

Service  
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**Service**



# Service Manual



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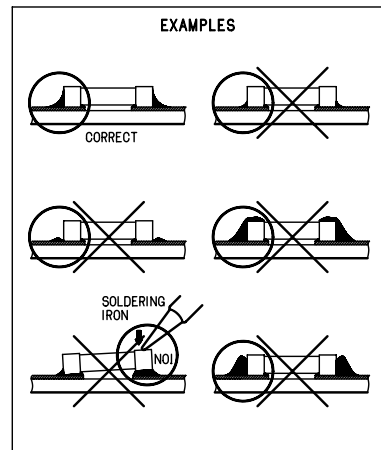
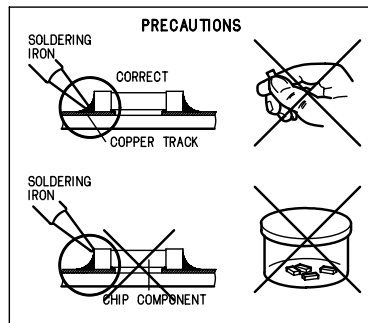
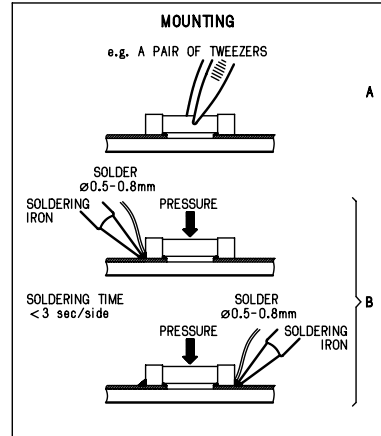
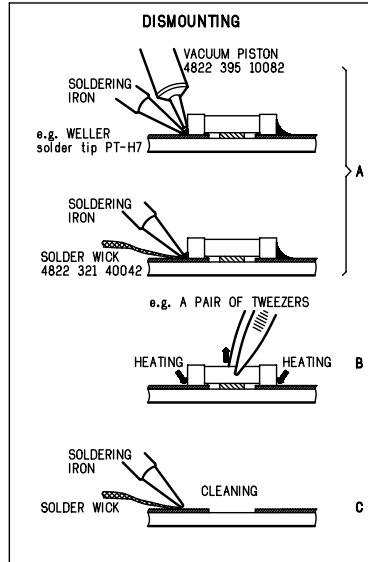
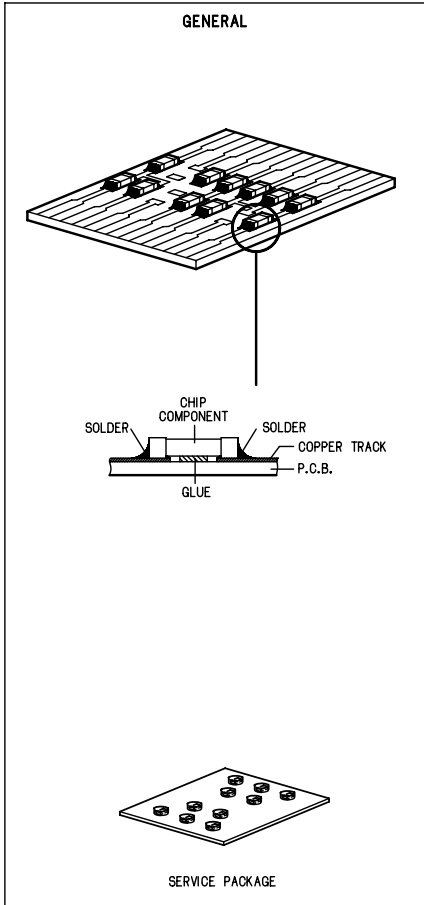
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**version 1.0**



**PHILIPS**

# 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.

**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 charges statiques (ESD). Leur long vie pourrait être considérablement court si par le fait qu'aucune précaution n'est prise lors de leur manipulation. Lors de réparations, s'assurer de bien être relié au même potentiel que la masse de l'appareil et enfilez le bracelet anti-statique. Veillez à ce que les composants ainsi que les outils que vous utilisez soient également à ce potentiel.

**D WARNUNG**

Alle ICs und viele andere Halbleiter sind empfindlich gegen elektrostatische Entladungen (ESD). Unvorsichtige Behandlung im Reparaturfall kann die Lebensdauer drastisch reduzieren. Sorgen Sie dafür, daß Sie im Reparaturfall über ein Pulsarmband mit Widerstand mit dem Massepotential des Gerätes verbunden sind. Halten Sie Bauteile und Hilfsmittel ebenfalls auf diesem Potential.

**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 del apparecchio tramite un braccialeto a resistenza. Assicurarsi che i componenti e anche gli utensili con quali si lavora siano anche a questo potenziale.

**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

**SAFETY**



**D**

Bei jeder Reparatur sind die geltenden Sicherheitsvorschriften zu beachten. Der Originalzustand des Gerätes darf nicht verändert werden. Für Reparaturen sind Originalersatzteile zu verwenden. Sicherheitsbauteile sind durch das Symbol markiert.

**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

**GB**

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

**S Varning !**

Osynlig laserstrålning när apparaten öppnas och strålar ut. Undgå direkt exponering för strålen.

**DK Advarsel !**

Usynlig laserstrålning ved åbning af apparatet. Undgå direkte udsættelse for strålingen.



**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.

**FIN Varoitus !**

Avatussa laitteessa ja suojalukituksen ohitettaessa olet alttiina näkymättömälle laserisäteilylle. Käsitellessäsi laitetta älä katso silmiäsi suoraan!

**F**

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

## TECHNICAL SPECIFICATIONS

### GENERAL

Mains voltage	-/21M : 120 / 230 V -/30 : 240 V
Mains frequency	-/30 : 50 Hz -/21M : 50 / 60 Hz
Battery	remote : 3 V (R6 x 2)
Power consumption	normal : 30 W Standby : < 2 W
Dimension (W x H x D)	: 140 x 220 x 265 mm
Weight	: 3.25 Kg

### AMPLIFIER

Output power	mains : 2 x 10 W
Speaker impedance	: 2 x 8 ohm
Frequency response	: 63 Hz - 16 kHz ( $\pm 3$ dB)

### TUNER - FM SECTION

Tuning range	: 87.5 - 108 MHz
IF frequency	: 10.7 MHz $\pm$ 0.02 MHz
Sensitivity	: < 22 dBf at 26dB
Selectivity	300kHz : > 33 dB
IF Rejection	: > 60 dB
Image Rejection	: > 20 dB
Channel separation	1kHz : 30 dB

### TUNER - AM SECTION

Tuning range	: 531 - 1602 kHz 530 - 1700 kHz for /21
IF frequency	: 450 kHz $\pm$ 1 kHz
Sensitivity	: $\leq$ 3.25 mV/m at 26dB
Selectivity S9/300kHz	: > 20 dB
IF rejection	: > 24 dB
Spurious rejection	: < 28 dB
Image rejection	: < 28 dB

### AUDIO CASSETTE RECORDER

Frequency response -8dB	: 80 - 12.5 kHz
Wow & flutter	: < 0.4 % (DIN)
Tape speed	: 4.76 cm/s
Channel difference at PB	: 0 dB
P/B S/N (A wght.)	: 55 dB
R/P S/N (A wght.)	: 48 dB

### COMPACT DISC

Frequency response	: 20 Hz – 20 kHz
S/N ratio (A-wght.)	: 70 dBA
THD+N	1kHz : 0.5 %
Channel Separation	1kHz : 40 dB (Lim.30dB)
Channel unbalance	: < $\pm 2$ dB

### VIDEO PERFORMANCE

Amplitude output	: 1.0 Vpp (+10/-10%)
S/N luminance	: $\geq$ 48 dB
Video bandwidth	: 6 MHz
Chroma/Luminance delay	: $\leq$ 80ns

## SERVICE TOOLS

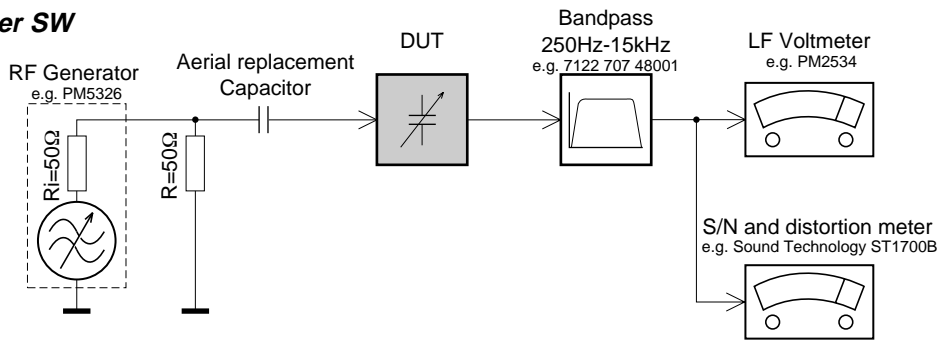
Audio signal disc SBC 429.....	4822 397 30184
Playability test disc SBC 444.....	4822 397 30245
Test disc 5 (disc without errors) +	
Test disc 5A (disc with dropout errors, black spots and fingerprints)	
SBC 426/426A.....	4822 397 30096
Burn in test disc (65 min. 1kHz signal at -30 dB level without "pause").....	4822 397 30155

## AVAILABLE ESD PROTECTION EQUIPMENT

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

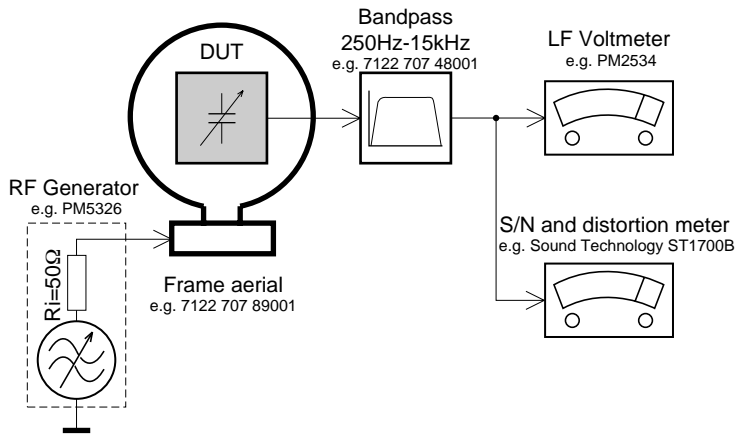
## SERVICE MEASUREMENT

### Tuner SW



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 250Hz) to eliminate hum (50Hz, 100Hz).

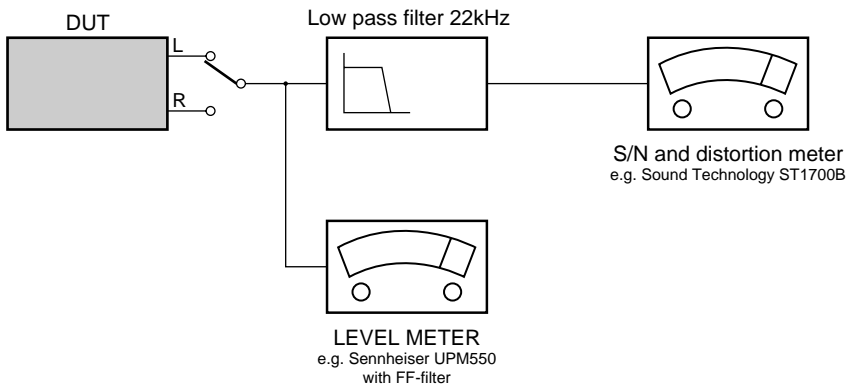
### Tuner AM (MW,LW)



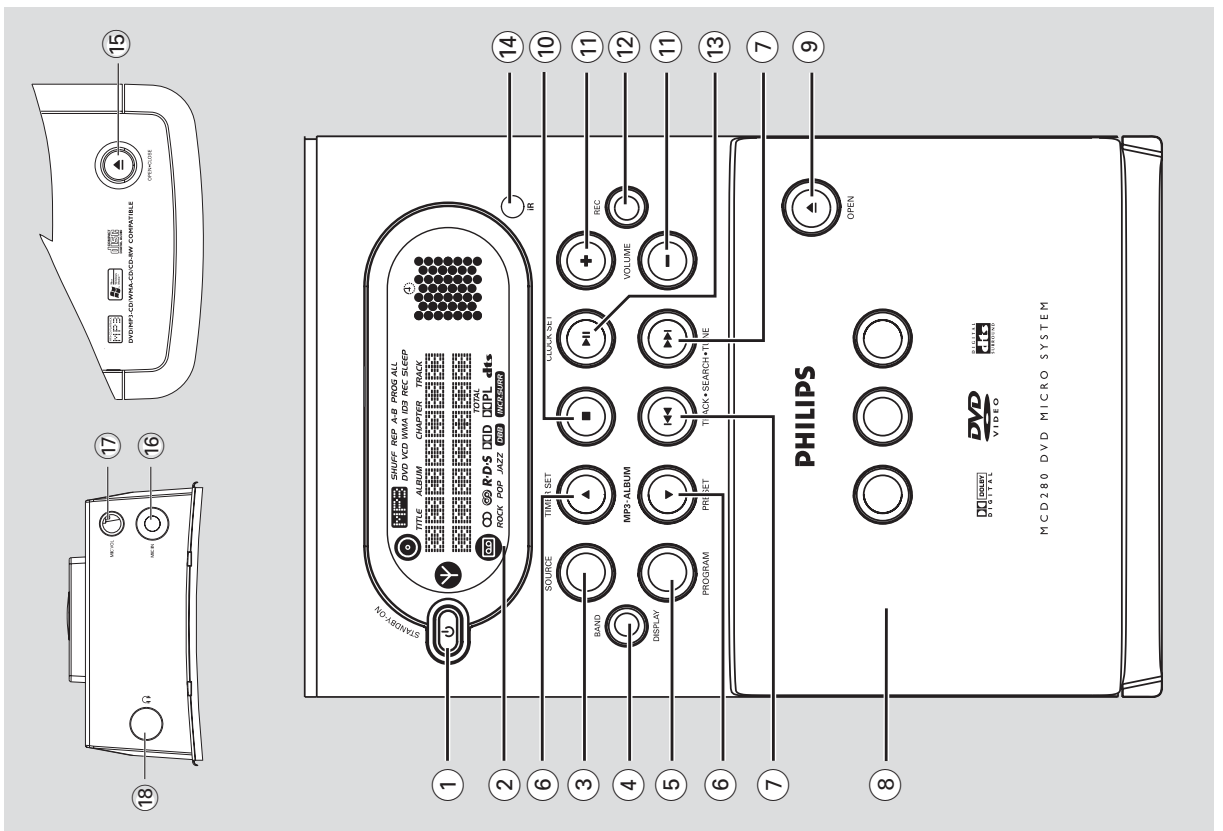
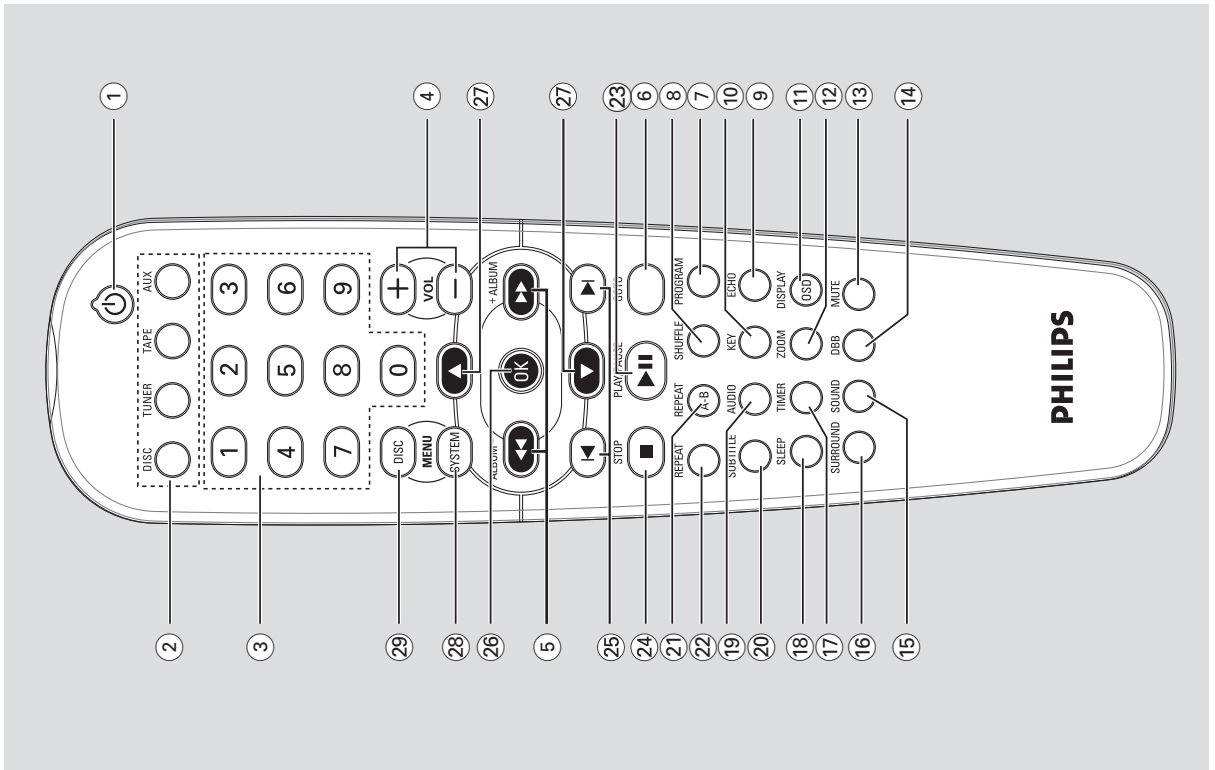
To avoid atmospheric interference all AM-measurements have to be carried out in a Faraday«s cage.

