DVD Micro System

MCD718

all versions

Service
Service
Service

Service Manual

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CLASS 1
LASER PRODUCT

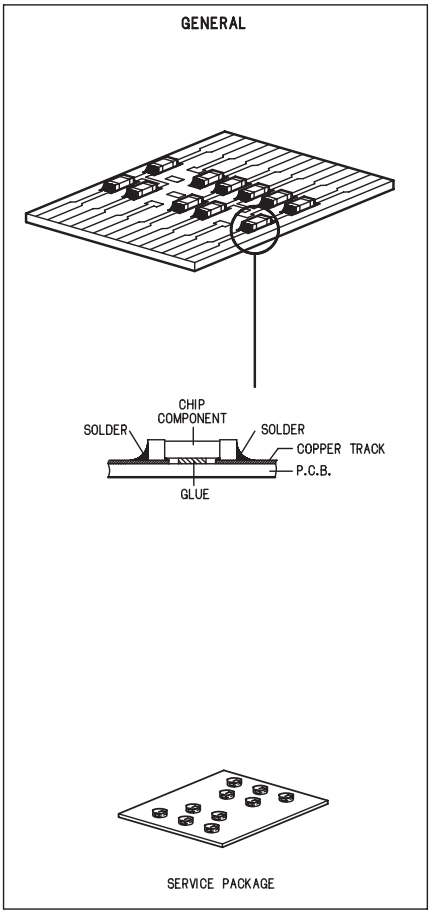
Published by LX 0624 Service Audio Subject to modification

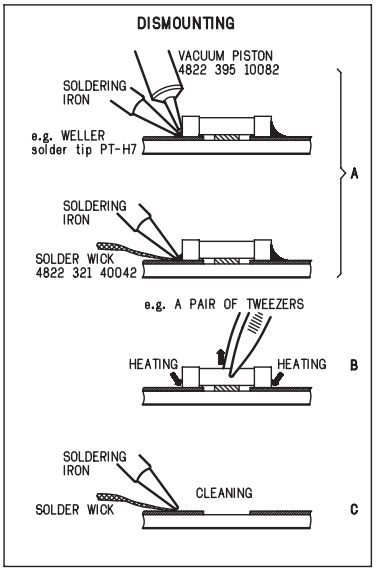
GB 3141 785 31080

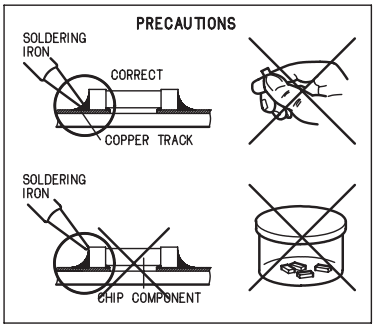
Version 1.0

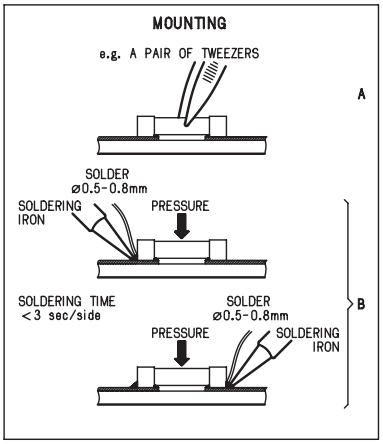
PHILIPS

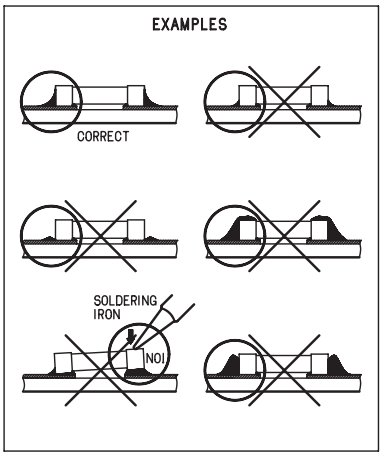
HANDLING CHIP COMPONENTS











(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 vermindern. 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 longévite pourrait être considérablement écourtée par le fait qu´aucune précaution nést prise à leur manipulation.
Lors de réparations, s´assurer de bien être relié au même potentiel que la masse de l´appareil et enfileer 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.
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 ridatta in caso di non osservazione della più grande cauzione alla loro manipolazione. Durante le riparationi occorre quindi essere collegato allo stesso potenziale che quello della massa delápparecchio tramite un braccialetto a resistenza.
Assicurarsi che i componenti e anche gli utensili con quali si lavora siano anche a questo potenziale.

SAFETY

(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 ⚠

(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 ⚠

(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 ⚠

(I)
Le norme di sicurezza estigono che l´apparecchio venga rimesso nelle condizioni originali e che siano utilizzati i pezzi di ricambiago identici a quelli specificati.
Componenty di sicurezza sono marcati con ⚠

(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.

CLASS 1 LASER PRODUCT

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

(S) Varning !
Osynlig laserstrålning när apparaten är öppnad och spärren är urkopplad. Betrakta ej strålen.

(DK) Advarsel !
Usynlig laserstråling ved åbning når sikkerhedsafbrydere er ude af funktion. Undgå udsaettelse for stråling.

(FIN) Varoitus !
Avatussa laitteessa ja suojalukituksen ohitettaessa olet alttiina näkymättömälle laserisäteilylle. Älä katso säteeseen !

(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.

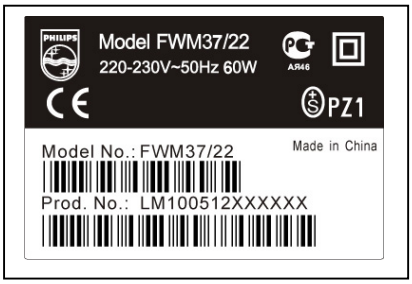
(F)
"Pour votre sécurite, ces documents doivent être utilisés par des spécialistes agréés, seuls habilités à réparer votre appareil en panne".

INFORMATION ABOUT LEAD-FREE SOLDERING

Philips CE is producing lead-free sets from 1.1.2005 onwards.
IDENTIFICATION:

Regardless of special logo (not always indicated) one must treat all sets from 1 Jan 2005 onwards, according next rules:

Example S/N:



Bottom line of typeplate gives a 14-digit S/N. Digit 5&6 is the year, digit 7&8 is the week number, so in this case 2005 wk12

So from 0501 onwards = from 1 Jan 2005 onwards

***Important note*: In fact also products of year 2004 must be treated in this way as long as you avoid mixing solder-alloys (leaded/ lead-free). So best to always use SAC305 and the higher temperatures belong to this.**

Due to lead-free technology some rules have to be respected by the workshop during a repair:

- Use only lead-free solder alloy Philips SAC305 with order code 0622 149 00106. If lead-free solder-paste is required, please contact the manufacturer of your solder-equipment. In general use of solder-paste within workshops should be avoided because paste is not easy to store and to handle.

- Use only adequate solder tools applicable for lead-free solder alloy. The solder tool must be able
  - To reach at least a solder-temperature of 400°C,
  - To stabilize the adjusted temperature at the solder-tip
  - To exchange solder-tips for different applications.
- Adjust your solder tool so that a temperature around 360°C – 380°C is reached and stabilized at the solder joint. Heating-time of the solder-joint should not exceed ~ 4 sec. Avoid temperatures above 400°C otherwise wear-out of tips will rise drastically and flux-fluid will be destroyed. To avoid wear-out of tips switch off un-used equipment, or reduce heat.
- Mix of lead-free solder alloy / parts with leaded solder alloy / parts is possible but PHILIPS recommends strongly to avoid mixed solder alloy types (leaded and lead-free).
  If one cannot avoid or does not know whether product is lead-free, clean carefully the solder-joint from old solder alloy and re-solder with new solder alloy (SAC305).
- Use only original spare-parts listed in the Service-Manuals. Not listed standard-material (commodities) has to be purchased at external companies.
- Special information for BGA-ICs:
  - always use the 12nc-recognizable soldering temperature profile of the specific BGA (for de-soldering always use the lead-free temperature profile, in case of doubt)
  - lead free BGA-ICs will be delivered in so-called 'dry-packaging' (sealed pack including a silica gel pack) to protect the IC against moisture. After opening, dependent of MSL-level seen on indicator-label in the bag, the BGA-IC possibly still has to be baked dry. (MSL=Moisture Sensitivity Level). This will be communicated via AYS-website.
  Do not re-use BGAs at all.

- For sets produced before 1.1.2005 (except products of 2004), containing leaded solder-alloy and components, all needed spare-parts will be available till the end of the service-period. For repair of such sets nothing changes.

- On our website **www.atyourservice.ce.Philips.com** you find more information to:

  - BGA-de-/soldering (+ baking instructions)
  - Heating-profiles of BGAs and other ICs used in Philips-sets

  You will find this and more technical information within the "magazine", chapter "workshop news".

For additional questions please contact your local repair-helpdesk.

SERVICE INSTRUCTION

Safety regulations require that after a repair, the set must be returned in its original condition. Pay in particular attention to the following points:

- Route the wire trees correctly and fix them with the mounted cable clamps.
- Check the insulation of the AC Power lead for external damage.
- Check the strain relief of the AC Power cord for proper function.
- Check the electrical DC resistance between the AC Power Plug and the secondary side (only for sets which have a AC Power isolated power supply):

1. Unplug the AC Power cord and connect a wire between the two pins of the AC Power plug.
2. Set the AC Power switch to the "on" position (keep the AC Power cord unplugged!).
3. Measure the resistance value between the pins of the AC Power plug and the metal shielding of the tuner or the aerial connection on the set. The reading should be larger than 4.5 Mohm (For U.S. it should be between 4.2 Mohm and 12 Mohm).
4. Switch "off" the set, and remove the wire between the two pins of the AC Power plug.

- Check the cabinet for defects, to avoid touching of any inner parts by the customer.

TECHNICAL SPECIFICATIONS

SYSTEM

Power supply - / 3 7 ..... 120V / 60 Hz
- / 9 3 ..... 220V / 50 Hz
Rated working power consumption (1/8 rated output power) ..... ⩽70W
AUX input sensitivity ..... ⩽350mV
Channel Separation ..... ⩾40dB
Distortion ..... 0.7 %
Eco power Standby ..... < 1W

DVD

Frequency response 100Hz-20kHz (+0.5/-2 dB)
Video output ..... 1 V_{P-P}
Horizontal definition ..... 500 (TV)
Dimensions .... 240 (W) x 75 (H) x 230 (D) mm
..... 9.45" (W) x 2.95" (H) x 9.06" (D) inch
Weight ..... 1.87 kg/4.11 pounds

AMPLIFIER

Rated output power (THD = 10%) .....
..... 2x25W (8Ω)
Frequency response 100Hz-20kHz (+0.5/-2 dB)
S/N Ratio ..... ⩾60dB
Loaded impedance ..... 8 Ω
Dimensions .... 240 (W) x 75 (H) x 230 (D) mm
..... 9.45" (W) x 2.95" (H) x 9.06" (D) inch
Weight ..... 3.47 kg/7.63 pounds

TUNER

FM Frequency range ..... 87.5-108 MHz
FM Noise limit sensitivity ..... ⩽20 µV/M
FM S/N ..... ⩾46dB
AM Frequency range ..... 520-1710 kHz
AM Noise limit sensitivity ..... ⩽3.0 µV/m
AM S/N ..... ⩾40dB

SPEAKER

Front Speakers

Impedance ..... 8 Ω
Input power 35W
Sensitivity ..... 80 ± 4dB
Frequency response 80Hz-16kHz
Dimensions . 145 (W) x 230 (H) x 218 (D) mm
..... 5.7" x 9.1" x 8.6" (inch)
Weight ..... 2.4 kg each/5.3 pounds each

Subwoofer

Subwoofer (not magnetically shielded design) .....
..... 6.5"
Impedance ..... 8 Ω
Input power 50W
Dimensions (w x h x d) .....
..... 180 mm x 280 mm x 330 mm
..... 7.1" x 11.0" x 13.0" (inch)
Weight ..... 4.4 kg/9.7 pounds

REMOTE

Distance 6m
Angle ..... ± 30⁰

Specifications subject to change without prior notice

SERVICE TOOLS

TORX T10 screwdriver with shaftlength 150mm.....4822 395 50423
TORX screwdriver set SBC 163.....4822 295 50145

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

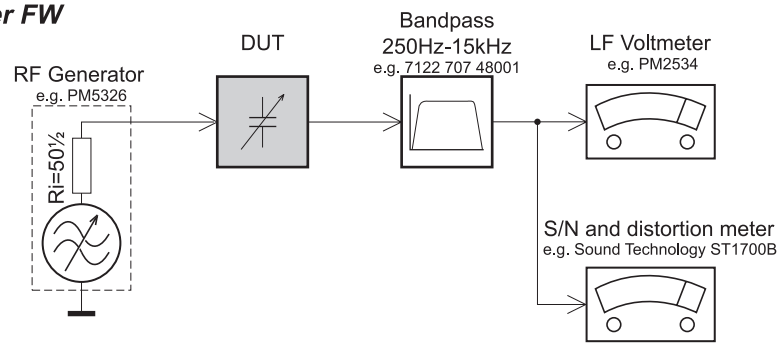
Universal test cassette Fe SBC 420.....4822 397 30071

AVAILABLE ESD PROTECTION EQUIPMENT

anti-static table mat	large 1200x650x1.25mm	4822 466 10953
	small 600x650x1.25mm	4822 466 10958
anti-static wristband		4822 395 10223
connection box (3 press stud connections, 1MΩ)		4822 320 11307
extendible cable (2m, 2MΩ, to connect wristband to connection box)		4822 320 11305
connecting cable (3m, 2MΩ, to connect table mat to connection box)		4822 320 11306
earth cable (1MΩ, 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

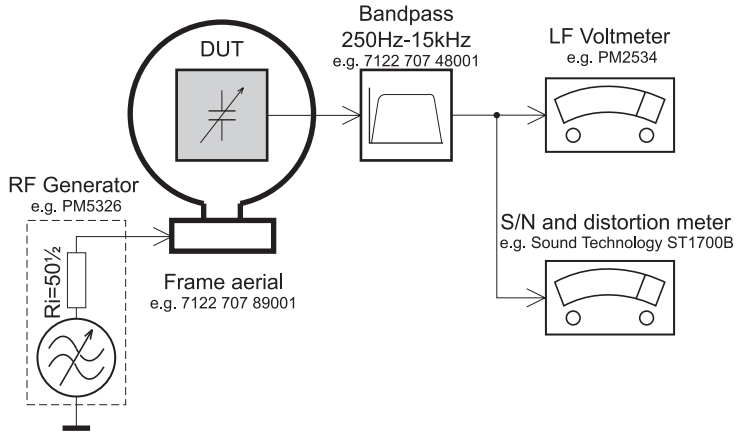
SERVICE MEASUREMENT

Tuner FW



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

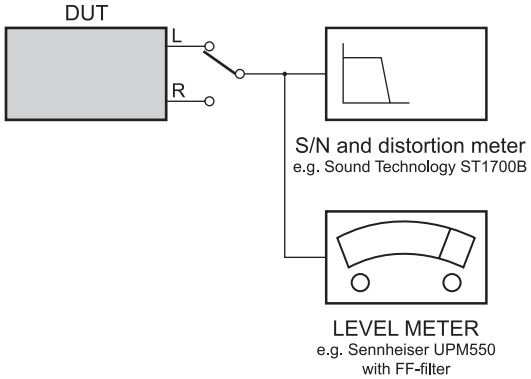
Tuner AM (MW,LW)



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).

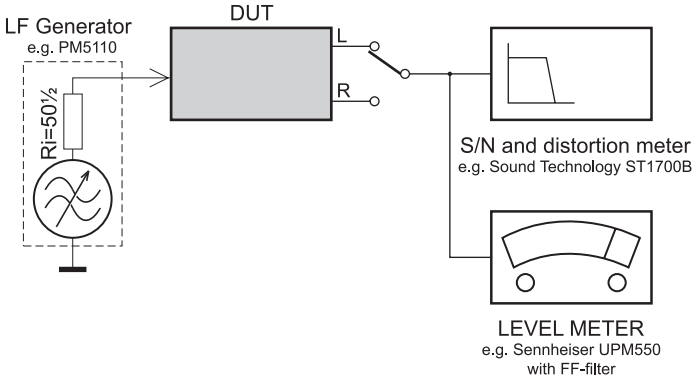
CD

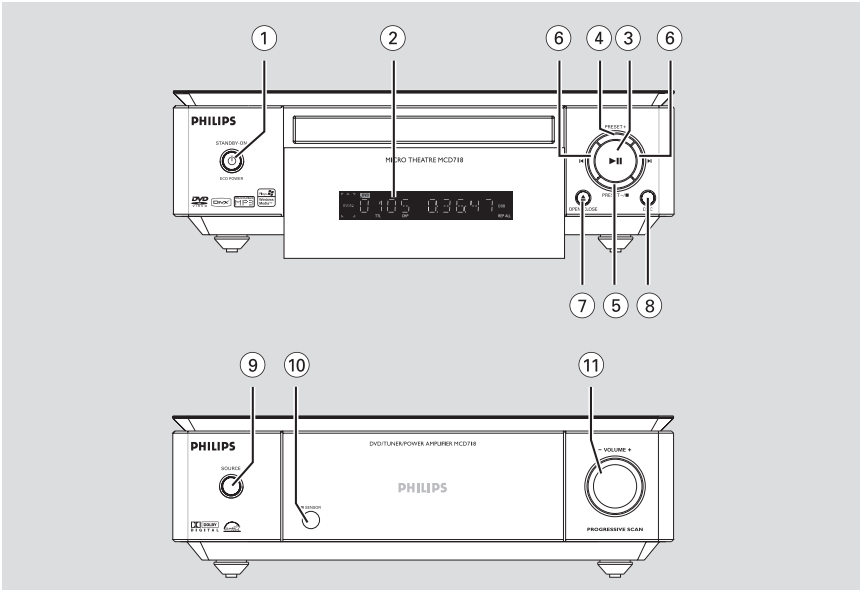
Use Audio Signal Disc SBC429 4822 397 30184
(replaces test disc 3)



RECORDER

Use Universal Test Cassette Fe SBC420 4822 397 30071





DVD player and power amplifier

① **ECO POWER/STANDBY-ON** ⏻
– to switch the system on or to Eco power/normal standby mode.

② **Display**
– shows the current status of the DVD player.

③ **▶II**
– starts or interrupts disc playback.

④ **PRESET +**
– in tuner mode, selects a preset radio station forward.

⑤ **PRESET-/■**
– stops disc playback or erases a program.
– in tuner mode, selects a preset radio station backward.
– in Demo mode *(on the system only)*, activates/deactivates the demonstration.

⑥ **⏮/⏭**

Disc:
– skips to the previous/next chapter/title/track.

Tuner:
– tunes to a higher/lower radio frequency.
– press and hold, then release the key to start automatic search for a radio frequency downward/upward.

⑦ **OPEN•CLOSE ⏏**
– opens or closes the disc tray.

⑧ **DSC**
– selects different types of preset sound equalizer settings (FLAT, POPS, JAZZ, CLASSIC or ROCK).

⑨ **SOURCE**
– selects the respective sound source: DVD/AUX1/AUX2/FM/AM.
– switches the system on.

⑩ **IR SENSOR**
– point the remote control towards this sensor.

⑪ **VOLUME -/+**
– adjusts the volume upward/downward.
– adjusts the hours and minutes in clock/timer setting mode.
– switches the set timer ON or OFF.

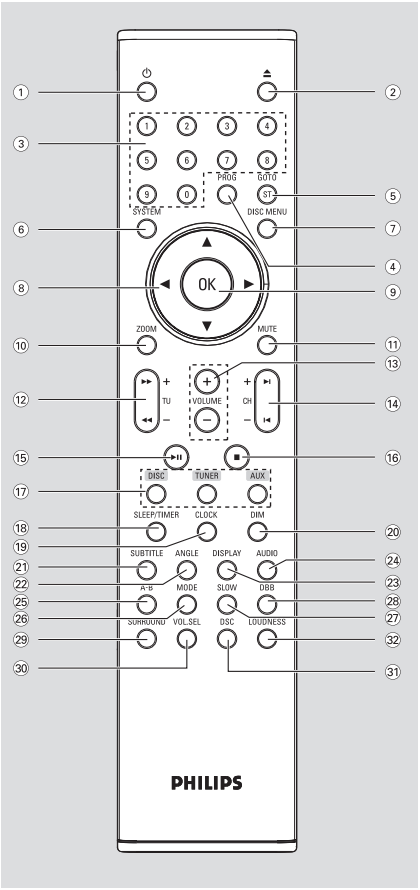
Functional Overview

Remote control

① ⏻
– to switch the system on or to Eco power/normal standby mode.

