

Service
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Service Manual

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"Pour votre sécurité, ces documents doivent être utilisés par des spécialistes agréés, seuls habilités à réparer votre appareil en panne".

CLASS 1
LASER PRODUCT



PHILIPS

Specifications

STANDARD TEST CONDITIONS

SUPPLY VOLTAGE: AC 120V, 60 Hz
REFERENCE OUTPUT: 500 mW (into 8 ohm Load)
AM ANTENNA: IRE Loop
AM STANDARD SIGNAL: 400 Hz, 30% Modulation at 1MHz
FM ANTENNA: 300 ohm Balanced
FM STANDARD SIGNAL: 1 kHz, 75 kHz Deviation at 98 MHz

AM BAND

	NOMINAL
Frequency Range	530–1710 kHz
IF Frequency	450 kHz
Usable Sensitivity S/N @20dB	800 uV/m
IF Rejection at 600 kHz	50 dB
Image Rejection at 1400 kHz	40 dB
AGC Figure of Merit (Ref: 100 mV/m)	45 dB

FM BAND

Frequency Range	87.5–108 MHz
IF Frequency	10.7 MHz
Mono 26 dB/ST. 46 dB Quieting Sensitivity	4/100 μ V
IF Rejection at 90 MHz	70 dB
Image Rejection at 106 MHz	45 dB
AM Suppression	40 dB

AMPLIFIER SECTION

Speaker Impedance: 8 ohms each Channel.
Reference Level: 500 m Watt each Channel.
0.5% THD Power at 1 kHz

0.5% THD Power at 1 kHz	55 Watts
Total Harmonic Distortion	0.2% @ Reference level
S/N Ratio	95 dB
Channel Separation (at 1 kHz)	50 dB

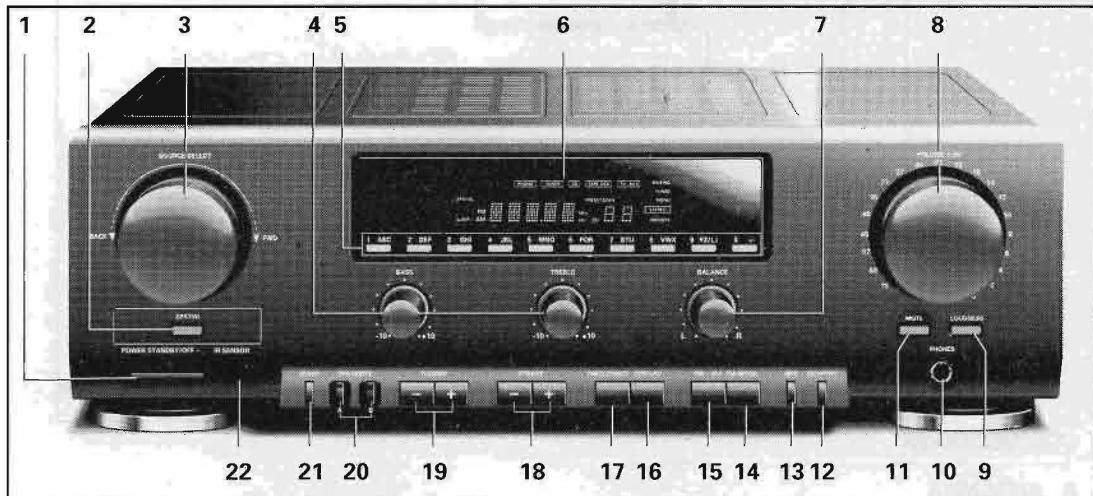
Graphic Equalizer Effect:
Base 1 (at 100 Hz)
 Boost

Base 1 (at 100 Hz)	+10 dB \pm 3 dB
Boost	+10 dB \pm 3 dB
Cut	-10 dB \pm 3 dB

Trable 1 (at 10 kHz)
 Boost

Trable 1 (at 10 kHz)	+10 dB \pm 3 dB
Boost	+10 dB \pm 3 dB
Cut	-10 dB \pm 3 dB

Controls & Connections



CONTROLS

- 1 POWER STANDBY/OFF** – for switching on to standby mode and for switching off.
- 2 SPATIAL** – to extend the stereo effect to a spatial stereo sound.
- 3 SOURCE SELECT** – for selecting the desired listening source.
- 4 BASS** – for adjusting the bass tones.
TREBLE – for adjusting the high tones.
- 5 Digit keys**
– for selecting 30 preset stations.
– for entering data when programming station name and when using the direct tuning function.
- 6 Display**
- 7 BALANCE** – for adjusting the balance of the volume between the left and right channels.
- 8 VOLUME** – for adjusting the volume.
- 9 LOUDNESS** – for increasing the treble and bass response at low volume settings.
- 10 PHONES** – socket for stereo headphones
• You may connect a pair of stereo headphones with 6.3 mm plug to this socket.
Inserting the plug will **not** disconnect the speakers.
- 11 MUTE** – for decreasing the volume by 20 dB (= factor 10).

- 12 MEMORY** – for opening and closing the memory when programming preset stations.
- 13 SND** (Station Name Display) – for entering a station name for a tuner preset.
- 14 FM MODE** – for selecting mono or stereo reception.
- 15 FM/AM** – selecting reception of FM or AM (MW) stations.
- 16 DISPLAY** – for selecting the frequency or the station name of a preset station to be shown on the display.
- 17 FREQ(uency) DIRECT** – for direct tuning to the station frequency.
- 18 PRESET -/+** – for selecting the next or previous tuner preset.
- 19 TUNING -/+** – frequency up/down.
- 20 SPEAKERS A** – for switching on and off a pair of speakers connected to the SPEAKERS A terminals.
- SPEAKERS B** – for switching on and off a pair of speakers connected to the SPEAKERS B terminals.
- 21 SLEEP** – to set a time period after which the system will automatically be switched to standby (off).
- 22 I(nfra) R(ed) SENSOR** – infrared remote control eye. For receiving signals from the remote control.

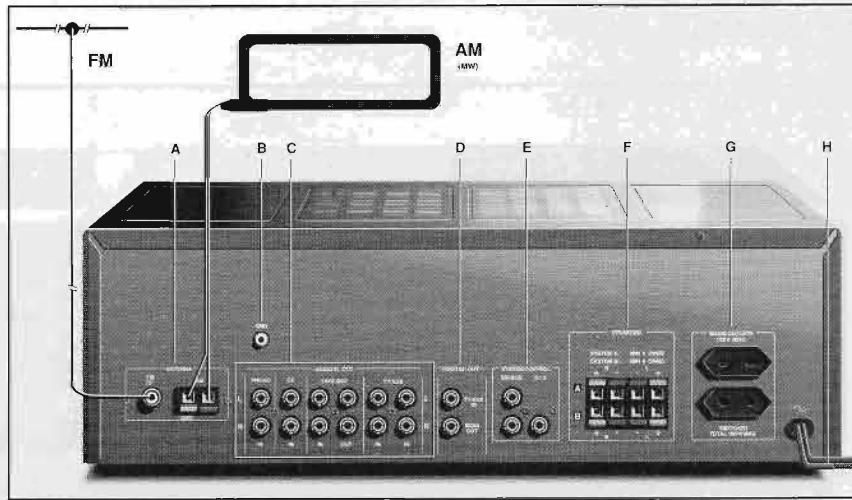


1. **FM** 2. **AM** 3. **SW** 4. **TV**

5. **ST** 6. **BT** 7. **CD** 8. **DVD**

9. **TAPE** 10. **LINE IN** 11. **PHONO**

12. **NET** 13. **USB** 14. **SD** 15. **BT** 16. **BT** 17. **BT** 18. **BT** 19. **BT** 20. **BT** 21. **BT** 22. **BT**



CONNECTIONS

A ANTENNA

- FM 75 Ω** – The FM terminal is used for connection to the Community or Cable Antenna system or to a roof-mounted FM antenna. If none of these are available, you may use the wire supplied for nearby stations (reception could be poor).
- GND** – terminal for connection of the ground wire of your antenna.
- AM** – For AM reception connect the supplied wires to the GND and AM antenna terminals (one wire to the GND and one wire to the AM terminal) and position the antenna for best reception.

Note: Do **not** place the AM loop antenna on the unit, as this unit employs a computing device which could cause interference.

B PHONO GND ±

– for connecting the earth wire of a record player.

C AUDIO IN/OUT

- PHONO** – input sockets for connecting a record player with an 'MM' (Moving Magnet) cartridge.
- CD** – input sockets for connecting a CD (Compact Disc) player.
- TAPE/DCC** – input and output sockets for connecting a cassette deck or a Digital Compact Cassette deck.
- TV/AUX** – input sockets for connecting the sound channel of a TV set or video recorder and output sockets for extra sound recording equipment e.g. a cassette or tape deck or a HiFi stereo video recorder.

D VIDEO IN/OUT

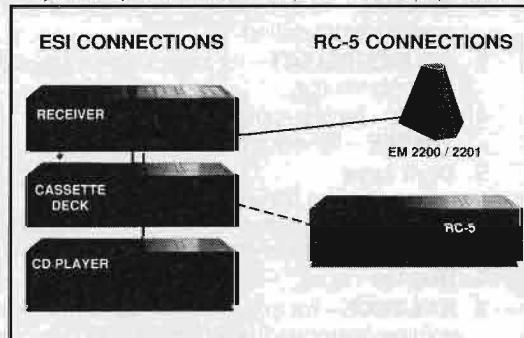
- TV/AUX IN** – input socket for connecting the video output of a TV set or video recorder.
- MONI OUT** – output socket for connecting to the video input of a TV set.

E SYSTEM CONTROL

- ESI BUS** (Enhanced System Intelligence) (coloured green) – Remote-control input/output sockets for connection to the corresponding ESI sockets of other components in your HiFi system (e.g. the Philips 900 series). Connect the ESI socket to the ESI socket of the external equipment that uses the ESI remote control system. Connecting the ESI BUS enables you to operate other components via the FR 920's IR sensor.
- RC-5 BUS** (coloured orange) – remote-control input/output socket for connection to the corresponding RC-5 socket of a Compact Disc player or remote control receiver e.g. EM 2200/2201.

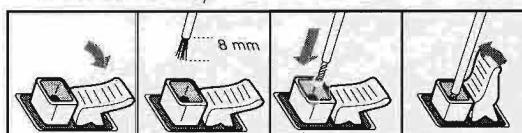
Connect the RC-5 socket to the RC-5 socket of the external equipment that uses the RC-5 remote control system.

This socket has been added to maintain compatibility with older Philips Audio equipment.



F SPEAKERS

- A** – terminals for connecting a pair of speakers, impedance min. 8 ohms (L = left, R = right)
- B** – terminals for connecting a second pair of speakers impedance min. 8 ohms (L = left, R = right)
- One of the wires of a loudspeaker cable is marked with a colour or rib. Connect the marked wire to the red terminal, the non-marked wire to the black one. Make sure that all loudspeakers are connected in the same way.



POWER

- G MAINS OUTLETS** – switched AC power outputs for connecting power plugs from various units such as a cassette deck, CD player, etc. (maximum capacity is 100 W) The position of the AC outlets may vary with different versions.

H Mains lead

After making all the necessary connections (some may not be applicable for your system set-up), your system is ready for use. In the next chapter we will describe how to operate your FR 920 receiver.

(GB)

Safety regulations require that the set be restored to its original condition and that parts which are identical with those specified, be used.

(F)

Les normes de sécurité exigent que l'appareil soit remis à l'état d'origine et que soient utilisées les pièces de rechange identiques à celles spécifiées.

(NL)

Veiligheidsbepalingen vereisen, dat het apparaat bij reparatie in zijn oorspronkelijke toestand wordt teruggebracht en dat onderdelen, identiek aan de gespecificeerde, worden toegepast.

(D)

Bei jeder Reparatur sind die geltenden Sicherheitsvorschriften zu beachten. Der Original zustand des Geräts darf nicht verändert werden; für Reparaturen sind Original-Ersatzteile zu verwenden.

(I)

Le norme di sicurezza esigono che l'apparecchio venga rimesso nelle condizioni originali e che siano utilizzati i pezzi di ricambio identici a quelli specificati.

"After servicing and before returning set to customer perform a leakage current measurement test from all exposed metal parts to earth ground to assure no shock hazard exist. The leakage current must not exceed 0.5mA."

(S)

Varning!

Osynlig laserstrålning när apparaten är öppnad och spärren är urkopplad.
Betrakta ej strålen.

(SF)

Varo!

Avatussa laitteessa ja suojaalukituksen ohitettaessa olet alittiina näkymättömälle lasersäteilylle. Älä katso sääteeseen!

(GB) WARNING

All ICs and many other semi-conductors are susceptible to electrostatic discharges (ESD). Careless handling during repair can reduce life drastically. When repairing, make sure that you are connected with the same potential as the mass of the set via a wrist wrap with resistance. Keep components and tools also at this potential.

ESD**(NL) WAARSCHUWING**

Alle IC's en vele andere halfgeleiders zijn gevoelig voor electrostatische ontladingen (ESD). Onzorgvuldig behandelen tijdens reparatie kan de levensduur drastisch doen verminderen. Zorg ervoor dat u tijdens reparatie via een polsband met weerstand verbonden bent met hetzelfde potentiaal als de massa van het apparaat. Houd componenten en hulpmiddelen ook op ditzelfde potentiaal.

(F) ATTENTION

Tous les IC et beaucoup d'autres semi-conducteurs sont sensibles aux décharges statiques (ESD). Leur longévité pourrait être considérablement écourtée par le fait qu'aucune précaution n'est prise à leur manipulation. Lors de réparations, s'assurer de bien être relié au même potentiel que la masse de l'appareil et enfiler le bracelet serti d'une résistance de sécurité. Veiller à ce que les composants ainsi que les outils que l'on utilise soient également à ce potentiel.

(D) WARNUNG

Alle ICs und viele andere Halbleiter sind empfindlich gegenüber elektrostatischen Entladungen (ESD). Unsorgfältige Behandlung im Reparaturfall kann die Lebensdauer drastisch reduzieren. Veranlassen Sie, dass Sie im Reparaturfall über ein Pulsarmband mit Widerstand verbunden sind mit dem gleichen Potential wie die Masse des Gerätes. Bauteile und Hilfsmittel auch auf dieses gleiche Potential halten.

(I) AVVERTIMENTO

Tutti IC e parecchi semi-conduttori sono sensibili alle scariche statiche (ESD). La loro longevità potrebbe essere fortemente ridotta in caso di non osservazione della più grande cautela alla loro manipolazione. Durante le riparazioni occorre quindi essere collegato allo stesso potenziale che quello della massa dell'apparecchio tramite un braccialetto a resistenza. Assicurarsi che i componenti e anche gli utensili con quali si lavora siano anche a questo potenziale.

Alignment & Adjustment

SK...						
IF Alignment						
AM	530kHz	A	530kHz	T101	*1	MAX
FM	87.5MHz	B	87.5MHz	T102	*2	0.0V
RF Alignment						
AM	530kHz	A	530kHz	L102	*3	$1.2X \pm 0.05V$
AM	1720kHz	A	1720kHz	TC102	*3	$8.5V \pm 0.05V$
FM	87.5MHz	B	87.5MHz	—	*3	$1.2V \pm 0.05V$
FM	108MHz	B	108MHz	—	*3	7.5V
Sensitivity Alignment						
AM	600kHz	A	600kHz	L101	*4	$\uparrow MAX.$
AM	1400kHz	A	1400kHz	TC101	*4	$\uparrow MAX.$
FM	90MHz	B	90MHz	—	*4	$\uparrow MAX.$
FM	106MHz	B	106MHz	—	*4	$\uparrow MAX.$

SK...						
T. H. D. Adjustment						
FM	98MHz MOD. = 1kHz DEV. = 75kHz	B #1		T102	*5	0.0V
FM	98MHz MOD. = 1kHz DEV. = 75kHz	B #1		T103	*5	T.H.D. MIN.
Auto Tuning Sensitivity Adjustment						
FM	98MHz/20dB	B	98MHz	SFR102	*4	LOCK AT 20dB
AM	1000kHz/60dB	A	1000kHz	SFR101	*4	LOCK AT 60dB
MPX Separation Adjustment						
FM	98MHz	B	98MHz	SFR103	*4	SEPARATION OVER 30dB

