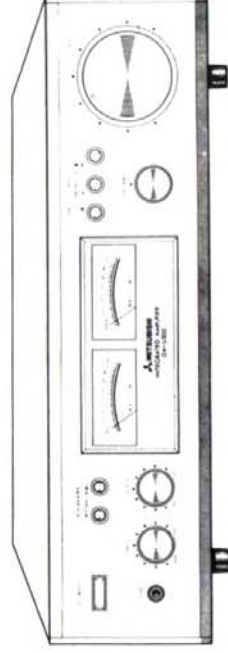
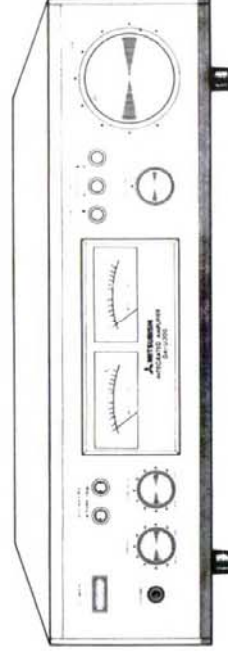




# INTEGRATED AMPLIFIER DA-U200/U300

## SERVICE MANUAL



### CONTENTS

SERVICE DATA .....	2
PANEL .....	5
DISASSEMBLY .....	7
ADJUSTMENT .....	9
PARTS LOCATION .....	10
DA-U200/U300 PARTS LOCATION .....	11
DA-U200 WIRING .....	13
DA-U200 EASIC SCHEMATIC DIAGRAM .....	15
DA-U300 WIRING .....	17
DA-U300 BASIC SCHEMATIC DIAGRAM .....	19
PARTS LIST .....	21

SERVICE DATA

Model	DA-U200	DA-U300
<u>POWER AMPLIFIER SECTION</u>		
Continuous Power Output (Both channels driven at 20Hz to 20KHz)	25W/25W (8 ohms)	50W/50W (8 ohms)
Total Harmonic Distortion (Continuous rated power output)	0.5%	0.5%
Intermodulation Distortion (Continuous rated power output) (1 W/ch 8 ohms)	0.5% 0.1%	0.5% 0.1%
Frequency Response	20Hz to 50kHz + 0dB, -1dB	20Hz to 50kHz + 0dB, -1dB
Output		
Speaker	A, B	A, B
Headphone	280 mV/390 ohms	280 mV/390 ohms
Damping Factor	50 (20Hz to 20 kHz, 8 ohms)	50 (20 Hz to 20 kHz, 8 ohms)

PREAMPLIFIER SECTION

Input Sensitivity/Impedance

Phone

2.5 mV/50 kohms

Tuner

150 mV/33 kohms

Tape P.B.

150 mV/33 kohms

Phone Overload Level

150 mV (1 kHz)

(T.H.D. 0.1%)

170 mV (1 kHz)

Output Level/Impedance

150 mV/600 ohms

(Tape Rec)

Total Harmonic Distortion

0.05%

(20 Hz to 20 kHz)

0.05%

Frequency Response

Phono (RIAA equalization)

30 Hz to 20 kHz

30 Hz to 20 kHz

±0.5 dB

± 0.5 dB

Tuner Tape PB

20 Hz to 50 kHz

20 Hz to 50 kHz

+0 dB, -1 dB

+0 dB, -1 dB

Tone Control

BASS

±10 dB (100Hz)

± 10 dB (100 Hz)

TREBLE

±10 dB (10 kHz)

± 10 dB (10 kHz)