② ⏏
– opens or closes the disc compartment

③ **Numeric Keypad (0-9)**
– inputs a track/title/chapter number of the disc.



④ **PROG**
– DVD/VCD/CD: enters the program menu.
– MP3/WMA-CD: adds/deletes a programmed track to/from the program list.
– Picture CD: during playback, to select a slide show mode.
– Tuner: programs preset radio stations.

⑤ **GOTO/ST**
– Disc: fast searches in a disc by entering a time, title, chapter or track.
– FM: sets stereo or mono sound mode.

⑥ **SYSTEM (disc mode only)**
– enters or exits the system menu.

⑦ **DISC MENU (disc mode only)**
– DVD/VCD: enters or exits the disc contents menu.
– VCD2.0: switches the playback control mode on or off .
– MP3/WMA: switches between Album and Filelist.

⑧ **▼ / ▲ / ► / ◄**
– selects an item in a menu.
– moves an enlarged picture up/down/left/right.

⑨ **OK**
– confirms a selection.

⑩ **ZOOM**
– DVD/VCD/Picture CD: enlarges or reduces a picture or active image on the TV screen.

⑪ **MUTE**
– disables or enables sound output.

⑫ **TU +/- (◀◀ / ▶▶)**

Tuner
– press to tune to a lower/higher radio frequency gradually.
– press and hold, then release the key to start automatic search for a radio frequency downward/upward.

Disc
– searches backward/forward in a disc at different speeds.

Functional Overview

⑬ **VOLUME +/-**
– adjusts the volume upward/downward.
– adjusts the hours and minutes in clock/timer setting mode.
– switches the set timer ON or OFF.

⑭ **CH +/-** (⏮ / ⏭)
– Disc: skips to the previous/next chapter/title/track
– Tuner: selects a preset radio station.

⑮ **▶II**
– starts or interrupts disc playback.

⑯ **■**
– stops disc playback or erases a program.

⑰ **DISC/TUNER/AUX**
– selects the respective sound source for DVD/AUX1/AUX2/FM/AM.
– For tuner (TUNER): press to switch between AM and FM
– exits P-SCAN (progressive scan). (Only for DISC)

⑱ **SLEEP/TIMER**

Standby mode
– sets time for switching on the system automatically.

Power-on mode
– sets the sleep timer function (auto off).

⑲ **CLOCK**

Standby mode
– sets the system clock.

Playback mode
– displays the system clock.

Eco power mode
– displays the system clock and switches to the standby mode.

⑳ **DIM**
– selects different levels of brightness for the display screen.

㉑ **SUBTITLE**
– selects a subtitle language.

㉒ **ANGLE**
– selects a DVD camera angle.

㉓ **DISPLAY**
– displays information on TV screen during playback

㉔ **AUDIO**

for VCD/DivX
– sets Stereo, Mono-Left or Mono-Right sound mode.

for DVD
– selects an audio language.

㉕ **A-B**
– repeats playback of a specific section on a disc.

㉖ **MODE**
– selects various repeat modes or the shuffle play mode for a disc.

㉗ **SLOW**
– selects different slow playback modes for a DivX/VCD/SVCD/DVD.

㉘ **DBB**
– to select the desired DBB level (DBB 1, DBB 2 or DBB OFF).

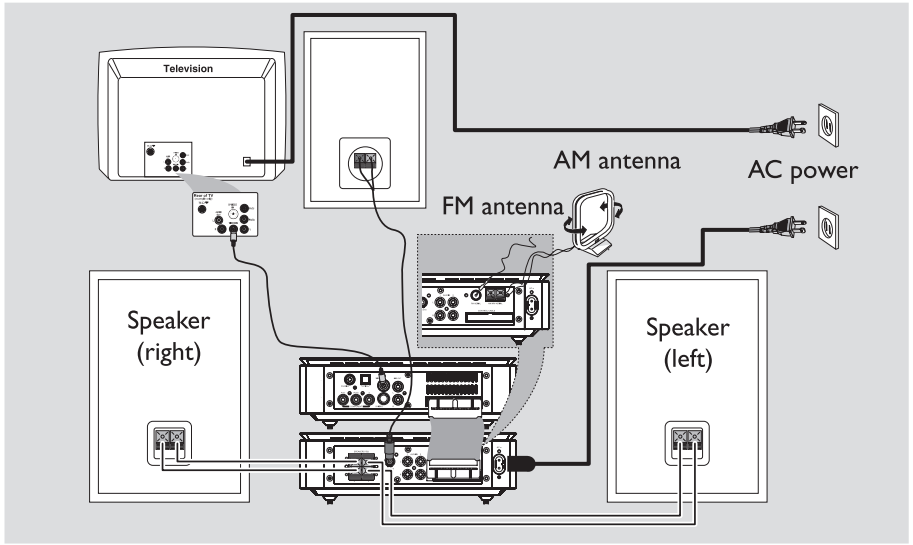
㉙ **SURROUND (unavailable for this version)**
– selects 2.1 channel output (2.1CH) or 5.1 channel output (SUR5.1 or DVD5.1).

㉚ **VOL.SEL (unavailable for this version)**
– adjusts volume level for individual speakers.

㉛ **DSC**
– selects different types of preset sound equalizer settings (FLAT, POPS, JAZZ, CLASSIC or ROCK).

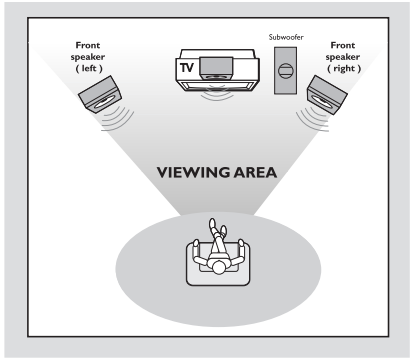
㉜ **LOUDNESS**
– enables or disables automatic loudness adjustment.

Connections



IMPORTANT!
– The type plate is located at the bottom of the system.
– Before connecting the AC power cord to the wall outlet, ensure that all other connections have been made.
– Never make or change any connections with the power switched on.

Step 1: Placing the speakers and subwoofer



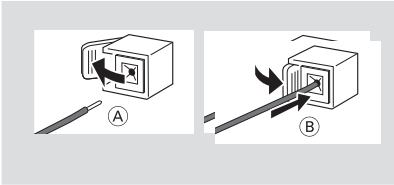
1 Place the front left and right speakers at equal distances from the TV set and at an angle of approximately 45 degrees from the listening position.

2 Place the subwoofer on the floor near the TV.

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

Step 2: Connecting speakers

1 Connect the two front speakers to the SPEAKERS (8 Ω) terminals with two speaker cables. Right speaker to "R" and left speaker to "L", red wire to "+" and silver wire to "-". Fully insert the stripped portion of the speaker wire into the terminal as shown.



2 Connect the passive subwoofer to the WOOFER OUT (8 Ω) terminal with the supplied subwoofer cable by matching the plug types.

Notes:
– Ensure that the speaker cables are correctly connected. Improper connections may damage the system due to short-circuit.
– For optimal sound performance, use the supplied speakers.
– Do not connect more than one speaker to any one pair of +/- speaker jacks.
– Do not connect speakers with an impedance lower than the speakers supplied. Please refer to the SPECIFICATIONS section of this manual.

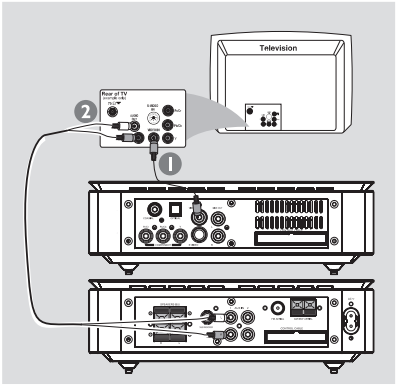
Step 3: Connecting the control cable

- Connect the serial port marked "CONTROL CABLE" at the rear of the DVD player to the same port at the rear of the power amplifier with the supplied flat control cable.

Step 4: Connecting TV

IMPORTANT!
– You only need to make one video connection from the following options, depending on the capabilities of your TV.
– Connect the DVD system directly to the TV.

Using Composite Video jack

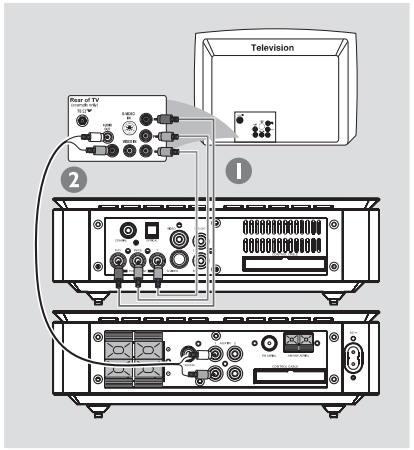


1 Use the composite video cable (yellow) to connect the system's **VIDEO OUT** jack to the video input jack (or labelled as A/V In, Video In, Composite or Baseband) on the TV set.

2 To hear the TV channels through this DVD system, use the audio cables (white/red-not supplied) to connect **AUX IN** jacks to the corresponding AUDIO OUT jacks on the TV.

Using Component Video jacks (Y Pb Pr)

IMPORTANT!
– The progressive scan video quality is only possible when using Y Pb Pr, and a progressive scan TV is required.



1 Use component video cables (red/blue/green - not supplied) to connect the DVD system's Y Pb Pr jacks to the corresponding Component video input jacks (or labeled as Y Pb/Cb Pr/Cr or YUV) on the TV.

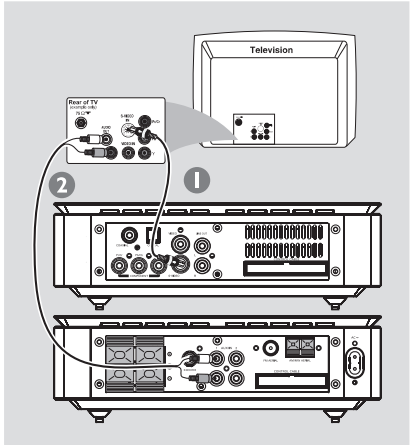
2 To hear the TV channels through this DVD system, use the audio cables (white/red-not supplied) to connect **AUX IN** jacks to the corresponding AUDIO OUT jacks on the TV.

3 If you are using a Progressive Scan TV (TV must indicate Progressive Scan or ProScan capability), to activate TV Progressive Scan, please refer to your TV user manual. For DVD system Progressive Scan function, see "Getting Started-Setting up Progressive Scan feature".

Note:
– If your TV does not support Progressive Scan, you will not be able to view the picture.
Press SYSTEM on the remote to exit the system menu and then DISC to exit progressive scan.

Using S-Video jack

IMPORTANT!
– If S-Video is used for DVD playback connection, the system's VIDEO OUT setting will need to be changed accordingly.

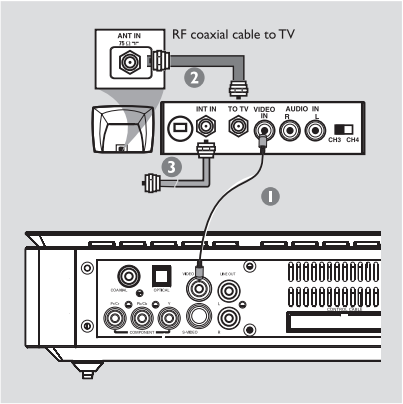


1 Use an S-Video cable (not supplied) to connect the DVD system's S-VIDEO jack to the S-Video input jack (or labeled as Y/C or S-VHS) on the TV.

2 To hear the TV channels through this DVD system, use the audio cables (white/red-not supplied) to connect **AUX IN** jacks to the corresponding AUDIO OUT jacks on the TV.

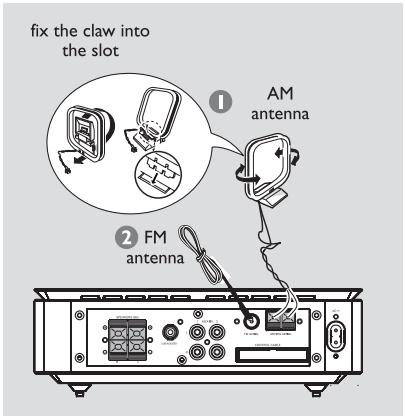
Using an accessory RF modulator

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

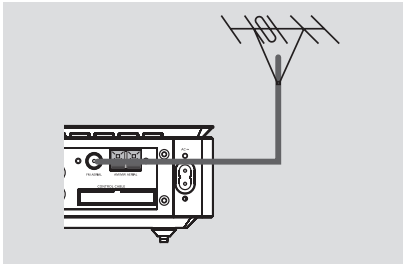


1 Use the composite video cable (yellow) to connect the DVD system's VIDEO OUT jack to the video input jack on the RF modulator.
2 Use an RF coaxial cable (not supplied) to connect ANTENNA OUT or TO TV jack on the RF modulator to the Antenna IN jack on the TV.
3 Connect the Antenna or Cable TV service signal to the ANTENNA IN or RF IN jack on the RF modulator. (It may have been connected to your TV previously. Disconnect it from the TV.)

Step 5: Connecting FM/AM antennas



1 Connect the supplied AM loop antenna to the AM jack. Place the AM loop antenna on a shelf or attach to a stand or wall.
2 Connect the supplied FM antenna to the FM (75 Ω) jack. Extend the FM antenna and fix its end to the wall.
For better FM stereo reception, connect an external FM antenna (not supplied).



Note:
– Adjust the position of the antennas for optimal reception.
– Position the antennas as far as possible from your TV, VCR or other radiation source to prevent unwanted interference.

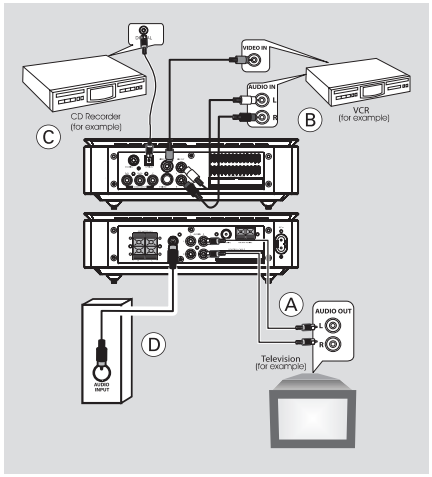
Step 6: Connecting the power cord

After everything is conec ted properly, plug in the AC power cord to the power outlet.

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

Additional: Connecting additional equipment

IMPORTANT!
– Some discs are copy-protected. You cannot record the disc through a VCR or digital recording device.
– When making connections, make sure the colour of cables matches the colour of jacks.
– Always refer to the owner's manual of the other equipment for complete connection and usage details.



Viewing and listening to the playback of other equipment Ⓐ

- Connect the system's **AUX IN (R/L)** jacks to the AUDIO OUT jacks on the other audio/visual device (such as a TV, VCR, Laser Disc player or cassette deck).
  Before starting operation, press **SOURCE** on the front panel to select AUX or press **AUX** on the remote in order to activate the input source.

Using the VCR for recording DVDs Ⓑ

- Connect one of the system's **VIDEO** jacks to the corresponding VIDEO IN jack and **LINE OUT (R/L)** jacks to the AUDIO IN jacks on the VCR. This will allow you to make analogue stereo (two channel, right and left) recordings.

Recording (digital) Ⓒ

- Connect the system's **COAXIAL** or **OPTICAL** jack to the DIGITAL IN jack on a digital recording device.
  Before starting operation, set the DIGITAL OUT according to the audio connection. (See "DIGITAL OUT".)

Connecting an active subwoofer Ⓓ

- Connect the DVD micro system's **SUBWOOFER** jack to the AUDIO INPUT jack on an active subwoofer (not supplied).

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 Philips for help.

Problem	Solution
No power.	✔ Check if the AC power cord is properly connected. ✔ Press **ECO POWER/STANDBY-ON** ⏻ on the top of the DVD micro system or ⏻ on the remote to turn on the power.
No picture.	✔ Check if the TV is switched on. ✔ Check the video connection. ✔ Press SOURCE on the top of the DVD player repeatedly to select "DVD" or press DISC on the remote. ✔ Set your TV to the correct Video In channel. This channel is usually near channel 00. Or, you may have a button on the TV remote control that selects Auxiliary or A/V IN channel. See your TV owner's manual for details. Or, change channels at the TV until you see DVD screen on the TV. ✔ If the progressive scan feature is activated but the connected TV does not support progressive signals or the cables are not connected accordingly, see "Getting started-Setting up Progressive Scan feature" for proper progressive scan setup or deactivate the progressive scan feature as below: 1) Turn off your TV progressive scan mode or turn on to interlaced mode. 2) Press SYSTEM on the remote to exit the system menu and then DISC to exit progressive scan.
Distorted or poor picture.	✔ Sometimes a small amount of picture distortion may appear. This is not a malfunction. ✔ Clean the disc.
Completely distorted picture or black/ white picture.	✔ TV has a colour system standard. If the disc's or DVD system's colour system is different than your TV's colour system, the picture may be distorted or colourless.

Troubleshooting

The aspect ratio of the screen cannot be changed even though you have set the TV shape.	✔ The aspect ratio is fixed on the DVD disc. ✔ Depending on the TV, it may not be possible to change the aspect ratio.
No sound or distorted sound.	✔ Adjust the volume. ✔ Check that the speakers are connected correctly. ✔ Replace the speaker cables. ✔ Disconnect the headphones. ✔ The system is in pause, slow motion or fast forward/reverse mode, press **PRESET/ ▶II** (or ▶II on the remote) to resume normal play mode.
The micro DVD player does not start playback.	✔ Insert a readable disc with the playback side facing down. ✔ Check the disc type, colour system and regional code. Check for any scratches or smudges on the disc. ✔ Press SYSTEM MENU to turn off the setup menu screen. ✔ Cancel the parental control rating function or change the rating level. ✔ Moisture has condensed inside the system. Remove the disc and leave the system turned on for about an hour.
The DVD micro system does not respond when the buttons are pressed.	✔ Disconnect the power plug from the outlet and insert again.
Cannot activate some features, such as Angles, Subtitles, or multi-language Audio.	✔ Multi-language sound or subtitle is not recorded on the DVD. ✔ Changing the language for the sound or subtitle is prohibited on the DVD. ✔ The features may not be available on the disc.
Considerable noise in radio broadcasts.	✔ Tune in to the correct frequency. ✔ Connect the antennas. ✔ Fully extend the FM wire antenna. Position for best reception and secure to a wall. ✔ Connect an outdoor FM or AM antenna. ✔ Adjust the direction and position for best reception. ✔ Place the antenna farther away from any equipment that may be causing the noise. ✔ Increase the distance between the system and your TV or other equipment.

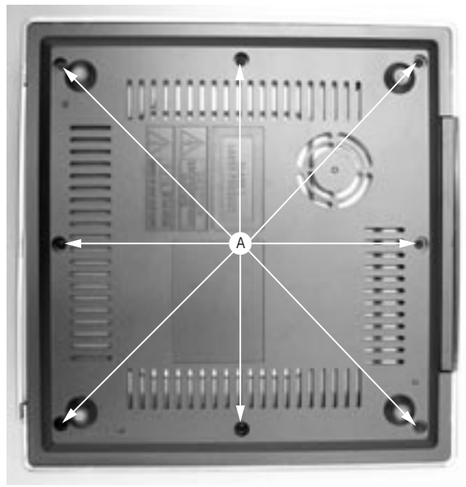
Troubleshooting

The remote control does not function.	✔ Select the correct source (DISC or TUNER, for example) before pressing the function button. ✔ Point the remote control at the remote sensor of the unit. ✔ Reduce the distance to the player. ✔ Remove any possible obstacles. ✔ Replace the batteries with new ones. ✔ Check that the batteries are loaded correctly.
The display is dark.	✔ Press DIM again.
Low hum or buzz sound.	✔ Place the DVD micro system as far away as possible from electrical devices that may be causing interference.
Low bass response.	✔ Check all speakers for correct polarity.
Unable to select Progressive Scan	✔ Check that the output of the video signal is switched to 'Ypbpr'.

