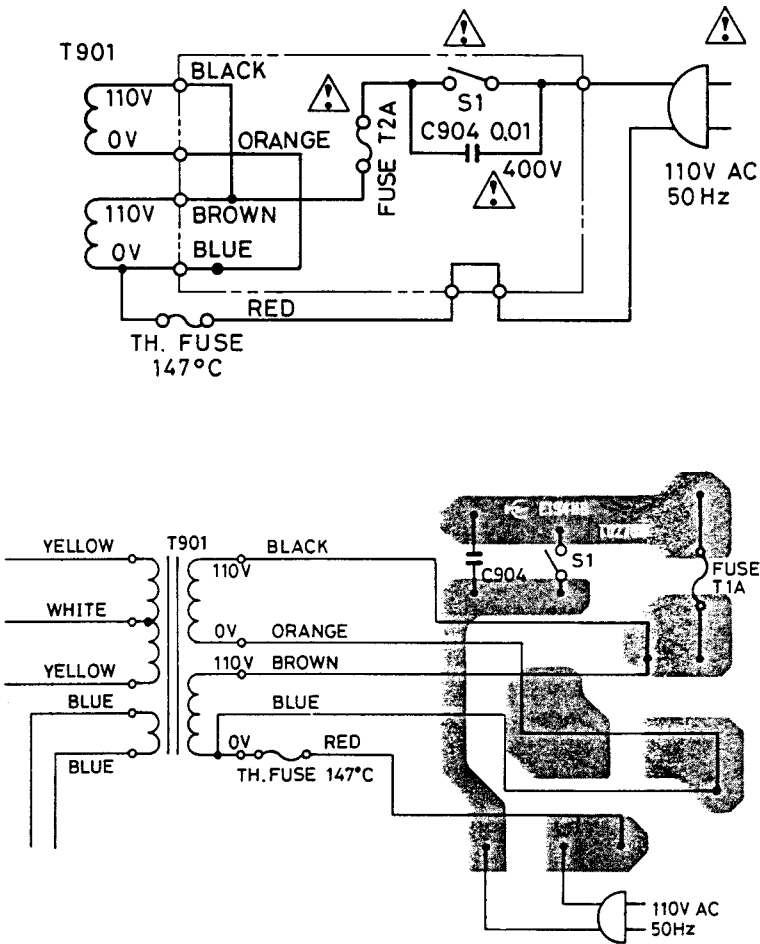
EXPLODED VIEW



As the power supply voltage for JA 2003 can be selected as 220 V (50 Hz) or 110 V (50 Hz), execute servicing for a set for which 110 V (50 Hz) has been selected according to the following circuit diagram.

Use the following fuses according to the power supply voltage.

POWER SOURCE	FUSE	PARTS NO.
220V (50Hz)	T1A	4-234T-09984
110V (50Hz)	T2A	4-234T-09988



PARTS LIST

Key No.	Part No.	Description	Q'ty
PACKING & ACCESSORIES			
	141-6-133T-26304	Individual Carton	1
	141-6-144T-72900	Pad, Side	2
	141-6-331T-11700	Protector Sheet, 370x740mm	1
	141-6-231T-40550	Polyethylene Bag, Set	1
	141-6-410T-63300	Instruction Manual	1
CABINET & CHASSIS			
1	141-0-122T-39900	Front Panel Assembly	1
2	141-0-111T-48701	Cabinet Assembly	1
3	141-2-125T-24800	Bottom Lid	1
4	141-2-126T-36800	Back Lid	1
5	141-2-163T-81700	Rotary Knob, VOLUME	1
6	141-2-163T-81800	Rotary Knob, BALANCE/ TREBLE/BASS	3
7	141-2-161T-98400	Push Button, FUNCTION/ MONITOR/LOUDNESS/ HIGH FILTER/SPEAKER	8
8	141-2-174T-12000	Stand, Bottom Lid mtg.	4
9	141-2-132T-17100	Sign Window, Power Switch	1
10	141-2-135T-77200	Cover, Power Switch	1
11	141-2-161T-98200	Push Button, Power Switch	1
12	141-2-246T-95700	Sheet, 15x8mm, Power Switch mtg.	1
13	141-2-445T-08701	Rubber Cushion, Power Switch	1
14	141-2-311T-38700	Chassis	1
15	141-2-310T-59000	Bracket, Power Switch	1
16	141-2-310T-61700	Bracket, Heat Sink, Left	1
17	141-2-310T-61800	Bracket, Heat Sink, Right	1
18	141-2-365T-55500	Bracket, Switch	2
19	141-2-131T-32500	Clear Window	1
20	141-2-373T-08600	Bracket, Meter	1
21	141-2-210T-34400	Bracket, Meter, Left	1
22	141-2-210T-34500	Bracket, Meter, Right	1
23	141-2-246T-95500	Sheet, Meter mtg.	1
24	141-2-253T-23300	Joint, FUNCTION/MONITOR	4
25	141-2-464T-14400	Fixer, Power Cord mtg.	1
26	141-2-246T-95600	Sheet, Phones Socket mtg.	1
27	123-2-472R-00601	Lug, Lead mtg.	1
28	123-2-472R-01400	Lug, FUNCTION/MONITOR Switch mtg.	1
29	141-2-472T-01201	Lug, Lead mtg.	1
	141-2-464T-20600	Fixer, Lead mtg.	3
	141-2-184T-06901	Tape, 6x70mm, Meter, Right Side	1
	141-2-184T-07101	Tape, 15x70mm, Meter, Left Side	1
	141-2-184T-01200	Tape, 60mm, Bracket/Heat Sink mtg.	1
	141-2-250T-00600	Double Face, 6x140mm, Meter mtg.	1
HARDWARE			
Y01		Pan Hd. Screw, 3x8mm	4
Y02		Pan Hd. Screw with Spring Washer, 4x10mm	4
Y03		Pan Hd. Tapping Screw with Washer, 3x6mm	7
Y04		Binding Hd. Screw, 3x4mm	7
Y05		Binding Hd. Tapping Screw, 3x6mm	20
Y06		Binding Hd. Tapping Screw, 3x8mm	7
Y07		Binding Hd. Tapping Screw, 3x10mm	2
Y08		Binding Hd. Tapping Screw, 4x8mm	4
Y09		Washer, 3x10x1mm	1

