DVD Micro System

MCD706

all versions

Service
Service
Service

Service Manual

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LASER PRODUCT

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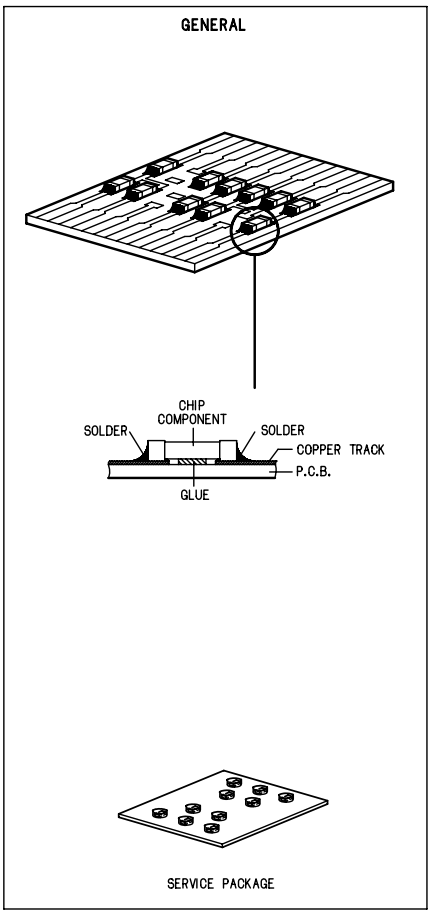
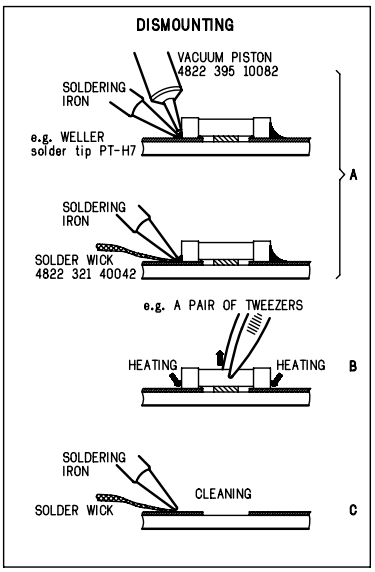
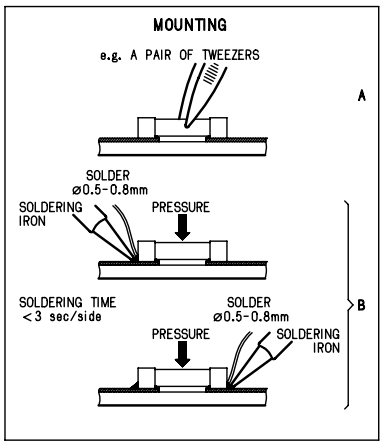
Version 1.0

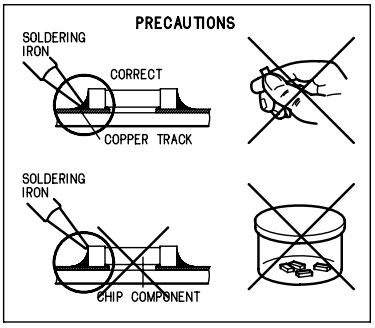
PHILIPS

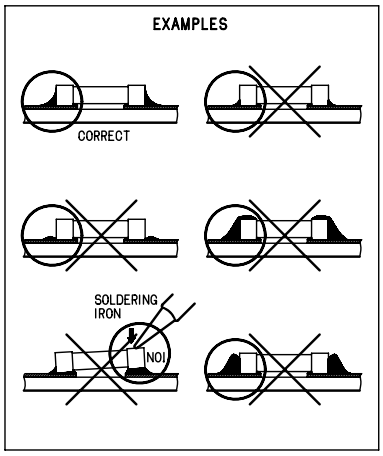
HANDLING CHIP COMPONENTS











(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 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 oorspronkeliijke 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

GENERAL

Mains voltage	-/98	:	120/230V
	-/61/93	:	220V
	-/12	:	230V
	-/79	:	240V
Mains frequency	-/98	:	60/50Hz
	-/12/61/79/93	:	50Hz
Battery	remote	:	3V(AAA x 2)
Power consumption	Nomal	:	35W
	Standby	:	< 4W
	ECO Standby	:	< 1W
Dimention (W x H x D)		:	147 x 232 x 223 mm
Weight (Main set)		:	5.15Kg

AMPLIFIER

Out power	mains	:	2 x 25W
Speaker impedance	mains	:	8 ohm
Frequency response		:	100Hz - 20KHz

TUNER - FM SECTION

	:	
Tuning range	:	87.5~108MHz
IF frequency	:	10.7MHz
Quieting sensitivity(-26dB)	:	< 22 dBf
FM Image Rejection	:	> 25dB
Distortion	:	< 3%
TUNING GRID	:	100k / 50k Hz
S/N	:	> 50

TUNER - AM SECTION

Tuning range	:	531~1602KHz
IF frequency	:	450kHz
Quieting sensitivity(-26dB)	:	3250uV/m
Distortion	:	< 5%
TUNING GRID	:	9k / 10k Hz
IF Rejection	:	> 18 dB
Selectivity	:	> 16dB
S/N	:	> 35

DVD/MP3/CD

Laser Type	Semiconductor
Disc Diameter	12cm / 8cm
Vidio Decoding	MPEG-2 / MPEG-1
Signal System	PAL / NTSC
Vidio S/N	> 53dB
Composite Vidio Output	1.0Vpp(+10/-10%)
Frequency Response	20Hz~20kHz
THD	0.5%(Limit 1%)
Bit rates	8K-320Kps
Sampling rates	8K/11.025K/16K /22.05K/32K /44.1K/48K Hz
S/N (A-weighted)	70dBA(Lim 65 dBA)
Channel Separation	> 25dB

SERVICE TOOLS

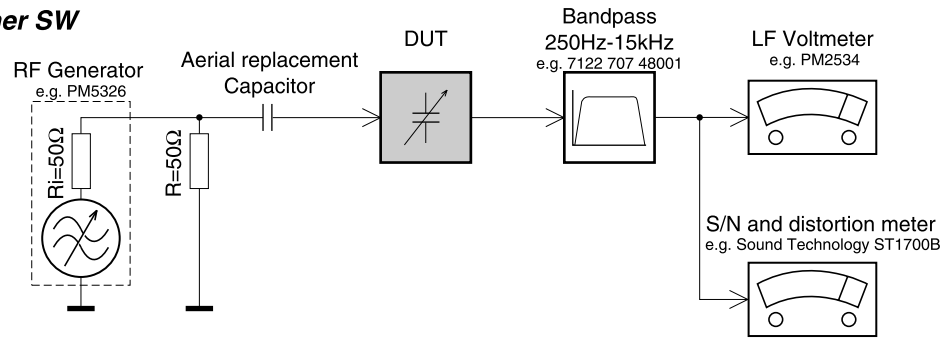
Audio signal disc SBC 429..... 4822 397 30184
Playability test disc SBC 444..... 4822 397 30184
Test disc 5 (disc without erros)+
Test disc 5A (disc with dropout erros,blank spots and fingerprints)
SBC 426/426A..... 4822 397 30096
Burn in test disc (65min. 1kHz signal at -30 dB lever without 'pause').....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

AVAILABLE ESD PROTECTION EQUIPMENT

anti-static table mat	large	1200 x 650 x 1.25mm	: 4822 466 10953
	small	600 x 650 x 1.25mm	: 4822 466 10958
anti-static wristband			: 4822 395 10223
connection box(3 press stud connections, 1Mohm)			: 4822 320 11307
extendible cable (2m, 2Mohm, to connect wristband to connection box)			: 4822 320 11305
connecting cable (3m, 2Mohm, to connect table mat to conection box)			: 4822 320 11306
earth cable (1Mohm, 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

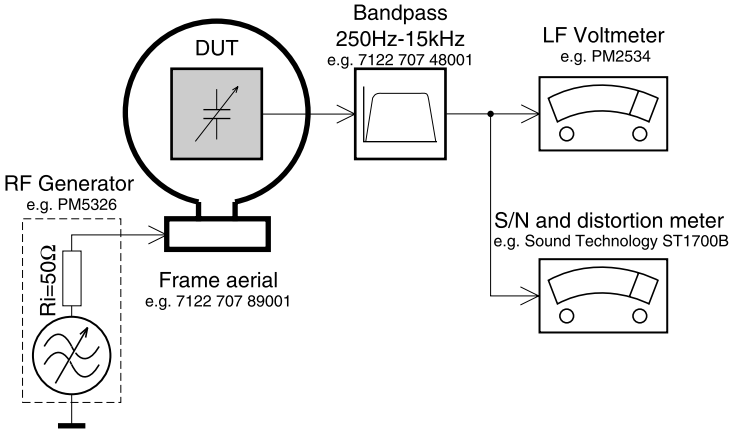
SERVICE MEASUREMENT

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).

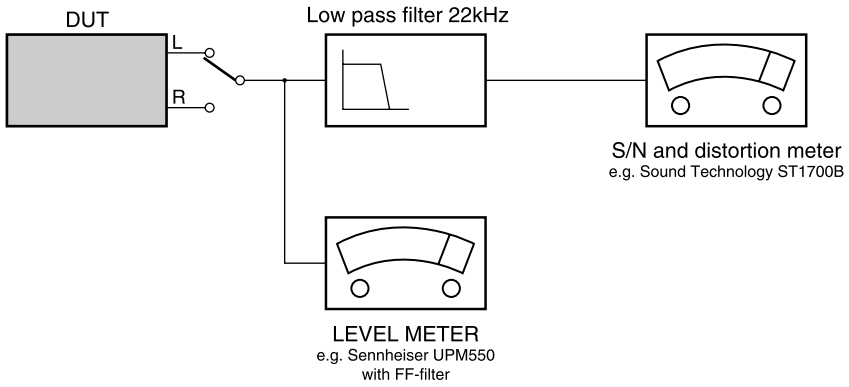
Tuner AM (MW,LW)

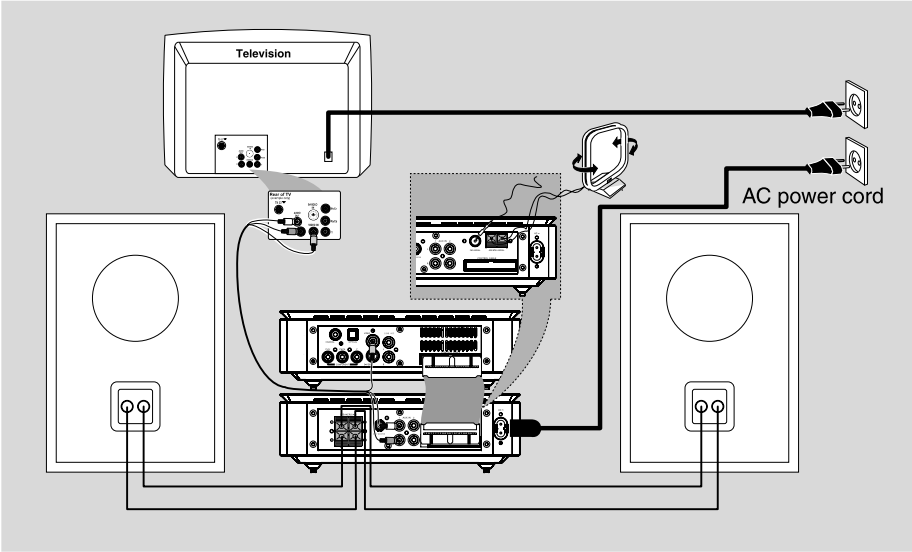


To avoid atmospheric interference all AM-measurements have to be carried out in a Faraday´s cage.

CD

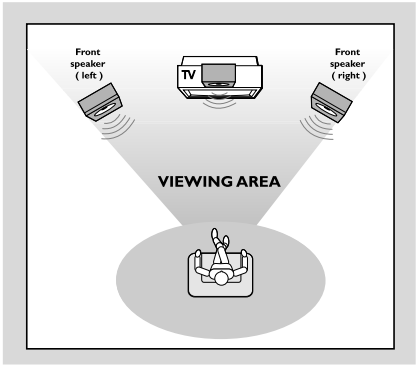
Use Audio Signal Disc SBC429 4822 397 30184 (replaces test disc 3)
L.P.F. = 13 th order filter 4822 395 30204





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 speakers

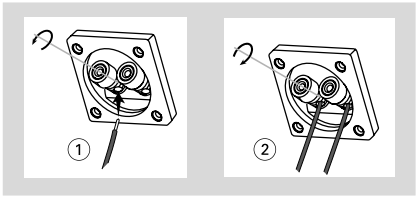


Place the front left and right speakers at equal

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

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 inser t the str ipped portion of the speaker wire into the terminal as shown.



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.

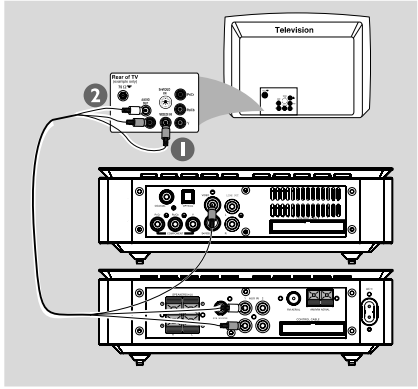
Step 3: Connecting the control cable

*Connect the serial port marked "***CONTROL CABLE***" at the rear of the DVD player to the same por t 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.

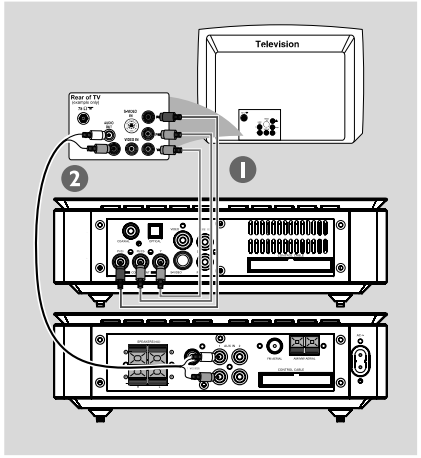
Using Composite Video jack



Use the composite video connectors (yellow) of the supplied audio and composite video cables (2-in1) to connect the DVD system's **VIDEO OUT** *jack to the video input jack (or labeled as A/ V In, CVBS, Composite or Baseband) on the TV.*
To hear the TV channels through this DVD system, use the audio connectors (white/ red) of the supplied audio and composite video cables (2-in1) to connect **AUDIO 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.



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

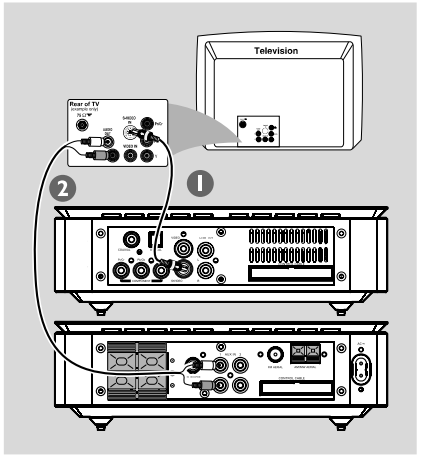
To hear the TV channels through this DV D system, use the audio cables (white/red) to connect AUDIO IN-TV jacks to the corresponding AU DIO OUT jacks on the TV.

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 DV D system Progressive Scan function, see "Getting Star ted-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.

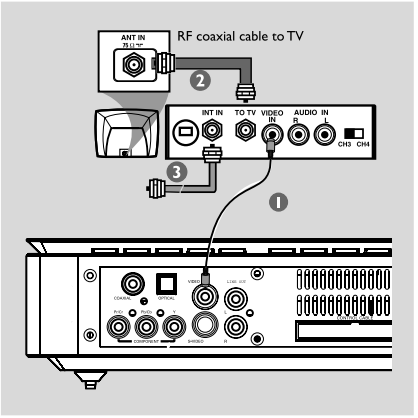


Use an S-Video cable (not supplied) to connect the DV D system 's S-VIDEO jack to the S-Video input jack (or labeled as Y/C or S-VHS) on the TV.

To hear the TV channels through this DV D system, use the audio cab les (white/red) to connect AU DIO IN-TV jacks to the cor responding AUDIO OUT jacks on the TV.

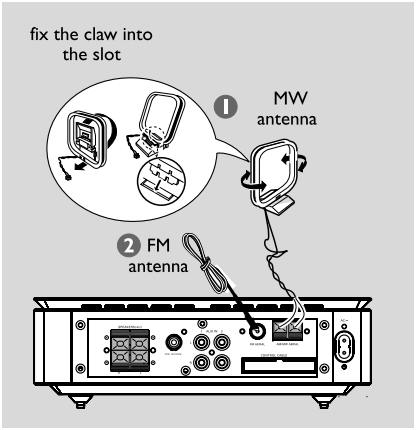
Using an accessory RF modulator

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.

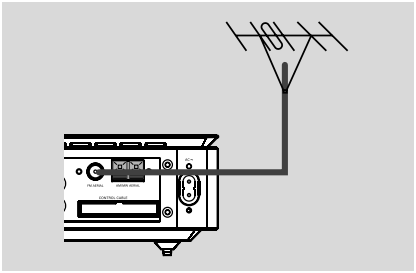


Use the composite video cable (y ello w) to connect the DVD system 's VIDEO OUT jack to the video input jack on the RF modulator . Use an RF coaxial cab le (not supplied) to connect ANTENNA OUT or TO TV jack on the RF modulator to the Antenna IN jack on the TV. Connect the Antenna or Cab le TV service signal to the ANTENNA IN or RF IN jack on the RF modulator. (It may have been connected to your TV previousl y. Disconnect it from the TV.)

