

# Service Service **Service**



# Service Manual

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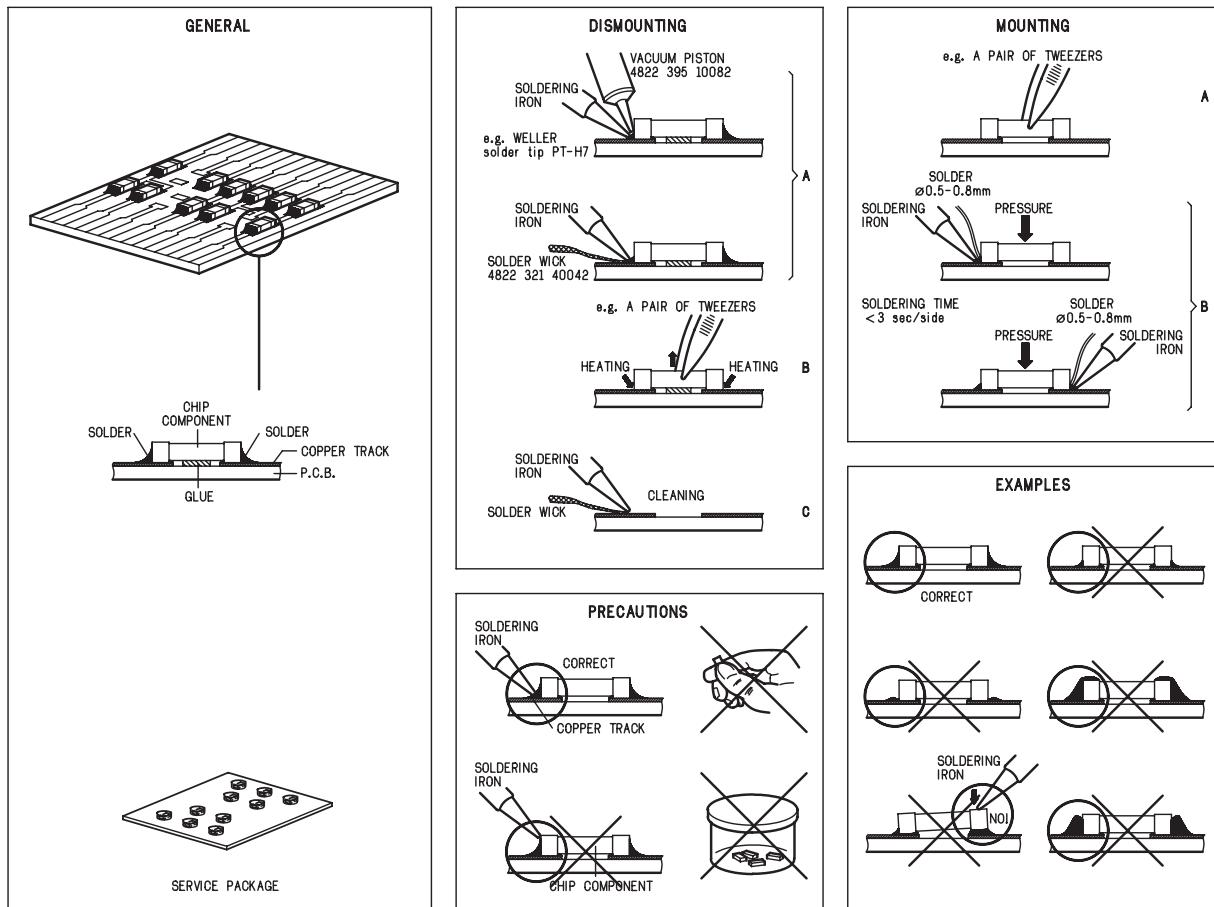


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**CLASS 1  
LASER PRODUCT**



## HANDLING CHIP COMPONENTS



### GB WARNING

All ICs and many other semiconductors 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 wristband with resistance. Keep components and tools at this potential.

### 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 certifié d'une résistance de sécurité. Veiller à ce que les composants ainsi que les outils que l'on utilise soient également à ce potentiel.

### GB

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

Safety components are marked by the symbol

### 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.

Les composants de sécurité sont marqués

**DANGER:** Invisible laser radiation when open.  
AVOID DIRECT EXPOSURE TO BEAM.

### S Warning !

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

### OK Advarsel !

Usynlig laserstrålning ved åbning når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling.

### 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.

### 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 cauzione 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.

### NL

Veiligheidsbepalingen vereisen, dat het apparaat in zijn oorspronkelijke toestand wordt teruggebracht en dat onderdelen, identiek aan de gespecificeerde, worden toegepast. De Veiligheidsonderdelen zijn aangeduid met het symbool

### I

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

## CLASS 1 LASER PRODUCT

### FIN Varoitus !

Avatussa laitteessa ja suojalukiukseen ohittetaessa olet alittina näkymättömälle laserisäteilylle. Älä katso sääteeseen !

### GB

After servicing and before returning the set to customer perform a leakage current measurement test from all exposed metal parts to earth ground, to assure no shock hazard exists.

The leakage current must not exceed 0.5mA.

### F

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

## TECHNICAL SPECIFICATIONS

### AMPLIFIER(for -12)

Output power .....	2 x 15W
..... 30W total power	
Signal-to-noise ratio .....	≥62 dBA (IEC)
Frequency response .....	60 – 16000 Hz, ± 3 dB
Impedance loudspeakers .....	4 Ω
Impedance headphones .....	32 Ω – 1000 Ω

### CD PLAYER

Frequency range .....	20 – 20000 Hz
Signal-to-noise ratio .....	75 dBA

### TUNER

FM wave range .....	87.5 – 108 MHz
MW wave range .....	531 – 1602 kHz
Sensitivity at 75 Ω	
– mono, 26 dB signal-to-noise ratio .....	2.8 µV
– stereo, 46 dB signal-to-noise ratio .....	61.4 µV
Selectivity .....	≥28 dB
Total harmonic distortion .....	≤5%
Frequency response ....	63 – 12500 Hz (± 3 dB)
Signal-to-noise-ratio .....	≥40 dB

### SPEAKERS

Bass reflex system	
Dimensions (w x h x d)....	150 x 150 x 200 (mm)

### GENERAL INFORMATION

AC Power .....	220 - 230V / 50 Hz
Dimensions (w x h x d) ..	150 x 150 x 244 (mm)
Weight (with/without speakers) .....	
..... approx. 6.2 / 2.9 kg	
ECO power consumption .....	< 1 W

### SERVICE TOOLS

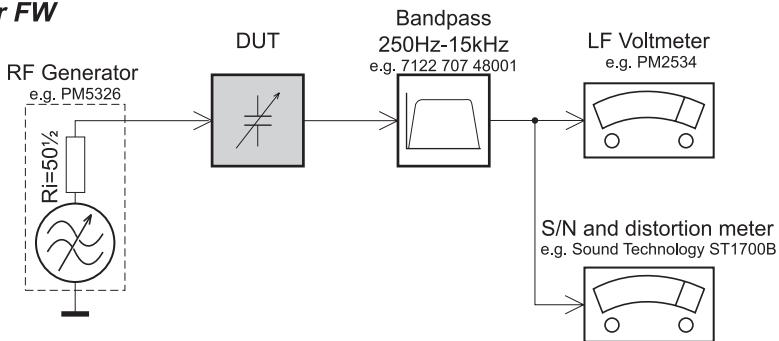
<b>TORX T10</b> screwdriver with shaftlength 150mm.....	4822 395 50423
<b>TORX</b> screwdriver set SBC 163.....	4822 295 50145
<b>Audio signal disc</b> SBC 429.....	4822 397 30184
<b>Playability test disc</b> SBC 444.....	4822 397 30245
<b>Test disc 5</b> (disc without errors ) +	
<b>Test disc 5A</b> (disc with dropout errors, black spots and fingerprints)	
SBC 426/426A.....	4822 397 30096
<b>Burn in test disc</b> (65 min. 1kHz signal at -30 dB level without "pause") ...	4822 397 30155
<b>Universal test cassette Fe</b> SBC 420 .....	4822 397 30071

### AVAILABLE ESD PROTECTION EQUIPMENT

<b>anti-static table mat</b> large	1200x650x1.25mm	4822 466 10953
small	600x650x1.25mm	4822 466 10958
<b>anti-static wristband</b>		4822 395 10223
<b>connection box</b> (3 press stud connections, 1MΩ)		4822 320 11307
<b>extendible cable</b> (2m, 2MΩ, to connect wristband to connection box)		4822 320 11305
<b>connecting cable</b> (3m, 2MΩ, to connect table mat to connection box)		4822 320 11306
<b>earth cable</b> (1MΩ, to connect any product to mat or to connection box)		4822 320 11308
<b>KIT ESD3</b> (combining all 6 prior products - small table mat)		4822 310 10671
<b>wristband tester</b>		4822 344 13999

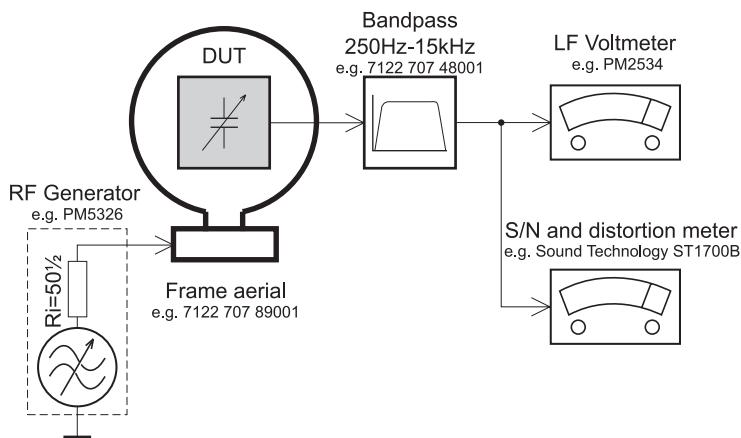
## SERVICE MEASUREMENT

### Tuner FW



Use a bandpass filter to eliminate hum (50Hz, 100Hz) and disturbance from the pilottone (19kHz, 38kHz).

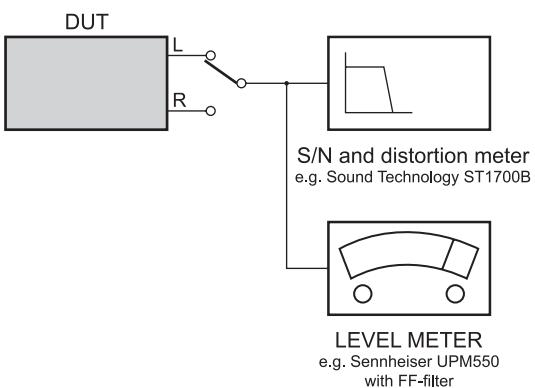
### Tuner AM (MW,LW)



To avoid atmospheric interference all AM-measurements have to be carried out in a Faraday's cage.  
Use a bandpass filter (or at least a high pass filter with 250kHz) to eliminate hum (50Hz, 100Hz).