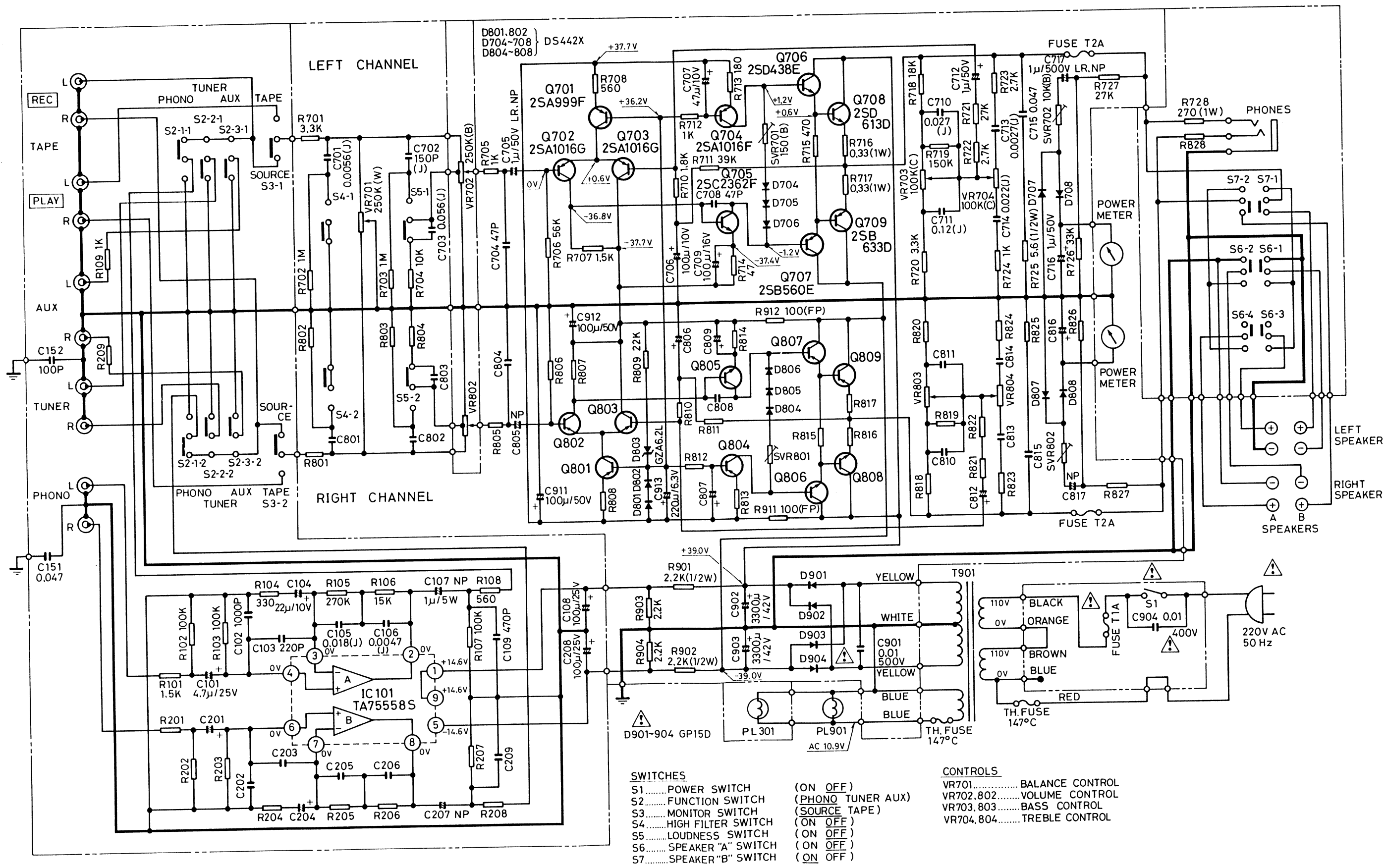
Key No.	Part No.	Description	Q'ty
ELECTRICAL PARTS			
61	4-300T-37600	Power Transformer	1
62	4-243T-83200	Power Cord	1
63	4-237T-09800	Terminal Board, Speaker	1
64	141-2-382T-10600	Terminal, Ground	1
65	4-612T-16000	Lamp, 12V 80mA, Power	1
66	4-511T-12300	Meter, Power Level Indicators	1
67	141-2-368T-22300	Heat Sink	1
68	141-2-243T-09800	Base, Transistor mtg.	4
69	141-2-327T-18200	Insulator, Transistor mtg.	4
	4-234T-09984	Fuse, T1A, Power	1
	4-234T-09988	Fuse, T2A, Speaker	2
	141-2-135T-75700	Cover, Capacitor (C501) mtg.	1
AMP PCB ASSY			
51	141-4-250T-02800	P.C.B. Assembly, Amp.	1
Q701,801		Transistor, 2SA999	2
Q702,802		Transistor, 2SA1016	2
Q703,803		Transistor, 2SA1016	2
Q704,804		Transistor, 2SA1016	2
Q705,805		Transistor, 2SC2362	2
Q706,806		Transistor, 2SD438	2
Q707,807		Transistor, 2SB560	2
Q708,808		Transistor, 2SD613	2
Q709,809		Transistor, 2SB633	2
D801		Diode, DS442X	1
D802		Diode, DS442X	1
D803		Diode, GZA6.2L	1
D704,804		Diode, DS442X	2
D705,805		Diode, DS442X	2
D706,806		Diode, DS442X	2
