

Service  
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# Service Manual



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Version 1.1



**PHILIPS**



# Specifications

## AMPLIFIER

Output power ..... 2 x 25 W RMS  
 ..... 1000 W MPO  
 Signal-to-noise ratio .....  $\geq 60$  dBA  
 Frequency response ..... 63 – 16000 Hz,  $\pm 3$  dB  
 Input sensitivity AUX ..... 0.5 V (max. 2 V)  
 Impedance loudspeakers ..... 8  $\Omega$   
 Impedance headphones ..... 32  $\Omega$  -1000  $\Omega$

## DVD PLAYER

Laser Type ..... Semiconductor  
 Disc Diameter ..... 12cm / 8cm  
 Video Decoding ..... MPEG-2 / MPEG-1  
 Video DAC ..... 10 Bits  
 Signal System ..... PAL / NTSC  
 Video Format ..... 4:3 / 16:9  
 Video S/N ..... 56 dB (minimum)  
 Composite Video Output ..... 1.0 Vp-p, 75  $\Omega$   
 S-Video Output ..... Y - 1.0 Vp-p, 75  $\Omega$   
 ..... C - 0.286 Vp-p, 75  $\Omega$   
 Audio DAC ..... 24 Bits / 96 kHz  
 Frequency Response .... 4 Hz - 20 kHz (44.1kHz)  
 ..... 4 Hz - 22 kHz (48kHz)  
 ..... 4 Hz - 44 kHz (96kHz)  
 Digital Output .....  
 ..... SPDIF (Sony Philips digital interface) Coaxial  
 Number of programmable tracks ..... 16  
 Signal-to-noise ratio .....  $\geq 65$  dBA  
 Channel separation .....  $\geq 40$  dB (1 kHz)  
 Total harmonic distortion .....  $< 0.1\%$  (1 kHz)

## TUNER

FM wave range ..... 87.5 – 108 MHz  
 MW wave range ..... 531 – 1602 kHz  
 Sensitivity at 75  $\Omega$   
 – mono, 26 dB signal-to-noise ratio ..... 2.8  $\mu$ V  
 – stereo, 46 dB signal-to-noise ratio ..... 61.4  $\mu$ V  
 Selectivity .....  $\geq 28$  dB  
 Total harmonic distortion .....  $\leq 5\%$   
 Frequency response ..... 63 – 5500 Hz (-6 dB)  
 Signal-to-noise-ratio .....  $\geq 50$  dBA

## TAPE DECK

Frequency response  
 Normal tape (type I) ..... 125 – 6300 Hz (8 dB)  
 Signal-to-noise ratio  
 Normal tape (type I) ..... 40 dBA  
 Wow and flutter .....  $\leq 0.4\%$  DIN

## SPEAKERS

2-way bass reflex system  
 Dimensions (w x h x d) . 170 x 252 x 214 (mm)

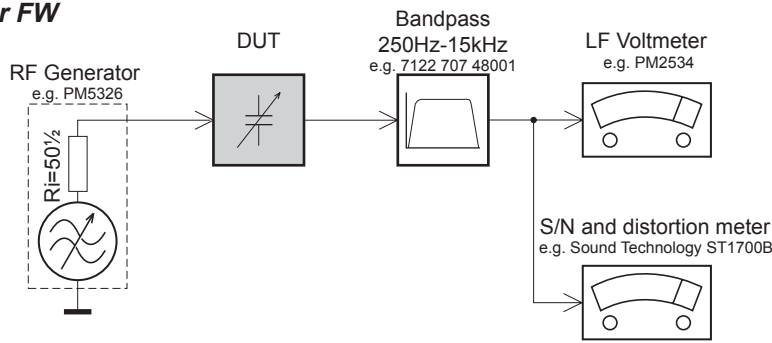
## GENERAL INFORMATION

AC Power - / 1 2 ..... 230V / 50 Hz  
 - / 3 7 ..... 120V / 60 Hz  
 - / 9 3 ..... 220V / 50 Hz  
 - / 9 8 ..... 120/230V  
 60 Hz/50 Hz  
 - / 5 5 ..... 120/230V  
 60 Hz/50 Hz  
 - / 6 1 ..... 220V / 50 Hz

Dimensions (w x h x d) .. 175 x 252 x 305 (mm)  
 Weight(with/without speakers) ..... 8.1 /4.0 kg  
 Standby power consumption .....  $\leq 7$ W  
 Eco power Standby .....  $< 1$ W

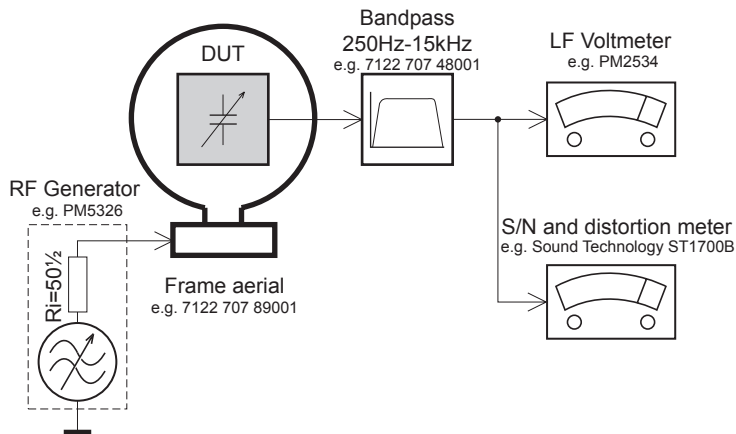
## SERVICE MEASUREMENT

### Tuner FW



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

### Tuner AM (MW,LW)



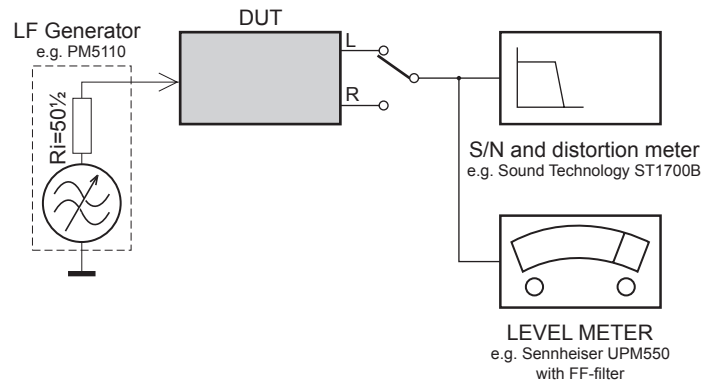
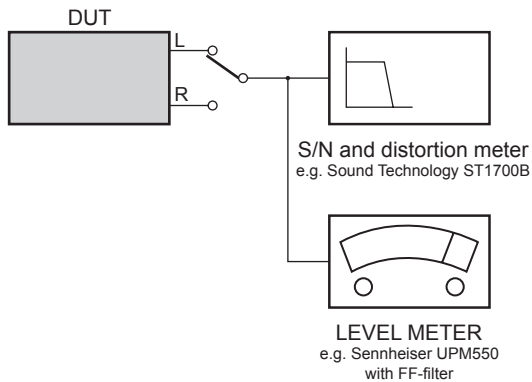
To avoid atmospheric interference all AM-measurements have to be carried out in a Faraday's cage. Use a bandpass filter (or at least a high pass filter with 250kHz) to eliminate hum (50Hz, 100Hz).

### CD

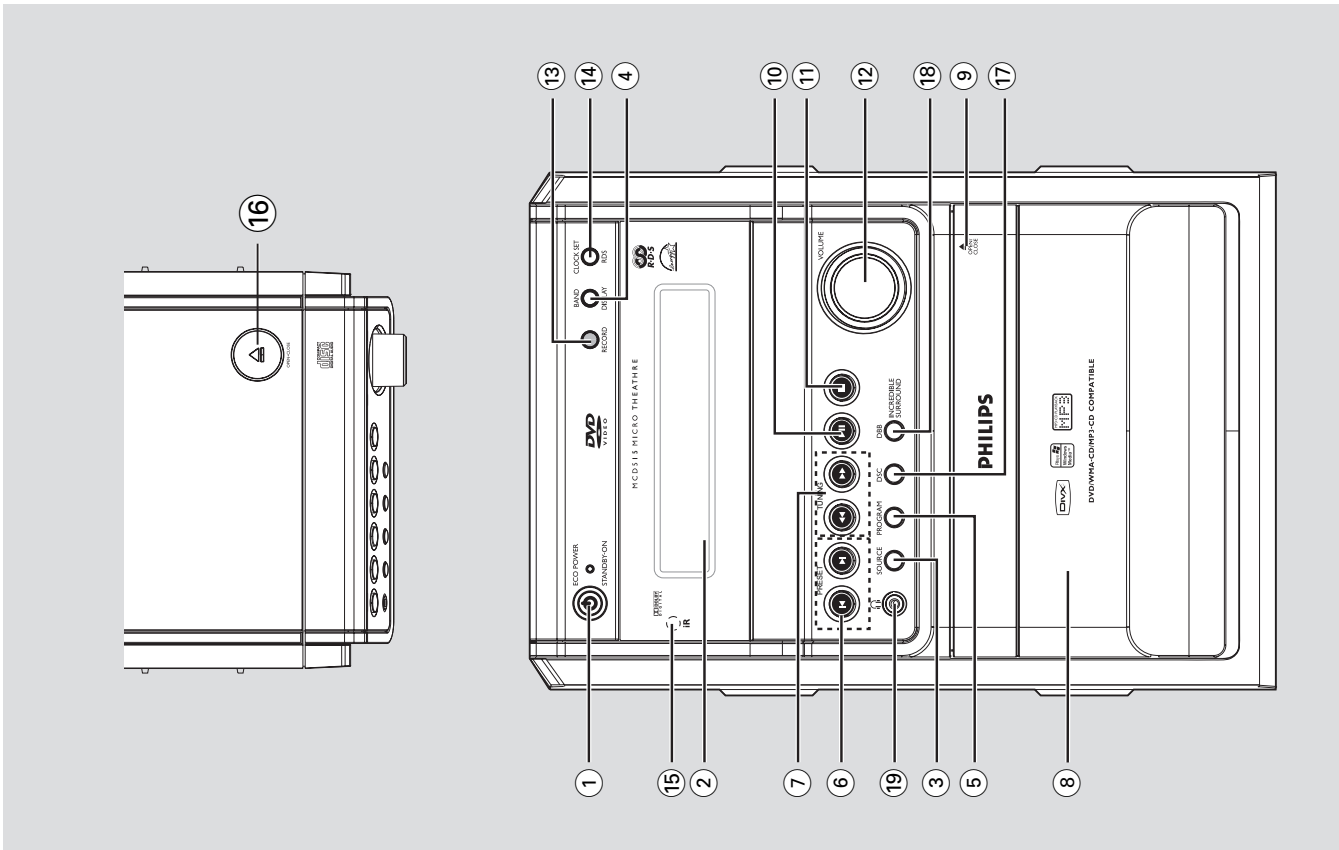
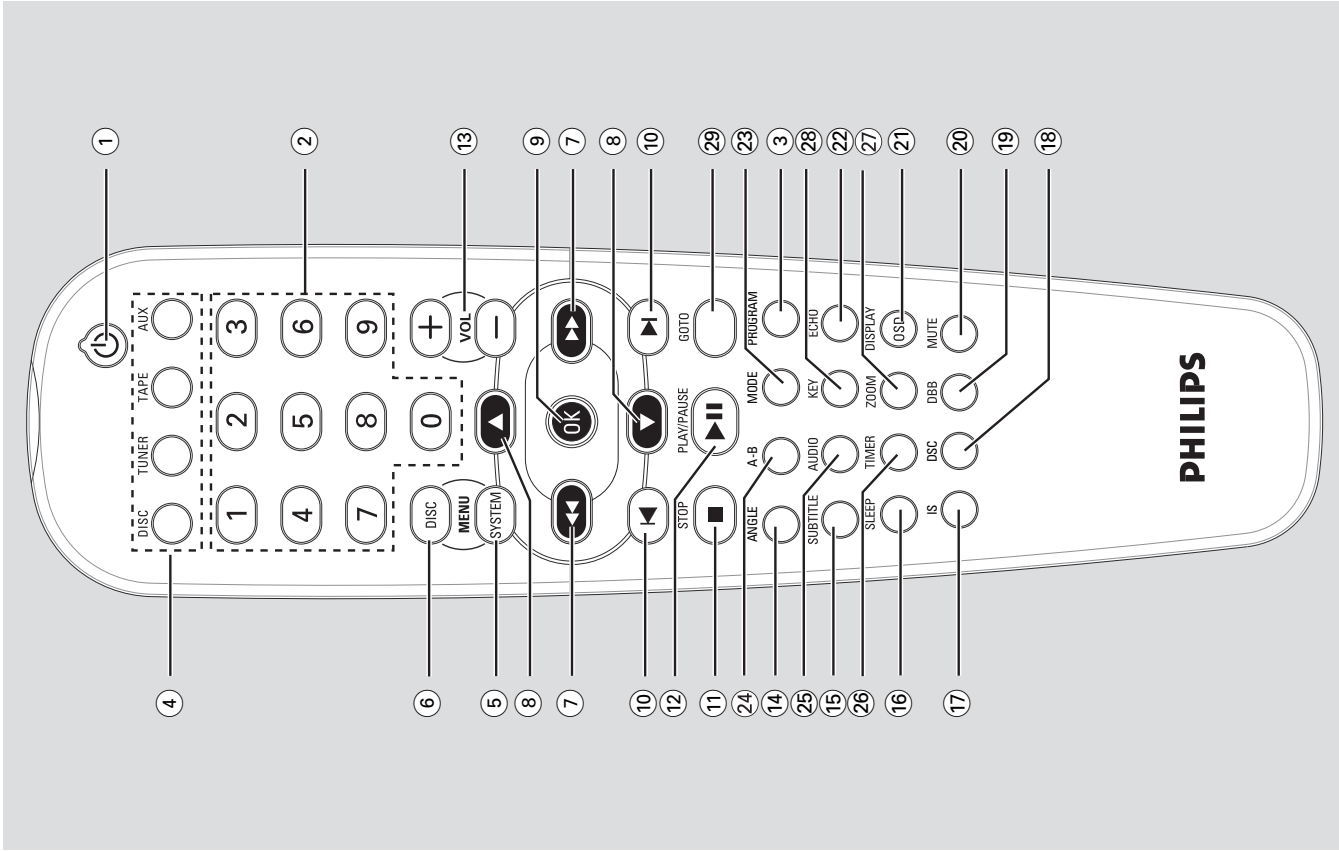
Use Audio Signal Disc SBC429 4822 397 30184  
(replaces test disc 3)

### RECORDER

Use Universal Test Cassette Fe SBC420 4822 397 30071



CONNECTION AND CONTROLS



## Controls

### Controls on the system

- ① **ECO POWER/STANDBY-ON**  $\phi$ 
  - to switch the system on or to Eco power/normal standby mode.
- ② **Display screen**
  - to view the current status of the system.
- ③ **SOURCE**
  - to select the respective sound source : DVD TAPE, AUX or TUNER.
- ④ **BAND / DISPLAY**
  - for Tuner .....: to select waveband : FM or MW;
  - for DVD/VCD/CD/MP3-CD displays disc information on the TV screen and system display panel during playback.
- ⑤ **PROGRAM**
  - for VCD/CD/MP3-CD...to program disc tracks.
  - for Tuner .....: to program preset radio stations.
- ⑥ **PRESET**  $\blacktriangleleft/\blacktriangleright$ 
  - for Tuner .....: to select a preset radio station.
  - for DVD/VCD/CD/MP3 CD... to select a desired track.