### CD

Use Audio Signal Disc SBC429 4822 397 30184  
(replaces test disc 3)



# CONNECTION AND CONTROLS

## Controls (illustrations on page 3)

### Controls on the system and remote control

**① BAND**  
– for Tuner.....(on the set only) selects waveband.

**② SOURCE (CD/TUNER/AUX)**  
– switches on the system.  
– selects the respective sound source for CD/  
FM/ MW/ AUX.

**③ STANDBY-ON / ⊖**  
– switches the system to standby/on.

**④ PROG/CLOCK**  
for CD .....programs tracks and reviews the  
program.

**⑤ OPEN•CLOSE**  
– opens/closes the CD door.

**⑥ VOLUME -/+**  
– adjusts volume level.  
**⑦ TUNING ●**  
– tunes to radio stations.

**⑧ IR SENSOR**  
– infrared sensor for remote control.  
**⑨ ⊖**  
– connect headphones.

**⑩ ▶ II**  
for CD .....starts or pauses CD playback.

**⑪ ▲ / ▶▶**  
– skips to the beginning of a current track/  
previous/next track.  
– fast searches back and forward within a track/  
CD.

**⑫ STOP ■**  
– stops CD playback or erases a CD program.

**⑬ AUX IN**  
– connects to external audio source.

**⑭ MUTE**  
– switches playback sound off and on.

**⑮ REPEAT**  
– repeats a track/disc/all programmed tracks.

**⑯ SHUFF (SHUFFLE)**  
– plays CD/MP3 tracks in random order.

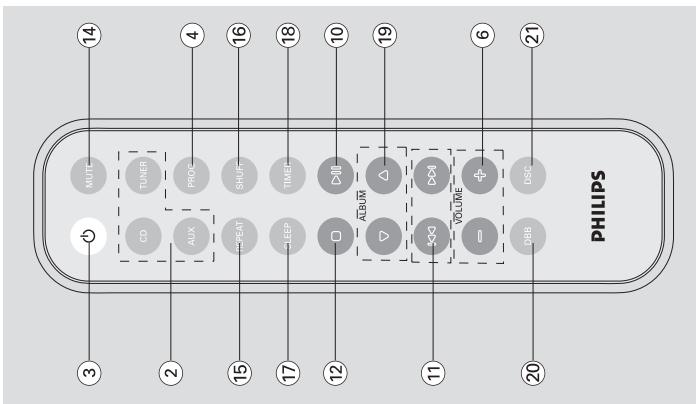
**⑰ SLEEP**  
– activates/deactivates or selects the sleeper time.

**⑯ TIMER**  
activates/deactivates or sets the timer function.

**⑯ ALBUM ▾ ▷**  
for MP3 disc.....selects an album.

**⑯ DBB**  
– (Dynamic Bass Boost) enhances the bass.

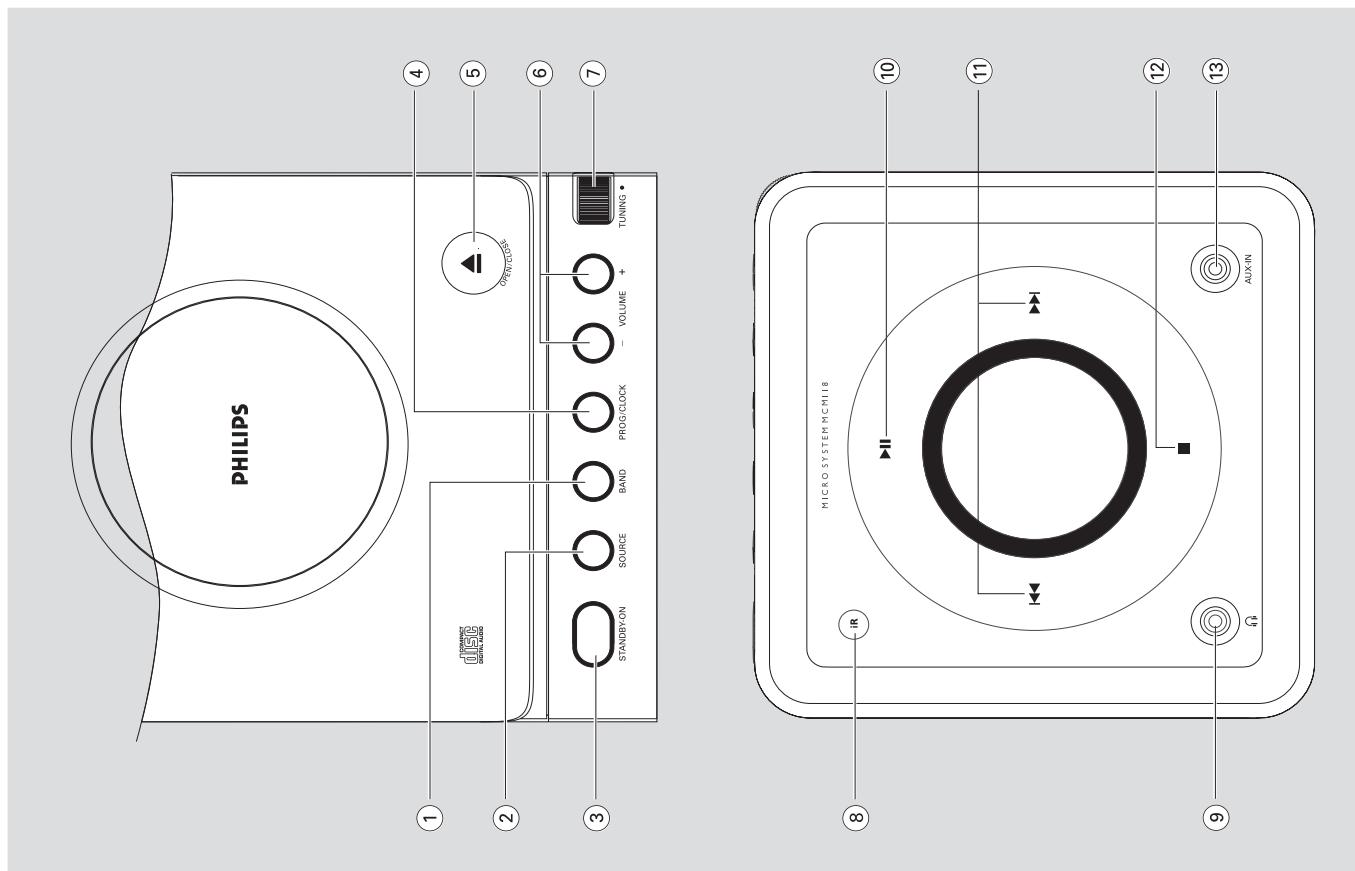
**⑯ DSC**  
– (Digital Sound Control) selects sound  
characteristics: JAZZ/POP/CLASSIC/ROCK.



### Notes for remote control:

– First select the source you wish to  
control by pressing one of the source select  
keys on the remote control (for example  
CD, TUNER).

– Then select the desired function (for  
example ▶, ▲, ▷).



## CONNECTION AND CONTROLS

### Troubleshooting

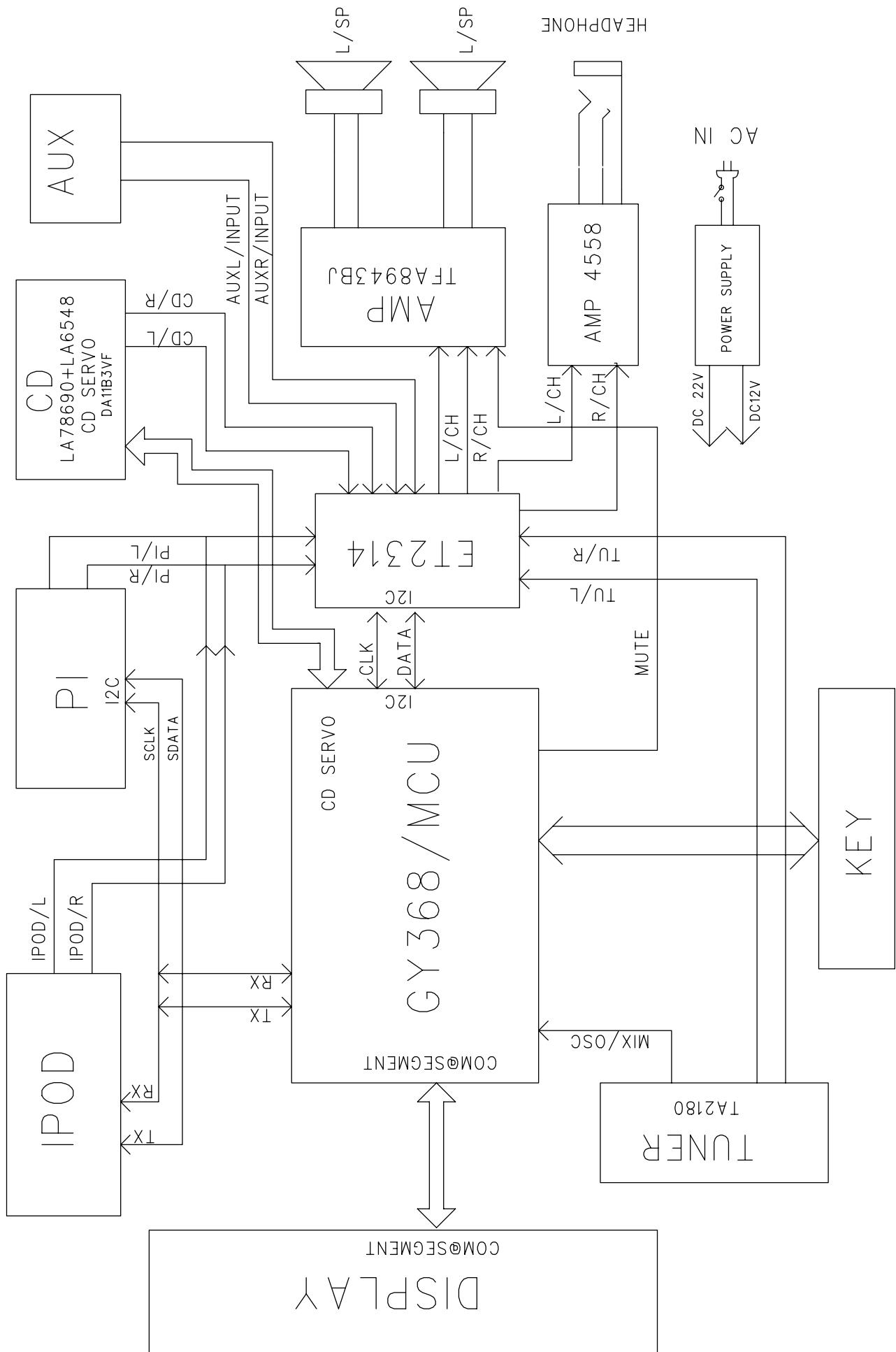
#### **WARNING**

**Under no circumstances should you try to repair the system yourself, as this will invalidate the warranty. Do not open the system as there is a risk of electric shock.**