*1 Across TP7 & TP5

*2 Across TP6 & TP5

*3 Across TP1 & TP2

*4 Across Speaker Output

*5 Across TP3 & TP4

#1 See Fig. 3

Repeat ↑

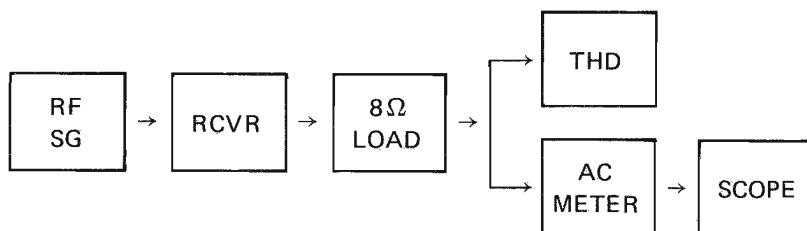


Figure 3

Main Board Test Point

Main P C Board

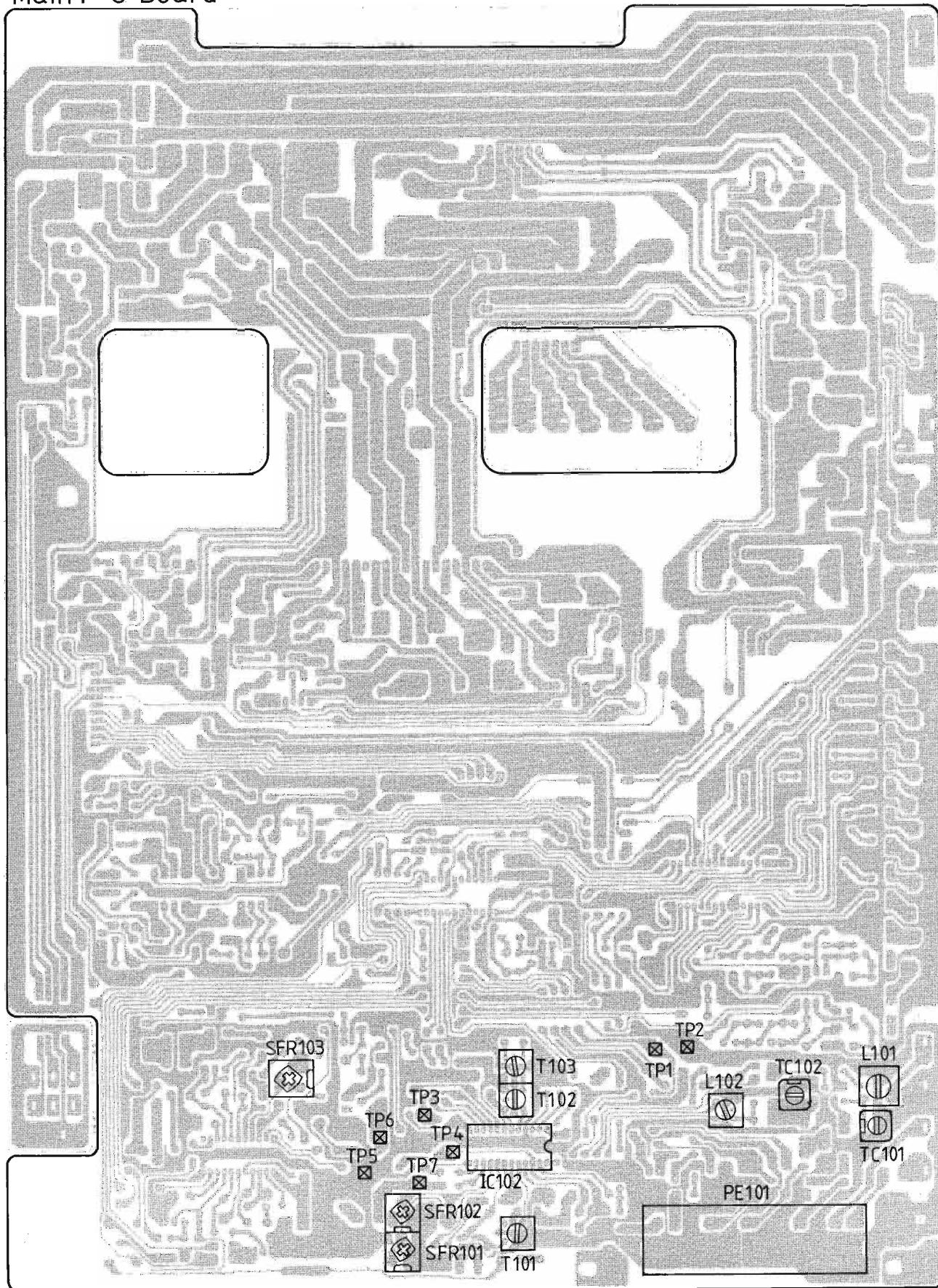
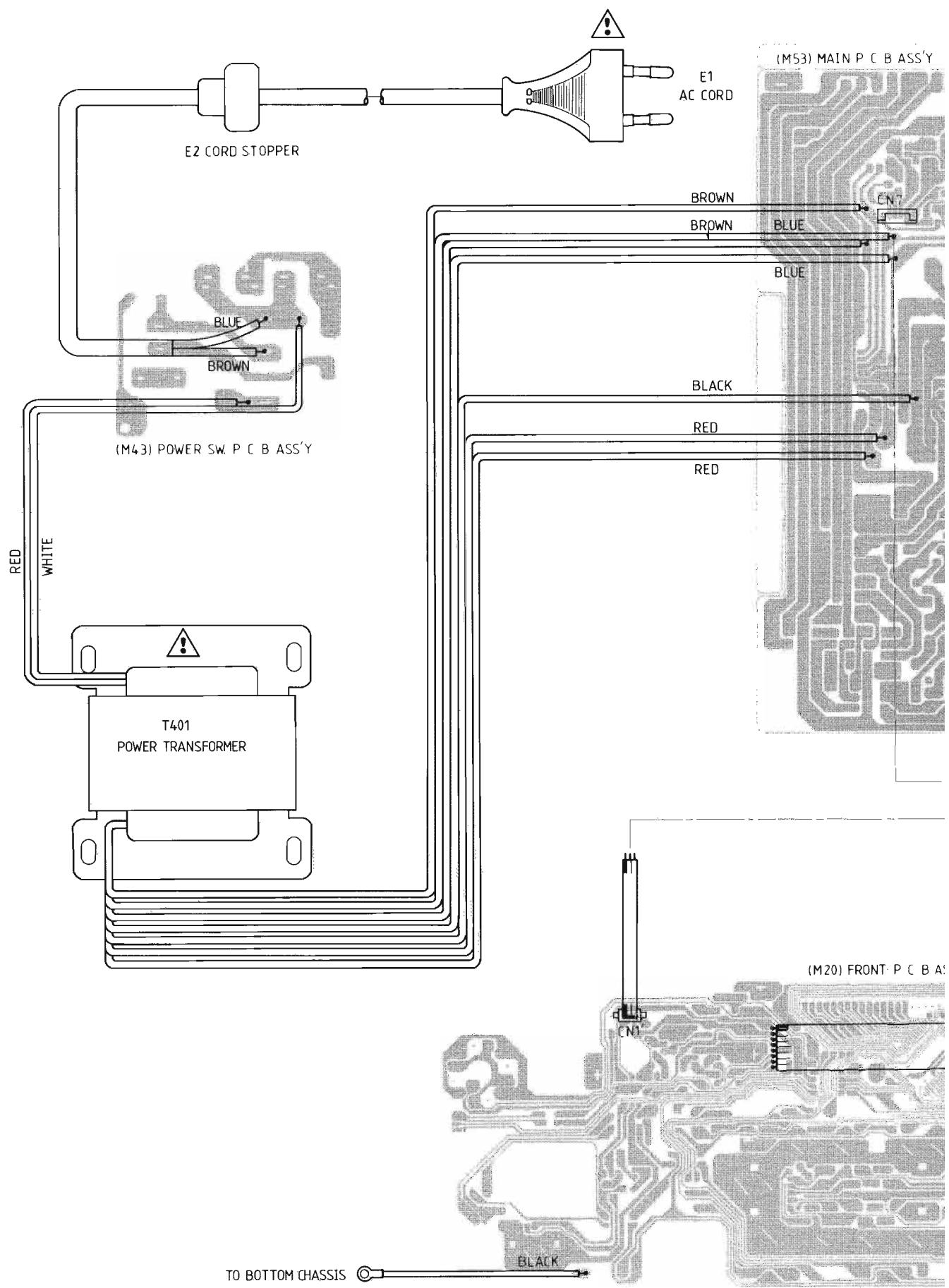
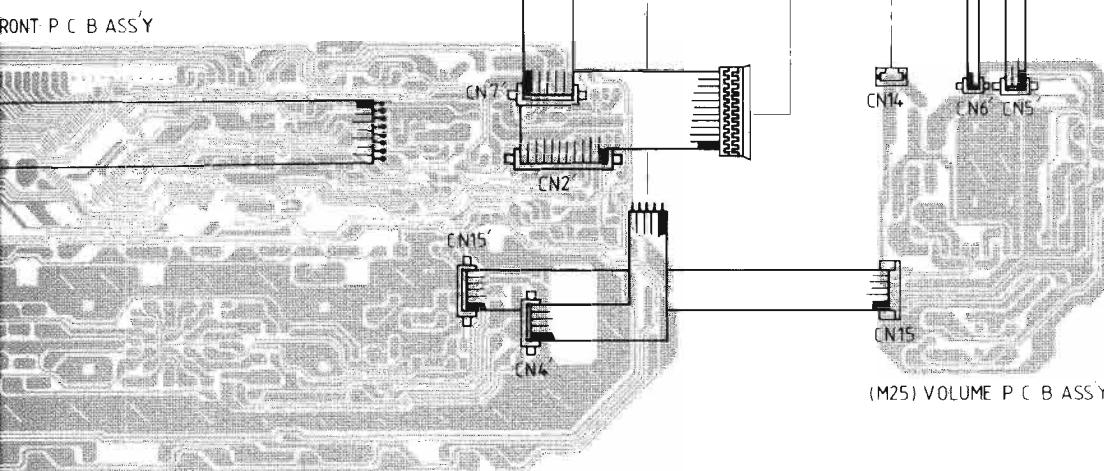
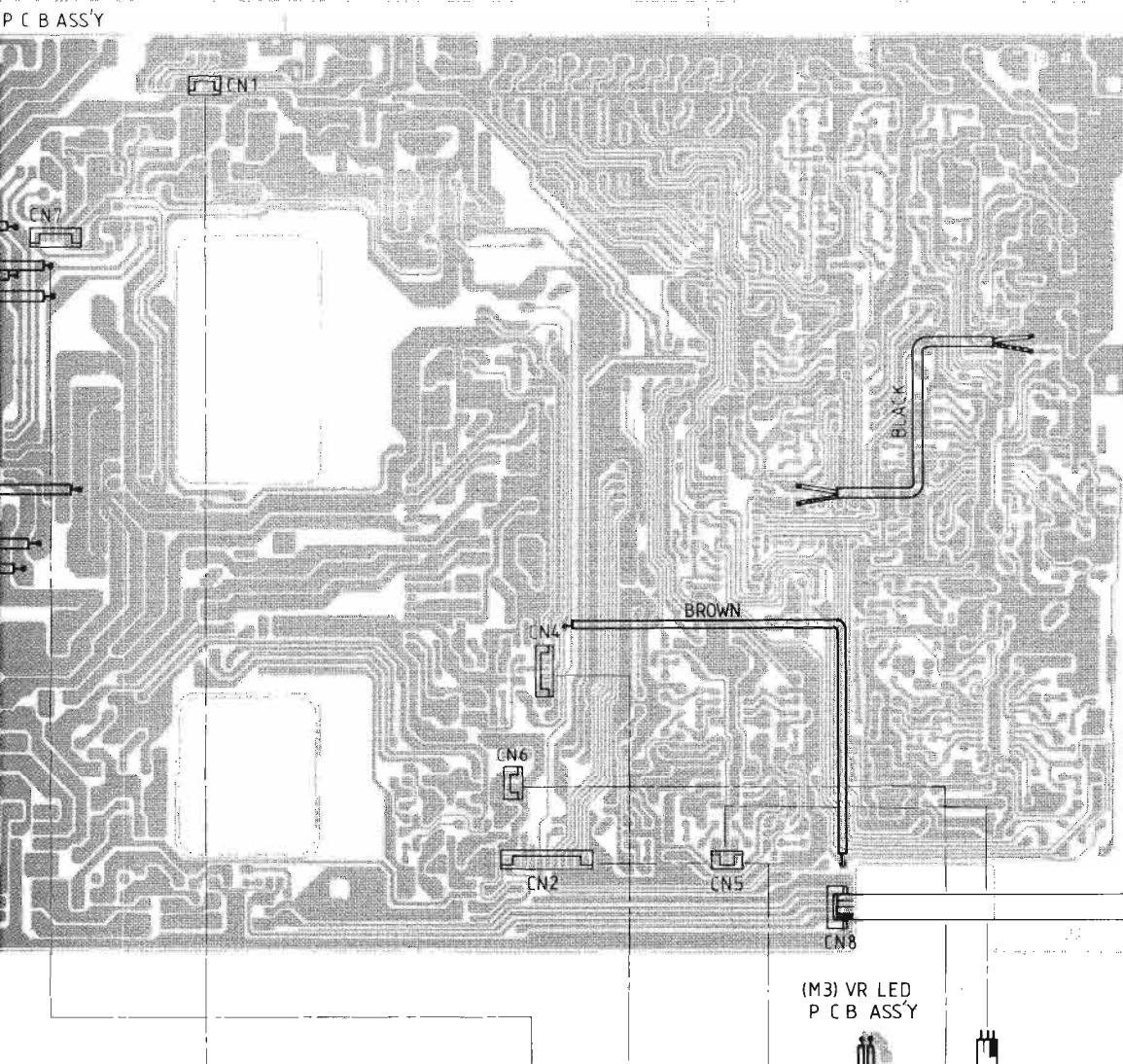