### CD

Use Audio Signal Disc SBC429 4822 397 30184 (replaces test disc 3)  
L.P.F. = 13<sup>th</sup> order filter 4822 395 30204



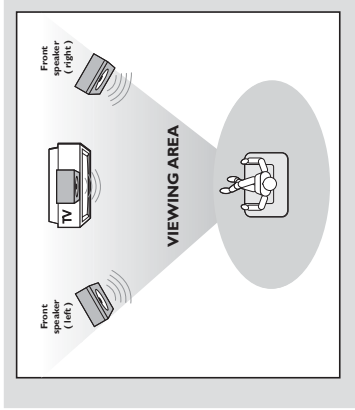
# CONNECTION AND CONTROLS



# CONNECTION AND CONTROLS

## Connections

### Step 1: Placing speakers



Place the front left and right speakers at equal distances from the TV set and at an angle of approximately 45 degrees from the listening position.

**Notes:**

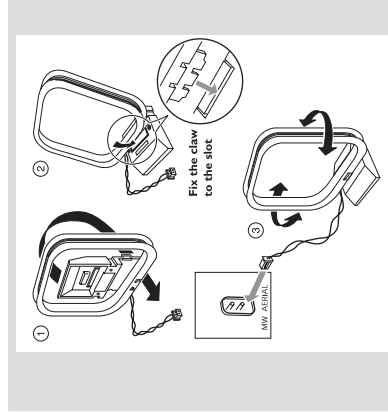
- To avoid magnetic interference, do not position the front speakers too close to your TV set.
- Allow adequate ventilation around the DVD System.

To avoid overheating of the system, a safety circuit has been built in. Therefore, your system may switch to Standby mode automatically under extreme conditions. If this happens, let the system cool down before reusing it (not available for all versions).

**(B) Antennas Connection**

Connect the supplied MW loop antenna and FM antenna to the respective terminals. Adjust the position of the antenna for optimal reception.

**MW Antenna**



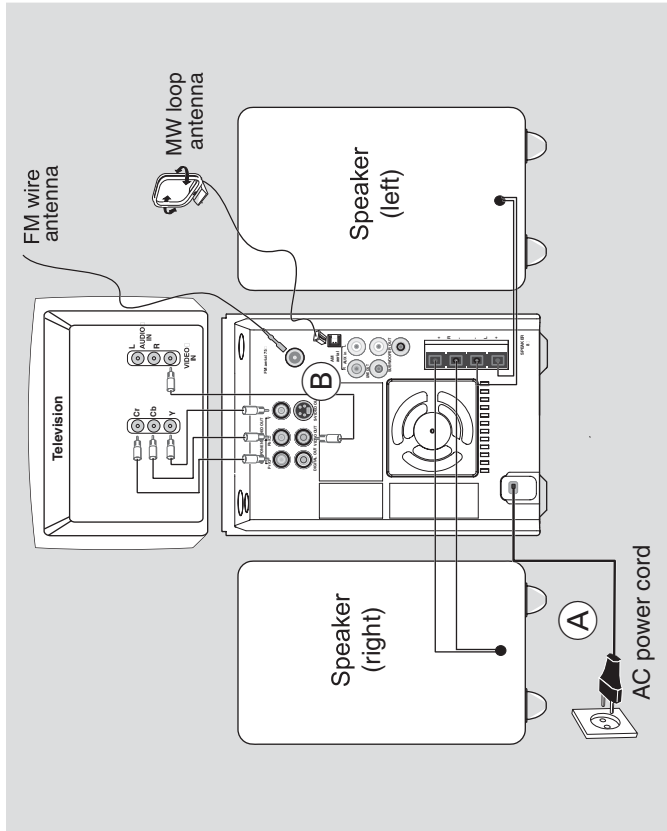
- Position the antenna as far as possible from a TV, VCR or other radiation source.

**FM Antenna**



- For better FM stereo reception, connect an outdoor FM antenna to the FM AERIAL (FM ANTENNA) terminal.

## Connections



### Rear connections

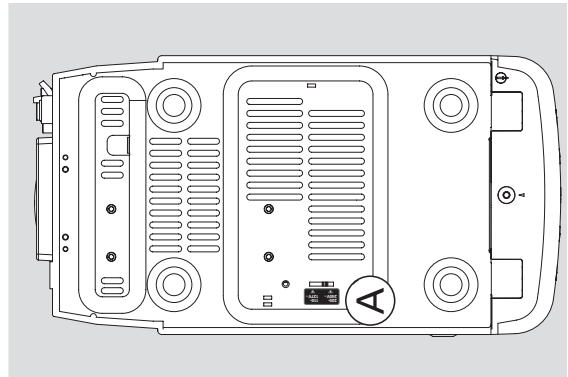
The type plate is located at the rear of the system.

**(A) Power**

- Before connecting the AC power cord to the wall outlet, ensure that the following are done;
  - If your system is equipped with a Voltage Selector, set the VOLTAGE SELECTOR to the local power line voltage.
- All other connections have been made.

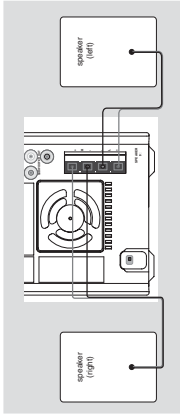
**WARNING!**

- For optimal performance, use only the original power cable.
- Never make or change any connections with the power switched on.



## Connections

### Step 2: Connecting speakers



Connect the speaker wires to the SPEAKERS terminals, right speaker to "R" and left speaker to "L", coloured (marked) wire to "+" and black (unmarked) wire to "-". Fully insert the stripped portion of the speaker wire into the terminal as shown.

Speakers	Symbol	Color
Front Left (L)	⊖	Black
Front Right (R)	⊕	Black
		Grey
		Grey

**Notes:**

- For optimal sound performance, use the supplied speakers.
- Do not connect more than one speaker to any one pair of +/- speaker terminals.
- Do not connect speakers with an impedance lower than the speakers supplied. Please refer to the SPECIFICATIONS section of this manual.

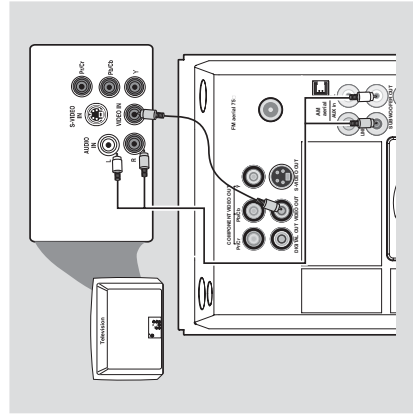
**IMPORTANT!**

The type plate is located on the rear of the system.

To avoid overheating of the system, a safety circuit has been built in. Therefore, your system may switch to Standby mode automatically under extreme conditions. If this happens, let the system cool down before reusing it.

## Connections

### Step 3: Connecting TV set

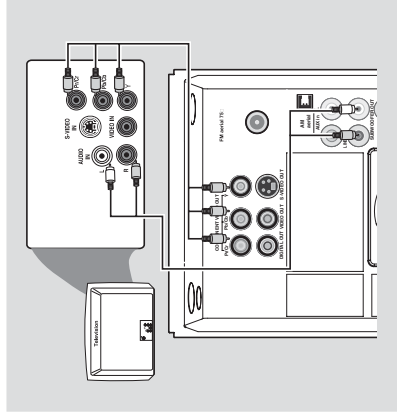


**IMPORTANT!**

- You only need to make one video connection from the following options, according to the capabilities of your TV system.
- **Component Video connection provides higher picture quality. These options must be available on your TV set.**
- **Connect the system directly to the TV set.**

**Using Video In jack (CVBS)**

- Use the composite video cable (yellow) to connect the system's **VIDEO OUT** jack to the video input jack (or labeled as A/V In, Video In, Composite or Baseband) on the TV set.

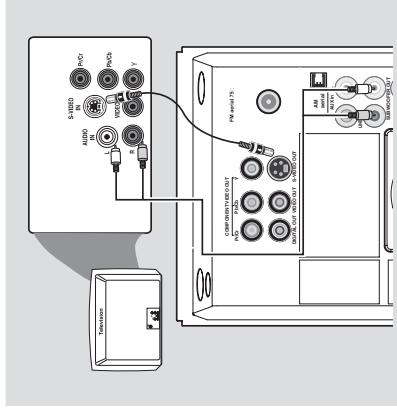


**IMPORTANT!**

- To set the **VIDEO OUT** (put) to 'Cr Cb Y', (see Setting video preference).

**Using component Video In jack (Cr Cb Y)**

- Use the component video cables (red/blue/green) to connect the system's **Cr Cb Y** jacks to the corresponding Component video input jacks on the TV set.



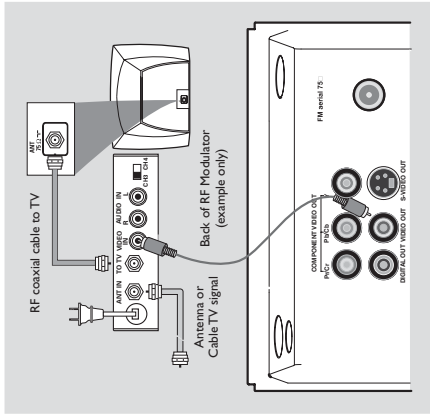
**IMPORTANT!**

- If the picture is distorted, check the **Video Output setting. Make sure it is set to 'S-Video'**. (See Setting video preference).

**Using S-Video In jack**

- Use the S-Video cable (not supplied) to connect the system's **S-VIDEO OUT** jack to the S-Video input jack (or labeled as Y/C or S-VHS) on the TV.





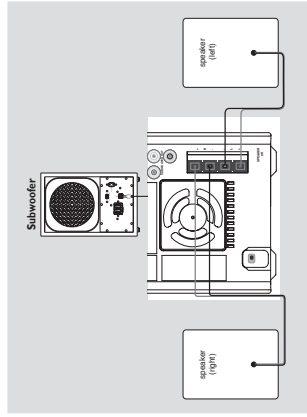
**IMPORTANT!**

– If your TV set only has a single Antenna In jack (or labeled as 75 ohm or RF In), you will need a RF modulator in order to view the DVD playback via TV. See your electronics retailer or contact Philips for details on RF modulator availability and operations.

**Using an accessory RF modulator**

- Use the composite cable (yellow) to connect the system's CVBS jack to the video input jack on the RF modulator.
- Use the RF coaxial cable (not supplied) to connect the RF modulator to your TV's RF jack.

**Step 4: Connecting the subwoofer (not supplied)**

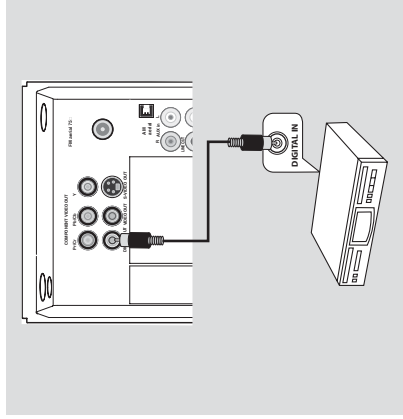


**IMPORTANT!**

Ensure that the speaker cables are correctly connected. Improper connections may damage the system due to short circuit. Do not connect speakers with an impedance lower than that of the speakers supplied.

- Place the subwoofer on the floor near the TV.
- Connect the subwoofer to the SUBWOOFER OUT jack on the DVD micro system.
- Connect the power cable for the subwoofer.

**Step 5: Connecting Digital out**



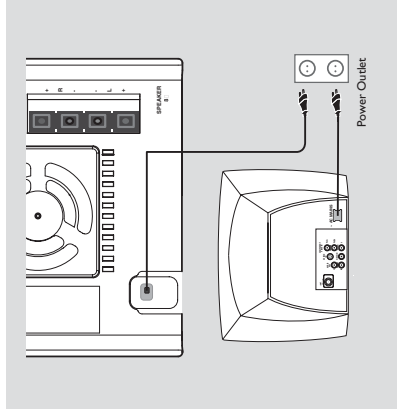
**IMPORTANT!**

To select ALL or PCM 48 KHz for Digital Out, please see Setting Digital Out.

Digital out selection enables you to specify the type of digital output suitable for our amplifier or receiver.

- Select **ALL** if you have connected the digital output to a multifunctional decoder receiver.
- Select **PCM 48K** if the external component is incapable of processing 96KHz digital signal input, and then convert the standard signal with the sampling rate of 48KHz.

**Step 6: Connecting the power cord**



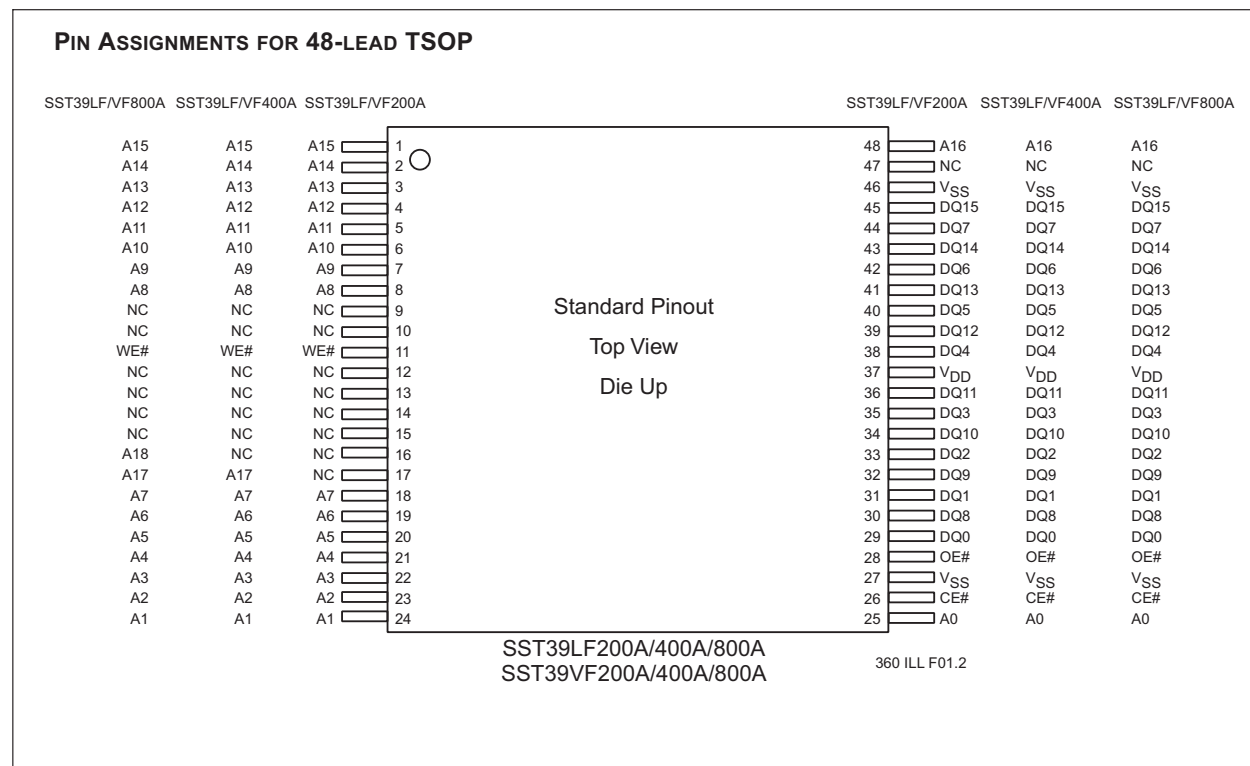
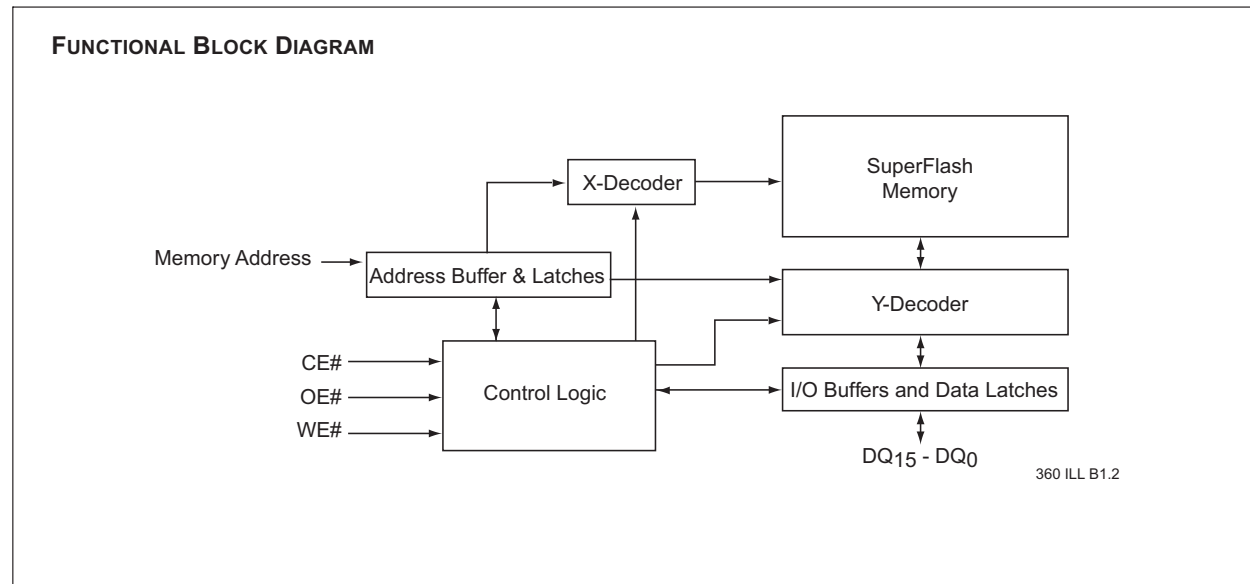
**IMPORTANT!**

Never make or change any connection with the power switched on.

After every is connected properly plug in the AC power cord to the power outlet.