D707,807		Diode, DS442X	2
D708,808		Diode, DS442X	2
D901,902		Diode, GP15D	4
903,904			
S4,5	4-238T-35500	Push Switch, HIGH FILTER LOUDNESS	1
VR701	141-2-381T-04200	Bracket Fuse	4
	4-222T-94900	Variable Resistor, 250K ohm, BALANCE	1
VR703	4-222T-95000	Variable Resistor, 100K ohm, BASS/TREBLE	2
803,704			
804			
SVR701	4-222T-73595	Semi-fixed Resistor, Bias Adj.	2
801			
SVR702	4-222T-81475	Semi-fixed Resistor, Meter Level Adj.	2
802			
RESISTORS			
All Resistors are Carbon P-type ¼W, ±5% unless otherwise noted.			
R701,801		3.3K ohm	2
R702,802		1M ohm	2
R703,803		1M ohm	2
R704,804		10K ohm	2
R705,805		1K ohm	2
R706,806		56K ohm	2
R707,807		1.5K ohm	2
R708,808		560 ohm	2
R809		22K ohm	1
R710,810		1.8K ohm	2
R711,811		39K ohm	2
R712,812		1K ohm	2
R713,813		180 ohm	2
R714,814		47 ohm	2
R715,815		470 ohm	2
R716,816		Metal Oxide, 0.33 ohm, 1W	2
R717,817		Metal Oxide, 0.33 ohm, 1W	2
R718,818		18K ohm	2
R719,819		150K ohm	2
R720,820		3.3K ohm	2
R721,821		27K ohm	2
R722,822		2.7K ohm	2
R723,823		2.7K ohm	2
R724,824		1K ohm	2
R725,825		Flame Ploof, 5.6 ohm, ½W	2