## Controls

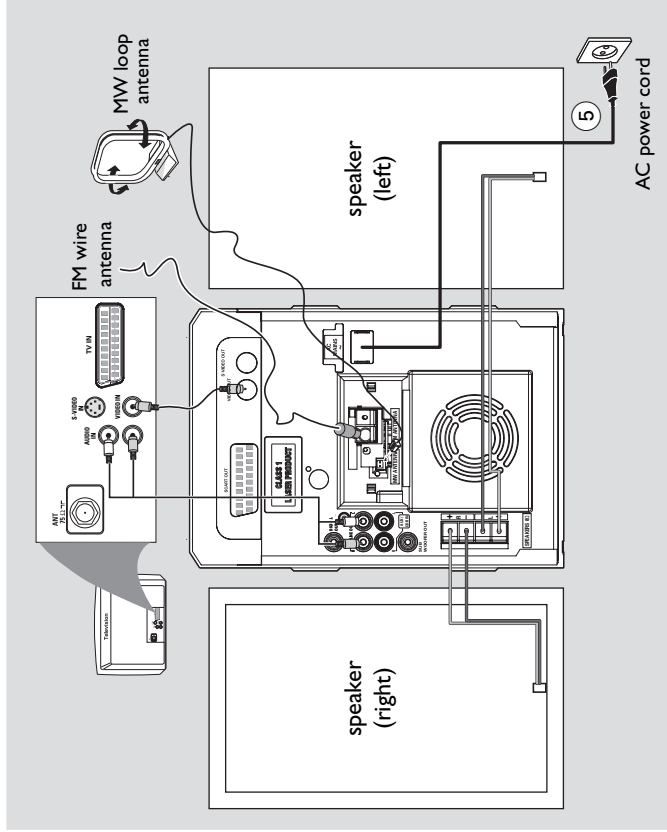
- ⑦ **TUNING**  $\blacktriangleleft/\blacktriangleright$ 
  - \*for DVD/VCD/CD.....: to fast reverse/forward the disc. (It is impossible to fast reverse / forward for MP3-CD)
  - for Tuner .....: to tune to a lower or higher radio frequency.
  - for Tape .....: to rewind or fast forward.
- ⑧ **Tape deck**
- ⑨ **OPEN/CLOSE**  $\blacktriangle$ 
  - to open the tape compartment.
- ⑩ **▶ II**
  - to start or interrupt playback.
- ⑪  $\blacksquare$ 
  - for DVD/VCD/CD/MP3-CD...to stop playback or to clear a program.
  - for Tape .....: to stop playback or recording.
- ⑫ **VOLUME**
  - to increase or decrease the volume.
  - to adjust the hours and minutes for the clock/timer functions.
- ⑬ **RECORD**
  - to start recording.
- ⑭ **CLOCK SET/IRDS**
  - \*for Clock .....: (on the system only) to set the clock function.
- ⑮ **IR sensor**
  - infrared sensor for remote control.
- ⑯ **OPEN/CLOSE**  $\blacktriangle$ 
  - to open or close the disc tray
- ⑰ **DISC**
  - selects different types of preset sound equalizer settings (FLAT, CLASSIC, JAZZ, POP or ROCK).
- ⑱ **DBB/INCREDIBLE SURROUND**
  - to create a super-enhanced stereo effect.
  - to enhance the bass.
- ⑲  $\uparrow$ 
  - to connect headphones.

### Controls on the remote control

- ①  $\phi$ 
  - switches the system on/off.
- ② **Numeric Keypad (0-9)**
  - inputs a track/title/chapter number of the disc.
- ③ **PROGRAM**
  - DVD/VCD/CD/MP3-CD: enters the program menu.
  - Picture CD: during playback, to select a slide show mode.
  - Tuner: programs preset radio stations.
- ④ **SOURCE**
  - to select the respective sound source : DISC TUNER, TAPE or AUX.
- ⑤ **SYSTEM MENU** (disc mode only)
  - to enter or exit the system menu bar.
- ⑥ **DISC MENU** (disc mode only)
  - DVD/VCD: enters or exits the disc contents menu.
  - VCD2.0: switches the playback control mode on or off.
- ⑦  $\blacktriangleleft/\blacktriangleright$ 
  - 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
    - (not for MP3 CD) searches backward/forward in a disc at different speeds.
    - In DISC mode, to select a movement direction in the disc menu or system menu bar.
- ⑧  $\blacktriangleleft$ 
  - In DISC mode, to select a movement direction in the disc menu or system menu bar.
- ⑨ **OK**
  - to exit or confirm the selection.
- ⑩  $\blacktriangleleft/\blacktriangleright$ 
  - Disc: skips to the previous/next chapter/title/track.
  - Tuner: selects a preset radio station.
- ⑪ **STOP**  $\blacksquare$ 
  - In DISC mode, to stop playback or clear a program.
- ⑫ **PLAY/PAUSE**  $\blacktriangleright$ 
  - In DISC mode, to start or interrupt playback.
- ⑬ **VOL +/-**
  - adjusts the volume upward/downward.
  - switches the set timer ON or OFF.
- ⑭ **ANGLE**
  - selects a DVD camera angle.
- ⑮ **SUBTITLE**
  - selects a subtitle language.
- ⑯ **SLEEP**
  - to set the sleep (auto-off) timer function.
- ⑰ **IS**
  - to create a super-enhanced stereo effect.
- ⑱ **DISC**
  - selects different types of preset sound equalizer settings (FLAT, CLASSIC, JAZZ, POP or ROCK).
- ⑲ **DBB**
  - enables or disables bass enhancement.
- ⑳ **MUTE**
  - to interrupt or resume sound reproduction.
- ㉑ **DISPLAY (OSD)**
  - displays information on TV screen during playback.
- ㉒ **ECHO (unavailable for this version)**
- ㉓ **MODE**
  - to select various repeat modes or the shuffle play mode for a disc.
- ㉔ **A-B**
  - for VCD/CD: to repeat a specific section within the same track.
  - for DVD: to repeat a specific section in a disc.
- ㉕ **AUDIO**
  - for VCD
    - sets Stereo, Mono-Left or Mono-Right sound mode.
  - for DVD
    - selects an audio language.
- ㉖ **TIMER**
  - \*- to set the timer.
- ㉗ **ZOOM**
  - DVD/VCD/Picture CD: enlarges or reduces a picture or active image on the TV screen.
- ㉘ **KEY (unavailable for this version)**
- ㉙ **GOTO**
  - In DISC mode, to fast search in a disc by entering a time, title, chapter or track.

#### Notes for remote control:

- First, select the source you wish to control by pressing one of the source select keys on the remote control (DISC or TUNER, for example).
- Then select the desired function ( $\blacktriangleright$ ,  $\blacktriangleleft$ ,  $\blacktriangleright$  for example).



**Step 2: Connecting speakers**

Connect the speaker wires to the **SPEAKERS** terminals, right speaker to "RIGHT" and left speaker to "LEFT", coloured (marked) wire to "+", and black (unmarked) wire to "-". Fully insert the stripped 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 terminals.
  - Do not connect speakers with an impedance lower than the speakers supplied. Please refer to the SPECIFICATIONS section of this manual.

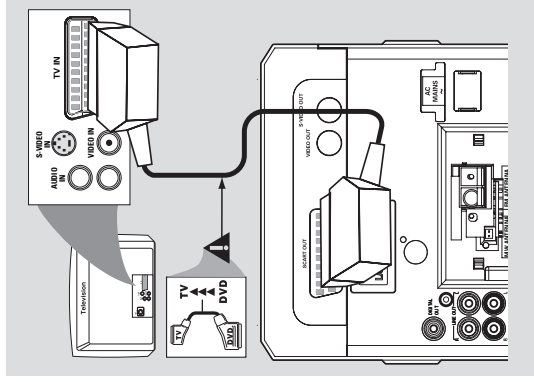
FM Antenna



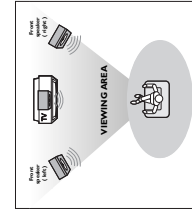
For better FM stereo reception, connect an outdoor FM antenna to the FM AERIAL (FM ANTENNA) terminal.

- Step 4: Connecting TV**
- IMPORTANT!**
- You only need to make one video connection from the following options, depending on the capabilities of your TV system.
  - Connect the DVD system directly to the TV.
  - A SCART connection will let you use features both Audio and Video on the DVD Player.

Using SCART jack



**Step 1: Placing speakers**

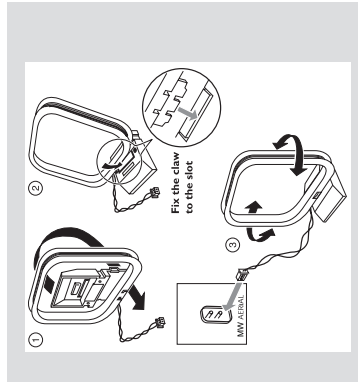


Place the front left and right speakers at equal distances from the TV set and at an angle of approximately 45 degrees from the listening position.

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

- IMPORTANT!**
- The type plate is located at the rear 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.
  - High voltage! Do not open. You run the risk of getting an electric shock.
  - The machine does not contain any user-serviceable parts.
  - Modification of the product could result in hazardous radiation of EMC or other unsafe operation.
- To avoid overheating of the system, a safety circuit has been built in. Therefore, your system may switch to Standby mode automatically under extreme conditions. If this happens, let the system cool down before reusing it (not available for all versions).

**MW Antenna**



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

**Step 3: Antenna connection**

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

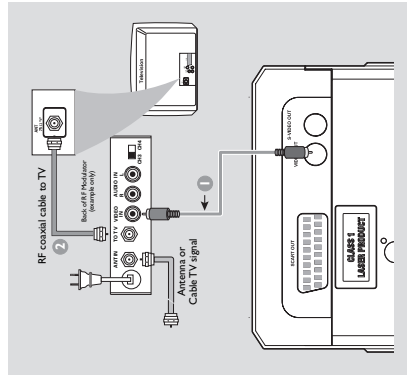
# CONNECTION AND CONTROLS

## Connections

### Using an accessory RF modulator

#### IMPORTANT!

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



- 1 Use the composite cable (yellow) to connect the system's **VIDEO OUT** jack to the video input jack on the RF modulator.
- 2 Use an RF coaxial cable (not supplied) to connect the RF modulator to your TV's RF jack.

## Connections

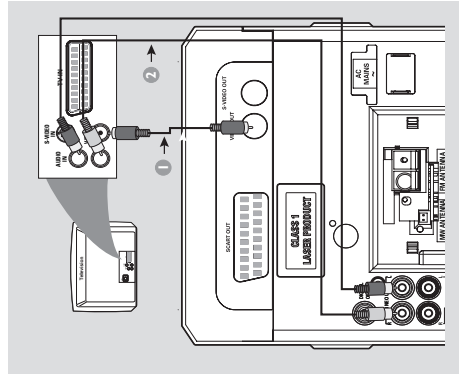
### Using S-Video In jack

- Use the SCART cable (black) to connect the DVD Player's SCART jack (**SCART OUT**) to the corresponding Scart input jacks on the TV (cable not supplied).

#### Note:

- Ensure that the "TV" indication on SCART cable is connected to the TV set and "DVD" indication on SCART cable is connected to the DVD Player.

### Using Video In jack (CVBS)



- 1 Use the S-Video cable (not supplied) to connect the system's **S-VIDEO OUT** jack to the S-Video input jack (or labelled as Y/C or S-VHS) on the TV set.
- 2 To hear the sound of this DVD Player through your TV, use the audio cables (white/red-not supplied) to connect **LINE OUT** (L/R) jacks of the DVD Player to the corresponding **AUDIO IN** jacks on the TV.

- 1 Use the composite video cable (yellow) to connect the system's **VIDEO OUT** jack to the video input jack (or labelled as AV In, Video In, Composite or Baseband) on the TV set.
- 2 To hear the sound of this DVD Player through your TV, use the audio cables (white/red-not supplied) to connect **LINE OUT** (L/R) jacks of the DVD Player to the corresponding **AUDIO IN** jacks on the TV.

### Step 5: Connecting the power cord

#### IMPORTANT!

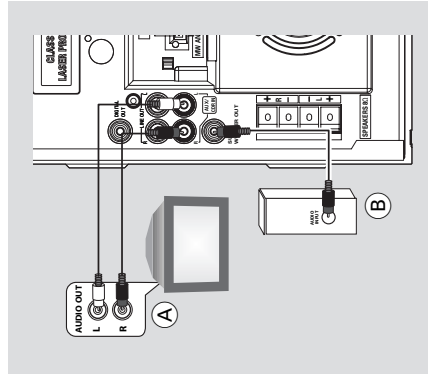
- Never make or change any connection with the power switched on.

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

### Optional: 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.





## Troubleshooting

### WARNING

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

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

Problem	Solution
<b>No power.</b>	<ul style="list-style-type: none"> <li>✓ Check if the AC power cord is properly connected.</li> <li>✓ Check if the disc is inserted upside down.</li> <li>✓ Wait until the moisture condensed at the lens has cleared.</li> <li>✓ Replace or clean the disc, see "Maintenance".</li> <li>✓ Use a readable disc or correctly recorded format MP3-CD.</li> </ul>
<b>No picture.</b>	<ul style="list-style-type: none"> <li>✓ Select the appropriate video input mode on the TV set.</li> <li>✓ Check if the TV set is switched on.</li> <li>✓ Check the video connection.</li> <li>✓ Check if the system is securely connected.</li> </ul>
<b>Distorted or poor picture.</b>	<ul style="list-style-type: none"> <li>✓ Sometimes a slight picture distortion may appear. This is not a malfunction.</li> <li>✓ Clean the disc.</li> <li>✓ Connect the system to the S-video input of your TV set.</li> </ul>
<b>The aspect ratio of the screen cannot be changed even though you have set the TV shape.</b>	<ul style="list-style-type: none"> <li>✓ The aspect ratio is fixed on the DVD disc.</li> <li>✓ The aspect ratio may not be changed for some TV systems.</li> </ul>
<b>The DVD player does not start playback.</b>	<ul style="list-style-type: none"> <li>✓ Insert a readable disc.</li> <li>✓ Check the disc type, color system and region code.</li> <li>✓ Clean the disc.</li> <li>✓ Place the disc with the playback side down.</li> <li>✓ Press SYSTEM MENU to turn off the setup menu.</li> <li>✓ Cancel the parental control rating function or change the rating level.</li> <li>✓ Moisture has condensed inside the system. Remove the disc and leave the system turned on for about an hour.</li> </ul>
<b>The DVD player does not respond when buttons are pressed.</b>	<ul style="list-style-type: none"> <li>✓ Disconnect the power plug from the jack, and insert again.</li> </ul>

## Troubleshooting

Problem	Solution
<b>The language for the sound or subtitle cannot be changed when playing a DVD.</b>	<ul style="list-style-type: none"> <li>✓ Multi-language sound or subtitle is not recorded on the DVD.</li> <li>✓ Changing the language for the sound or subtitle is prohibited on the DVD.</li> </ul>
<b>No image is output when a function is selected.</b>	<ul style="list-style-type: none"> <li>✓ Make sure the component is connected correctly.</li> <li>✓ Press the correct function button for the input source.</li> </ul>
<b>Sound cannot be heard or is of poor quality</b>	<ul style="list-style-type: none"> <li>✓ Adjust the volume.</li> <li>✓ Disconnect the headphones.</li> <li>✓ Check that the speakers are connected correctly.</li> <li>✓ Check if the stripped speaker wire is clamped.</li> <li>✓ If the system is in pause, slow motion or fast forward/reverse mode, press PLAY/PAUSE <b>▶▶</b> to resume the normal play mode.</li> <li>✓ Make sure the MP3-CD was recorded within 32-256 kbps bit rate with sampling frequencies at 48 kHz, 44.1 kHz or 32 kHz.</li> <li>✓ Ensure that the DTS disc also supports Dolby Digital output.</li> </ul>
<b>Poor radio reception.</b>	<ul style="list-style-type: none"> <li>✓ If the signal is too weak, adjust the antenna or connect an external antenna for better reception.</li> <li>✓ Increase the distance between the System and your TV set or VCR.</li> </ul>
<b>Recording or playback cannot be made</b>	<ul style="list-style-type: none"> <li>✓ Clean deck parts, see "Maintenance".</li> <li>✓ Use only NORMAL tape.</li> <li>✓ Apply a piece of adhesive tape over the missing tab space.</li> </ul>
<b>Left and right sound outputs are reversed.</b>	<ul style="list-style-type: none"> <li>✓ Check the speaker connections and location.</li> </ul>
<b>The remote control does not function.</b>	<ul style="list-style-type: none"> <li>✓ Point the remote control at the remote control sensor of the unit.</li> <li>✓ Reduce the distance to the player.</li> <li>✓ Remove any possible obstacles.</li> <li>✓ Replace the batteries with new ones.</li> <li>✓ Check that the batteries are loaded correctly.</li> </ul>
<b>The timer is not working</b>	<ul style="list-style-type: none"> <li>✓ Set the clock correctly.</li> <li>✓ If recording is in progress, stop it.</li> </ul>
<b>The Clock/Timer setting is erased</b>	<ul style="list-style-type: none"> <li>✓ Power has been interrupted or the power cord has been disconnected. Reset the clock/timer.</li> </ul>