Step 5: Connecting FM/MW antennas



Connect the supplied MW loop antenna to the MW jack. Place the MW loop antenna on a shelf or attach to a stand or wall.
Connect the supplied FM antenna to the FM (75) 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.

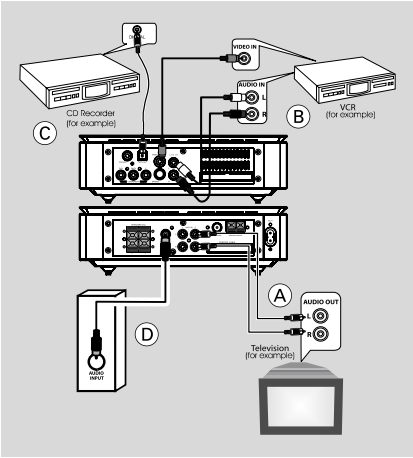
Additional: Connecting additional equipment

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 star ting oper ation, 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.*

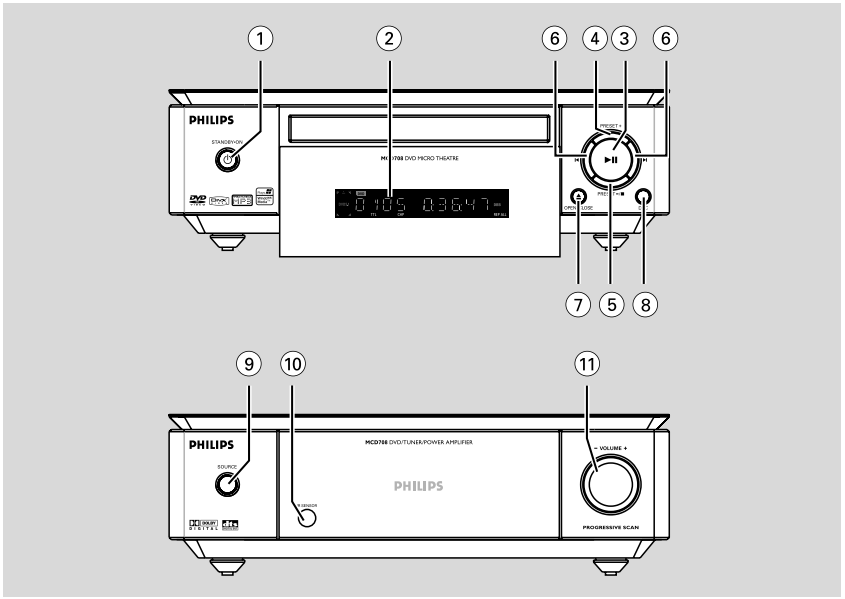
Recording (digital) Ⓒ

Connect the system's **COAXIAL** *or* **OPTICAL** *jack to the DIGITAL IN jack on a digital recording device (such as DTS-Digital Theatre compati ble, with Dol by Digital decoder).*

Before starting operation, set the DIGITA L OUT according to the audio connection. (See "DIGIT AL OUT".)

Connecting an active subwoofer Ⓓ

Connect the DVD micro system's **SUBWOOFER** *jack to the AUDI O INPUT jack on an active subwoof er (not supplied).*



DVD player and power amplifier

① **STANDBY-ON** ⏻
– switches the system on or to standby mode

② **Display**
– shows the current status of theDVD 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.

⑥ **I◀◀/▶▶I**
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/MW.
– switches the system on.

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

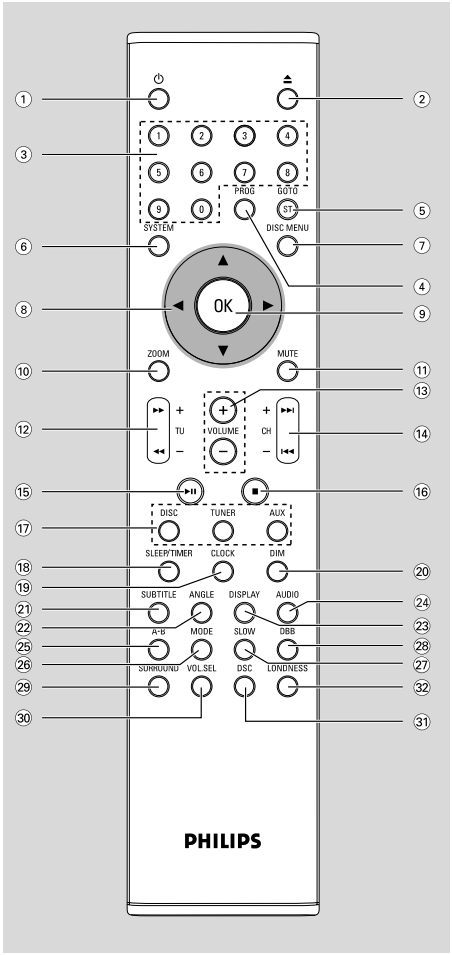
⑪ **VOLUME -/+**
– adjusts the volume upward/downward.
– adjusts the hours and minutes in clock/timer setting mode.
– switches the set timer ON or OF.

Remote control

① ⏻
– *switches the system on/ off.*

② ⏏
– *opens or closes the disc compartment*

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



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.

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/MW.
– For tuner (**TUNER**): press to switch between MW 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.

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

AUDIO

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

for DVD
– selects an audio language.

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

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

㉘ **DBB**
– enables or disables bass enhancement.

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.

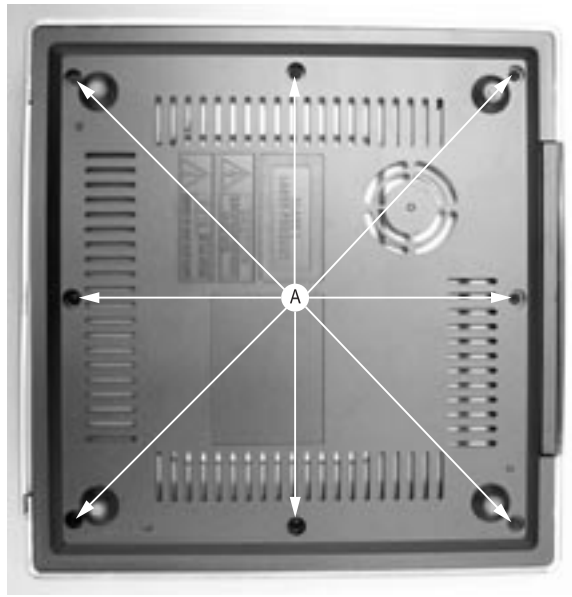
㉛ **DSC**
– selects different types of preset sound equalizer settings (FLAT, POPS, JAZZ, CLASSIC or ROCK).

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

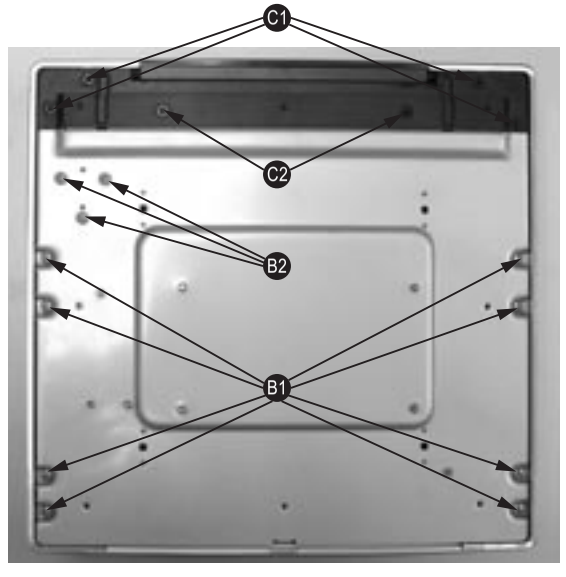
4 - 1

DISASSEMBLY DIAGRAM - DVD PART

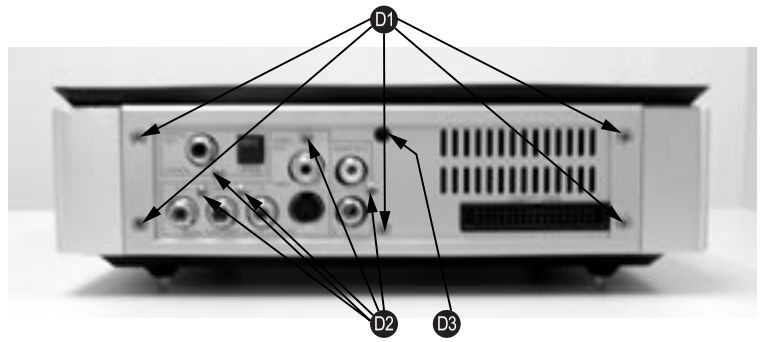
A.Remove Bottom Cover
A1.remove screws M2.5x4(8pcs)



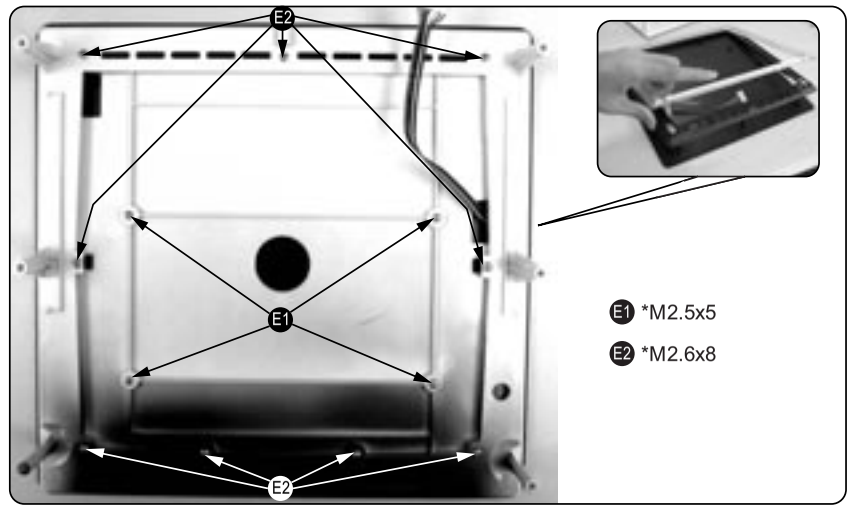
B*.remove screws M3x10(8pcs) and M3x8(3pcs)
C*.remove screws M3x8(4pcs) and T3x4(2pcs)



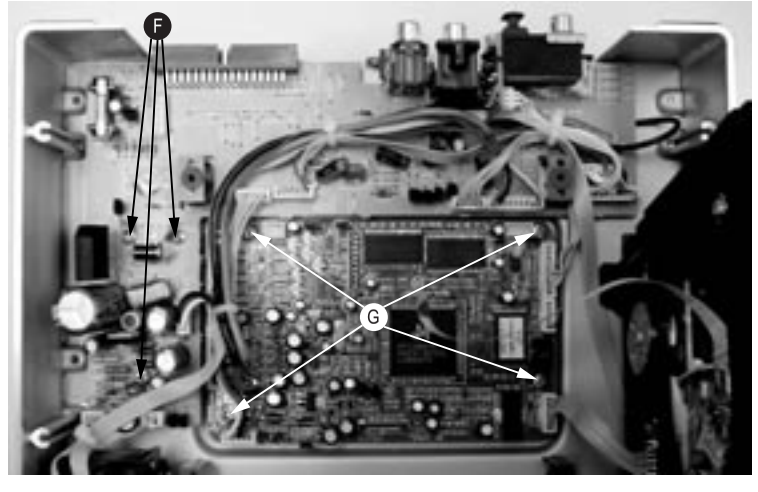
D.Remove Back Panel
D*remove screws T3x4(5pcs)and M3x10(5pcs)and T3x8(1pc)



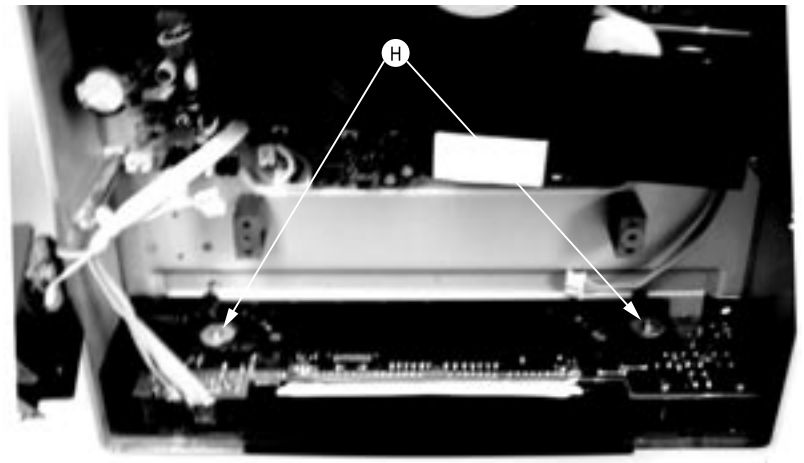
E. Remove Top Cover



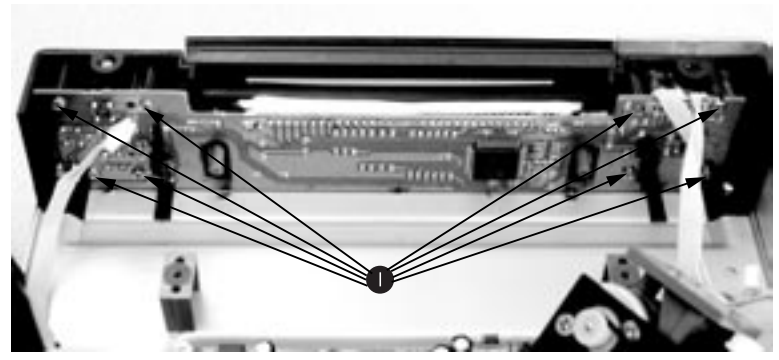
G. Remove DVD Rom and then remove DVD Decoder Card Assy



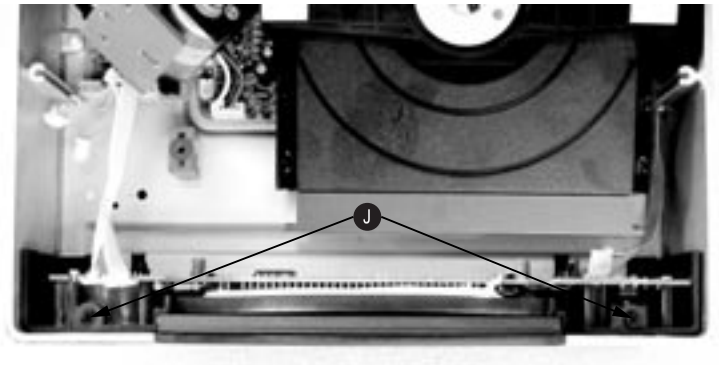
H.Remove Slid Plank



I.Remove VFD board assy



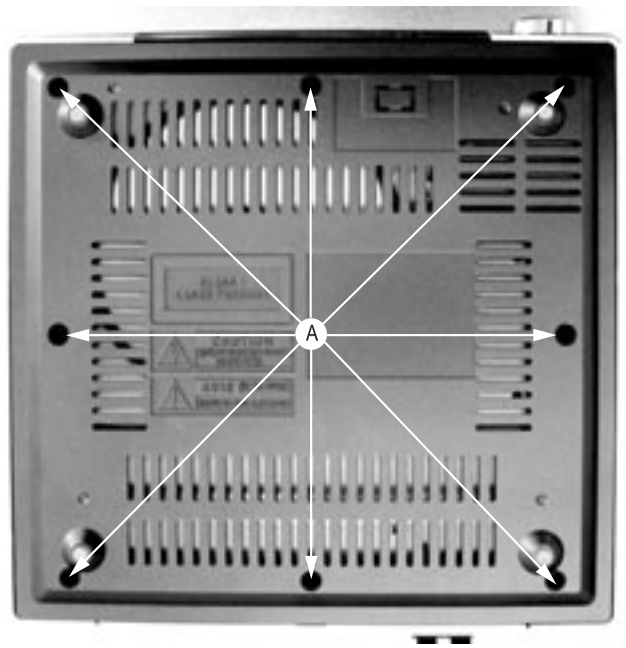
I.Remove Side metal Plate



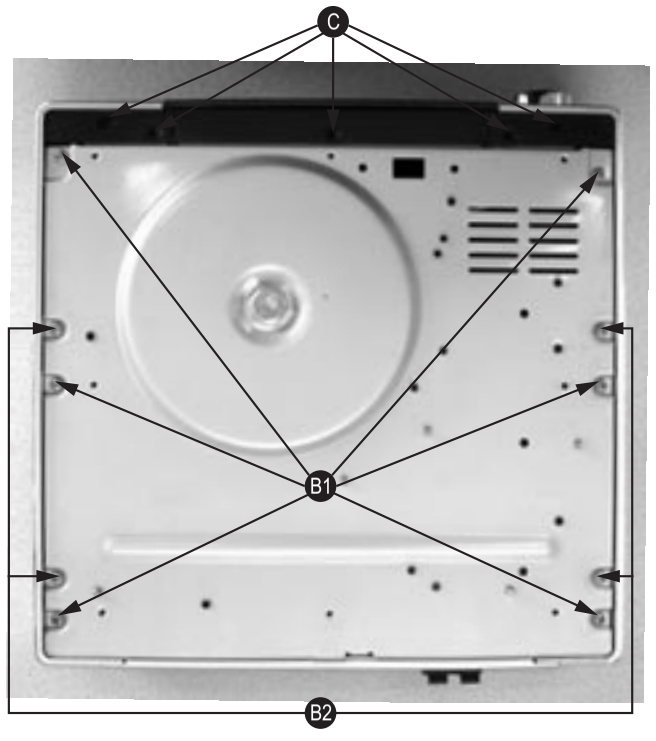
4 - 2

DISASSEMBLY DIAGRAM - AMP PART

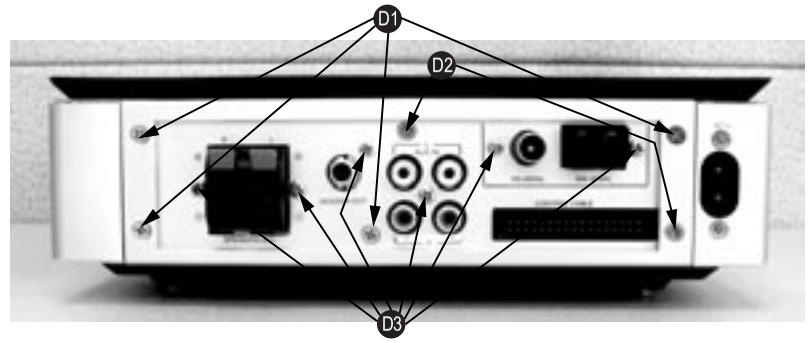
A.Remove Bottom Cover
A1.remove screws M2.5x4(8pcs)