### IC SST39 LF-VFx00A\_ Block Diagram



### IC SST39 LF-VFx00A\_ Pin Description

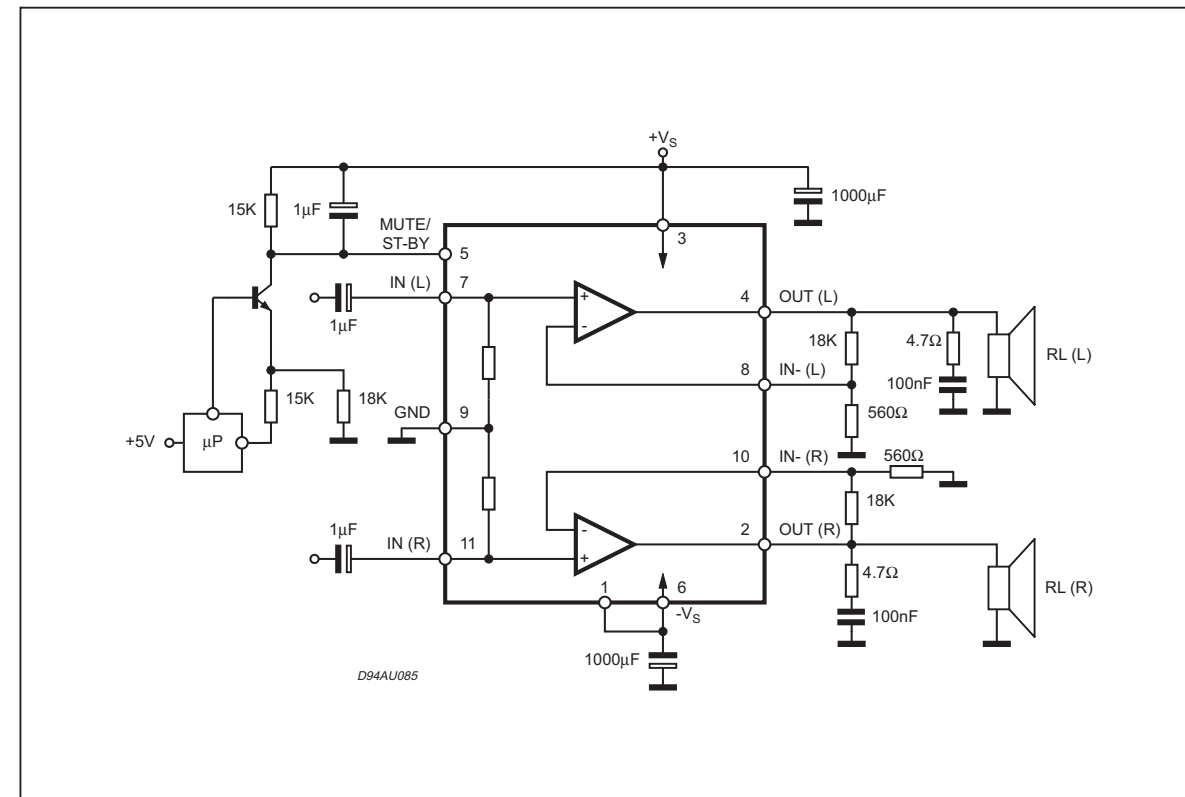
**PIN DESCRIPTION**

Symbol	Pin Name	Functions
A <sub>MS</sub> <sup>1</sup> -A <sub>0</sub>	Address Inputs	To provide memory addresses. During Sector-Erase A <sub>MS</sub> -A <sub>11</sub> address lines will select the sector. During Block-Erase A <sub>MS</sub> -A <sub>15</sub> address lines will select the block.
DQ <sub>15</sub> -DQ <sub>0</sub>	Data Input/output	To output data during Read cycles and receive input data during Write cycles. Data is internally latched during a Write cycle. The outputs are in tri-state when OE# or CE# is high.
CE#	Chip Enable	To activate the device when CE# is low.
OE#	Output Enable	To gate the data output buffers.
WE#	Write Enable	To control the Write operations.
V <sub>DD</sub>	Power Supply	To provide power supply voltage: 3.0-3.6V for SST39LF200A/400A/800A 2.7-3.6V for SST39VF200A/400A/800A
V <sub>SS</sub>	Ground	
NC	No Connection	Unconnected pins.

1. A<sub>MS</sub> = Most significant address  
A<sub>MS</sub> = A<sub>16</sub> for SST39LF/VF200A, A<sub>17</sub> for SST39LF/VF400A, and A<sub>18</sub> for SST39LF/VF800A

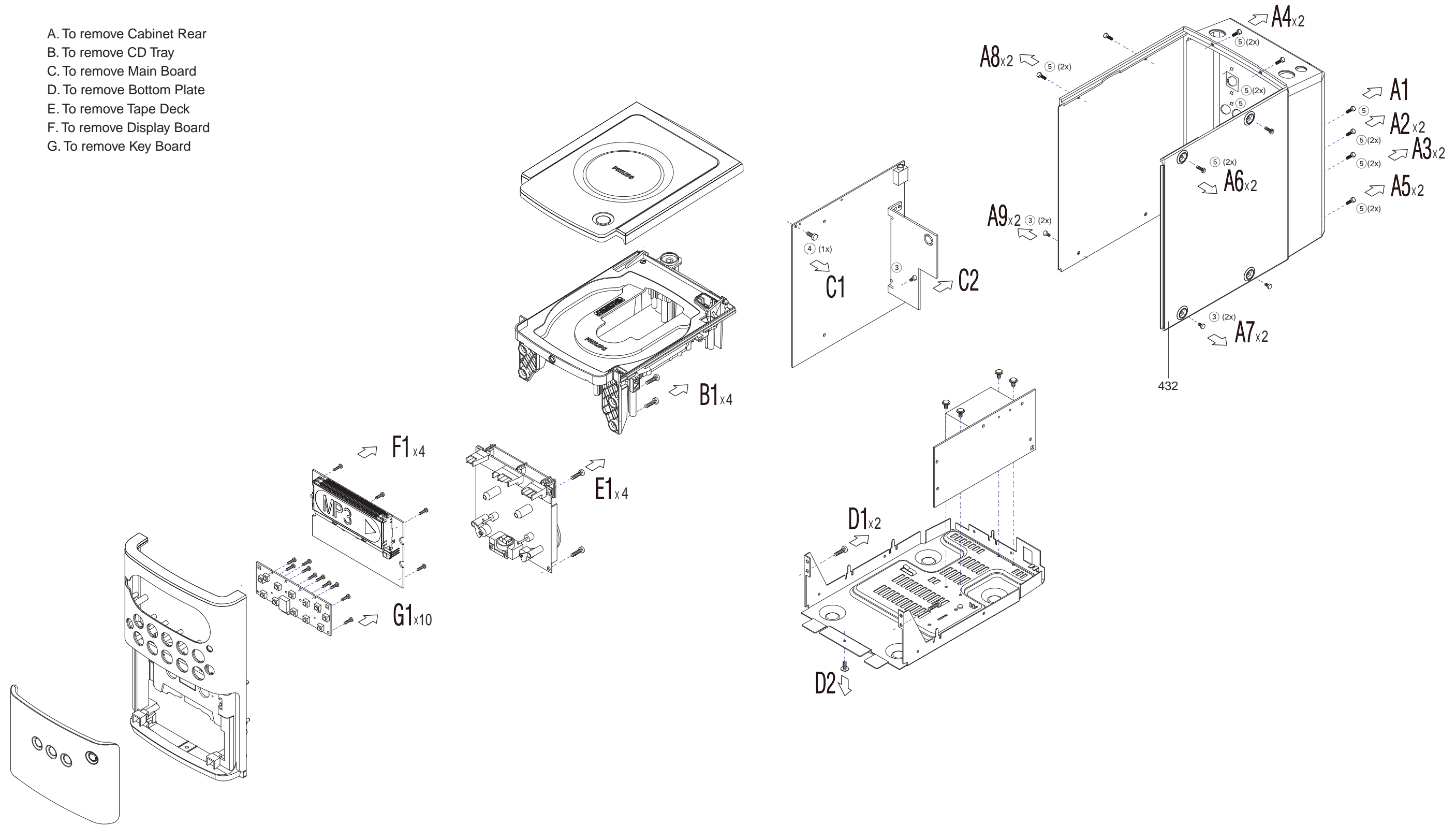
### TDA7269 ASA\_ Block Diagram

**BLOCK DIAGRAM**

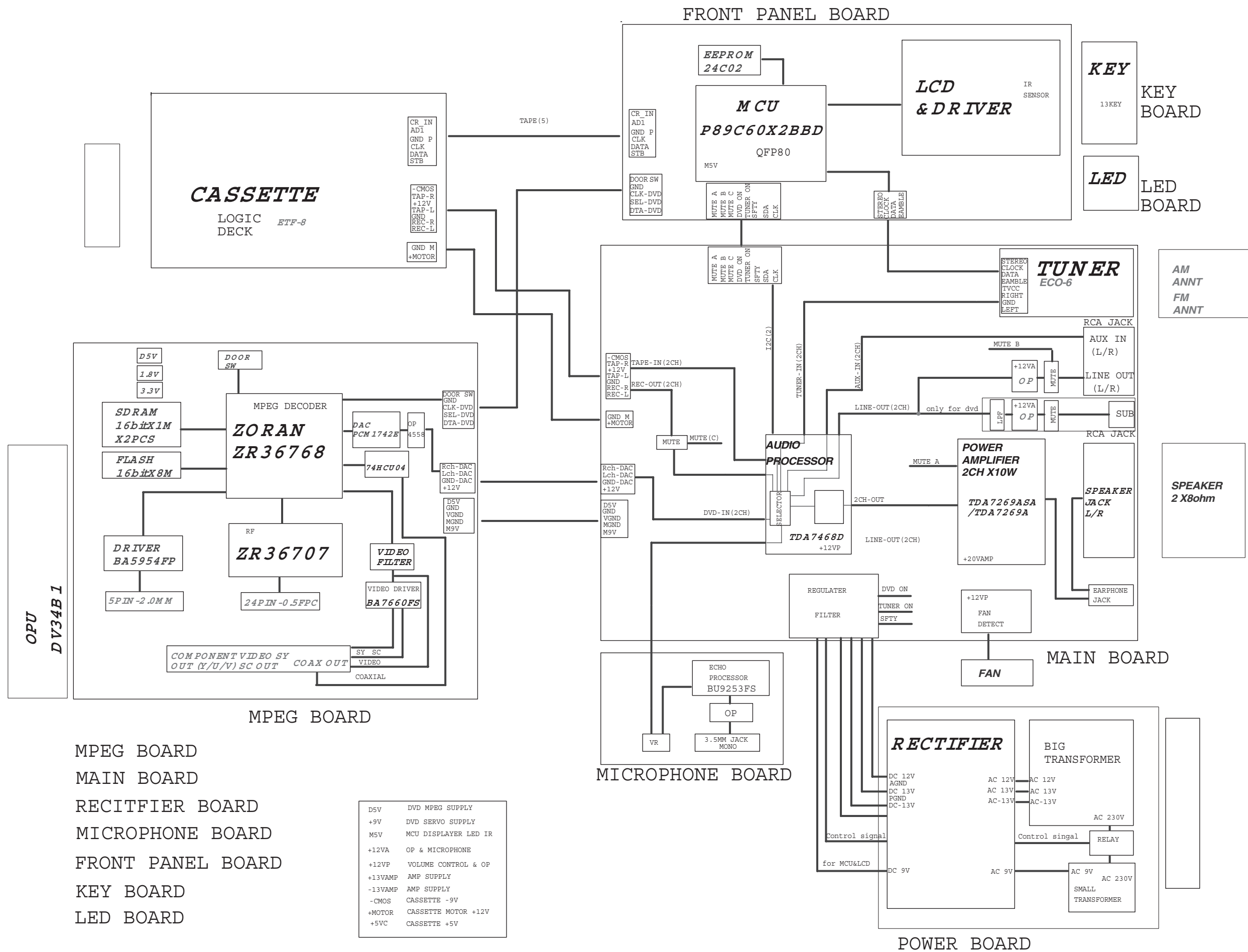


# DISASSEMBLY DIAGRAM

- A. To remove Cabinet Rear
- B. To remove CD Tray
- C. To remove Main Board
- D. To remove Bottom Plate
- E. To remove Tape Deck
- F. To remove Display Board
- G. To remove Key Board



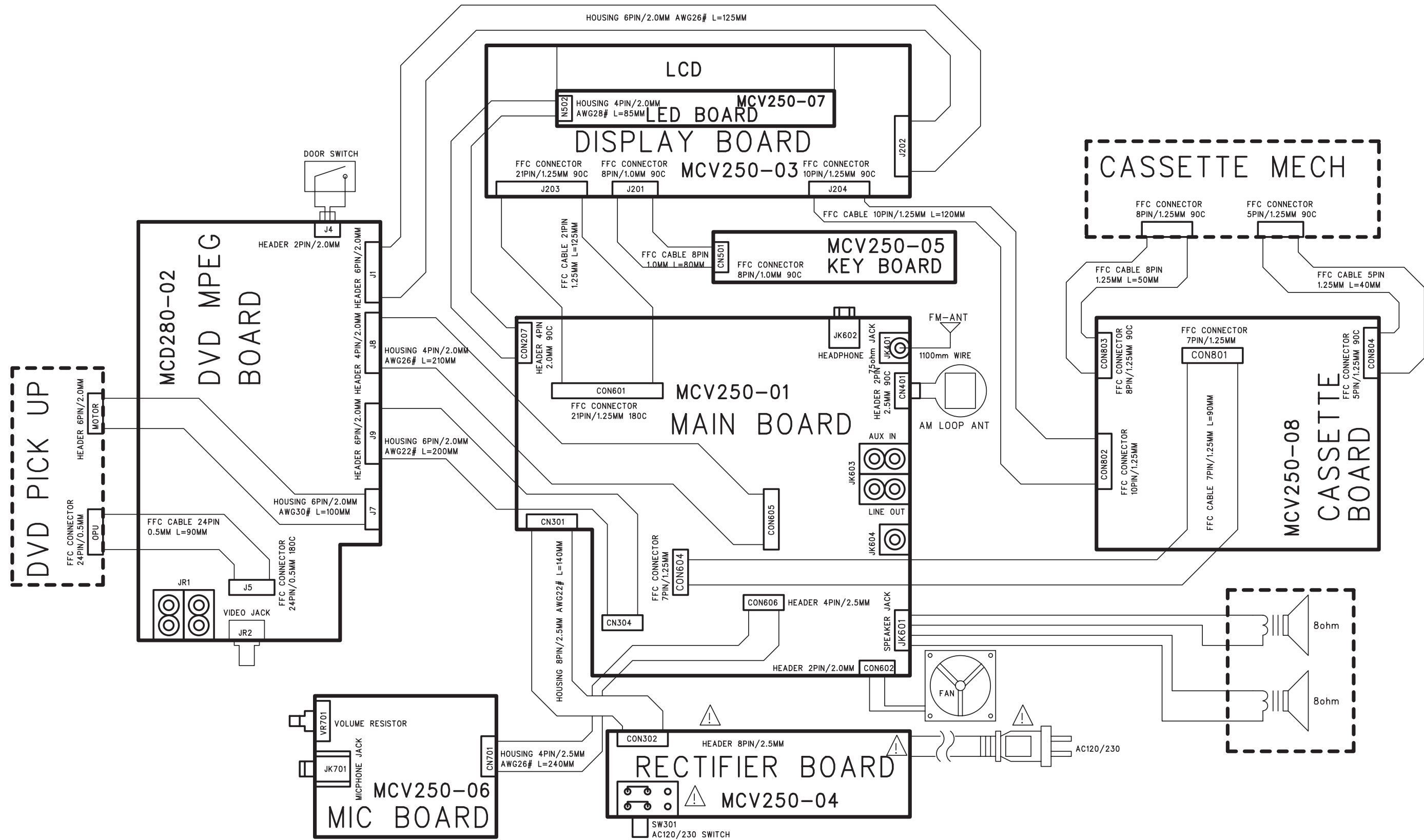
SET BLOCK DIAGRAM



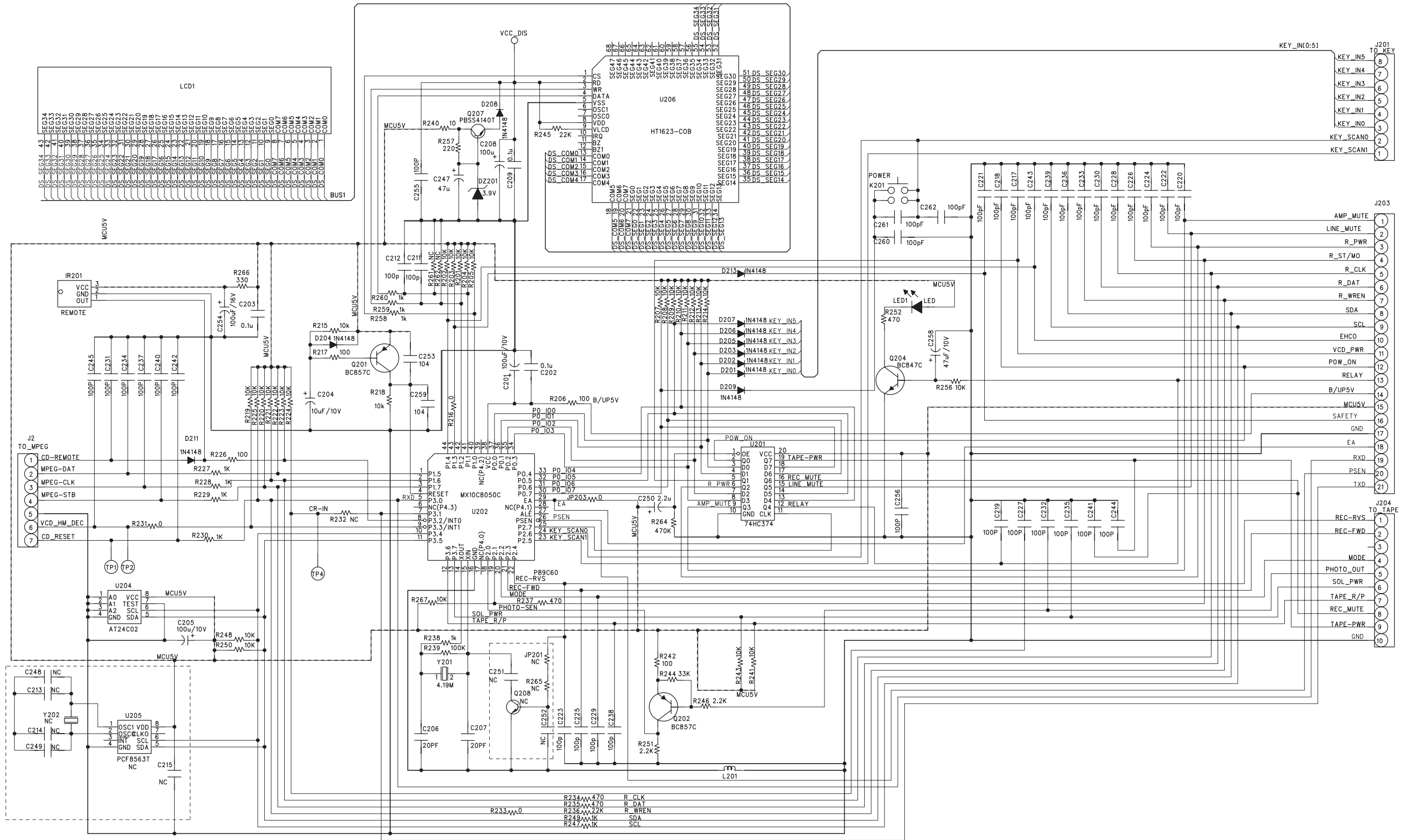
- MPEG BOARD
- MAIN BOARD
- RECITIFIER BOARD
- MICROPHONE BOARD
- FRONT PANEL BOARD
- KEY BOARD
- LED BOARD