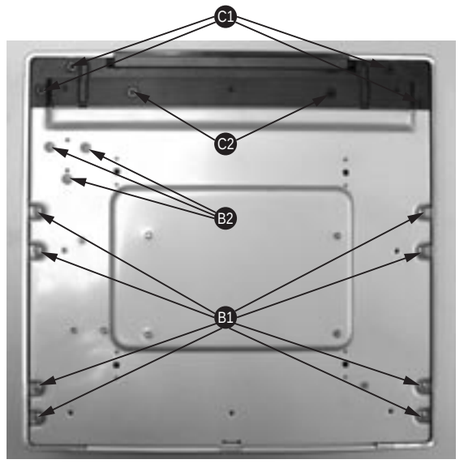
4 - 1

DISASSEMBLY DIAGRAM - DVD PART

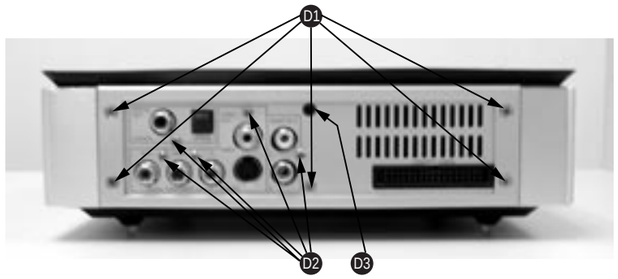
A.Remove Bottom Cover
A1.remove screws M2.5x4(8pcs)



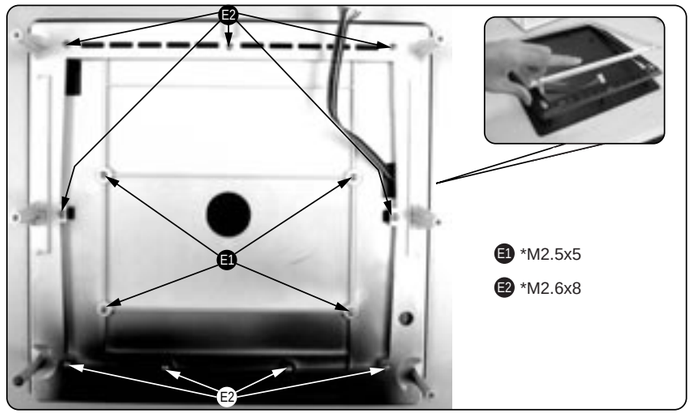
B*.remove screws M3x10(8pcs) and M3x8(3pcs)
C*.remove screws M3x8(4pcs) and T3x4(2pcs)



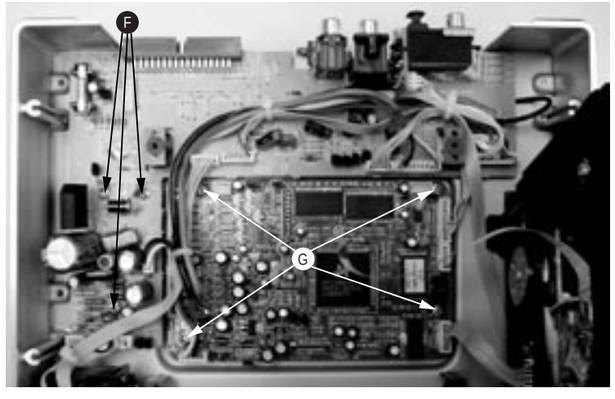
D.Remove Back Panel
D*remove screws T3x4(5pcs)and M3x10(5pcs)and T3x8(1pc)



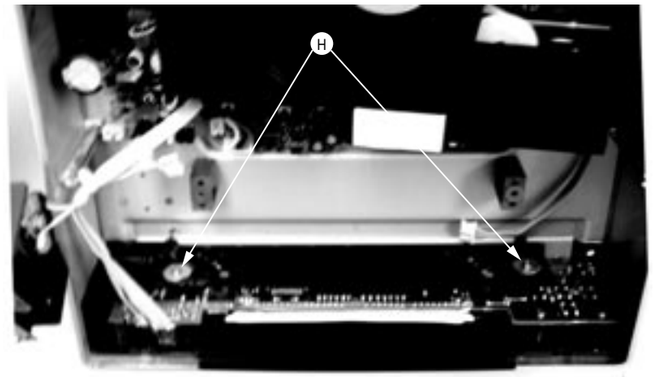
E. Remove Top Cover



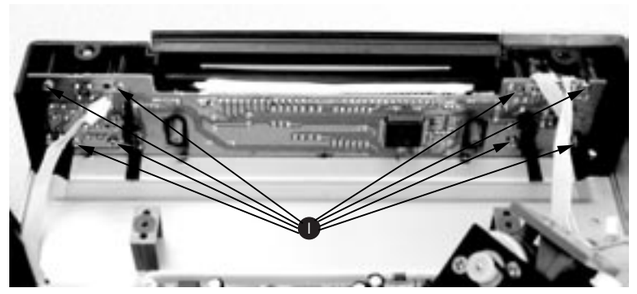
G. Remove DVD Rom and then remove DVD Decoder Card Assy



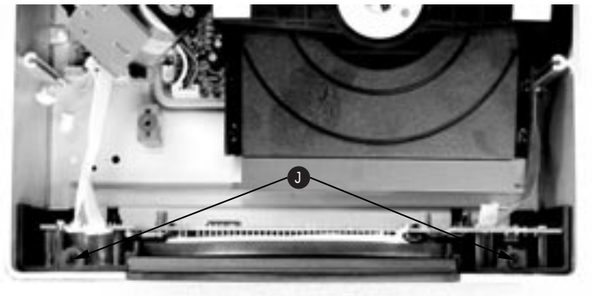
H.Remove Slid Plank



I.Remove VFD board assy



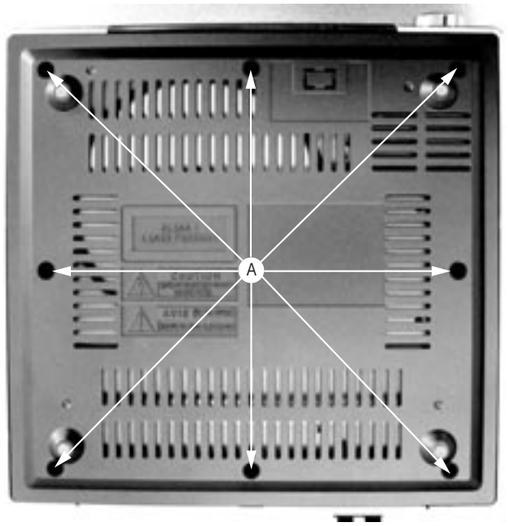
I.Remove Side metal Plate



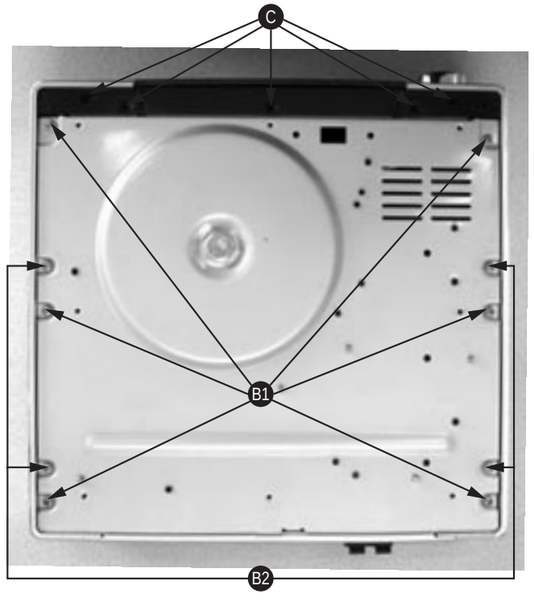
4 - 2

DISASSEMBLY DIAGRAM - AMP PART

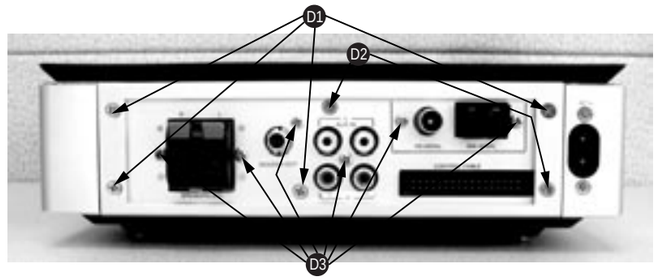
A.Remove Bottom Cover
A1.remove screws M2.5x4(8pcs)



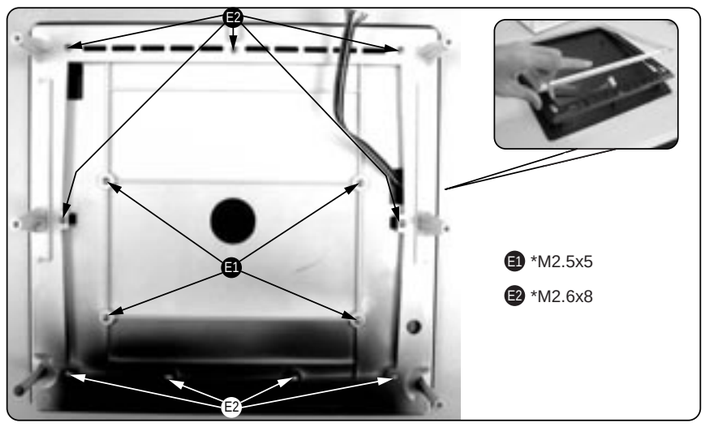
B*.remove screws M3x10(6pcs) and T3x10(4pcs)
C*.remove screws T3x4(5pcs)



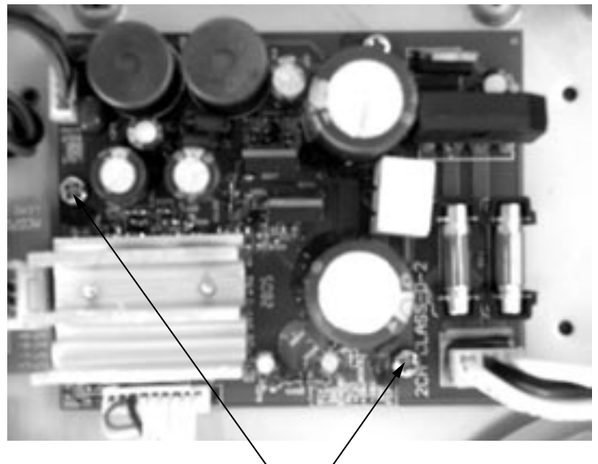
D.Remove Back Panel
D*remove screws T3x4(4pcs)and T3x8(2pcs)and M3x10(6pcs)



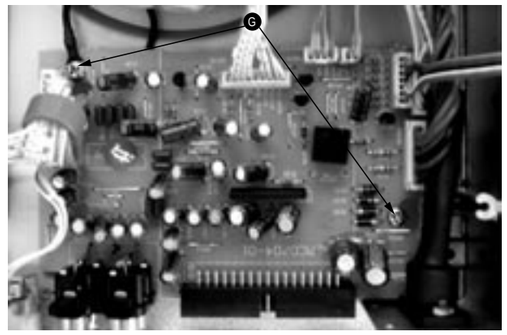
E. Remove Top Cover



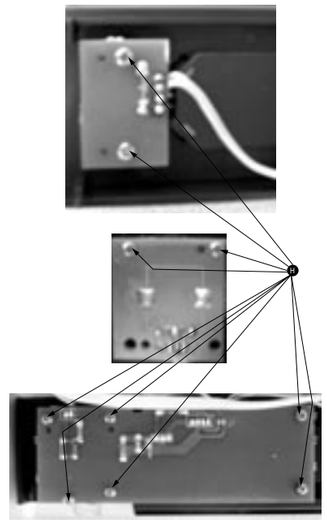
F. Remove AMP Board Assy



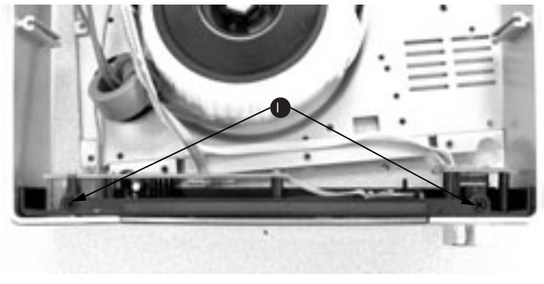
G.Remove ALC Volume board assy



H.Remove AMP Front board assy



I.Remove Side metal Plate



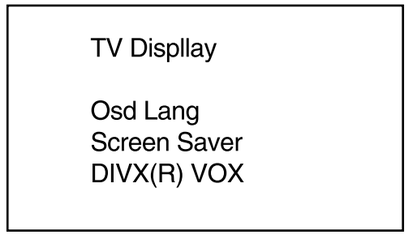
5 - 1

SOFTWARE VERSION CHECK AND UPGRADING

A.MPEG SOFTWARE VERSION CHECK

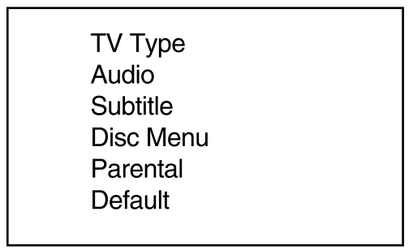
1.Press SYSTEM key (on the remote control) to open setup page,

TV Screen shows:



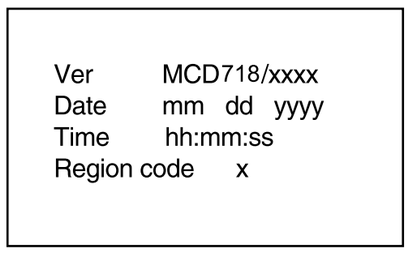
2.Press REMOVAL key (on the remote control) to the original setup page,

TV Screen shows:



3.Enter the password "811502" (on the remote control)

TV Screen shows:

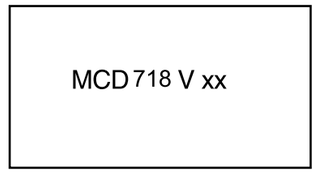


4. Press ▲ or ▼ button (on the remote control) to change region.
Press OK to confirm.

B.CPU VERSION CHECK

Keep PLAY/PAUSE and STOP buttons (on the set) depressed while pressing POWER on.

TV screen shows



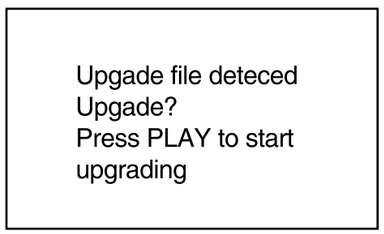
C. MPEG SOFTWARE UPGRADING

1. download the firmware from Philips support website
http://www.philips.com/support