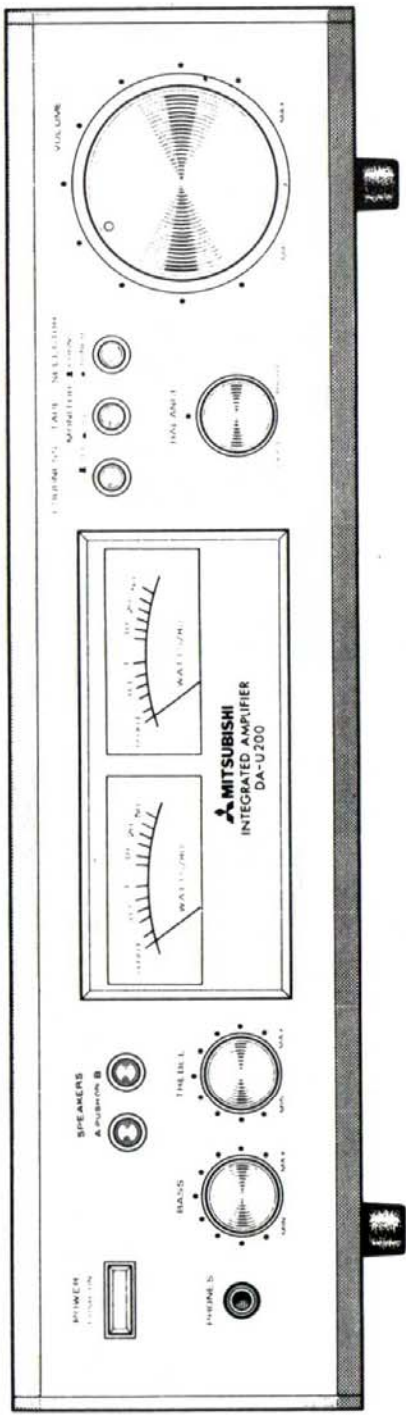
Subsonic Filter

40 Hz, 6 dB/oct

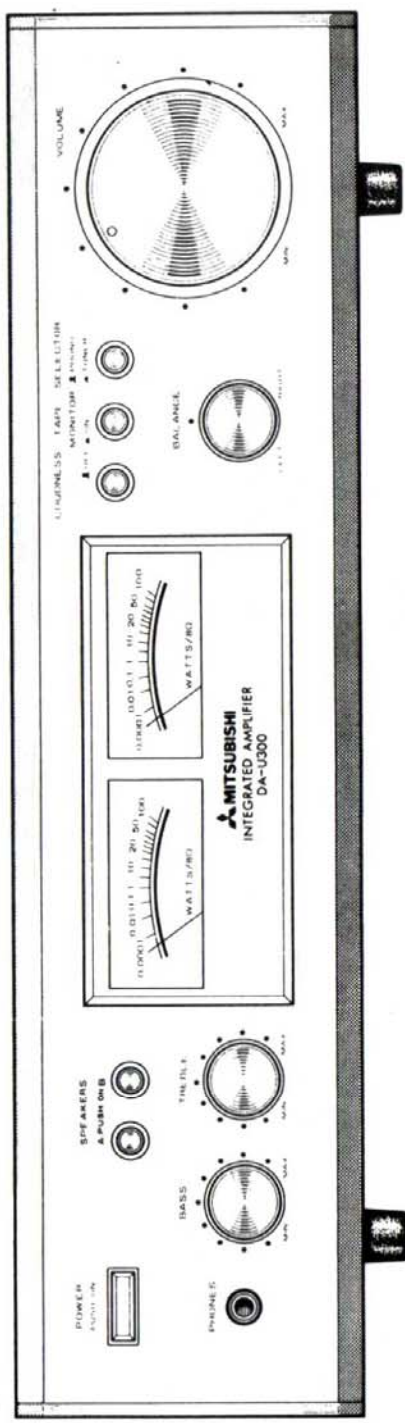
Loudness Contour (Volume control set at -30 dB position)	+6 dB (100 Hz) +4 dB (10 kHz)	+6 dB (100 Hz) +4 dB (10 kHz)
Signal to Noise Ratio (IHF, Short-circuited A network)		
Phono	73 dB	73 dB
Tuner, Tape PB	95 dB	95 dB
Muting		0, -20 dB
<u>SEMICONDUCTOR</u>		
Transistors	23	31
Diodes	8	17
<u>MISCELLANEOUS</u>		
Power Consumption	60 W	140 W
Dimensions	400 (W) x 116 (H) x 280 (D) mm 15-3/4 x 4-1/2 x 11"	400 (W) x 116 (H) x 280 (D) mm 15-3/4 x 4-1/2 x 11"
Weight	5.9 kg (13 lbs.)	6.9 kg (15.5 lbs.)

PANEL

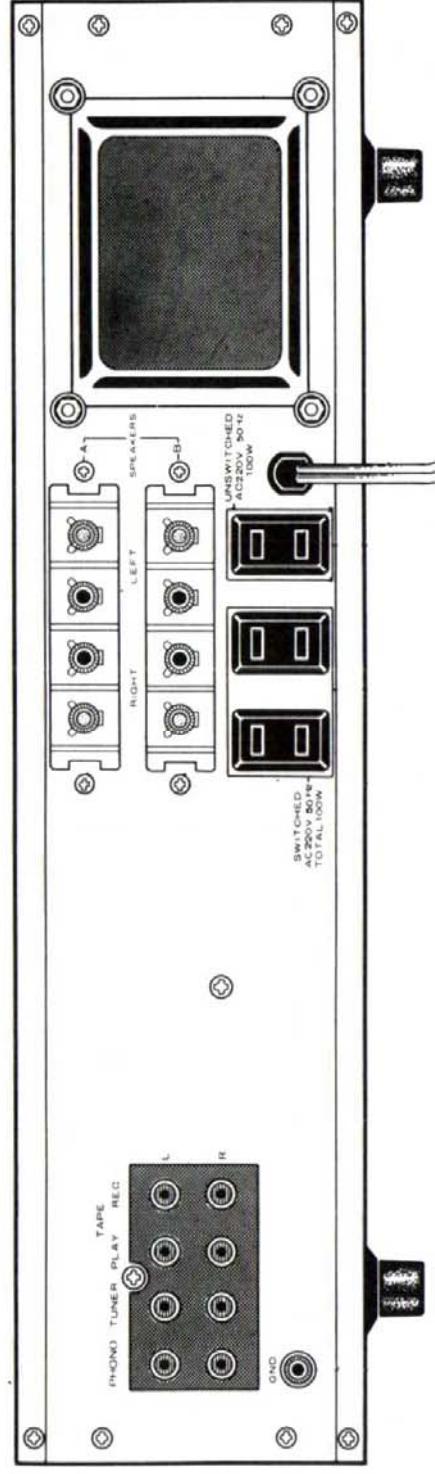
DA-U200 FRONT PANEL



DA-U300 FRONT PANEL



# DA-U300 REAR PANEL



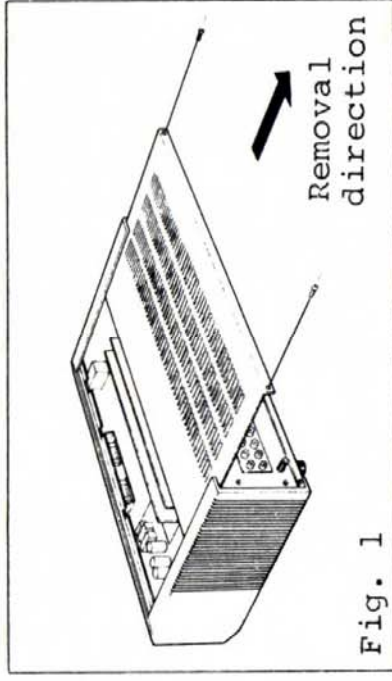
\* The rear panel of the DA-U200 is identical to that of the DA-U300 except for the rating plate.