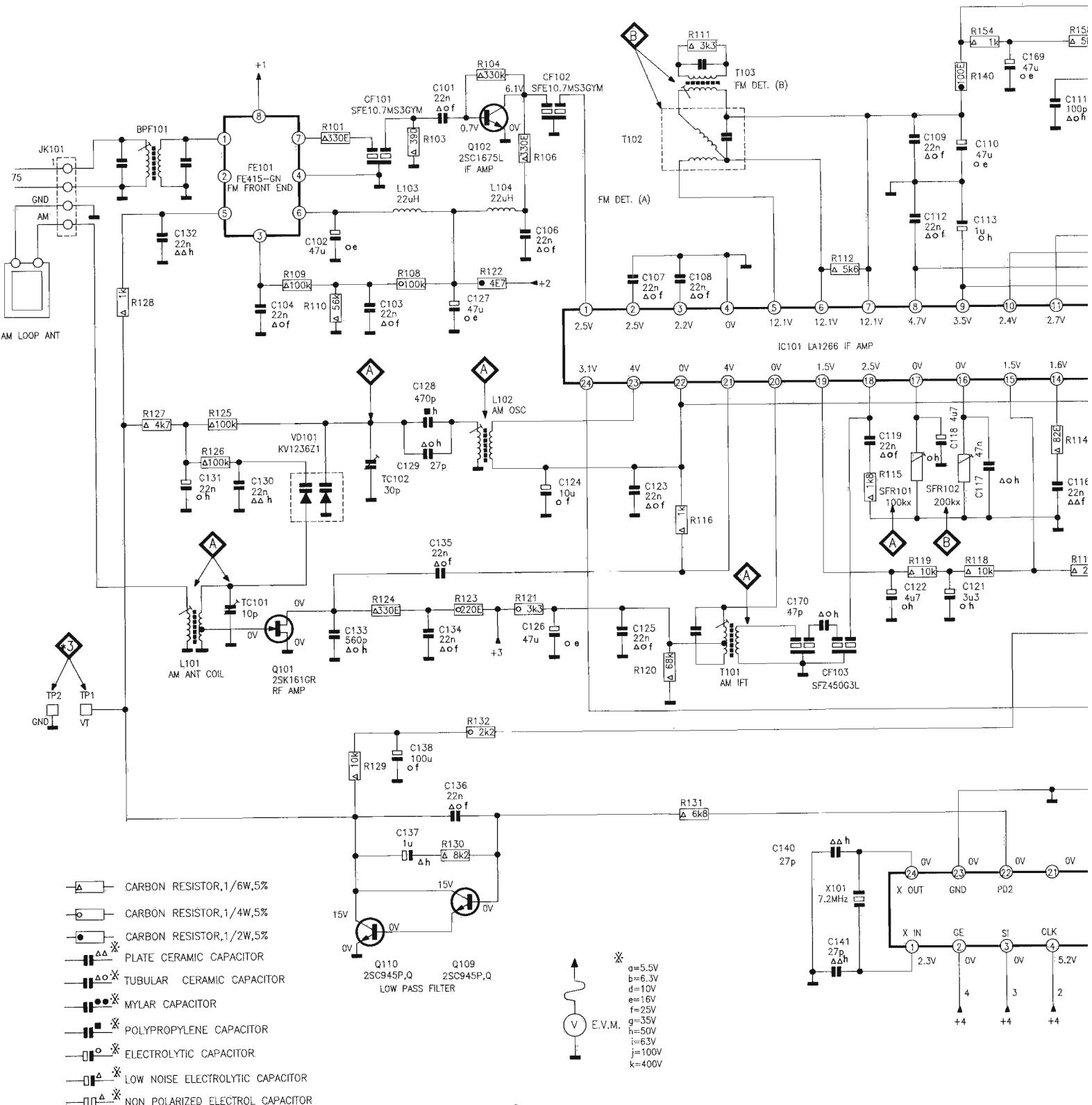
Figure 4

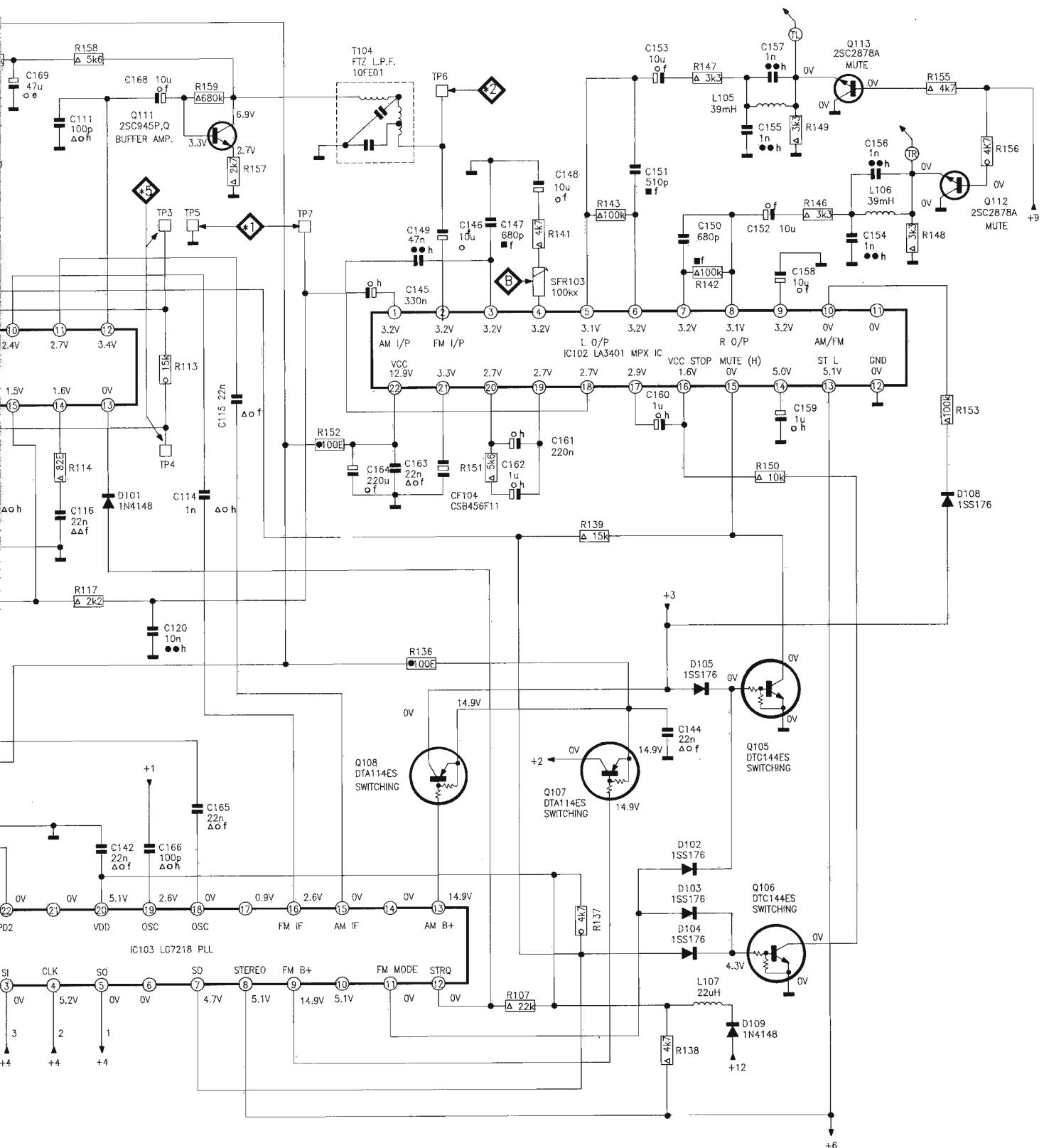
Wiring Diagram- Component Side



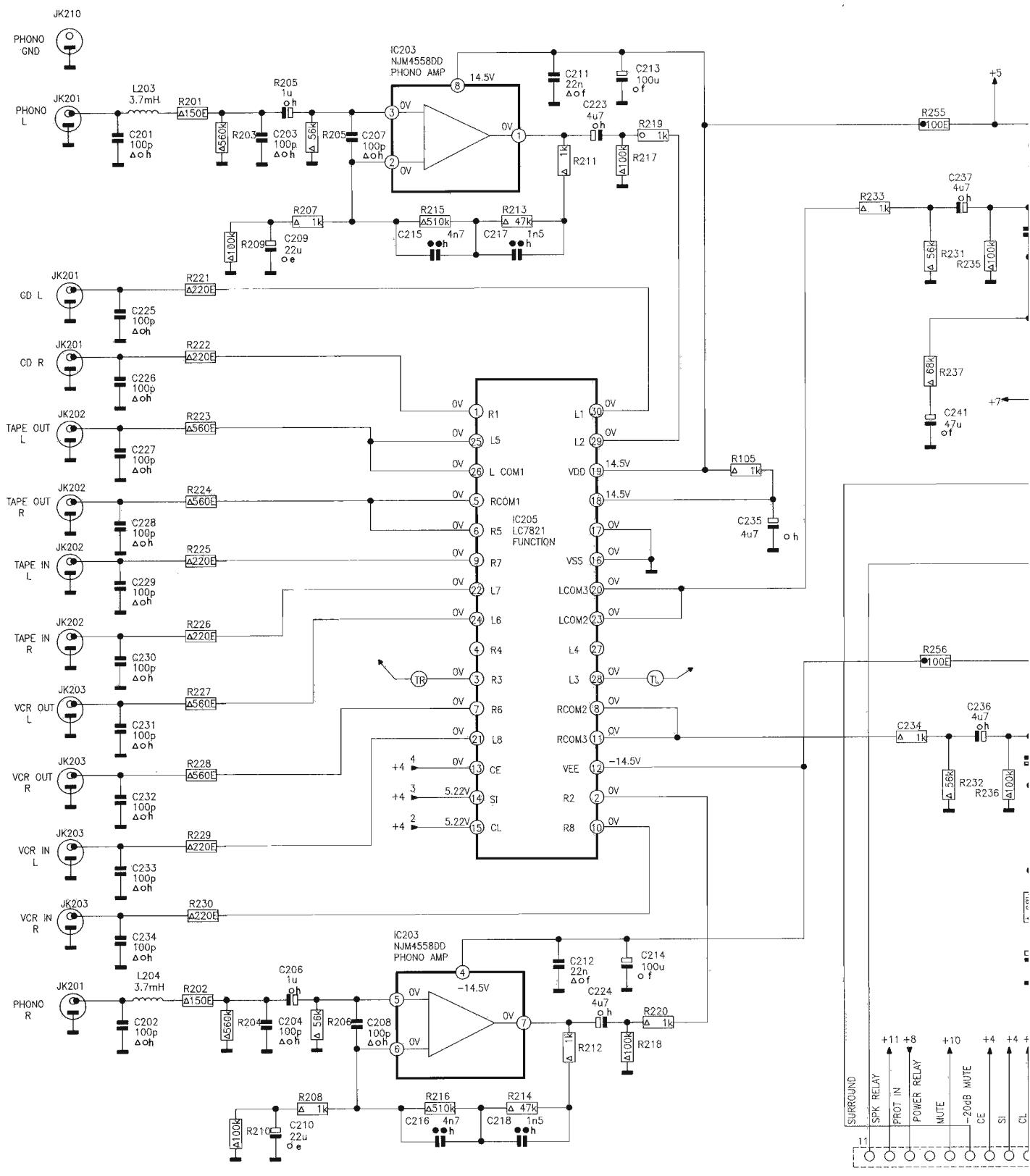


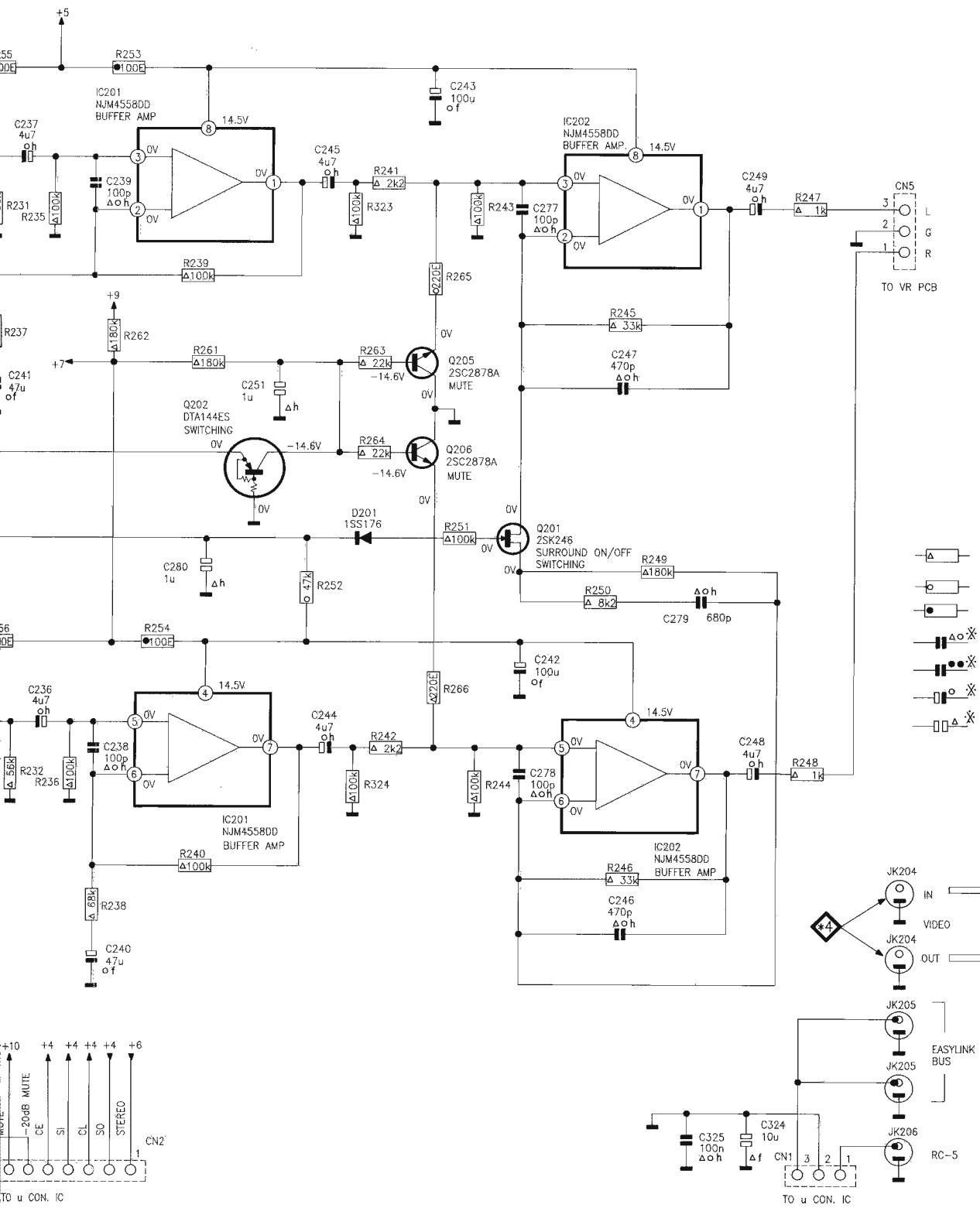
Schematic Diagram-Tuner





Schematic Diagram-Function Selector Switch

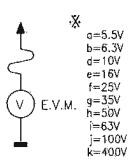
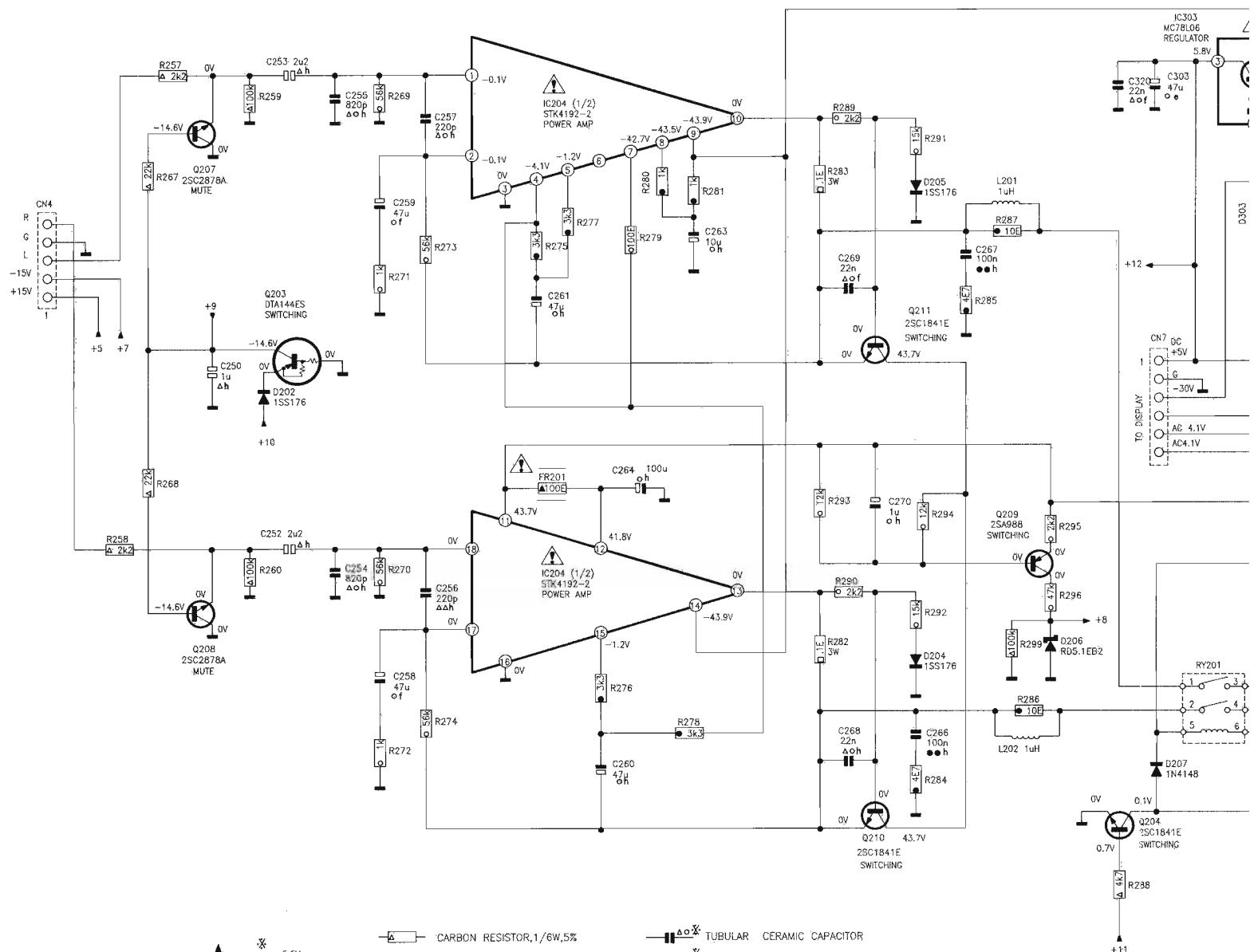




$a=5.5V$
 $b=6.3V$
 $d=10V$
 $e=16V$
 $f=25V$
 $g=35V$
 $h=50V$
 $i=100V$
 $j=1000V$
 $k=400V$

CARBON RESISTOR, 1/6W, 5%
 CARBON RESISTOR, 1/4W, 5%
 CARBON RESISTOR, 1/2W, 5%
 TUBULAR CERAMIC CAPACITOR
 MYLAR CAPACITOR
 ELECTROLYTIC CAPACITOR
 NON POLARIZED ELECTROLYTIC CAPACITOR

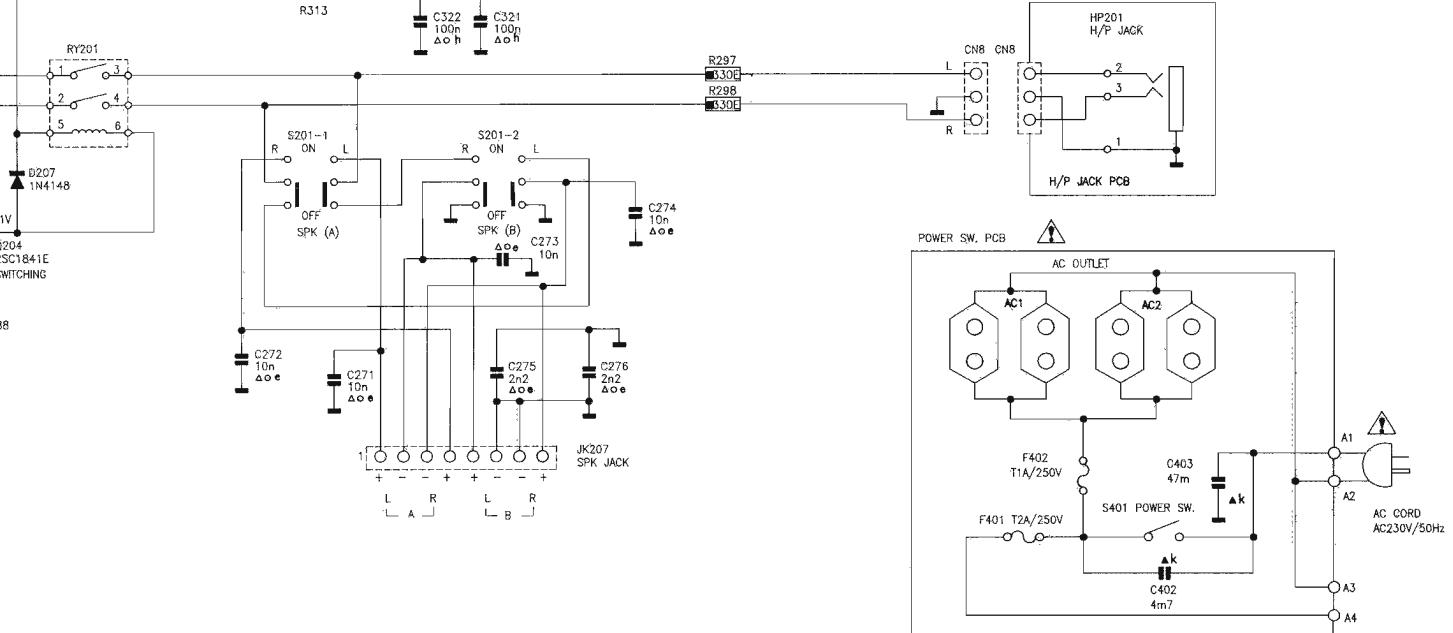
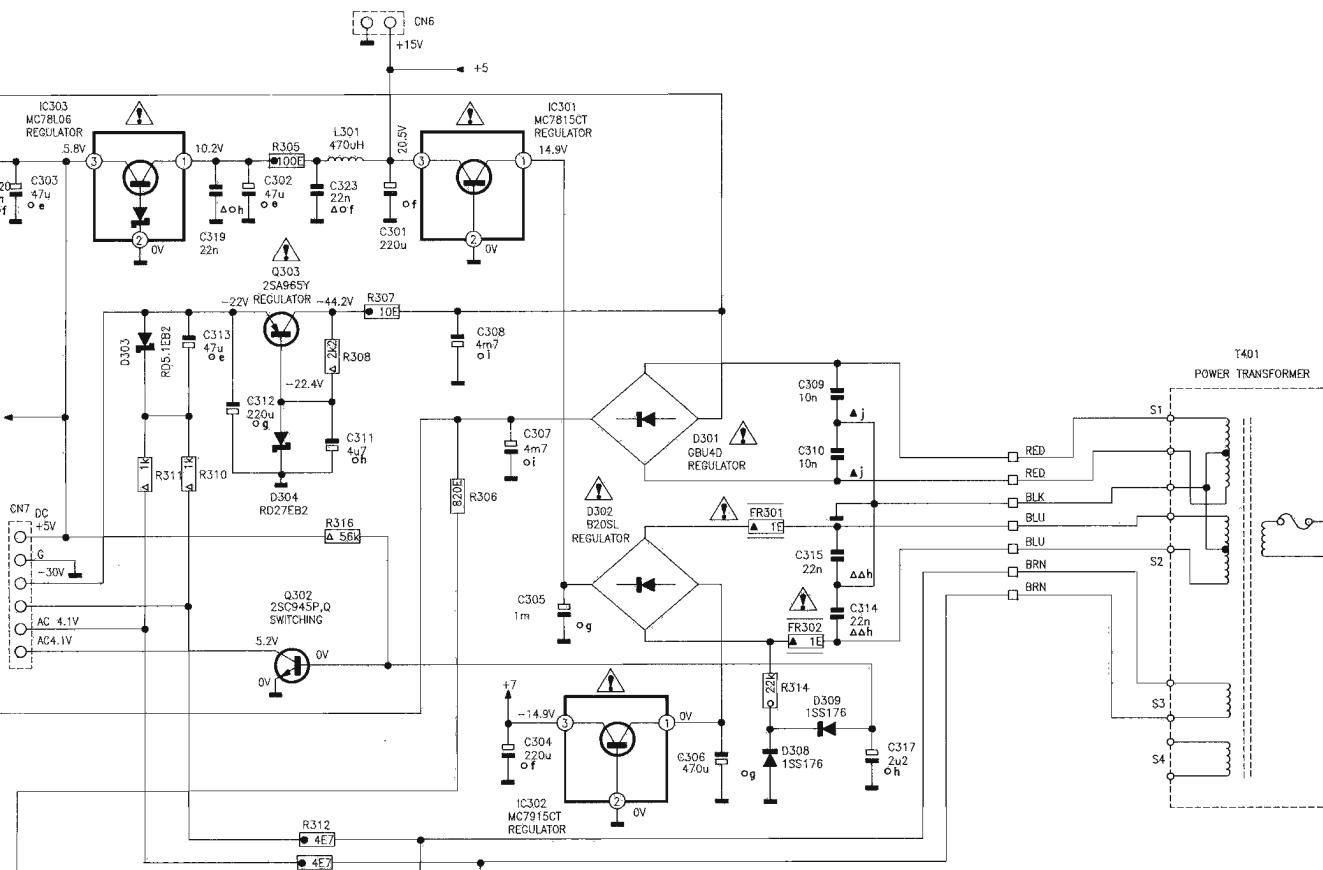
Schematic Diagram-Power Amp