**SOFTWARE VERSION AND UPGRADING****A.MPEG SOFTWARE VERSION CHECK**

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

TV Screen shows:

<p>TV Displlay</p> <p>Osd Lang</p> <p>Screen Saver</p> <p>DIVX(R) VOX</p>
---

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

TV Screen shows:

<p>TV Type</p> <p>Audio</p> <p>Subtitle</p> <p>Disc Menu</p> <p>Parental</p> <p>Default</p>
---

3.Enter the password "9735" (on the remote control)

TV Screen shows:

<p>Ver      MCD515/xxxx</p> <p>Date    mm dd yyyy</p> <p>Time    hh:mm:ss</p> <p>Region code    x</p>
---

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

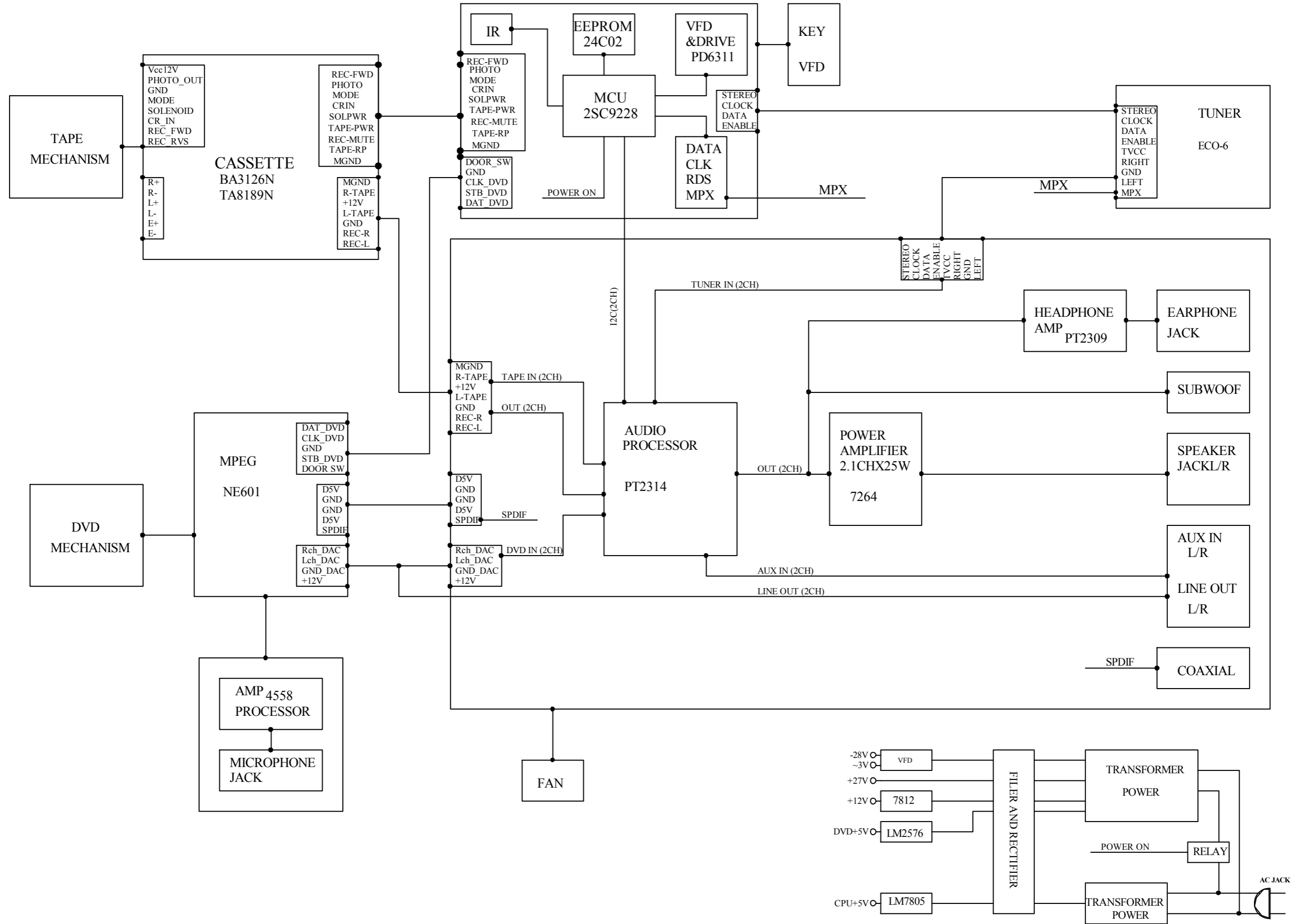
<p>MCD 515 V xx</p>
---------------------

**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

<p>Upgade file deteced</p> <p>Upgade?</p> <p>Press PLAY to start</p> <p>upgrading</p>
---