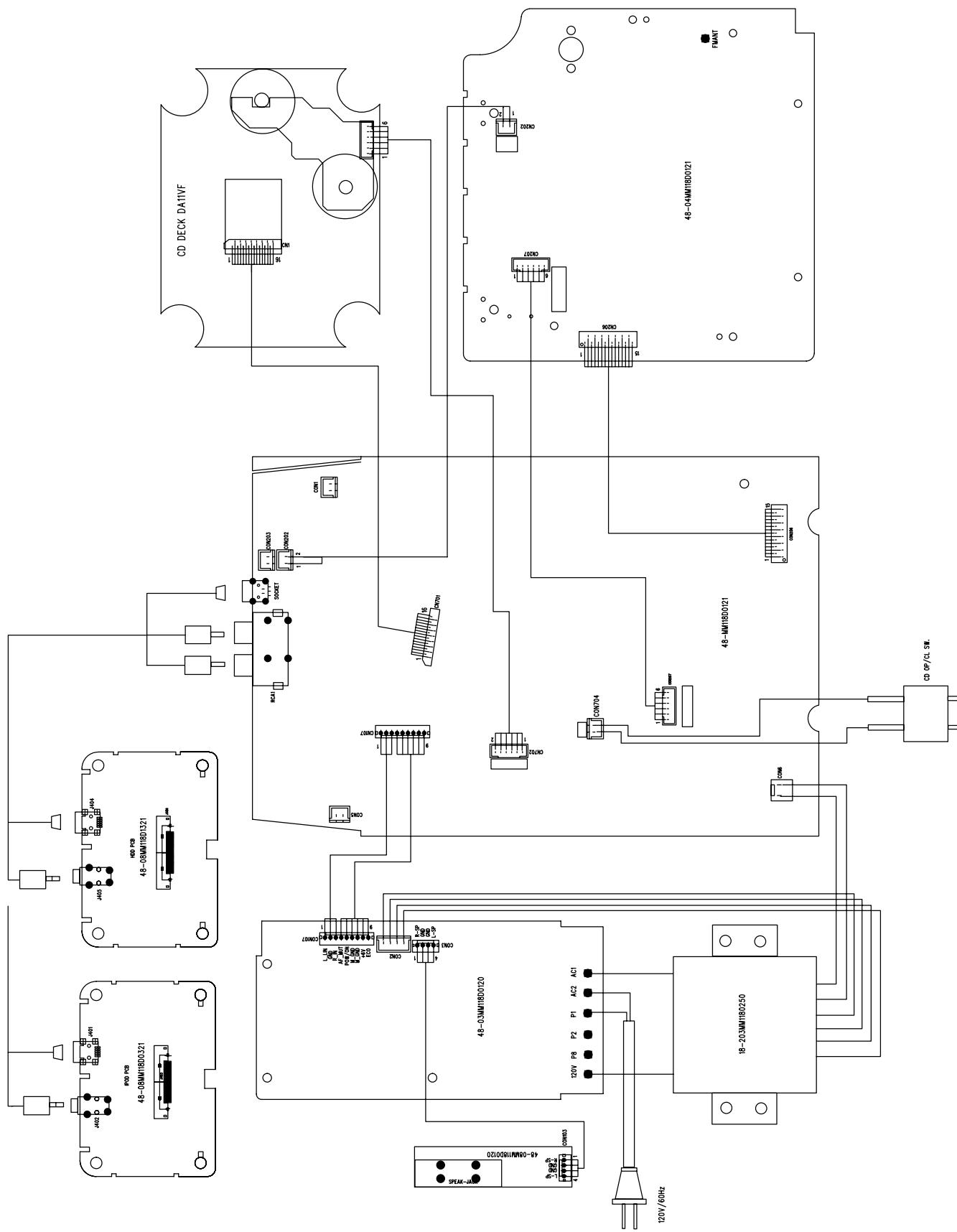
**If a fault occurs, first check the points listed below before taking the system for repair. If you are unable to remedy a problem by following these hints, consult your dealer or service centre.**

Problem	Solution
<b>"No cd " is displayed.</b>	<ul style="list-style-type: none"> <li>✓ Insert a disc.</li> <li>✓ Check if the disc is inserted upside down.</li> <li>✓ Wait until the moisture condensation at the lens has cleared.</li> <li>✓ Replace or clean the disc, see "Maintenance".</li> <li>✓ Use a finalised CD-RW or CD-R, or a correct MP3-CD format disc.</li> </ul>
<b>Radio reception is poor.</b>	<ul style="list-style-type: none"> <li>✓ If the signal is too weak, adjust the antenna or connect an external antenna for better reception.</li> <li>✓ Increase the distance between the Micro HiFi System and your TV or VCR.</li> </ul>
<b>The system does not react when buttons are pressed.</b>	<ul style="list-style-type: none"> <li>✓ Remove and reconnect the AC power plug and switch on the system again.</li> </ul>
<b>Sound cannot be heard or is of poor quality</b>	<ul style="list-style-type: none"> <li>✓ Adjust the volume.</li> <li>✓ Disconnect the headphones.</li> <li>✓ Check that the speakers are connected correctly.</li> <li>✓ Check if the stripped speaker wire is clamped.</li> <li>✓ Make sure the MP3-CD was recorded within 32-256 kbps bit rate with sampling frequencies at 48 kHz, 44.1 kHz or 32 kHz.</li> </ul>
<b>The left and right sound outputs are reversed.</b>	<ul style="list-style-type: none"> <li>✓ Check the speaker connections and location.</li> </ul>
<b>The remote control does not function properly.</b>	<ul style="list-style-type: none"> <li>✓ Select the source (CD or TUNER, for example) before pressing the function button (▶, ▶, ▶).</li> <li>✓ Reduce the distance between the remote control and the system.</li> <li>✓ Insert the batteries with their polarities (+/- signs) aligned as indicated.</li> <li>✓ Replace the batteries.</li> <li>✓ Point the remote control directly toward IR sensor on the front of the system.</li> </ul>
<b>The timer is not working.</b>	<ul style="list-style-type: none"> <li>✓ Set the clock correctly.</li> <li>✓ Press <b>TIMER</b> to switch on the timer.</li> </ul>
<b>The Clock/Timer setting is erased.</b>	<ul style="list-style-type: none"> <li>✓ Power has been interrupted or the power cord has been disconnected. Reset the clock/timer.</li> </ul>
<b>DOCK OPERATION</b>	
<b>The menu navigation or photo playback of the docked player cannot be carried out through the buttons on MCM118D or its remote control.</b>	<ul style="list-style-type: none"> <li>– The buttons on MCM118D and its remote control can control playback of audio contents only. To navigate the menu, use the controls on the docked player.</li> </ul>
<b>The STOP ■ and some buttons on MCM118D and its remote control have no function.</b>	<ul style="list-style-type: none"> <li>– The playback of the docked player cannot be stopped using the <b>STOP ■</b> button on MCM118D and its remote control.</li> <li>– The buttons (<b>▶■, ▶◀, ▶▶</b> and <b>VOLUME</b>) function only.</li> </ul>
<b>The battery of my Philips GoGear in dock is drained when it is not used for playback.</b>	<ul style="list-style-type: none"> <li>– The docked GoGear is still consuming battery. Power it off if you don't use the player.</li> </ul>

## SET BLOCK DIAGRAM



# SET WIRING DIAGRAM

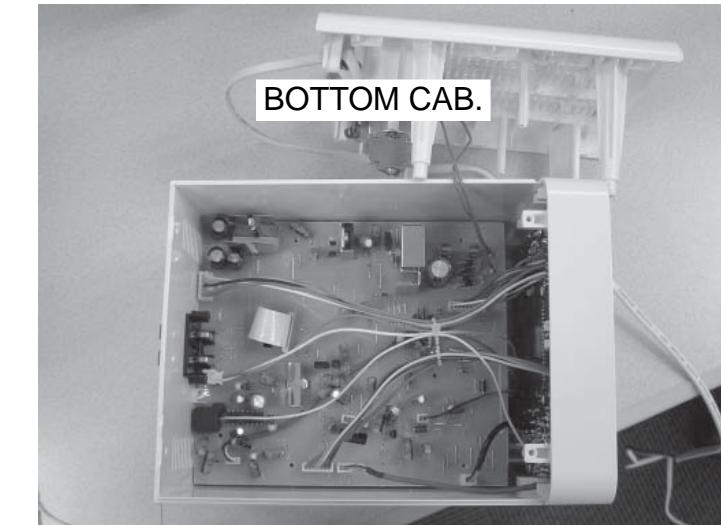
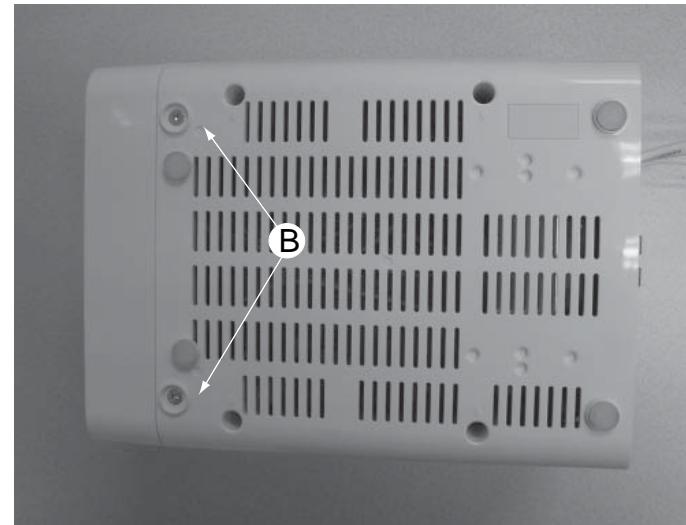
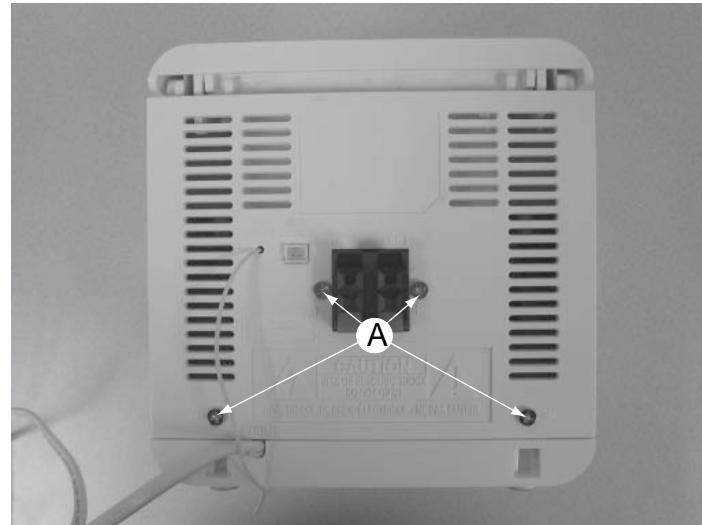


## DISASSEMBLY DIAGRAM

### *Dismantling of the Bottom Cabinet*

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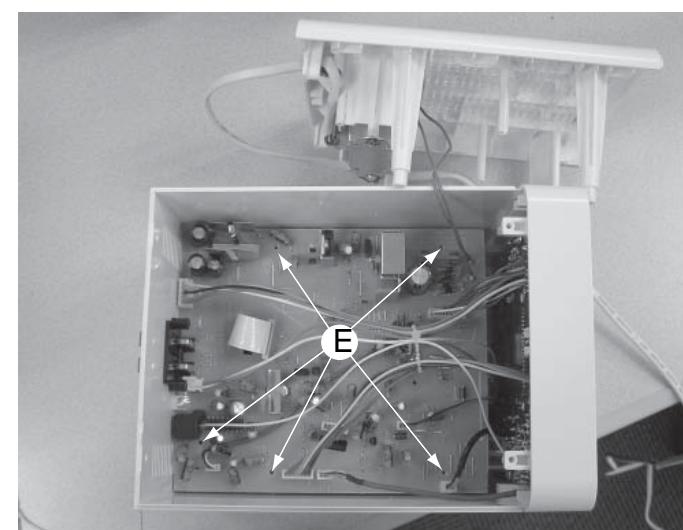
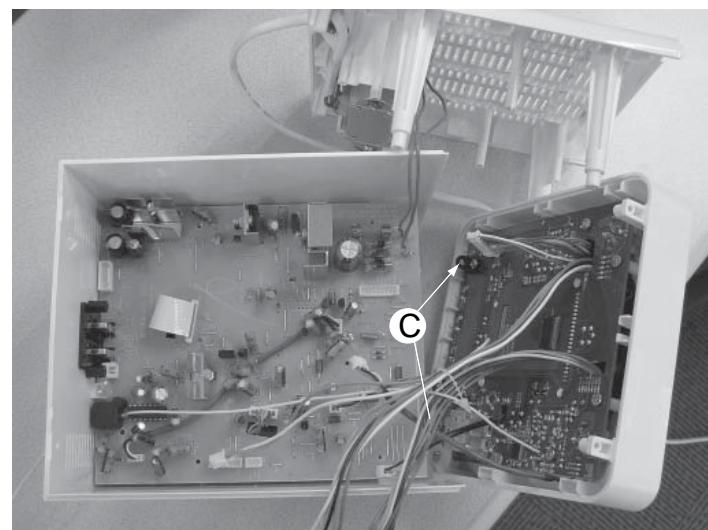
- 1) Remove 4 screws A as indicated to loosen the Rear Cabinet.
- 2) Remove 2 screws B as indicated to loosen the Bottom Cabinet.