E.V.M.
 \times
 a=5.5V
 b=6.3V
 c=10V
 d=16V
 e=25V
 f=35V
 g=50V
 h=63V
 i=100V
 k=400V

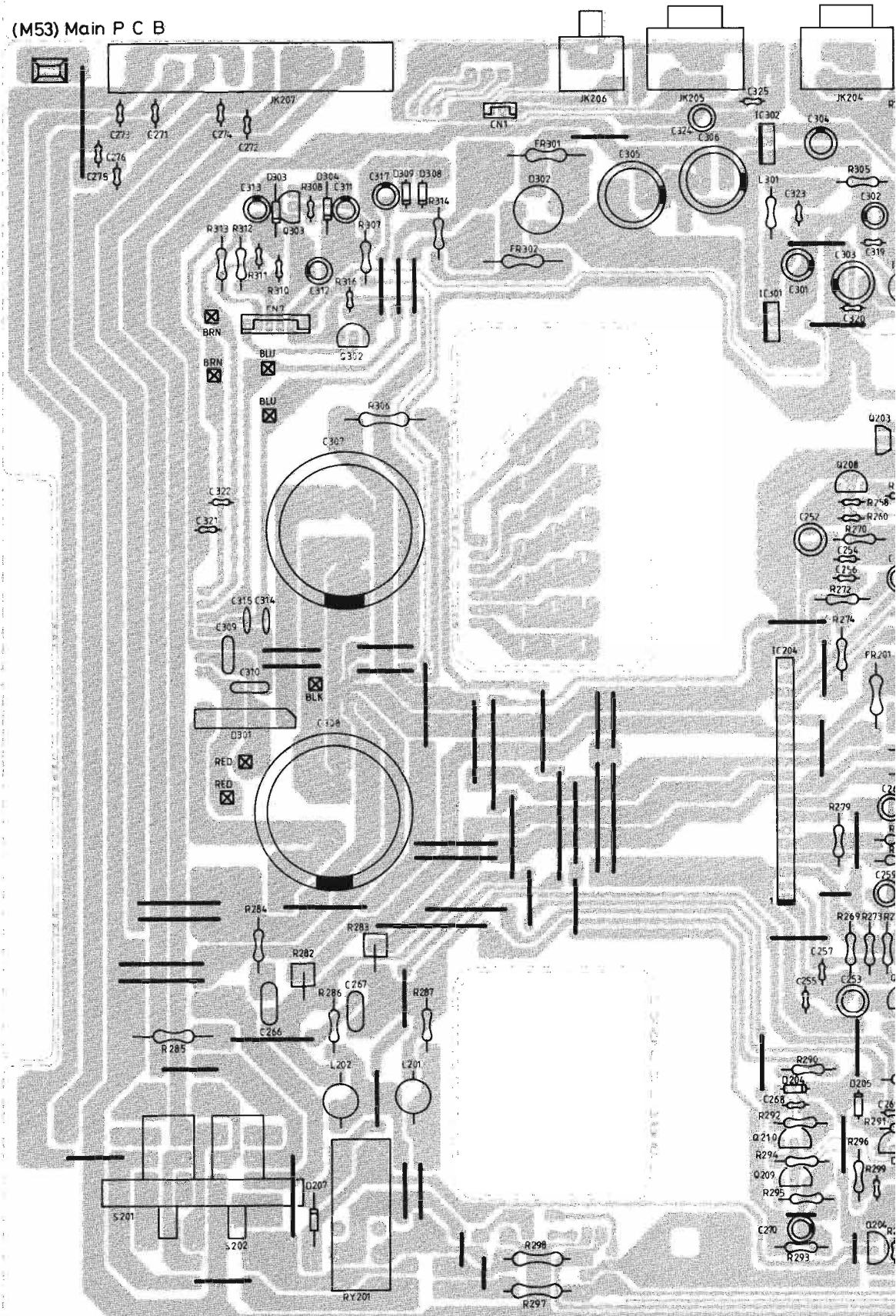
- \triangle CARBON RESISTOR, 1/6W, 5%
- \square CARBON RESISTOR, 1/4W, 5%
- \triangle FUSE RESISTOR, 1/2W, 5%
- \bullet CARBON RESISTOR, 1/2W, 5%
- \square METAL FILM RESISTOR, 1W, 5%
- \square METAL FILM RESISTOR, 2W, 5%
- \square CARBON RESISTOR, 3W, 5%

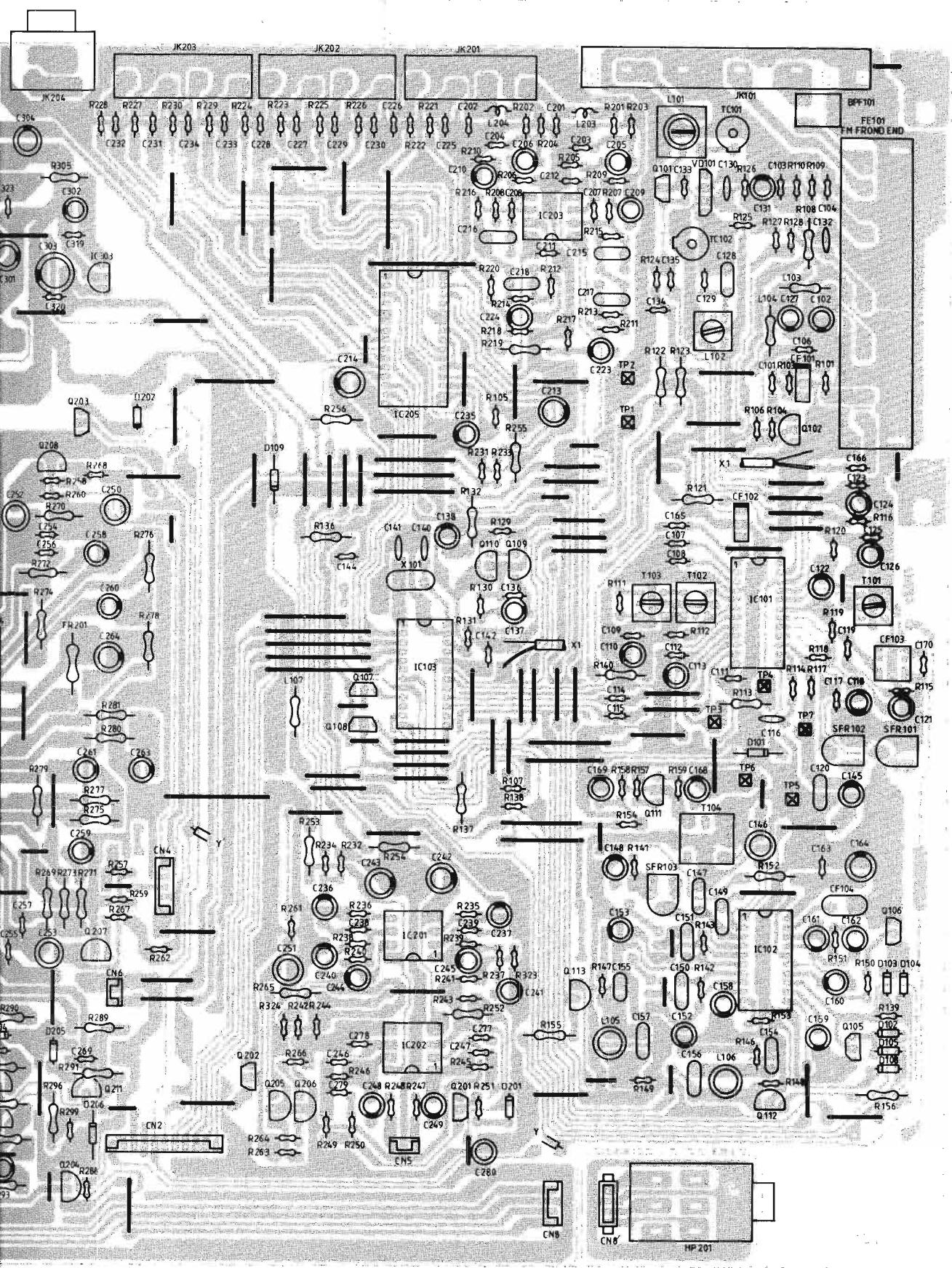
- \square TUBULAR CERAMIC CAPACITOR
- $\bullet\bullet$ MYLAR CAPACITOR
- \square ELECTROLYTIC CAPACITOR
- $\square\triangle$ NON POLARIZED ELECTROLYTIC CAPACITOR
- $\square\triangle$ SPARK CAPACITOR
- $\square\triangle\triangle$ PLATE CERAMIC CAPACITOR