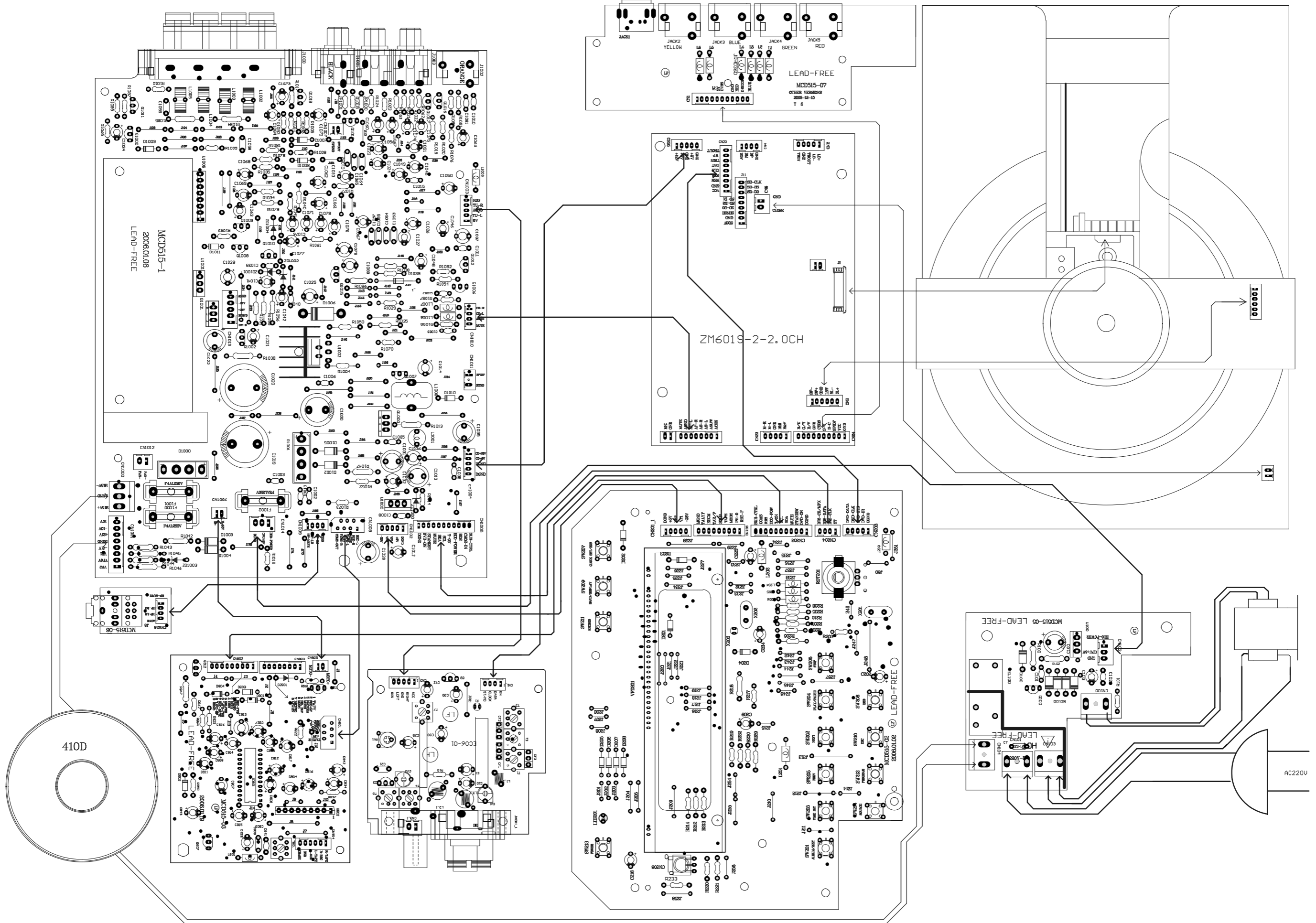
SET BLOCK DIAGRAM



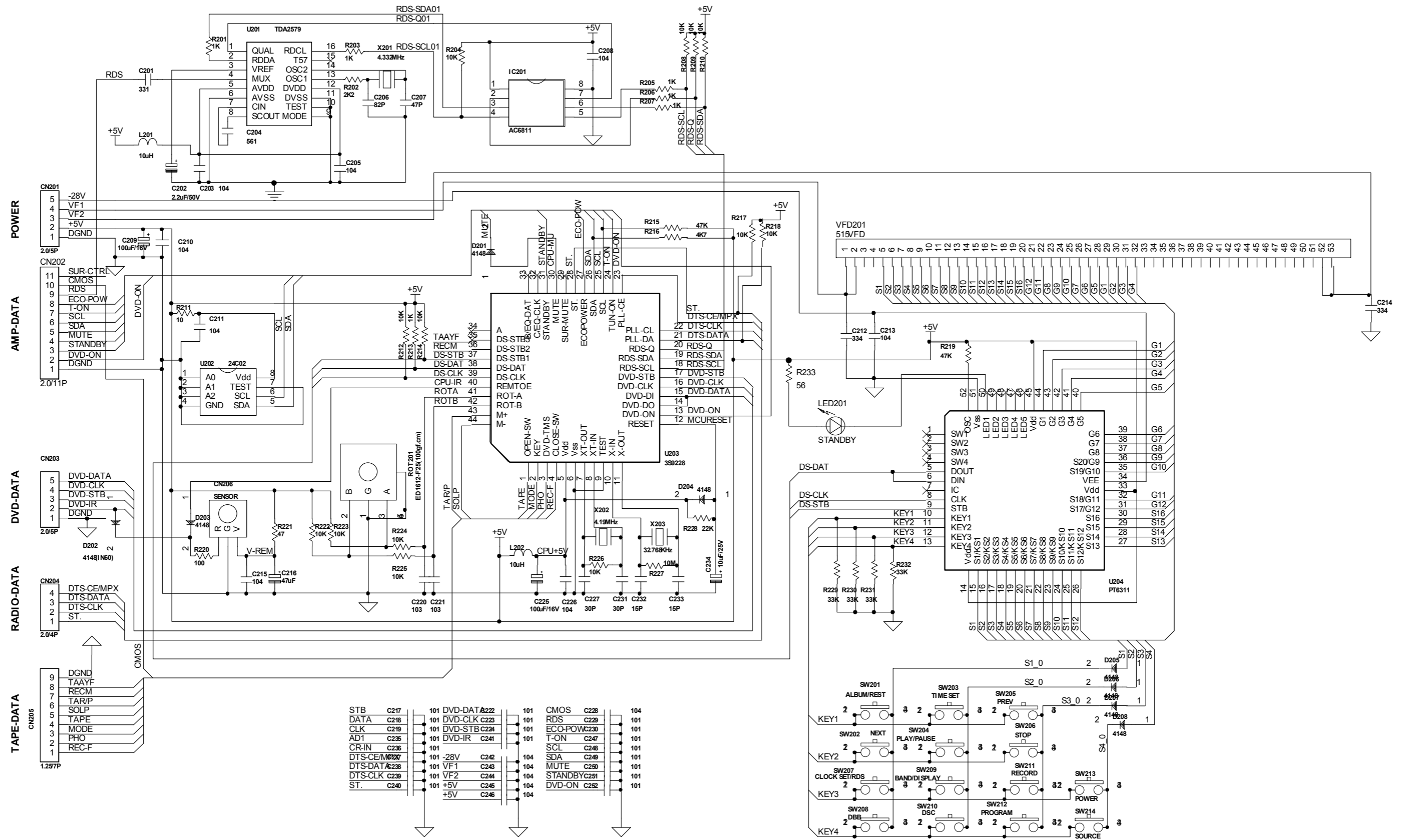
SET WIRING DIAGRAM

6-2

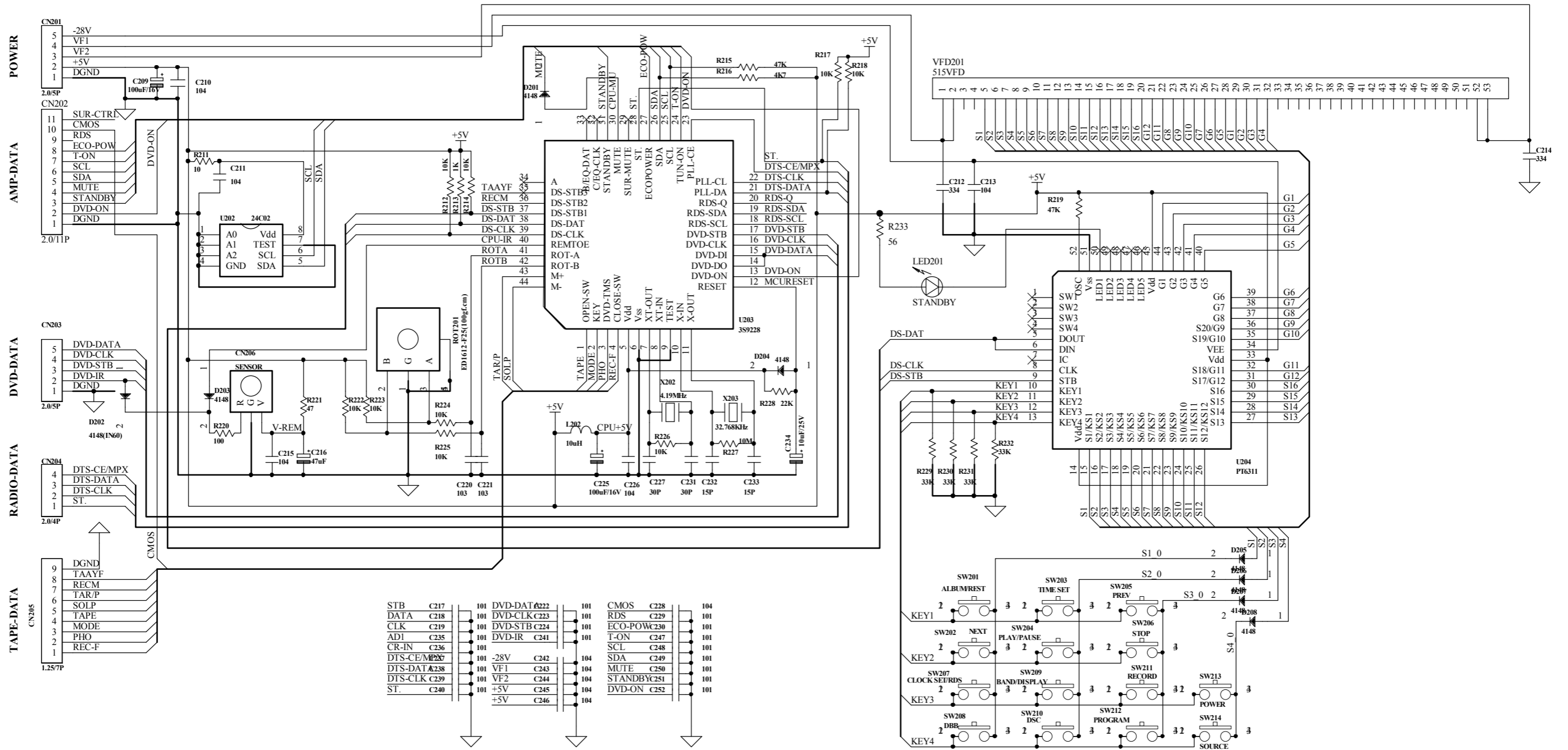
6-2



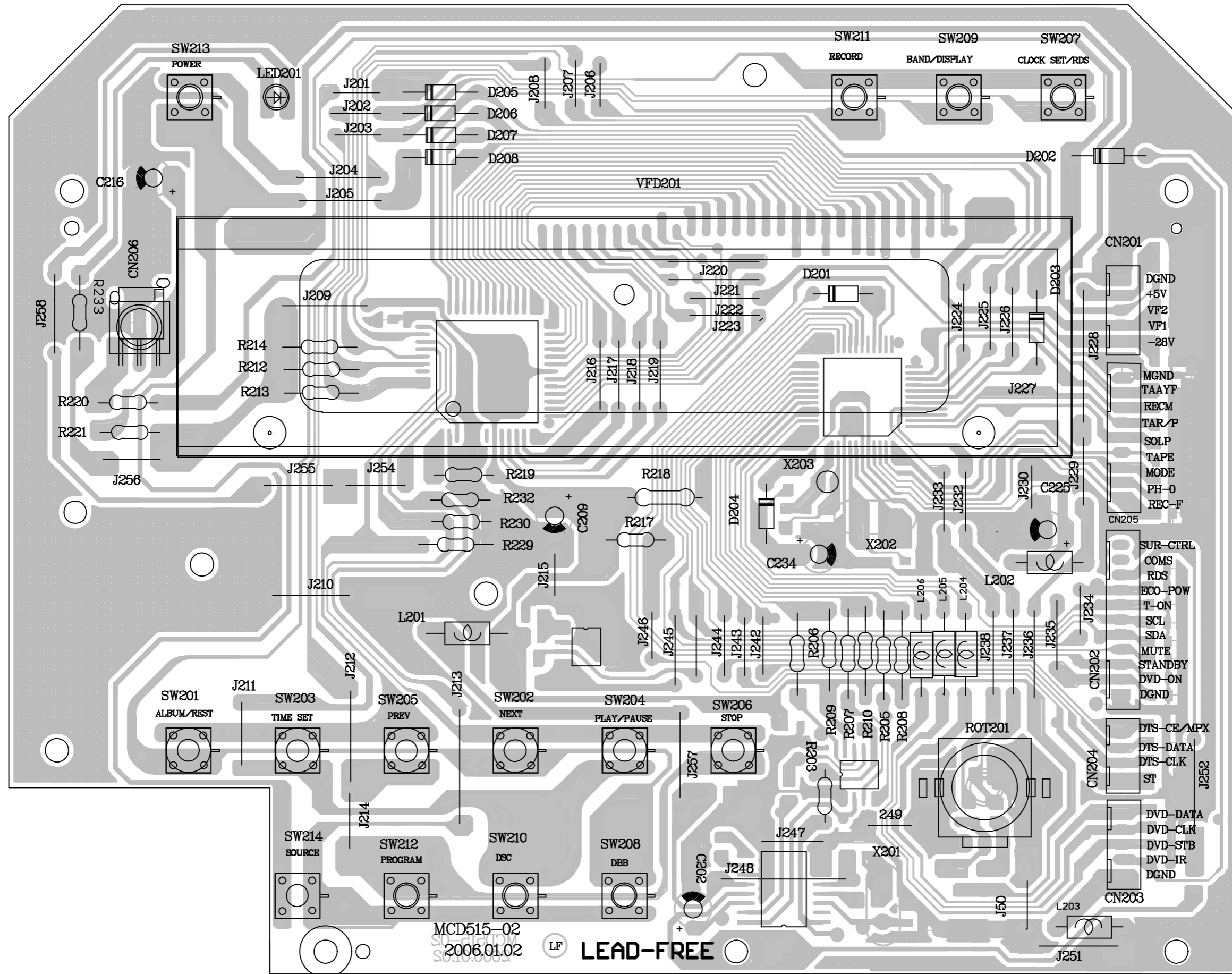
# CIRCUIT DIAGRAM - DISPLAY BOARD (only for -12)



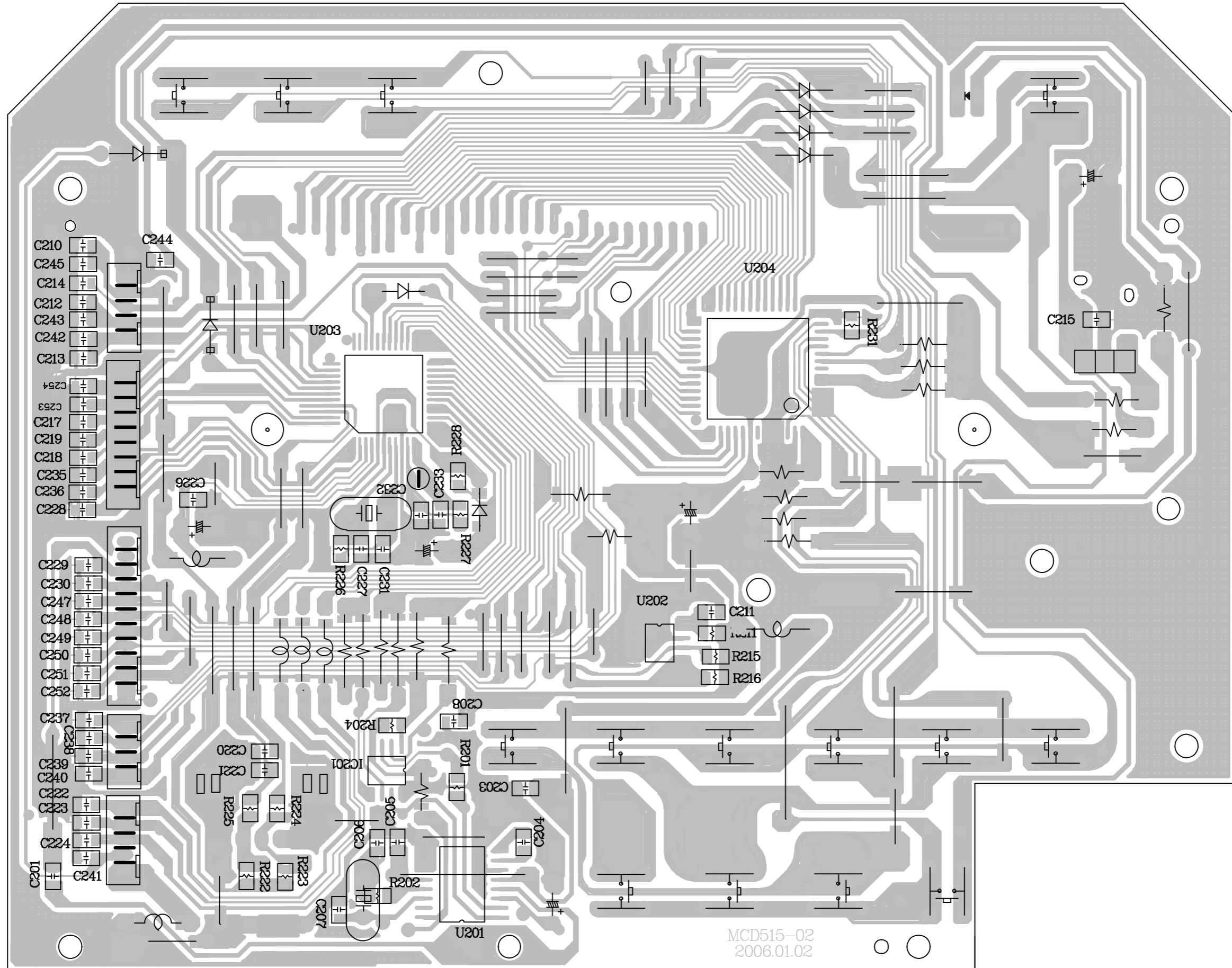
# CIRCUIT DIAGRAM - DISPLAY BOARD (not for -/12)



LAYOUT DIAGRAM - DISPLAY BOARD  
COMPONENT SIDE (only for -12)

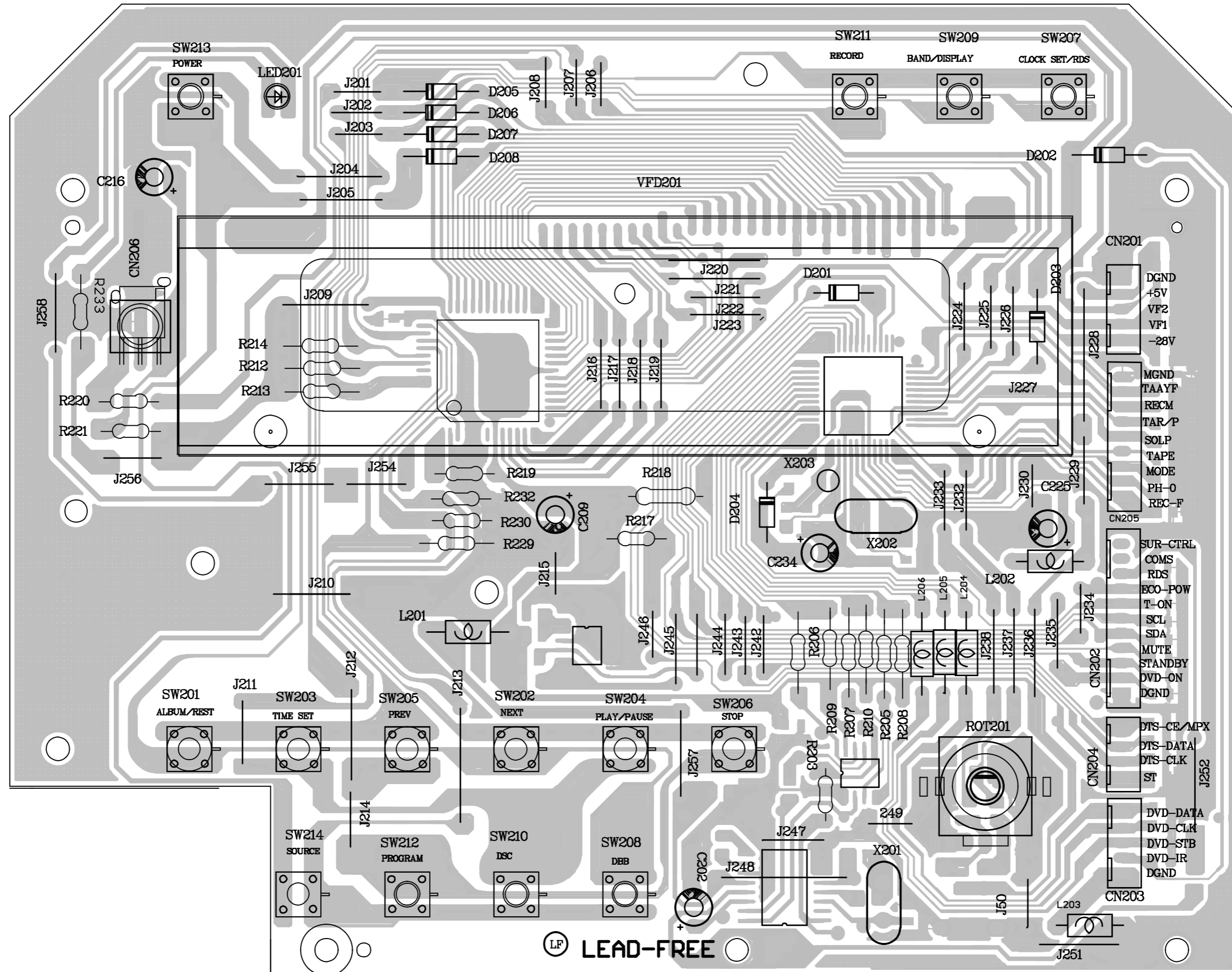


LAYOUT DIAGRAM - DISPLAY BOARD  
COPPER SIDE (only for -12)