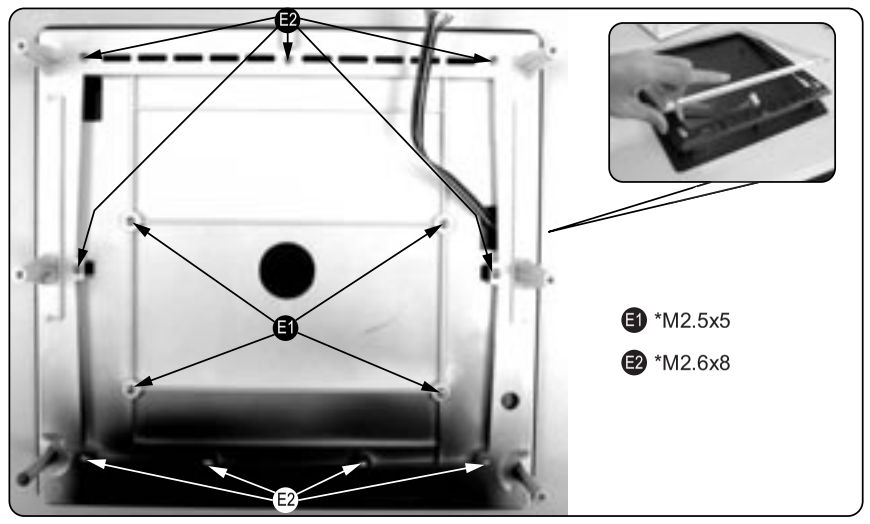
B*.remove screws M3x10(6pcs) and T3x10(4pcs)
C*.remove screws T3x4(5pcs)



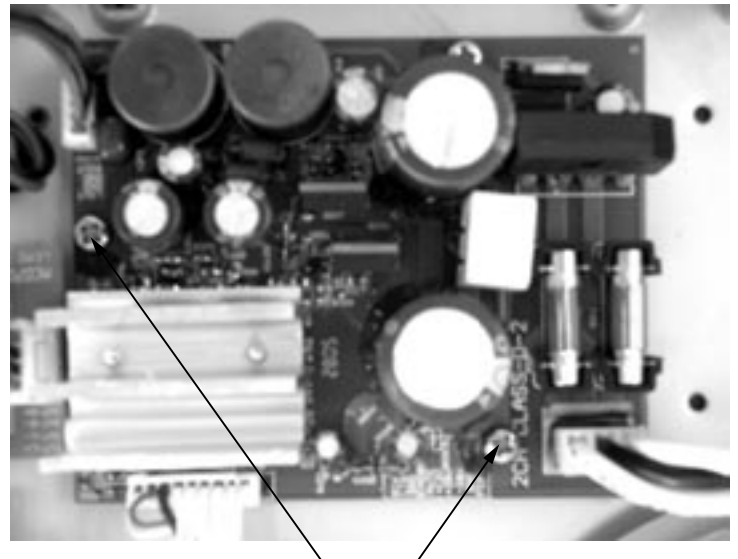
D.Remove Back Panel
D*remove screws T3x4(4pcs)and T3x8(2pcs)and M3x10(6pcs)



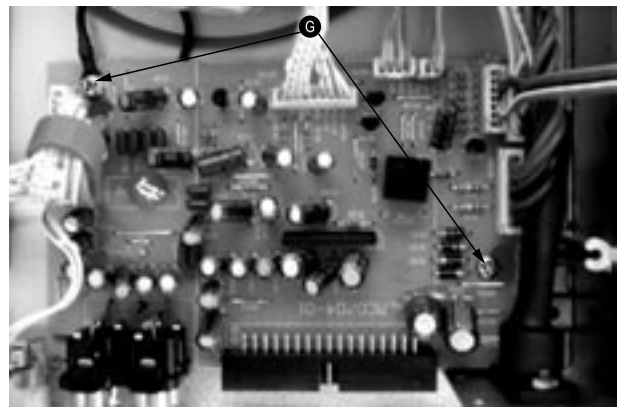
E. Remove Top Cover



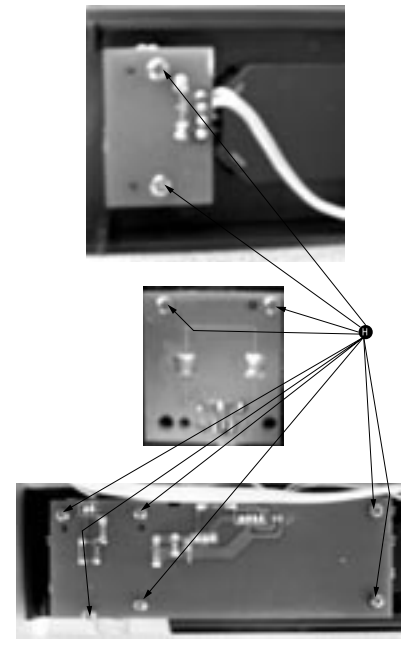
F. Remove AMP Board Assy



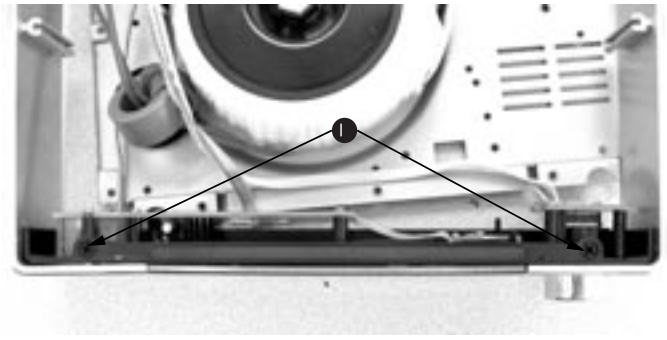
G.Remove ALC Volume board assy



H.Remove AMP Front board assy



I.Remove Side metal Plate



SOFTWARE VERSION AND UPGRADING

A.MPEG SOFTWARE VERSION CHECK

1.Press SYSTEM key to open setup page,

TV Screen shows:

TV Displlay

Osd Lang
Screen Saver
DIVX(R) VOX

2.Press REMOVAL key to the original setup page,

TV Screen shows:

TV Type
Audio
Subtitle
Disc Menu
Parental
Default

3.Enter the password "811502"

TV Screen shows:

Ver MCD706/xxxx
Date mm dd yyyy
Time hh:mm:ss
Region code x

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

5 - 1

B.CPU VERSION CHECK

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

TV screen shows

MCD706 V xx

C. MPEG SOFTWARE UPGRADING

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

2. Prepare a uploading CD

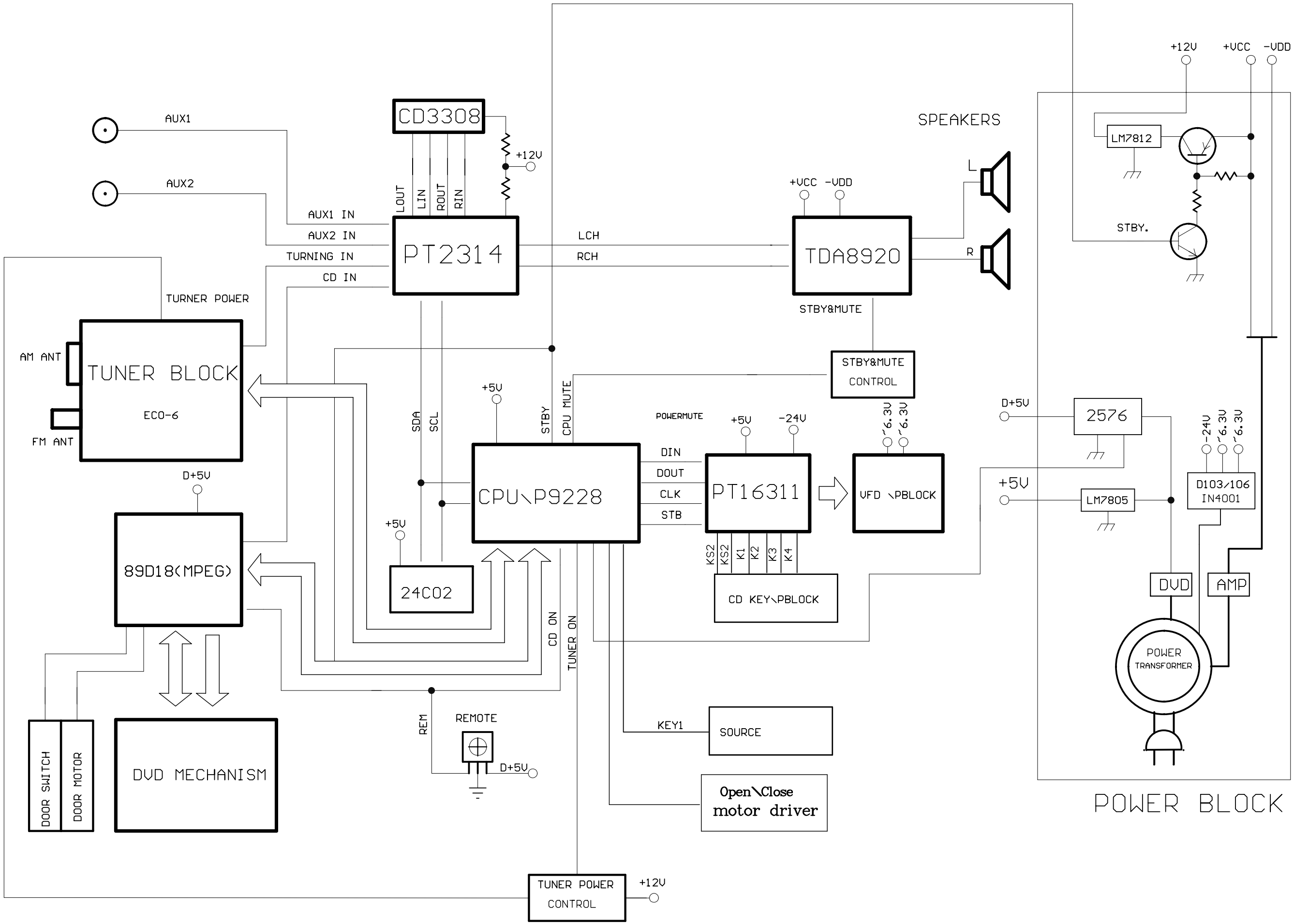
3. Put the CD in the CD tray

4. TV Screen shows

Upgade file deteced
Upgade?
Press PLAY to start
upgrading

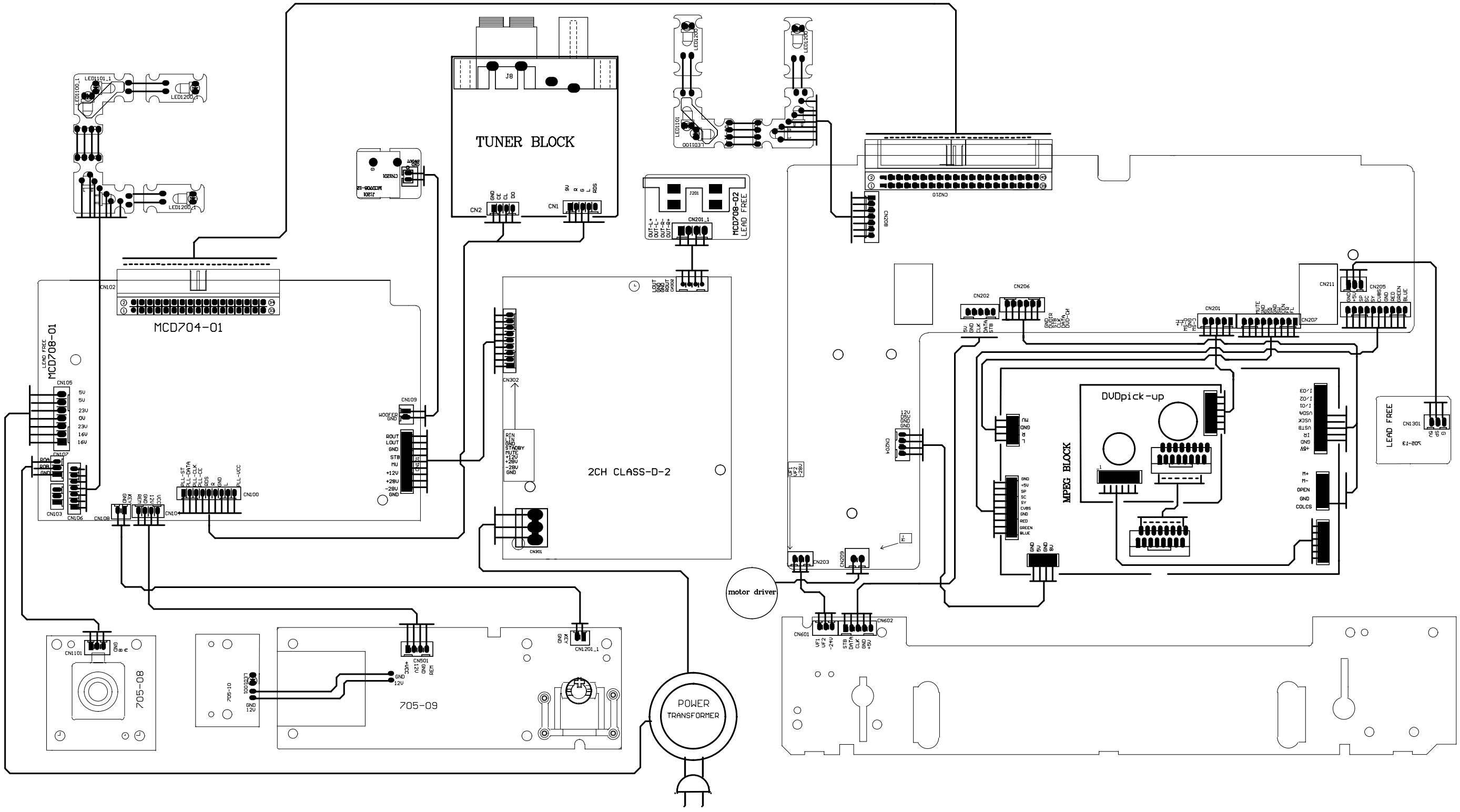
5 - 2

SET BLOCK DIAGRAM



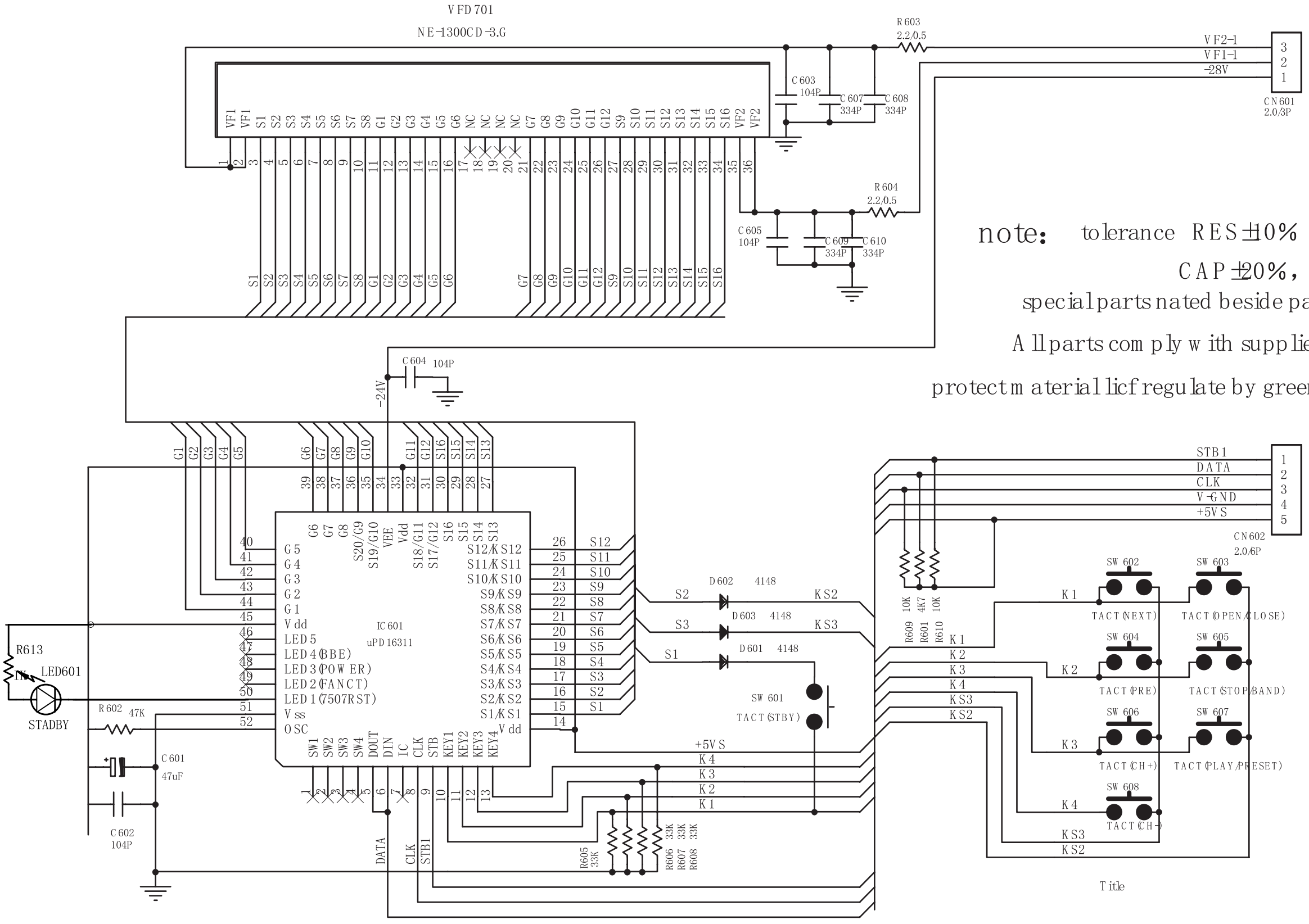
5 - 3

SET WIRING DIAGRAM



6 - 1

CIRCUIT DIAGRAM - VFD BOARD



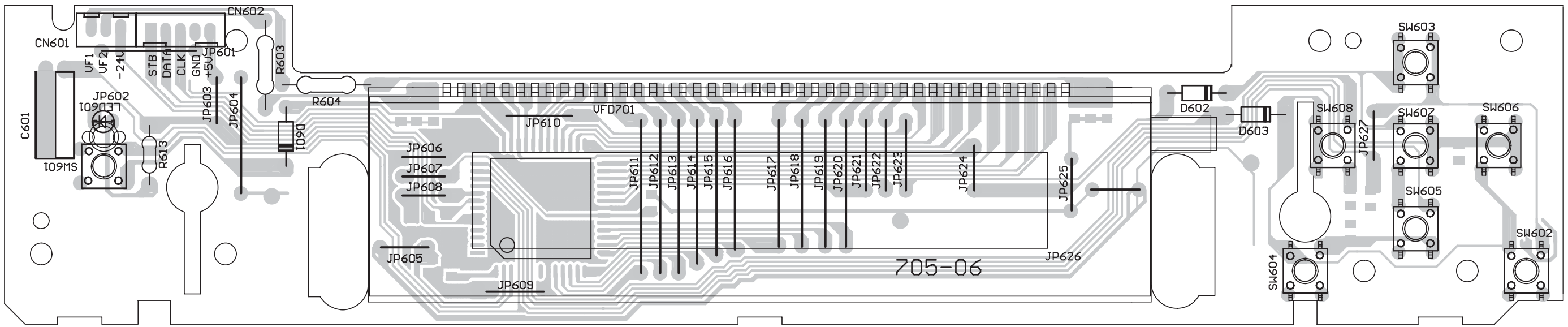
note: tolerance RES±10%
CAP±20%,
special parts nated beside parts
All parts com ply w ith suppliey environm ent
protect m aterial licf regulate by green envionm entm a