## DISASSEMBLY

### Detail Disassembly Procedure

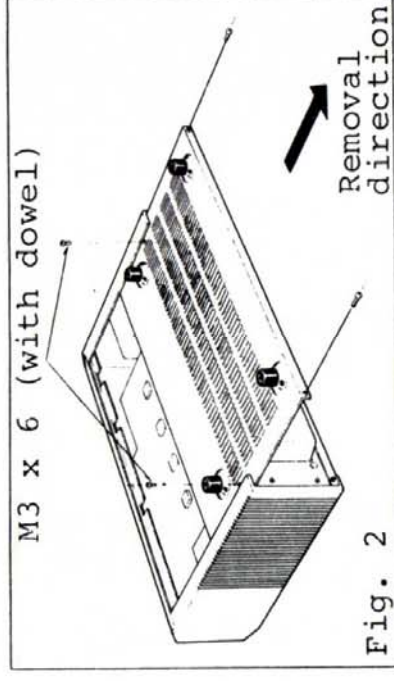
#### 1. Top Cover Removal

- 1) Remove two screws from the upper portion on the rear side as shown in Fig.1.
- 2) As the top cover is of sliding type, withdraw it in arrowed direction as shown in Fig.1.  
(Screw: M3 x 8 with dowel)



#### 2. Bottom Plate Removal

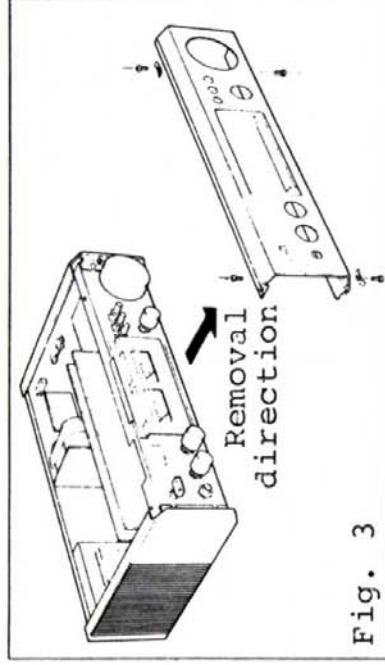
- 1) Remove four screws from the lower portion on the rear side as shown in Fig.2.
- 2) As the bottom plate is of sliding type, withdraw it in arrowed direction as shown in Fig.2.



(Screw: M3 x 8 with dowel)

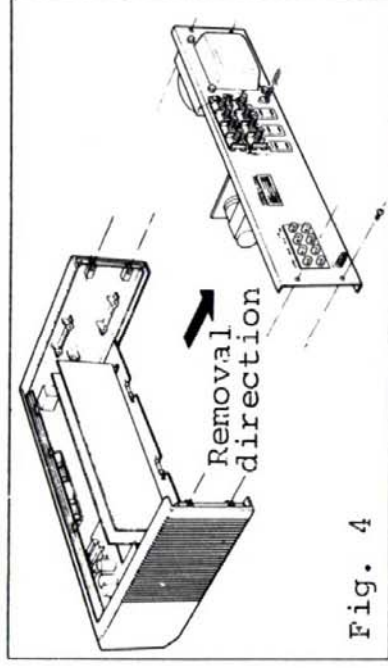
### 3. Front Panel Removal

- 1) Remove the top cover and bottom plate as described in Items 1 and 2.
- 2) Remove four screws as shown in Fig.3. (Each two screws at the upper and lower portions.)
- 3) Now, you can remove the front panel in arrowed direction shown in Fig.3. (Knobs remain attached.)  
(Screw: M3 x 6)



### 4. Rear Panel Removal

- 1) Remove the top cover and the bottom plate as explained in Items 1 and 2.
- 2) Remove four screws as shown in Fig.4.
- 3) Desolder lead wires of the rear panel and remove wrapping point.  
(Screw: 3 x 20, class-1)





## ADJUSTMENT

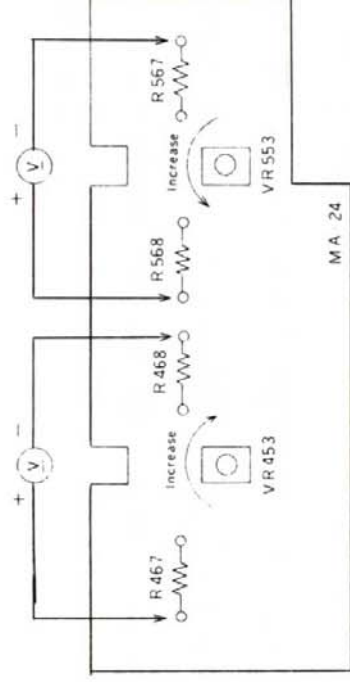
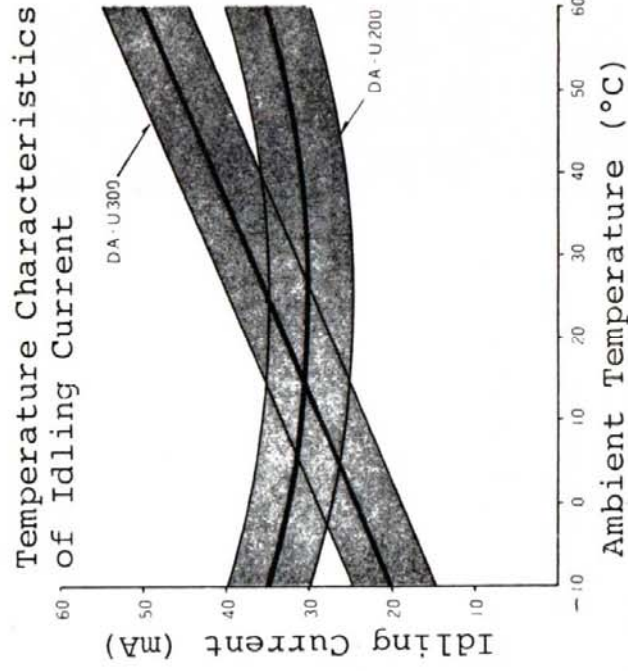
### Adjusting Procedure