2. Prepare a uploading CD

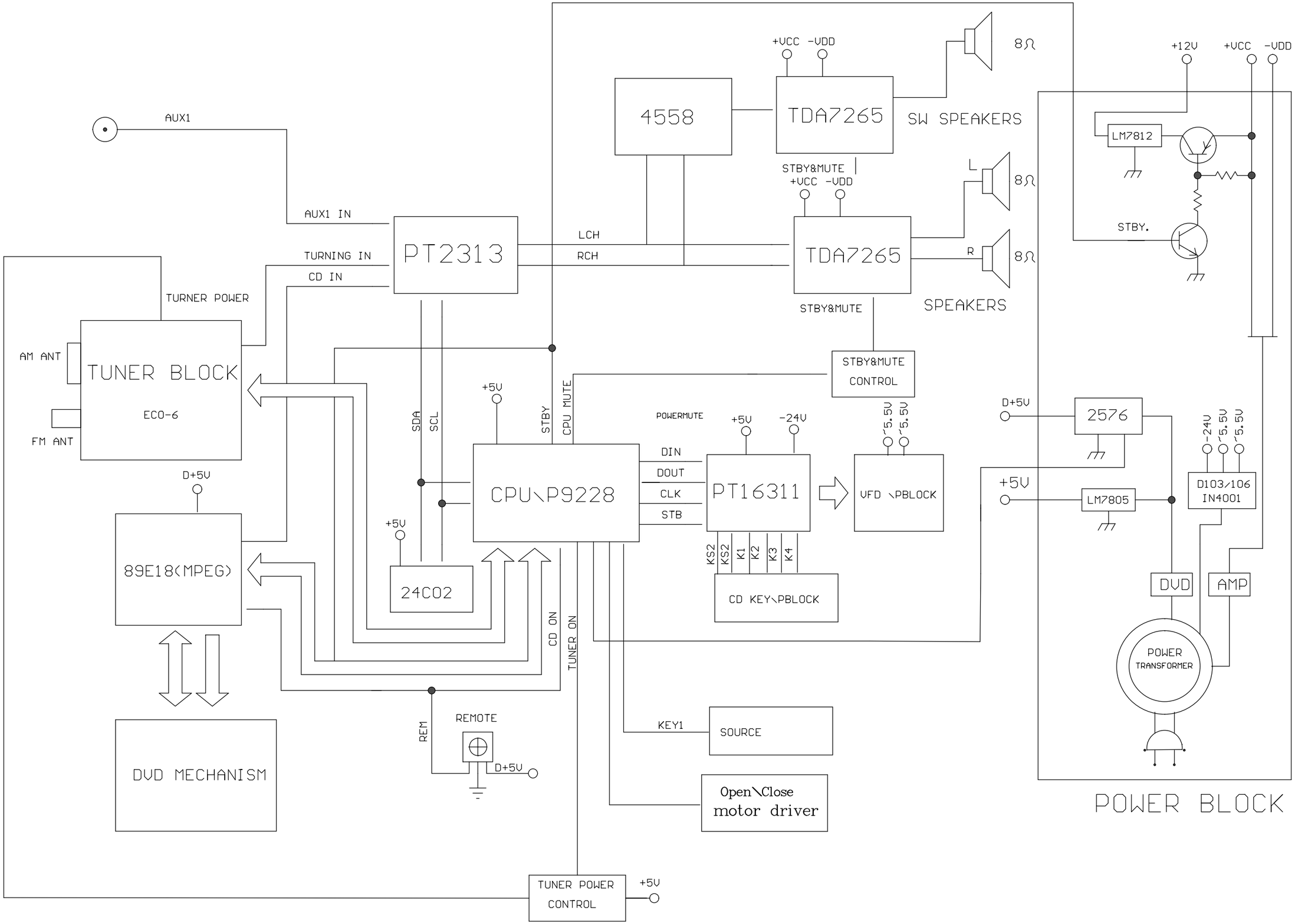
3. Put the CD in the CD tray

4. TV Screen shows



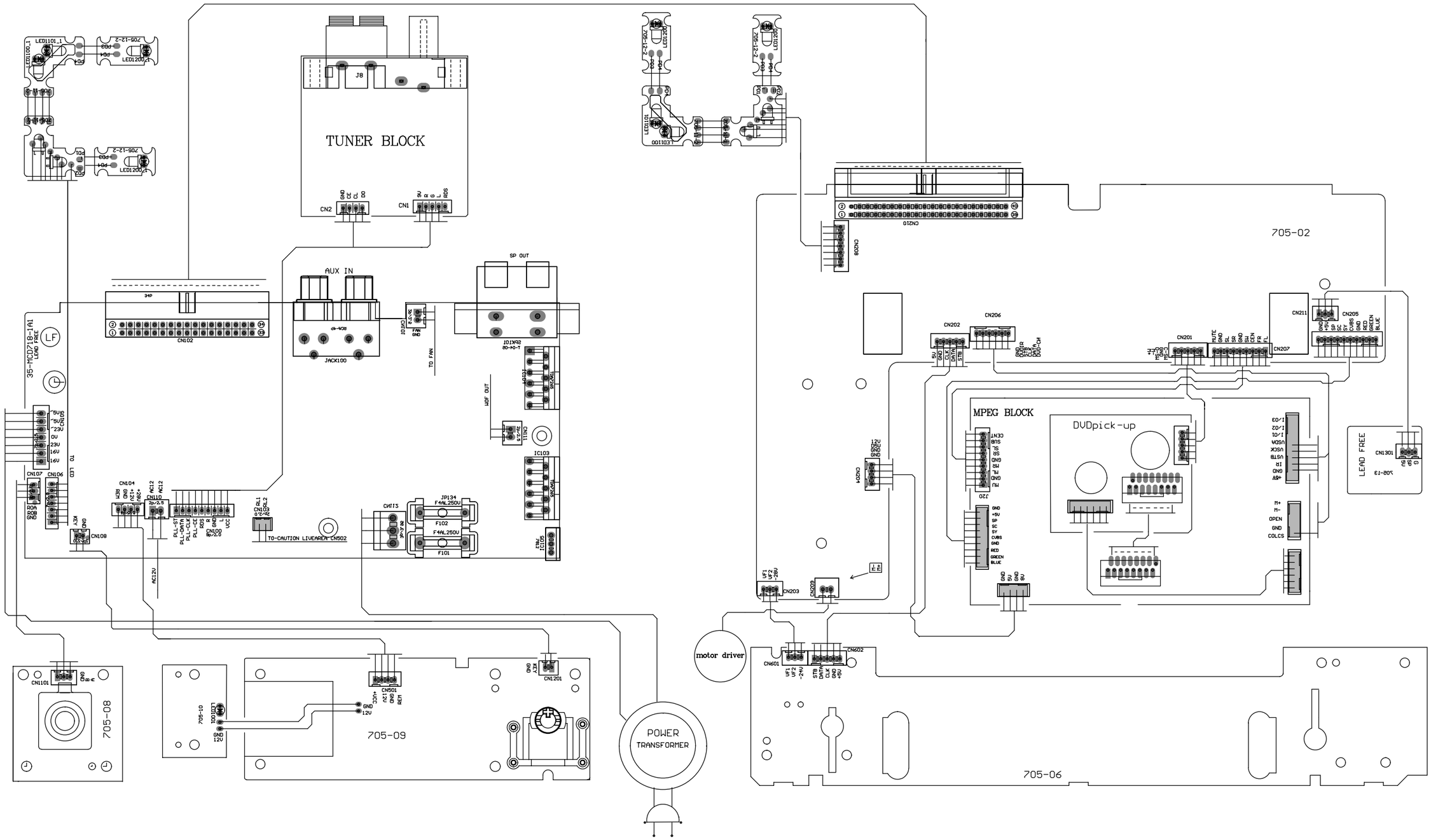
6 - 1

SET BLOCK DIAGRAM



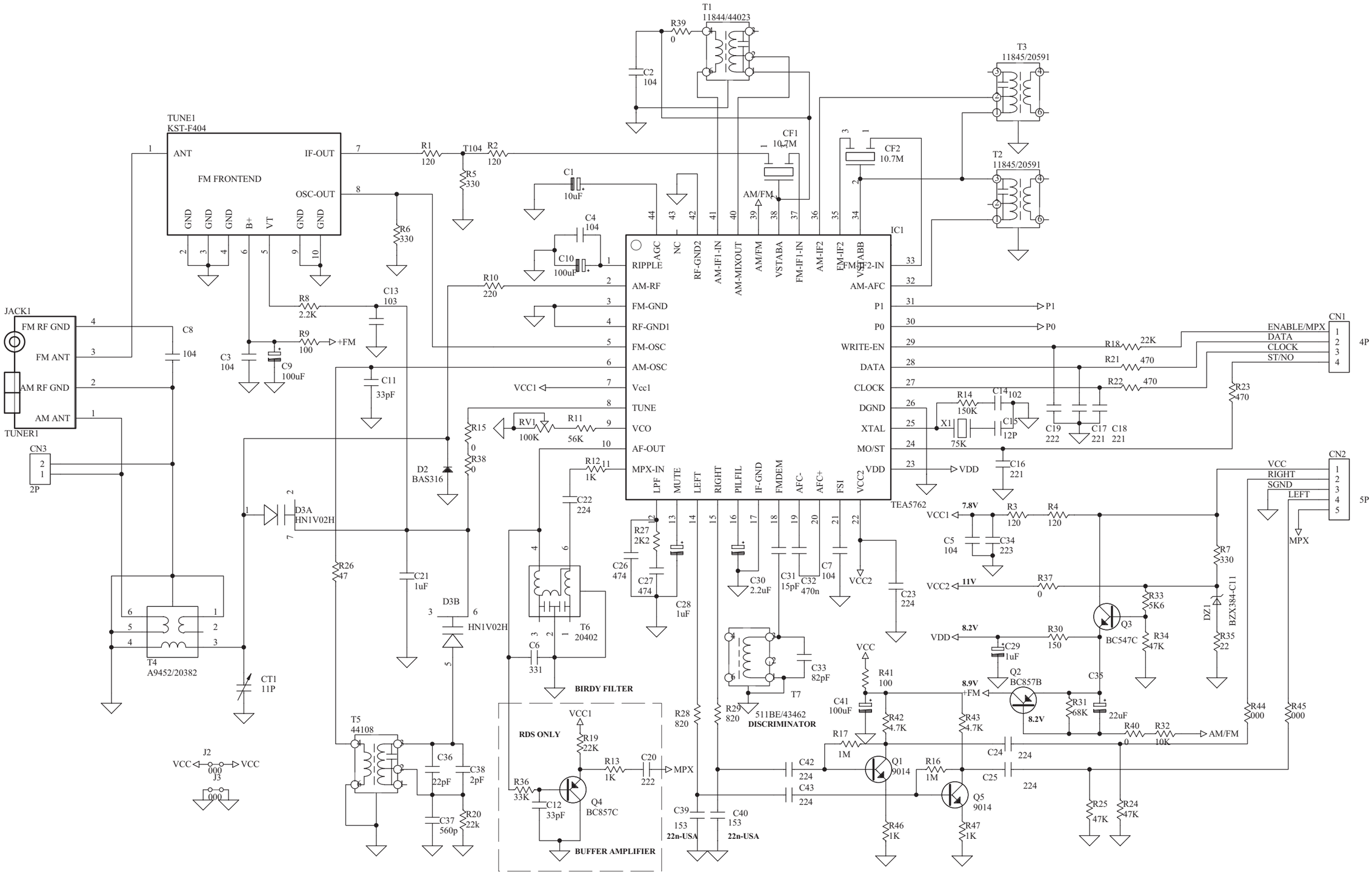
6 - 2

SET WIRING DIAGRAM



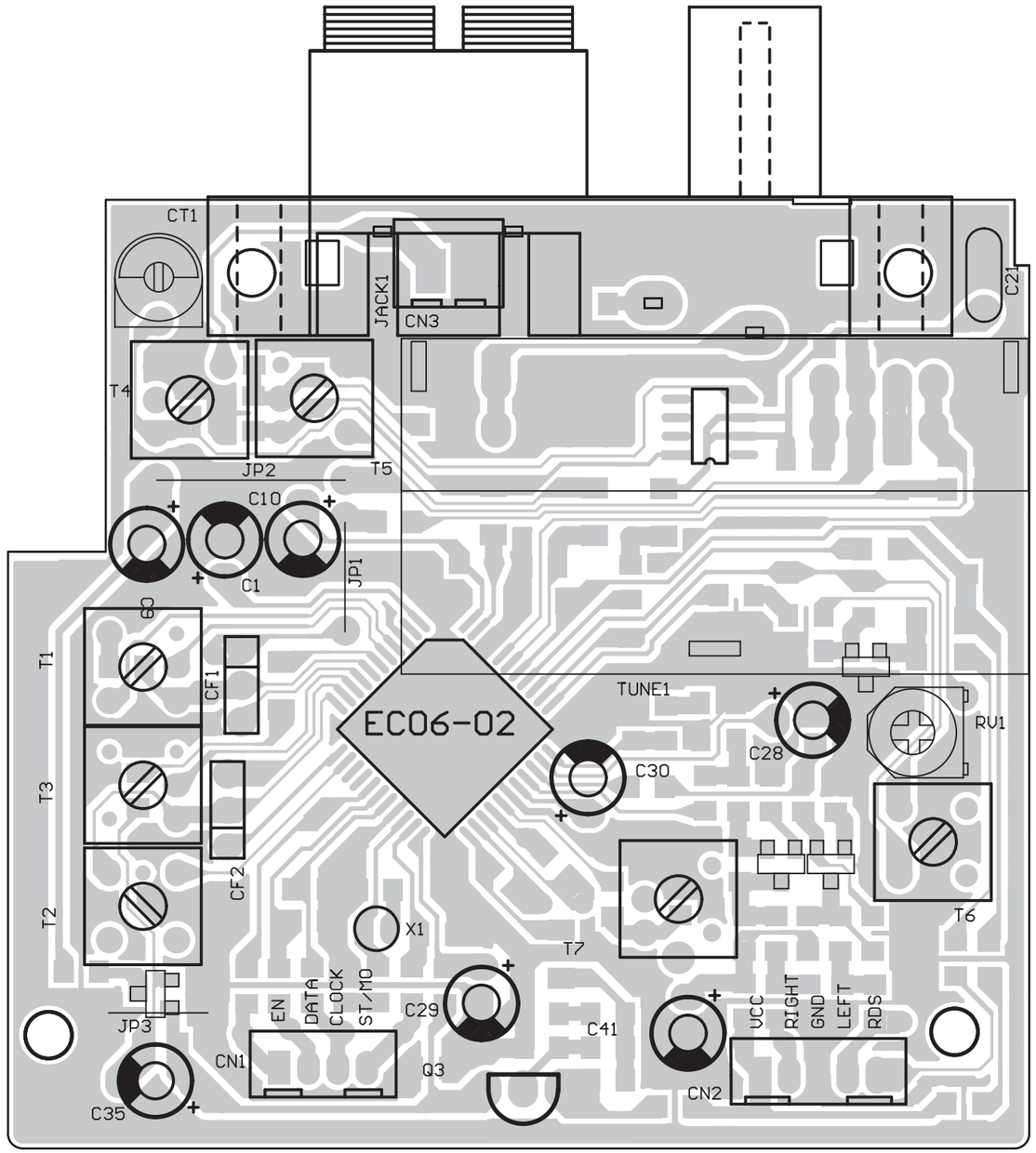
7 - 1

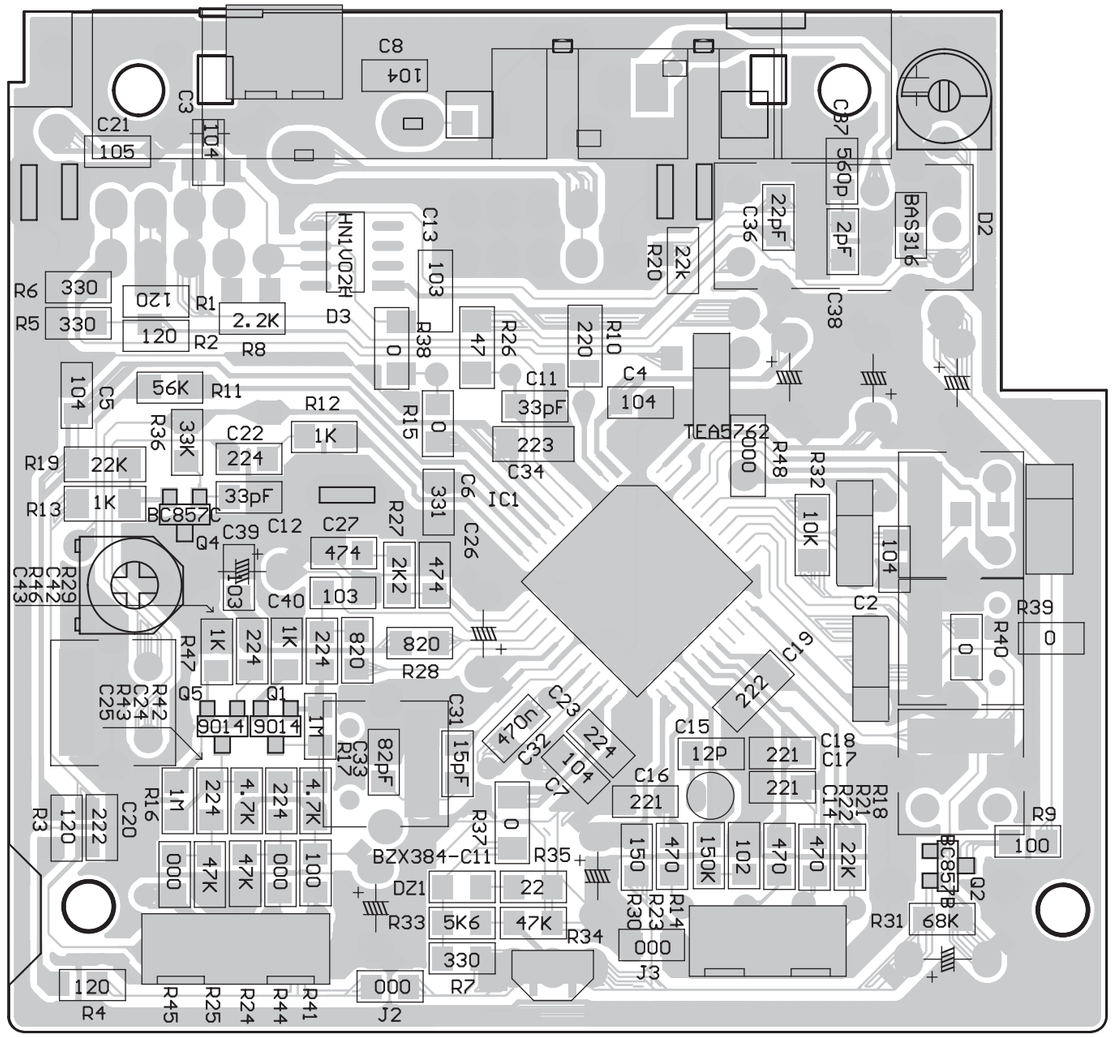
CIRCUIT DIAGRAM - ECO6 - 02 TUNER BOARD
(only for - / 37)



7 - 2

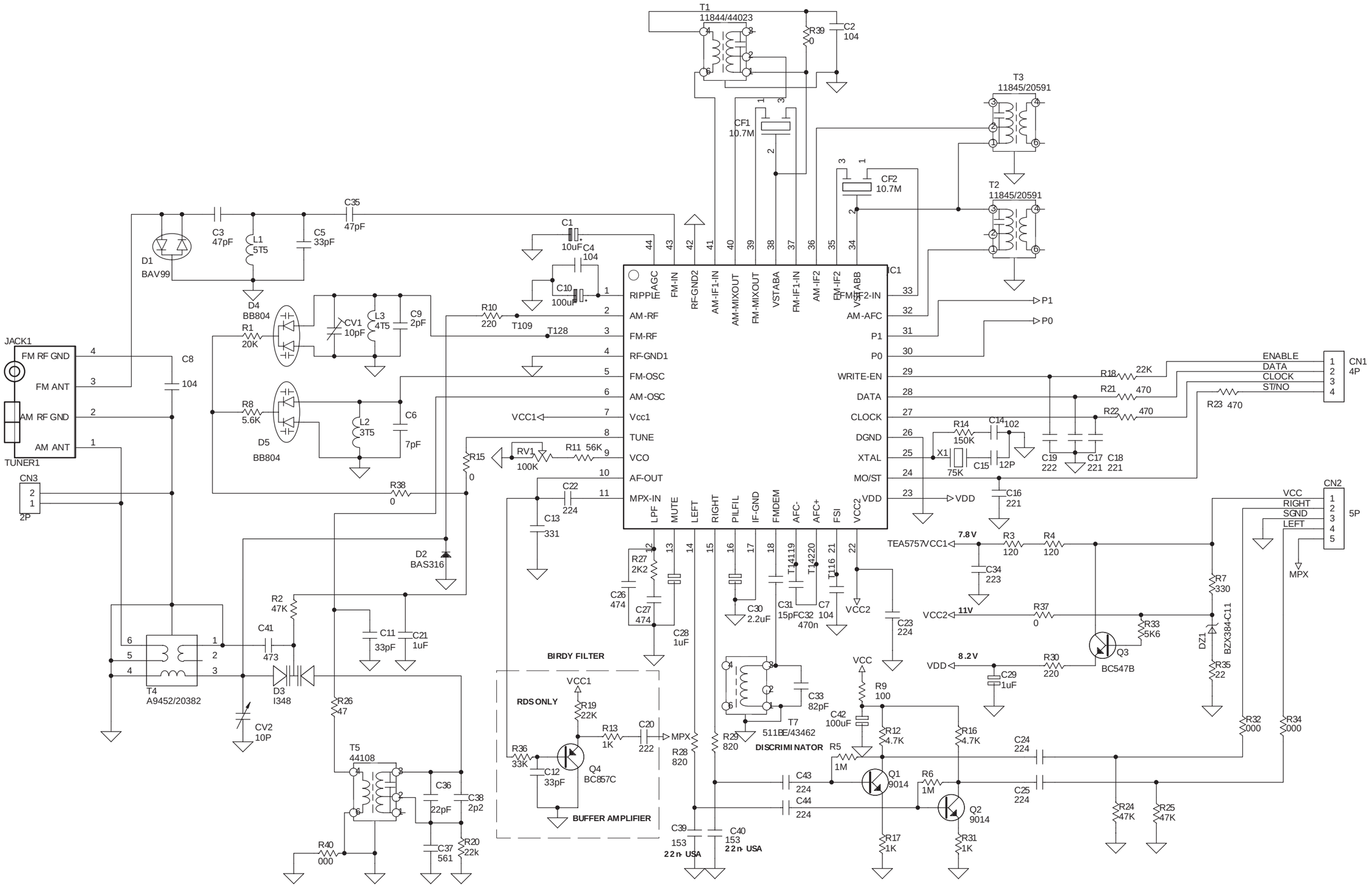
LAYOUT DIAGRAM - ECO6 - 02 TUNER BOARD
(only for - / 37)