D5V	DVD MPEG SUPPLY
+9V	DVD SERVO SUPPLY
M5V	MCU DISPLAYER LED IR
+12VA	OP & MICROPHONE
+12VP	VOLUME CONTROL & OP
+13VAMP	AMP SUPPLY
-13VAMP	AMP SUPPLY
-CMOS	CASSETTE -9V
+MOTOR	CASSETTE MOTOR +12V
+5VC	CASSETTE +5V

SET WIRING DIAGRAM

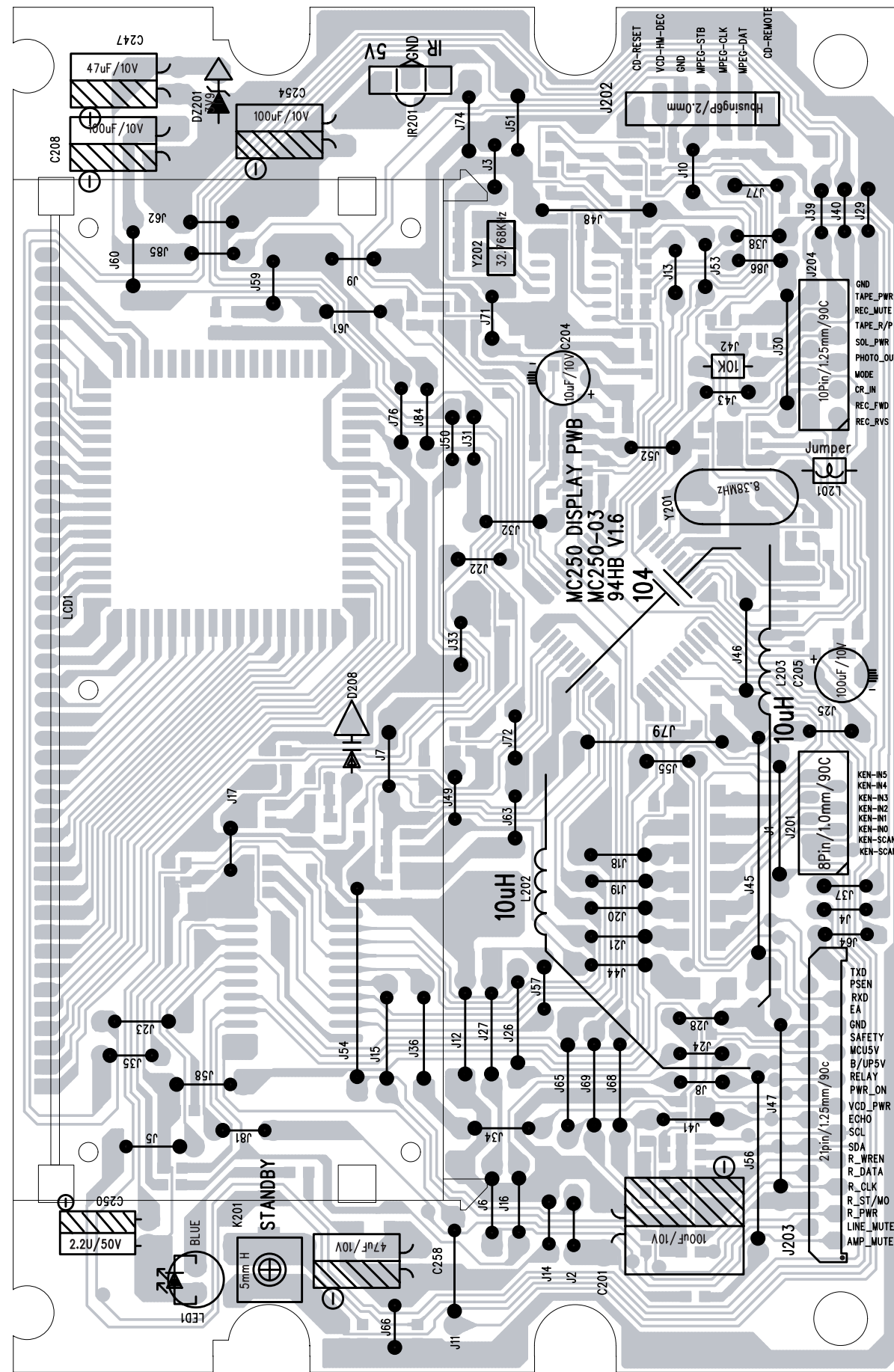
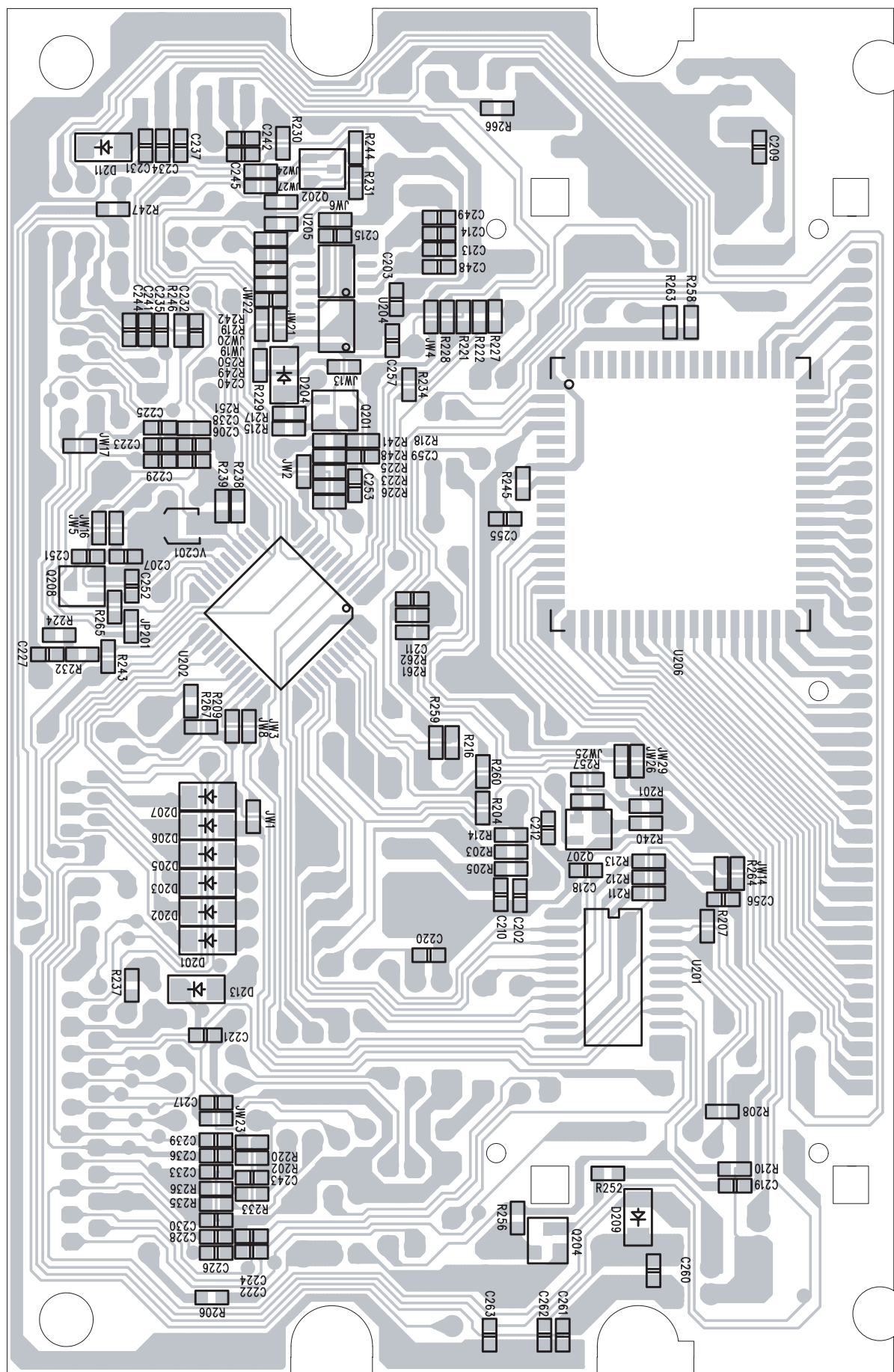