P C Board-Component Side

(M53) Main P C B

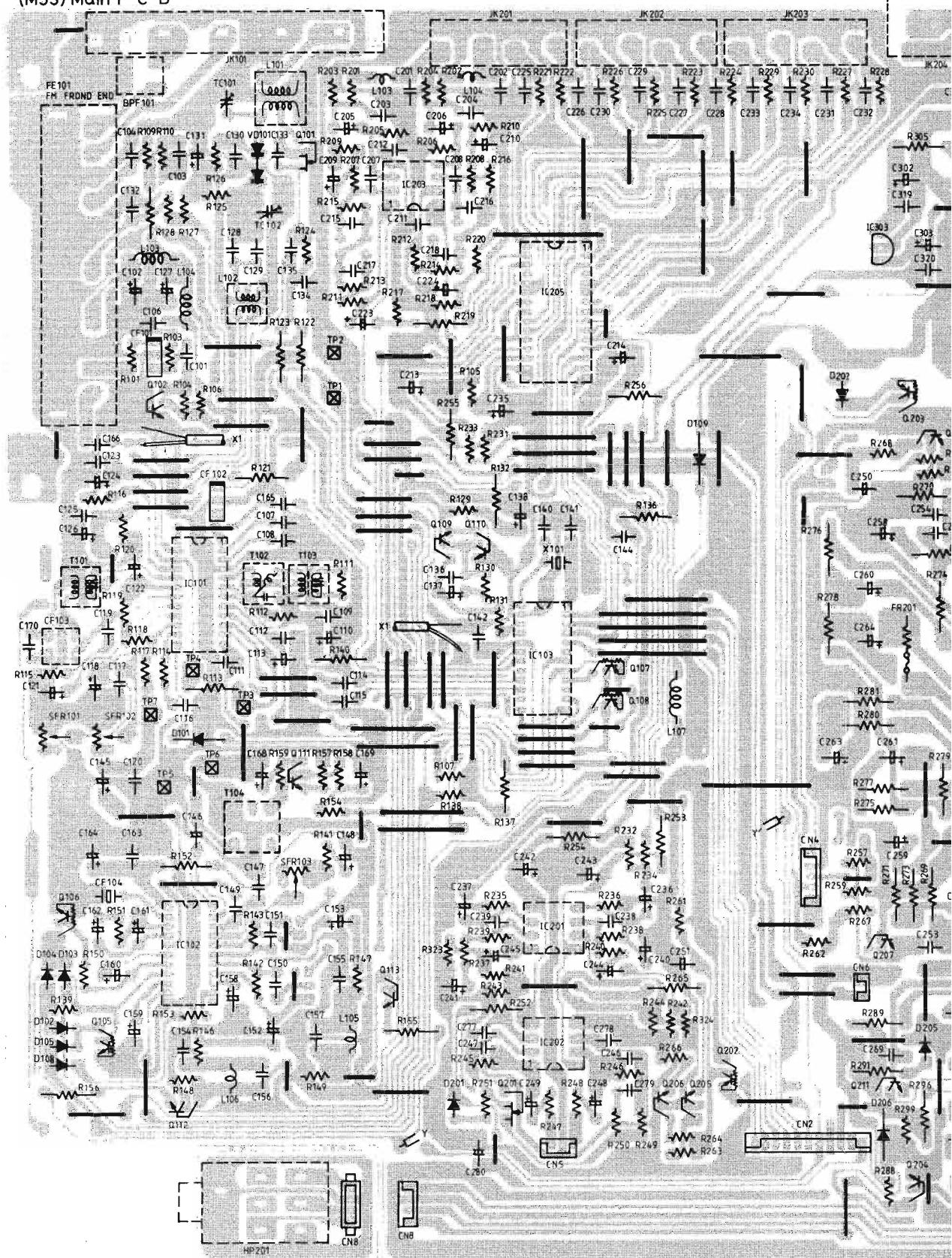




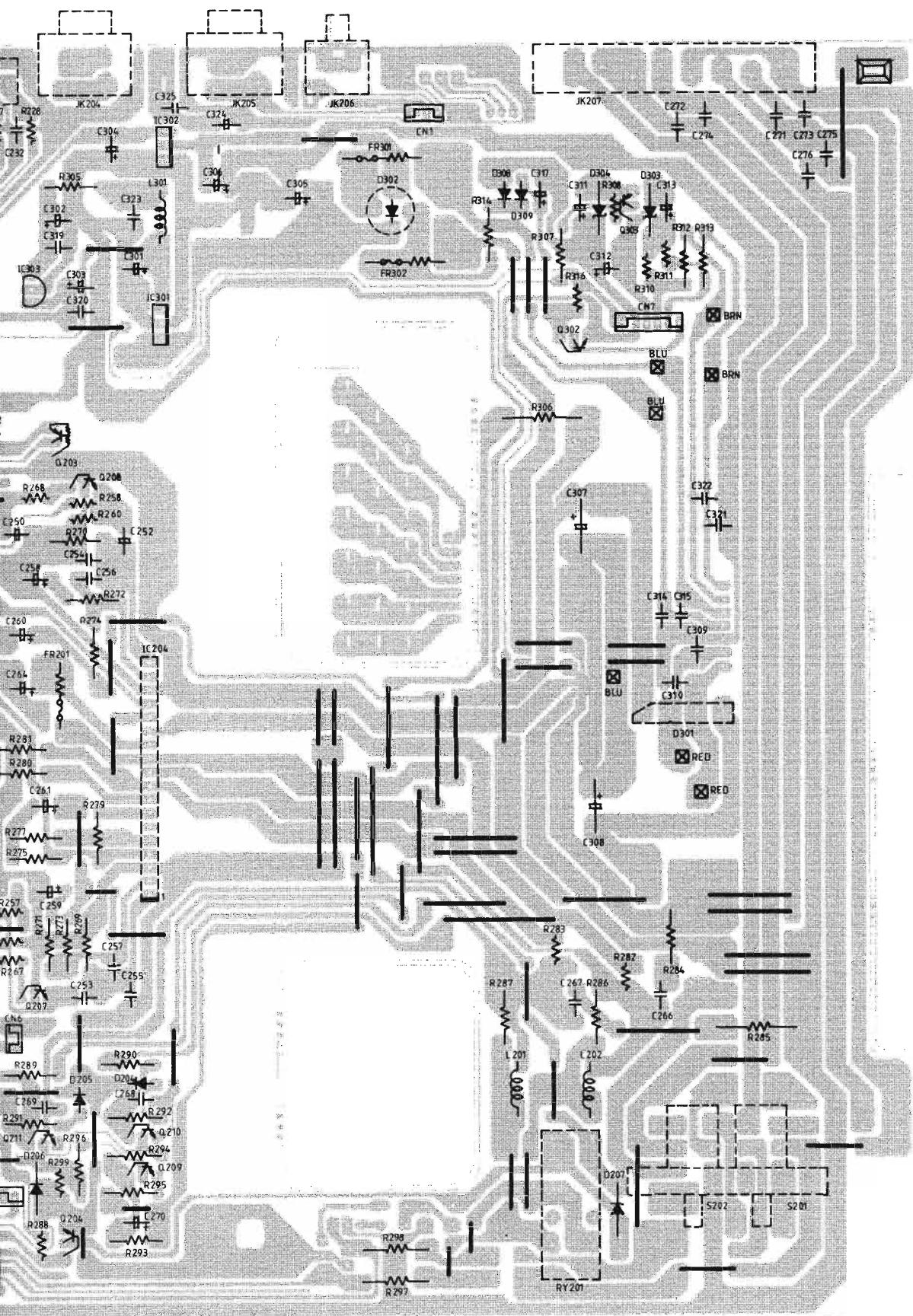
(M23) H/P P C B

P C Board-Solder Side

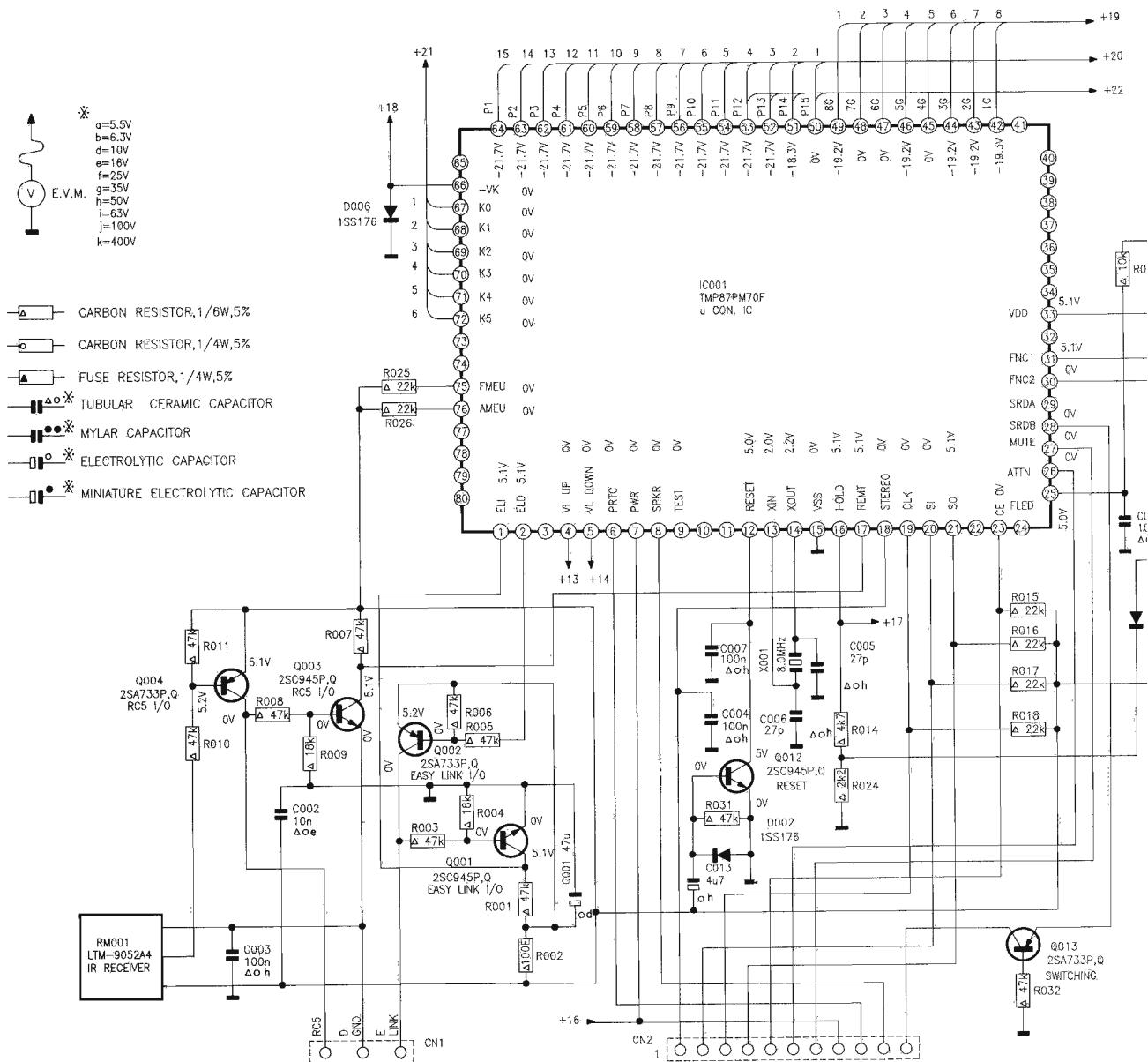
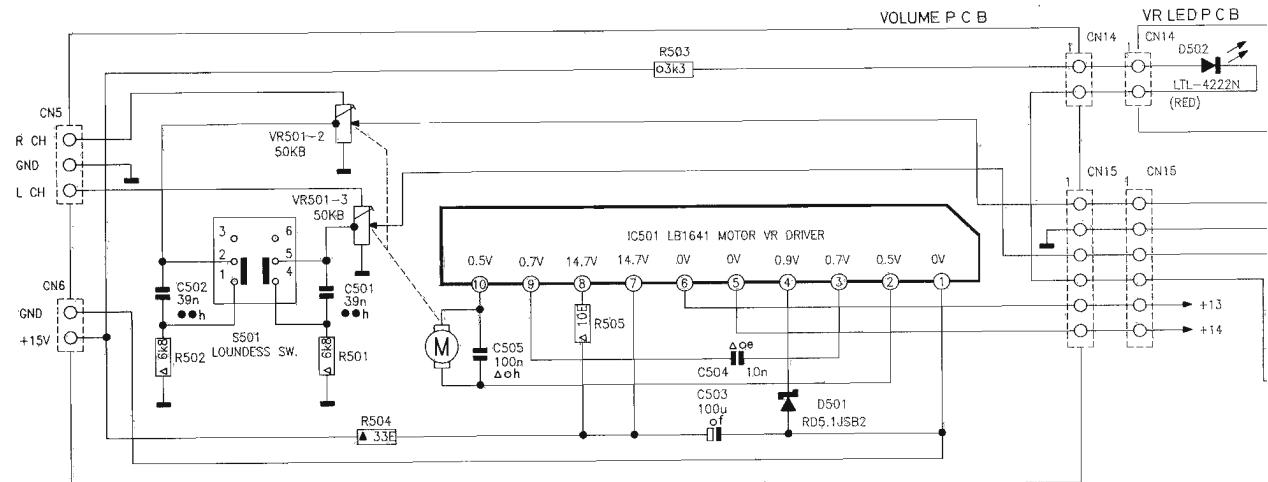
(M53) Main P C B

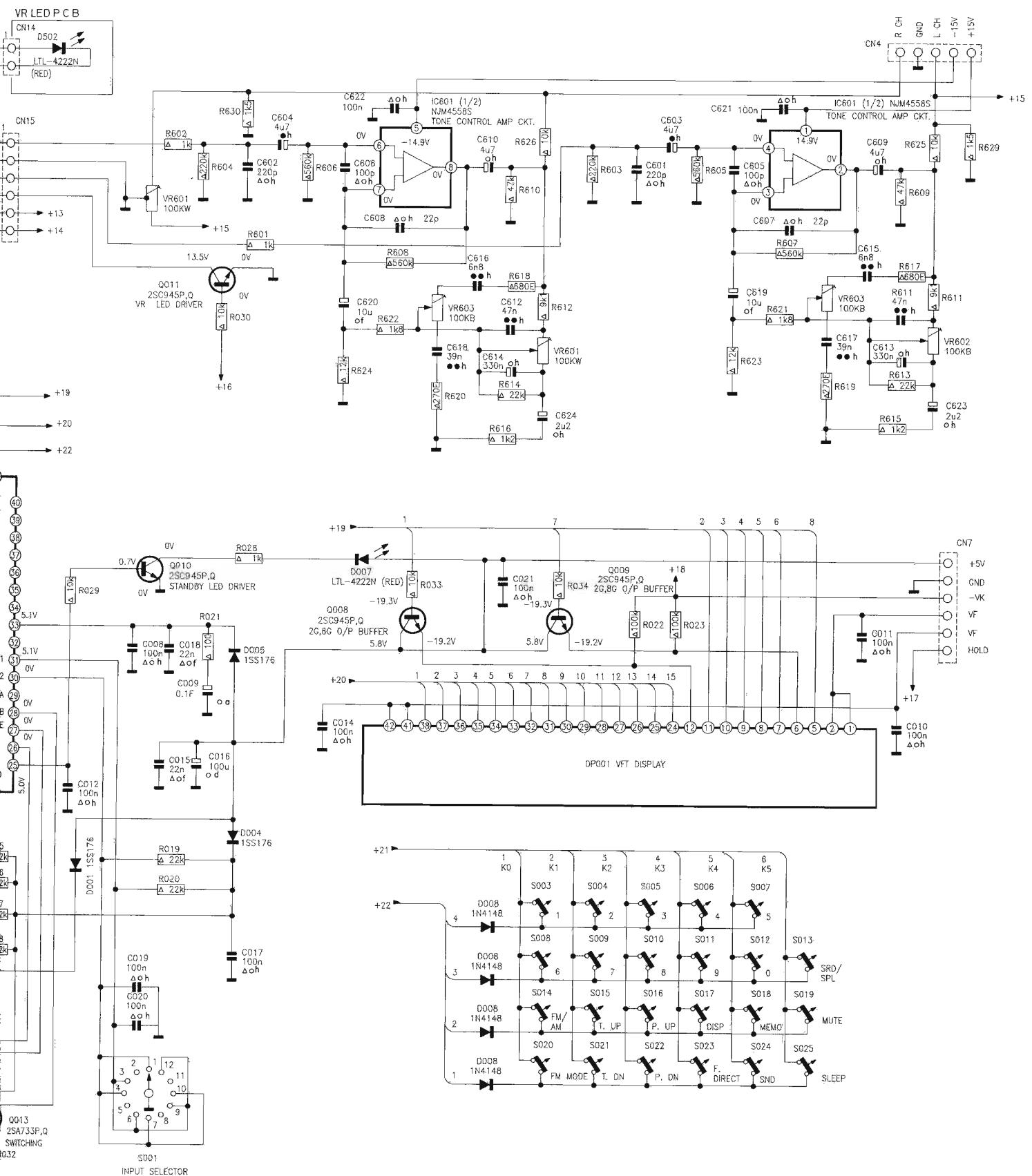


(M23) H/P P C B



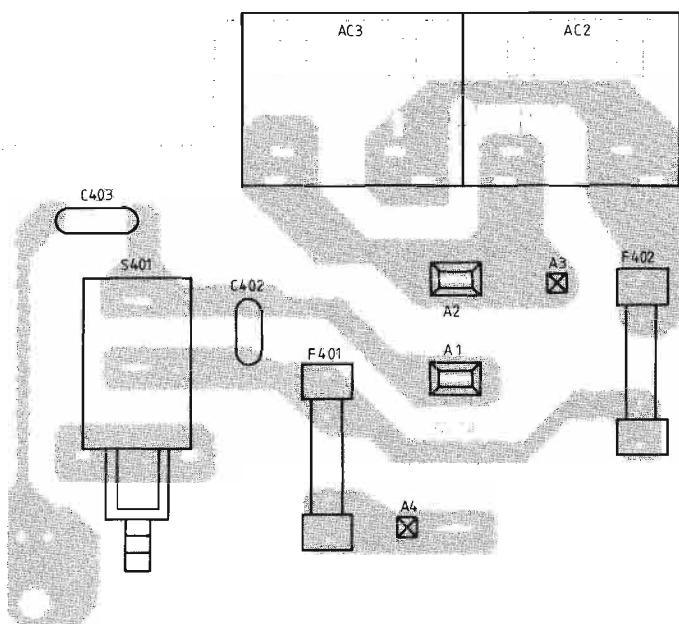
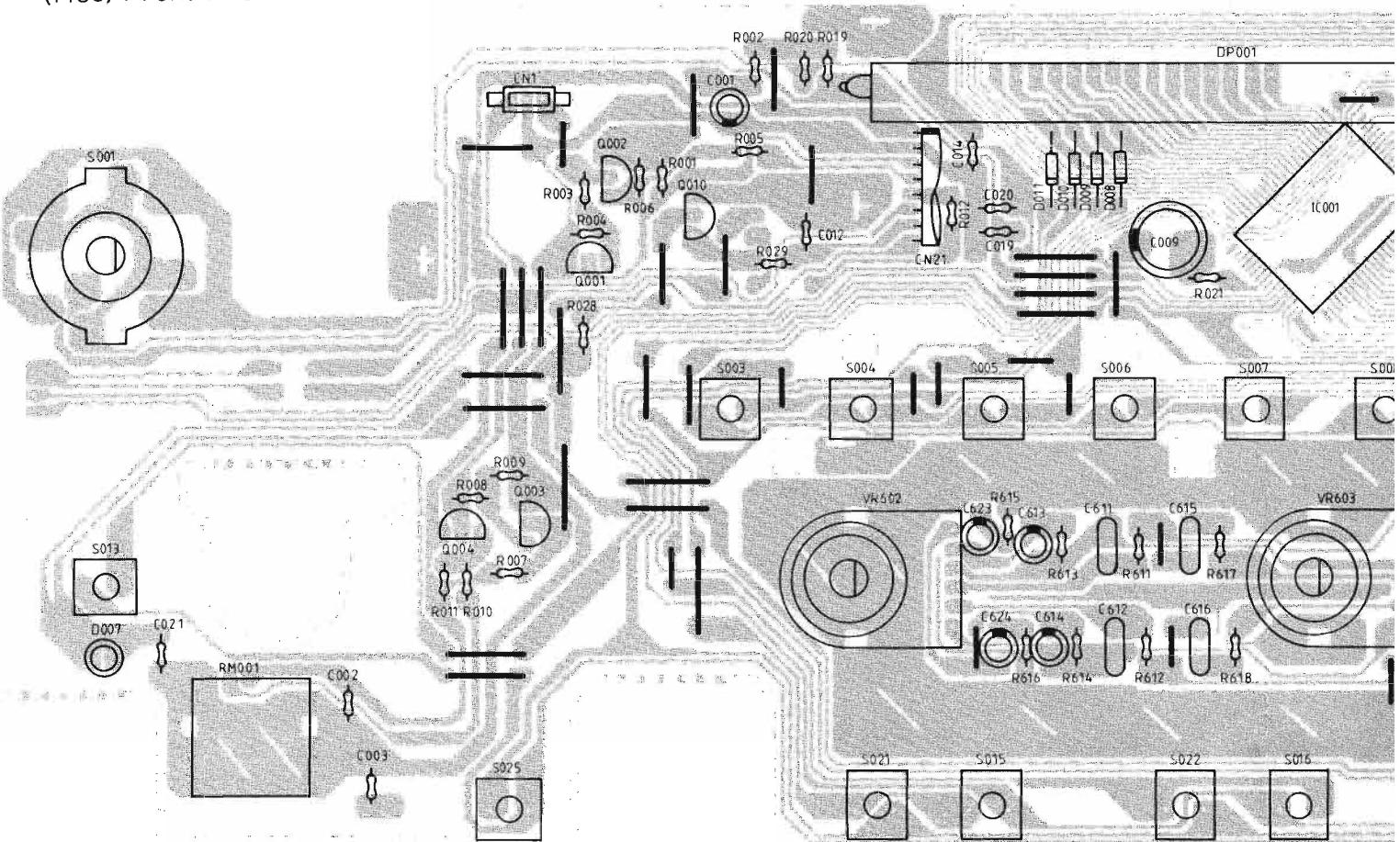
Schematic Diagram-Front