#### 1. Idling Current Adjustment

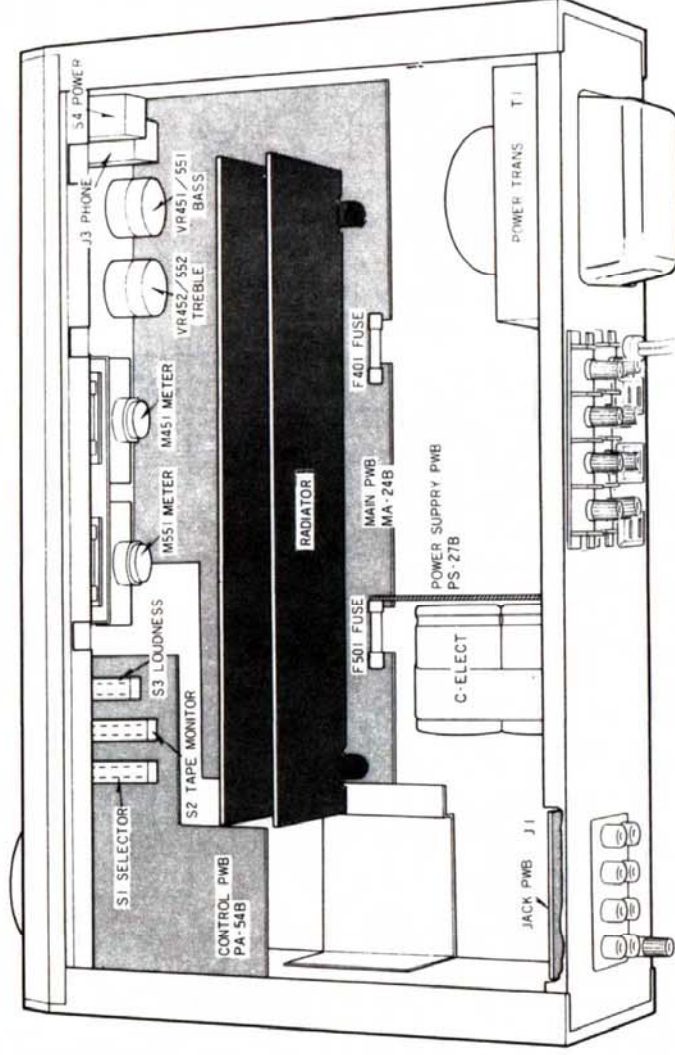
1) Connect a DC voltmeter between terminals of R467 and R468 for L channel, and another one for R channel, and another one between R567 and R568 for R channel on the printed wiring board. (For connection, refer to the figure below.)

2) Turn the semifixed resistor VR453 for L channel clockwise, and VR443 for R channel counter-clockwise so that the DC voltmeter reads a minimum value.

3) Turn the VR453 for L channel clockwise, and VR443 for R channel counter-clockwise so that the DC voltmeter reads  $28 \pm 2$  mV.