PARTS LIST

Key No.	Part No.	Description	Q'ty
AMP PCB ASSY			
RESISTORS			
R726,826		33K ohm	2
R727,827		27K ohm	2
R901		Flame Ploof, 2.2K ohm, ½W	1
R902		Flame Ploof, 2.2K ohm, ½W	1
R903		2.2K ohm	1
R904		2.2K ohm	1
R911		Flame Ploof, 100 ohm	1
R912		Flame Ploof, 100 ohm	1
CAPACITORS			
C701,801		Mylar, 0.0056µF, ±5%, 50V	2
C702,802		Ceramic, 150pF, ±5%, 50V	2
C703,803		Mylar, 0.056µF, ±5%, 50V	2
C704,804		Ceramic, 47pF, ±20%, 50V	2
C705,805		Electrolytic, 1µF, 50V, Non-polar	2
C706,806		Electrolytic, 100µF, 10V	2
C707,807		Electrolytic, 47µF, 10V	2
C708,808		Ceramic, 47pF, ±20%, 50V	2
C709,809		Electrolytic, 100µF, 16V	2
C710,810		Mylar, 0.027µF, ±5%, 50V	2
C711,811		Mylar, 0.12µF, ±5%, 50V	2
C712,812		Electrolytic, 1µF, 50V	2
C713,813		Mylar, 0.0027µF, ±5%, 50V	2
C714,814		Mylar, 0.022µF, ±5%, 50V	2
C715,815		Mylar, 0.047µF, ±20%, 50V	2
C716,816		Electrolytic, 1µF, 50V	2
C717,817		Electrolytic, 1µF, 50V, Non-polar	2
C901		Ceramic, 0.01µF, 500V	1
C902	4-163T-08300	Electrolytic, 3300µF, 42V	1
C903	4-163T-08300	Electrolytic, 3300µF, 42V	1
C911		Electrolytic, 100µF, 50V	1
C912		Electrolytic, 100µF, 50V	1
C913		Electrolytic, 220µF, 6.3V	1
PHONO PCB ASSY			
52	141-4-250T-03300	P.C.B. Assembly, Phono Amp.	1
IC101		Integrated Circuit, TA75558S	1
	4-240T-06900	Socket, 4P, TAPE (REC/PLAY)	1
	4-240T-07000	Socket, 6P, PHONO/ TUNER/AUX	1
S2,3	4-238T-35600	Push Switch, FUNCTION/ MONITOR	1
RESISTORS			
All Resistors are Carbon P-type ¼W, ±5% unless otherwise noted.			
R101,201		1.5K ohm	2
R102,202		100K ohm	2
R103,203		100K ohm	2
R104,204		330 ohm	2
R105,205		270K ohm	2
R106,206		15K ohm	2
R107,207		100K ohm	2
R108,208		560 ohm	2
R109,209		1K ohm	2
CAPACITORS			
C101,201		Electrolytic, 4.7µF, 25V	2
C102,202		Ceramic, 100pF, ±20%, 50V	2
C103,203		Ceramic, 220pF, ±20%, 50V	2
C104,204		Electrolytic, 22µF, 10V	2
C105,205		Mylar, 0.018µF, ±5%, 50V	2
C106,206		Mylar, 0.0047µF, ±5%, 50V	2

Key No.	Part No.	Description	Q'ty
PHONO PCB ASSY			
CAPACITORS			
C107,207		Electrolytic, 1µF, 50V, Non-polar	2
C108,208		Electrolytic, 100µF, 25V	2
C109,209		Ceramic, 470pF, ±20%, 50V	2
C151		Ceramic, 0.047µF, +80-20%, 50V	1
C152		Ceramic, 100pF, ±20%, 50V	1
SPEAKER SWITCH PCB ASSY			
53	141-4-250T-03000	P.C.B. Assembly, Speaker Switch	1
S6,7	4-238T-13100	Push Switch, Speakers	1
	4-240T-14400	Socket, Phones	1
R728,828		Metal Oxide Res, 270 ohm, ±5%, 1W	2
POWER SWITCH PCB ASSY			
54	141-4-250T-02700	P.C.B. Assembly, Power Switch	1
S1	4-238T-30173	Push Switch, Power	1
	141-2-381T-04200	Bracket Fuse	4
	4-237T-00100	Terminal Board	4
	141-2-382T-18900	Terminal	2
C904	4-223T-12100	Capacitor, 0.01µF, 400V	1
VOLUME PCB ASSY			
55	141-4-250T-03100	P.C.B. Assembly, Volume	1
VR702	4-222T-94800	Variable Resistor, 250K ohm, VOLUME	1
802			
METER LAMP PCB ASSY			
56	141-4-250T-03200	P.C.B. Assembly, Meter Lamp	1
PL301	4-612T-16100	Lamp, 12V 150mA	1

SCHEMATIC DIAGRAM



- SWITCHES**
- S1.....POWER SWITCH (ON OFF)
 - S2.....FUNCTION SWITCH (PHONO TUNER AUX)
 - S3.....MONITOR SWITCH (SOURCE TAPE)
 - S4.....HIGH FILTER SWITCH (ON OFF)
 - S5.....LOUDNESS SWITCH (ON OFF)
 - S6.....SPEAKER "A" SWITCH (ON OFF)
 - S7.....SPEAKER "B" SWITCH (ON OFF)

- CONTROLS**
- VR701.....BALANCE CONTROL
 - VR702,802.....VOLUME CONTROL
 - VR703,803.....BASS CONTROL
 - VR704,804.....TREBLE CONTROL