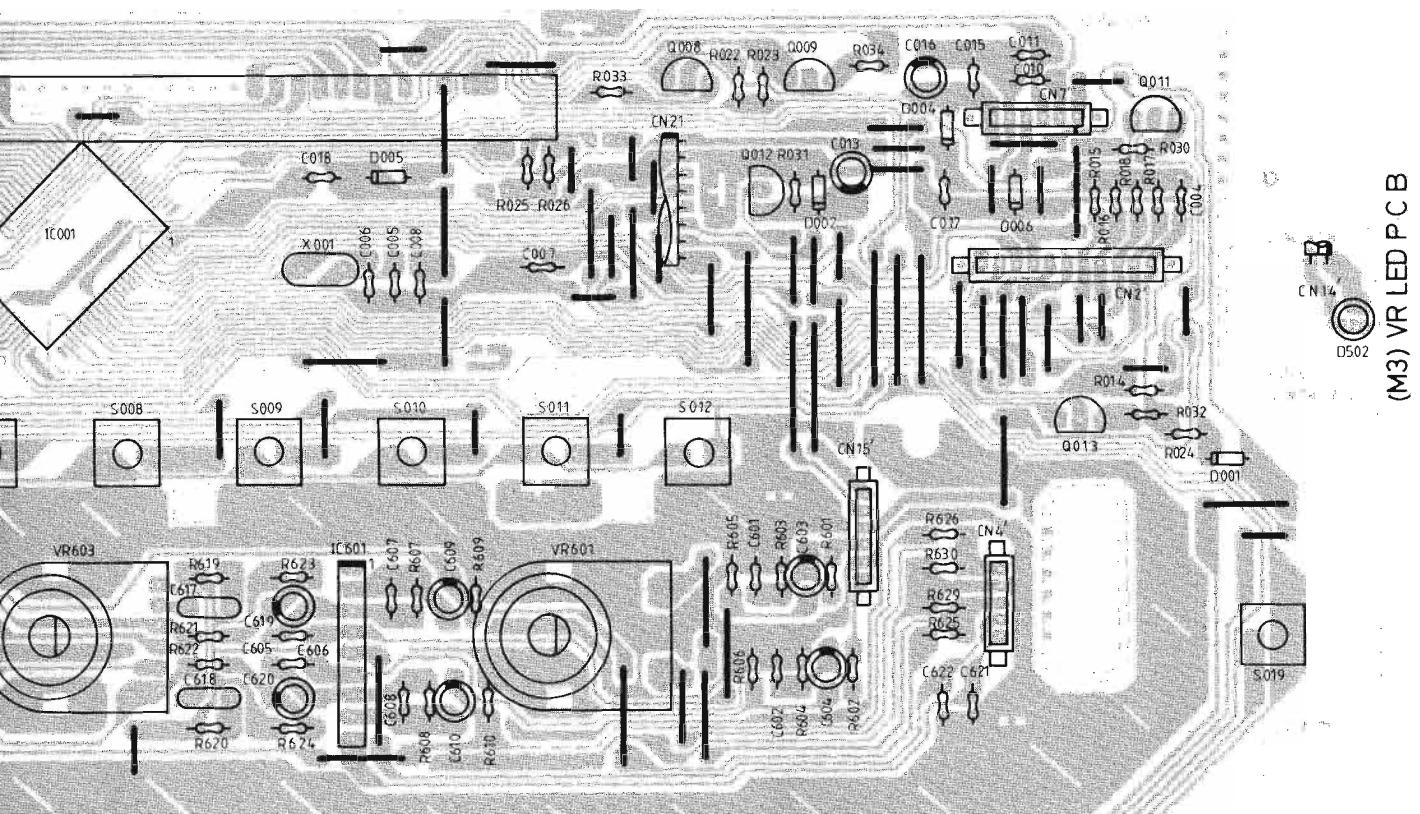


P C Board-Component Side

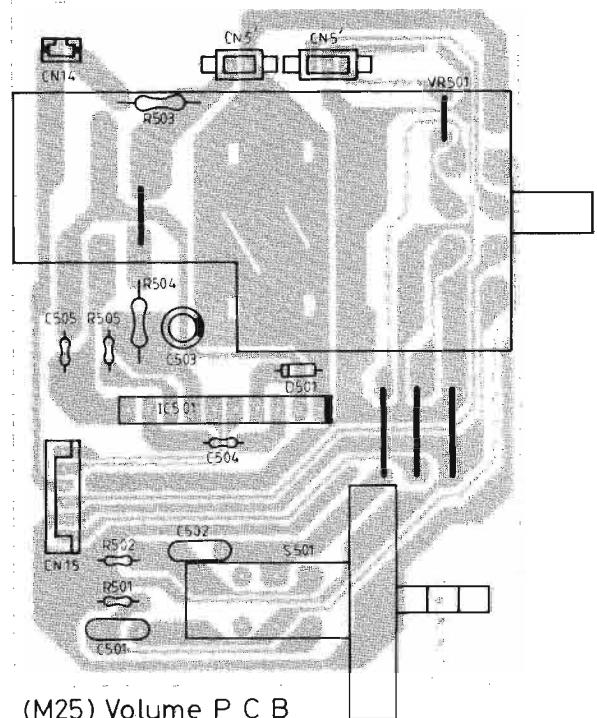
(M30) Front P C B



(M43) Power SW P C B



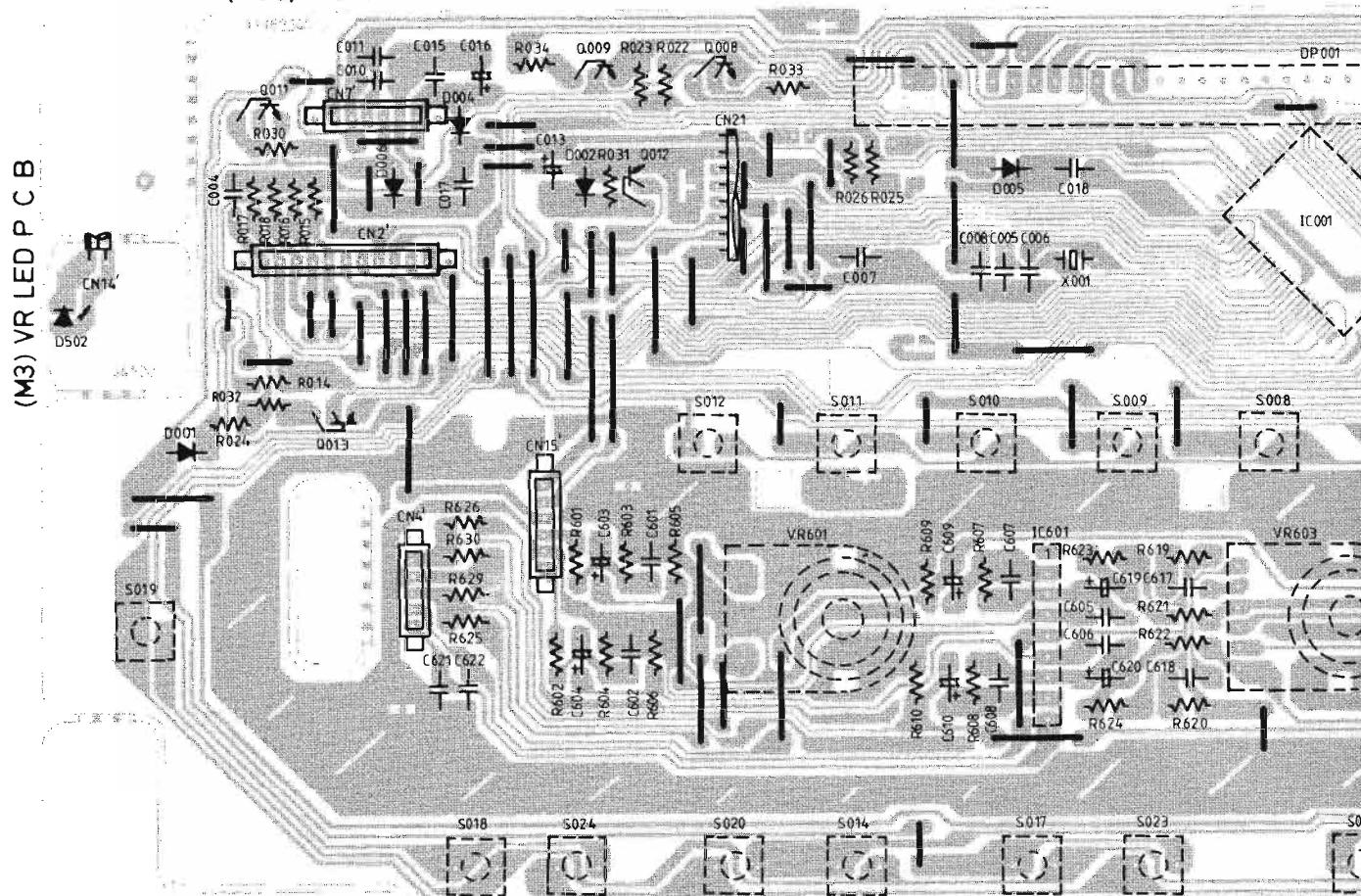
(M3) VR LED PCB



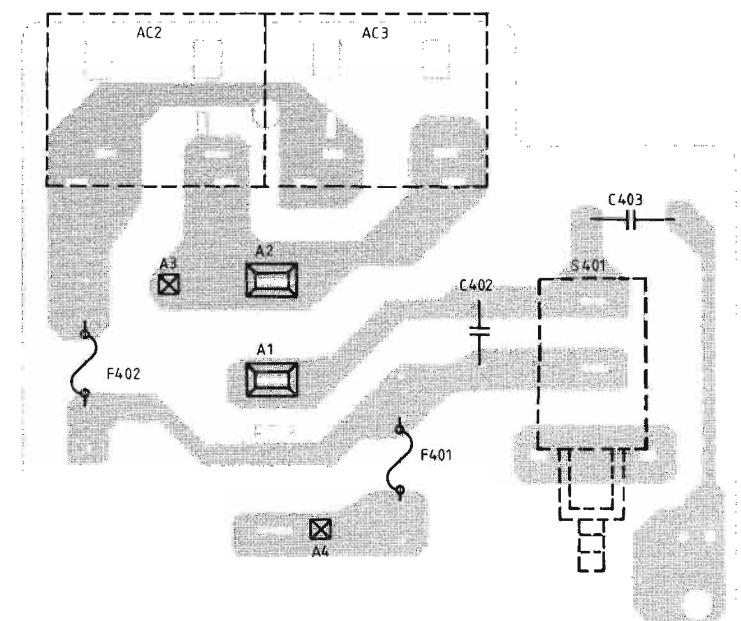
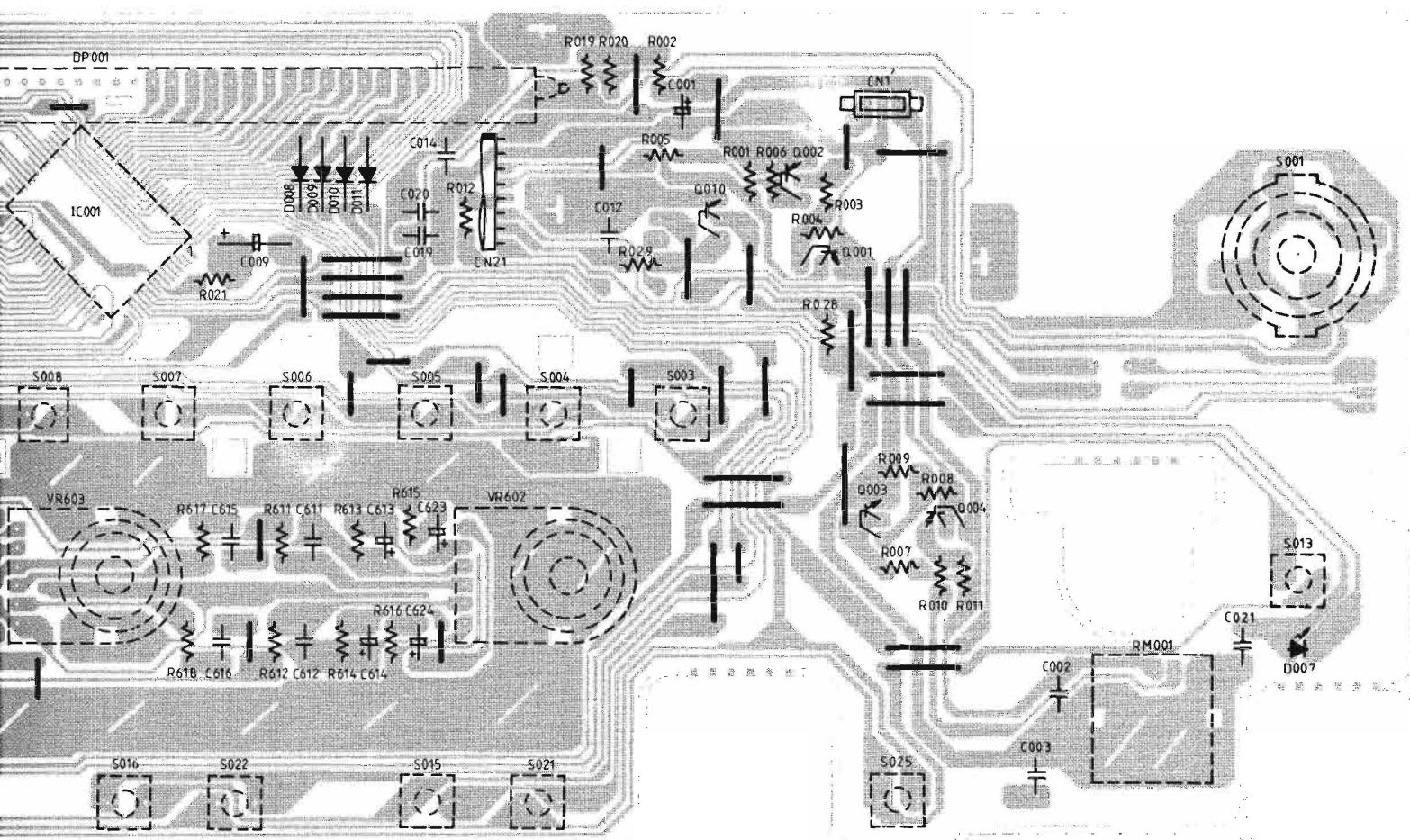
(M25) Volume P C B

P C Board-Solder Side

(M30) Front P C B

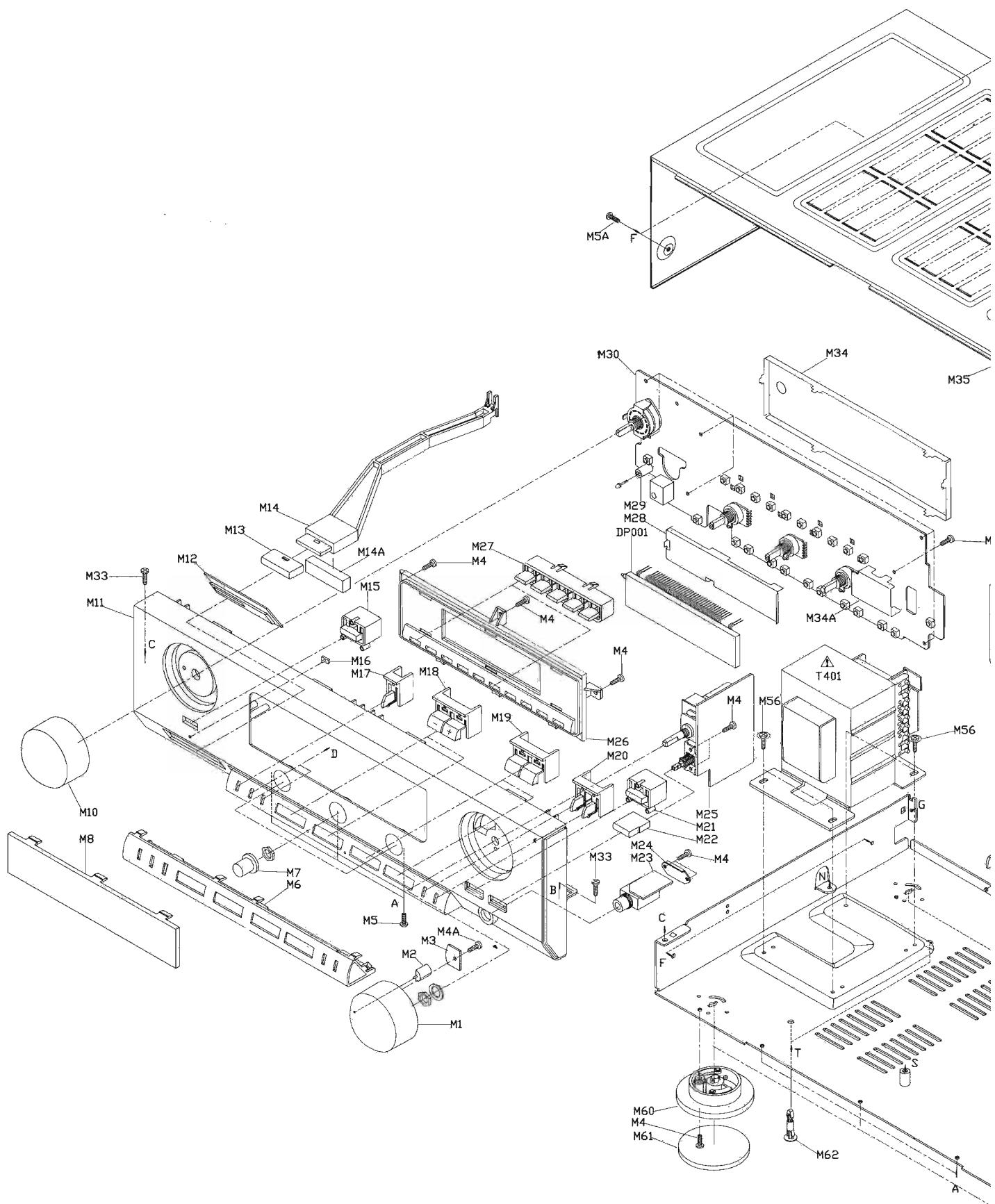


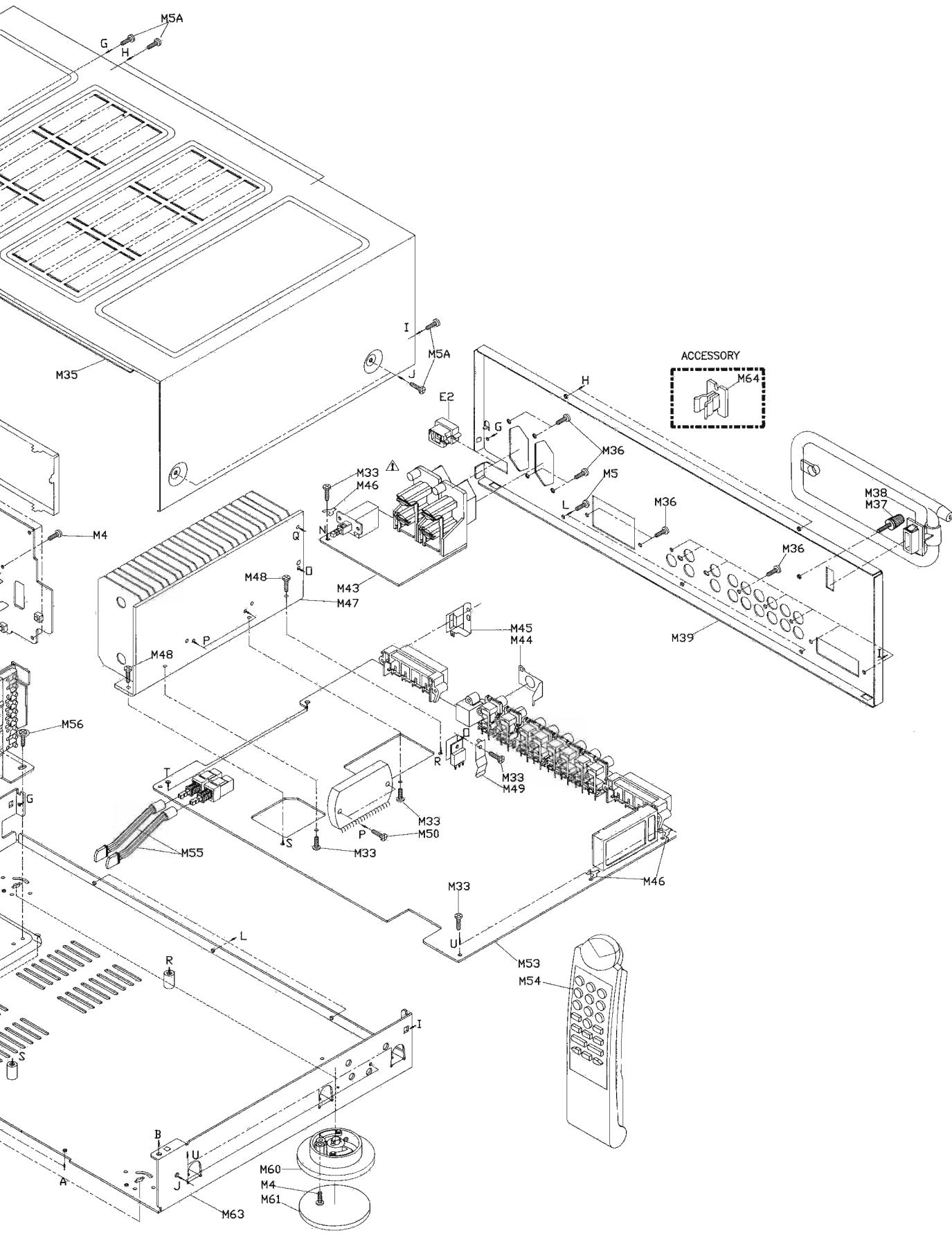
LJ(M25) Volume P C B



(M43) Power SW P C B

Mechanical Exploded View





Mechanical Parts List

Ref.	Description	Part No.	Ref.	Description	Part No.
M1	Volume knob	4822 413 51444	M35	Top cover	4822 426 40454
M2	Volume lens	4822 381 11388	M36	7 (Taptite-P) BID3010 ZN3K (14 used)	4822 502 30716
M3	VR LED PCB assembly	-----	M37	Gnd knob Q3	4822 413 90097
M4	7 (Taptite-P) BID3010 ZN3A (18 used)	4822 426 51619	M38	Ant holder	-----
			M39	Back board	-----
M4A	7 (Taptite-P) BID3008 ZN3A	4822 502 30711	M43	Power switch PCB assembly	-----
M5	9 (Taptite-B) BID3008 ZN3K (6 used)	4822 502 30714	M44	Earth terminal (S)	-----
M5A	9 (Taptite-B) CUP3008 ZN3K (8 used)	4822 502 30715	M45	Earth terminal (R)	-----
M6	Front nose	4822 459 40728	M46	Earth washer (3 used)	4822 530 80692
M7	Tone knob (3 used)	4822 413 31728	M47	Heat sink assembly	4822 255 41283
M8	Display window	4822 450 62018	M48	2 (Machine-ISO) BID3010 ZN3A (2 used)	4822 502 21308
M10	Select knob	4822 413 51445	M49	Transistor IC holder	4822 255 41285
M11	Front escutcheon	4822 426 51621	M50	9 (Taptite-B) BID3014 ZN3A (2 used)	4822 502 30717
M12	IR window assembly	4822 450 62017	M53	Main PCB assembly	-----
M13	Power knob	4822 410 62451	M54	Remote transmitter assembly	4822 218 10503
M14	Power joint	4822 404 10877	M55	Speaker knob (2 used)	4822 410 62474
M14A	Knob spacer	4822 466 93224	M56	6 (Taptite-S) CUP4006 ZN3A (4 used)	4822 502 30709
M15	Surround button	4822 410 62457	M60	Foot (4 used)	4822 462 41999
M16	Power lens	4822 381 11387	M61	Sole plate (4 used)	4822 466 62312
M17	Sleep button	4822 410 62454	M62	Spacer support A (2 used)	4822 404 21256
M18	Function button (A) (2 used)	4822 410 62452	M63	Bottom chassis	-----
M19	Function button (B) (2 used)	4822 410 62453	M64	Aux antenna holder	4822 256 92029
M20	Memory button	4822 410 62455			
M21	Muting button	4822 410 62456			
M22	Lound knob	4822 410 62473			
M23	H/P jack PCB assembly	-----			
M24	Phone jack holder	4822 267 31617			
M25	Volume PCB assembly	-----			
M26	Window base	-----			
M27	Preset button (2 used)	4822 410 62472			
M28	F.T.D. holder	4822 256 92031			
M29	LED holder (305)	4822 255 41284			
M30	Front PCB assembly	-----			
M33	9 (Taptite-B) BID3008 ZN3A (9 used)	4822 502 30713	A1	Snow box (R)	-----
M34	Shield plate	-----	A2	Snow box (L)	-----
M34A	Shield plate (T)	-----	A3	Gift box	-----
			A4	Poly bag 60x60	-----
			A5	Soft sheet 20x110cm	-----
			A6	Instruction book	4822 736 21652
			A7	Serial No. label (BLK)	-----
			A8	Serial No. label (WHT) (2 used)	-----
			A9	C/B label	-----
			A10	Poly bag 18x30 (1/B)	-----

Note: ----- Indicates a not normally stocked item.