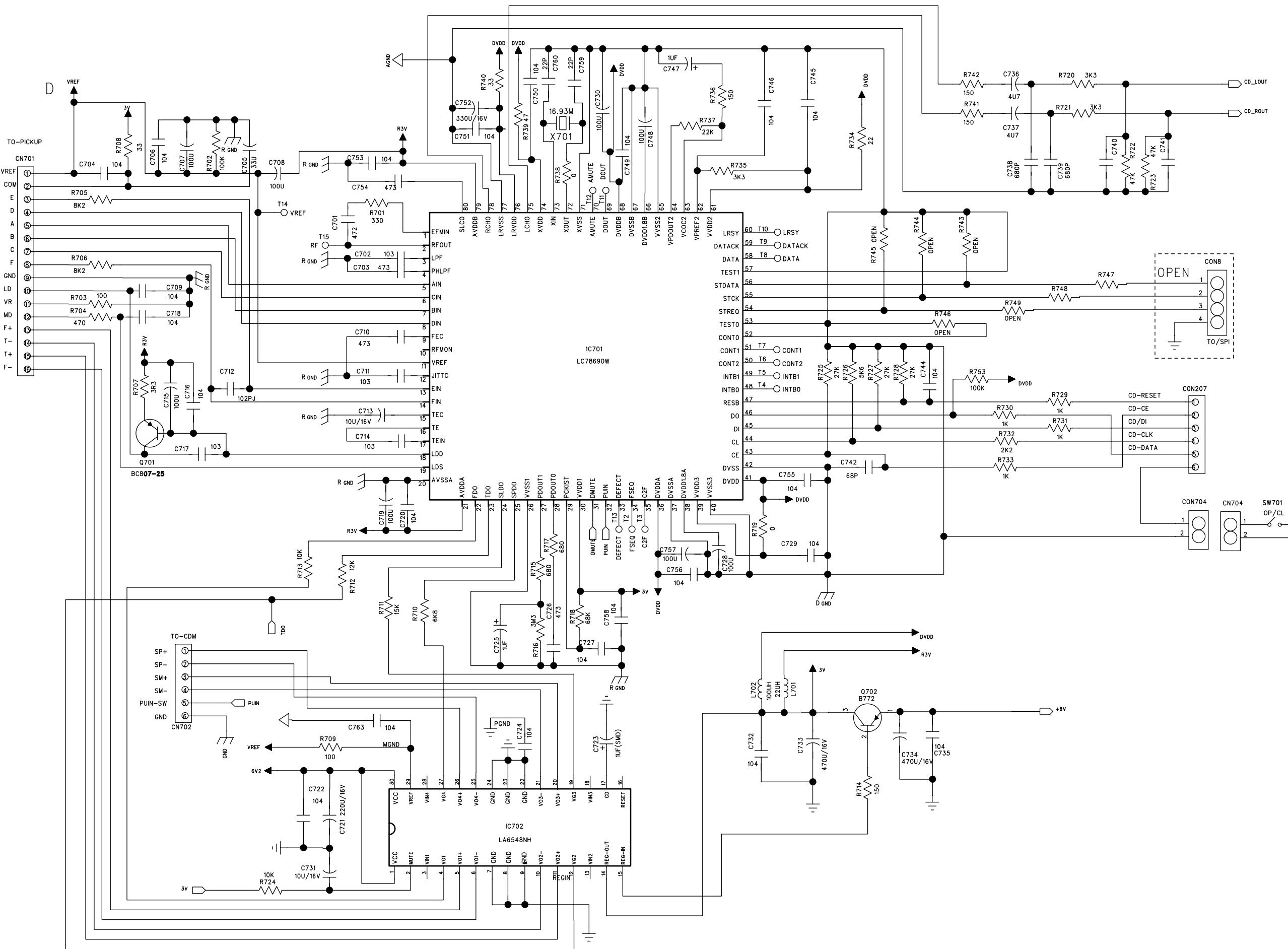
### *Dismantling of the Front Cabinet and Main Board*

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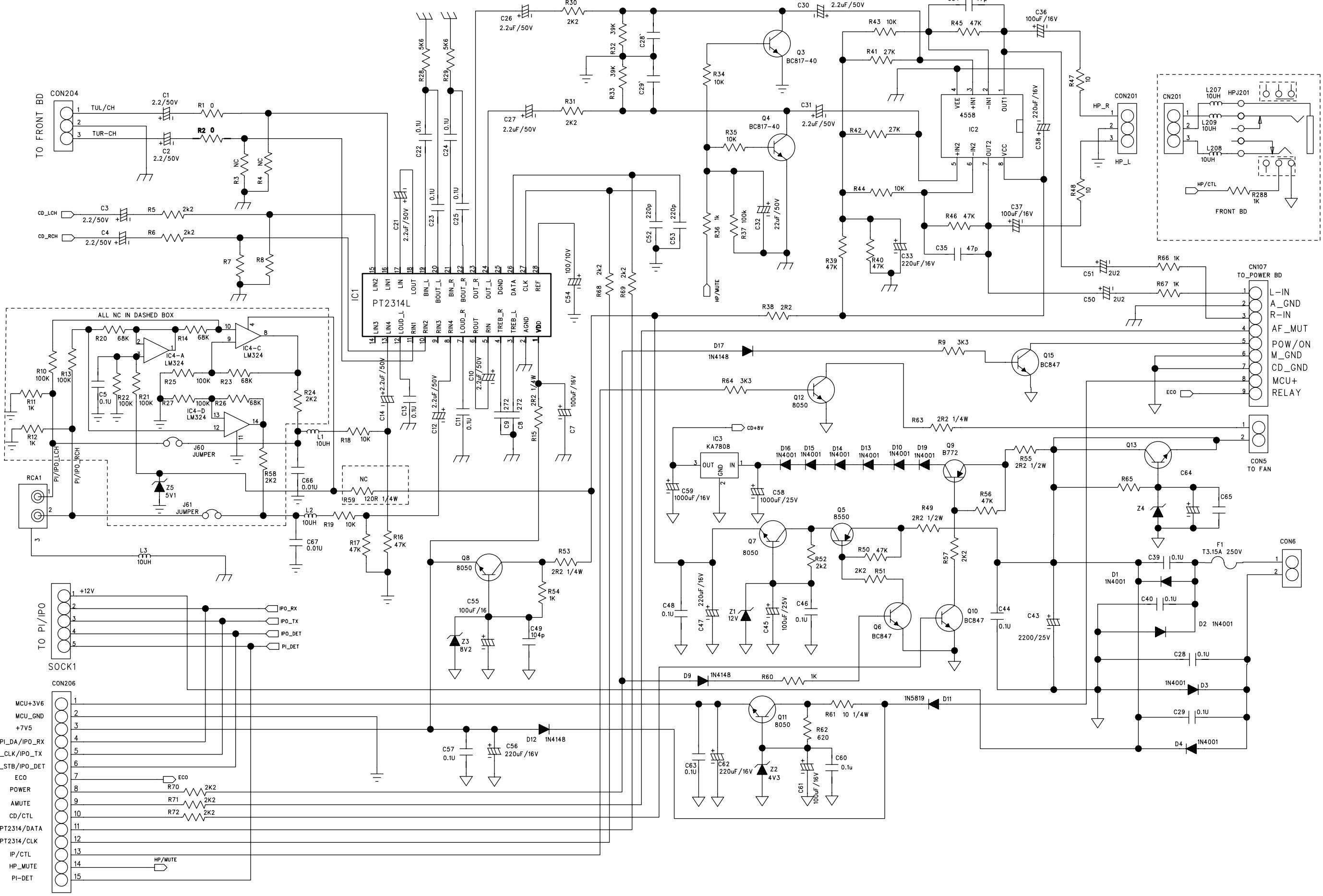
- 1) Remove 2 screws C as indicated to loosen the Front Cabinet.
- 2) Remove 5 screws D as indicated to loosen the Main Board.