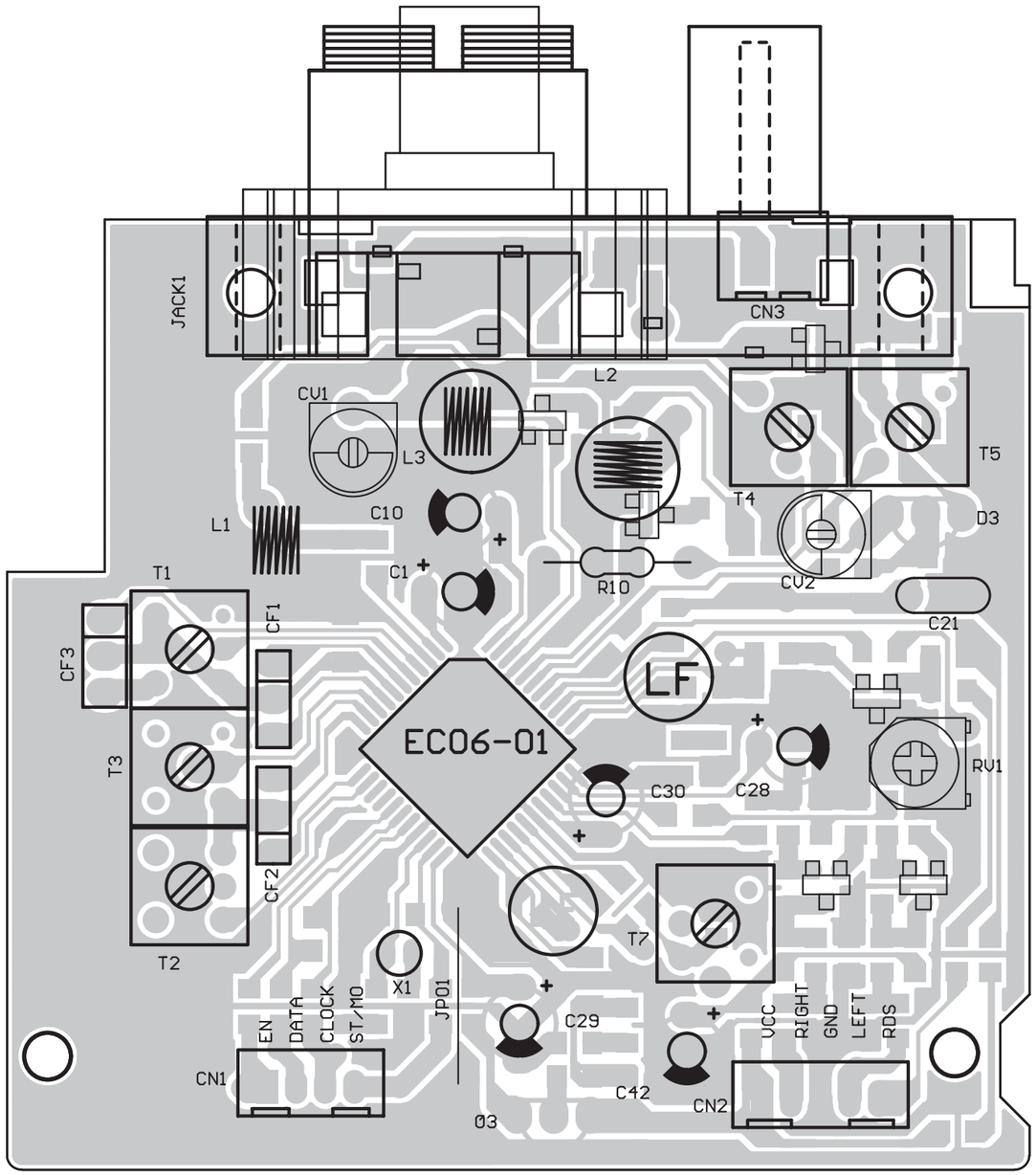
7 - 3

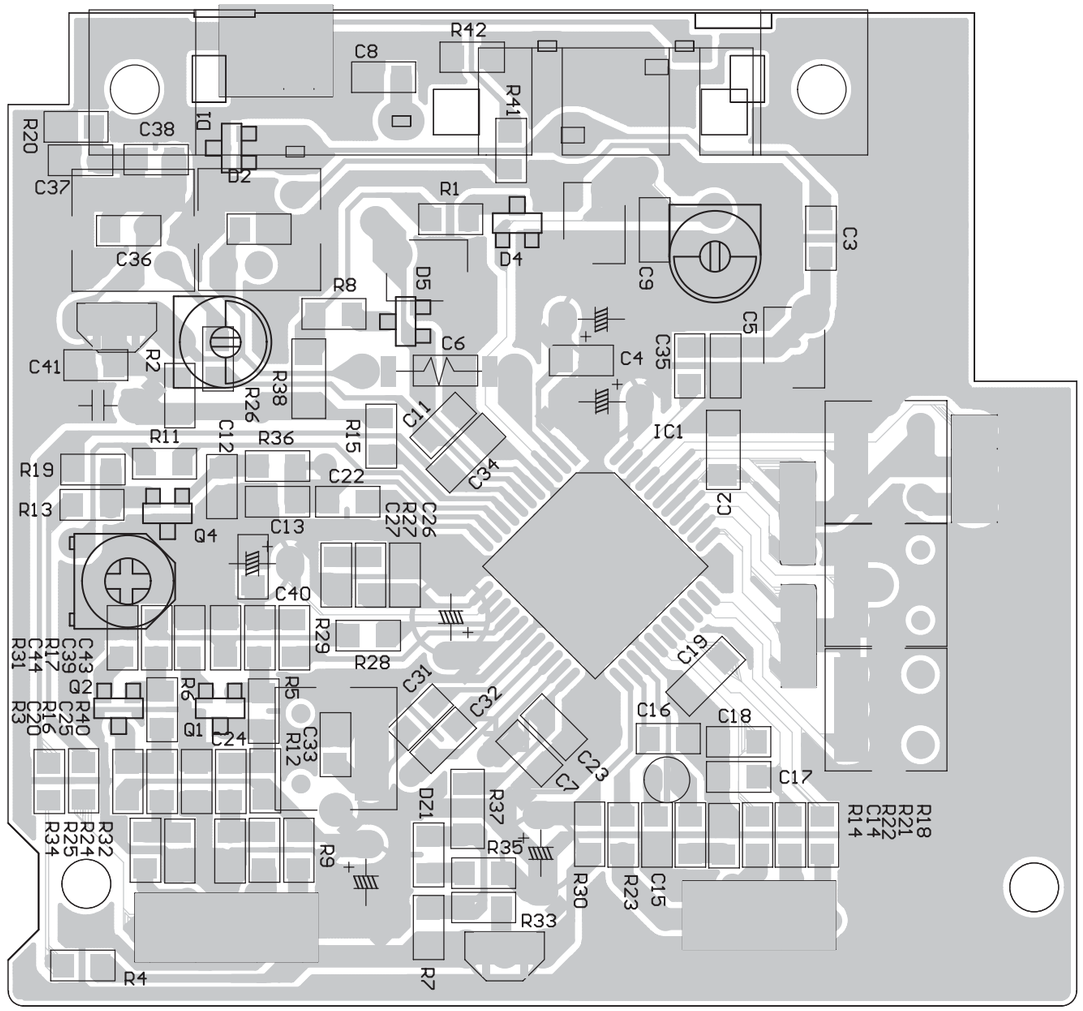
CIRCUIT DIAGRAM - ECO6 - 01 TUNER BOARD
(not for - / 37)



7 - 4

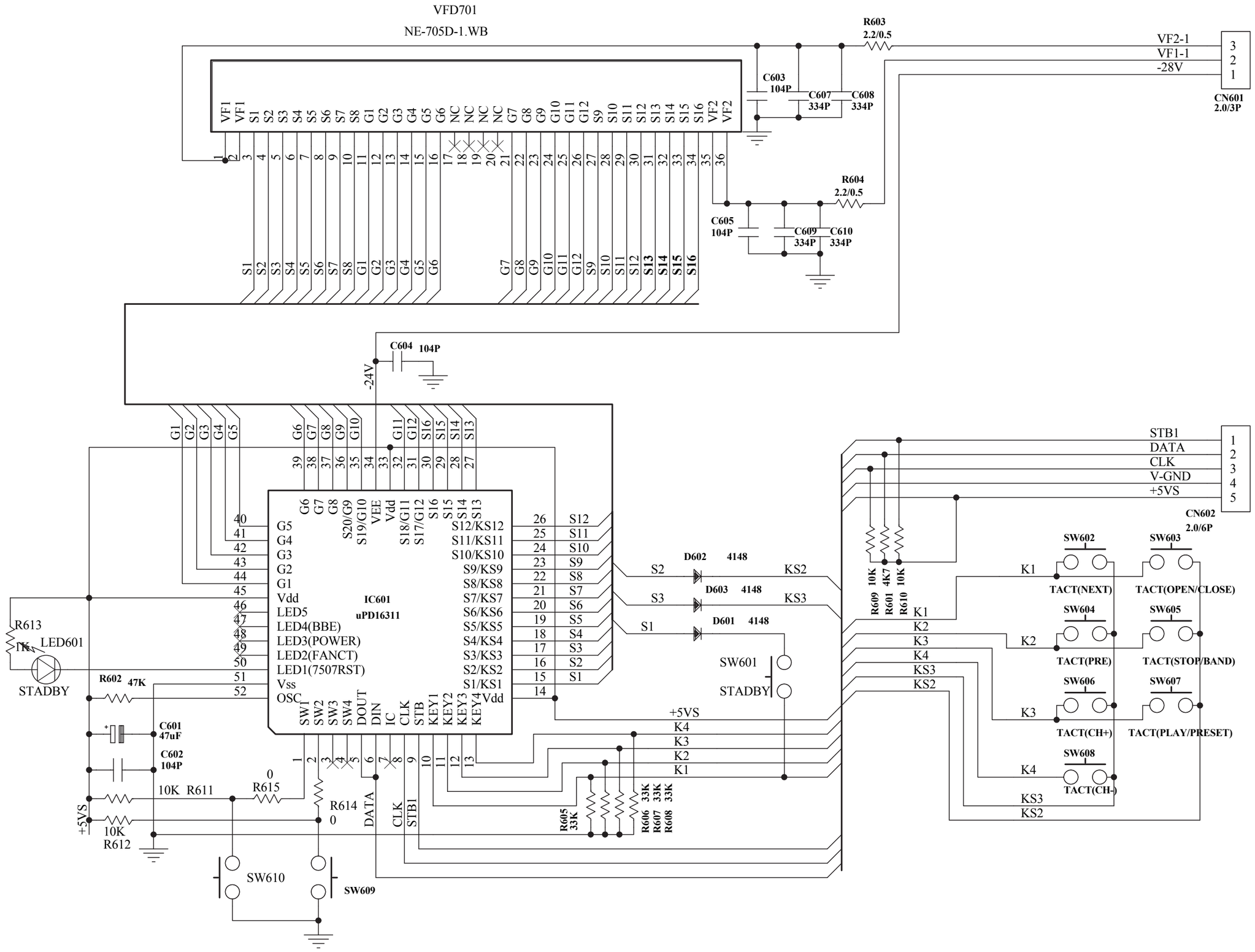
LAYOUT DIAGRAM - ECO6 - 01 TUNER BOARD
(not for - / 37)