# CIRCUIT DIAGRAM - DISPLAY BOARD

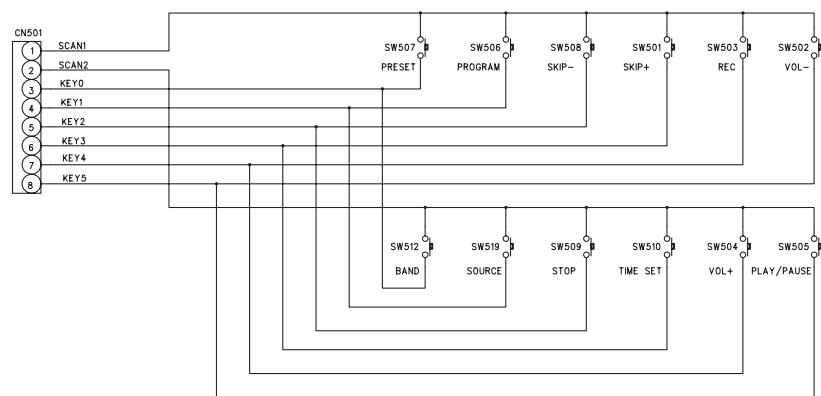




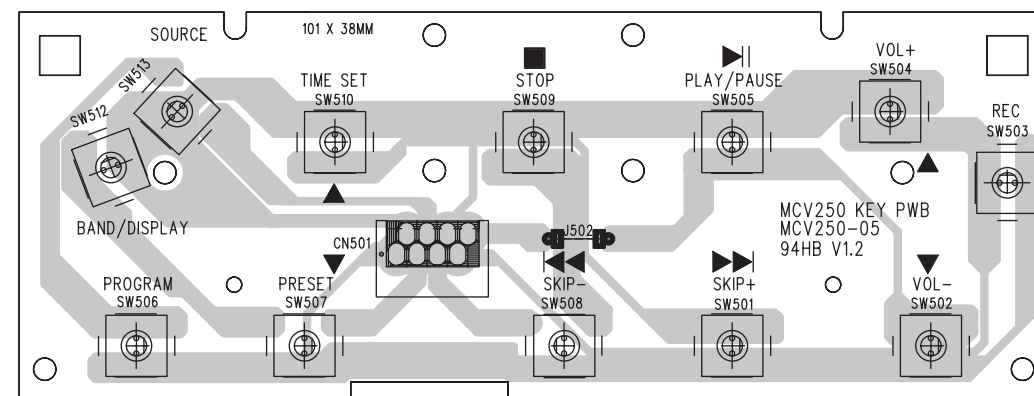
LAYOUT DIAGRAM - DISPLAY BOARD



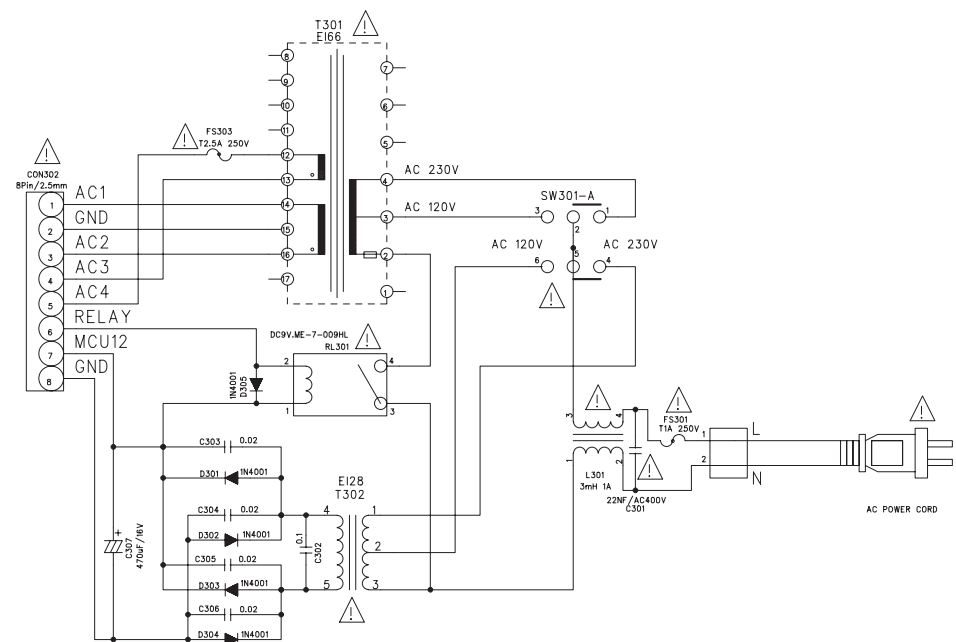
### CIRCUIT DIAGRAM - KEY BOARD



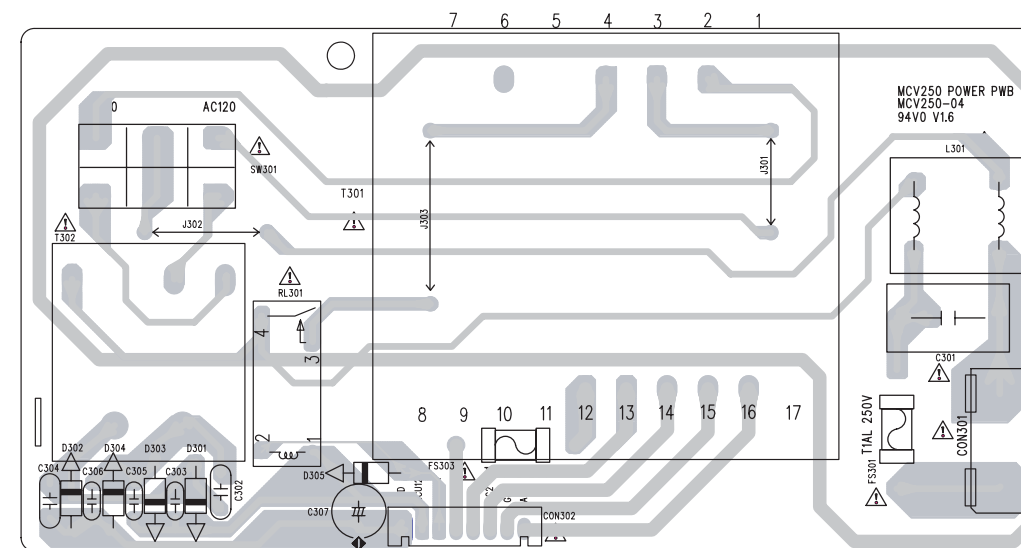
### LAYOUT DIAGRAM - KEY BOARD



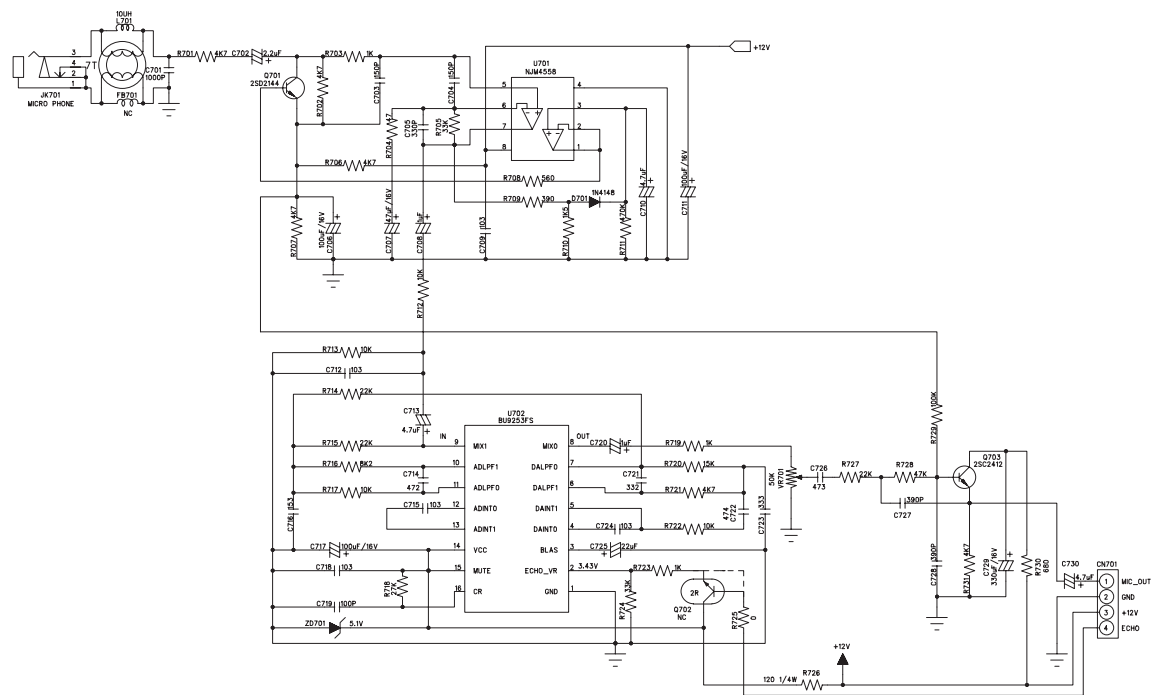
### CIRCUIT DIAGRAM - POWER BOARD



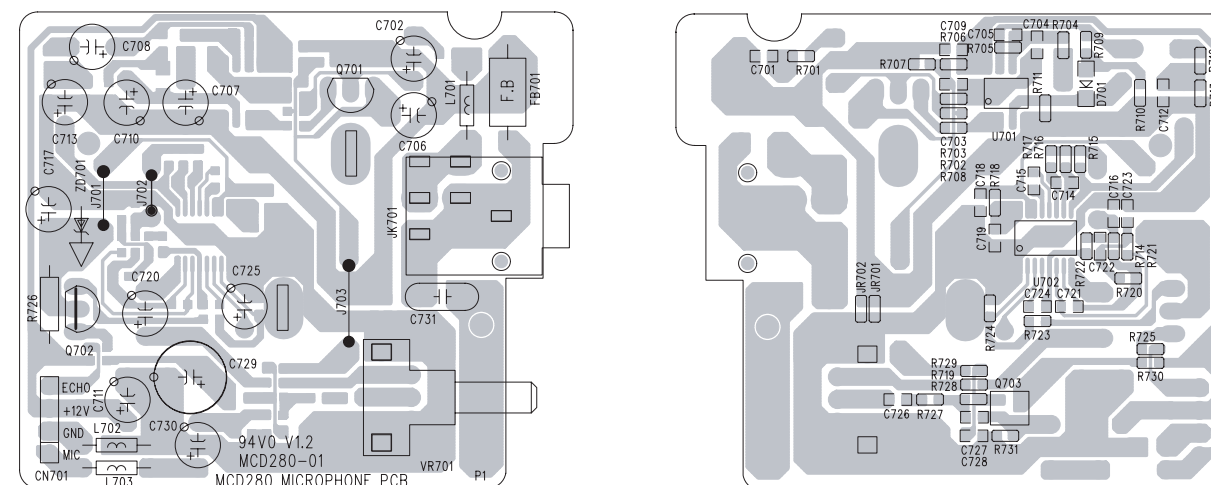
### LAYOUT DIAGRAM - POWER BOARD



### CIRCUIT DIAGRAM - MICROPHONE BOARD

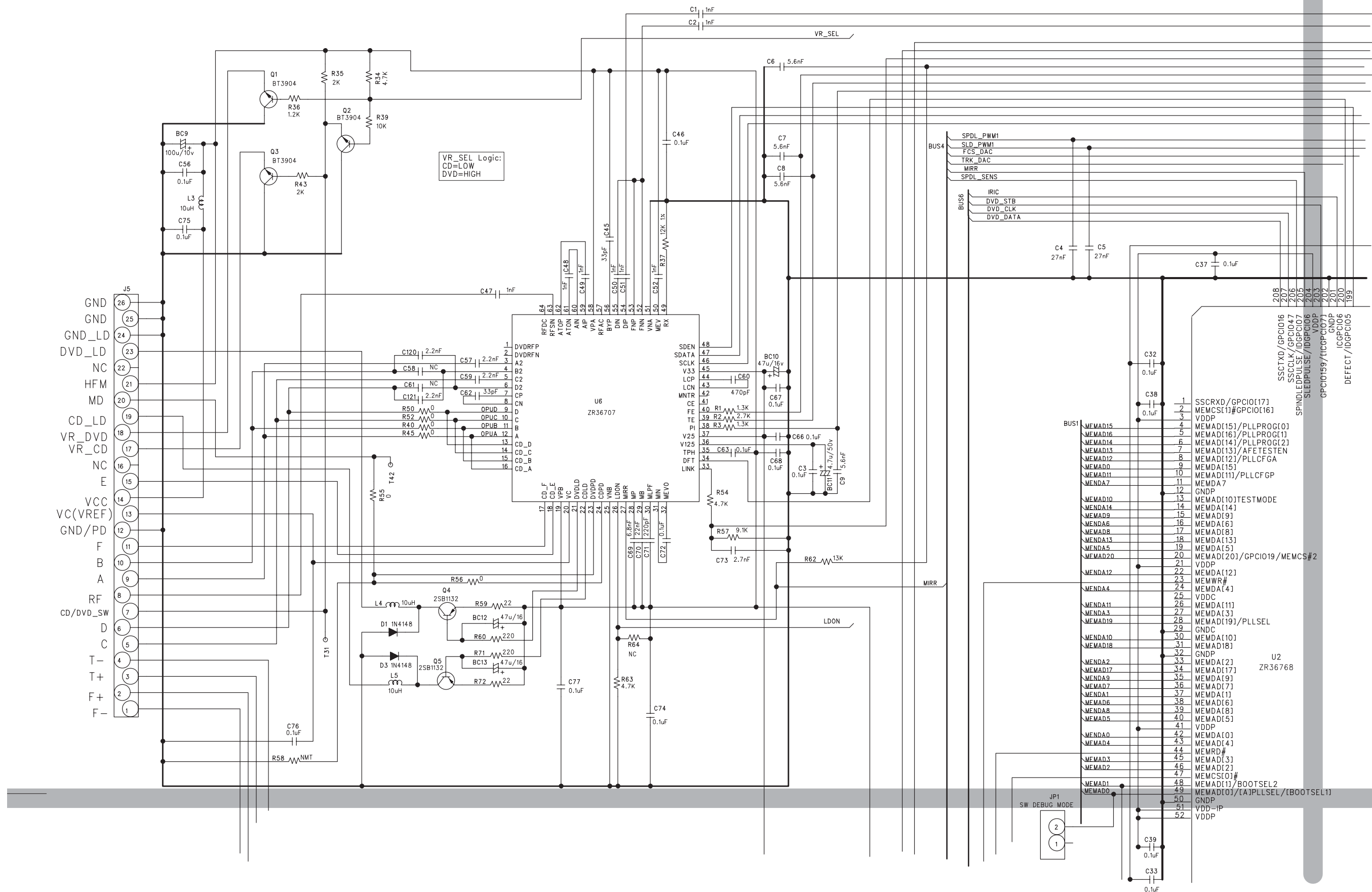


### LAYOUT DIAGRAM - MICROPHONEBOARD

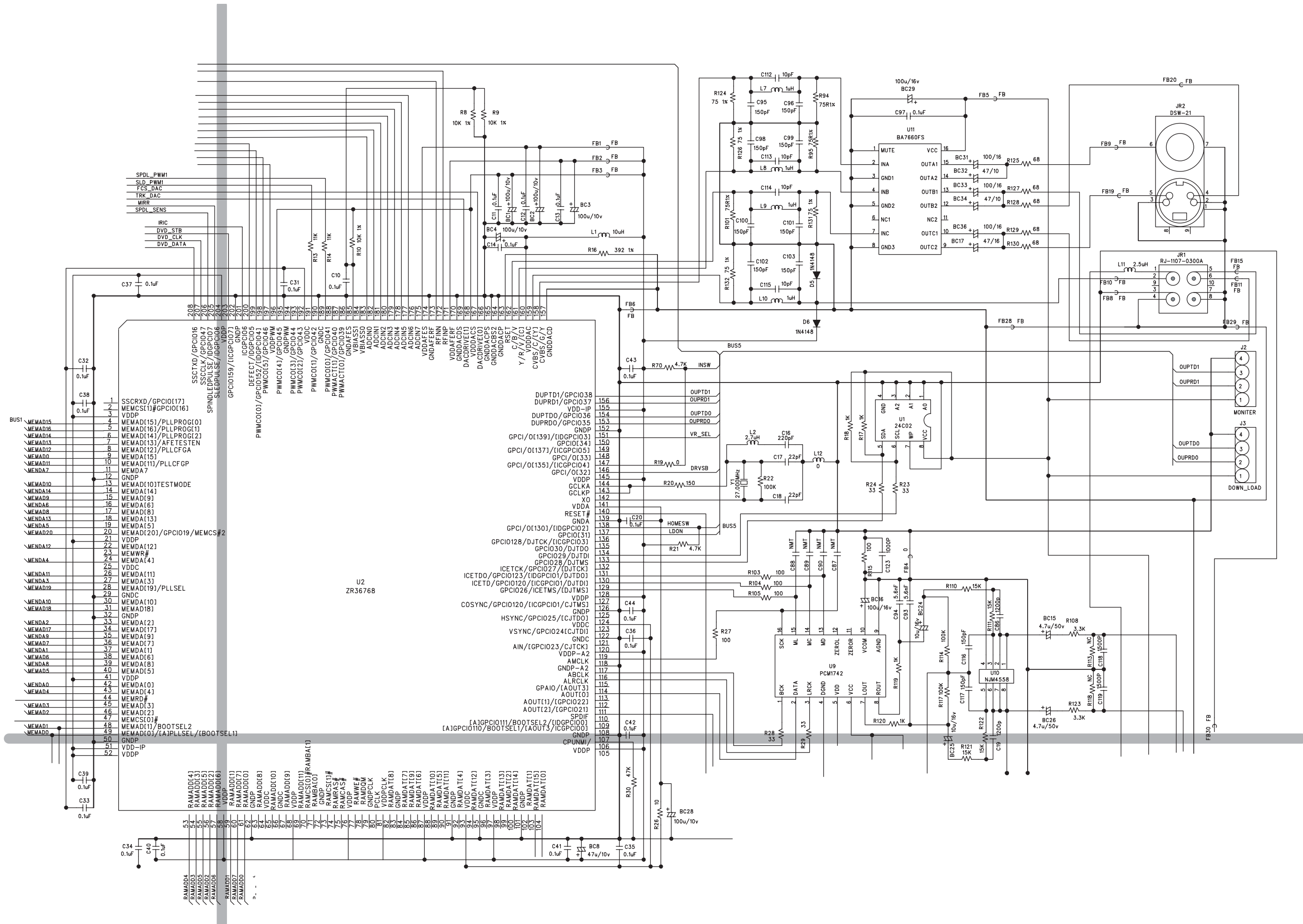




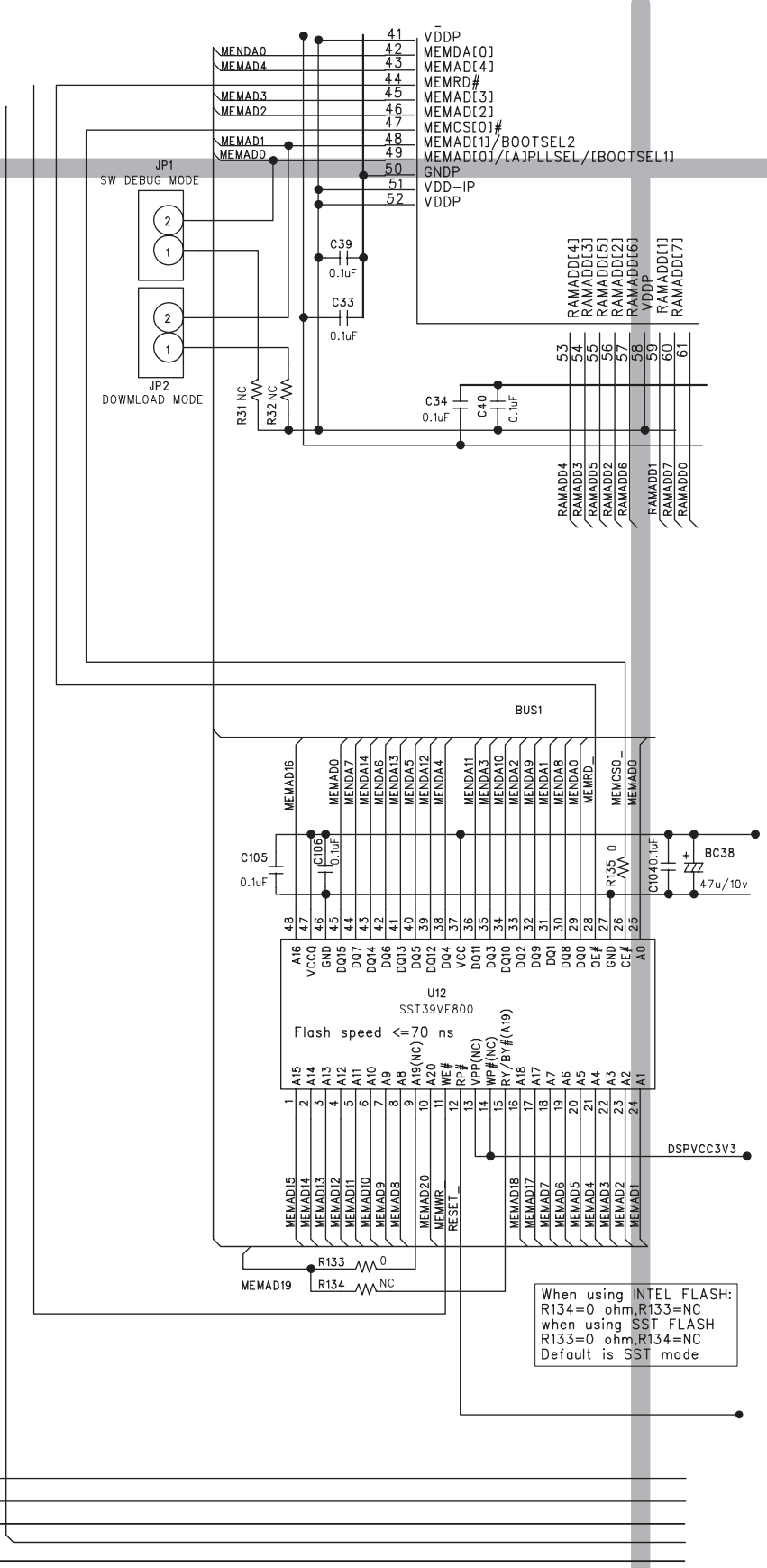
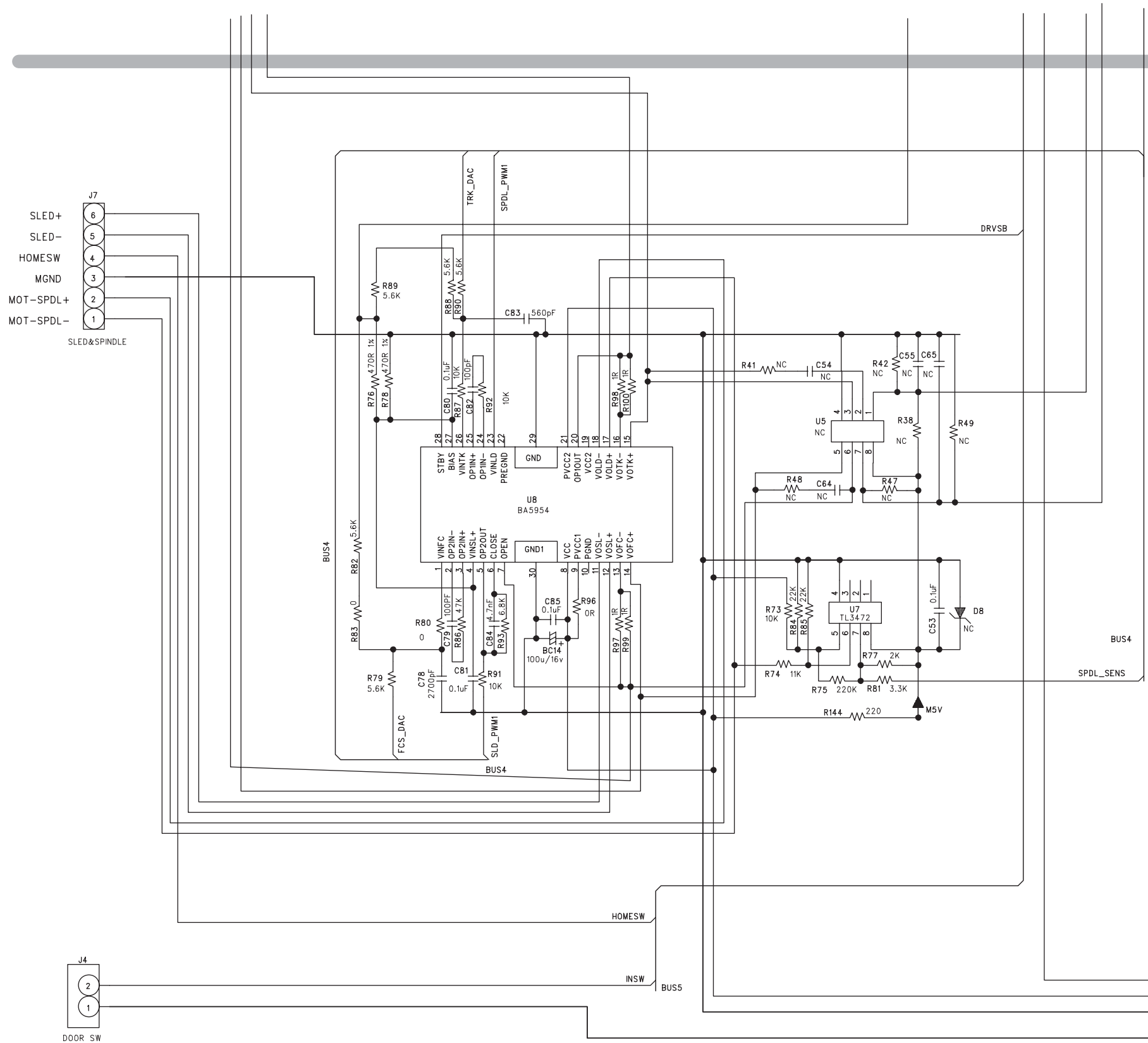
# CIRCUIT DIAGRAM - MPEG BOARD PART 1