Replacement Parts List

Ref.	Description	Part No.	Ref.	Description	Part No.
COILS & TRANSFORMER			CAPACITORS (Continued)		
L101	AM ANT coil TWS-358-638	4822 156 21683	C103	.022uF/25V (Z)	4822 126 12547
L102	AM OSC coil	4822 156 21685	C104	.022uF/25V (Z)	4822 126 12547
L103	Peaking coil 220K	4822 157 70206	C106	.022uF/25V (Z)	4822 126 12547
L104	Peaking coil 220K	4822 157 70206	C107	.022uF/25V (Z)	4822 126 12547
L105	Inductance 393K	4822 156 21684	C108	.022uF/25V (Z)	4822 126 12547
L106	Inductance 393K	4822 156 21684	C109	.022uF/25V (Z)	4822 126 12547
L107	Peaking coil 220K	4822 157 70206	C110	.47uF/16V (M) Electrolytic	4822 124 40433
L201	Spring coil 1.0uH	4822 157 70362	C111	.100pF/50V (K)	4822 126 12532
L202	Spring coil 1.0uH	4822 157 70362	C112	.022uF/25V (Z)	4822 126 12547
L203	Ring coil 3.7mH	4822 157 70364	C113	.1uF/50V (M) Electrolytic	4822 124 40242
L204	Ring coil 3.7mH	4822 157 70364	C114	.001uF/50V (K)	4822 126 12533
L301	Peaking coil 471K	4822 157 70363	C115	.022uF/25V (Z)	4822 126 12547
BPF101	FM antenna coil PC8474-1	4822 157 60042	C116	.022uF (Z) Ceramic	4822 126 12531
T101	AM IFT R22-E792	4822 157 60039	C117	.047uF/50V (Z)	4822 126 12541
T102	FM DET (A) TWS-358-636	4822 156 21686	C118	.47uF/50V (M) Electrolytic	4822 124 80431
T103	FM DET (B) TWS-358-637	4822 156 21687	C119	.022uF/25V (Z)	4822 126 12547
T104	FTZ L.P.F. 10FE01	4822 156 21682	C120	.01uF (J) Mylar	4822 121 41857
X001	Ceramic resonator CSA8.00MT	5322 242 72897	C121	.3.3uF/50V (M) Electrolytic	4822 124 80428
CF101	Ceramic filter SFE10.7 MS3GYM (Red)	4822 242 72243	C122	.4.7uF/50V (M) Electrolytic	4822 124 80431
CF102	Ceramic filter SFE10.7 MS3GYM (Red)	4822 242 72243	C123	.022uF/25V (Z)	4822 126 12547
CF103	Ceramic filter SFZ450C3L	4822 242 81377	C124	.10uF/25V (M) Electrolytic	4822 124 40248
CF104	Resonator CSB456F11	4822 242 81117	C125	.022uF/25V (Z)	4822 126 12547
T401	Power trans. EI-86	4822 146 40403	C126	.47uF/16V (M) Electrolytic	4822 124 40433
			C127	.47uF/16V (M) Electrolytic	4822 124 40433
			C128	.470pF (J) Polypropylene	4822 121 70257
CAPACITORS			C129	.27pF/50V (J)	4822 126 12543
Note: All capacitors are Multi-layer ceramiless otherwise noted.			C130	.022uF (Z) Ceramic	4822 126 12531
C=±0.25pF D=±0.5pF J=±5% K=±10%			C131	.22uF/50V (M) Electrolytic	4822 124 40746
Z=+80/-20%			C132	.022uF (Z) Ceramic	4822 126 12531
CH: Temperature compensation capacitor, temperatuer draft within 0±60PPM/°C.			C133	.560pF/50V (K)	4822 126 12536
TC101	Trimmer ceramic 10pF	4822 125 50628	C134	.022uF/25V (Z)	4822 126 12547
	Trimmer ceramic 10pF	or 4822 125 60134	C135	.022uF/25V (Z)	4822 126 12547
TC102	Trimmer ceramic 30pF	4822 125 50634	C136	.022uF/25V (Z)	4822 126 12547
	Trimmer ceramic 30pF	or 4822 125 60135	C137	.1uF/50V (M) Electrolytic "LN"	4822 124 40244
C001	.47uF/10V (M) Electrolytic	4822 124 80429	C138	.100uF/25V (M) Electrolytic	4822 124 40207
C002	.01uF/16V (K)	4822 126 12545	C140	.27pF (J) "CH"	5322 122 32776
C003	.1uF/50V (Z)	4822 126 12539	C141	.27pF (J) "CH"	5322 122 32776
C004	.1uF/50V (Z)	4822 126 12539	C142	.022uF/25V (Z)	4822 126 12547
C005	.27pF/50V (J)	4822 126 12543	C144	.022uF/25V (Z)	4822 126 12547
C006	.27pF/50V (J)	4822 126 12543	C145	.33uF/50V (M) Electrolytic	4822 124 40748
C007	.1uF/50V (Z)	4822 126 12539	C146	.10uF/25V (M) Electrolytic "NON"	4822 124 80434
C008	.1uF/50V (Z)	4822 126 12539	C147	.680pF (J) Polypropylene	4822 121 70258
C009	.0.1uF/5.5V Gold	4822 124 80438	C148	.10uF/25V (M) Electrolytic	4822 124 40248
C010	.1uF/50V (Z)	4822 126 12539	C149	.047uF (J) Mylar	4822 121 43526
C011	.1uF/50V (Z)	4822 126 12539	C150	.680pF (J) Polypropylene	4822 121 70258
C012	.1uF/50V (Z)	4822 126 12539	C151	.680pF (J) Polypropylene	4822 121 70258
C013	.4.7uF/50V (M) Electrolytic	4822 124 80431	C152	.10uF/25V (M) Electrolytic	4822 124 40248
C014	.1uF/50V (Z)	4822 126 12539	C153	.10uF/25V (M) Electrolytic	4822 124 40248
C015	.022uF/25V (Z)	4822 126 12547	C154	.001uF (J) Mylar	4822 121 43897
C016	.100uF/10V (M) Electrolytic	4822 124 80426	C155	.001uF (J) Mylar	4822 121 43897
C017	.1uF/50V (Z)	4822 126 12539	C156	.001uF (J) Mylar	4822 121 43897
C018	.022uF/25V (Z)	4822 126 12547	C157	.001uF (J) Mylar	4822 121 43897
C019	.1uF/50V (Z)	4822 126 12539	C158	.10uF/25V (M) Electrolytic	4822 124 40248
C020	.1uF/50V (Z)	4822 126 12539	C159	.1uF/50V (M) Electrolytic	4822 124 40242
C021	.1uF/50V (Z)	4822 126 12539	C160	.1uF/50V (M) Electrolytic	4822 124 40242
C101	.022uF/25V (Z)	4822 126 12547	C161	.22uF/50V (M) Electrolytic	4822 124 40746
C102	.47uF/16V (M) Electrolytic	4822 124 40433	C162	.1uF/50V (M) Electrolytic	4822 124 40242
			C163	.022uF/25V (Z)	4822 126 12547

Replacement Parts List (Continued)

Ref.	Description	Part No.	Ref.	Description	Part No.
CAPACITORS (Continued)					
C164	.220uF/25V (M) Electrolytic	4822 124 41716	C255	.820pF/50V (K)	4822 126 12538
C165	.022uF/25V (Z)	4822 126 12547	C256	.220pF/50V (K)	4822 126 12534
C166	.100pF/50V (K)	4822 126 12532	C257	.220pF/50V (K)	4822 126 12534
C168	.10uF/25V (M) Electrolytic	4822 124 40248	C258	.47uF/25V (M) Electrolytic	4822 124 40433
C169	.47uF/16V (M) Electrolytic	4822 124 40433	C259	.47uF/25V (M) Electrolytic	4822 124 40433
C170	.47pF/50V (J)	4822 126 12544	C260	.47uF/50V (M) Electrolytic	4822 124 40246
C201	.100pF/50V (K)	4822 126 12532	C261	.47uF/50V (M) Electrolytic	4822 124 40246
C202	.100pF/50V (K)	4822 126 12532	C263	.10uF/50V (M) Electrolytic	4822 124 40248
C203	.100pF/50V (K)	4822 126 12532	C264	.100uF/50V (M) Electrolytic	4822 124 40255
C204	.100pF/50V (K)	4822 126 12532	C266	.1uF (J) Mylar	4822 121 70259
C205	.1uF/50V (M) Electrolytic	4822 124 40242	C267	.1uF (J) Mylar	4822 121 70259
C206	.1uF/50V (M) Electrolytic	4822 124 40242	C268	.022uF/25V (Z)	4822 126 12547
C207	.100pF/50V (K)	4822 126 12532	C269	.022uF/25V (Z)	4822 126 12547
C208	.100pF/50V (K)	4822 126 12532	C270	.1uF/50V (M) Electrolytic	4822 124 40242
C209	.22uF/16V (M) Electrolytic	5322 124 41431	C271	.01uF/16V (K)	4822 126 12545
C210	.22uF/16V (M) Electrolytic	5322 124 41431	C272	.01uF/16V (K)	4822 126 12545
C211	.022uF/25V (Z)	4822 126 12547	C273	.01uF/16V (K)	4822 126 12545
C212	.022uF/25V (Z)	4822 126 12547	C274	.01uF/16V (K)	4822 126 12545
C213	.100uF/25V (M) Electrolytic	4822 124 40207	C275	.0022uF/16V (K)	4822 126 12546
C214	.100uF/25V (M) Electrolytic	4822 124 40207	C276	.0022uF/16V (K)	4822 126 12546
C215	.0047uF (J) Mylar	4822 121 70262	C277	.100pF/50V (K)	4822 126 12532
C216	.0047uF (J) Mylar	4822 121 70262	C278	.100pF/50V (K)	4822 126 12532
C217	.0015uF (J) Mylar	5322 121 70042	C279	.680pF/50V (K)	4822 126 12537
C218	.0015uF (J) Mylar	5322 121 70042	C280	.1uF/50V (M) Electrolytic "NON"	4822 124 80435
C223	.4.7uF/50 (M) Electrolytic	4822 124 80431	C277	.100pF/50V (K)	4822 126 12532
C224	.4.7uF/50 (M) Electrolytic	4822 124 80431	C301	.220uF/25V (M) Electrolytic	4822 124 41716
C225	.100pF/50V (K)	4822 126 12532	C302	.47uF/16V (M) Electrolytic	4822 124 40433
C226	.100pF/50V (K)	4822 126 12532	C303	.47uF/16V (M) Electrolytic	4822 124 40433
C227	.100pF/50V (K)	4822 126 12532	C304	.220uF/25V (M) Electrolytic	4822 124 41716
C228	.100pF/50V (K)	4822 126 12532	C305	.1000uF/35V (M) Electrolytic	4822 124 80427
C229	.100pF/50V (K)	4822 126 12532	C306	.470uF/35V (M) Electrolytic	4822 124 41334
C230	.100pF/50V (K)	4822 126 12532	C307	.4700uF/63V (M) Electrolytic "TSW"	4822 124 80432
C231	.100pF/50V (K)	4822 126 12532	C308	.4700uF/63V (M) Electrolytic "TSW"	4822 124 80432
C232	.100pF/50V (K)	4822 126 12532	C309	.01uF F:5mm (Z) Ceramic	4822 126 12529
C233	.100pF/50V (K)	4822 126 12532	C310	.01uF F:5mm (Z) Ceramic	4822 126 12529
C234	.100pF/50V (K)	4822 126 12532	C311	.4.7uF/50V (M) Electrolytic	4822 124 80431
C235	.4.7uF/50V (M) Electrolytic	4822 124 80431	C312	.220uF/35V (M) Electrolytic	4822 124 41716
C236	.4.7uF/50V (M) Electrolytic	4822 124 80431	C313	.47uF/16V (M) Electrolytic	4822 124 40433
C237	.4.7uF/50V (M) Electrolytic	4822 124 80431	C314	.022uF (Z) Ceramic	4822 126 12531
C238	.100pF/50V (K)	4822 126 12532	C315	.022uF (Z) Ceramic	4822 126 12531
C239	.100pF/50V (K)	4822 126 12532	C317	.2.2uF/50V (M) Electrolytic	4822 124 40244
C240	.47uF/25V (M) Electrolytic	4822 124 40433	C319	.022uF/25V (Z)	4822 126 12547
C241	.47uF/25V (M) Electrolytic	4822 124 40433	C320	.022uF/25V (Z)	4822 126 12547
C242	.100uF/25V (M) Electrolytic	4822 124 40207	C321	.1uF/50V (Z)	4822 126 12539
C243	.100uF/25V (M) Electrolytic	4822 124 40207	C322	.1uF/50V (Z)	4822 126 12539
C244	.4.7uF/50V (M) Electrolytic	4822 124 80431	C323	.022uF/25V (Z)	4822 126 12547
C245	.4.7uF/50V (M) Electrolytic	4822 124 80431	C324	.10uF/25V (M) Electrolytic "NON"	4822 124 80434
C246	.470pF/50V (K)	4822 126 12535	C325	.1uF/50V (Z)	4822 126 12539
C247	.470pF/50V (K)	4822 126 12535	C402	.4700pF/AC400V (Z) Spark "L"	4822 124 22017
C248	.4.7uF/50V (M) Electrolytic	4822 124 80431	C403	.470pF/AC400V (Z) Spark	4822 121 70265
C249	.4.7uF/50V (M) Electrolytic	4822 124 80431	C501	.039uF (J) Mylar	4822 121 70261
C250	.1uF/50V (M) Electrolytic "NON"	4822 124 80435	C502	.039uF (J) Mylar	4822 121 70261
C251	.1uF/50V (M) Electrolytic "NON"	4822 124 80435	C503	.100uF/25V (M) Electrolytic	4822 124 40207
C252	.2.2uF/50V (M) Electrolytic "NON"	4822 124 80436	C504	.01uF/16V (K)	4822 126 12545
C253	.2.2uF/50V (M) Electrolytic "NON"	4822 124 80436	C505	.1uF/50V (Z)	4822 126 12539
C254	.820pF/50V (K)	4822 126 12538	C601	.220pF/50V (J)	4822 126 12534
			C602	.220pF/50V (J)	4822 126 12534

Replacement Parts List (Continued)

Ref.	Description	Part No.	Ref.	Description	Part No.
CAPACITORS (Continued)					
C603	4.7uF/50V (M) Electrolytic "MINI"	4822 124 80433	R034	10K ohm	4822 051 51003
C604	4.7uF/50V (M) Electrolytic "MINI"	4822 124 80433	R101	330 ohm	4822 051 53301
C605	100pF/50V (J)	4822 126 12532	R103	390 ohm	4822 116 52222
C606	100pF/50V (J)	4822 126 12532	R104	330K ohm	4822 116 52272
C607	22pF/50V (J)	4822 126 12542	R105	1K ohm	4822 051 51002
C608	22pF/50V (J)	4822 126 12542	R106	330 ohm	4822 051 53301
C609	4.7uF/50V (M) Electrolytic	4822 124 80431	R107	22K ohm	4822 051 52203
C610	4.7uF/50V (M) Electrolytic	4822 124 80431	R108	100K ohm, 1/4W	4822 050 21004
C611	.047uF (J) Mylar	4822 121 43526	R109	100K ohm	4822 051 51004
C612	.047uF (J) Mylar	4822 121 43526	R110	56K ohm	4822 051 55603
C613	.33uF/50V (M) Electrolytic	4822 124 40748	R111	3.3K ohm	4822 051 53302
C614	.33uF/50V (M) Electrolytic	4822 124 40748	R112	5.6K ohm	4822 051 55602
C615	.0068uF (J) Mylar	4822 121 70263	R113	27K ohm, 1/4W	4822 050 22703
C616	.0068uF (J) Mylar	4822 121 70263	R114	82 ohm	4822 051 58201
C617	.039uF (J) Mylar	4822 121 70261	R115	1.8K ohm	4822 051 51802
C618	.039uF (J) Mylar	4822 121 70261	R116	1K ohm	4822 051 51002
C619	10uF/25V (M) Electrolytic	4822 124 40248	R117	2.2K ohm	4822 051 52202
C620	10uF/25V (M) Electrolytic	4822 124 40248	R118	10K ohm	4822 051 51003
C621	.1uF/50V (Z)	4822 126 12539	R119	10K ohm	4822 051 51003
C622	.1uF/50V (Z)	4822 126 12539	R120	68K ohm	4822 051 56803
C623	2.2uF/50V (M) Electrolytic	4822 124 40244	R121	3.3K ohm, 1/4W	4822 050 23302
C624	2.2uF/50V (M) Electrolytic	4822 124 40244	R122	4.7 ohm, 1/2W Metal (Flame-proof)	4822 117 10193
RESISTORS					
Note: All resistors are carbon film, ±5% and 1/6 watt, unless otherwise noted.					
R001	47K ohm	4822 051 54703	R125	100K ohm	4822 051 51004
R002	100 ohm	4822 051 51001	R126	100K ohm	4822 051 51004
R003	47K ohm	4822 051 54703	R127	4.7K ohm	4822 051 54702
R004	18K ohm	4822 051 51803	R128	1K ohm	4822 051 51002
R005	47K ohm	4822 051 54703	R129	10K ohm	4822 051 51003
R006	47K ohm	4822 051 54703	R130	8.2K ohm	4822 051 58202
R007	47K ohm	4822 051 54703	R131	6.8K ohm	4822 051 56802
R008	47K ohm	4822 051 54703	R132	2.2K ohm, 1/4W	4822 050 22202
R009	18K ohm	4822 051 51803	R136	100 ohm, 1/2W Metal (Flame-proof)	4822 117 10189
R010	47K ohm	4822 051 54703	R137	4.7K ohm, 1/4W	4822 050 24702
R011	47K ohm	4822 051 54703	R138	4.7K ohm	4822 051 54702
R014	4.7K ohm	4822 051 54702	R139	15K ohm	4822 051 51503
R015	22K ohm	4822 051 52203	R140	100 ohm, 1/2W Metal (Flame-proof)	4822 117 10189
R016	22K ohm	4822 051 52203	R141	4.7K ohm	4822 051 54702
R017	22K ohm	4822 051 52203	R142	68K ohm	4822 051 56803
R018	22K ohm	4822 051 52203	R143	68K ohm	4822 051 56803
R019	22K ohm	4822 051 52203	R146	3.3K ohm	4822 051 53302
R020	22K ohm	4822 051 52203	R147	3.3K ohm	4822 051 53302
R021	100 ohm	4822 051 51001	R148	3.3K ohm	4822 051 53302
R022	100K ohm	4822 051 51004	R149	3.3K ohm	4822 051 53302
R023	100K ohm	4822 051 51004	R150	10K ohm	4822 051 51003
R024	2.2K ohm	4822 051 52202	R151	5.6K ohm	4822 051 55602
R025	22K ohm	4822 051 52203	R152	100 ohm, 1/2W Metal (Flame-proof)	4822 117 10189
R026	22K ohm	4822 051 52203	R153	100K ohm	4822 051 51004
R028	1K ohm	4822 051 51002	R154	1K ohm	4822 051 51002
R029	10K ohm	4822 051 51003	R155	4.7K ohm, 1/4W	4822 050 24702
R030	10K ohm	4822 051 51003	R156	4.7K ohm, 1/4W	4822 050 24702
R031	47K ohm	4822 051 54703	R157	2.7K ohm	4822 051 52702
R032	47K ohm	4822 051 54703	R158	5.6K ohm	4822 051 55602
R033	10K ohm	4822 051 51003	R159	680K ohm	4822 116 52298