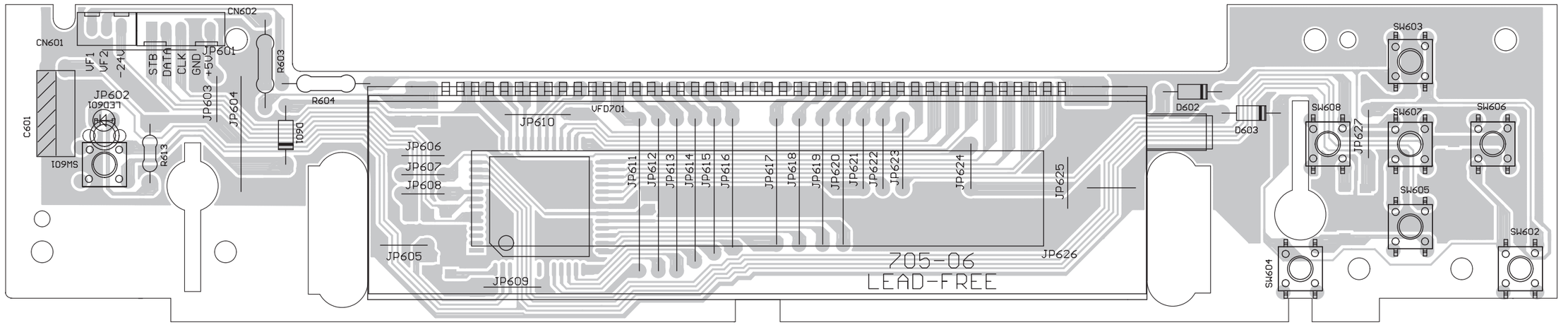
8 - 1

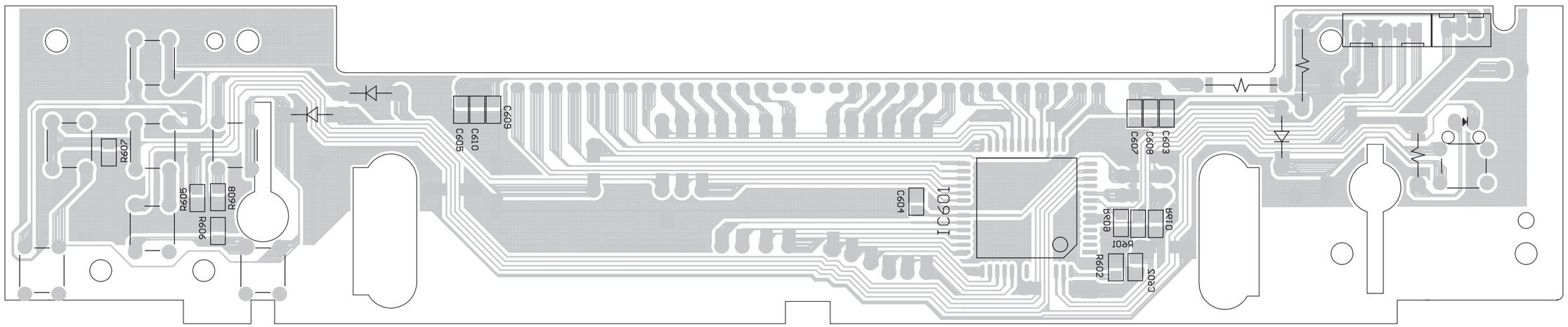
CIRCUIT DIAGRAM - VFD BOARD



8 - 2

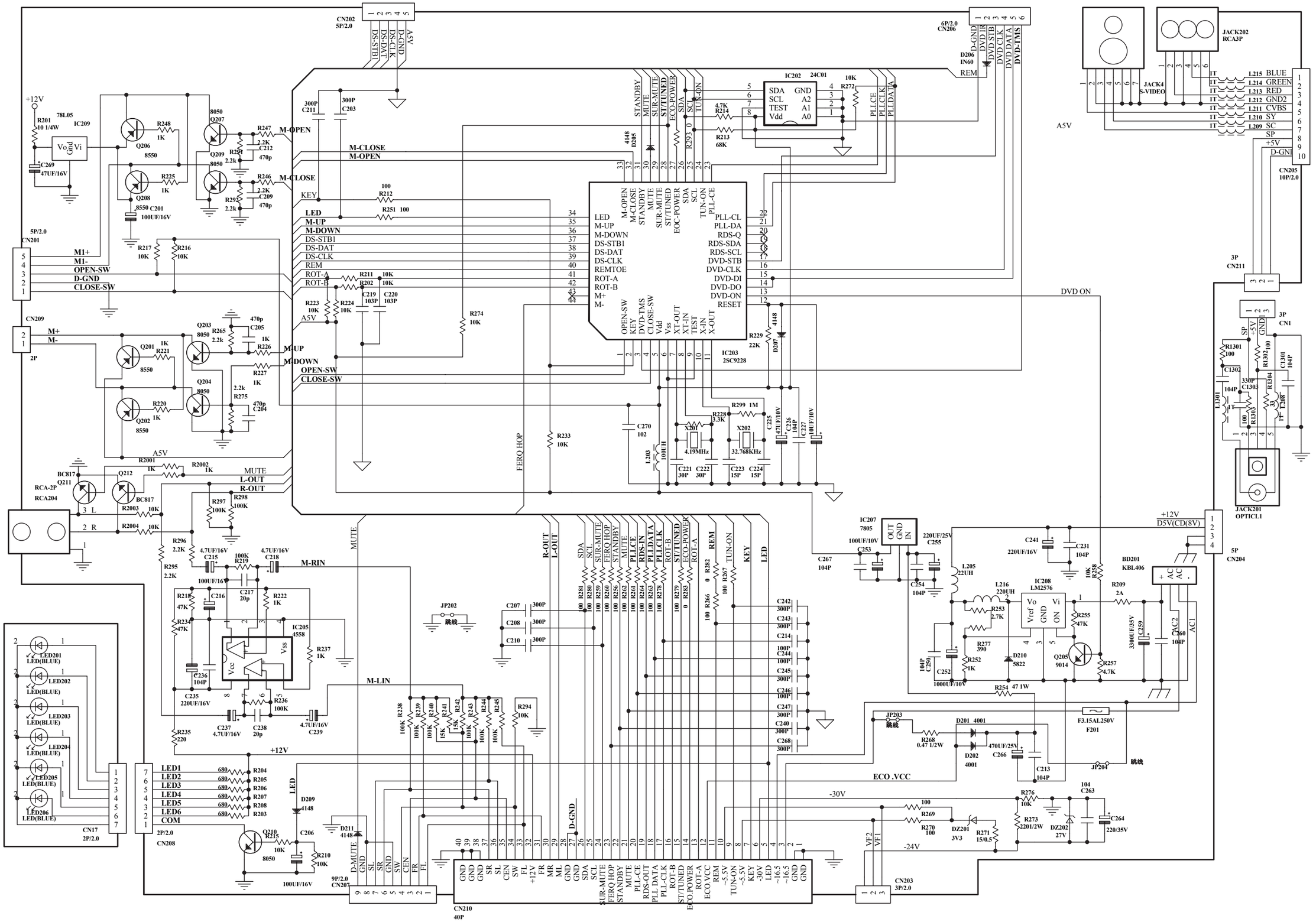
LAYOUT DIAGRAM - VFD BOARD





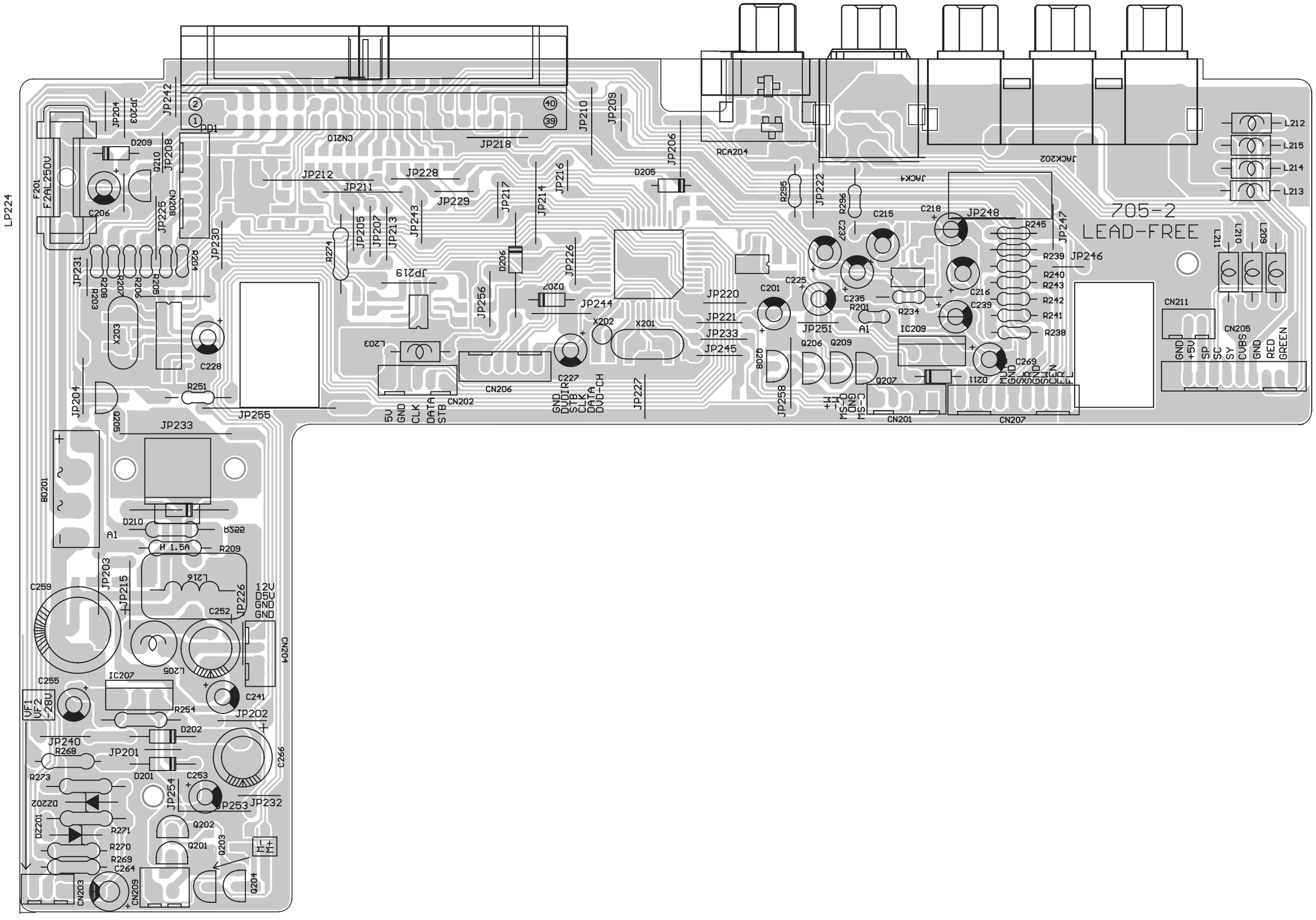
9 - 1

CIRCUIT DIAGARM - CPU BOARD



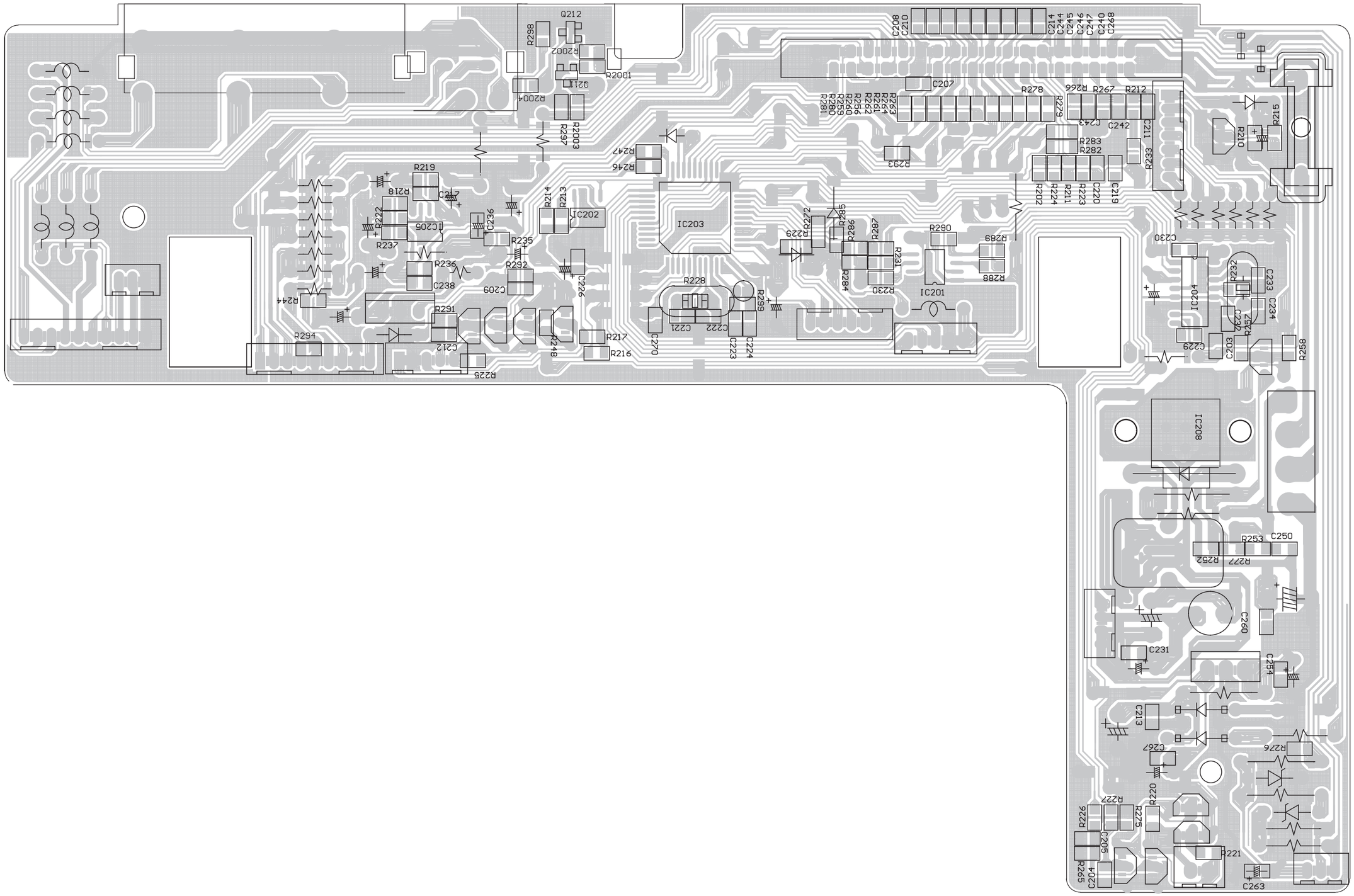
9 - 2

LAYOUT DIAGARM - CPU BOARD



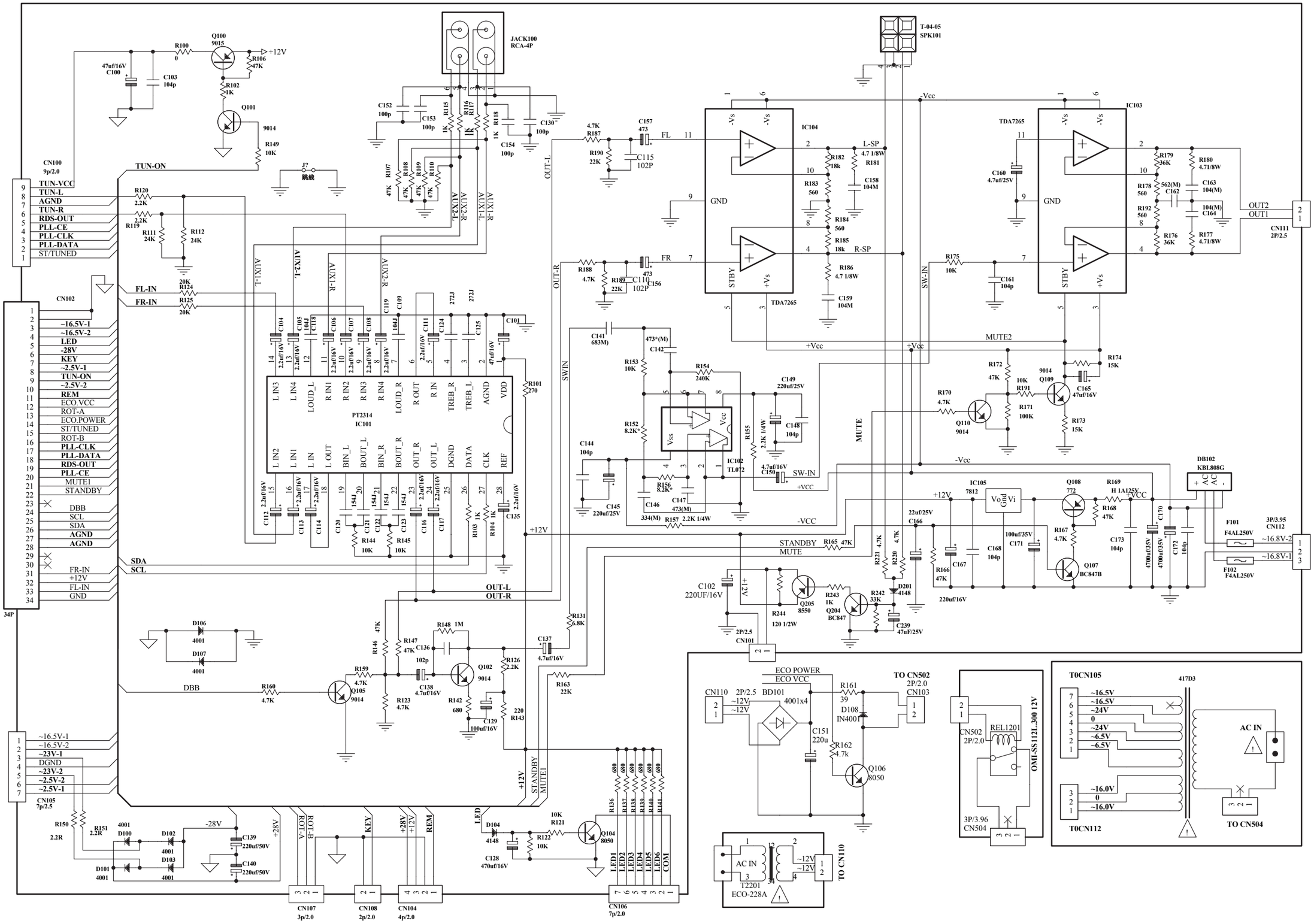
9 - 3

LAYOUT DIAGRAM - CPU BOARD



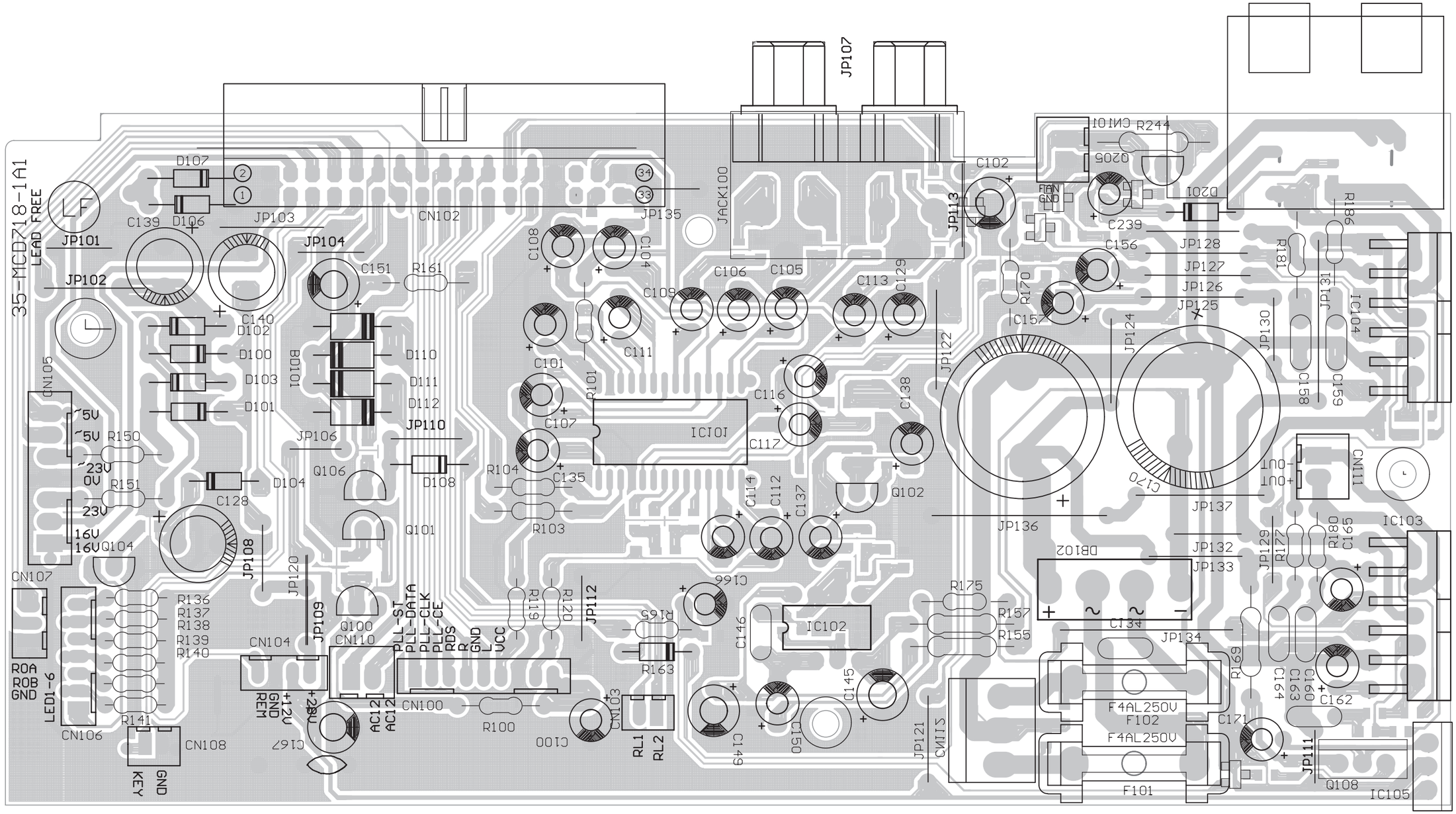
10 - 1

CIRCUIT DIAGRAM - AMP BOARD



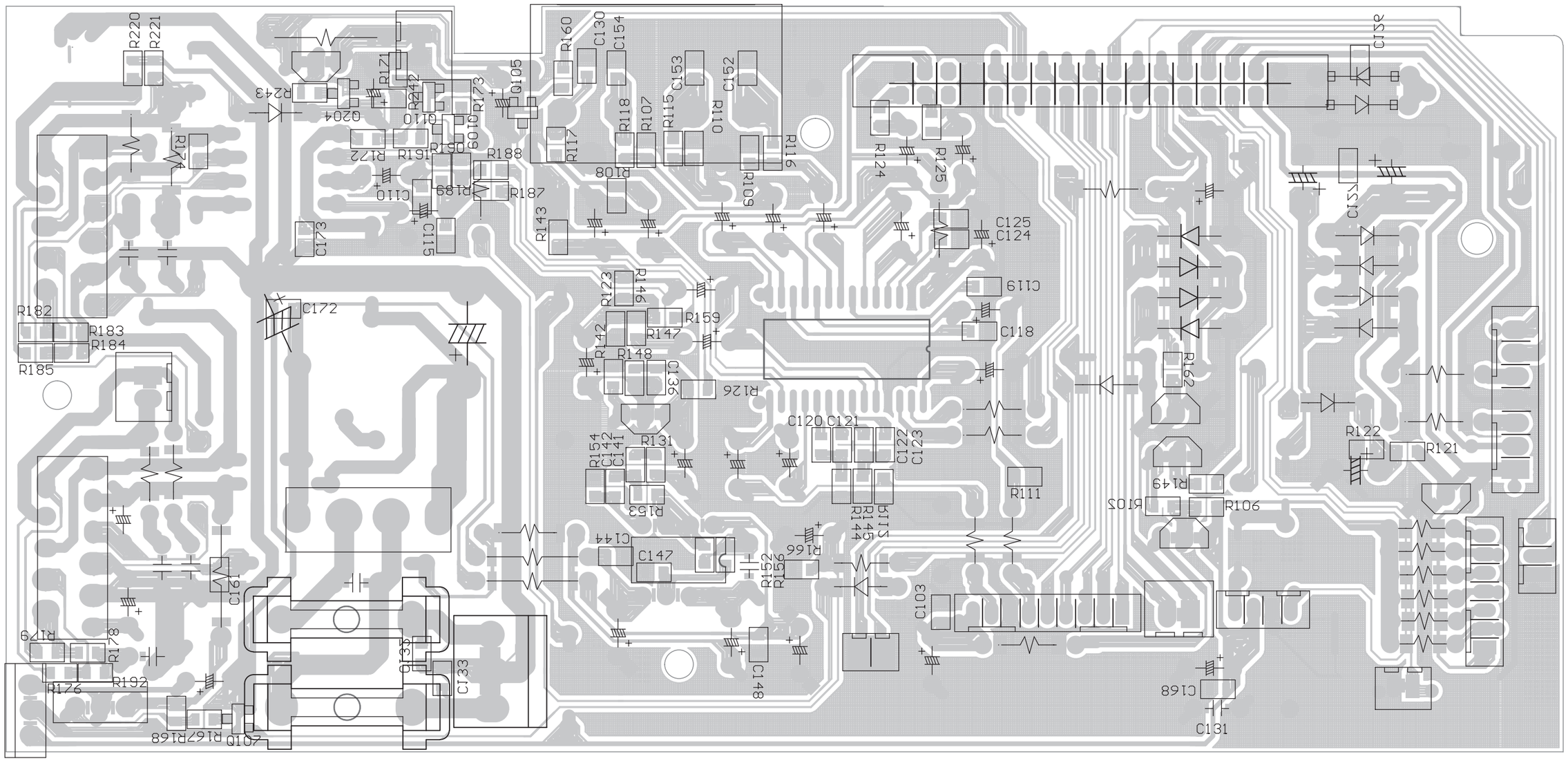
10 - 2

LAYOUT DIAGRAM - AMP BOARD



10 - 3

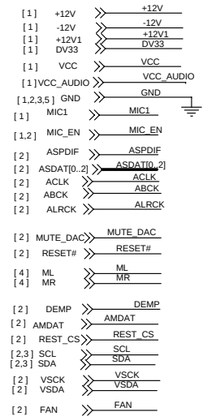
LAYOUT DIAGRAM - AMP BOARD

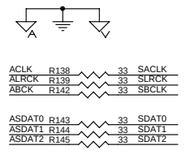


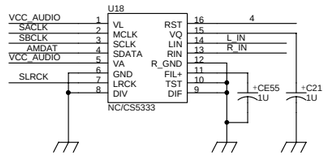
11 - 1

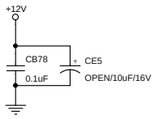
CIRCUIT DIAGRAM - DVD MPEG BOARD

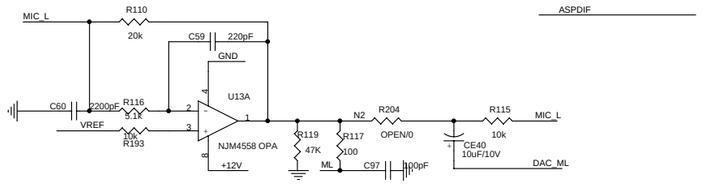
MPEG board is not repaired,program for referrence only.

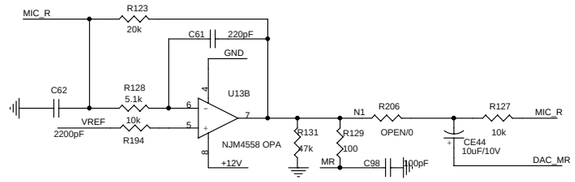


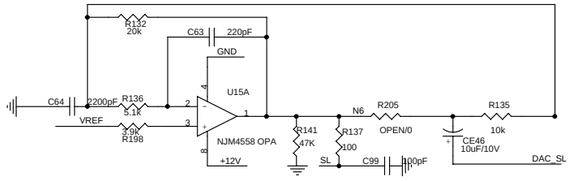


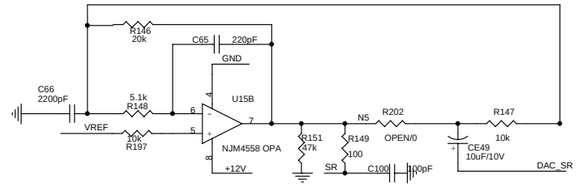


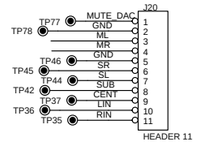


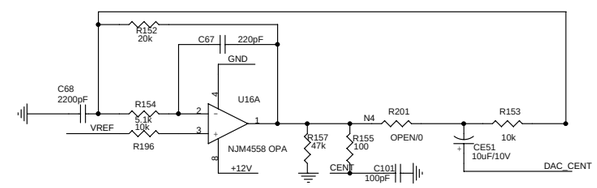


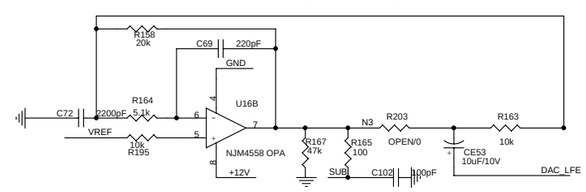


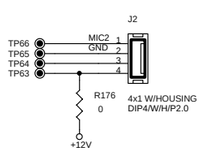


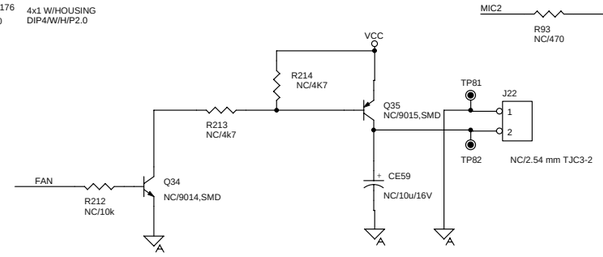


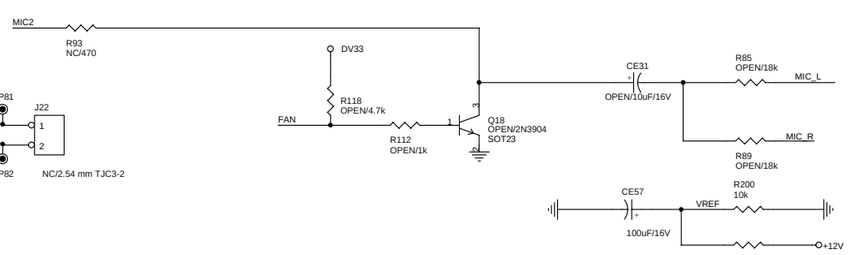








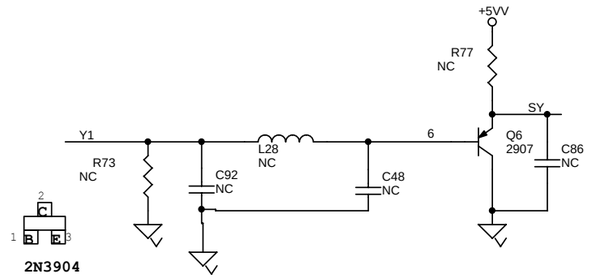


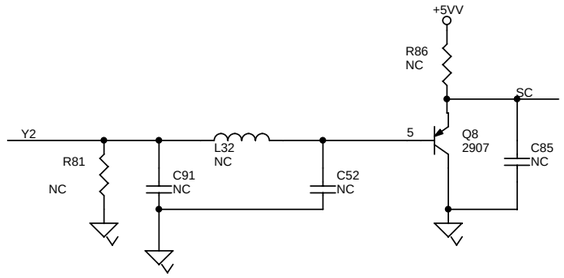


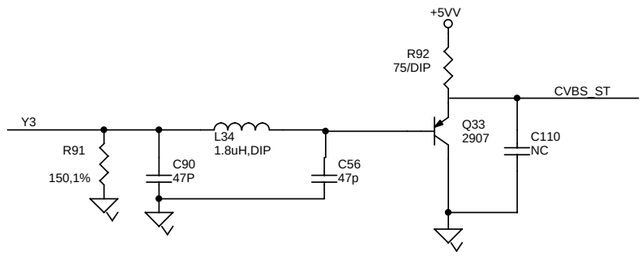
11 - 2

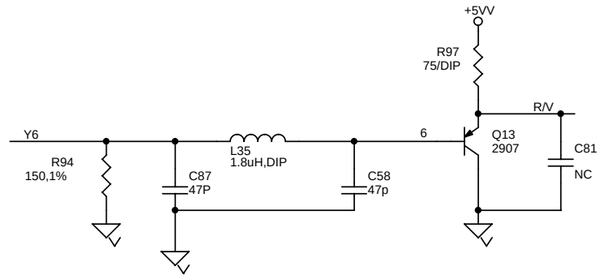
CIRCUIT DIAGRAM - DVD MPEG BOARD

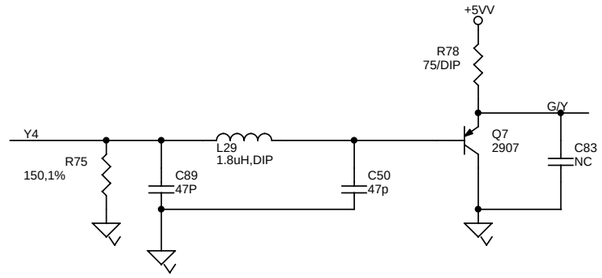
MPEG board is not repaired,program for referrence only.