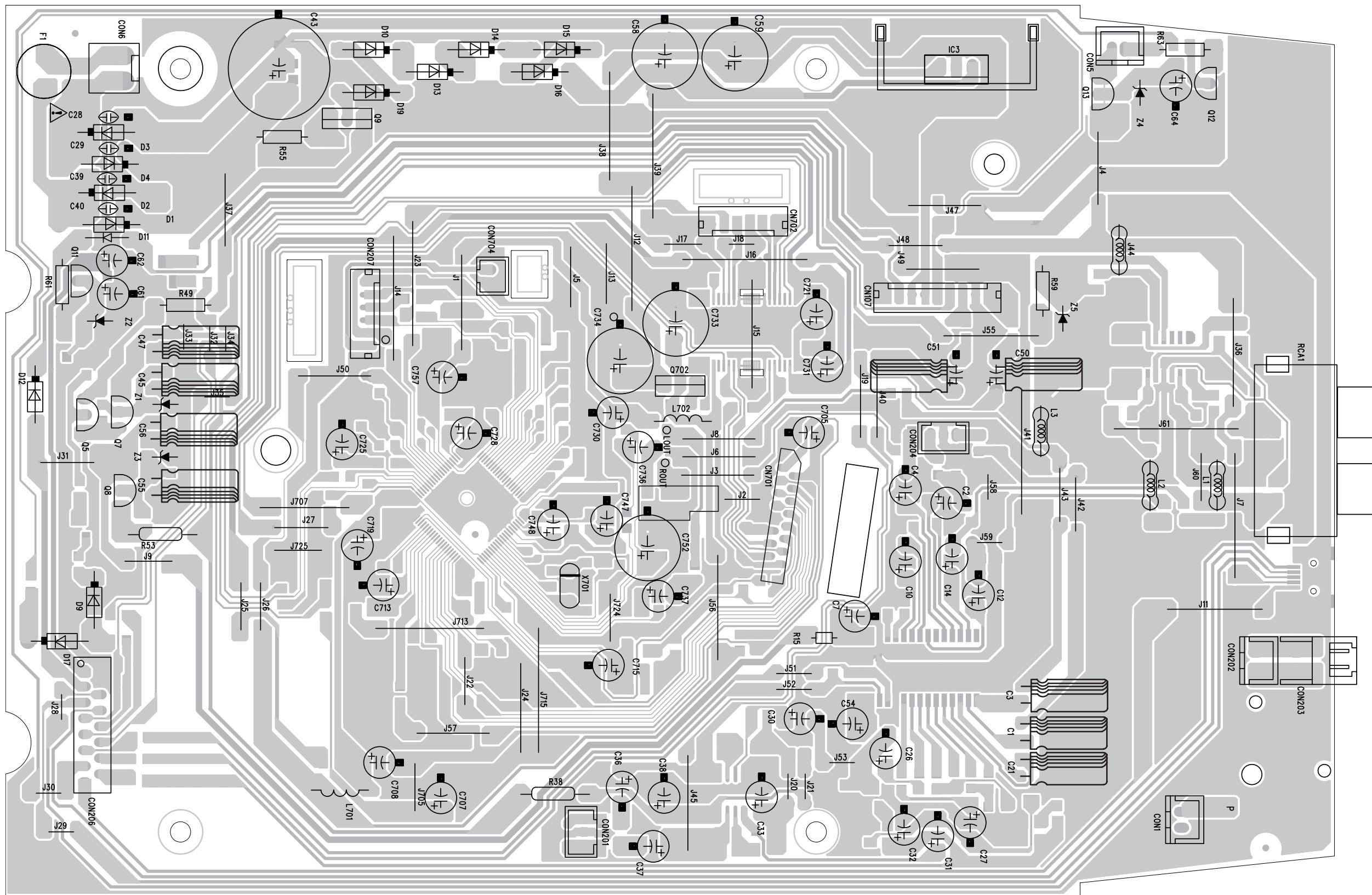
## CIRCUIT DIAGRAM - MAIN BOARD CD PART



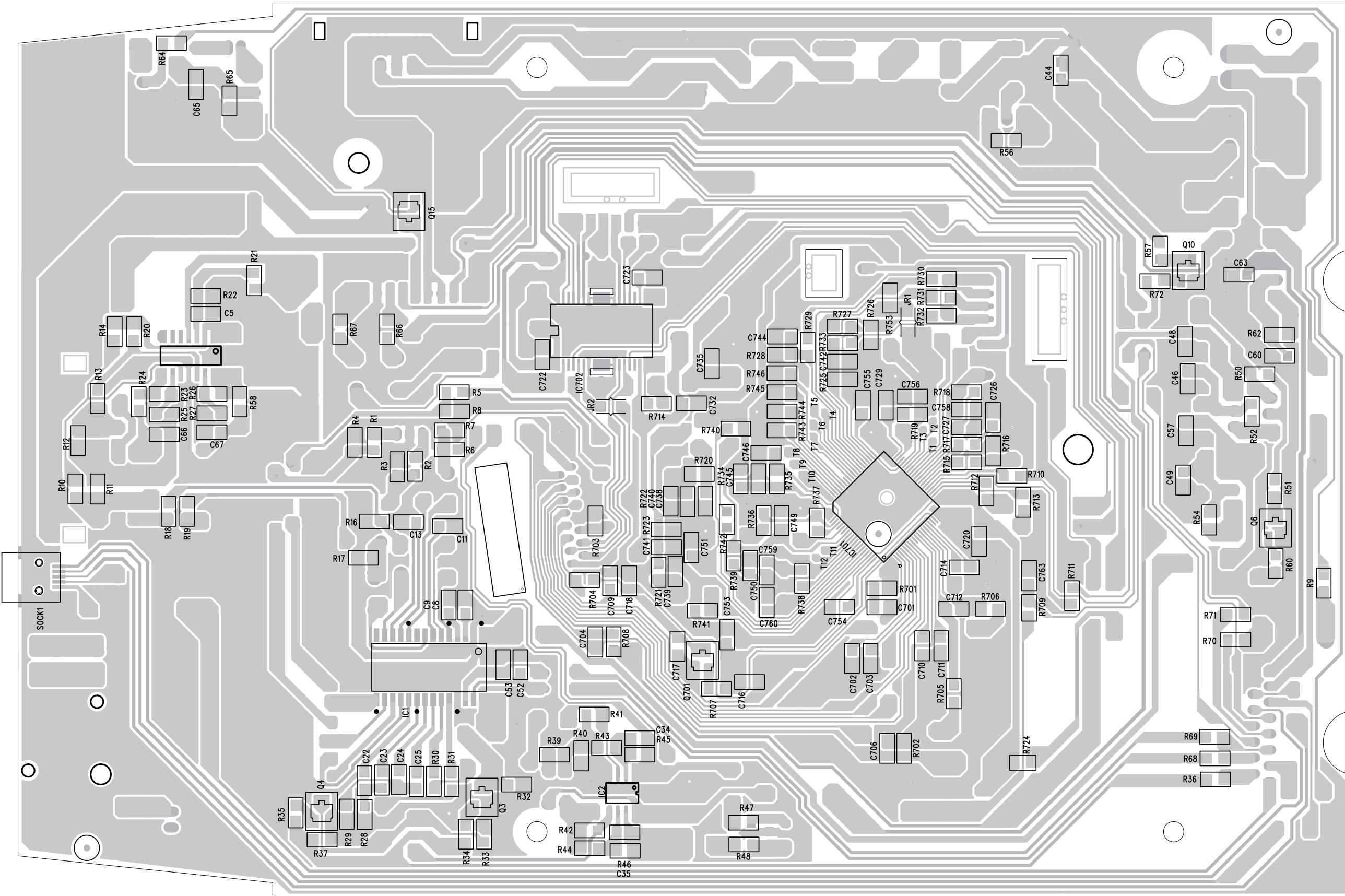
## CIRCUIT DIAGRAM - MAIN BOARD AMP & POWER PART



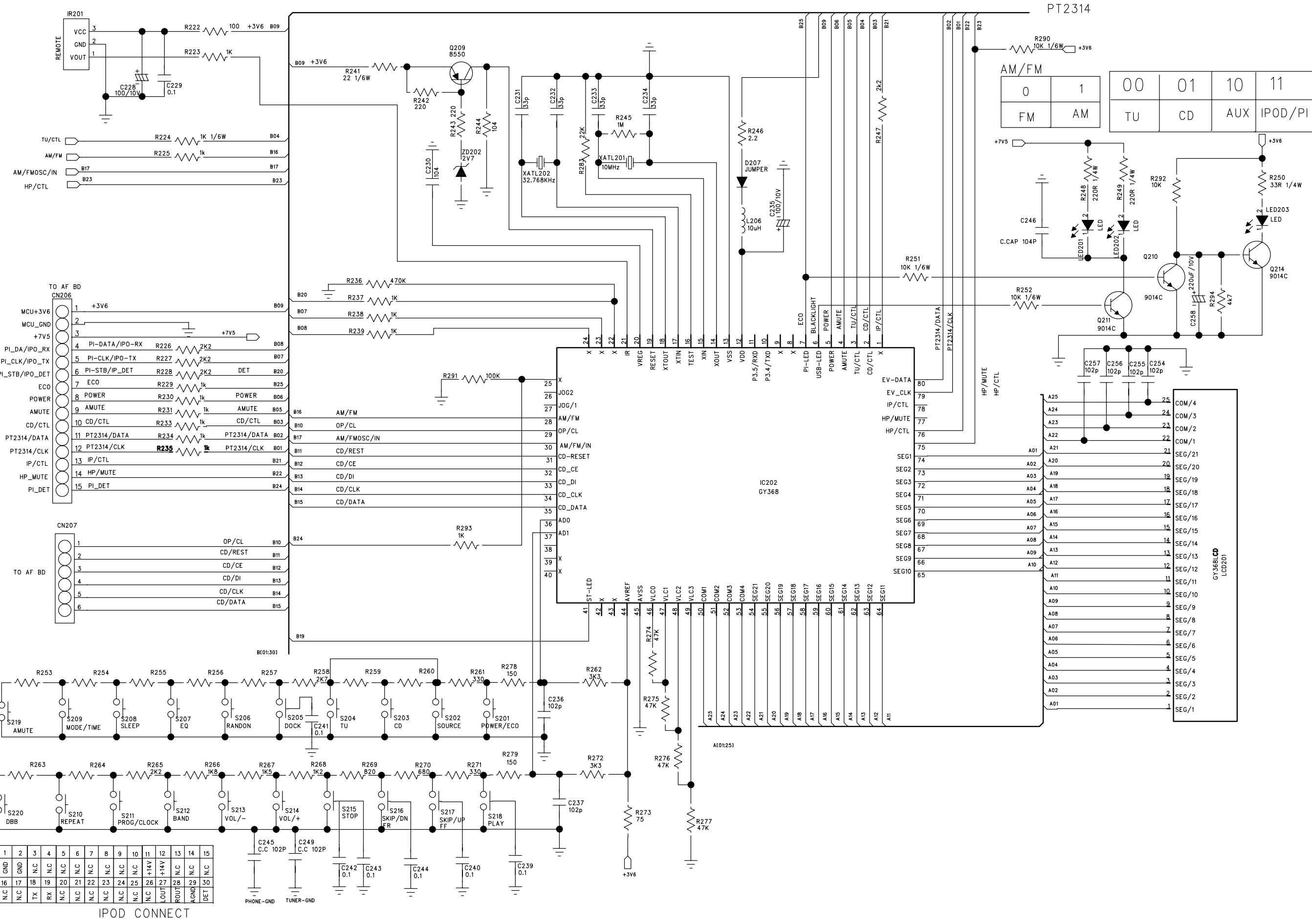
**LAYOUT DIAGRAM - MAIN BOARD  
COMPONENT SIDE**



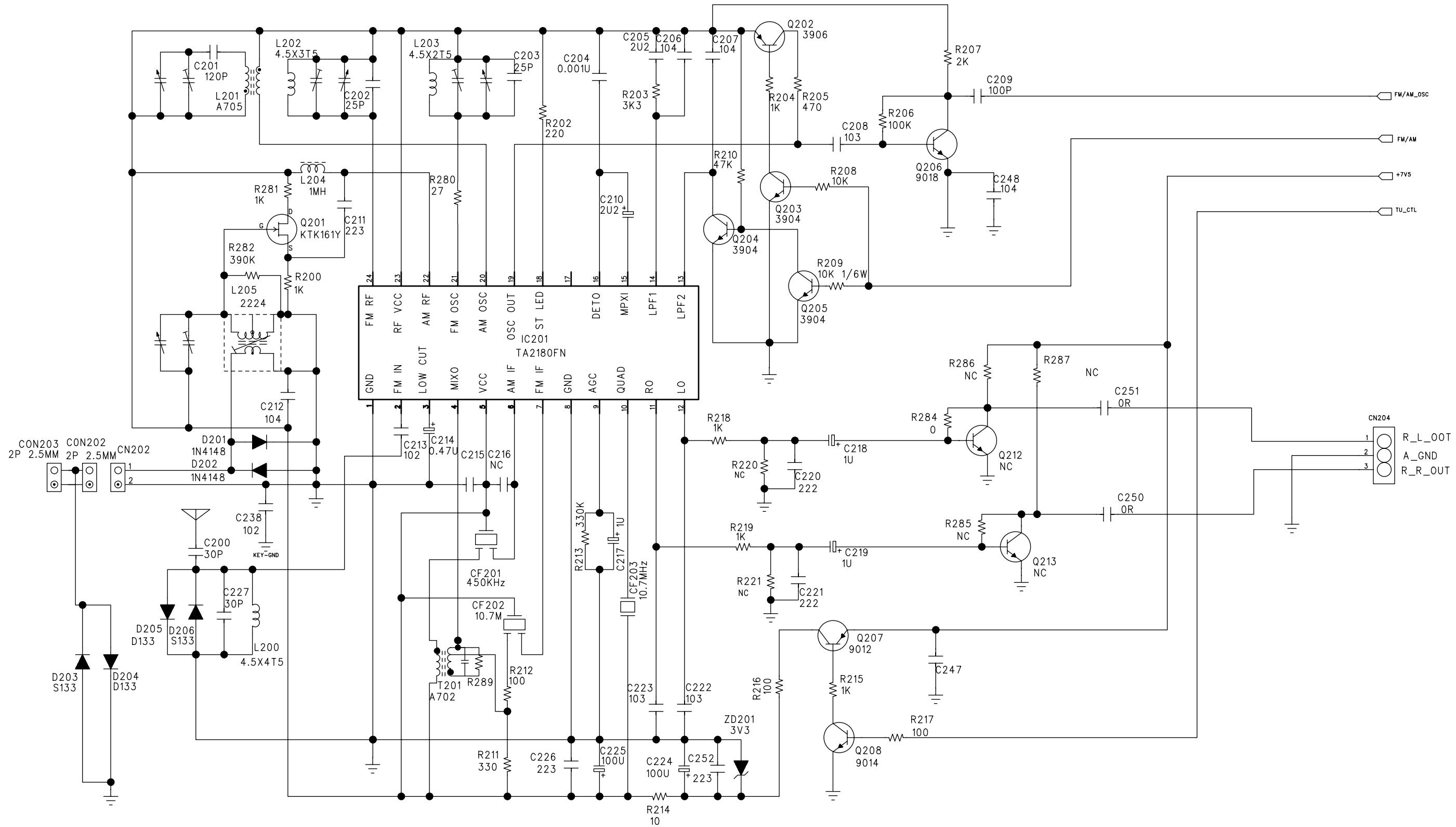
## LAYOUT DIAGRAM - MAIN BOARD COPPER SIDE