# CIRCUIT DIAGRAM - MPEG BOARD PART 2

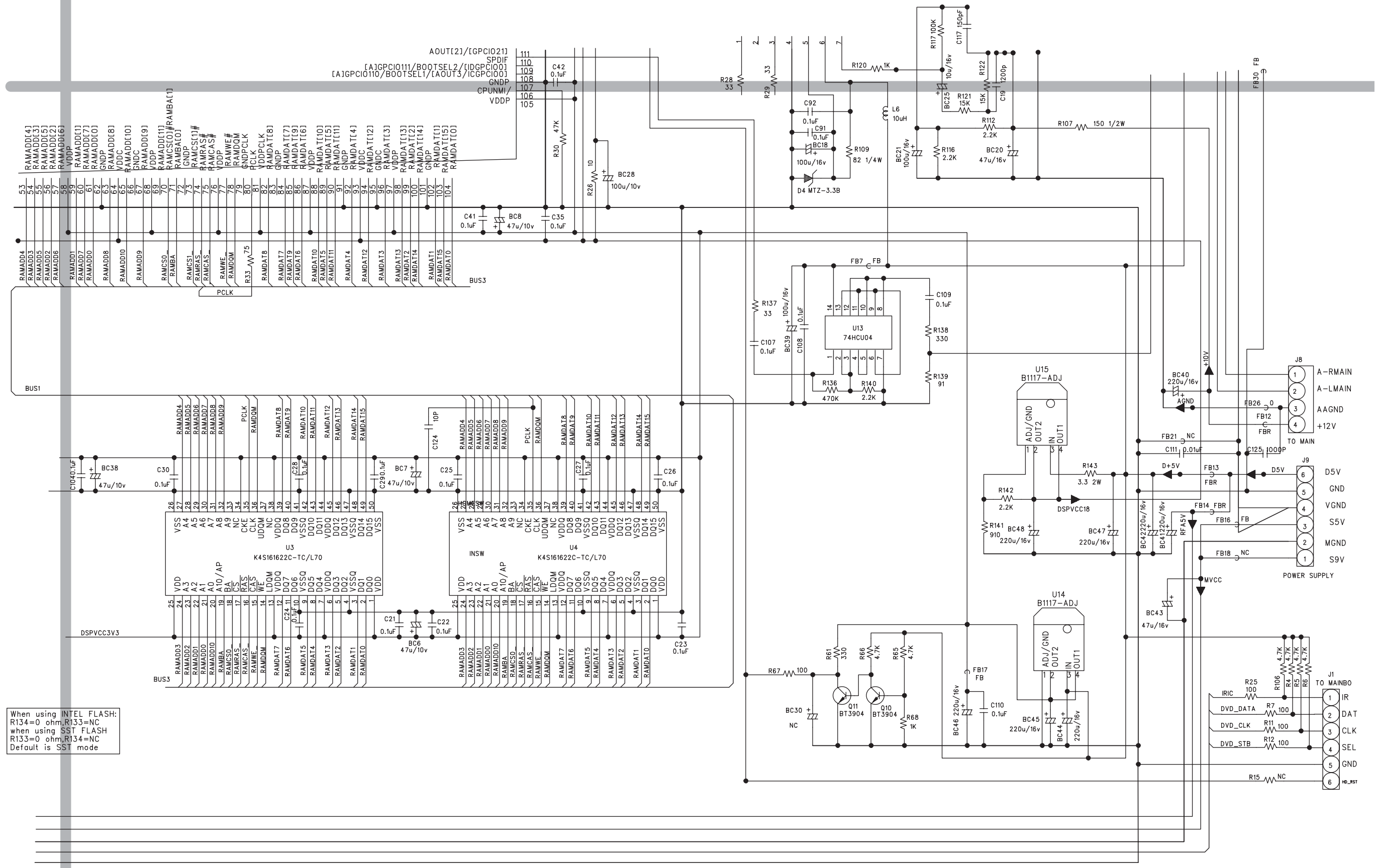


CIRCUIT DIAGRAM - MPEG BOARD  
PART 3



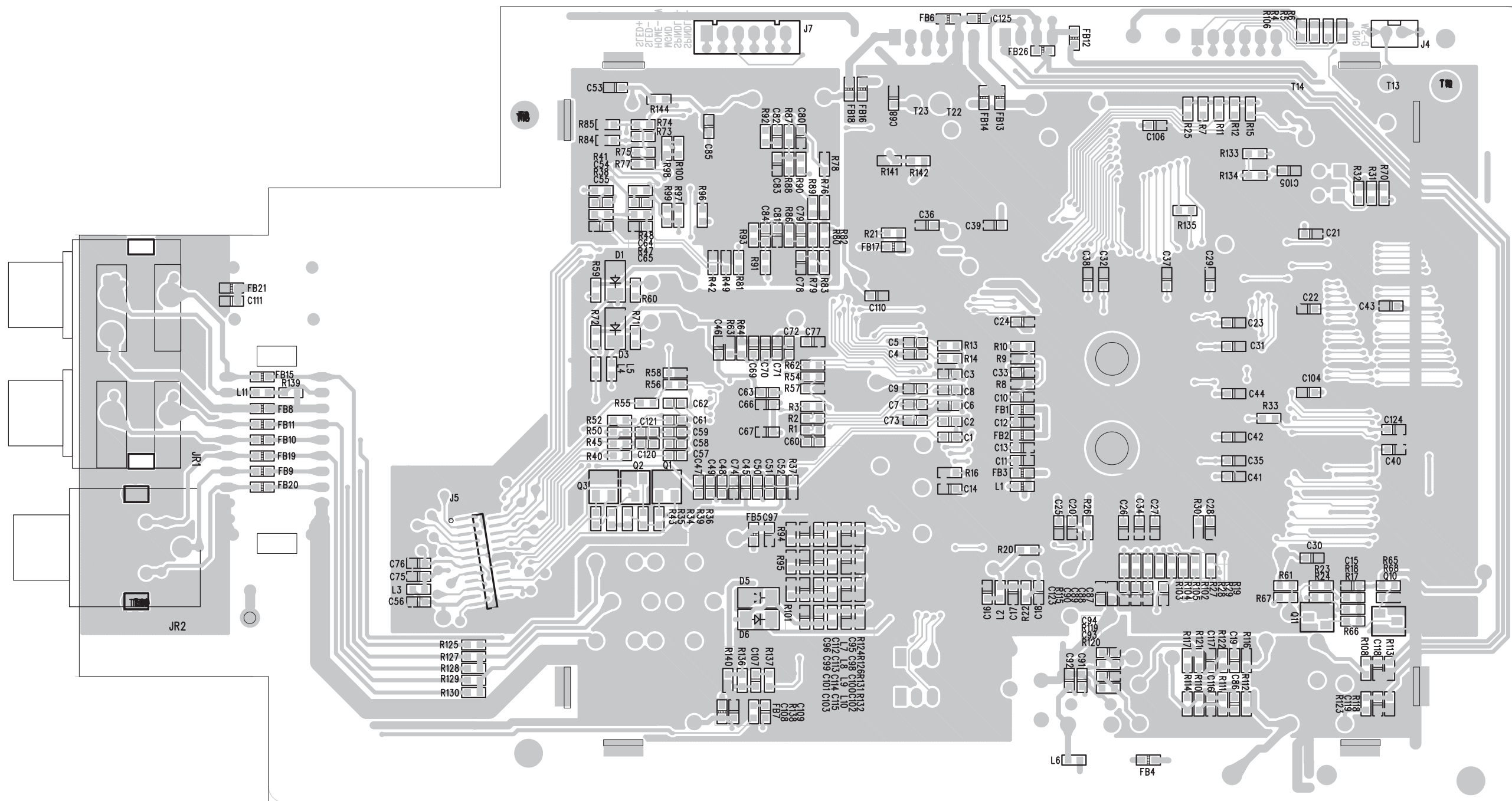
When using INTEL FLASH:  
R134=0 ohm, R133=NC  
when using SST FLASH  
R133=0 ohm, R134=NC  
Default is SST mode

# CIRCUIT DIAGRAM - MPEG BOARD PART 4



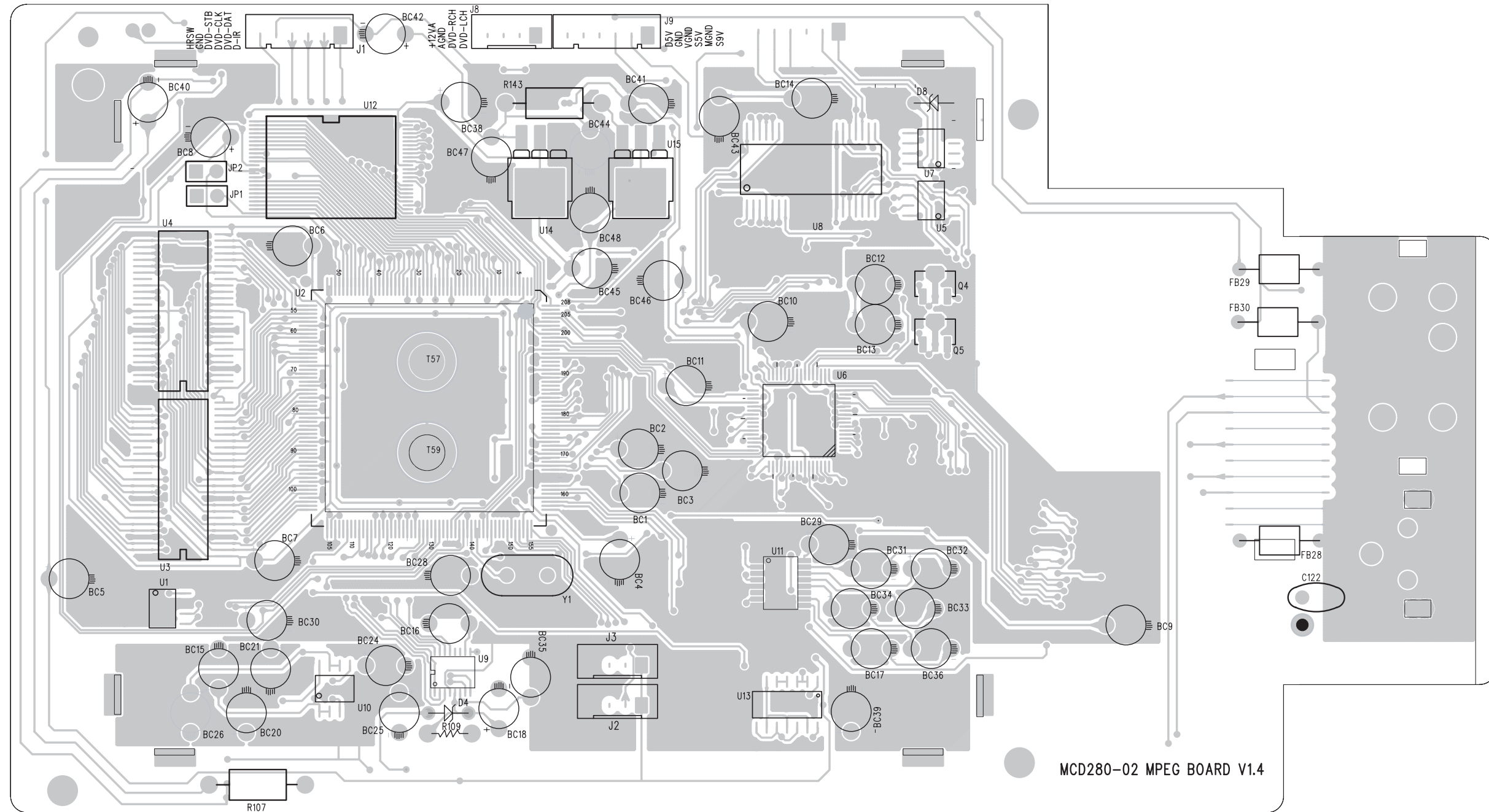
When using INTEL FLASH:  
R134=0 ohm, R133=NC  
when using SST FLASH  
R133=0 ohm, R134=NC  
Default is SST mode