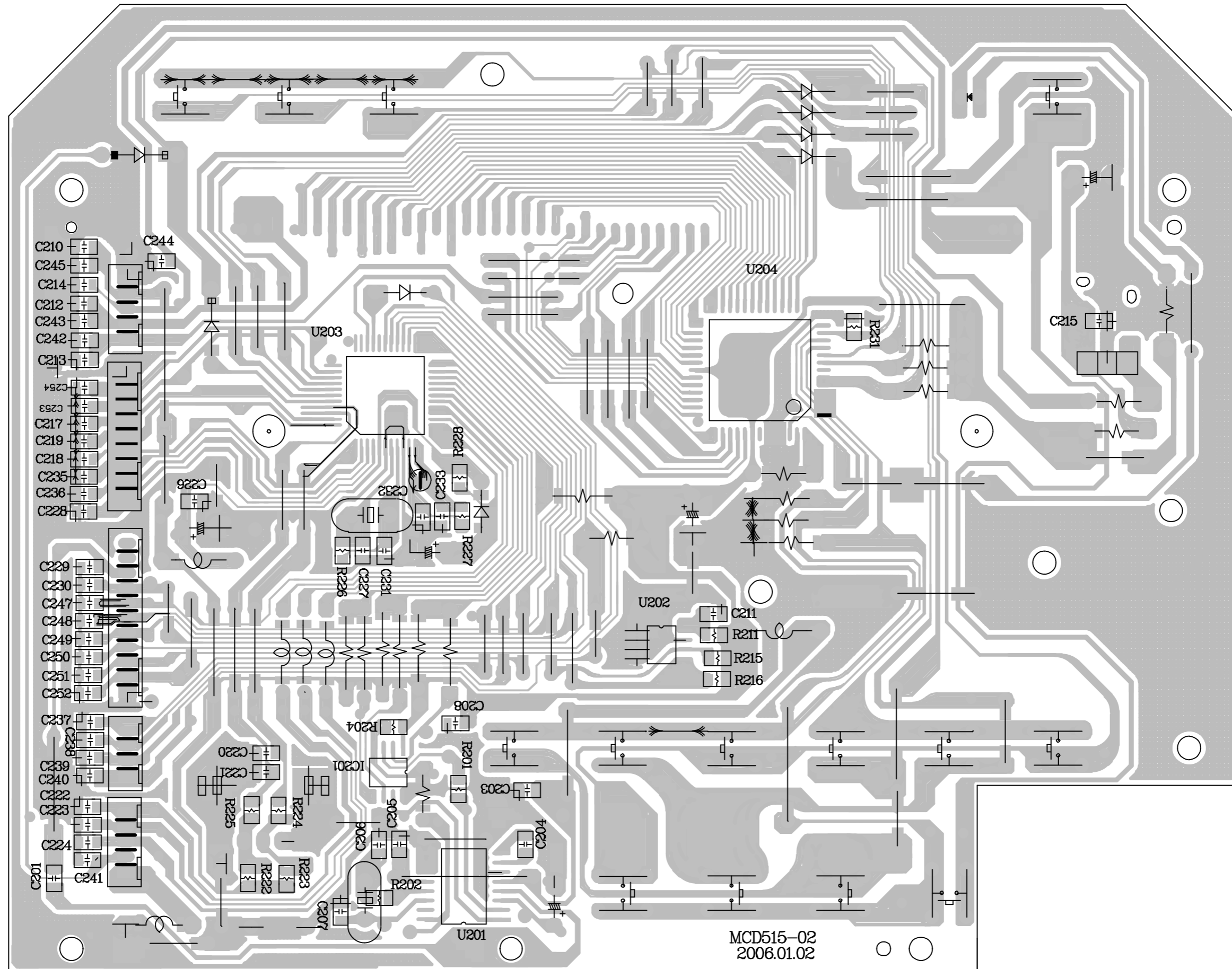




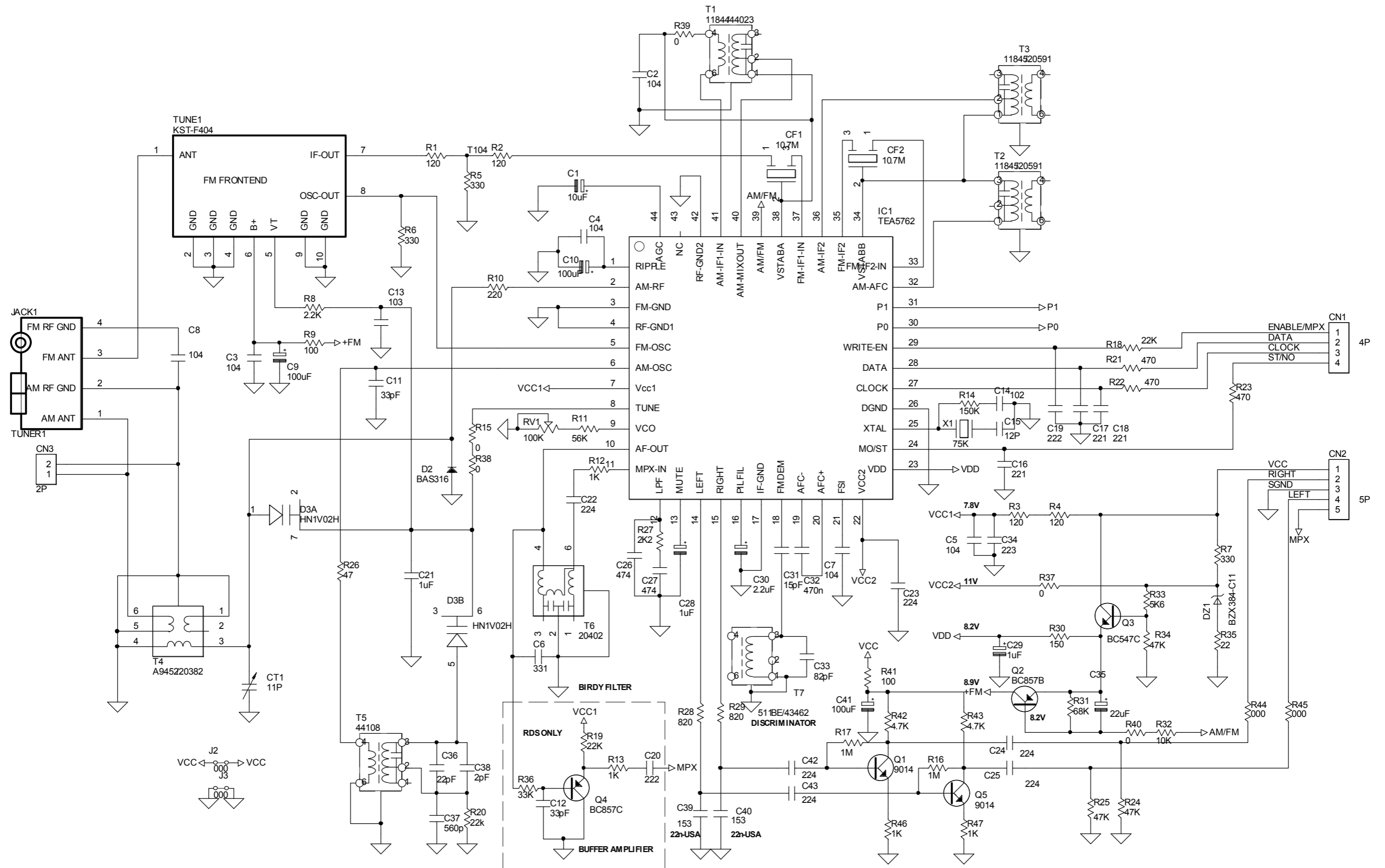
LAYOUT DIAGRAM - DISPLAY BOARD  
COMPONENT SIDE (not for -/12)



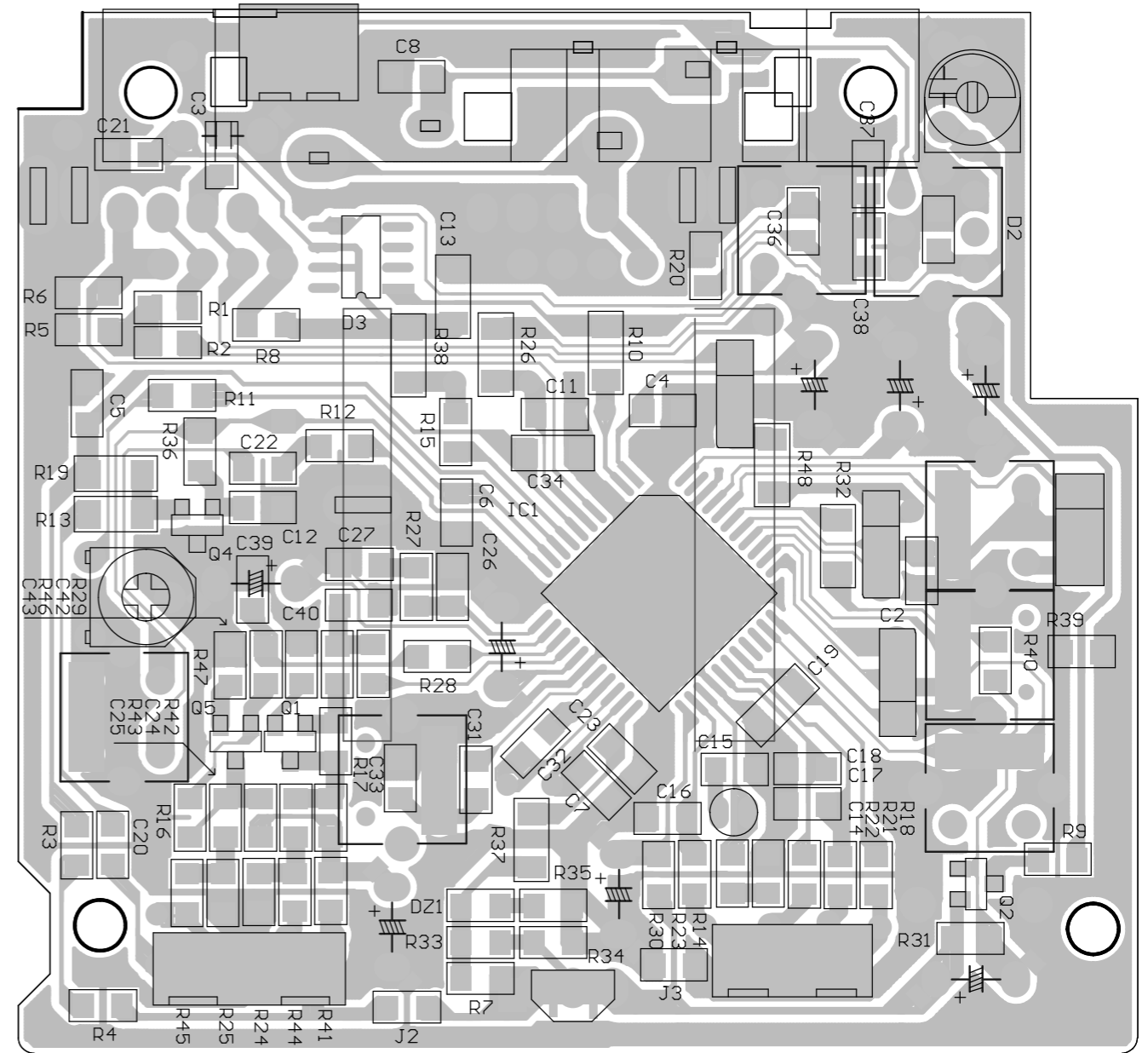
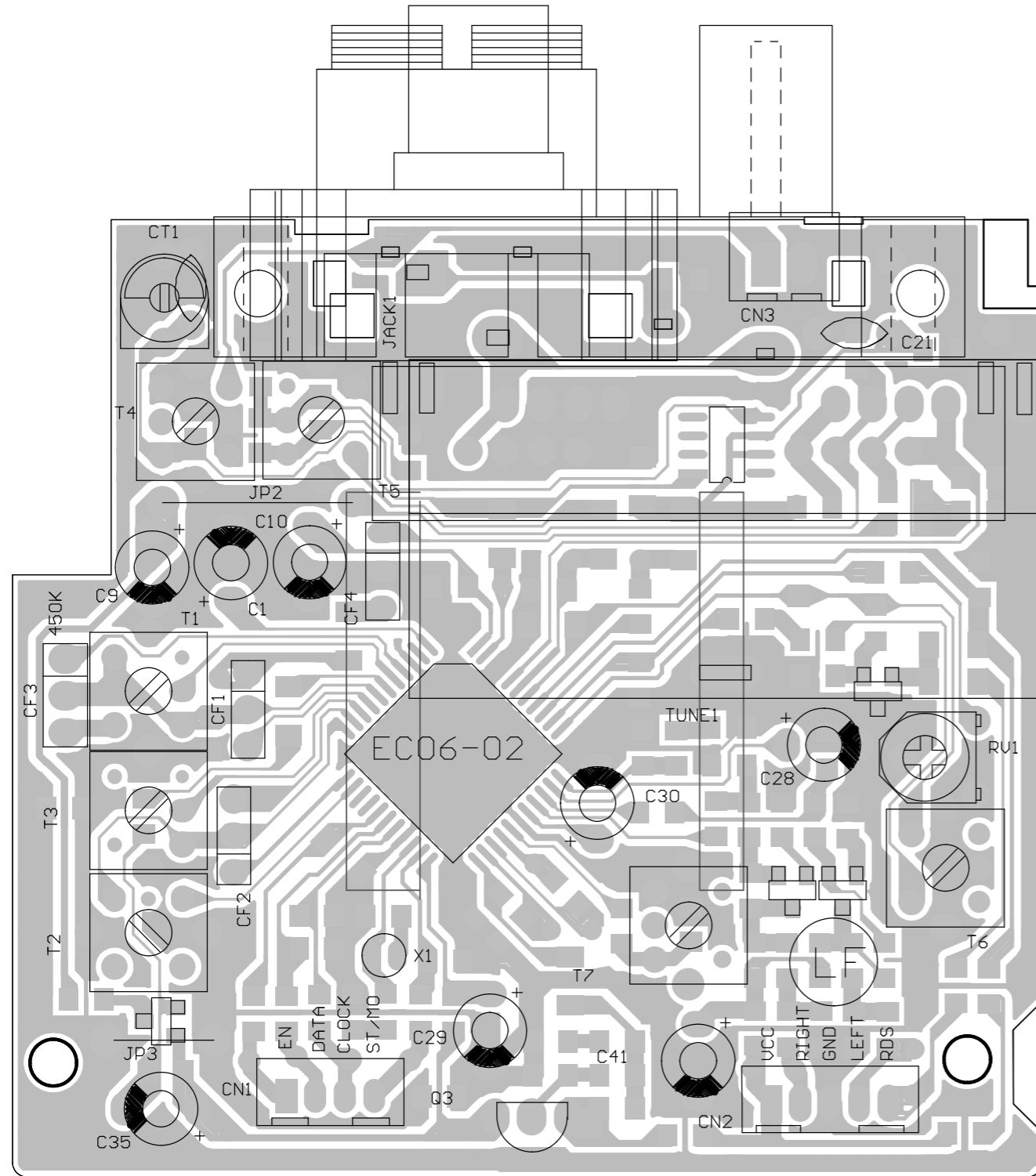
LAYOUT DIAGRAM - DISPLAY BOARD  
COPPER SIDE (not for -/12)



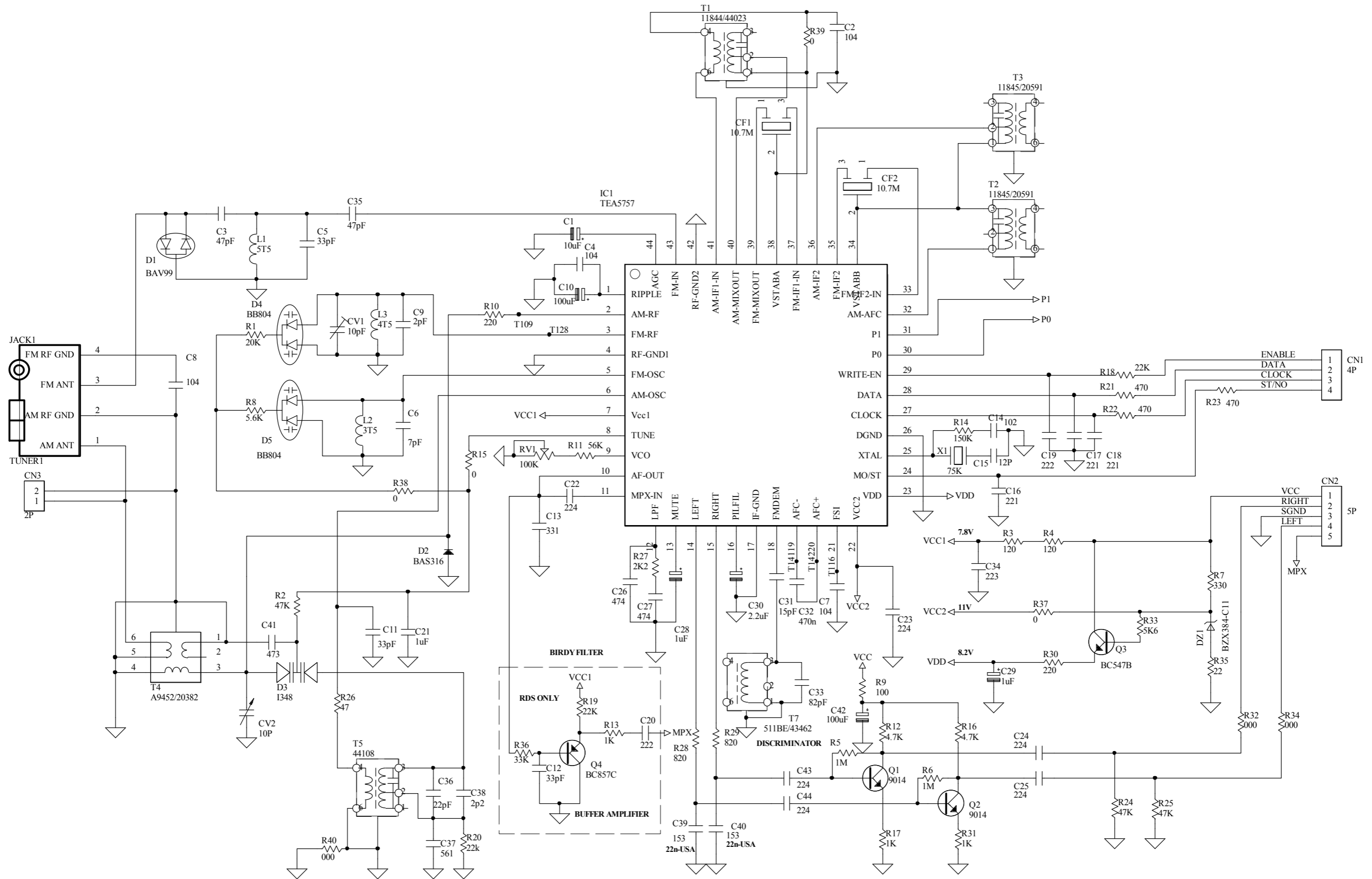
# CIRCUIT DIAGRAM - ECO6-02 TUNER BOARD (only for -/12)