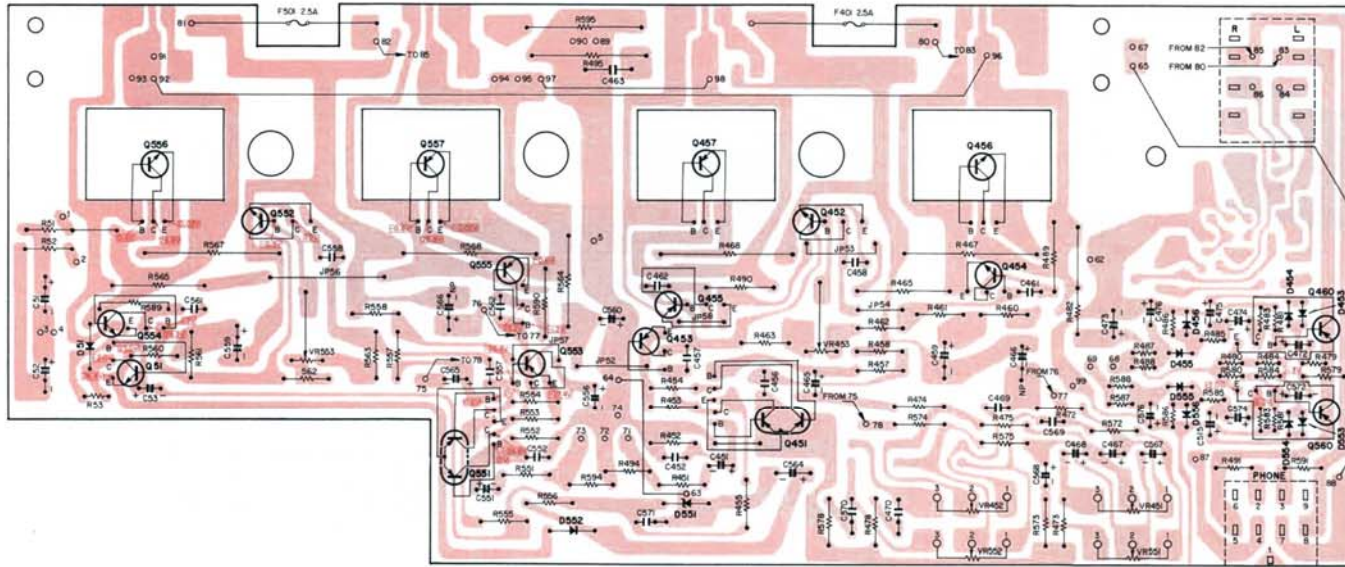


PARTS LOCATION

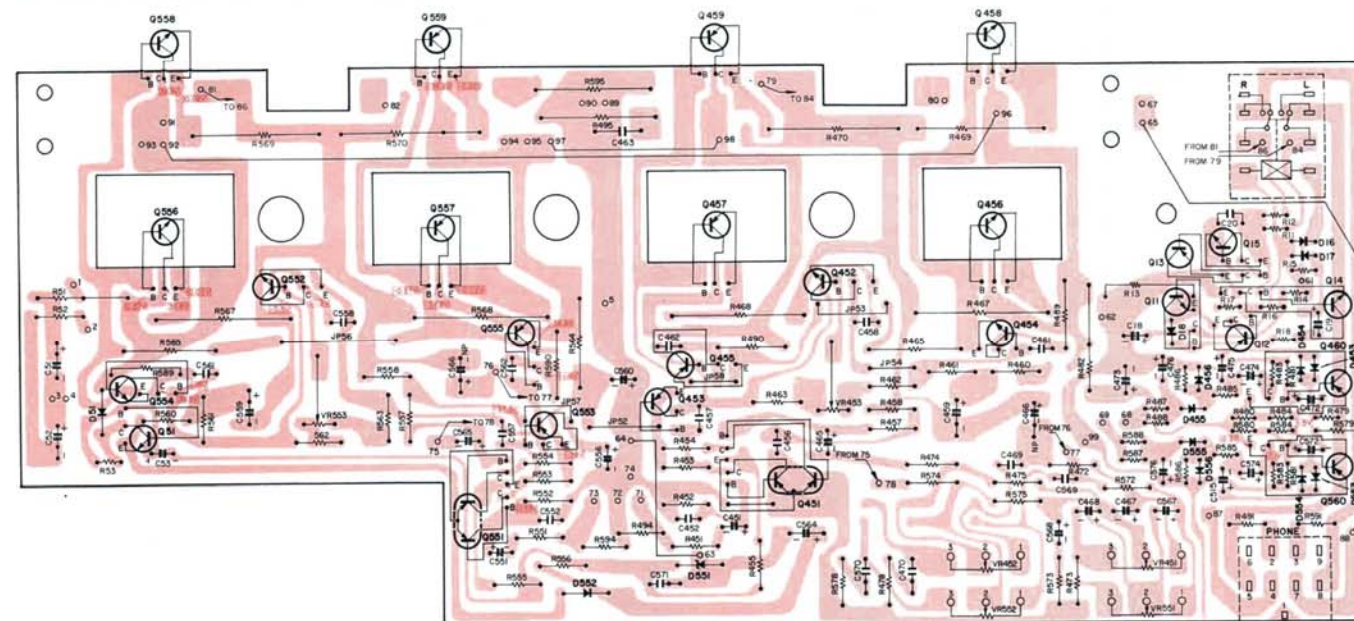


DA-U200/U300 PARTS LOCATION

DA-U200 PARTS LOCATION (MA-24B)

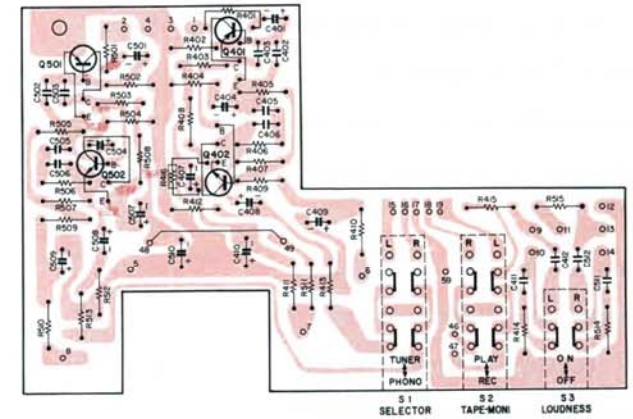


DA-U300 PARTS LOCATION (MA-24A)