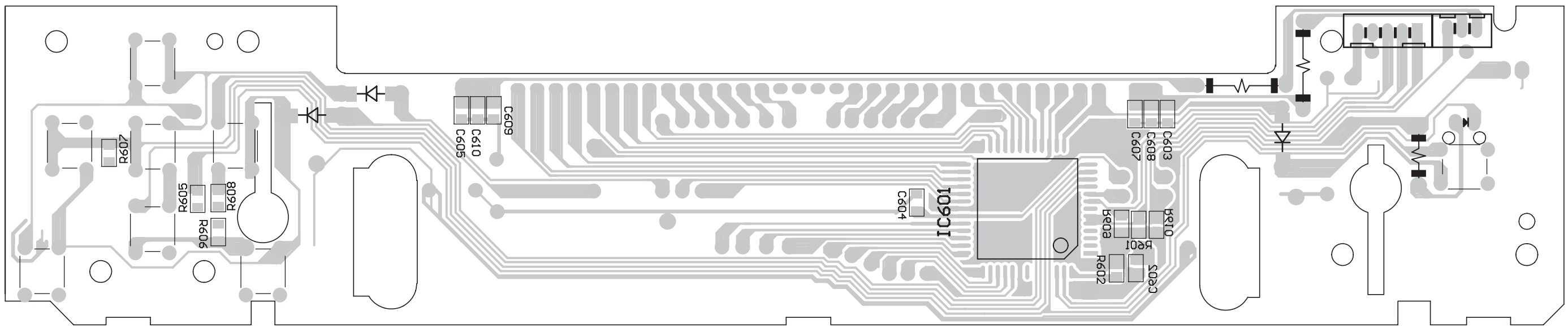
Title

Size Num ber

6 - 2

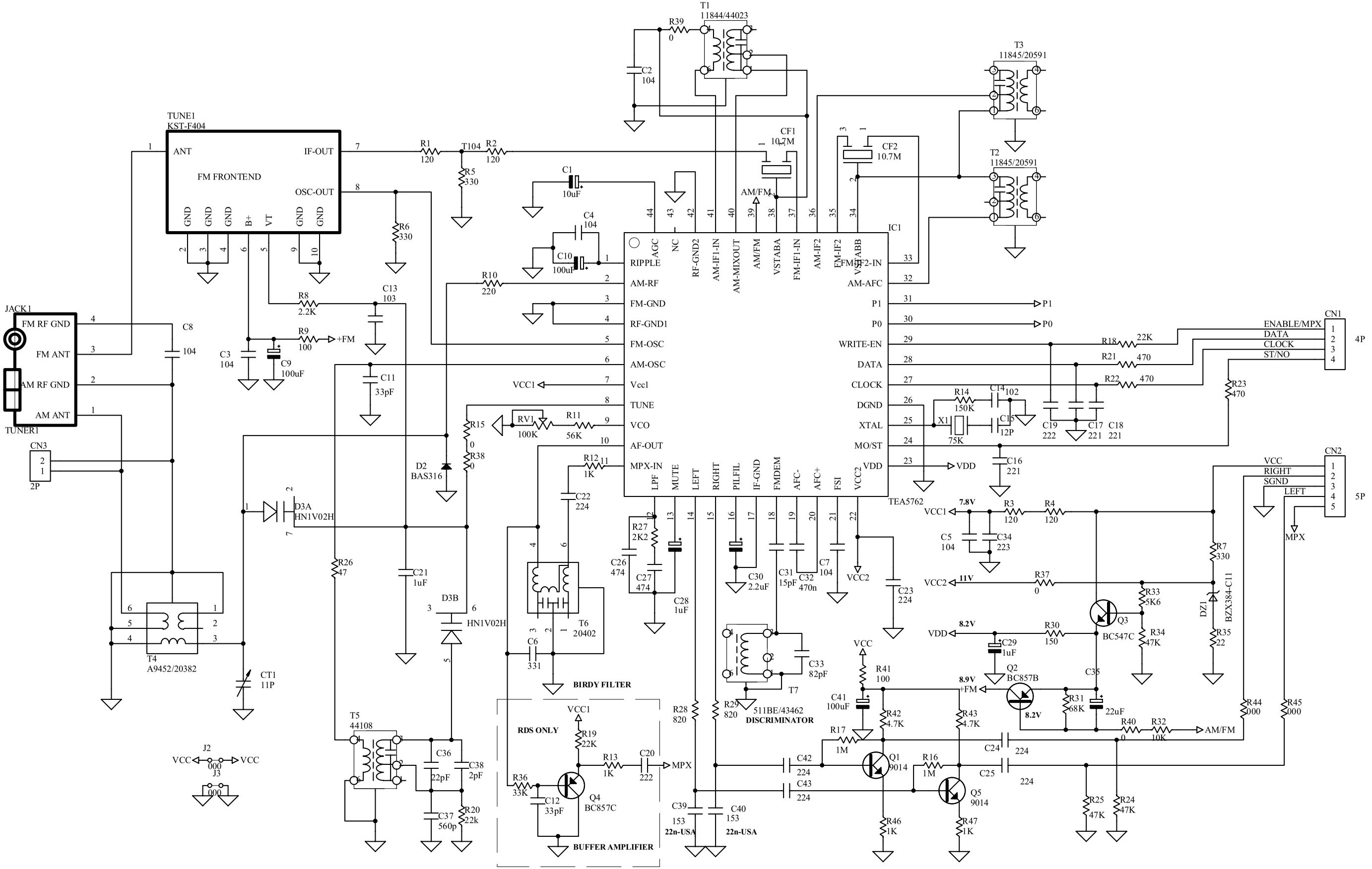
LAYOUT DIAGRAM - VFD BOARD



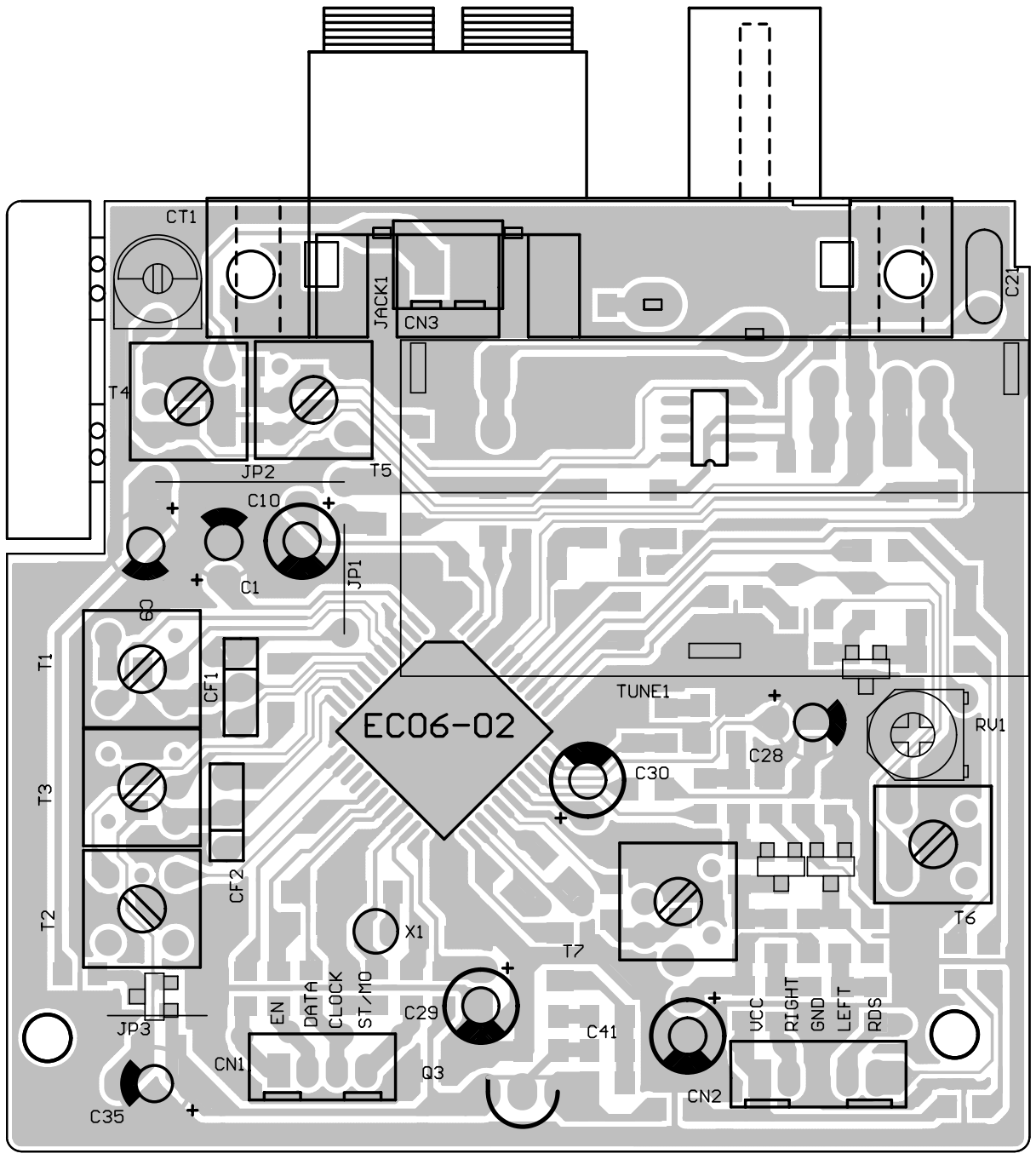


7 - 1

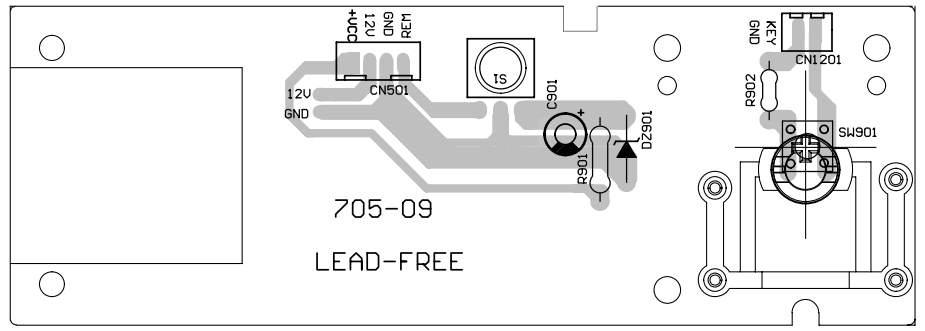
CIRCUIT DIAGRAM - TUNER BOARD

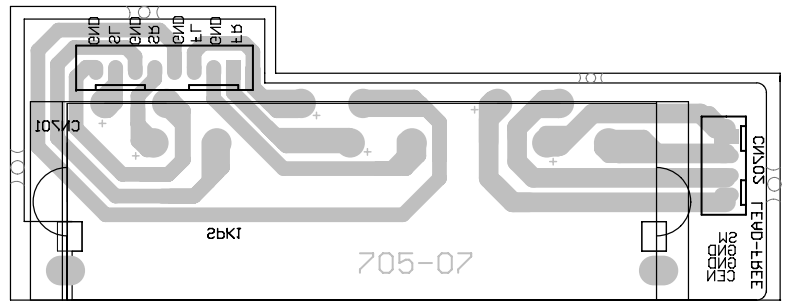


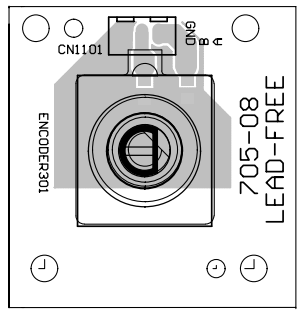
LAYOUT DIAGRAM - TUNER BOARD

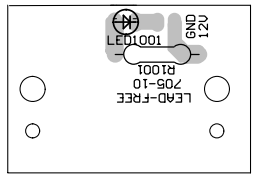


LAYOUT DIAGRAM - AMP BOX PCB ASSY

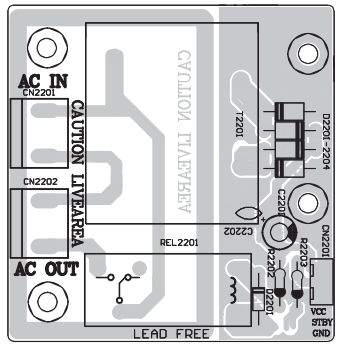






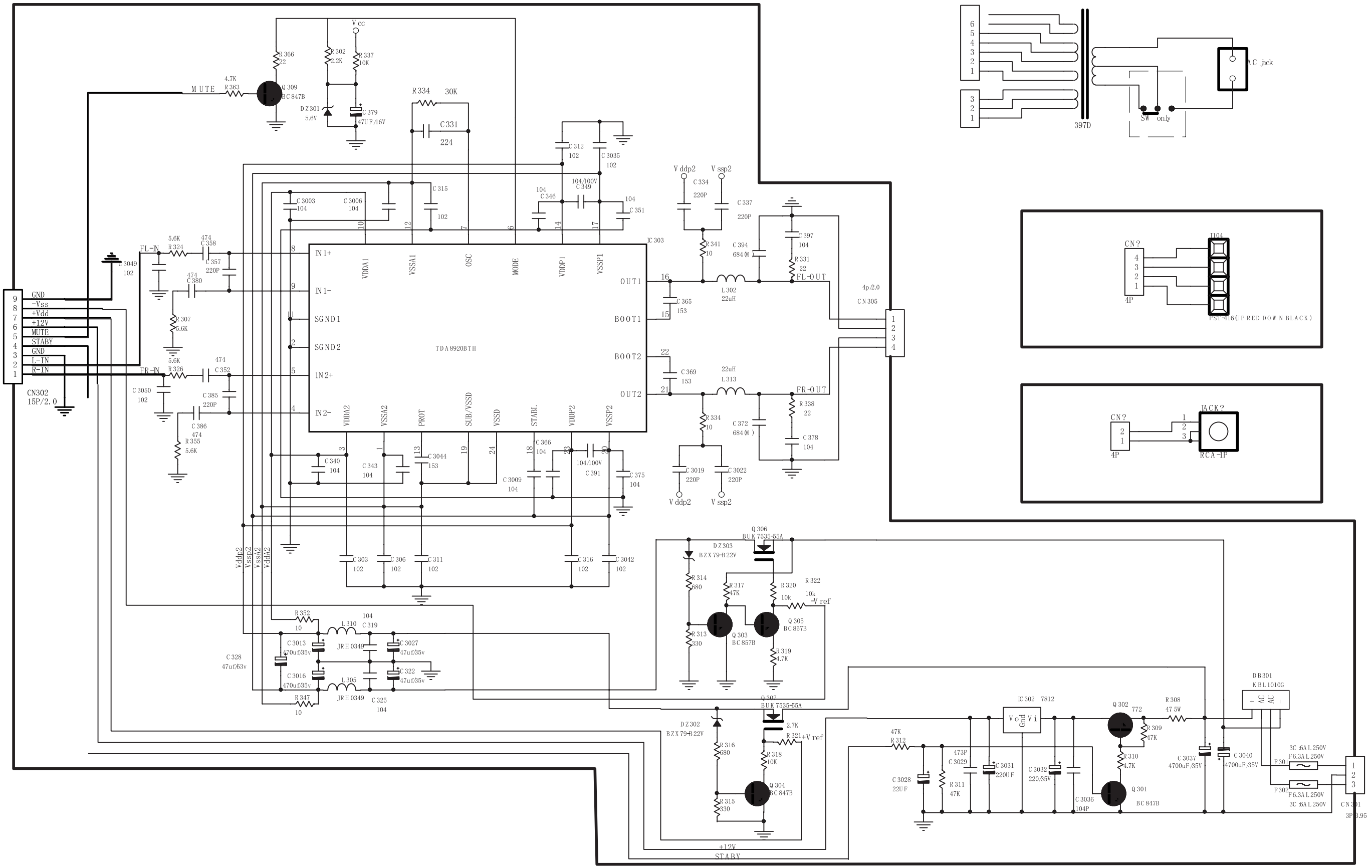


ONLY FOR - / 12



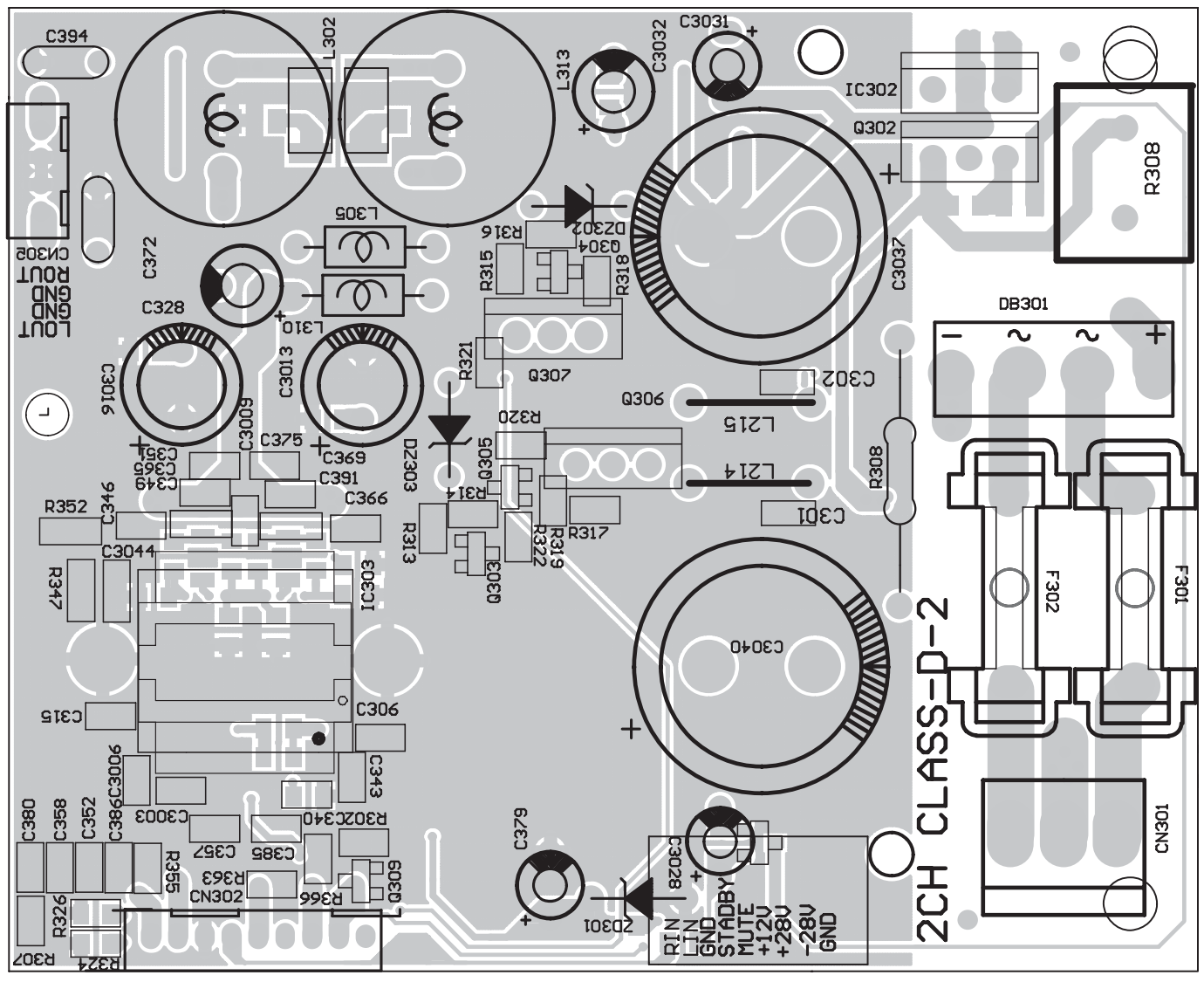
8 - 1

CIRCUIT DIAGRAM - AMP BOARD



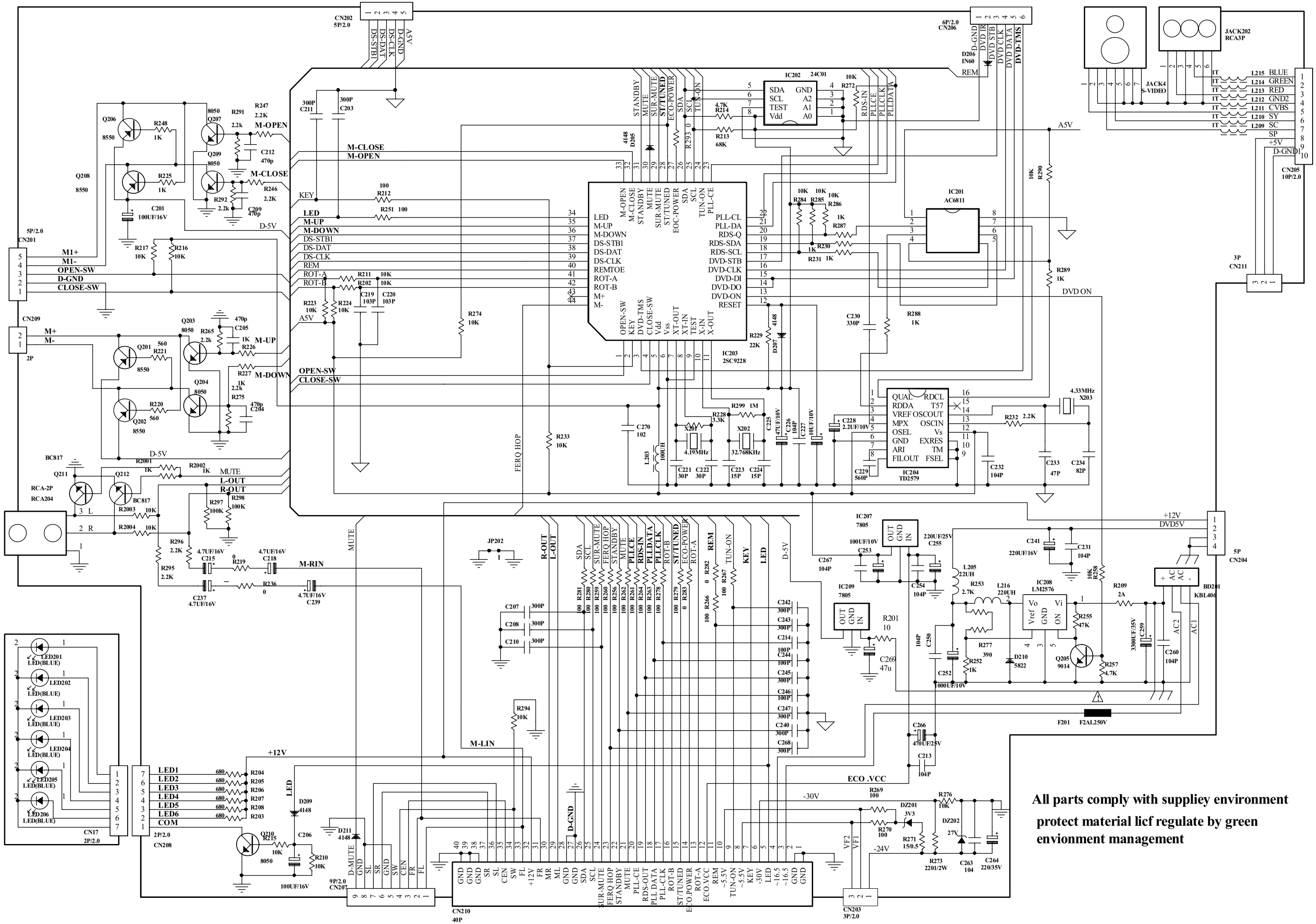
8 - 2

LAYOUT DIAGRAM - AMP BOARD



9- 1

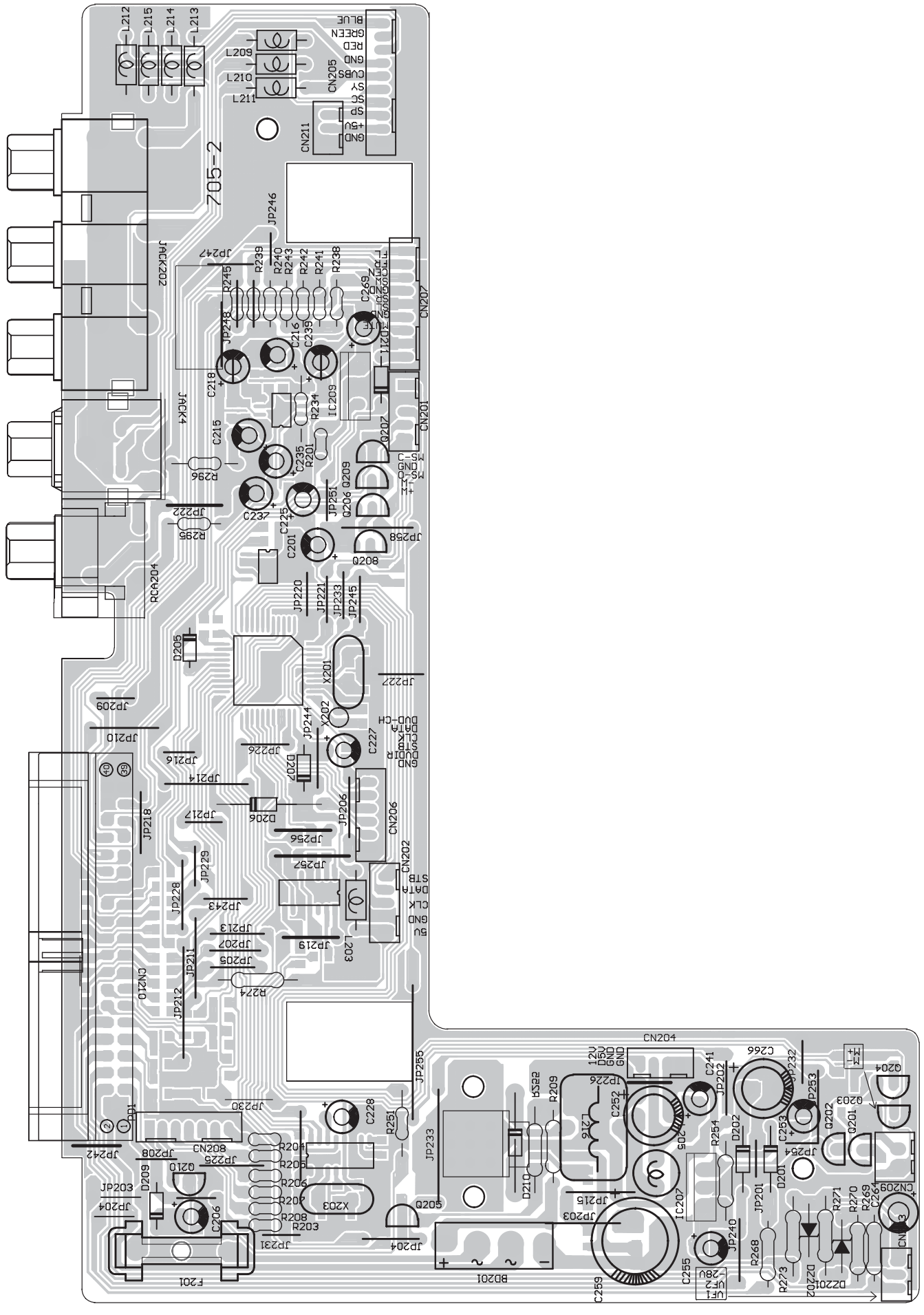
CIRCUIT DIAGRAM - CPU BOARD



All parts comply with suppliey environment protect material licf regulate by green envionment management

9 - 2

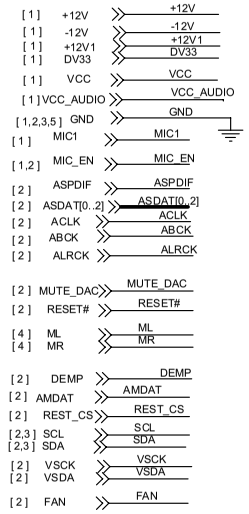
LAYOUT DIAGRAM - CPU BOARD

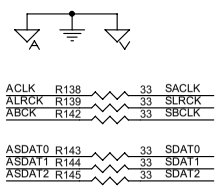


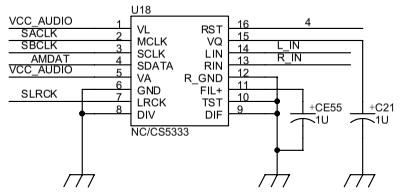
10 - 1

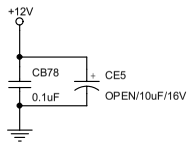
CIRCUIT DIAGRAM - DVD MPEG BOARD

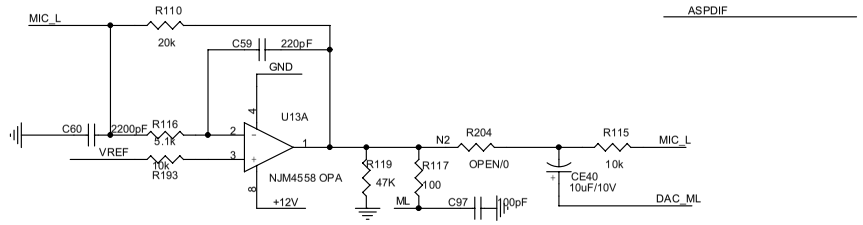
MPEG board is not repaired,program for referrence only.