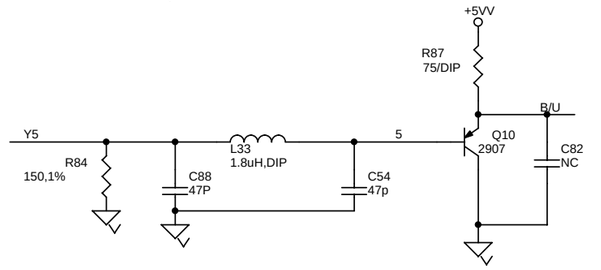


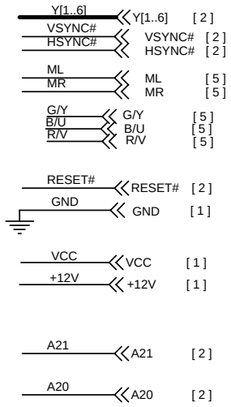




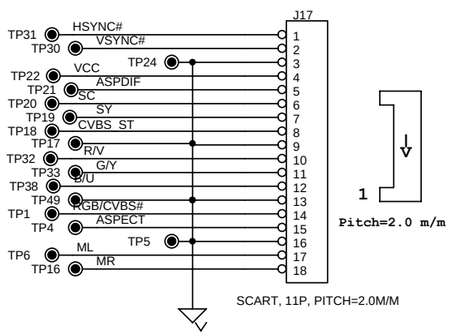




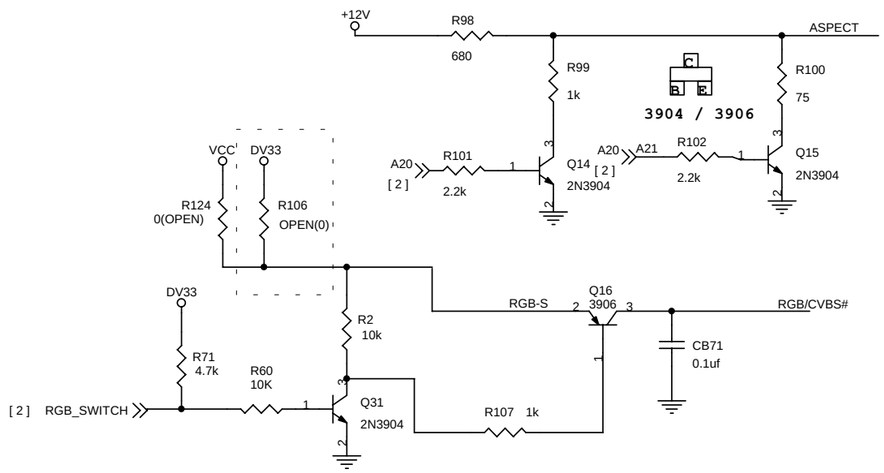




SCART CONNECTOR



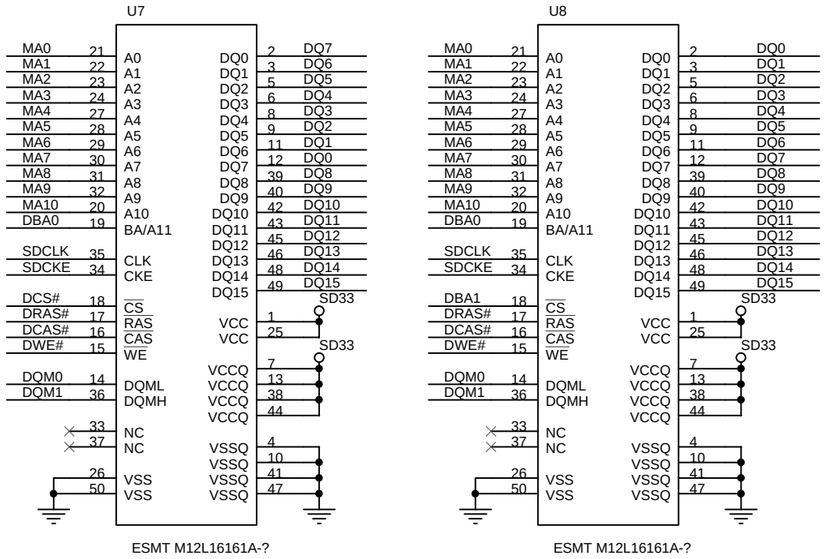
SCART CONTROL

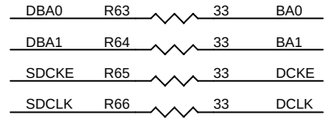


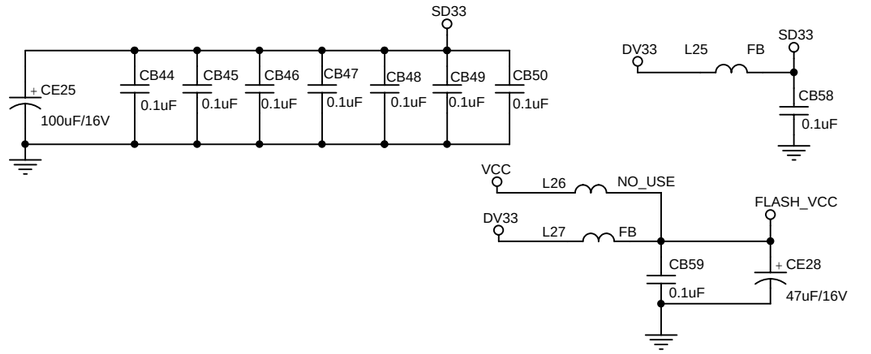
11 - 3

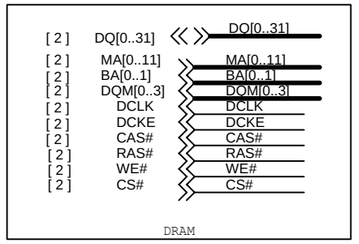
CIRCUIT DIAGRAM - DVD MPEG BOARD

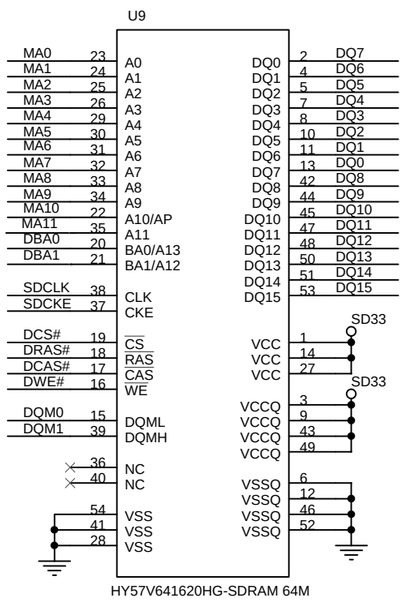
MPEG board is not repaired,program for referrence only.

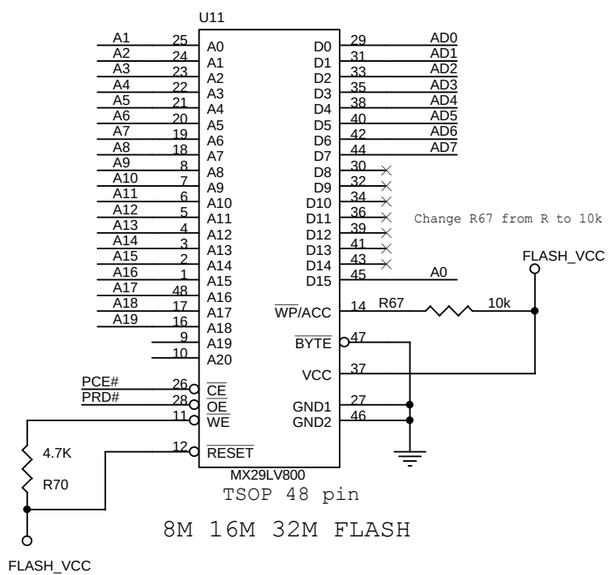


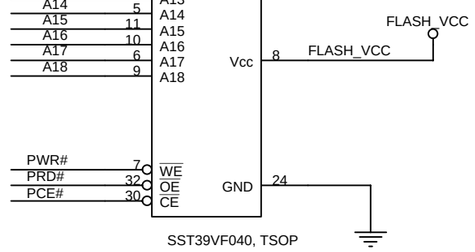


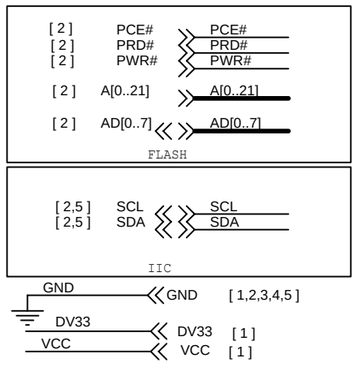












11 - 4

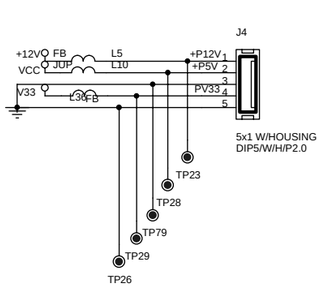
CIRCUIT DIAGRAM - DVD MPEG BOARD

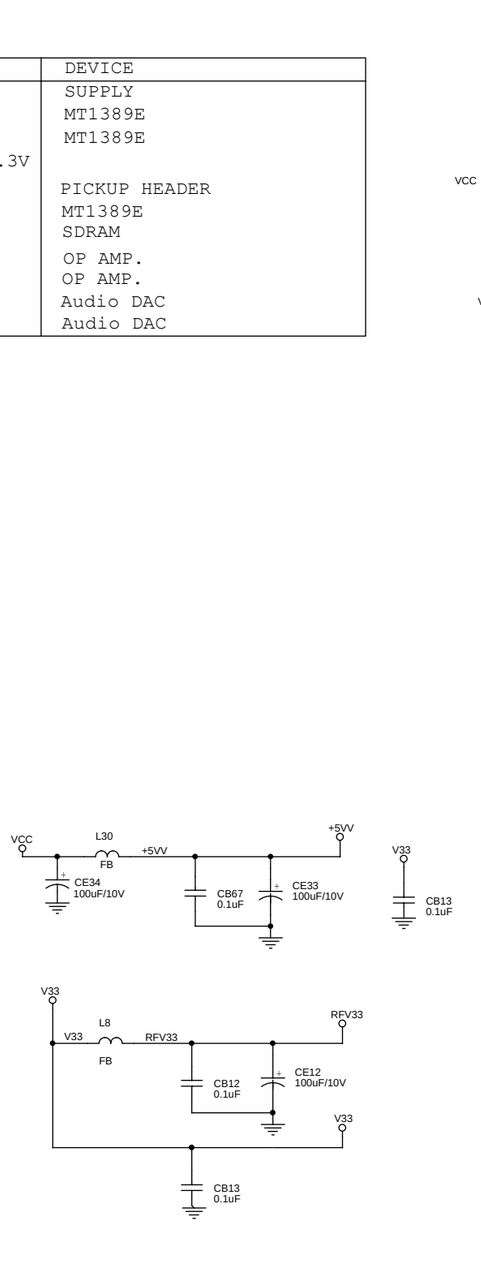
MPEG board is not repaired,program for referrence only.

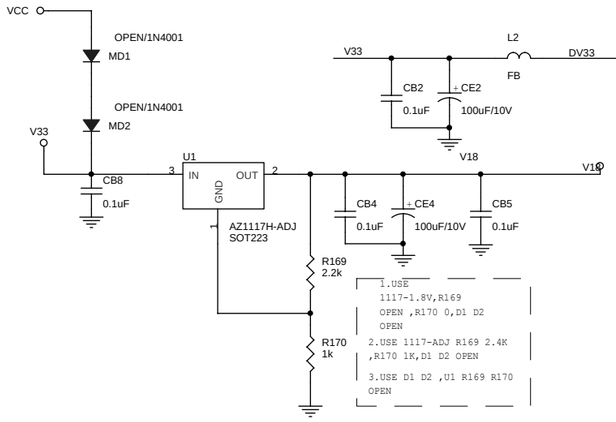
1	INDEX & POWER, RESET
2	RF, SERVO & MPEG - MT1389E
3	MEMORY - SDRAM, FLASH/EEPROM
4	VIDEO OUT
5	AUDIO DAC WMA8746&WMA8720 AND AUDIO OUT

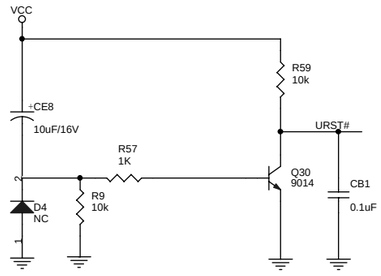
NAME	TYPE	DEVICE
VCC	Digital 5V	SUPPLY
DV33	Digital 3.3V	MT1389E
RFV33	Servo 3.3V	MT1389E
LDO_AV33	Laser Diode 3.3V	
AVCC	RF 5V	PICKUP HEADER
V18	Digital 1.8V	MT1389E
SD33	Digital 3.3V	SDRAM
+12V	Audio +12V	OP AMP.
-12V	Audio -12V	OP AMP.
AVDD	Audio 5V	Audio DAC
DVDD	Audio 5V	Audio DAC

Rev	History	P#	Date
V1	**The original released.**		2003.6.15
V2	Change CE11 from 10uF to 100uF Change C3 from C to 2200pF Change C2 from 0.1uF to C Change R10,r15 from 750k to 680k Change R17,R19 from 390k to 150k Add C74 2200pF Change R37 from 0 to R Change R38 from 0 to R Change C32 from 15nF to C Change PIN 47 from LIMIT to ADIN Add CE1 10uF Change R15 from 1.5k to 1.8k Remove 74H04 Change the LIMIT singalfrom PIN 46 to PIN136 Change R4,R5,R6,R8,R12 from 1k to R Chang the TRIN&TROUT pullhigh power from 5V to 3V3 Add LC circuit Change R67 from R to 10k Add the low resistance output circuit Change spdif output port Add the Audio DAC power to reference filtering	1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 4 4 5 5	2003.7.17

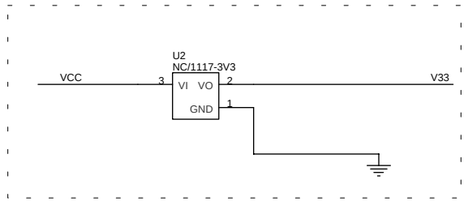


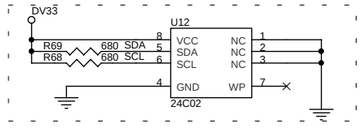


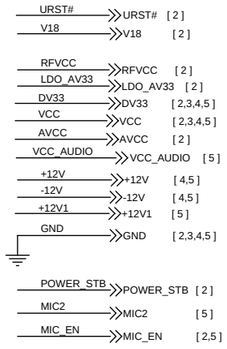




Power ON alive source



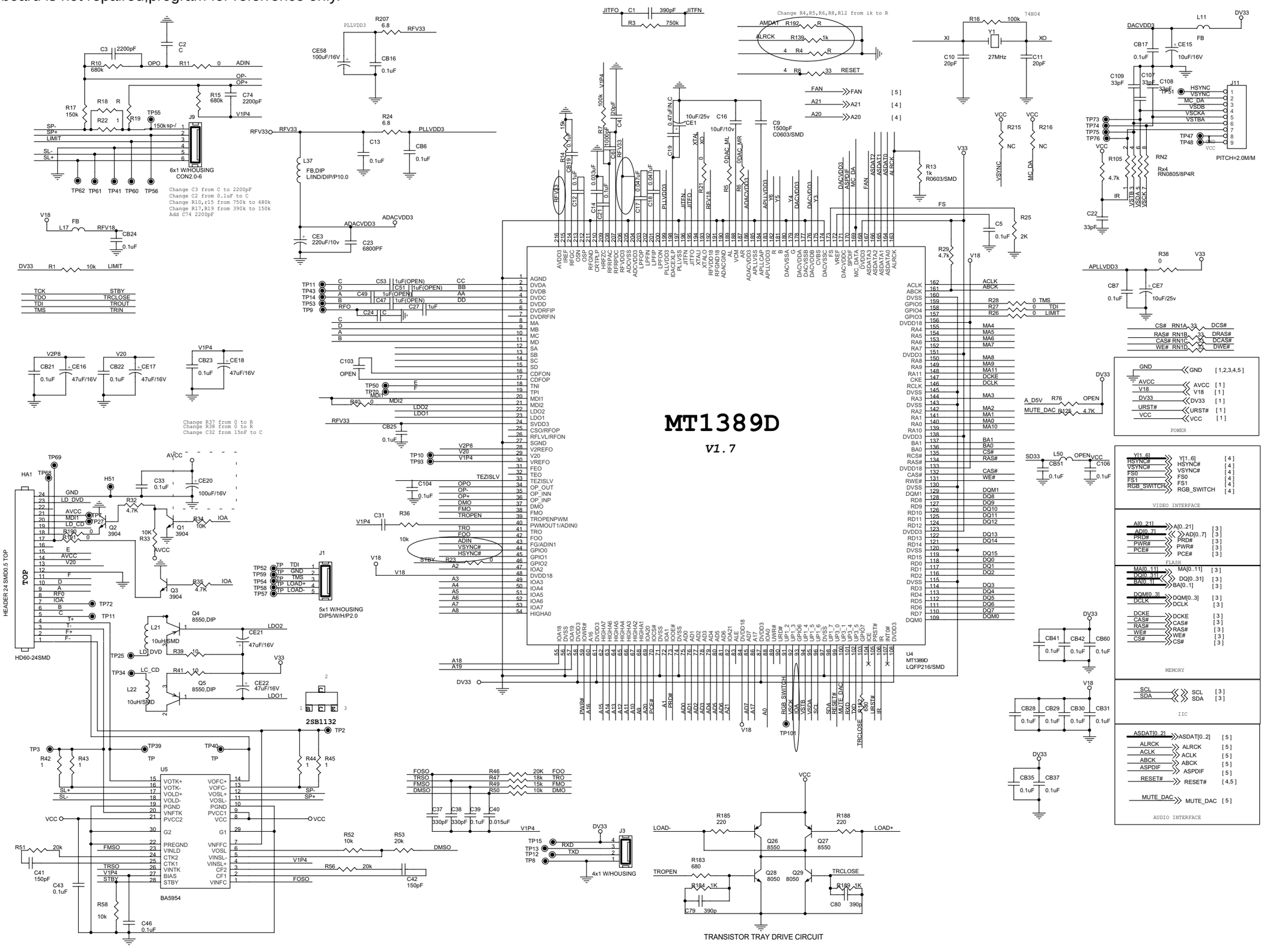




11 - 5

CIRCUIT DIAGRAM - DVD MPEG BOARD

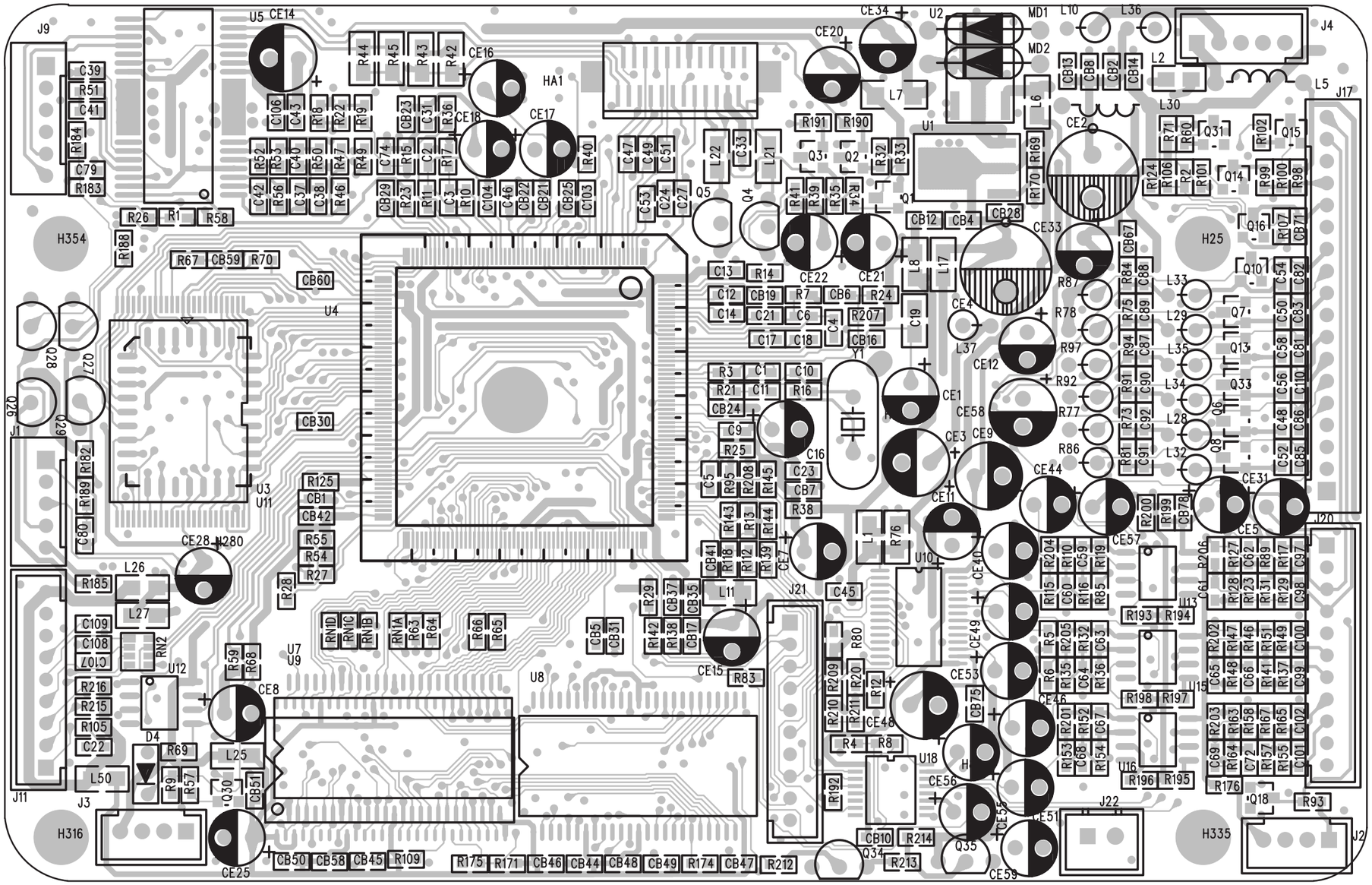
MPEG board is not repaired,program for referrence only.