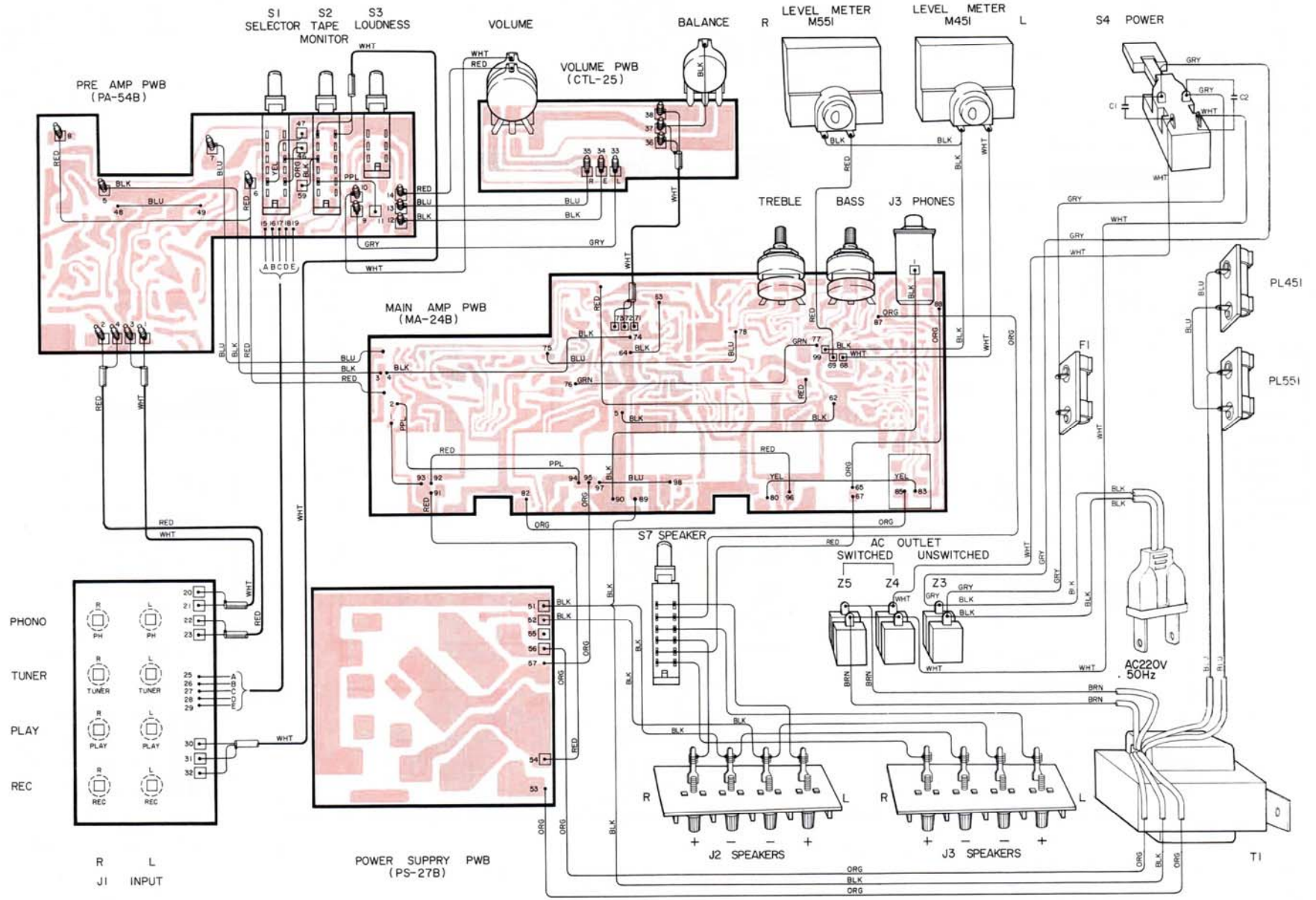
DA-U200/U300 PRE AMF PARTS LOCATION

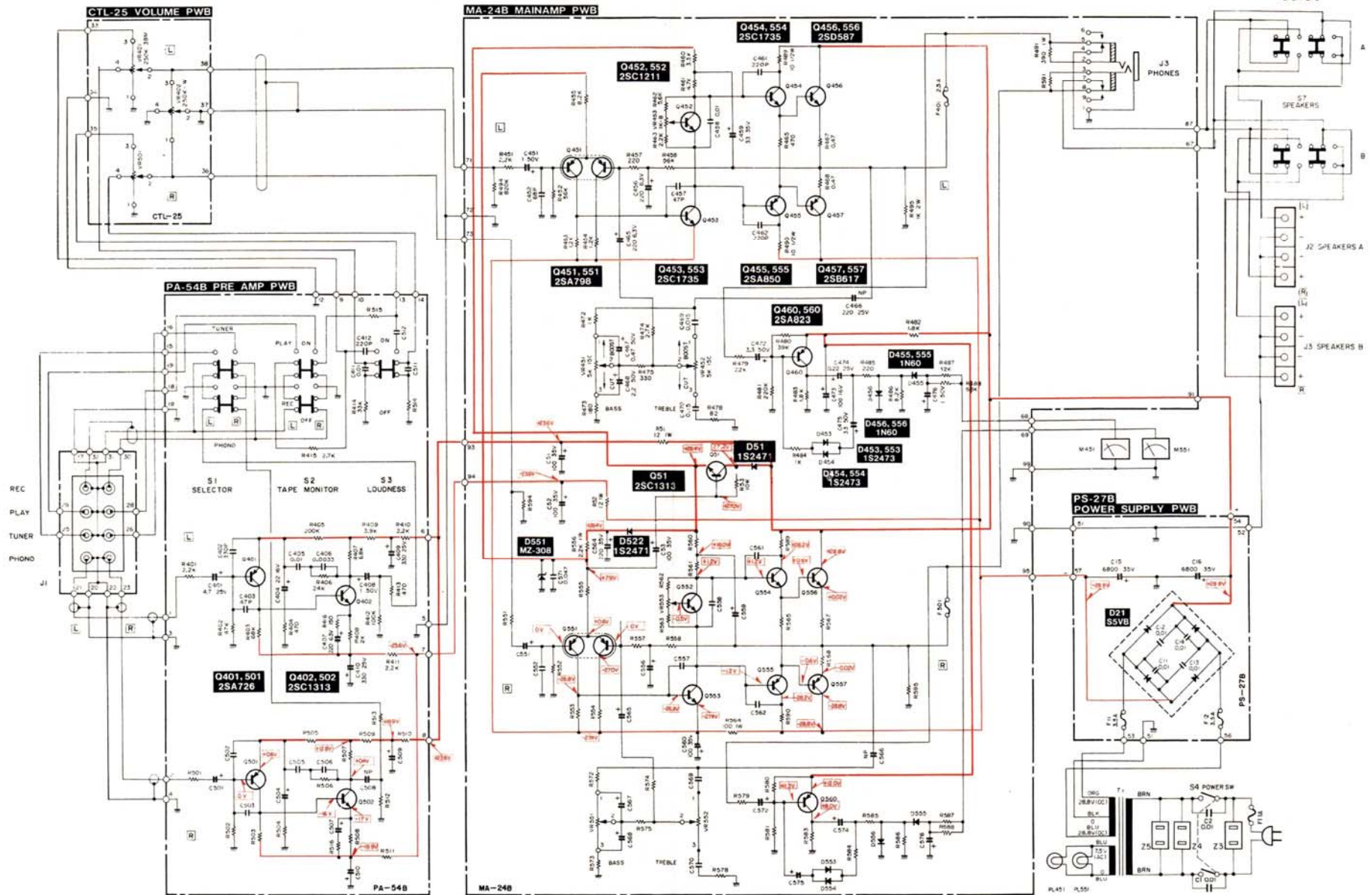
(PA-54/PA-54B)



Comment:

The diagram of the printed circuit board is used for both DA-U200 and DA-U300, so that it is sometimes partially different from that shown in a stock on hand.