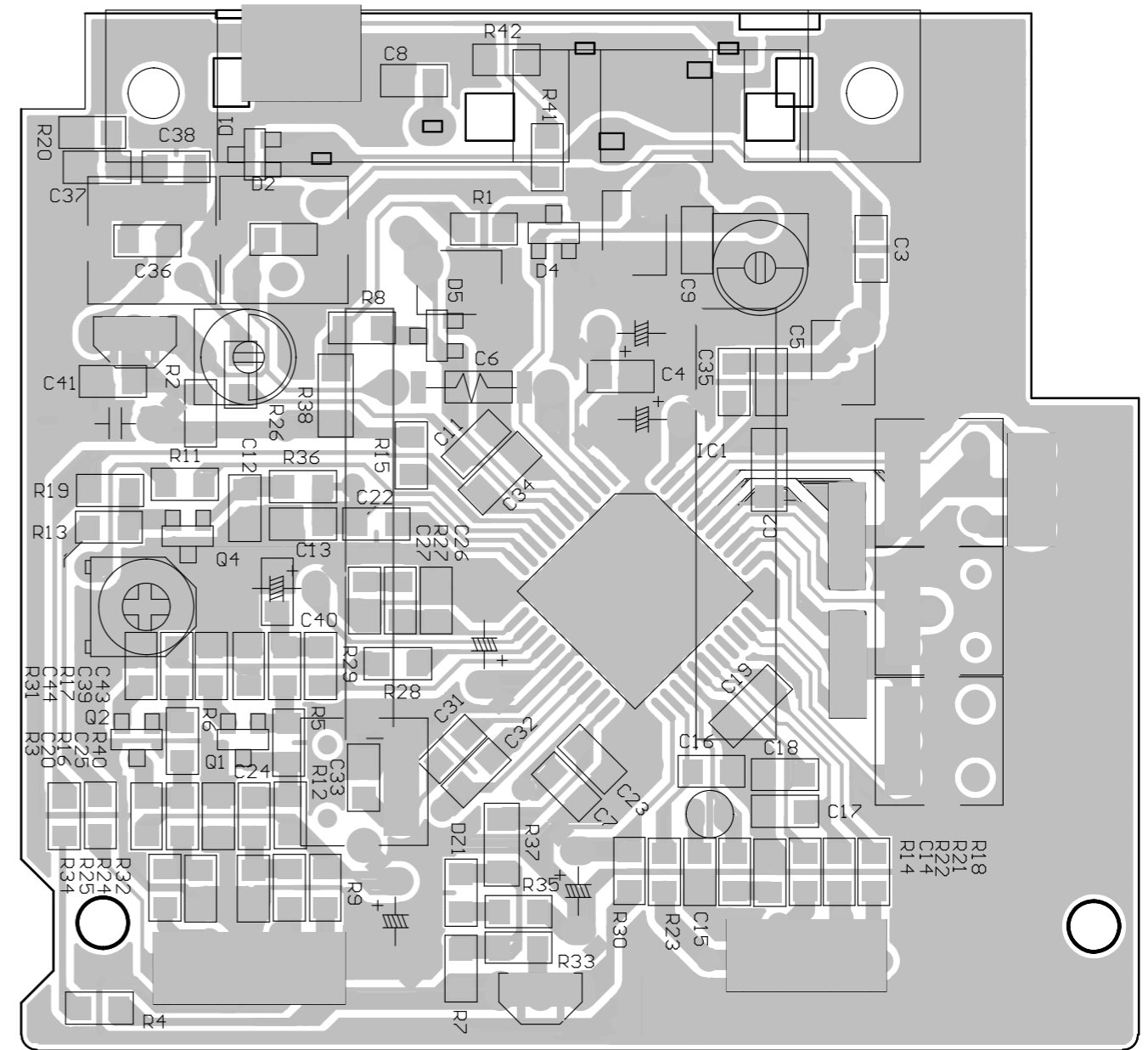
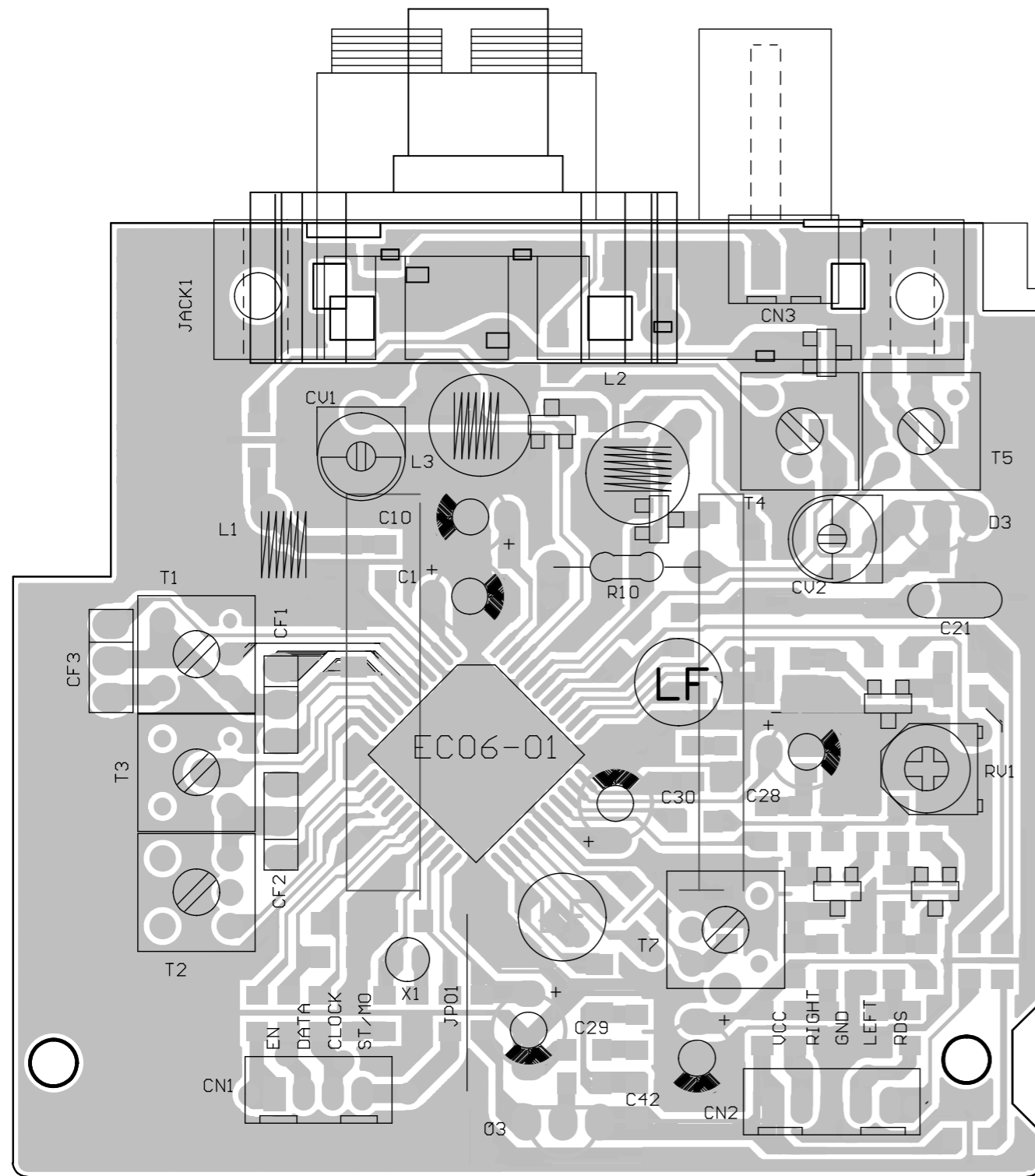
LAYOUT DIAGRAM - ECO6-02 TUNER BOARD  
(only for -/12)



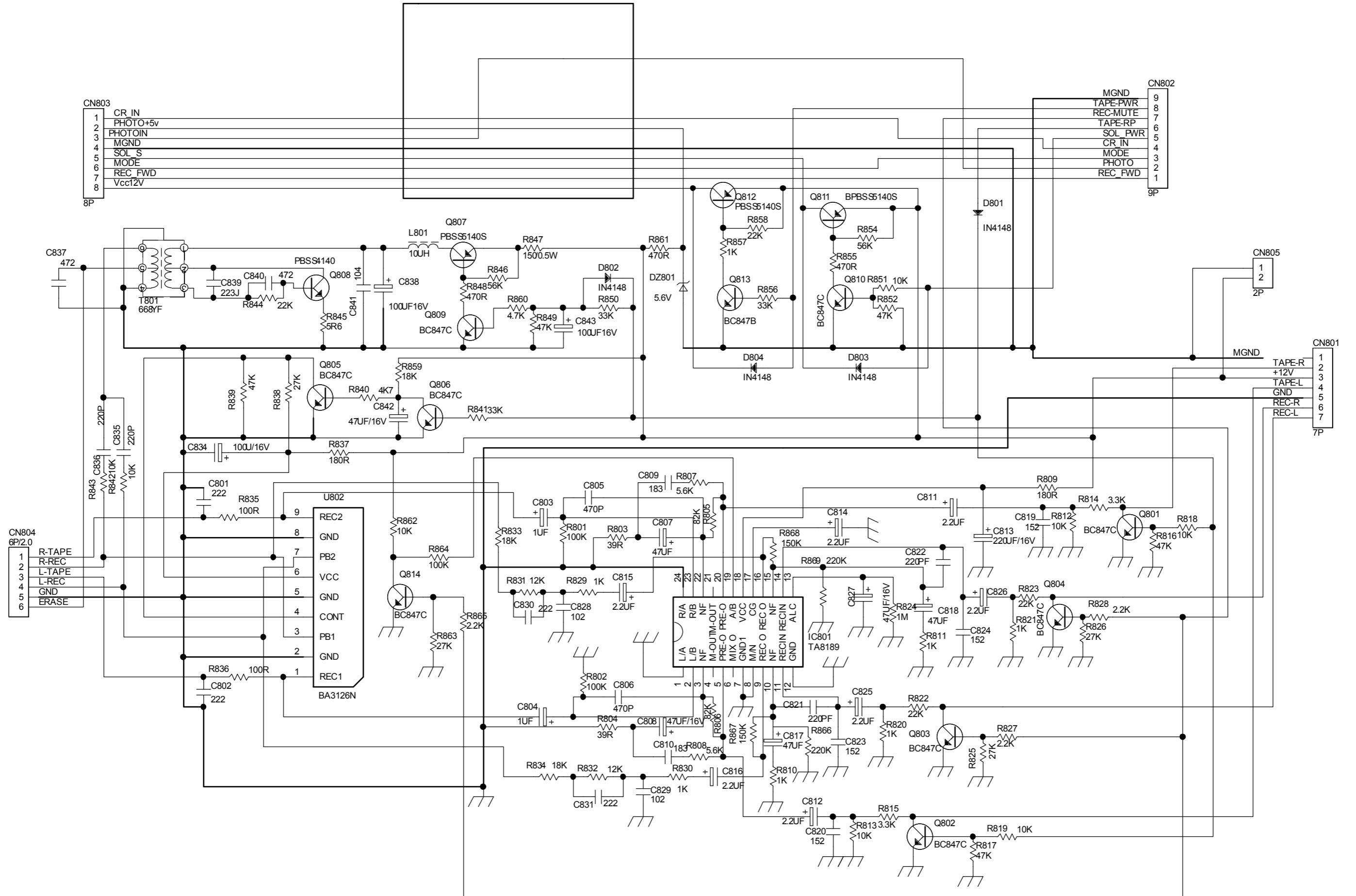
# CIRCUIT DIAGRAM - ECO6-01 TUNER BOARD (not for -12)



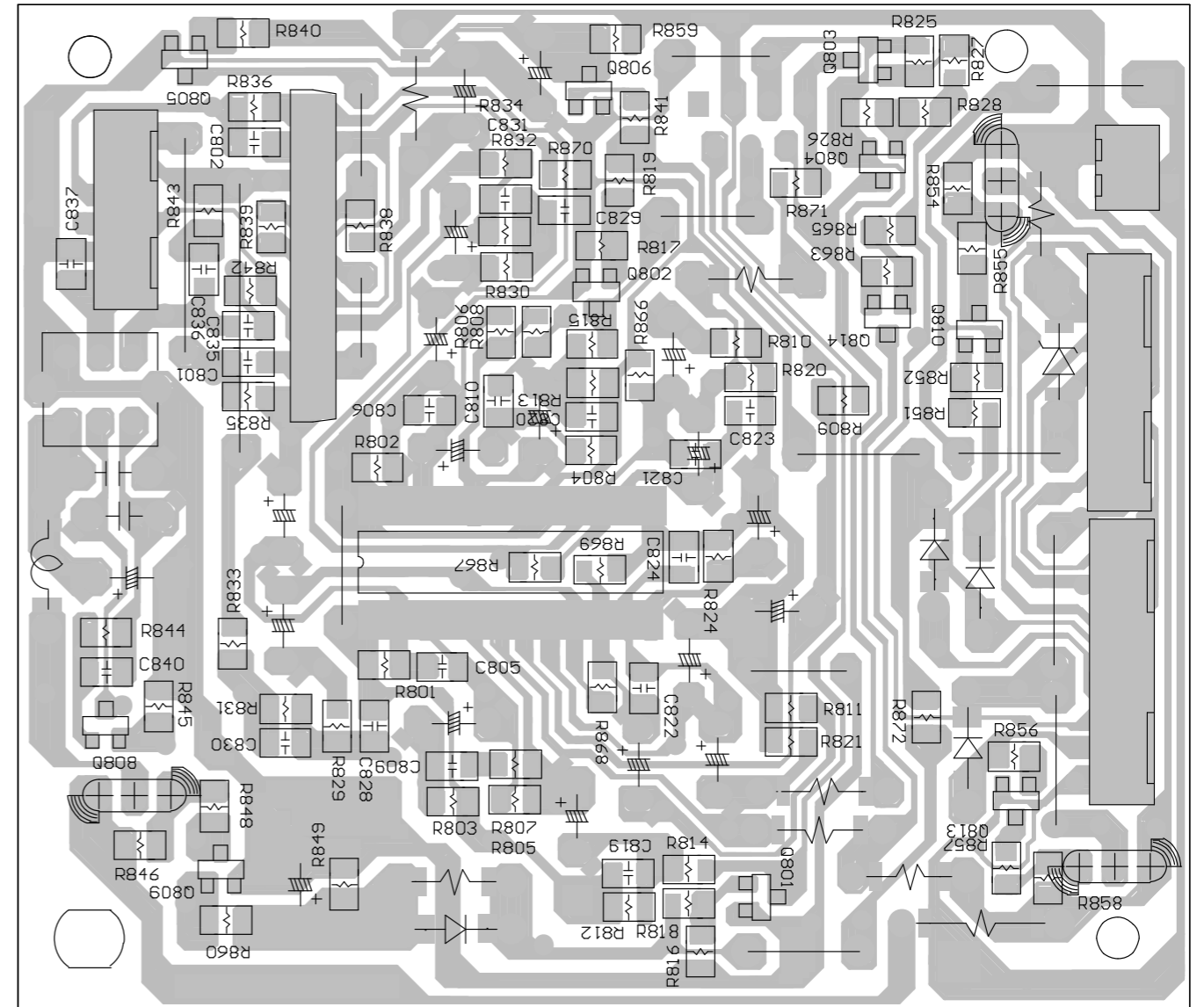
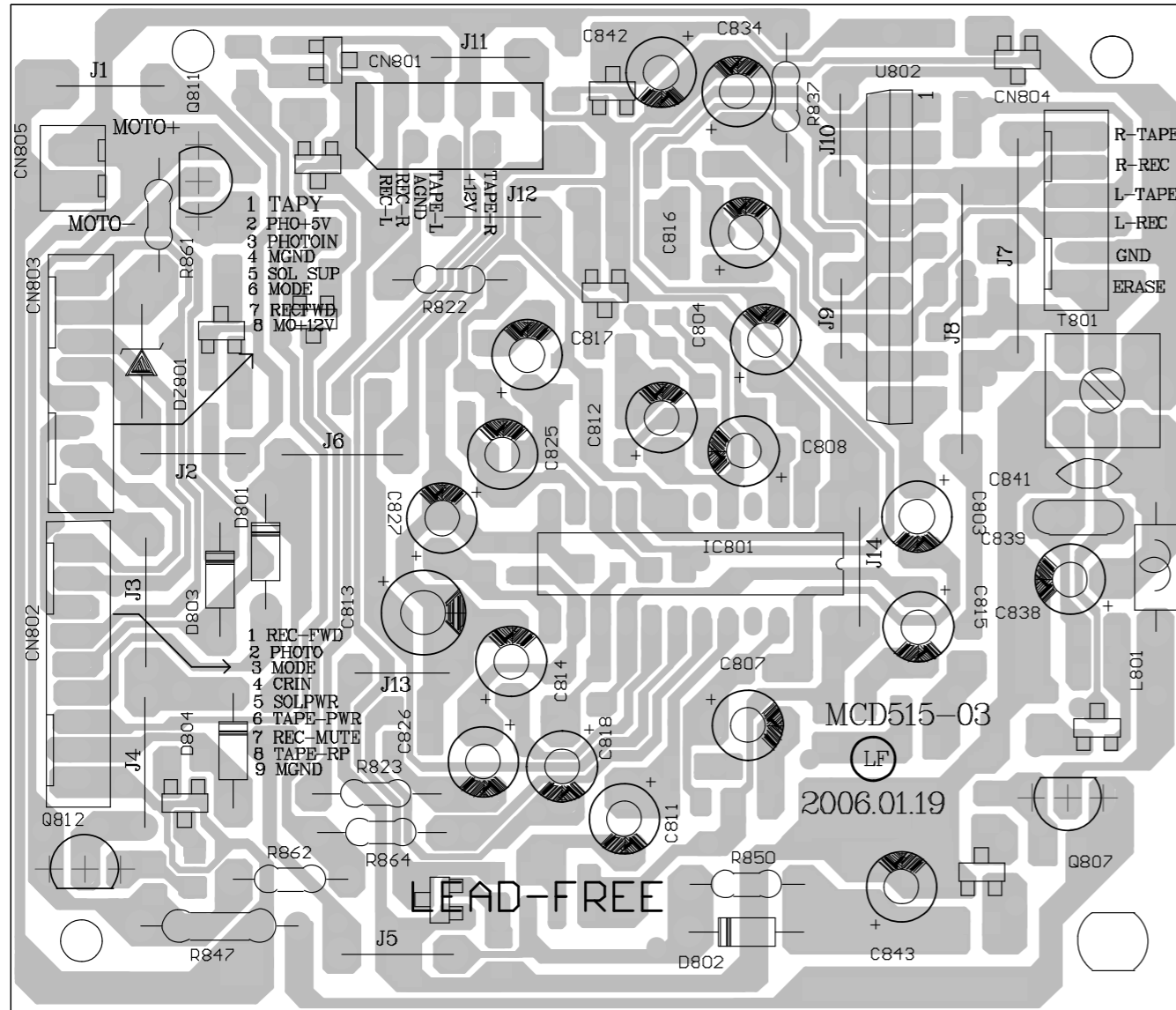
LAYOUT DIAGRAM - ECO6-01 TUNER BOARD  
(not for -/12)