LAYOUT DIAGRAM - MPEG BOARD

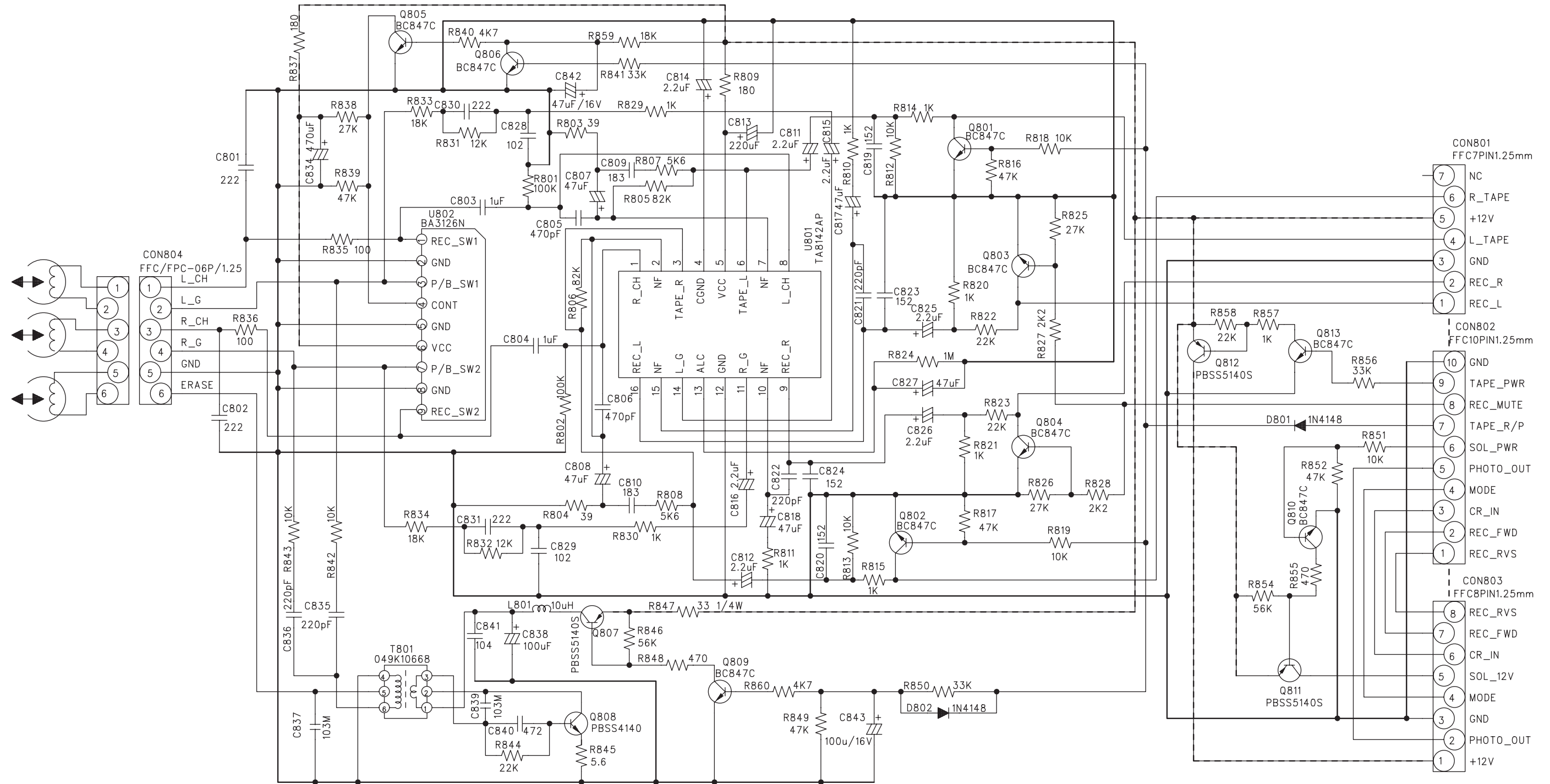




LAYOUT DIAGRAM - MPEG BOARD

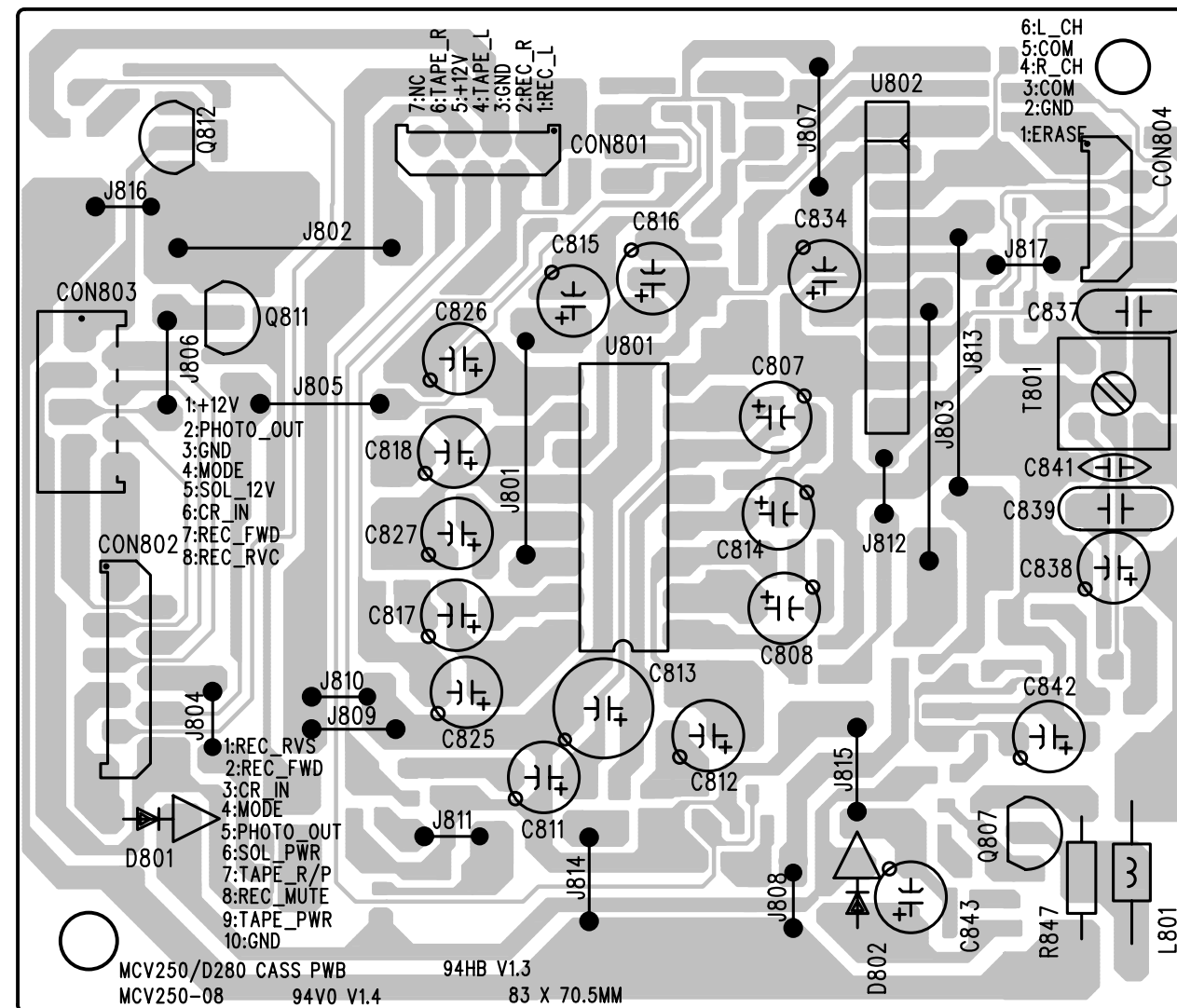
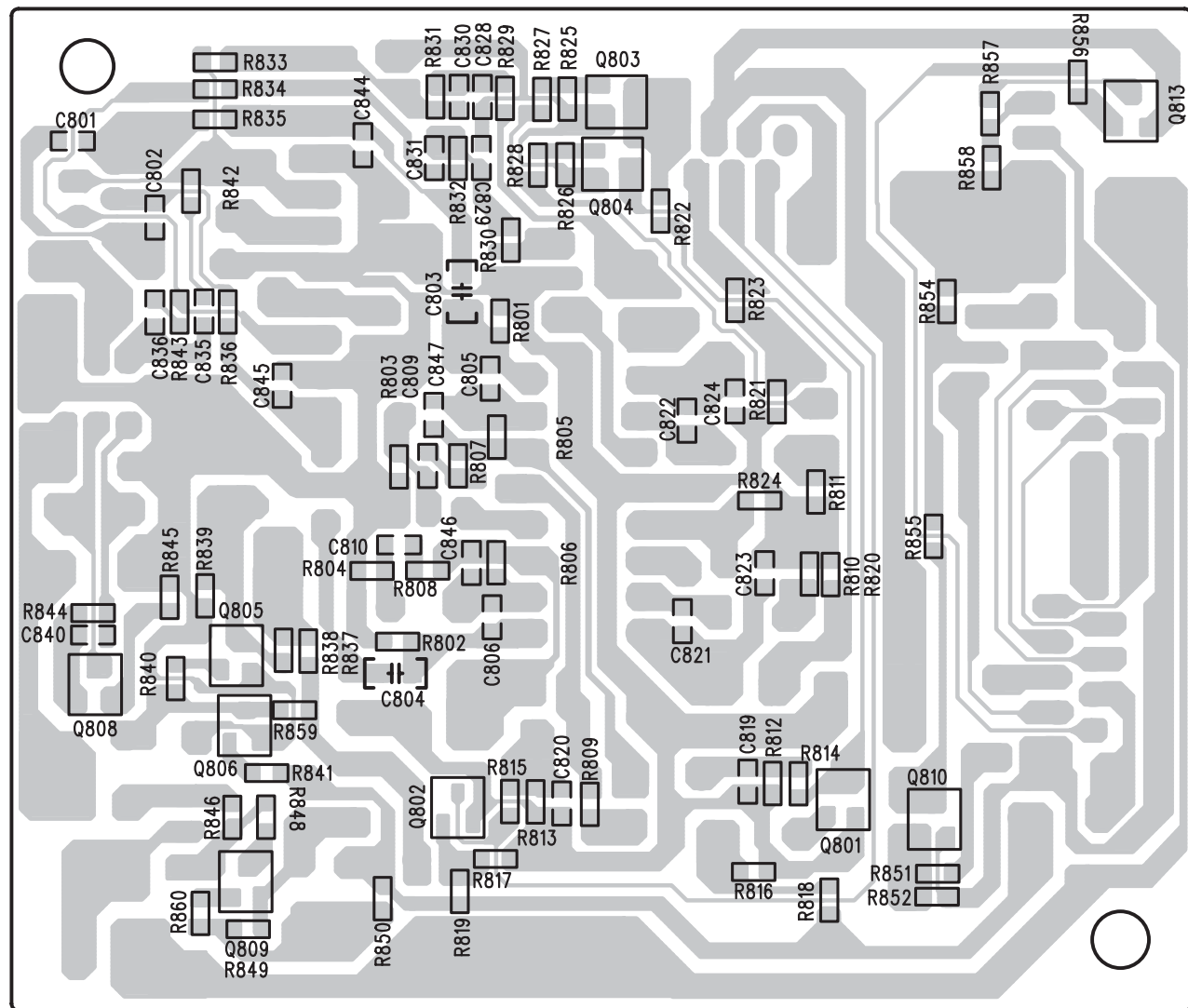


# CIRCUIT DIAGRAM - TAPE BOARD

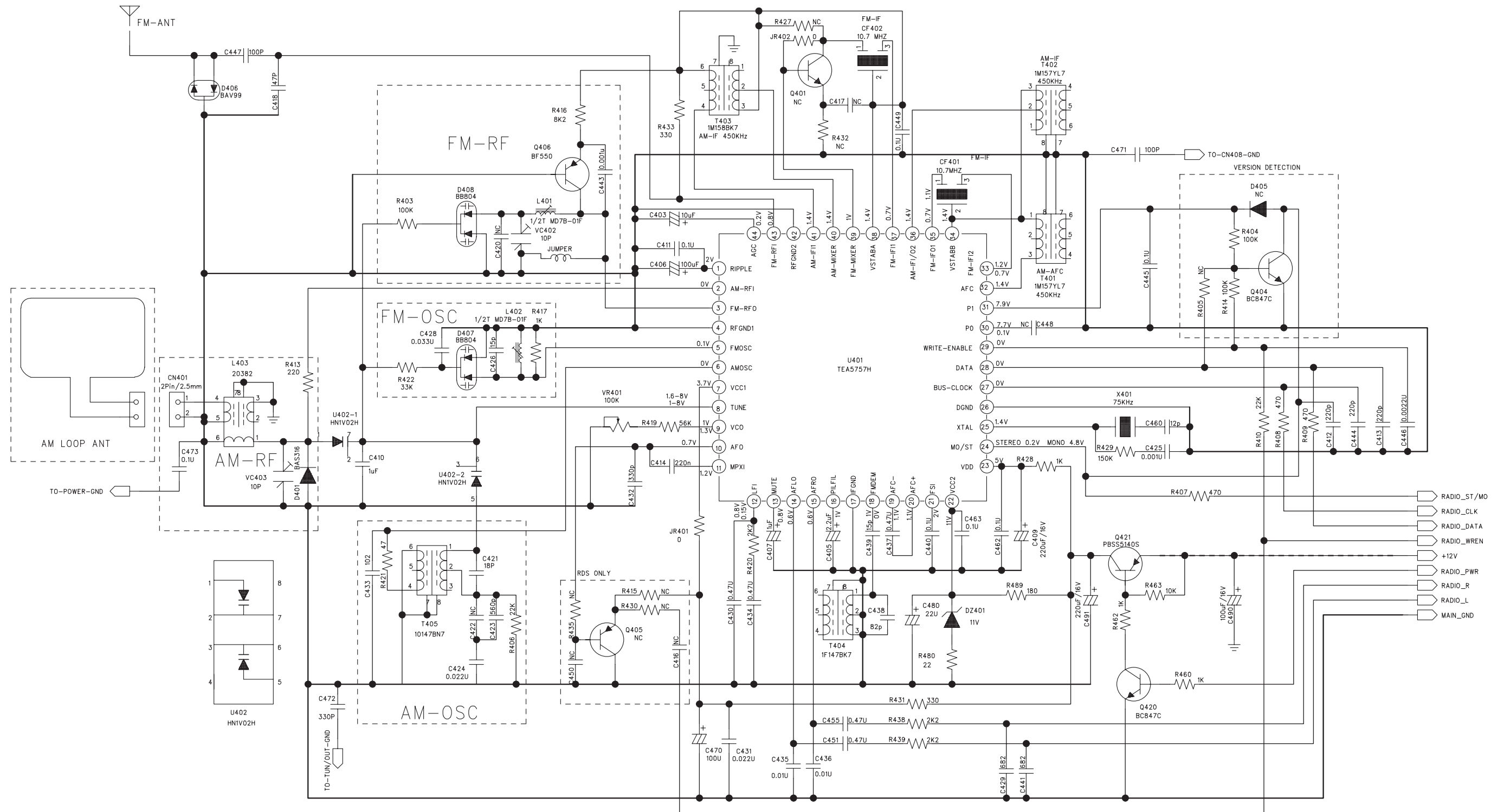




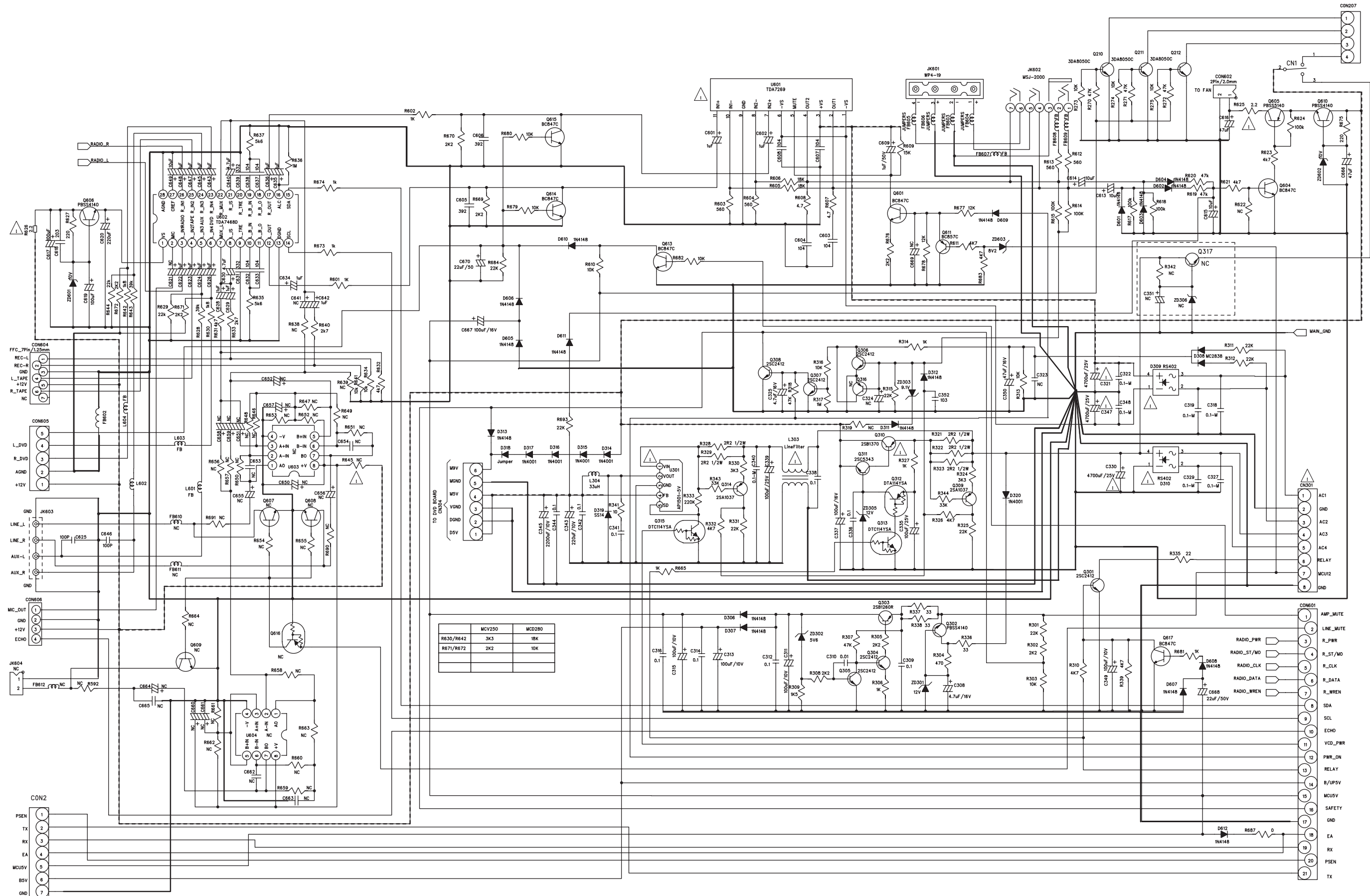
LAYOUT DIAGRAM - TAPE BOARD



# CIRCUIT DIAGRAM - COMBI BOARD PART 1

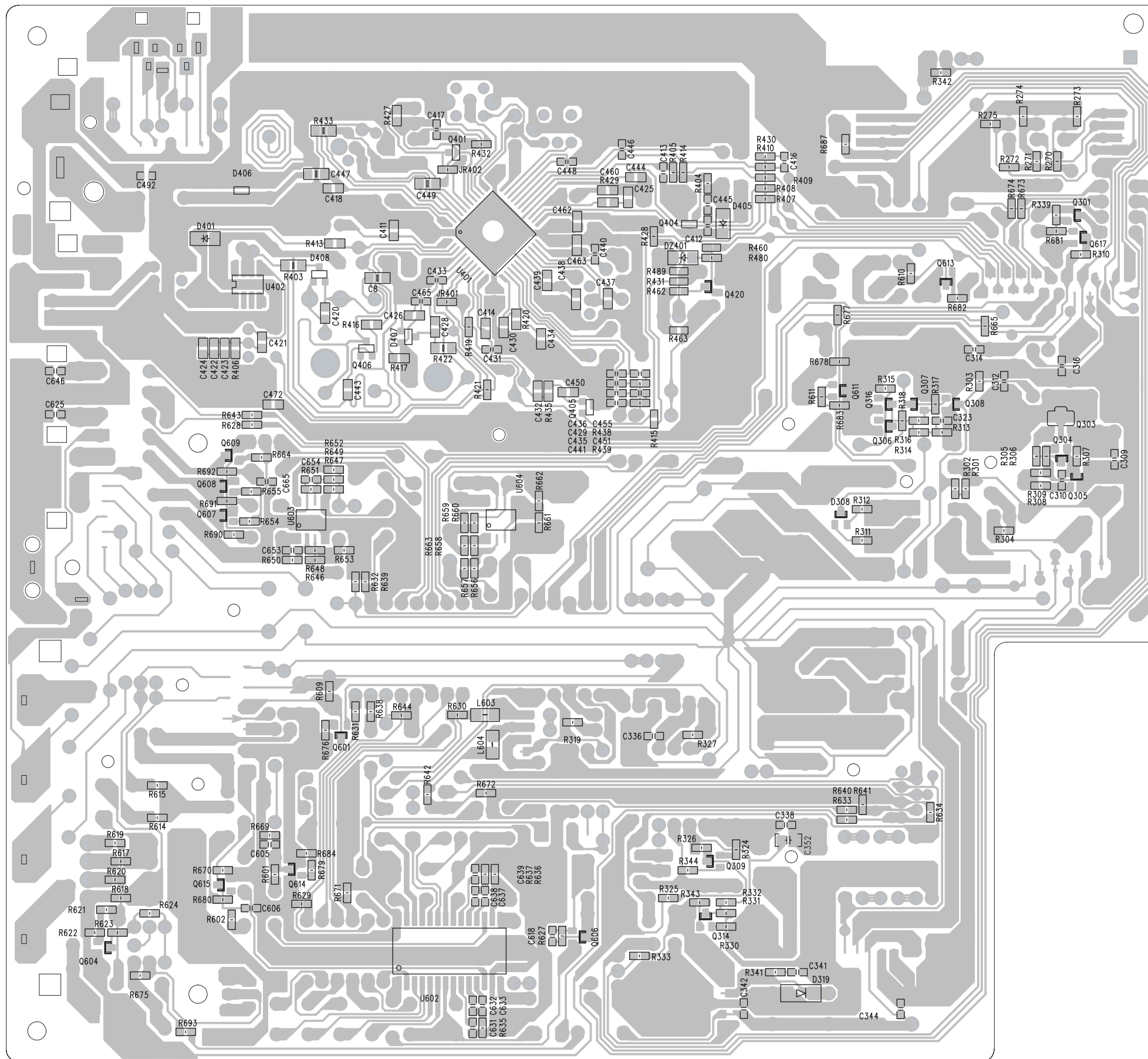


# CIRCUIT DIAGRAM - COMBI BOARD PART 2



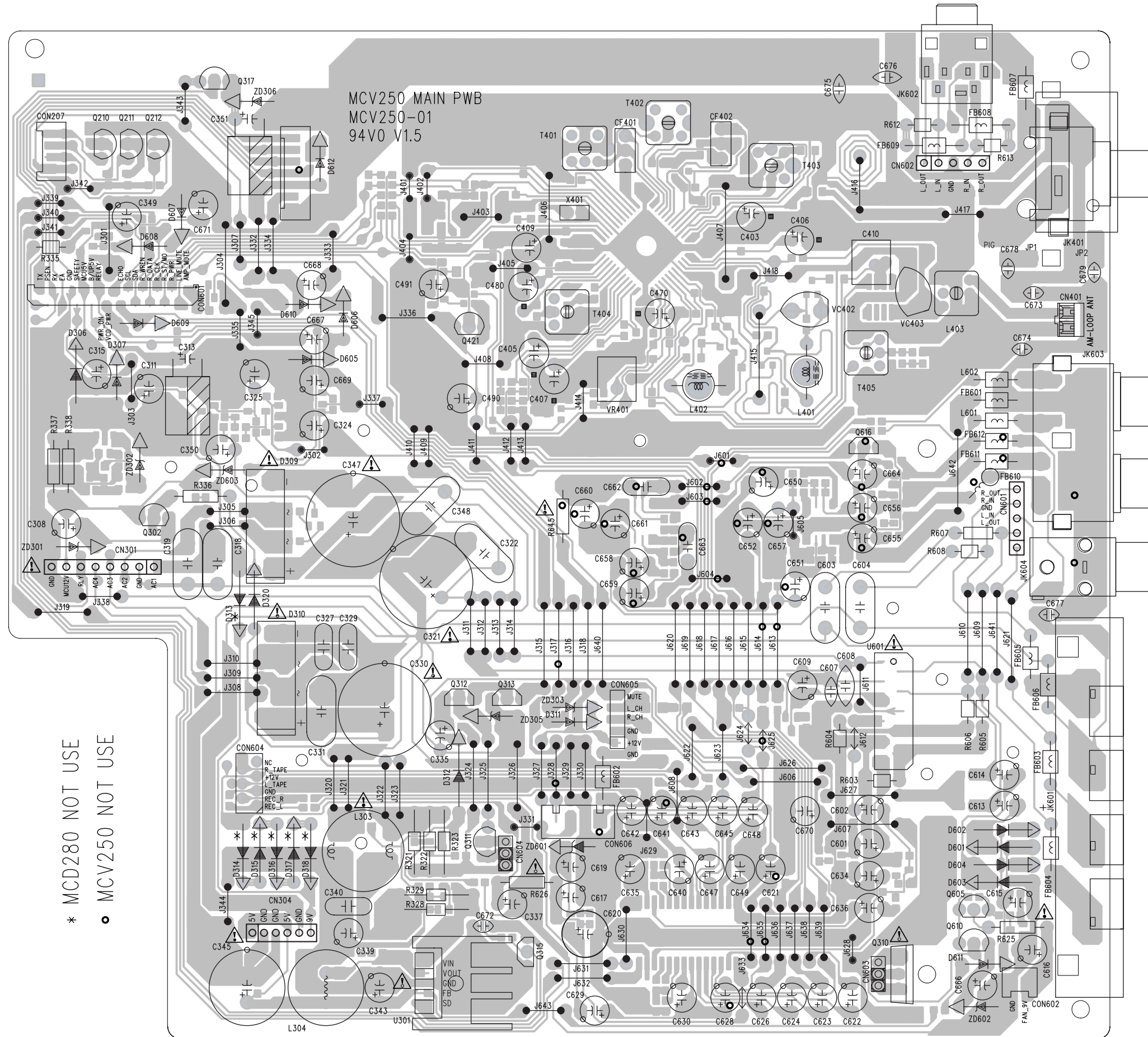
	MCV250	MC280
R630/R642	3K3	10K
R671/R672	2K2	10K