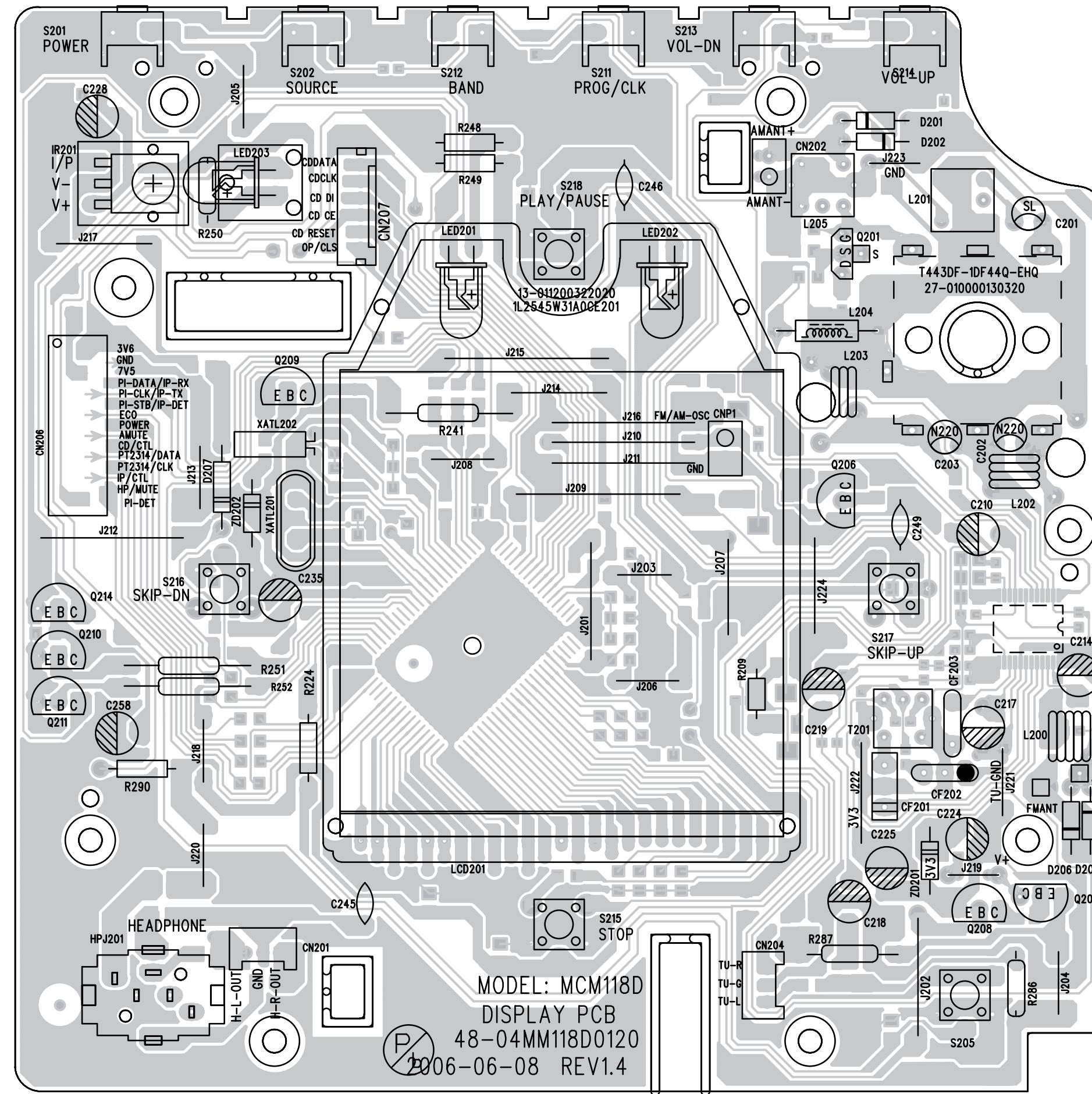
# CIRCUIT DIAGRAM - DISPLAY&TUNER BOARD PART 1



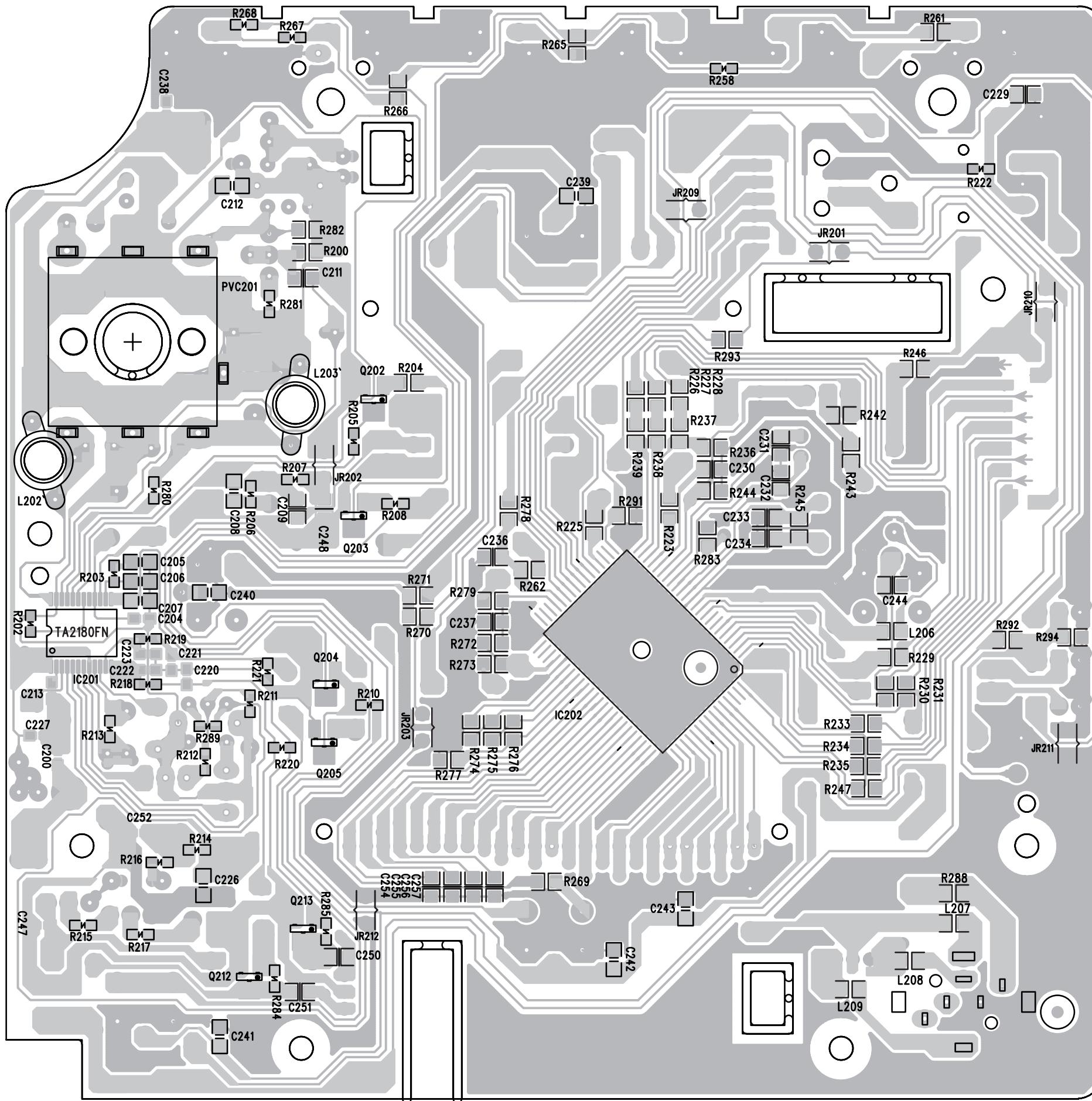
## CIRCUIT DIAGRAM - DISPLAY&TUNER BOARD PART 2