# CIRCUIT DIAGRAM - CASSETTE BOARD

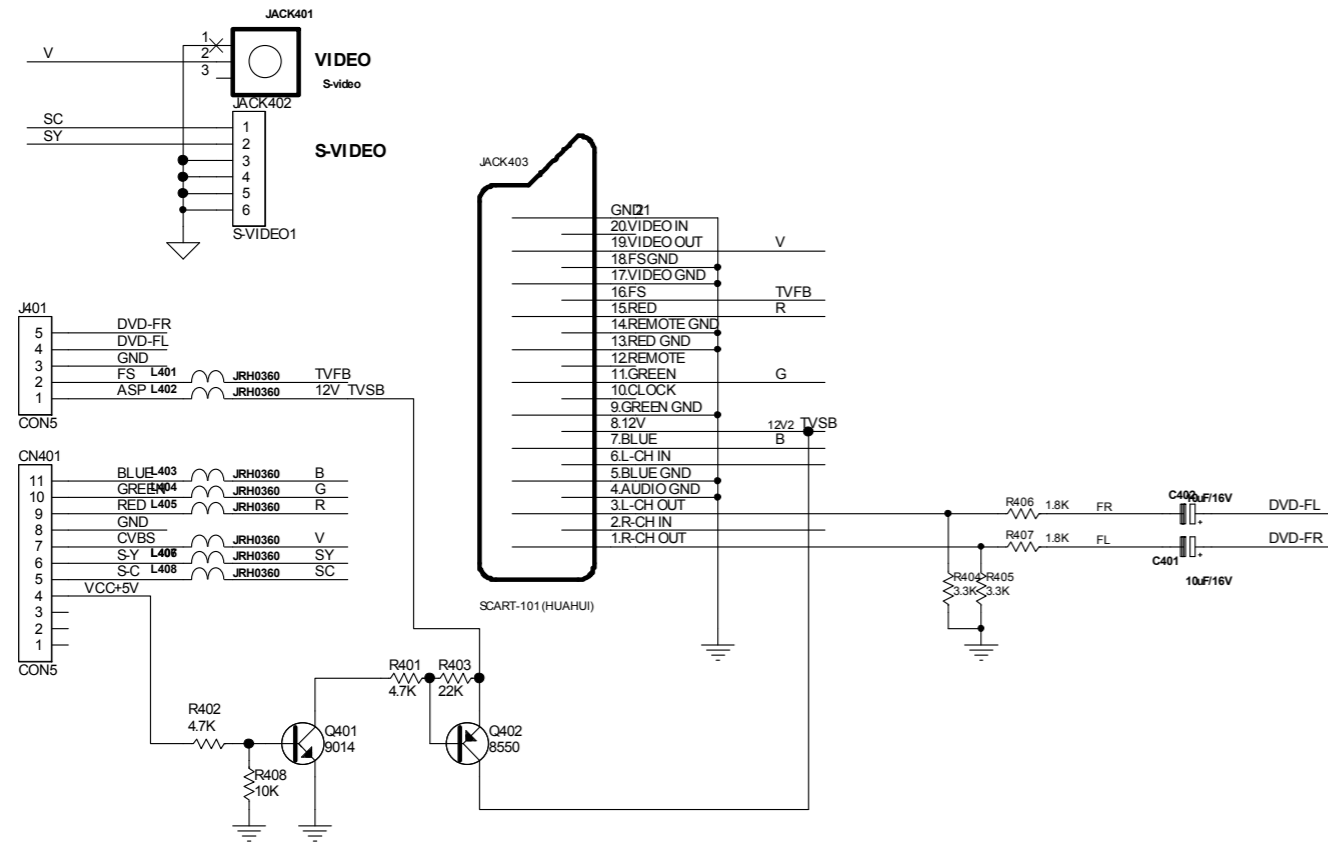


LAYOUT DIAGRAM - CASSETTE BOARD

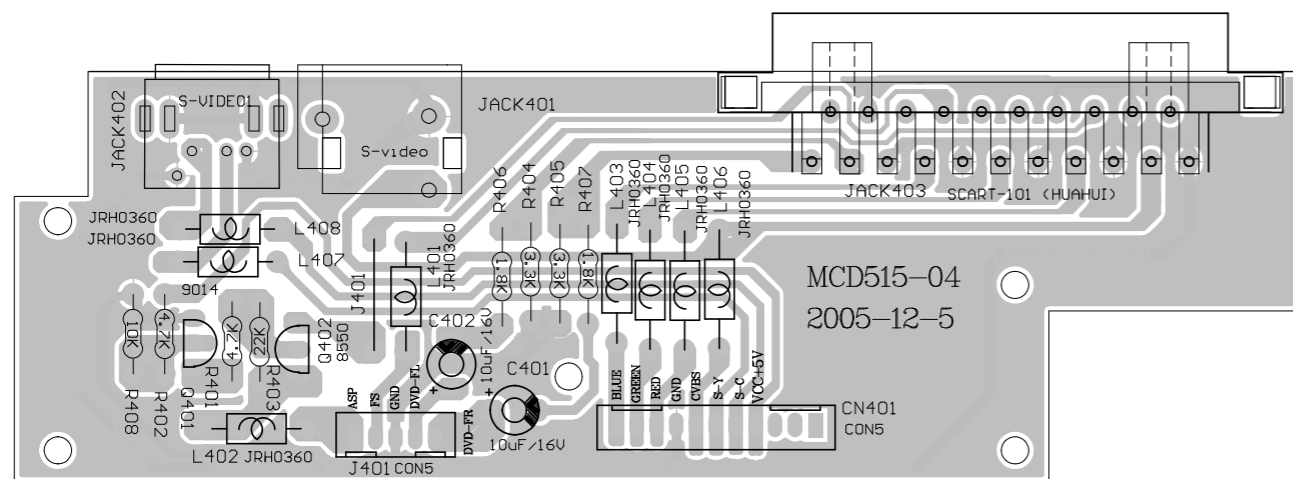




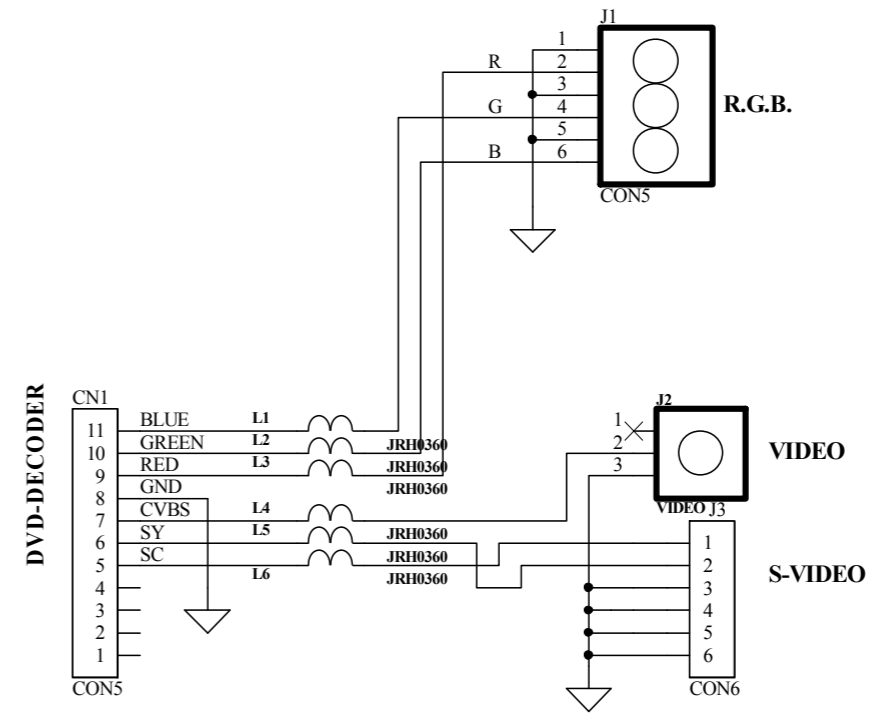
**CIRCUIT DIAGRAM - VIDEO OUTPUT BOARD  
(only for -/12)**



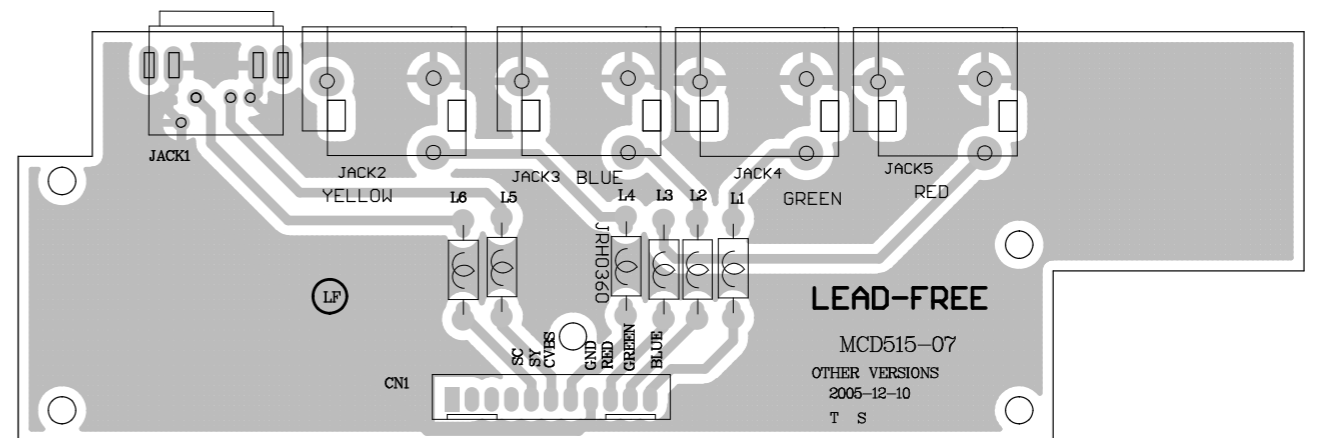
**LAYOUT DIAGRAM - VIDEO OUTPUT BOARD  
(only for -/12)**



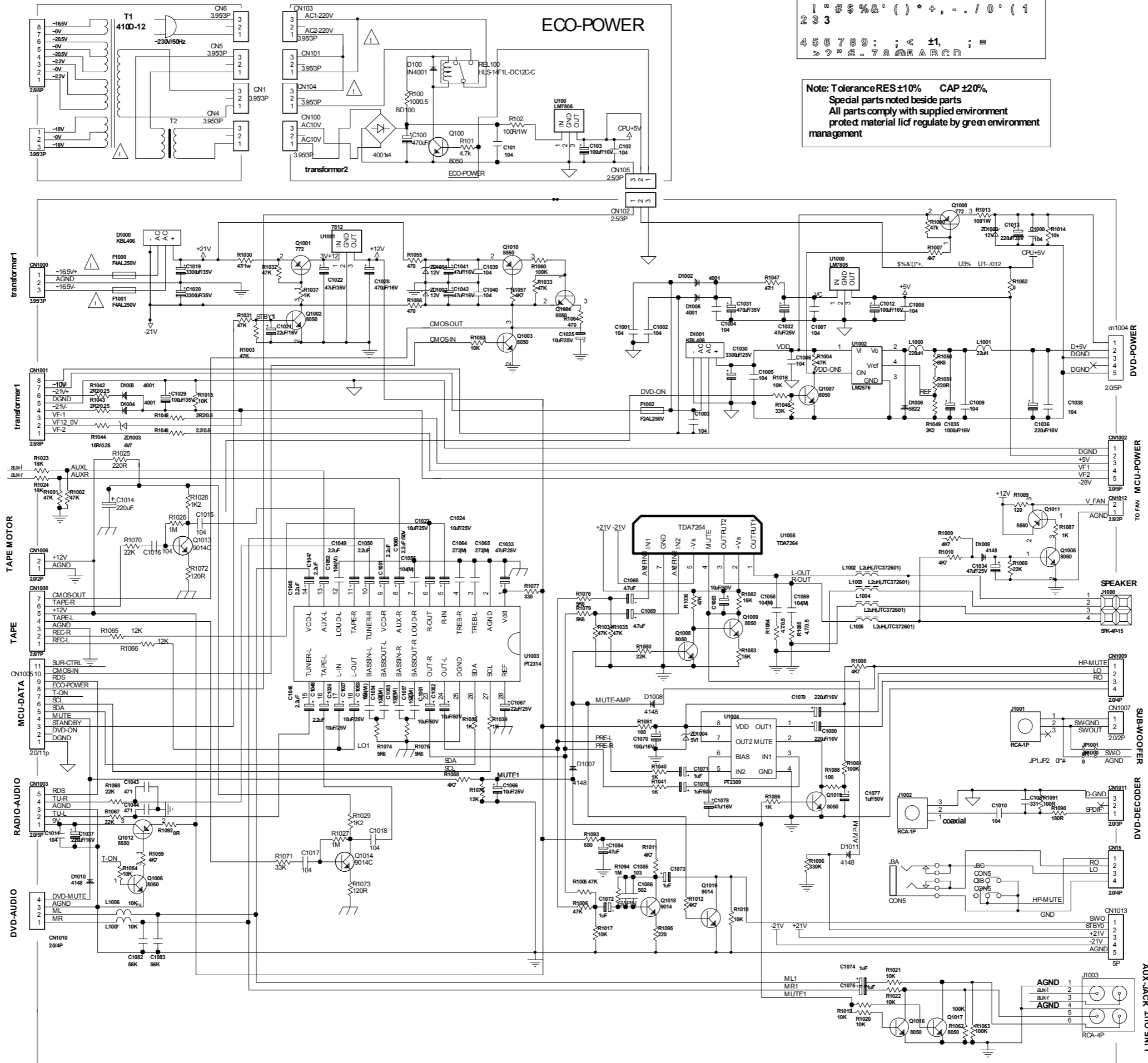
**CIRCUIT DIAGRAM - VIDEO OUTPUT BOARD  
(not for -/12)**