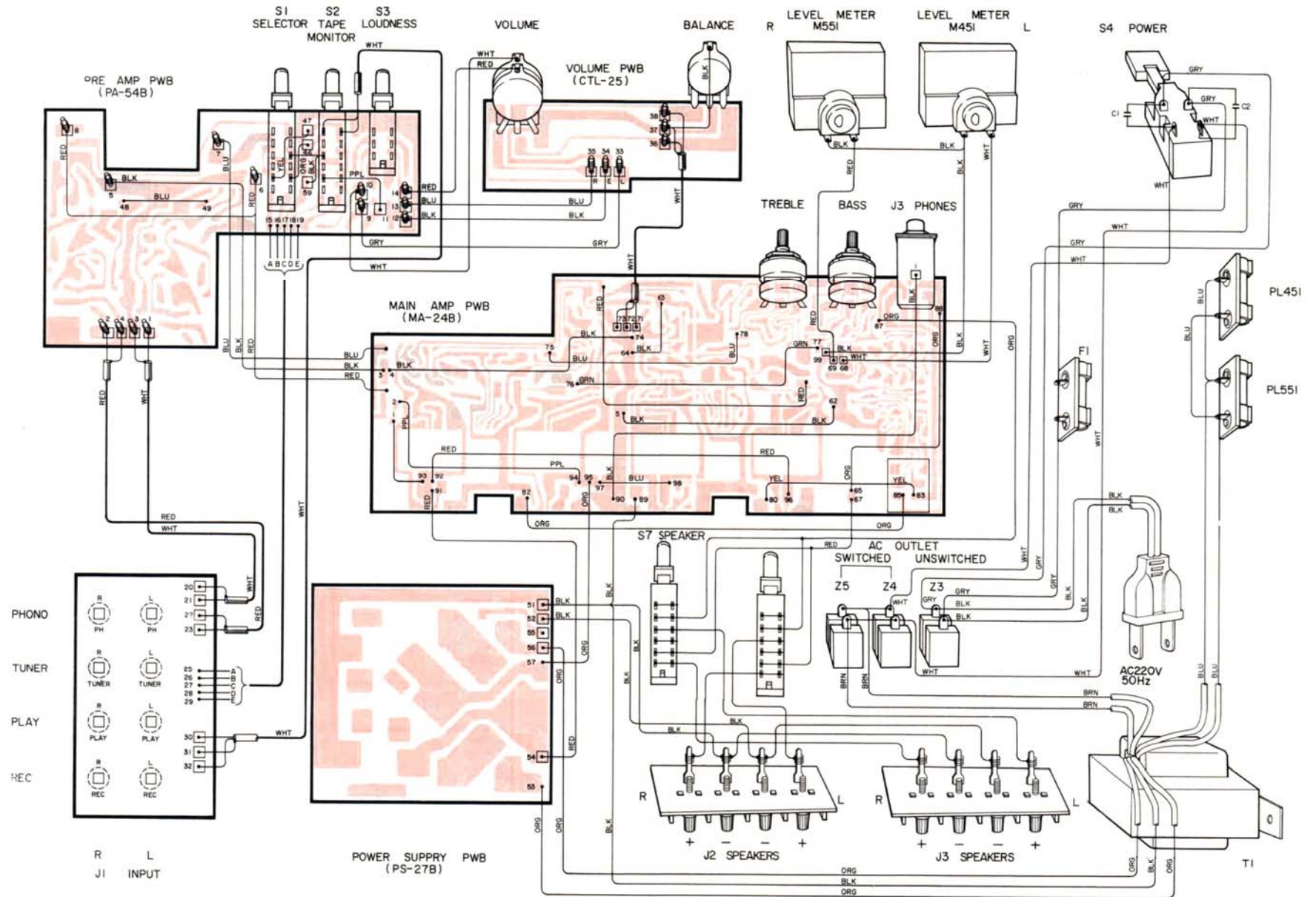
Notes:

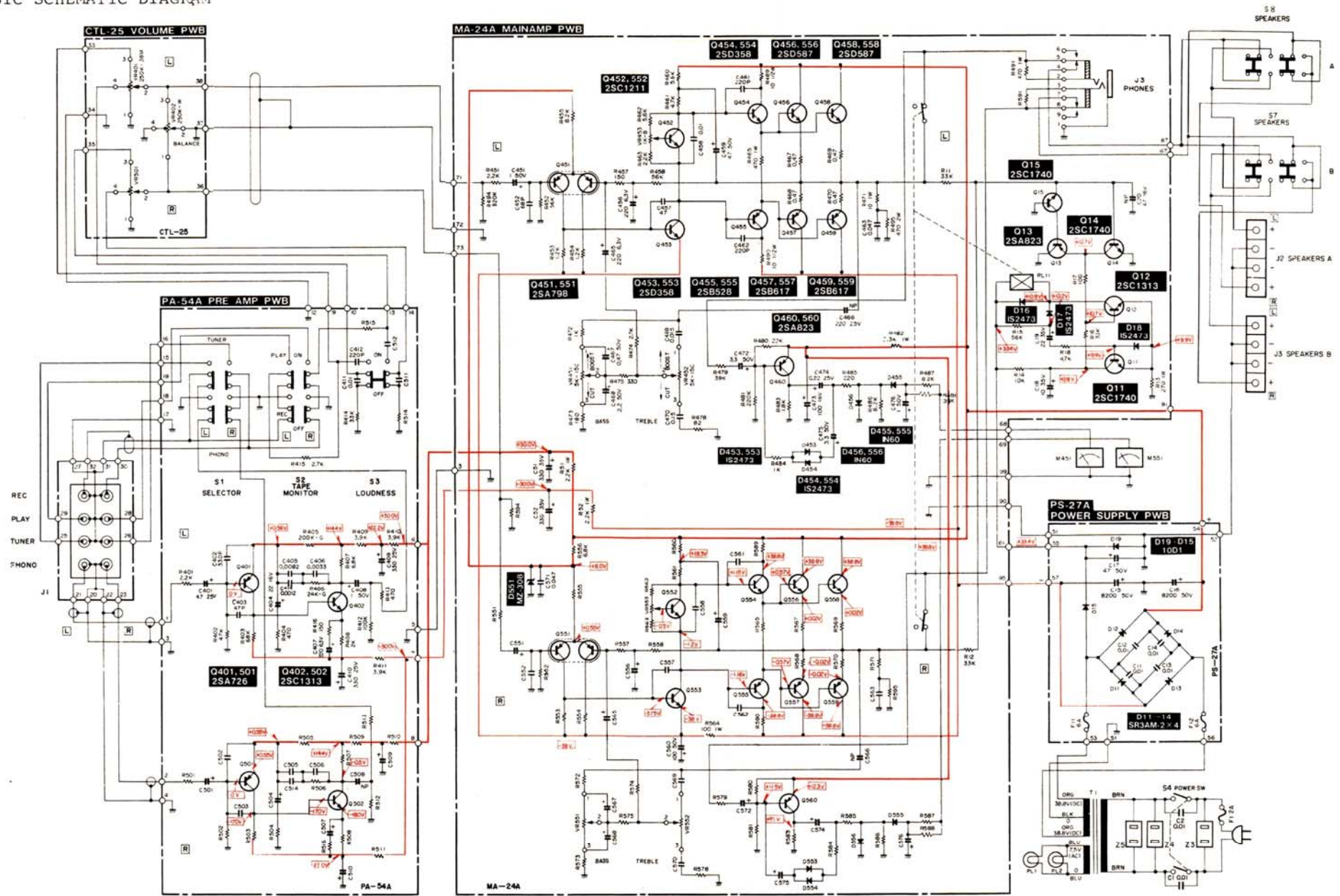
1. Shown voltage value is one measured by 30 k $\Omega$ /V tester. It varies with kind, range, etc. of tester used.

2. Unit: resistance .... $\Omega$   
 capacitance .... figure only .... F  
 figure with suffix "P" ....PF
3. R487 and R587 are resistance for adjustment use.

CONSTRUCTION AND EXTERNAL VIEW OF TRANSISTORS







Notes:  
 1. Shown voltage value is one measured by 30 k $\Omega$ /V tester. It varies with kind, range, etc. of tester used.

2. Unit: resistance ... $\Omega$   
 capacitance .... figure only .... F  
 figure with suffix "P" ....PF  
 3. R487 and R587 are resistance for adjustment use.

CONSTRUCTION AND EXTERNAL VIEW OF TRANSISTORS



DA - U200 PARTS LIST

<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>PART IDENTIFICATION</u>
<u>AMPLIFIER</u>		
M07085480	Socket AC	Z3, Z4, Z5
M07193575	Speaker Terminal Board	J2
M07133420	R-Fuse 1/2 W 10-K	
M07153401	VR-STD-B250K25 (Balance)	VR402
M07153400	VR-W-B250K25 (Volume)	VR401, 501
M07153402	VR-W-C5K (Bass)	VR451, 551
M07153403	VR-W-C5K (Treble)	VR452, 552
M05091352	VR-semi-Blk	VR453, 553
M07153260	Meter	M451, 551
M07153450	SW-push (Loudness, Selector, Tape Monitor)	
M05113430	SW-push (Power)	S4
M07153476	Jack for Headphone	J3
M07115250	Lamp	L451, 551
M07071306	Transistor 2SA726	Q401, 501
M07071303	Transistor 2SC1313	Q402, 502, 51
M07153303	Transistor 2SD587	Q456, 556
M07153304	Transistor 2SB617	Q457, 557



PART NO.	DESCRIPTION	PART IDENTIFICATION
M07133303	Transistor 2SA798	Q451, 551
M07071307	Transistor 2SC1211	Q452, 552
M07128303	Transistor 2SC1735	Q453, 454, 553, 554
M07133304	Transistor 2SA850	Q455, 555
M05104312	Transistor 2SA823	Q460, 560
M07133322	Diode MZ-308	D551
M07113321	Diode 1S2471	D51, 552
M07060320	Diode 1S2473VE	D453, 454, 553, 554
M04097320	Diode 1N60	D455, 456, 555, 556
M07153320	Diode S5VB20	D21
M07193212	Knob (Volume)	
M07193213	Knob (Balance, Bass, Treble)	
M07182210	Knob (Power)	
M07182211	Knob (Loudness, Tape Monitor, Selector, SPEAKERS)	

DA - U300 PARTS LIST (Common to the DA-200 except the following)

<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>PART IDENTIFICATION</u>
<u>AMPLIFIER</u>		
M07154260	Meter	M451, 551
M05113430	SW-push (Power)	S4
M07194450	SW-push (Subsonic:Filter Muting)	S5, S6
M07071304	Transistor 2SD358	Q453, 454, 553, 554
M07113303	Transistor 2SB528	Q455, 555
M05104313	Transistor 2SC1740	Q11, 14, 15
M07154465	Relay	RL11
M07051320	Diode SR3AM-2	D11, 12, 13, 14
M04079320	Diode 10D1	D15, 19