Replacement Parts List (Continued)

Ref.	Description	Part No.	Ref.	Description	Part No.
RESISTORS (Continued)			RESISTORS (Continued)		
R201	150 ohm	4822 051 51501	R257	2.2K ohm	4822 051 52202
R202	150 ohm	4822 051 51501	R258	2.2K ohm	4822 051 52202
R203	560K ohm	4822 051 55604	R259	100K ohm	4822 051 51004
R204	560K ohm	4822 051 55604	R260	100K ohm	4822 051 51004
R205	56K ohm	4822 051 55603	R261	180K ohm	4822 116 52213
R206	56K ohm	4822 051 55603	R262	180K ohm	4822 116 52213
R207	1K ohm	4822 051 51002	R263	22K ohm	4822 051 52203
R208	1K ohm	4822 051 51002	R264	22K ohm	4822 051 52203
R209	100K ohm	4822 051 51004	R265	220 ohm, 1/4W	4822 051 52201
R210	100K ohm	4822 051 51004	R266	220 ohm	4822 116 52215
R211	1K ohm	4822 051 51002	R267	22K ohm	4822 051 52203
R212	1K ohm	4822 051 51002	R268	22K ohm	4822 051 52203
R213	47K ohm	4822 051 54703	R269	56K ohm, 1/4W	4822 050 25603
R214	47K ohm	4822 051 54703	R270	56K ohm, 1/4W	4822 050 25603
R215	560K ohm	4822 051 55604	R271	1K ohm, 1/4W	4822 050 21002
R216	560K ohm	4822 051 55604	R272	1K ohm, 1/4W	4822 050 21002
R217	100K ohm	4822 051 51004	R273	56K ohm, 1/4W	4822 050 25603
R218	100K ohm	4822 051 51004	R274	56K ohm, 1/4W	4822 050 25603
R219	1K ohm, 1/4W	4822 050 21002	R275	3.3K ohm, 1/2W Metal (Flame-proof)	4822 117 10192
R220	1K ohm	4822 051 51002	R276	3.3K ohm, 1/2W Metal (Flame-proof)	4822 117 10192
R221	220 ohm	4822 116 52215	R277	3.3K ohm, 1/2W Metal (Flame-proof)	4822 117 10192
R222	220 ohm	4822 116 52215	R278	3.3K ohm, 1/2W Metal (Flame-proof)	4822 117 10192
R223	560 ohm	4822 116 52226	R279	100 ohm, 1/4W	4822 050 21001
R224	560 ohm	4822 116 52226	R280	1K ohm, 1/2W Metal (Flame-proof)	4822 117 10191
R225	220 ohm	4822 116 52215	R281	1K ohm, 1/2W Metal (Flame-proof)	4822 117 10191
R226	220 ohm	4822 116 52215	R282	0.1 ohm, 3W Cement	4822 113 90241
R227	560 ohm	4822 116 52226	R283	0.1 ohm, 3W Cement	4822 113 90241
R228	560 ohm	4822 116 52226	R284	4.7 ohm, 1/2W Metal (Flame-proof)	4822 117 10193
R229	220 ohm	4822 116 52215	R285	4.7 ohm, 1/2W Metal (Flame-proof)	4822 117 10193
R230	220 ohm	4822 116 52215	R286	10 ohm, 1/2W Metal (Flame-proof)	4822 117 10188
R231	56K ohm	4822 051 55603	R287	10 ohm, 1/2W Metal (Flame-proof)	4822 117 10188
R232	56K ohm	4822 051 55603	R288	4.7K ohm	4822 051 54702
R233	1K ohm	4822 051 51002	R289	2.2K ohm, 1/4W	4822 050 22202
R234	1K ohm	4822 051 51002	R290	2.2K ohm, 1/4W	4822 050 22202
R235	100K ohm	4822 051 51004	R291	15K ohm, 1/4W	4822 050 21503
R236	100K ohm	4822 051 51004	R292	15K ohm, 1/4W	4822 050 21503
R237	68K ohm	4822 051 56803	R293	12K ohm, 1/4W	4822 050 21203
R238	68K ohm	4822 051 56803	R294	12K ohm, 1/4W	4822 050 21203
R239	100K ohm	4822 051 51004	R295	2.2K ohm, 1/4W	4822 050 22202
R240	100K ohm	4822 051 51004	R296	47K ohm, 1/4W	4822 050 24703
R241	2.2K ohm	4822 051 52202	R297	330 ohm, 2W Metal (Flame-proof)	4822 117 10122
R242	2.2K ohm	4822 051 52202	R298	330 ohm, 2W Metal (Flame-proof)	4822 117 10122
R243	100K ohm	4822 051 51004	R299	100K ohm	4822 051 51004
R244	100K ohm	4822 051 51004	R305	100 ohm, 1/2W Metal (Flame-proof)	4822 117 10189
R245	33K ohm	4822 051 53303	R306	820 ohm, 1W Metal (Flame-proof)	4822 117 10118
R246	33K ohm	4822 051 53303			
R247	1K ohm	4822 051 51002			
R248	1K ohm	4822 051 51002			
R249	180K ohm	4822 116 52213			
R250	8.2K ohm	4822 051 58202			
R251	100K ohm	4822 051 51004			
R252	47K ohm, 1/4W	4822 050 24703			
R253	100 ohm, 1/2W Metal (Flame-proof)	4822 117 10189			
R254	100 ohm, 1/2W Metal (Flame-proof)	4822 117 10189			
R255	100 ohm, 1/2W Metal (Flame-proof)	4822 117 10189			
R256	100 ohm, 1/2W Metal (Flame-proof)	4822 117 10189			

Replacement Parts List (Continued)

Ref.	Description	Part No.	Ref.	Description	Part No.
RESISTORS (Continued)					
R307	10 ohm, 1/2W Metal (Flame-proof)	4822 117 10188	IC301	MC7815CT	5322 209 71759
R308	2.2K ohm	4822 051 52202	IC302	MC7915CT	5322 209 86361
R310	1K ohm	4822 051 51002	IC303	NJM78L06	4822 209 83819
R311	1K ohm	4822 051 51002	IC501	LB1641	4822 209 30193
R312	4.7 ohm, 1/2W Metal (Flame-proof)	4822 117 10193	IC601	NJM4558S	4822 209 73303
R313	4.7 ohm, 1/2W Metal (Flame-proof)	4822 117 10193	Q001	2SC945P,Q	4822 130 41198
R314	22K ohm, 1/4W	4822 116 52257	Q002	2SA733P,Q	4822 130 61867
R316	56K ohm	4822 051 55603	Q003	2SC945P,Q	4822 130 41198
R323	100K ohm	4822 051 51004	Q004	2SA733P,Q	4822 130 61867
R324	100K ohm	4822 051 51004	Q005	2SC945P,Q	4822 130 41198
R501	6.8K ohm	4822 051 56802	Q008	2SC945P,Q	4822 130 41198
R502	6.8K ohm	4822 051 56802	Q009	2SC945P,Q	4822 130 41198
R503	3.3K ohm, 1/4W	4822 050 23302	Q010	2SC945P,Q	4822 130 41198
R504	33 ohm, 1/4W Fuse	4822 117 10187	Q013	2SA733P,Q	4822 130 61867
R505	10 ohm	4822 116 52176	Q014	2SK161GR, FET	4822 130 63222
R601	1K ohm	4822 051 51002	Q015	2SC1675L	4822 130 41595
R602	1K ohm	4822 051 51002	Q016	DTC144ES	4822 130 42594
R603	220K ohm	4822 051 52204	Q017	DTC144ES	4822 130 42594
R604	220K ohm	4822 051 52204	Q018	DTA114ES	4822 130 60766
R605	560K ohm	4822 051 55604	Q019	DTA114ES	4822 130 60766
R606	560K ohm	4822 051 55604	Q020	2SC945P,Q	4822 130 41198
R607	560K ohm	4822 051 55604	Q021	2SC945P,Q	4822 130 41198
R608	560K ohm	4822 051 55604	Q022	2SC945P,Q	4822 130 41198
R609	47K ohm	4822 051 54703	Q023	2SC945P,Q	4822 130 41198
R610	47K ohm	4822 051 54703	Q024	2SK246, FET	4822 130 60098
R611	9.1K ohm	4822 116 52306	Q025	DTA144ES	4822 130 42594
R612	9.1K ohm	4822 116 52306	Q026	DTA144ES	4822 130 42594
R613	22K ohm	4822 051 52203	Q027	2SC1841E	4822 130 42388
R614	22K ohm	4822 051 52203	Q028	2SC2878A	4822 130 61629
R615	1.2K ohm	4822 051 51202	Q029	2SC2878A	4822 130 61629
R616	1.2K ohm	4822 051 51202	Q030	2SC2878A	4822 130 61629
R617	680 ohm	4822 051 56801	Q031	2SC2878A	4822 130 61629
R618	680 ohm	4822 051 56801	Q032	2SA988E	4822 130 42386
R619	270 ohm	4822 116 52216	Q033	2SC1841E	4822 130 42388
R620	270 ohm	4822 116 52216	Q034	2SC1841E	4822 130 42388
R621	1.8K ohm	4822 051 51802	Q035	2SC945P,Q	4822 130 41198
R622	1.8K ohm	4822 051 51802	Q036	2SA965Y	4822 130 63221
R623	12K ohm	4822 051 51203	X101	X'TAL 7.2MHz	4822 242 71875
R624	12K ohm	4822 051 51203	D001	ISS176	4822 130 81524
R625	10K ohm	4822 051 51003	D002	ISS176	4822 130 81524
R626	10K ohm	4822 051 51003	D004	ISS176	4822 130 81524
R629	1.5K ohm	4822 051 51502	D005	ISS176	4822 130 81524
R630	1.5K ohm	4822 051 51502	D006	ISS176	4822 130 81524
FR201	100 ohm, 1/2W Fuse	4822 117 10197	D007	LTL-4222N (Red)	4822 130 83205
FR301	1 ohm, 1/2W Fuse	4822 111 91493	D008	1N4148	4822 130 30621
FR302	1 ohm, 1/2W Fuse	4822 111 91493	D009	1N4148	4822 130 30621
			D010	1N4148	4822 130 30621
SEMICONDUCTORS					
IC001	TMP87PM70F	4822 209 32048	D011	1N4148	4822 130 30621
IC101	LA1266	4822 209 71785	D101	1N4148	4822 130 30621
IC102	LA3401	4822 209 73434	D102	ISS176	4822 130 81524
IC103	LC7218	4822 209 30178	D103	ISS176	4822 130 81524
IC201	NJM4558DD	4822 209 81054	D104	ISS176	4822 130 81524
IC202	NJM4558DD	4822 209 81054	D105	ISS176	4822 130 81524
IC203	NJM4558DD	4822 209 81054	D108	ISS176	4822 130 81524
IC204	STK4192-2	4822 209 70441	D109	1N4148	4822 130 30621
IC205	LC7821	4822 209 72748	D110	ISS176	4822 130 81524
			D201	ISS176	4822 130 81524

Replacement Parts List (Continued)

Ref.	Description	Part No.	Ref.	Description	Part No.
	SEMICONDUCTORS (Continued)			SWITCHES (Continued)	
D202	ISS176	4822 130 81524	S018	Tact switch SKHVB3430-CP (Memory)	4822 276 13373
D204	ISS176	4822 130 81524	S019	Tact switch SKHVB3420-CP (Mute)	4822 276 13372
D205	ISS176	4822 130 81524	S020	Tact switch SKHVB3430-CP (FM mode)	4822 276 13373
D206	RD5.1EB2, Zener	4822 130 32897	S021	Tact switch SKHVB3430-CP (Tuning down)	4822 276 13373
D207	1N4148	4822 130 30621	S022	Tact switch SKHVB3430-CP (Preset down)	4822 276 13373
D301	GBU4D	4822 130 83302	S023	Tact switch SKHVB3430-CP (Frequency direct)	4822 276 13373
D302	B20SL	4822 130 33771	S024	Tact switch SKHVB3430-CP (Station name display)	4822 276 13373
D303	RD5.1EB2, Zener	4822 130 32897	S025	Tact switch SKHVB3430-CP (Sleep)	4822 276 13373
D304	RD27EB2, Zener	4822 130 32897	S201	Push switch SPUL19C611-CP (Speaker A)	4835 276 17225
	RD27EB3, Zener	or 4822 130 32736	S201	Push switch SPUL19C611-CP (Speaker B)	4835 276 17225
D308	ISS176	4822 130 81524	S401	Power switch SDDL1107U-CP (Power)	4822 276 13374
D309	ISS176	4822 130 81524	S501	Push switch SPUL12A207-CP (Loudness)	4822 276 13375
D501	RD5.1JSB2, Zener	4822 130 83304		MISCELLANEOUS	
D502	LTL-4222N (Red)	4822 130 83205	HP201	Headphone jack JY-6317-01-06063	4822 267 31625
VD101	KV1236Z1 (WHT)	4822 130 33787	JK101	2P antenna terminal AJ-2016-040	4822 290 81552
	KV1236Z1 (WHT/BLU)	or 4822 130 33787	JK201	4P RCA jack RJ-1018-010	4822 267 41082
	VARIABLE RESISTORS		JK202	4P RCA jack RJ-1018-010	4822 267 41082
SFR101	Semi-fixed resistor 100KX (AM Lock sense adjustment)	4822 100 11968	JK203	4P RCA jack RJ-1018-010	4822 267 41082
SFR102	Semi-fixed resistor 200KX (FM Lock sense adjustment)	4822 100 11969	JK204	2P RCA jack RJ-1020-050 Y	4822 267 41083
SFR103	Semi-fixed resistor 100KX (FM separation adjustment)	4822 100 11968	JK205	2P RCA jack RJ-1020-110 G	4822 267 41084
VR501	Variable resistor 50KBx2	4822 101 21216	JK206	1P RCA jack 0501015-C (0)	4822 267 31616
VR601	Variable resistor 100KW	4822 101 21214			
VR602	Variable resistor 100KBx2	4822 101 21215	JK207	8P Speaker terminal	4822 290 81562
VR603	Variable resistor 100KBx2	4822 101 21215	CN1	3P FTW top base	4822 321 61869
	SWITCHES		CN1'	Wire holder 3P20	-----
S001	Rotary switch MSB1.12P-20L "C" (Input selector)	4822 273 20373	CN2	11P FTW top base	4822 321 61874
S003	Tact switch SKHVB3420-CP (Memory preset station)	4822 276 13372	CN2'	Wire holder 11P20	-----
S004	Tact switch SKHVB3420-CP (Memory preset station)	4822 276 13372	CN4	5P FTW top base	4822 321 61872
S005	Tact switch SKHVB3420-CP (Memory preset station)	4822 276 13372	CN4'	Wire holder 5P20	-----
S006	Tact switch SKHVB3420-CP (Memory preset station)	4822 276 13372	CN5	3P FTW top base	4822 321 61869
S007	Tact switch SKHVB3420-CP (Memory preset station)	4822 276 13372	CN5'	Wire holder 3P20	-----
S008	Tact switch SKHVB3420-CP (Memory preset station)	4822 276 13372	CN6	2P FTW top base	4822 321 61867
S009	Tact switch SKHVB3420-CP (Memory preset station)	4822 276 13372	CN6'	Wire holder 2P20	-----
S010	Tact switch SKHVB3420-CP (Memory preset station)	4822 276 13372	CN7	6P FTW top base	4822 321 61873
S011	Tact switch SKHVB3420-CP (Memory preset station)	4822 276 13372	CN7'	Wire holder 6P20	-----
S012	Tact switch SKHVB3420-CP (Memory preset station)	4822 276 13372	CN8	3P FTW top base	4822 321 61869
S013	Tact switch SKHVB3420-CP (Surround/Spatial)	4822 276 13372	CN8'	Wire holder 4P20	-----
S014	Tact switch SKHVB3430-CP (FM/AM band)	4822 276 13373	CN10	Wire holder 7P25	-----
S015	Tact switch SKHVB3430-CP (Tuning UP)	4822 276 13373	CN10'	Wire holder 7P25	-----
S016	Tact switch SKHVB3430-CP (Preset down)	4822 276 13373	CN14	PH 2P male connector	4822 321 61868
S017	Tact switch SKHVB3430-CP (Display)	4822 276 13373	CN15	6P FTW top base	4822 321 61873
			CN15'	Wire holder 6P20	-----
			RY201	Relay VB-24MBU	4822 280 80764
			RM001	Remote receiver LTM-9052A-4	4822 218 10499
			DP001	VFT Display 8-BT-130GK	4822 130 91217
			FE01	FM front END FE415-CN	4822 210 10524

Note: ----- Indicates a not normally stocked item.

Replacement Parts List (Continued)

Ref.	Description	Part No.	Ref.	Description	Part No.
	MISCELLANEOUS (Continued)			MISCELLANEOUS (Continued)	
F401	Fuse BS T2A/250V	4822 070 10089	E6	Insulator (mica) between heat sink and transistor (IC103)	-----
F402	Fuse BS T1A/250V	4822 253 32002	E7	Square terminal pin on PCB (7 used)	-----
AC2	AC outlet YKE31-0090	4822 267 20437	E8	RCA cable BLK-1M (GRN) (2 used)	4822 321 61875
A1	Long square terminal pin on PCB	-----	E9	H/P jack PCB (Blank)	-----
A2	Long square terminal pin on PCB	-----	E10	VR LED PCB (Blank)	-----
A3	Square terminal pin on PCB	-----	E11	Power transformer PCB (Blank)	-----
A4	Square terminal pin on PCB	-----	E12	Main PCB (Blank)	-----
E1	AC cord UL 7.5F BLK-2	4822 321 10926	E13	Front PCB (Blank)	-----
E2	Cord stopper 2271	4822 325 80504	E14	Power switch PCB (Blank)	-----
E3	Loop ant coil AJ-2017	4822 303 40059	E15	Volume PCB (Blank)	-----
E4	Battery R03 (E) UM4E (2 used)	-----	E16	Fuse holder PFC5000-0202(T) (2 used)	4822 265 30472
E5	FM indoor antenna	4822 303 50073	E17	75 ohm Antenna socket	4822 265 20621

Note: ----- indicates a not normally stocked item.