11 - 6

LAYOUT DIAGRAM - DVD MPEG BOARD

MPEG board is not repaired,program for referrence only.

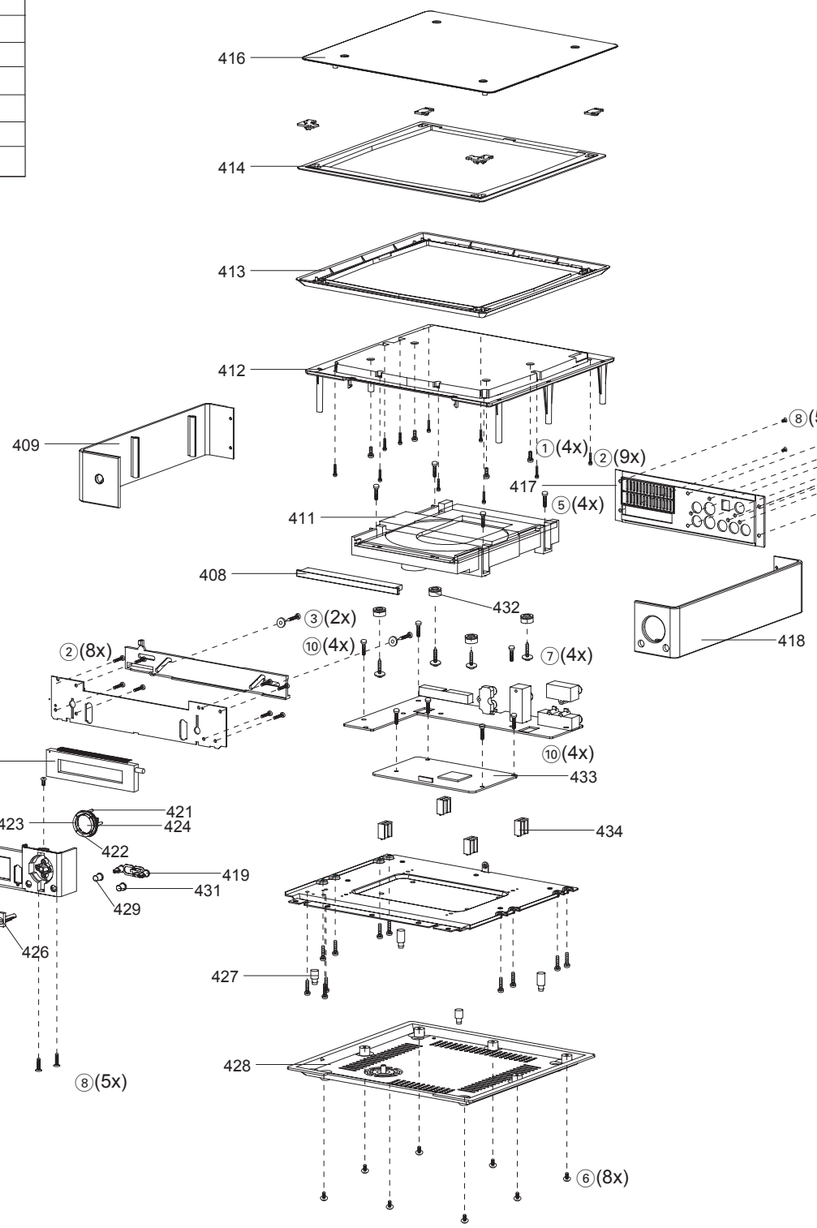


12 - 1

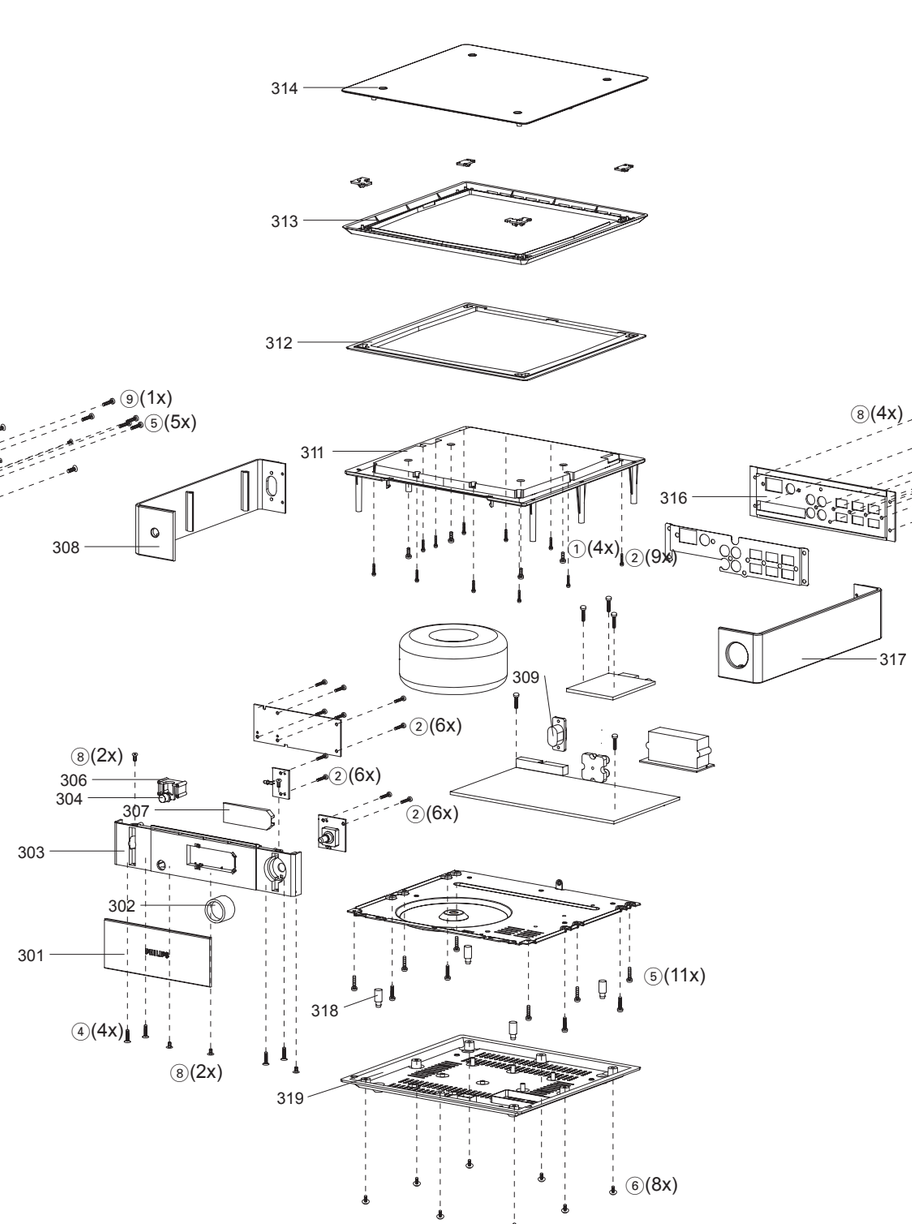
EXPLODED VIEW DIAGRAM

SCREW LIST	
①	M2.5x5
②	M2.5x8
③	M2.5x10
④	M3x8
⑤	M3x10
⑥	TP2.5x4
⑦	TP2.5x10
⑧	T3 x4
⑨	T3 x8
⑩	T3 x10

DVD PART



AMP PART



MECHANICAL PARTSLIST

AMP PART

301	9965 000 38135	AMP LENS
302	9940 000 03487	AMP VOLUME KNOB
303	9940 000 05322	AMP CABINET FRONT (for -/37)
303	9940 000 04687	AMP CABINET FRONT (for -/93)
304	9940 000 03482	AMP SOURCE BUTTON
306	9940 000 03492	AMP SOURCE BUTTON-BRACKET
307	9940 000 03481	LOGO LIGHT GUIDE
311	9965 000 38159	TOP COVER1 (for -/37)
311	9965 000 38669	TOP COVER1 (for -/93)
312	9940 000 03477	TOP LIGHT LENS
313	9940 000 03468	TOP COVER2
314	9940 000 05324	AMP TOP COVER (for -/37)
314	9940 000 03469	AMP TOP COVER (for -/93)
316	9965 000 38154	AMP CABINET BACK (for -/37)
316	9965 000 38670	AMP CABINET BACK (for -/93)
318	9940 000 03491	RUBBER FOOT(B)
319	9965 000 38155	AMP CABINET BOTTOM

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

ACCESSORIES

9965 000 38162	SPEAKER BOX ASS'Y PH
9965 000 38163	SUPER WOOFER SPEAKER BOX
9940 000 05226	REMOTE CONTROL ASS'Y
9940 000 03506	SPEAKER CONNECTION WIRE
9940 000 03585	AV CABLE
9940 000 02562	AM ANTENNA HOLDER
9940 000 03517	AM ANT SINGLE JUMPER WIRE
9940 000 03516	FM ANTENNA 1P WIRE 1.5M
9940 000 04684	BRACKET ASS'Y PH-MCD705
9940 000 03802	34P CONNECT DVD TO AMPLIFIER

12 - 2

MECHANICAL PARTSLIST

DVD PART

401	9965 000 38156	DVD LENS
402	9940 000 03495	DVD DOOR BRACKET
403	9940 000 03413	VFD DISPLAY
404	9940 000 05323	DVD CABINET FRONT (for -/37)
404	9940 000 04691	DVD CABINET FRONT (for -/93)
405	9940 000 05163	DVD DOOR POST-L
406	9940 000 03488	DVD STANDBY BUTTON
407	9940 000 02491	WORM PREFORMING NE-1300 ASS'Y
408	9965 000 38157	DVD DOOR (for -/37)
408	9940 000 03476	DVD DOOR (for -/93)
410	9940 000 03496	DVD STANDBY BUTTON-BRACKET
411	9965 000 38158	DVD MECHA. KENWOOD 510A
412	9965 000 38159	TOP COVER1
413	9940 000 03468	TOP COVER2
414	9940 000 03477	TOP LIGHT LENS
416	9940 000 05321	DVD TOP COVER (for -/37)
416	9940 000 03471	DVD TOP COVER (for -/93)
417	9940 000 05329	DVD CABINET BACK (for -/37)
417	9940 000 05159	DVD CABINET BACK (for -/93)
419	9940 000 03494	DVD SKIP BUTTON BRACKET
421	9940 000 03493	DVD CONTROL BUTTON BRACKET
422	9940 000 03484	DVD CONTROL BUTTON-1
423	9940 000 03485	DVD CONTROL BUTTON-2
424	9940 000 03486	DVD CONTROL BUTTON CENTRE
426	9940 000 05164	DVD DOOR POST-R
427	9940 000 03489	RUBBER FOOT(A)
428	9965 000 38160	DVD CABINET BOTTOM
429	9940 000 03483	DVD SKIP BUTTON
431	9940 000 05162	OPEN/CLOSE
432	9940 000 03455	DVD MECHANISM RUBBER CUSHION
433	9965 000 38161	DVD DECODER CARD 89E18(2.0CH)
434	9940 000 03816	DVD MECHANISM RT656K
	9940 000 03459	DOOR SWITCH

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

ELECTRICAL PARTSLIST - DVD PART

- MISCELLANEOUS -

F209	⚠	9940 000 03412	FUSE F1.5A/125V
F201	⚠	9940 000 02529	FUSE F2AL250V
RCA204		9940 000 03414	RCA SOCKET
JAK202		9940 000 02553	3PINS RCA SOCKET(R/B/G)
JACK4		9940 000 02554	S-VIDEO SINGLE RCA SOCKET
JAK130		9940 000 02556	OPTICAL & COAXIAL SOCKET
X201		9940 000 03152	CERMIC FILTER FREQUENCY 4.19MHZ
X202		9940 000 02551	CRYSTAL OSC FREQ. 32.768 KHZ
		9940 000 03499	FLAT FLEX CABLE 24P
VFD701		9940 000 03413	VFD DISPLAY
SW601		9940 000 02543	LIGHT TOUCH SWITCH
SW602		9940 000 02543	LIGHT TOUCH SWITCH
SW603		9940 000 02543	LIGHT TOUCH SWITCH
SW604		9940 000 02543	LIGHT TOUCH SWITCH
SW605		9940 000 02543	LIGHT TOUCH SWITCH
SW606		9940 000 02543	LIGHT TOUCH SWITCH
SW607		9940 000 02543	LIGHT TOUCH SWITCH
SW608		9940 000 02543	LIGHT TOUCH SWITCH
		9965 000 38165	CPU PCB ASS'Y

- DIODES -

D206	9940 000 03714	DIODE IN60 L=52MM
D210	9940 000 02544	RECTIFIER DIODE IN5822
DZ201	9940 000 03407	ZENER DIODE 3.3V
DZ202	9940 000 03408	ZENER DIODE 27V
BD201	9940 000 02521	THYRISTOR RS406(4A)
LED601	994000002537	LED LAMP(BLUE)
LED1104	994000003437	LED DIODE (BLUE)
LED1104	994000003437	LED DIODE (BLUE)
LED1200	994000003437	LED DIODE (BLUE)
LED1200	994000003437	LED DIODE (BLUE)
LED1201	994000003437	LED DIODE (BLUE)
LED1201	994000003437	LED DIODE (BLUE)

- IC & TRANSISTORS -

IC208	9940 000 02546	IC YD2576-ADJ
IC202	9940 000 02547	IC AT24C02-PC27(2.7V)
IC207	9940 000 02548	IC LM7805
IC209	9940 000 02548	IC LM7805
IC203	9965 000 38164	CPU U252(3P9228 XYZ)
IC601	9940 000 02539	IC PT6311

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

ELECTRICAL PARTSLIST - AMP PART

- MISCELLANEOUS -

F169	⚠	9965 000 38168	FUSE F1A/125V
F101	⚠	9940 000 02531	FUSE F4AL250V
F102	⚠	9940 000 02531	FUSE F4AL250V
F169	⚠	9965 000 38168	FUSE F1A/125V
F101	⚠	9940 000 02531	FUSE F4AL250V
F102	⚠	9940 000 02531	FUSE F4AL250V
JAK100		9940 000 02528	4PINS RCA SOCKET
SPK101		9940 000 02527	4PINS SPEAKER SOCKET
J1201		9965 000 38167	1P RCA SOCKET
JACK1		9940 000 03435	ANT. LEADING-OUT JACK (for -/37)
JACK1		9940 000 04941	FM OUTPUT SOCKET (for -/93)
		9940 000 02535	VOLUME CODER ED-1612-00-F15
S1		9965 000 38169	REMOTE SENSOR
SW901		9940 000 03432	LIGHT TOUCH SWITCH
X1		9940 000 03452	CRYSTAL 75KHz ±20PPm
T501	⚠	9965 000 38170	TRANSFORMER 120V/60 (for -/37)
REL501		9965 000 38171	RELAY OM1-SS112L.300 12V (for -/37)
	⚠	9965 000 38172	TRANSFORMER 120V/60 UL (for -/37)
	⚠	9965 000 38668	TRANSFORMER 220V/50 (for -/93)
	⚠	9940 000 04884	AC SOCKET 1A/250V (for -/93)
	⚠	9940 000 05316	AC SOCKET 2.5A/250V (for -/37)
	⚠	9940 000 04681	AC LINE CORD 1.8M UL (for -/37)
	⚠	9940 000 05166	AC LINE CORD 1.8M AC-01(for -/93)
		9965 000 38173	ECO6-02 TUNER BOARD ASS'Y (for -/37)
		9940 000 05507	ECO6-01 TUNER BOARD ASS'Y (for -/93)
		9965 000 38174	AMP PCB ASS'Y

- DIODES -

D1	9940 000 03764	DIODE BAV99 (for -/93)
D2	9940 000 03759	CHIP DIODE BAS316
D3	9940 000 03155	VARIODE DIODE I348 L13 (for -/93)
D3	9940 000 03796	VARIODE DIODE HN1V02H SOP8 (for -/37)
D4	9940 000 03763	VARIODE DIODE BB804 (for -/93)
D5	9940 000 03763	VARIODE DIODE BB804 (for -/93)
DZ1	9940 000 03761	CHIP ZENER DIODE BZX384-C11
LED1001	9940 000 03436	WHITE LED DIODE
LED1100	9940 000 03437	LED DIODE (BLUE)
LED1100	9940 000 03437	LED DIODE (BLUE)
LED1101	9940 000 03437	LED DIODE (BLUE)
LED1101	9940 000 03437	LED DIODE (BLUE)
LED1103	9940 000 03437	LED DIODE (BLUE)
LED1103	9940 000 03437	LED DIODE (BLUE)
DZ901	9940 000 02516	ZENER DIODE 5.1V 1/2W-52

- COILS & FILTERS -

T1	9940 000 05141	I.F.T. COIL BROWN 6298
T2	9940 000 05139	I.F.T. COIL BROWN 6298
T3	9940 000 05139	I.F.T. COIL BROWN 6298
T4	9940 000 05142	I.F.T. COIL BROWN 6299
T5	9940 000 05138	I.F.T. COIL BROWN 6296

ELECTRICAL PARTSLIST - AMP PART

- COILS & FILTERS -

T7	9940 000 05137	I.F.T. COIL BROWN 6295
CF1	9940 000 05143	AM FILTER 10,73MHZ (for -/37)
CF2	9940 000 05143	AM FILTER 10,73MHZ (for -/37)
CF4	9940 000 05143	AM FILTER 10,73MHZ (for -/37)
CF1	9940 000 03153	FM CERMIC FILTER 10.7MHz (for -/93)
CF2	9940 000 03153	FM CERMIC FILTER 10.7MHz (for -/93)
	9940 000 03151	AM FILTER 450J

- IC & TRANSISTORS -

IC1	9940 000 03797	IC TEA5762 (for -/37)
IC1	9940 000 03421	IC TEA5757H (for -/93)
IC102	9940 000 04669	IC TL072
IC101	9940 000 05066	I.C.PT2314 PRINCETON
IC103	9965 000 38166	IC TDA7265 SGS-THOMSON
IC104	9965 000 38166	IC TDA7265 SGS-THOMSON
IC105	9940 000 02526	IC 7812

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