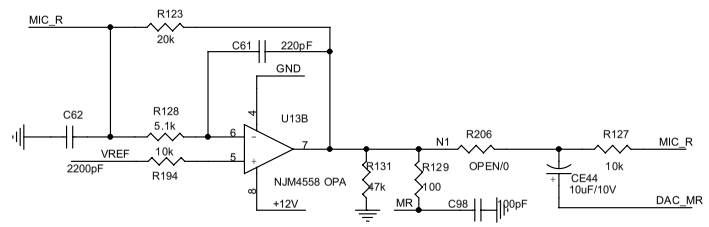


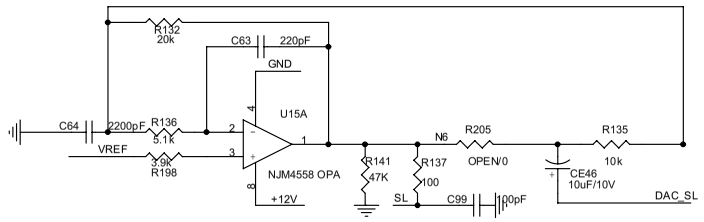


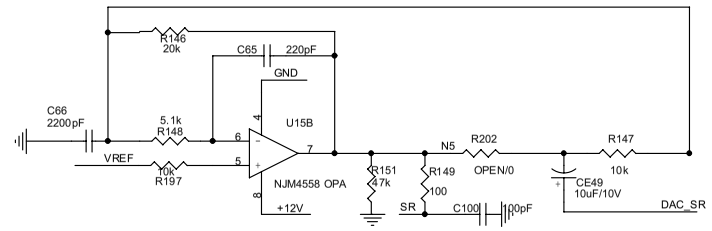


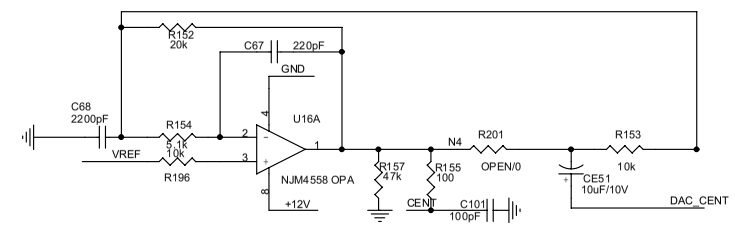


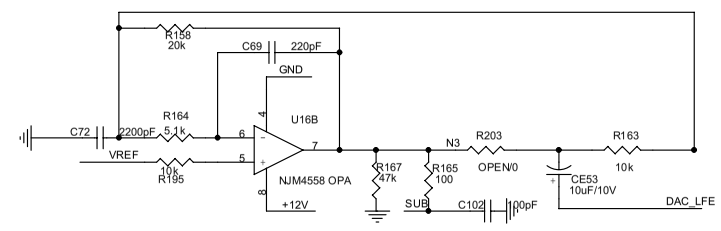


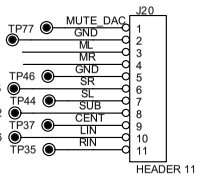


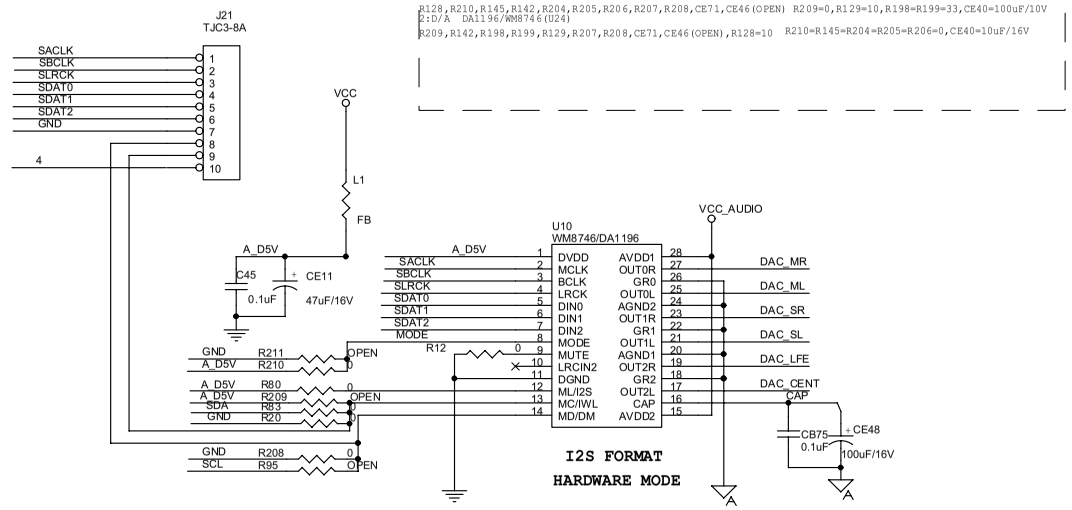


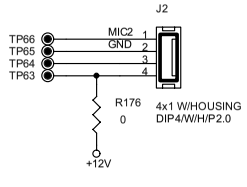


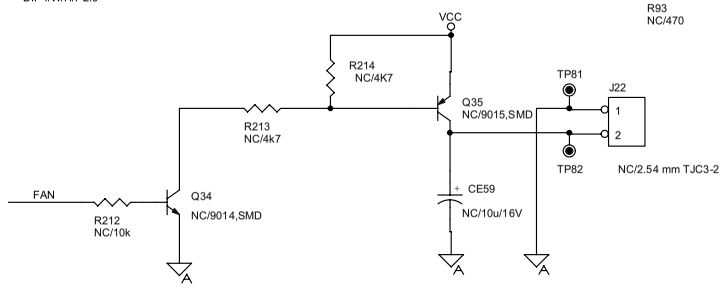


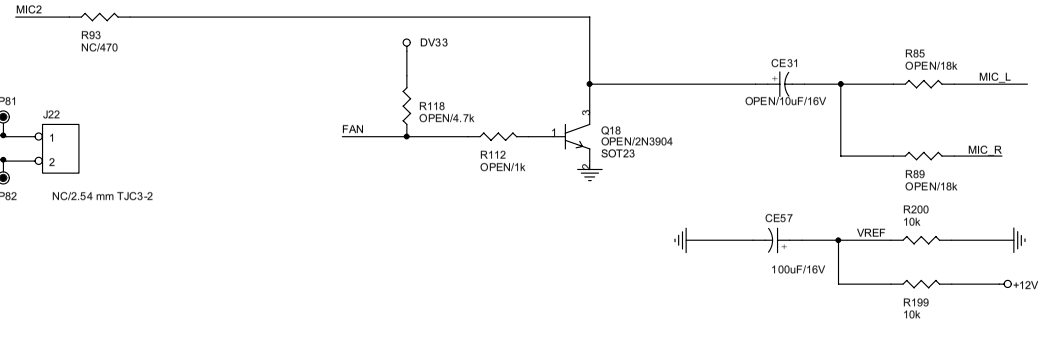








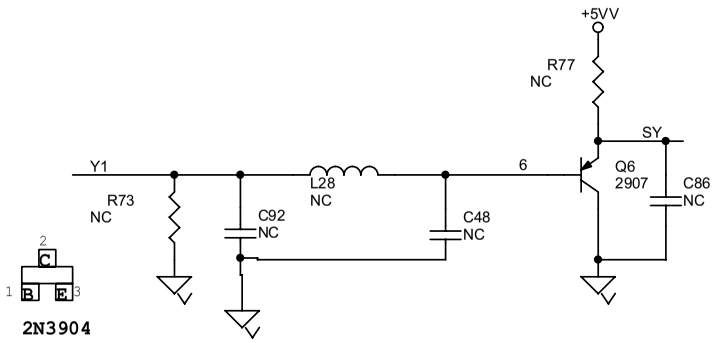


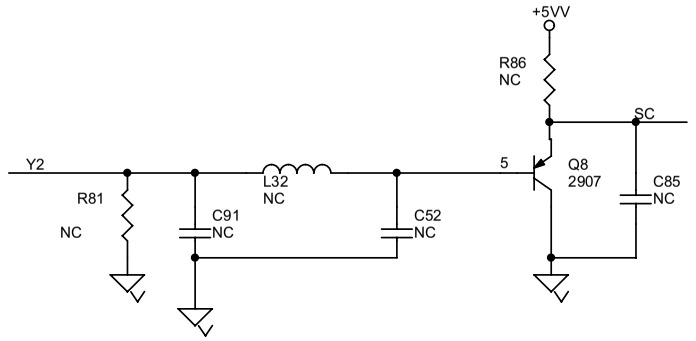


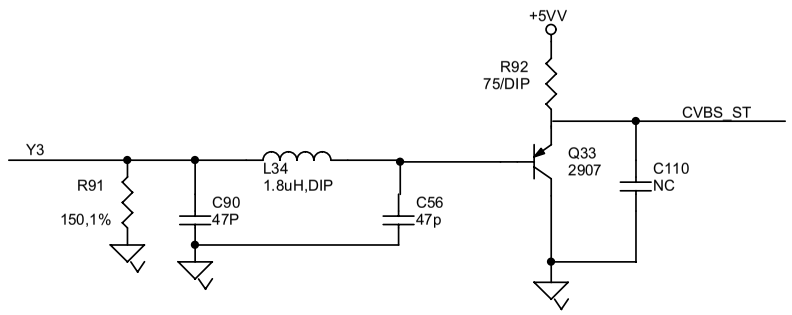
10 - 2

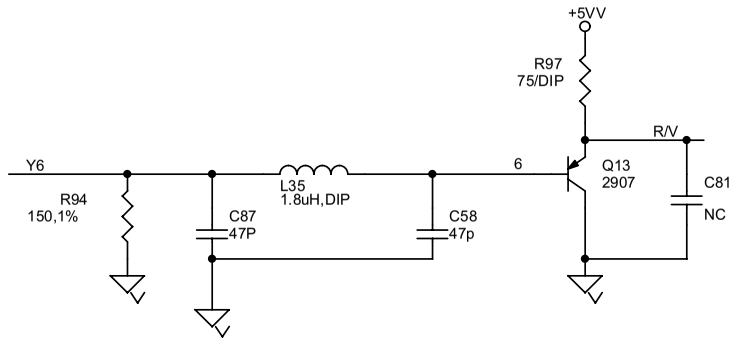
CIRCUIT DIAGRAM - DVD MPEG BOARD

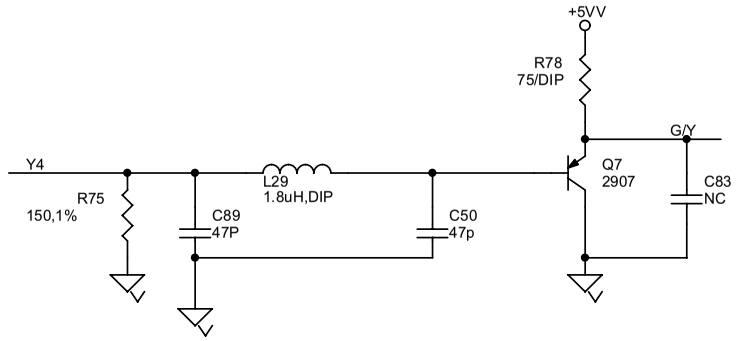
MPEG board is not repaired,program for referrence only.

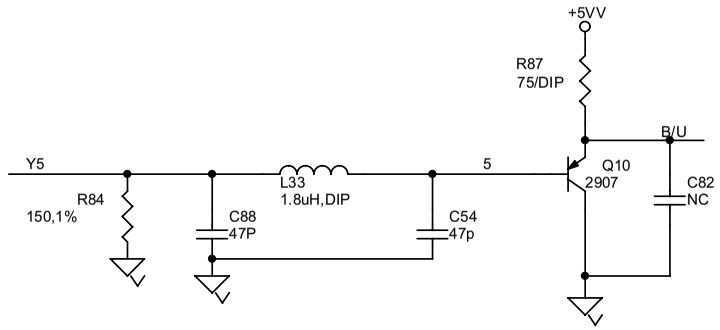


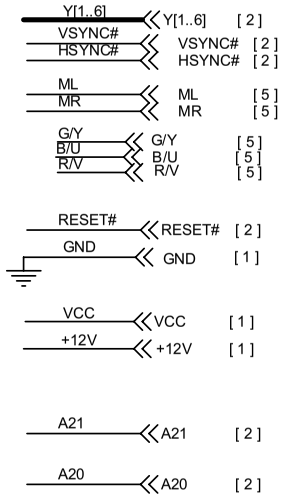




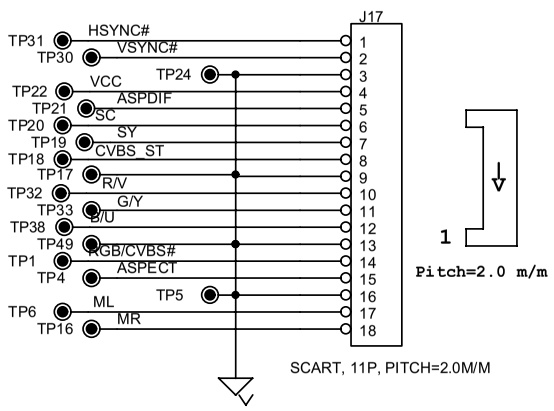


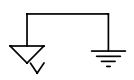




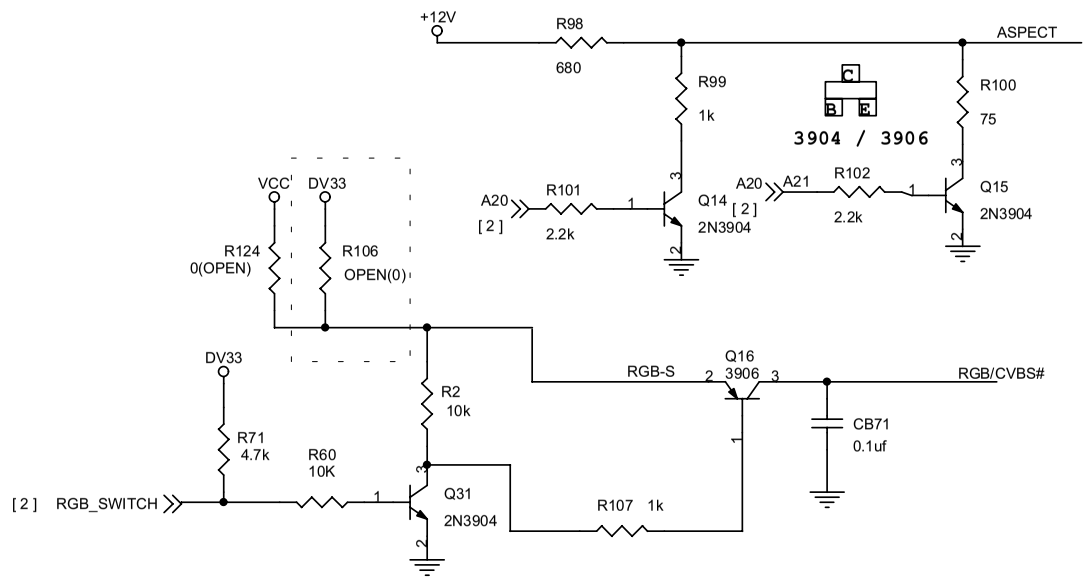


SCART CONNECTOR





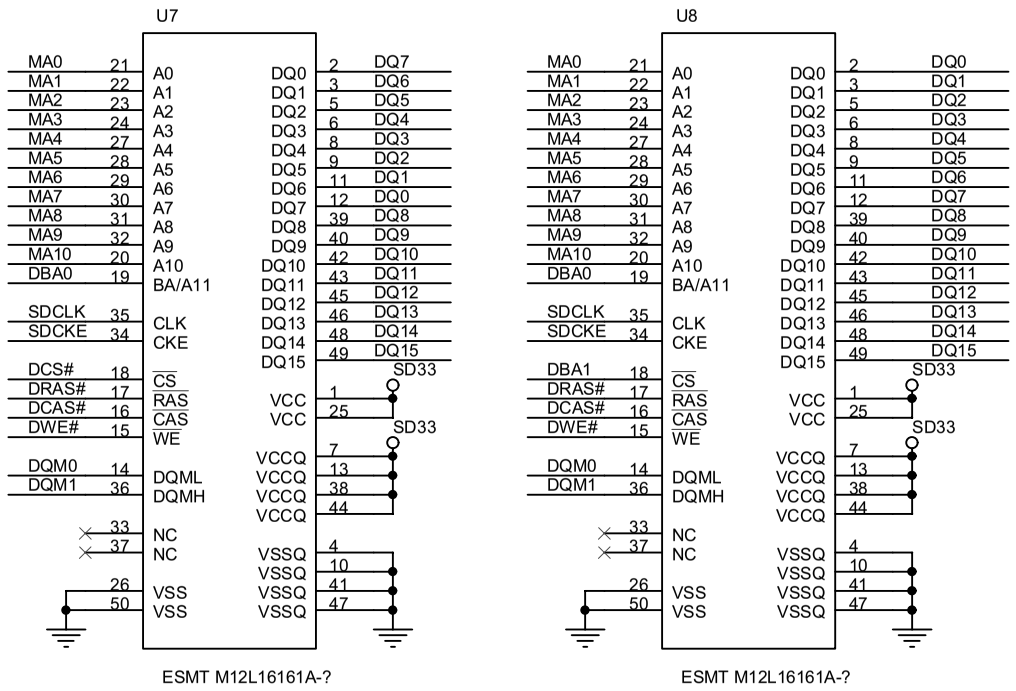
SCART CONTROL

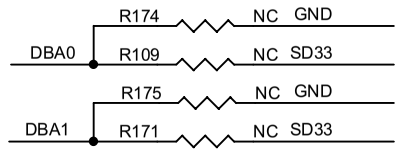


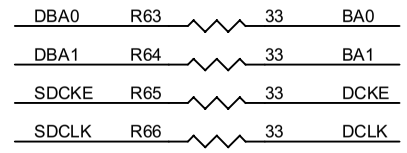
10 - 3

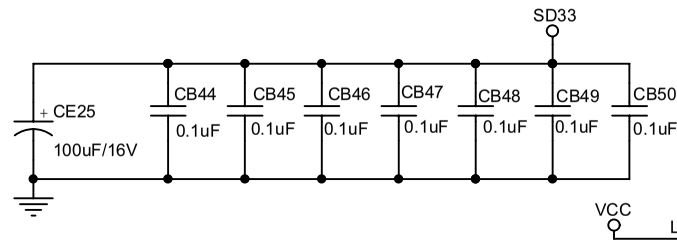
CIRCUIT DIAGRAM - DVD MPEG BOARD

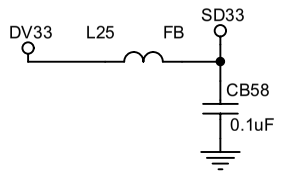
MPEG board is not repaired,program for referrence only.