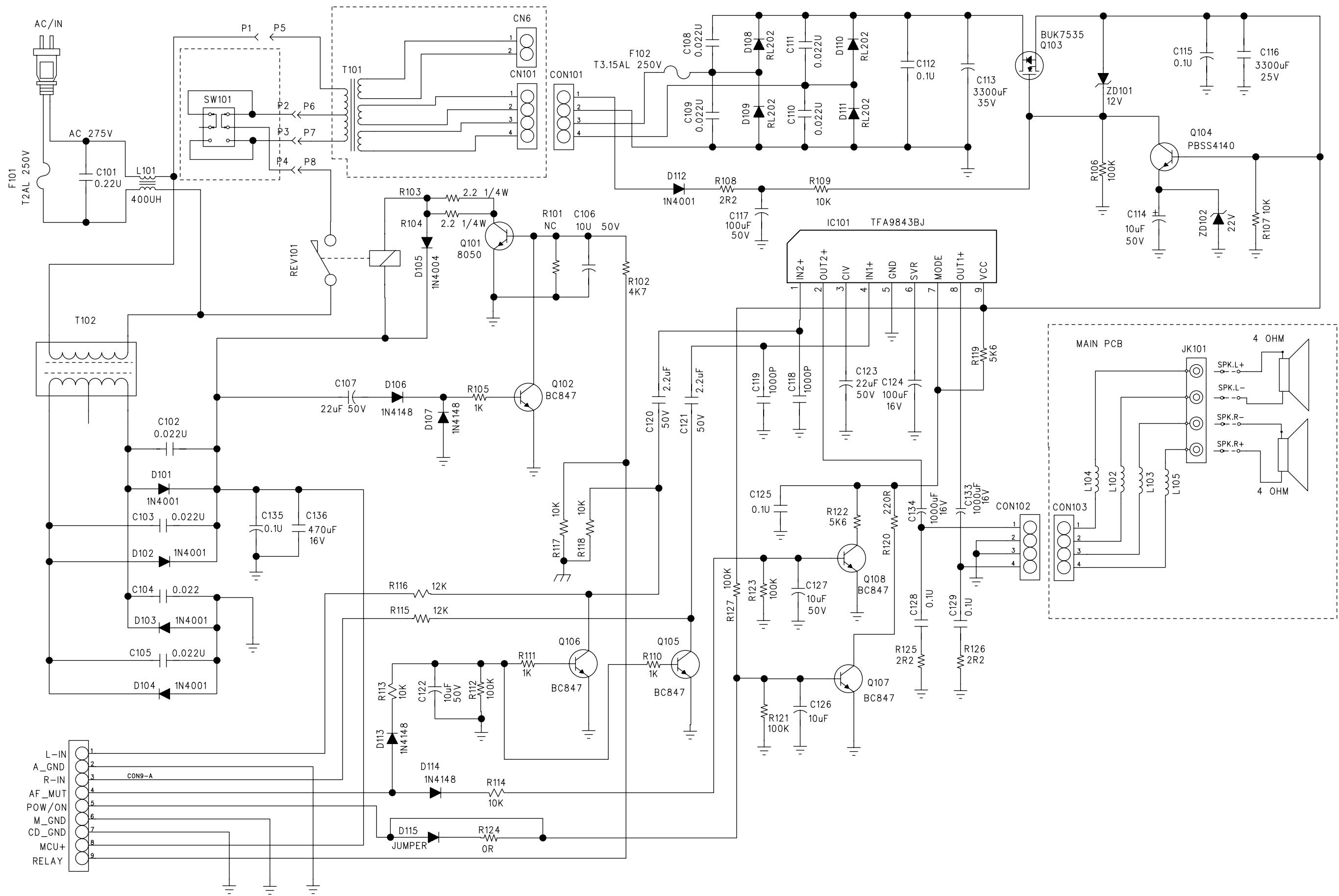
**LAYOUT DIAGRAM - DISPLAY&TUNER BOARD  
COMPONENT SIDE**



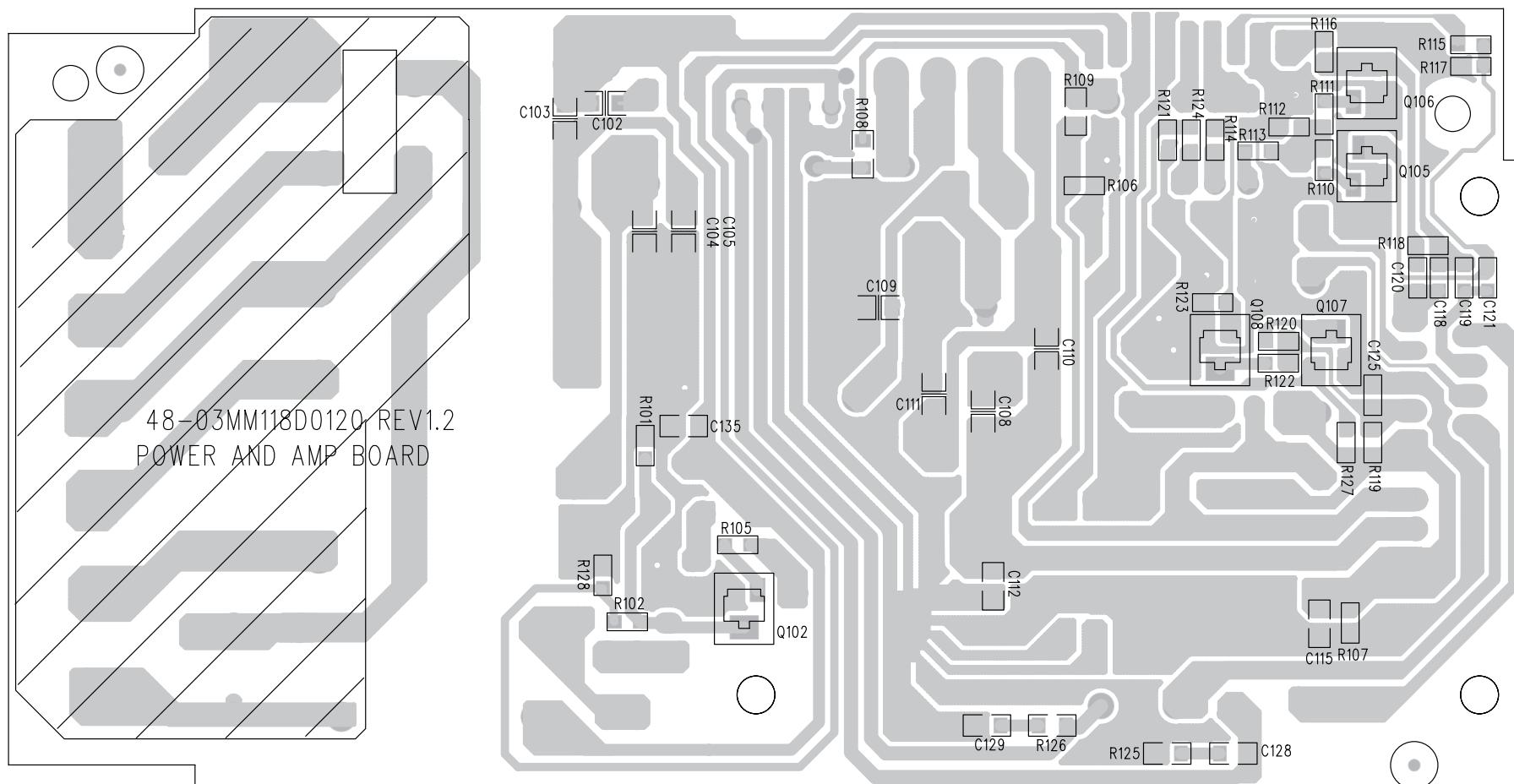
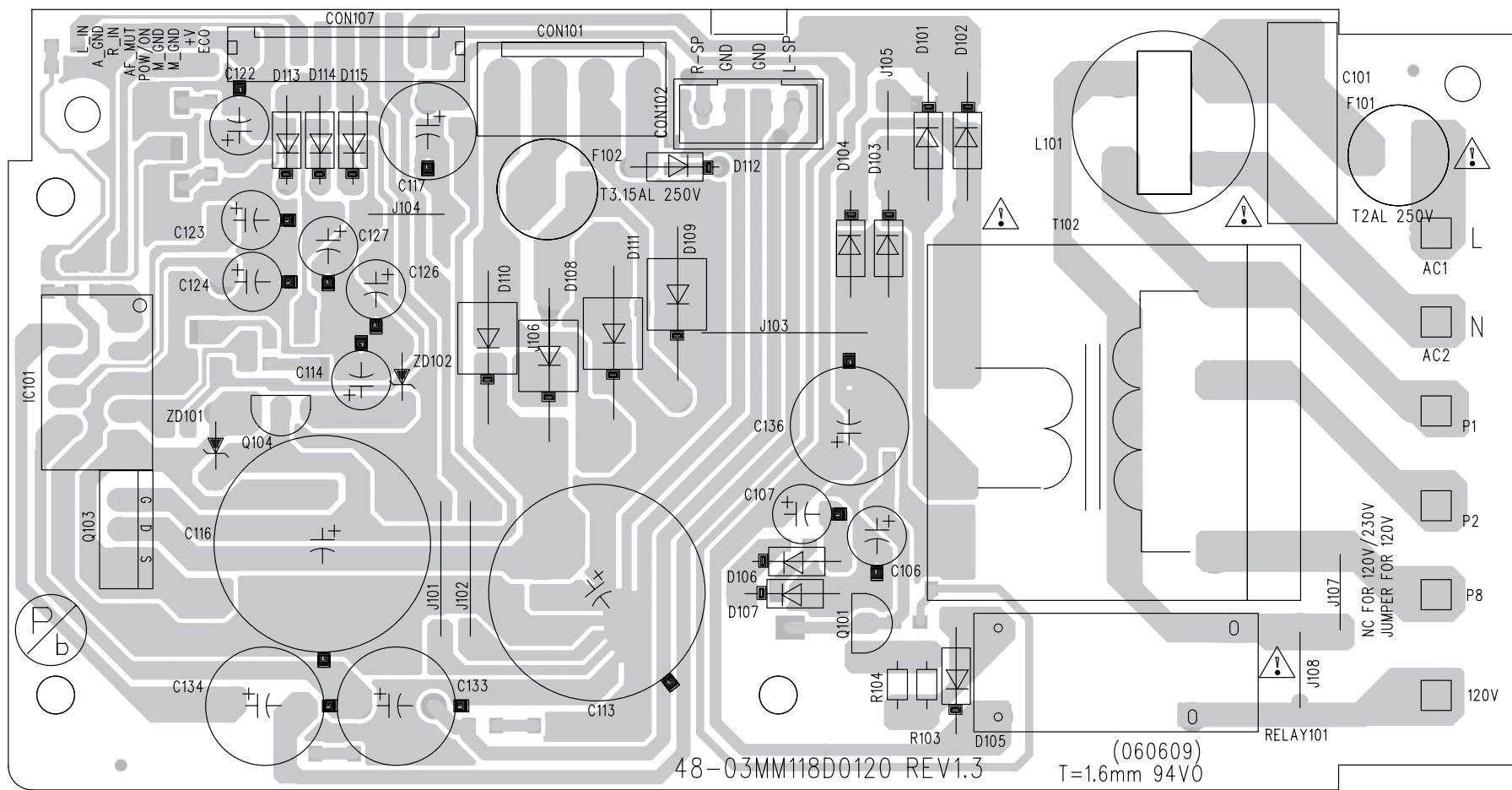
# LAYOUT DIAGRAM - DISPLAY&TURNER BOARD COPPER SIDE