LAYOUT DIAGRAM - COMBI BOARD





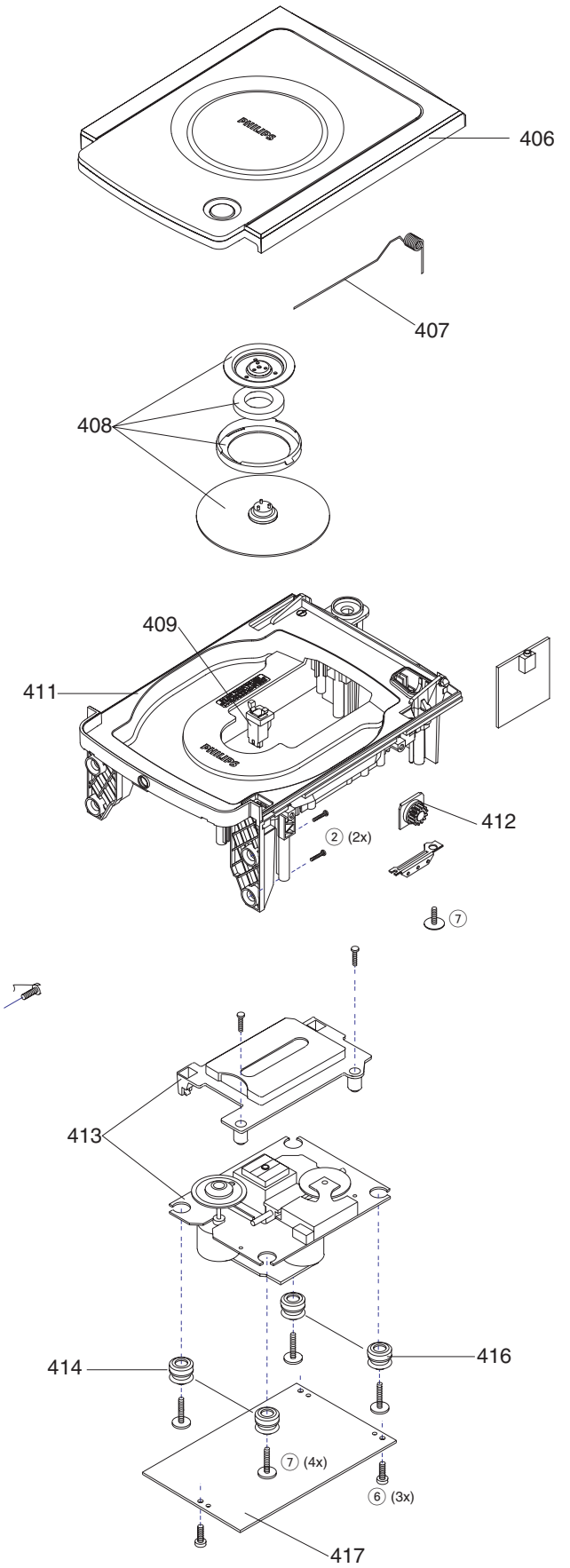
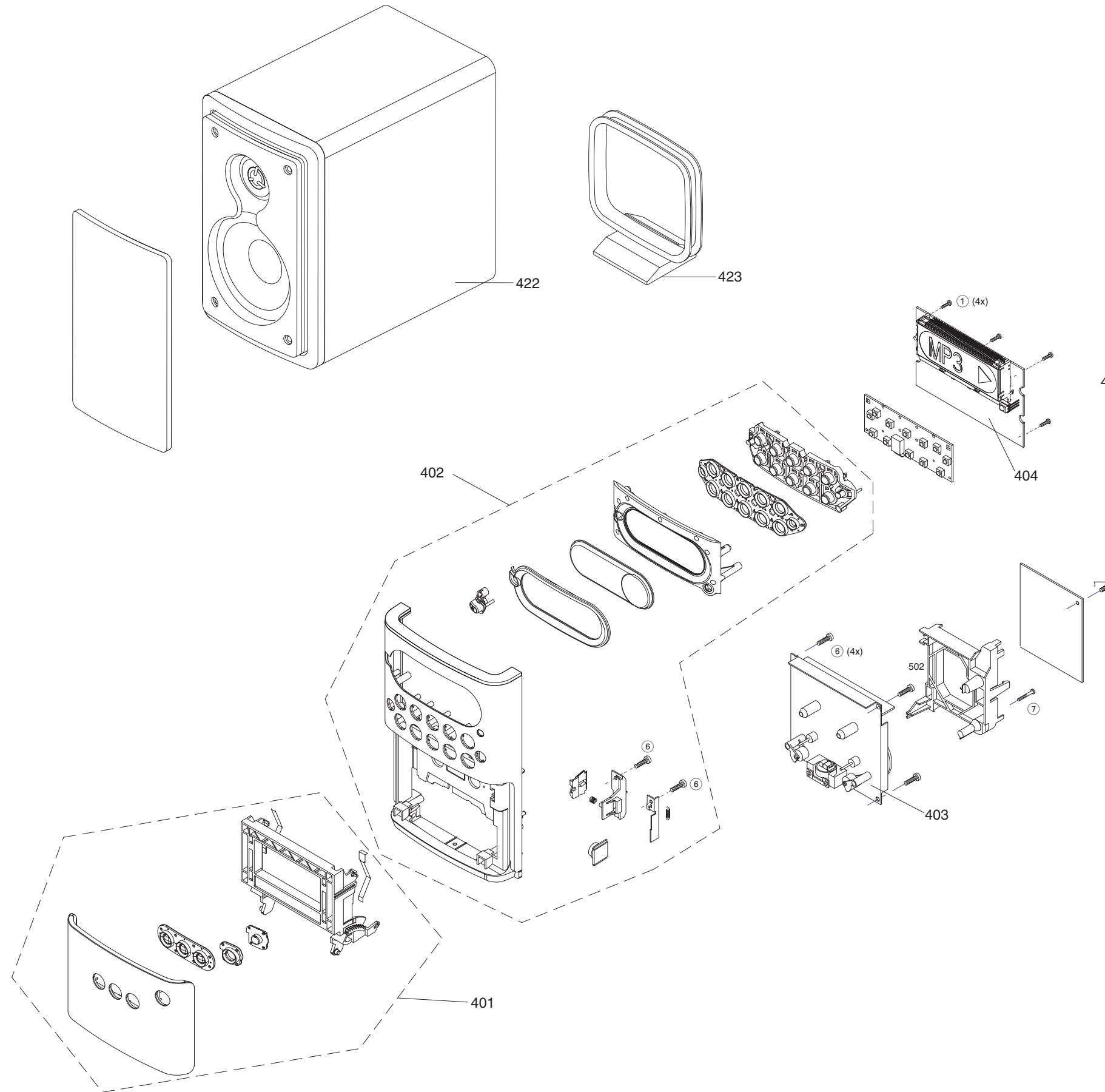
LAYOUT DIAGRAM - COMBI BOARD



\* MCD280 NOT USE  
 ○ MCV250 NOT USE

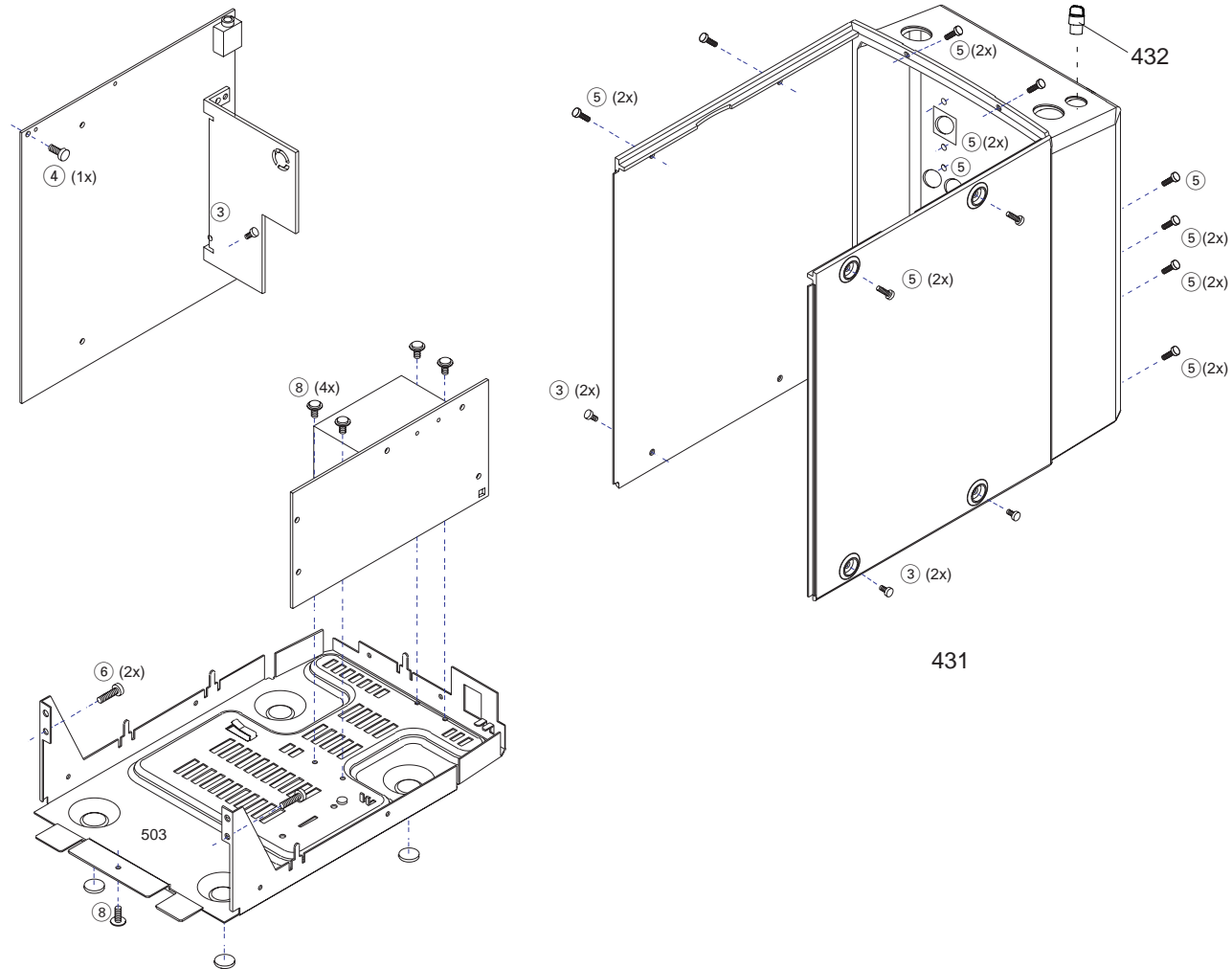
MCV250 MAIN PWB  
 MCV250-01  
 94V0 V1.5

EXPLODED VIEW DIAGRAM



SCREW LIST

- ①. T2 x 10
- ②. T2.5 x 12
- ③. T3 x 6
- ④. T3 x 8
- ⑤. T3 x10
- ⑥. T3 x12
- ⑦. P/W C2.5 x 10
- ⑧. P/W T3 x 6
- ⑨. P/W T3 x 10



MECHANICAL PARTSLIST

401	9940 000 00718	CASSETTE DOOR ASSY
402	9940 000 00709	PANEL FRONT ASSY
403	3139 118 79220	TAPE DECK CFL 4217
404	9940 000 00715	DISPLAY PCB ASSY
406	9940 000 00716	CD DOOR ASSY
407	9940 000 00671	SPRING CD DOOR
408	9940 000 00655	CHUCK PLATE
409	9940 000 00379	CD DOOR SW DLS-02-W-1
411	9940 000 00708	TRAY CD
412	4822 529 10322	DAMPER ASSY
413	9940 000 00702	DVD OPTICAL PICKUP DV34B1
414	9940 000 00713	DVD DAMPER WHITE 40DEG
416	9940 000 00712	DVD DAMPER BLACK 30DEG
417	9940 000 00719	SERVO AND MPEG PCB ASSY
418	9940 000 00711	RUBBER FOOT
419	9940 000 00704	REAR CABINET
421	9940 000 00706	MIC KNOB
422	9940 000 00717	SPEAKER BOX 4" 8OHM 30W(-/21M)
422	9940 000 00734	SPEAKER BOX 4" 8OHM 30W(-/30)
423	2422 549 45067	ANT AM LOOP LAN-006 B
FM ANT	4822 303 50063	FM AERIAL
	9940 000 00684	REMOTE CONTROL UNIT
	9940 000 00714	COOLING FAN RDL5015S

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



## ELECTRICAL PARTSLIST

### - MISCELLANEOUS -

SW301	9940 000 00636	VOLTAGE SELECTOR SWITCH
R625	⚠ 9940 000 00678	FUSE RES, 2.2 1/4W ±5%
R626	⚠ 9940 000 00678	FUSE RES, 2.2 1/4W ±5%
R645	⚠ 9940 000 00678	FUSE RES, 2.2 1/4W ±5%
JK401	9940 000 00628	JACK FM ANT
JK601	9940 000 00621	SPEAKER JACK WP4-19
JK602	9940 000 00386	HP JACK MSJ-2000
JK603	9940 000 00701	JACK AV4-8.4-13P RED/WHITE
JK604	9940 000 00699	JACK AV1-8.4-13P BLACK
JK701	9940 000 00635	MICRO PHONE JACK
LCD1	9940 000 00645	LCD G892TT-P (B2)
FS301	⚠ 9940 000 00384	FUSE PTU 1A 250V
FS301	⚠ 9940 000 00384	FUSE PTU 1A 250V
FS303	⚠ 9940 000 00638	FUSE PTU2.5A 250V
RL301	9940 000 00687	RELAY ME-7-009 HL
	9940 000 00688	FFC CABLE 5P L=40MM
	9940 000 00689	FFC CABLE 7P L=90MM
	9940 000 00691	FFC CABLE 8P L=50MM
	9940 000 00692	FFC CABLE 8P L=80MM
	9940 000 00693	FFC CABLE 10P L=120MM
	9940 000 00694	FFC CABLE 21P L=125MM
	9940 000 00695	FFC CABLE 24P L=90MM
	9940 000 00696	RCA CABLE (Y) 1C L=1500MM
	9940 000 00697	RCA CABLE (R/W) 2C L=1500MM
	9940 000 00698	RCA CABLE (R/B/G) 3C L=1500MM
T301	⚠ 9940 000 00686	TRANSFORMER EI66 AC120/230V(-/21M)
T302	⚠ 9940 000 00642	TRANSFORMER EI28(-/21M)
T301	⚠ 9940 000 00736	TRANSFORMER EI66 (-/30)
T302	⚠ 9940 000 00737	TRANSFORMER EI28(-/30)
	⚠ 9940 000 00382	POWER AC WIRE VDE 230V(-/21M)
	⚠ 9940 000 00733	AC POWER LINE H03VVH2-F(-/30)
VR701	9940 000 00634	RESISTOR 50K
VC402	9940 000 00378	TRIMMER CAP 220VDC +50%-0%
VC402	9940 000 00378	TRIMMER CAP 220VDC +50%-0%
VC403	9940 000 00378	TRIMMER CAP 220VDC +50%-0%
VC403	9940 000 00378	TRIMMER CAP 220VDC +50%-0%
D309	9940 000 00679	RECTIFIER BRIDGE RS402
D310	9940 000 00679	RECTIFIER BRIDGE RS402
D407	4822 130 81643	BB804-SF0
D408	4822 130 81643	BB804-SF0
U12	9940 000 00721	IC SST39VF800A-70-4C-EK 8M
U301	9940 000 00619	IC,AP1501-50T5 150KHZ
U401	9351 740 80557	IC SM TEA5757H/V1
U402	9940 000 00375	CH-VARIABLE CAP DIODE
U601	9940 000 00624	AMPLIFIER IC TDA7269ASA
U602	9322 150 74668	IC SM TDA7468D
U603	9940 000 00682	IC, NJM4558
U604	9940 000 00682	IC, NJM4558
U701	9940 000 00682	IC, NJM4558
U702	9940 000 00683	KARAOKE ECHO IC BU9253FS

**ELECTRICAL PARTSLIST**

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**- MISCELLANEOUS -**

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U801	4822 209 32082	TA8142AP
U802	4822 209 30188	BA3126N

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