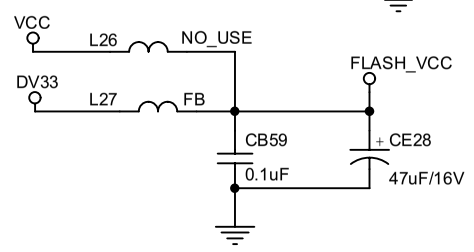


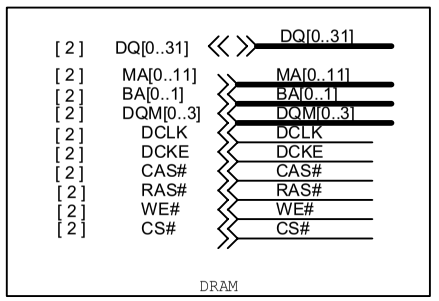


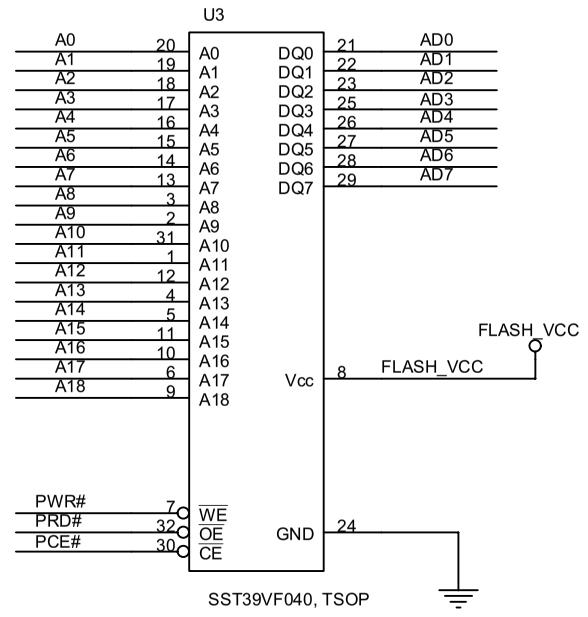


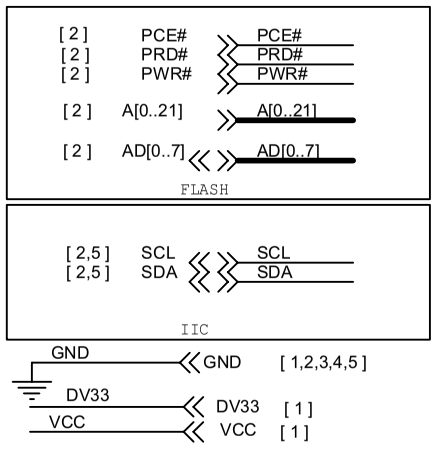


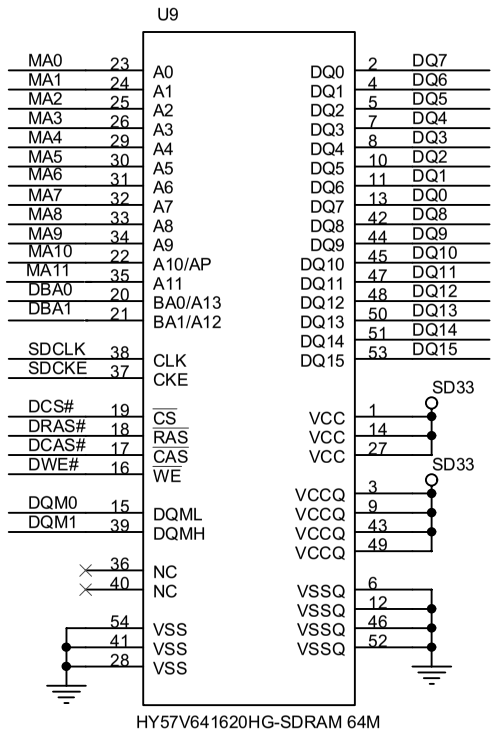


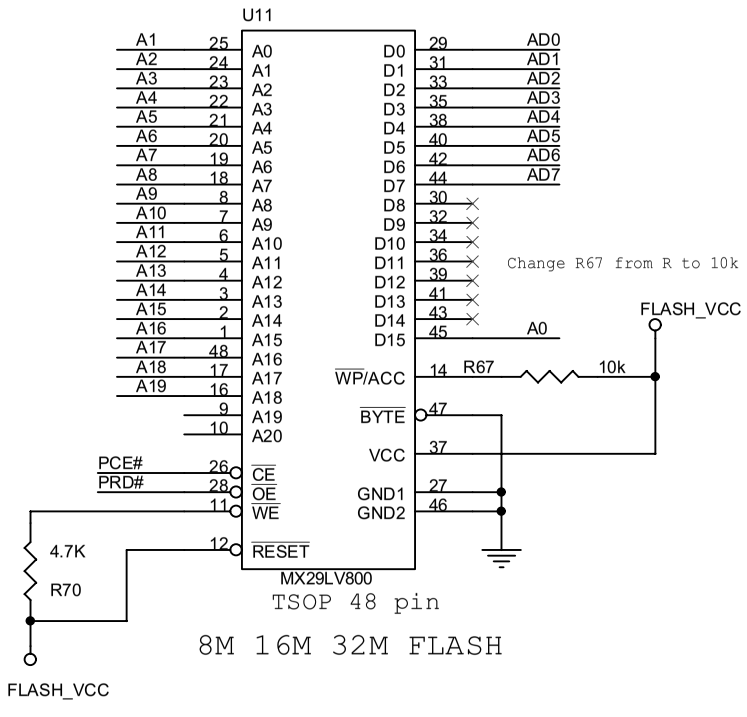












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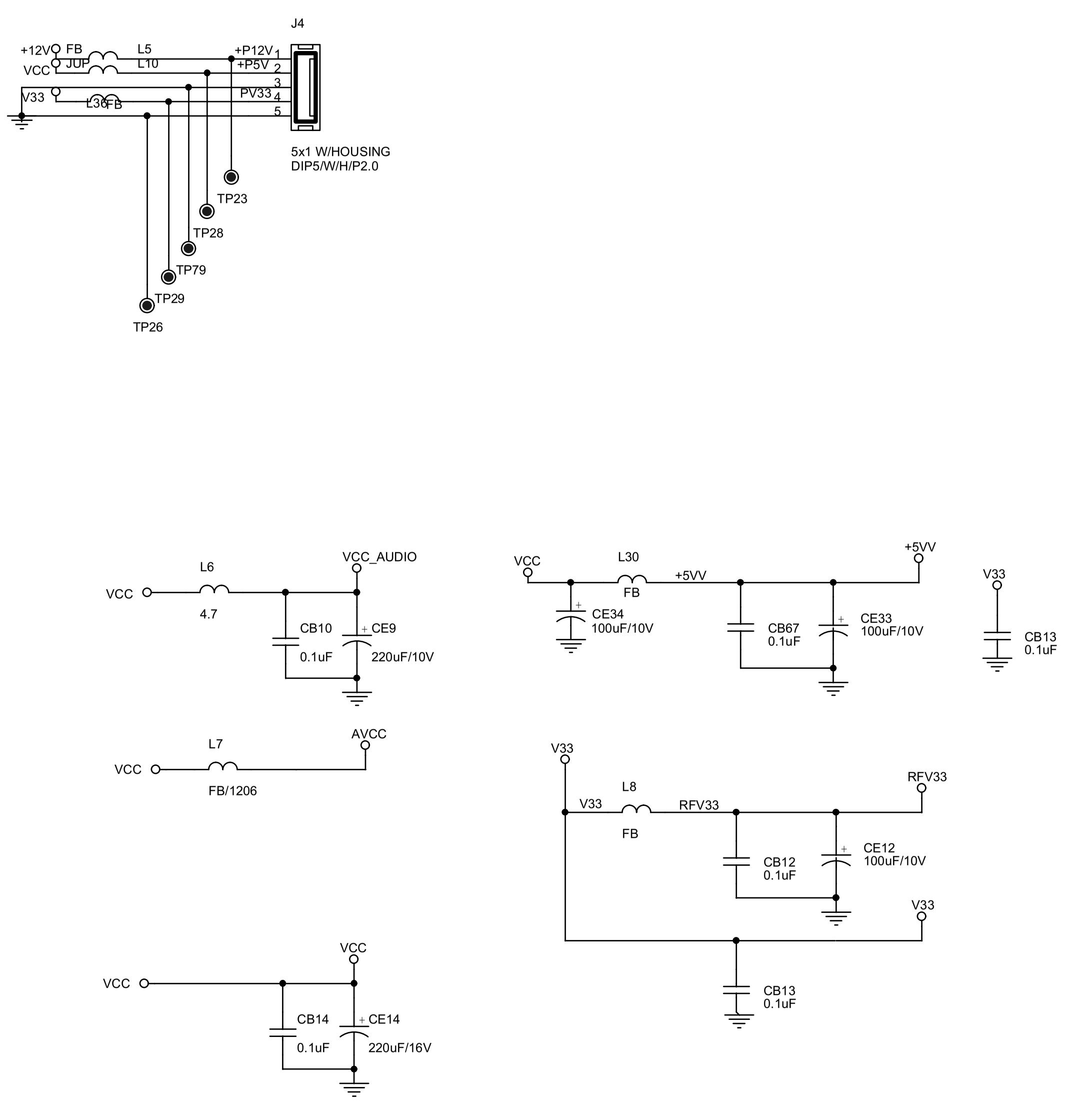
CIRCUIT DIAGRAM - DVD MPEG BOARD

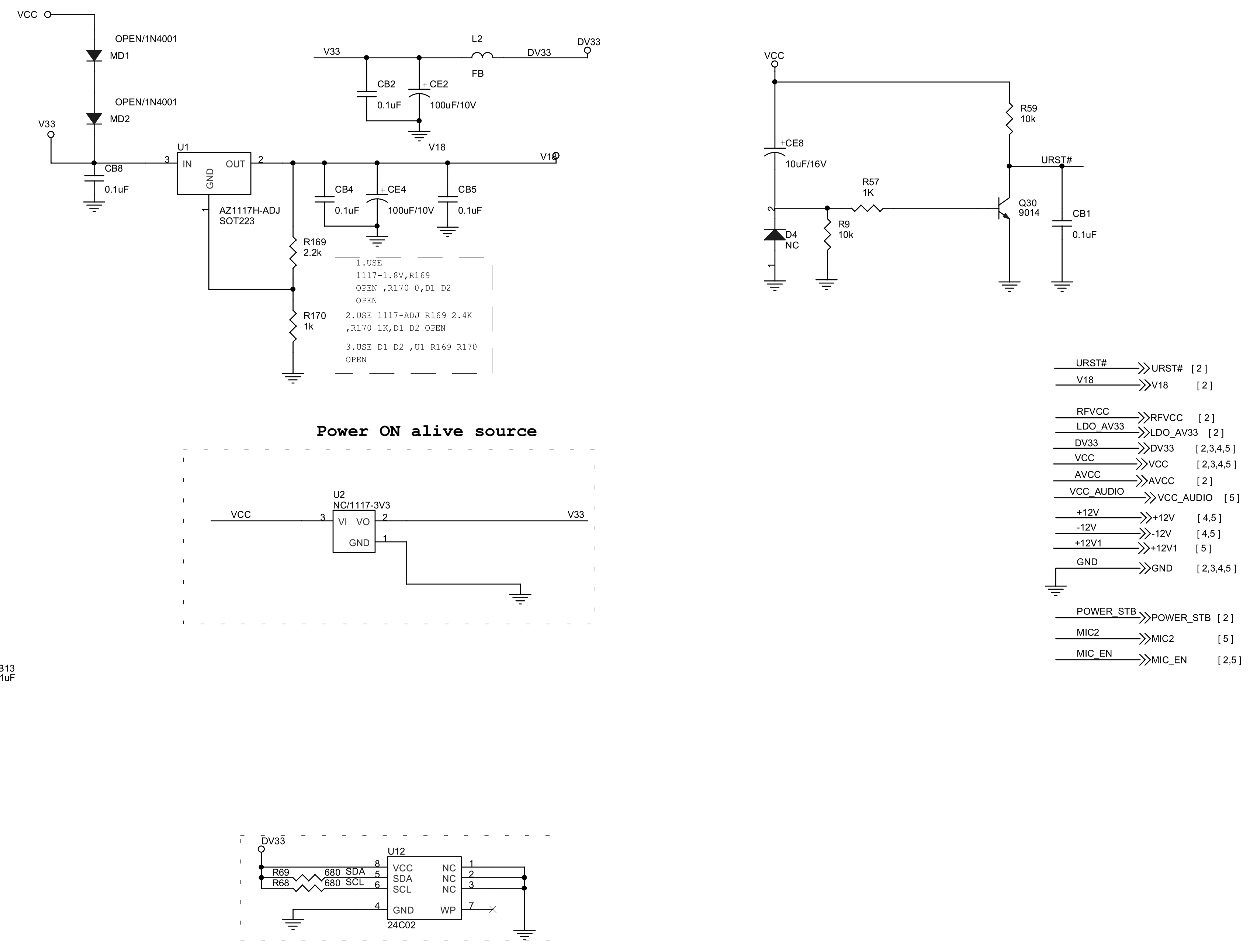
MPEG board is not repaired,program for referrence only.

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

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

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

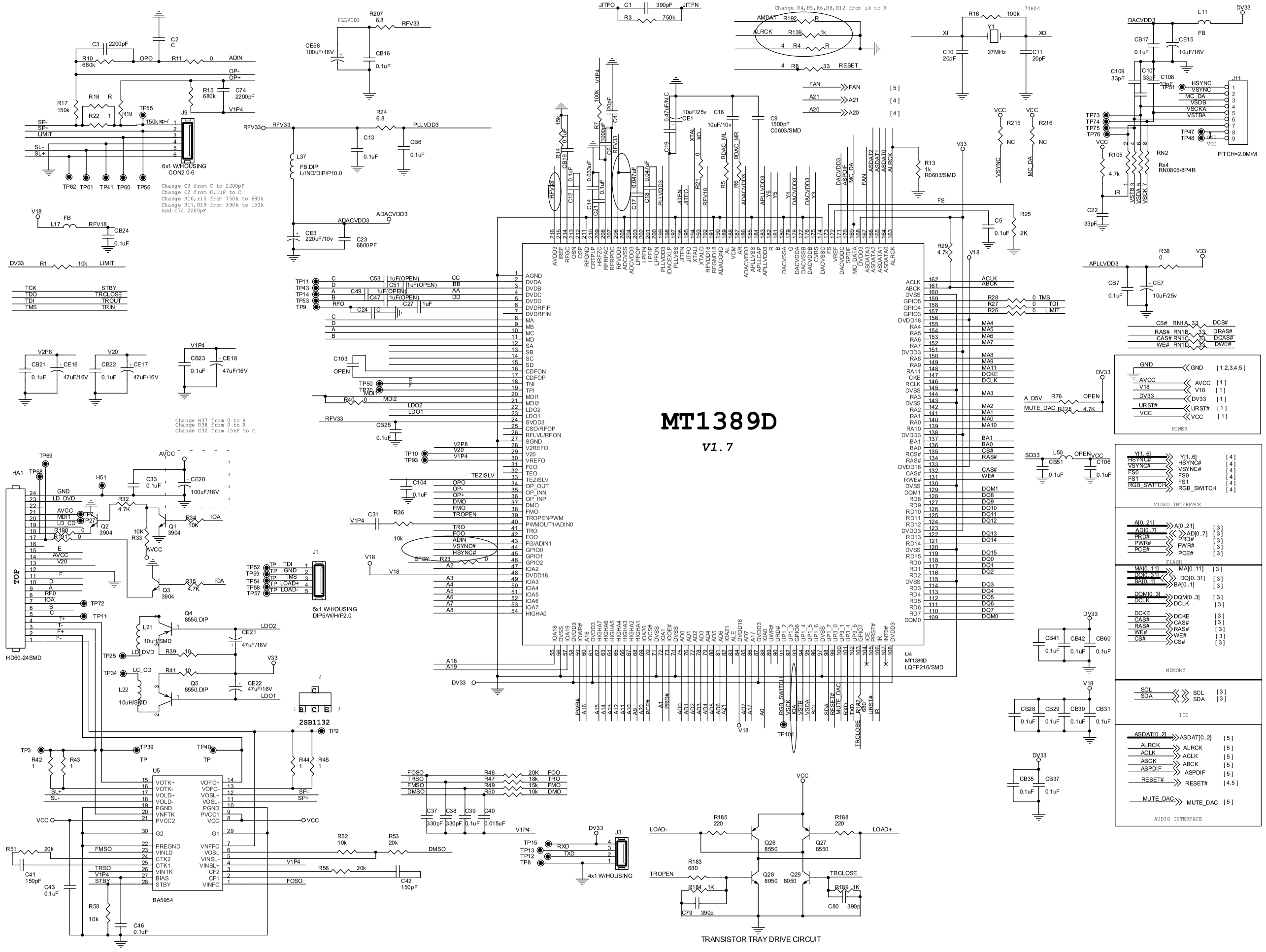




10 - 5

CIRCUIT DIAGRAM - DVD MPEG BOARD

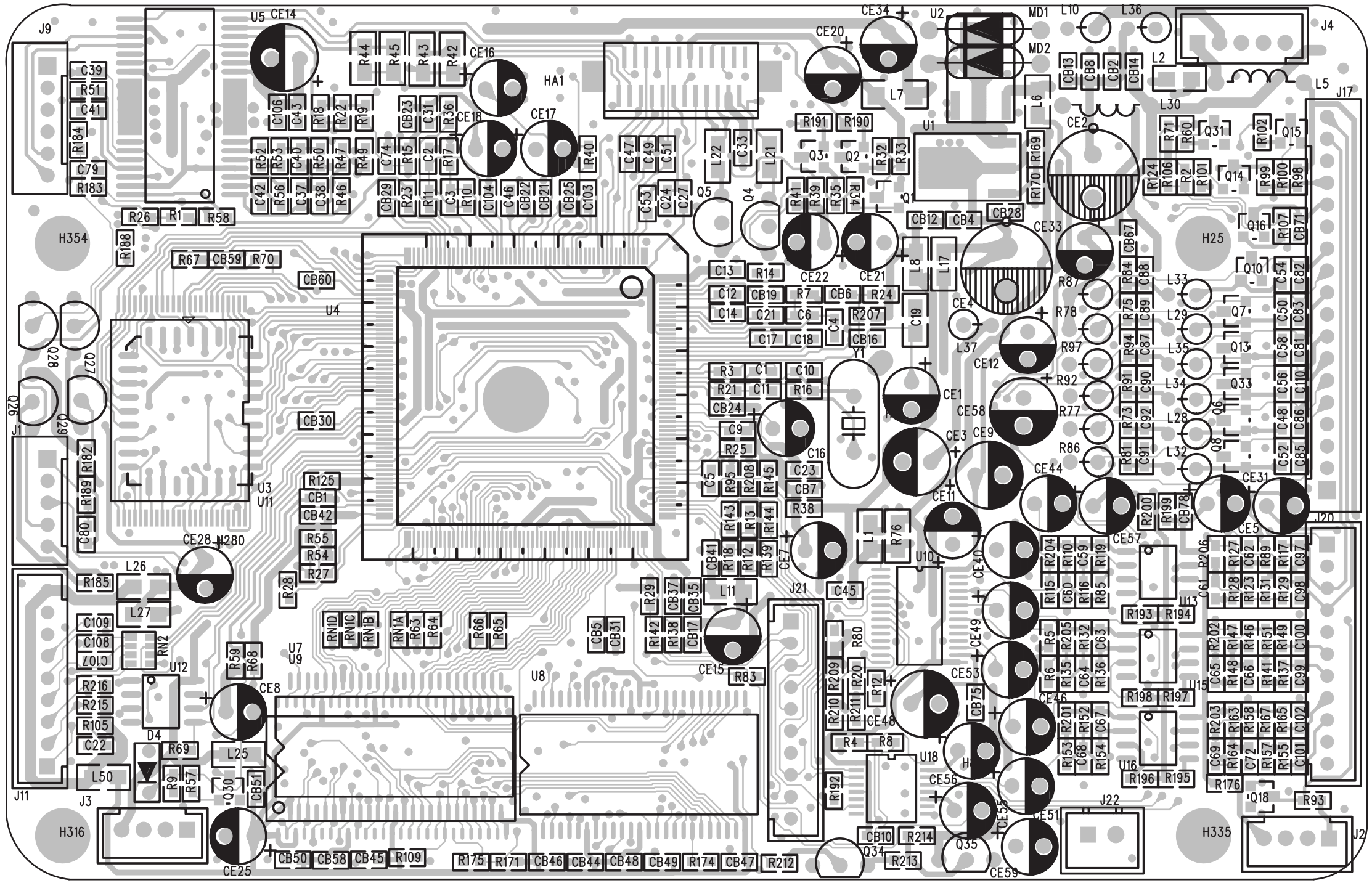
MPEG board is not repaired,program for referrence only.