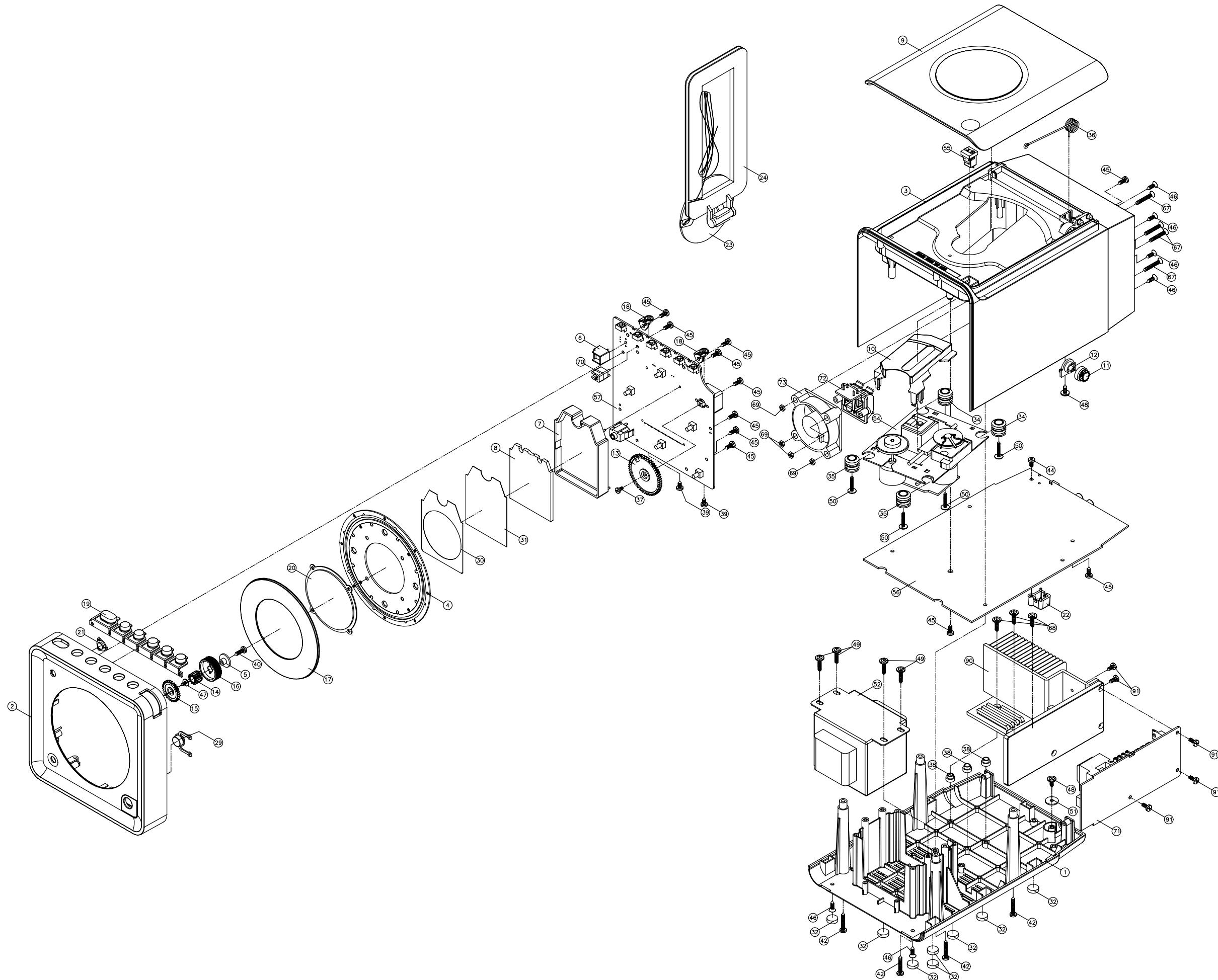
## CIRCUIT DIAGRAM - AMP&POWER BOARD



## LAYOUT DIAGRAM - AMP&POWER BOARD



## **SET EXPLODED VIEW DIAGRAM**



## MECHANICAL PARTSLIST

1	9965 000 39782	BOTTOM CABINET (WHITE)
2	9965 000 39784	FRONT CABINET WHITE-1
3	9965 000 39783	REAR CAB WHITE-1
4	9965 000 39339	RUBBER RING(ABS RUBBER)
5	9965 000 39785	TUNING SHAFT
7	9965 000 39352	LCD BRACKET
8	9940 000 05397	BACK LIGHT LENS
9	9965 000 39786	CD DOOR (WHITE-1)
10	9965 000 39787	LASER COVER (FOR SANYO CD)
11	9940 000 05406	CD GEAR
12	9940 000 05407	CD GEAR BRACKET
13	9940 000 05408	PVC GEAR
14	9940 000 05409	TUNING GEAR 1
15	9940 000 05411	TUNING GEAR 2
16	9965 000 39788	TUNING KNOB (WHITE-1)
17	9965 000 39340	CD BUTTOMS PLATE (WHITE)
19	9965 000 39789	FUNCTION KNOB GROUP
20	9965 000 39337	DISPLAY LENS
21	9965 000 39338	IR LENS(WHITE)
22	9965 000 39790	FM PIG TAIL HOUSING
29	9965 000 39791	KNOB 1G (WHITE-1)
32	9940 000 05399	HARD RUBBER FOOT
34	9940 000 00505	CD DAMPER 658 TA 30
35	9940 000 00506	CD DAMPER 658 TB 40
36	9940 000 05401	CD DOOR SPRING
52	9965 000 39792	TRANSFORMER EI66X40 120V
54	9940 000 05398	CD MECHANISM DA11B3VF
55	9940 000 02354	CD DOOR SWITCH

## ACCESSORIES

9965 000 39793	IPOD DOCKIN ASS'Y
9965 000 39794	HDD DOCKIN ASS'Y
9965 000 39795	REMOTE ASS'Y "PHILIPS"
9965 000 39796	SPK BOX ASS'Y (L/R) "PHILIPS"
9940 000 05378	AM LOOP ANT ASS'Y WH
9965 000 39797	USB/RCA CABLE 1M
9965 000 39798	IPOD HOLDER -20GB
9965 000 39799	IPOD HOLDER -30GB VIDEO 6G
9965 000 39800	IPOD HOLDER -30GB PHOTO 7G
9965 000 39801	IPOD HOLDER -40GB 7G
9965 000 39802	IPOD HOLDER -60GB 6G
9965 000 39803	IPOD HOLDER -60GB VIDEO 6G
9965 000 39804	IPOD HOLDER -NANO 7G
9965 000 39805	IPOD HOLDER -MINI 6G

**Note:** Only these parts mentioned in the list are normal service parts.

**ELECTRICAL PARTSLIST - MAIN BOARD****- IC & TRANSISTORS -**

Q7	9965 000 39345	TRANSISTORS 2W 8050D
Q8	9965 000 39345	TRANSISTORS 2W 8050D
Q11	9965 000 39345	TRANSISTORS 2W 8050D
Q12	9965 000 39345	TRANSISTORS 2W 8050D
Q5	9965 000 38610	TRANSISTORS 2W 8550C

Q9	9940 000 01193	TRANSISTORS KSB772YS
Q702	9940 000 01193	TRANSISTORS KSB772YS
IC1	9965 000 39806	IC ET2314 (SOP28)
IC3	9940 000 04532	IC KA7808E (TO-220)
IC702	9940 000 04622	IC LA6548NH

IC701	9965 000 39807	IC (SANYO) LC78690NW-E
IC4	9965 000 39808	IC SM LM324D
IC2	9965 000 39809	IC YD4558

**- MISCELLANEOUS -**

D11	9940 000 04534	RECTIFIER DIODE 1N5819
X701	9965 000 39810	CRYSTAL 16.9344MHZ HC-49/U
RCA1	9965 000 39811	H/RCA JACK 2P (WH/RD)
SOCK1	9965 000 39812	MINI USB #USB-0400ASMT-0050-01
F1	⚠ 9940 000 04599	FUSE RADIAL LT 3.15A 250V

**Note:** Only these parts mentioned in the list are  
normal service parts.

## ELECTRICAL PARTSLIST - DISPLAY & TUNER BOARD

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### - IC & TRANSISTORS -

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Q209	9965 000 38610	TRANSISTORS 2W 8550C
Q207	9965 000 39348	PNP TRANSISTORS 9012G 1W
Q208	9940 000 04143	NPN TRANSISTORS 9014C
Q210	9940 000 04143	NPN TRANSISTORS 9014C
Q211	9940 000 04143	NPN TRANSISTORS 9014C
Q214	9940 000 04143	NPN TRANSISTORS 9014C
Q206	9940 000 02833	TRANSISTORS 9018G
Q201	9940 000 05384	TRANSISTOR KTK161GR TO-92M
Q203	9940 000 04338	TRANSISTORS PMBT3904
Q204	9940 000 04338	TRANSISTORS PMBT3904
Q205	9940 000 04338	TRANSISTORS PMBT3904
Q202	9940 000 03937	SMD TRANSISTORS PMBT3906
IC202	9965 000 39819	MCU GY368 (FLASH)
IC201	9940 000 05387	IC TA2180FN

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### - COILS & FILTERS -

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L205	9940 000 04611	I.F.T 7MM #7M1A2224N
L201	9940 000 05391	I.F.T H=6MM 705 (RED)
T201	9940 000 05392	I.F.T 7.6X7.6MM A702 (YELLOW)
L203	9965 000 39350	FM COIL 4.5X2.5T (0.8MM)
L202	9940 000 03655	FM COIL 4.5X3.5T
L200	9965 000 39351	FM COIL 4.5X4.5T (0.8MM)
CF201	9940 000 02857	CERAMIC FILTER SFU450B
CF202	9940 000 03642	CER. FILTER LT10.7MA5-A RED
CF203	9940 000 05389	FILTER JT10.7MG33-A

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### - MISCELLANEOUS -

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S205	9940 000 05393	TAUT SWITCH
S215	9940 000 05393	TAUT SWITCH
S216	9940 000 05393	TAUT SWITCH
S217	9940 000 05393	TAUT SWITCH
S218	9940 000 05393	TAUT SWITCH
S213	9940 000 04167	V/TAUT SWITCH
S201	9940 000 04167	V/TAUT SWITCH
S202	9940 000 04167	V/TAUT SWITCH
S211	9940 000 04167	V/TAUT SWITCH
S212	9940 000 04167	V/TAUT SWITCH
S214	9940 000 04167	V/TAUT SWITCH
HPJ201	9940 000 05394	V/PHONE JACK
IR1	9940 000 04367	OPTIC SENSER FM-6038TM2-5AN
PVC201	9940 000 04147	P.V.C #T443DF-1DF44Q-JE(A/F)
XTAL202	9940 000 04615	CRYSTAL 32.768KHZ 12.5PF
XTAL201	9965 000 39820	CRYSTAL 10MHZ 49/US
LED202	9940 000 05385	LED LAMP (WHITE)
LED201	9940 000 05385	LED LAMP (WHITE)
LED203	9940 000 01482	LED LAMP 3MM (RED)
LCD201	9965 000 39349	LCD DISPLAY

**Note:** Only these parts mentioned in the list are normal service parts.

**ELECTRICAL PARTSLIST - AMP & POWER BOARD****- MISCELLANEOUS -**

Q101	9965 000 39345	TRANSISTORS 2W 8050D
Q103	9965 000 39813	TRANSISTORS BUK7535-55A
Q104	9940 000 04546	TRANSISTORS PBS4140S
ZD101	9965 000 39814	ZENER DIODE -5% 12V 1/2W
ZD102	9965 000 39815	ZENER DIODE -5% 24V 1/2W
D108	9940 000 03938	RECTIFIER DIODE RL-202
D109	9940 000 03938	RECTIFIER DIODE RL-202
D110	9940 000 03938	RECTIFIER DIODE RL-202
D111	9940 000 03938	RECTIFIER DIODE RL-202
IC101	9965 000 39816	IC (PHILIPS) TFA9843BJ
T102	△ 9965 000 39817	TRANSFORMER EI28 Z11 120V/60HZ
L101	9940 000 01226	AC LINE FILTER IND. 400UH 3A
F101	△ 9940 000 01222	FUSE RADIAL LT 2A 250V
F102	△ 9940 000 01223	FUSE RADIAL T5A 250V
	9965 000 39818	RELAY ME-7-006-HSL DC6V AC10A

**Note:** Only these parts mentioned in the list are  
normal service parts.

## ELECTRICAL PARTSLIST

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### - MISCELLANEOUS -

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9940 000 03661	SPK JACK PT-22V11
9940 000 01942	16P FFC 1MM L80MM
9940 000 01255	15P FFC 1.25MM L=180MM
△ 9965 000 39821	AC CORD CUL APP 6FT (M.T)
9965 000 39822	MAIN BOARD ASS'Y
9965 000 39823	POWER BD ASS'Y (37)
9965 000 39824	DISPLAY/TUNER BD ASS'Y

**Note:** Only these parts mentioned in the list are  
normal service parts.