10 - 6

LAYOUT DIAGRAM - DVD MPEG BOARD

MPEG board is not repaired,program for referrence only.



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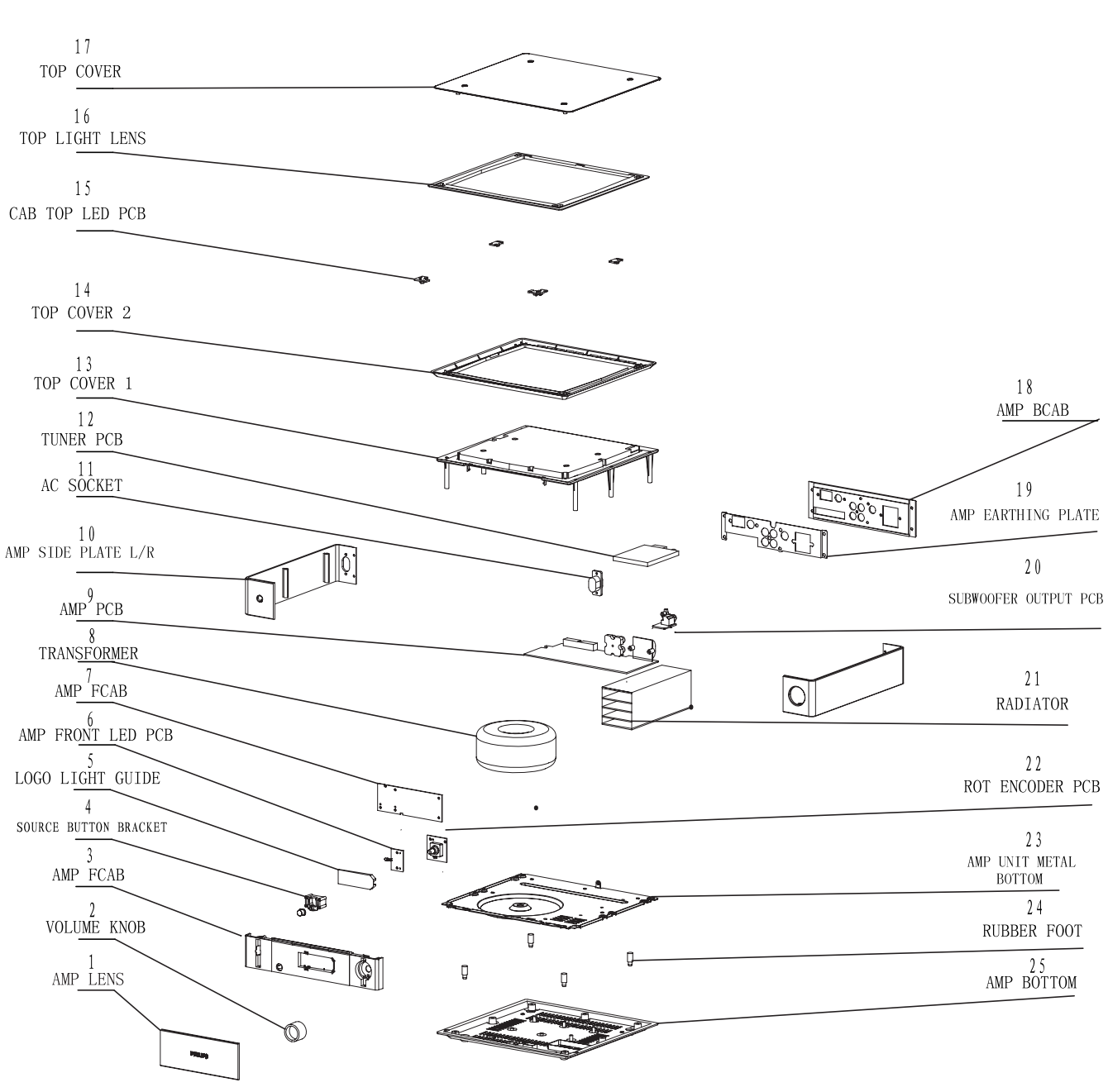
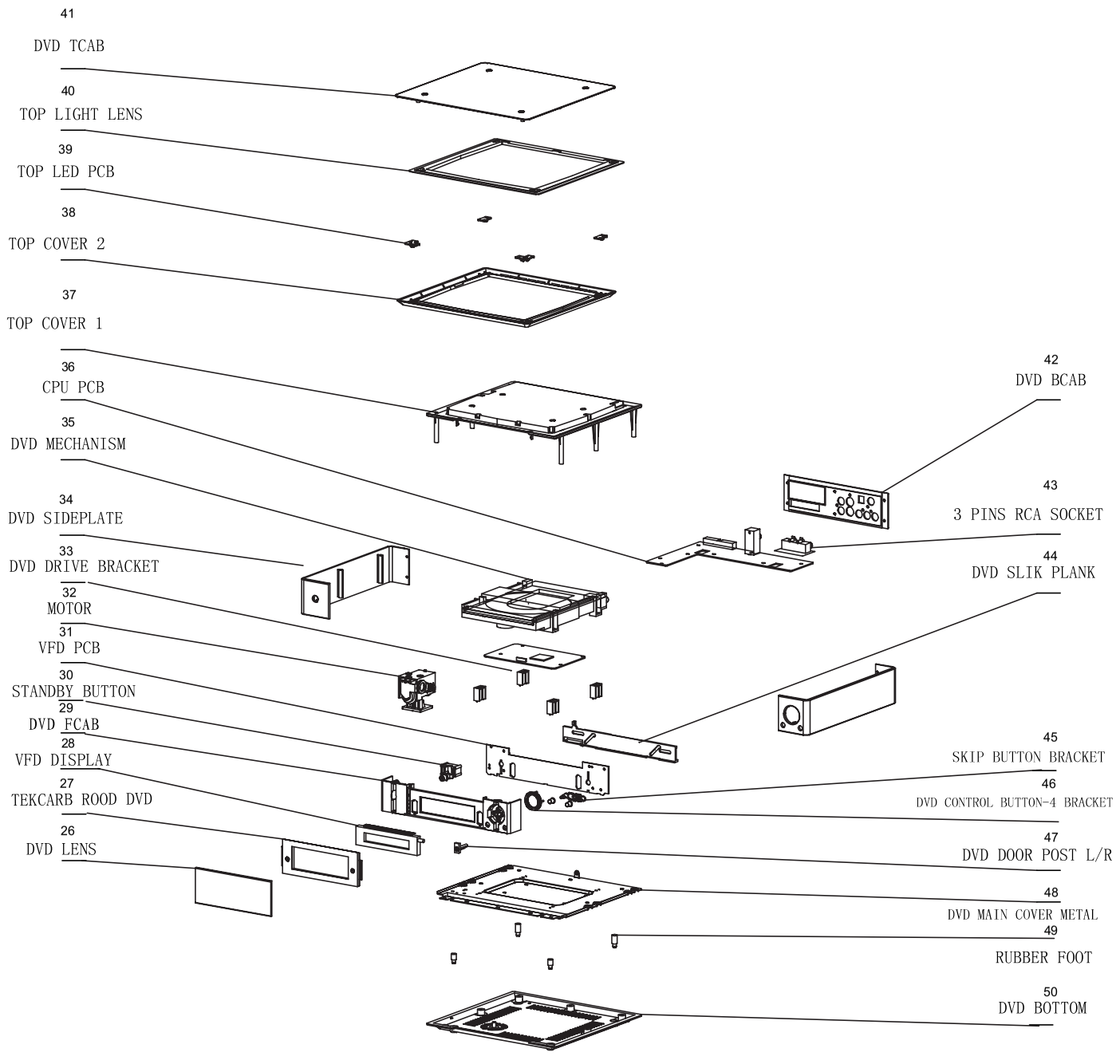
EXPLODED VIEW DIAGRAM





ACCESSORIES PARTS LIST

⚠	9940 000 05166	AC LINE CORD 1.8m
	9940 000 03506	SPEAKER CONNECTION WIRE
	9965 000 41614	SPEAKER CORDS 3M
	9940 000 03585	AV CABLE
	9965 000 41615	ANTENNA HOLDER ASS'Y AM
	9940 000 05529	1300 ANTENNA HOLDER
	9965 000 41616	SPEAKER BOX ASS'Y MCD706
	9965 000 41023	REMOTE CONTROL ASS'Y PRC502-02
	9965 000 41617	PLEXIG. BKT ASS'Y PH MCD705

MECHNICAL&MISCELLANEOUS PARTS FOR DVD

48	9965 000 41618	MAIN COVER METAL(DVD)
34	9965 000 41619	DVD SIDE PLATE(L)
	9965 000 41621	DVD SIDE PLATE(R)
	9965 000 41620	DVD PLATE MCD705 0.2
	9965 000 41622	MCD705 RIG OUT PLATE
37	9965 000 38669	TOP COVER 1
38	9940 000 03468	TOP COVER2
39	9940 000 03477	TOP LIGHT LENS
29	9940 000 04691	DVD CABINET FRONT
41	9940 000 03471	DVD TOP COVER
42	9940 000 05159	DVD CABINET BACK
50	9965 000 38160	DVD CABINET BOTTOM
	9940 000 03476	DVD DOOR
	9940 000 03496	DVD STANDBY BUTTON-BRACKET
45	9940 000 03494	DVD SKIP BUTTON BRACKET
27	9965 000 38468	DVD DOOR BRACKET
44	9940 000 03518	DVD SLID PLANK
47	9940 000 05163	DVD DOOR POST-L
47	9940 000 05164	DVD DOOR POST-R
26	9965 000 41624	DVD DISPLAY LENS
	9940 000 03484	DVD CONTROL BUTTON-1
	9940 000 03485	DVD CONTROL BUTTON-2
	9940 000 03486	DVD CONTROL BUTTON CENTRE
30	9940 000 03488	DVD STANDBY BUTTON
	9940 000 03483	DVD SKIP BUTTON
	9940 000 05162	OPEN/CLOSE
33	9965 000 41630	MCD705 DVD DRIVE BKT
	9965 000 41631	MCD705 FILTER LENS 101X25
49	9940 000 03489	RUBBER FOOT(A)
49	9940 000 03491	RUBBER FOOT(B)
	9965 000 38460	MCD705 PCB PLASTIC PIPE
	9965 000 41632	PLASTIC POLE H=7
	9940 000 03499	FLAT FLEX CABLE 24P

	9965 000 41633	DECODER CARD ASS'Y
32	9965 000 41634	MOTOR ASS'Y MCD708
	9940 000 03461	DVD MECHANIS MKENWOOD 510
	9940 000 03185	DVD VIBRATION CUSHION
	9940 000 03816	DVD MECHANISM RT656K

MECHNICAL&MISCELLANEOUS PARTS FOR AMP

23	9965 000 41635	MAIN COVER METAL(AMP)
10	9965 000 41636	MCD705 PLATE ALUMINIUM (L)
	9965 000 41637	MCD705 PLATE ALUMINIUM (R)
	9965 000 41638	MCD705 RIG OUT METAL PLATE
3	9940 000 03465	AMP FCAB
	9940 000 03469	AMP TOP COVER
	9965 000 38670	AMP CABINET BACK
25	9965 000 38155	AMP CABINET BOTTOM
5	9940 000 03481	LOGO LIGHT GUIDE
	9940 000 03492	AMP SOURCE BUTTON-BRACKET
1	9965 000 41640	AMP DISPLAY LENS
	9940 000 03482	AMP SOURCE BUTTON
2	9940 000 03487	AMP VOLUME KNOB
	9940 000 03477	TOP LIGHT LENS
13	9965 000 38669	TOP COVER 1
8	⚠ 9965 000 41641	TRANSFOR. 430D-93 220V/50
	9940 000 04884	AC SOCKET 2.5A/250V

ELECTRICAL PARTS - DISPLAY PCB

LED601	9940 000 02537	LED (BLUE) 3R4CB71D-2B-208
IC601	9940 000 02539	IC PT6311
VFD701	9965 000 41321	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

ELECTRICAL PARTS - CPU PCB

X201	9940 000 03152	CERMIC FILTER FREQUENCY 4.19MH
DZ201	9940 000 03407	ZENER DIODE 3.3V
DZ202	9940 000 03408	ZENER DIODE 27V
BD201	9940 000 02521	THYRISTOR RS406(4A)
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 41642	MCU PARTS ASS'Y
X202	9940 000 02551	CRYSTAL OSC FREQ. 32.768 KHZ
CN206	9965 000 41002	SPEAKER SOCKET DJ-270-DH-03
RCA204	9940 000 03414	RCA SOCKET
JACK202	9940 000 02553	3PINS RCA SOCKET(R/B/G)
JACK4	9940 000 03416	RCA SOCKET S - VIDEO
R209	⚠ 9940 000 03412	FUSE F1.5A/125V
F201	⚠ 9940 000 02529	FUSE F2AL250V

ELECTRICAL PARTS - AMP PCB

C170	9940 000 03721	ELE. CAP. 3300UF 35V 100-10%
C174	9940 000 03721	ELE. CAP. 3300UF 35V 100-10%
Q109	9940 000 03439	CHIP RESISTOR BC817-25
Q110	9940 000 03439	CHIP RESISTOR BC817-25
Q112	9940 000 03439	CHIP RESISTOR BC817-25
Q107	9965 000 41643	TRANSISTOR BC847B(SOT23)
Q204	9965 000 41643	TRANSISTOR BC847B(SOT23)
Q108	9965 000 41644	TRANSISTOR 772
DB102	9940 000 02521	THYRISTOR RS406(4A)
IC101	9940 000 05066	I.C.PT2314 PRINCETON
IC104	9940 000 03767	IC TDA7265 STEREO POWER IC

IC105		9940 000 02526	IC 7812
SPK101		9940 000 02527	4PINS SPEAKER SOCKET PST-416
JACK100		9940 000 02528	4PINS RCA SOCKET
R169	⚠	9965 000 38168	FUSE F1A/125V
F101	⚠	9940 000 02531	FUSE F4AL250V
F102	⚠	9940 000 02531	FUSE F4AL250V

ELECTRICAL PARTS - TUNER BOARD PCB

L2	9940 000 03831	WOUND COIL D3.5X4.5X0.5MM
L3	9940 000 03832	WOUND COIL D3.5X5.5X0.5MM
L1	9940 000 03833	WOUND COIL D3.5X6.5X0.5MM
CF1	9940 000 03153	FM CERMIC FILTER FREQUENCY 10.
CF2	9940 000 03153	FM CERMIC FILTER FREQUENCY 10.
CV1	9940 000 03758	TRIMMER CAP 10PF
CV2	9940 000 03758	TRIMMER CAP 10PF
D2	9940 000 03759	DIODE BAS316
DZ1	9940 000 03761	ZENER DIODE BZX384-C11 11V
D3	9940 000 03762	VARIODE DIODE I348
D4	9940 000 03763	VARIODE DIODE BB804
D5	9940 000 03763	VARIODE DIODE BB804
D1	9940 000 03764	DIODE BAV99
Q1	9940 000 03156	CHIP TRANSISTOR 9014
Q2	9940 000 03156	CHIP TRANSISTOR 9014
Q3	9940 000 03438	TRANSISTOR BC547B
IC1	9940 000 03421	IC TEA5757H
X1	9940 000 03452	QUARTZ CRYSTAL 75KHZ D3.0
JACK1	9940 000 04941	FM OUTPUT SOCKET

MULTI-BOARD PARTS

LED1100	9940 000 03437	LED 3B4SCB01
LED1101	9940 000 03437	LED 3B4SCB01
LED1103	9940 000 03437	LED 3B4SCB01
	9940 000 03437	LED 3B4SCB01
JACK1301	9940 000 02556	OPTICAL & COAXIAL SOCKET
	9965 000 41645	ROT ENCODER
DZ901	9940 000 02516	ZENER DIODE 5V1
S1	9940 000 04961	IR SENSOR
SW901	9940 000 03432	LIGHT TOUCH SWITCH
LED1001	9940 000 03436	WHITE LED DIODE
LED1104	9940 000 03437	LED 3B4SCB01
LED1200	9940 000 03437	LED 3B4SCB01
LED1201	9940 000 03437	LED 3B4SCB01
	9940 000 03437	LED 3B4SCB01
J1201	9965 000 38167	1P RCA SOCKET

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

REVISION LIST

Version 1.0 (3 14 1 785 3 14 20)
* Initial Release MCD706/93