**LAYOUT DIAGRAM - VIDEO OUTPUT BOARD  
(not for -/12)**



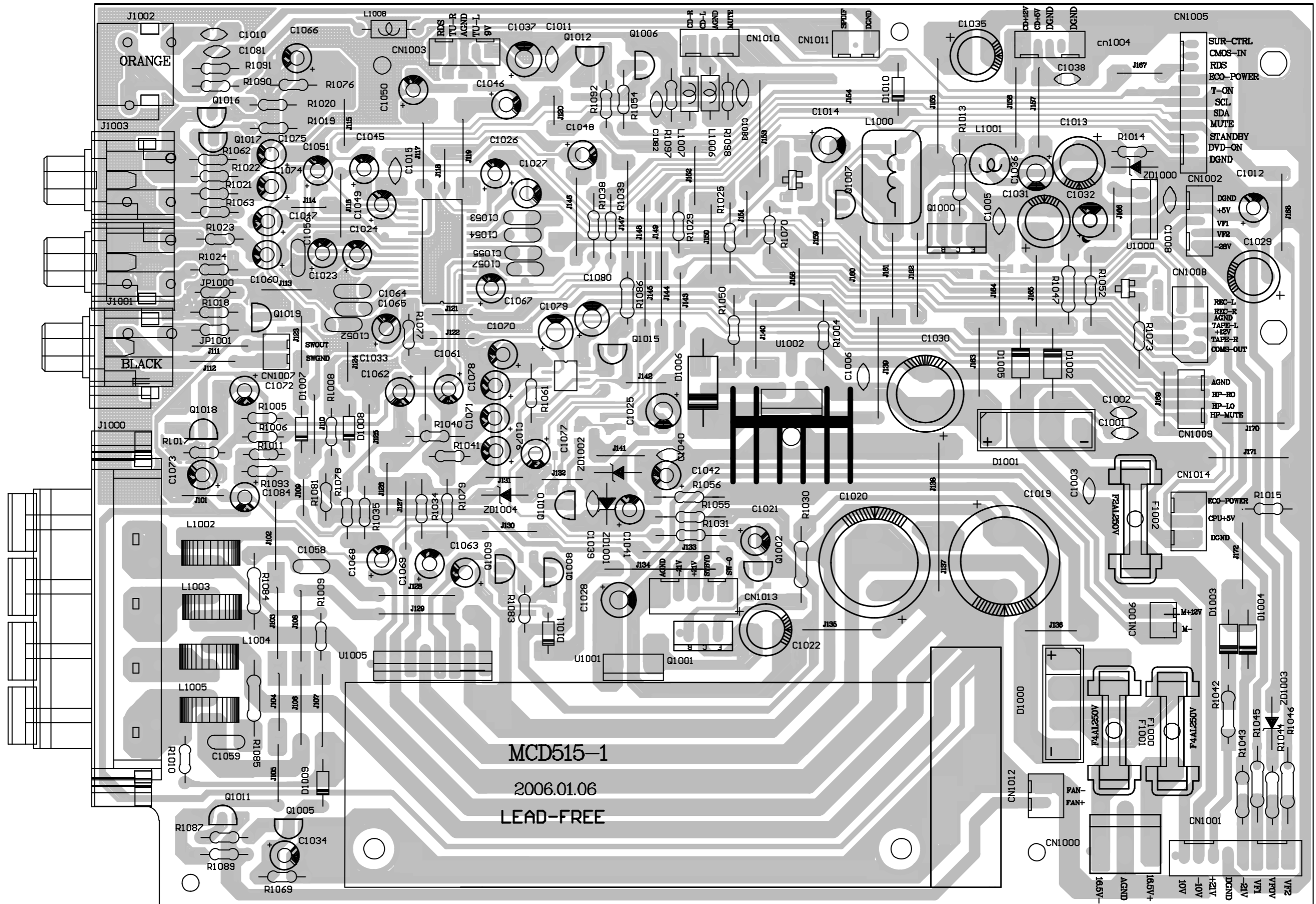
# CIRCUIT DIAGRAM - AMP BOARD



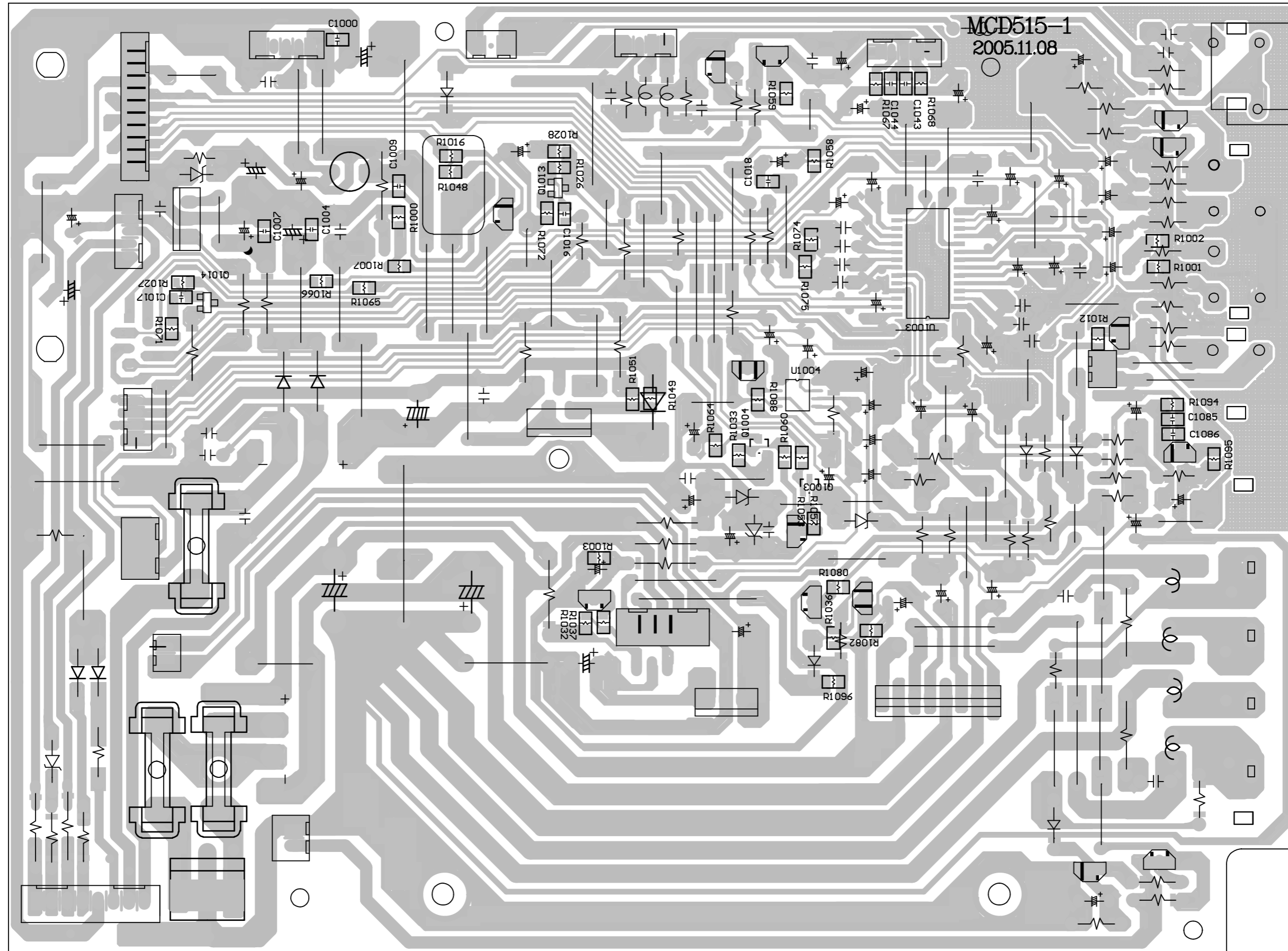
! " # \$ % & ' ( ) \* + , - . / 0 ' ( 1  
 2 3 3  
 4 5 6 7 8 9 : ; < ± 1, ; =  
 > ? @ # - 7 8 9 0 A B C D

Note: Tolerance RES ±10% CAP ±20%,  
 Special parts noted beside parts  
 All parts comply with supplied environment  
 proted material licf regulate by green environment  
 management

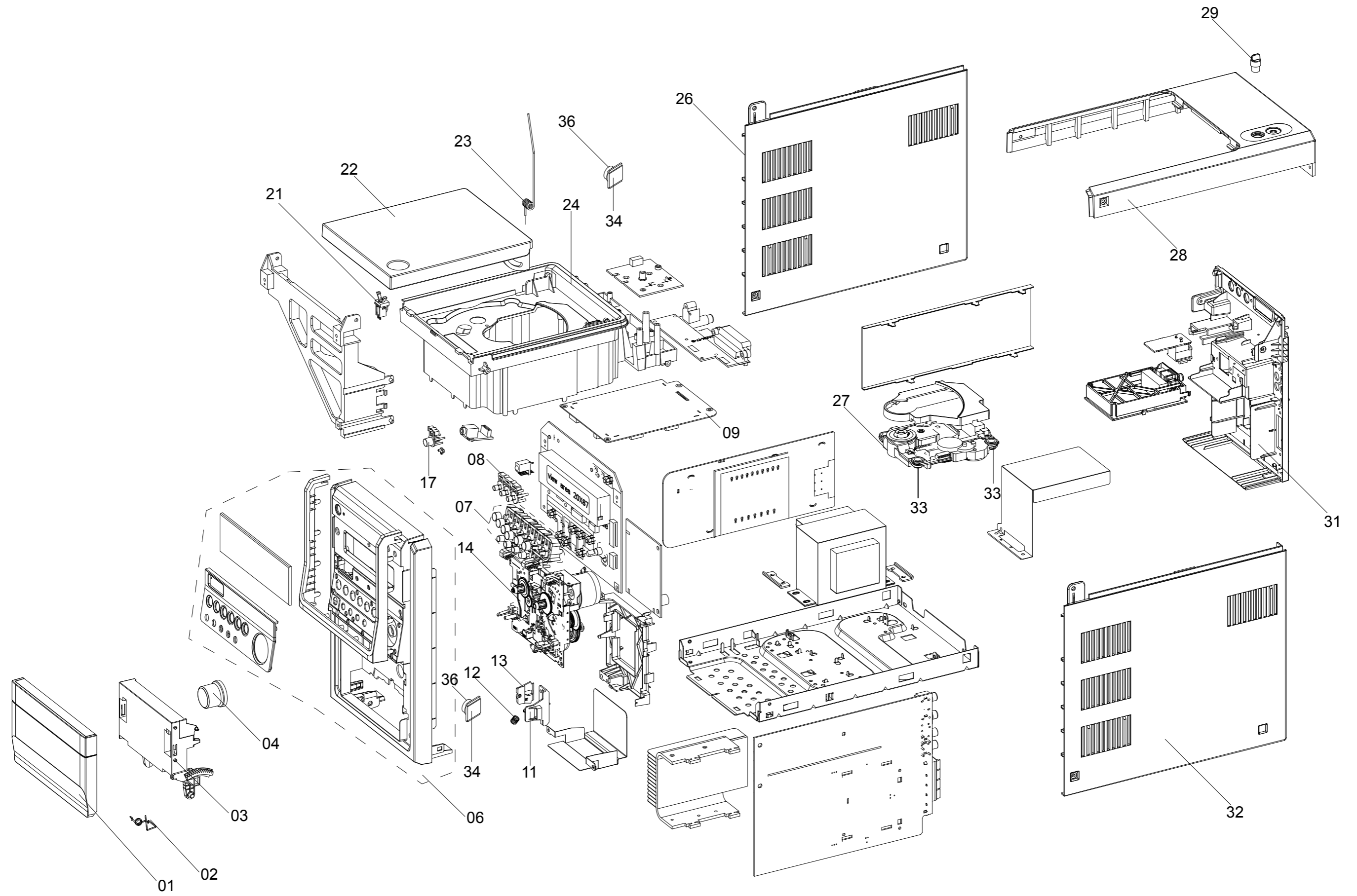
LAYOUT DIAGRAM - AMP BOARD



LAYOUT DIAGRAM - AMP BOARD



EXPLODED VIEW DIAGRAM



**MECHANICAL PARTSLIST**

01	994000005573	CASS DOOR ASSY
02	994000005537	CASS DOOR SPRING
03	994000005558	CASS DOOR BRACKET
04	994000005567	VOLUME KNOB
06	994000005563	CABINET FRONT ASSY (-/93)
06	994000005564	CABINET FRONT ASSY (-/98)
06	994000005565	CABINET FRONT ASSY (-/37)
06	994000005566	CABINET FRONT ASSY (-/12)
06	996500039108	CABINET FRONT ASSY (-/55)
06	996500039111	CABINET FRONT ASSY (-/61)
07	994000005568	CD CONTROL BUTTON ASSY
08	994000005556	TOP BUTTON ASSY
09	994000005574	DVD RECORDER BOARD 2.0ch
11	994000005562	DECK LOCKER BRACKET BLACK
12	994000005538	DECK SPRING WIRE
13	994000005557	CASS DOOR LOCKER
14	994000005536	CASS DECK MECHANISM
17	994000005569	POWER KNOB
21	994000003179	CD DOOR LOCK
22	994000005554	CD DOOR (not for -/37)
22	994000005555	CD DOOR (-/37)
23	994000005539	DVD DOOR SPRING WIRE
24	994000005559	CD TRAY (not for -/37)
24	994000005561	CD TRAY (-/37)
26	994000005549	LEFT CABINET (not for -/37)
26	994000005551	LEFT CABINET (-/37)
27	994000002563	DVD MECHA. KENWOOD IDM520A
28	994000005541	TOP COVER (-/93)
28	994000005542	TOP COVER (-/98/55/61)
28	994000005543	TOP COVER (-/37)
28	994000005544	TOP COVER (-/12)
29	994000005575	MIC VOLUME KNOB (-/98/93/55)
31	994000005545	CABINET BACK (-/93/61)
31	994000005546	CABINET BACK (-/98/55)
31	994000005547	CABINET BACK (-/12)
31	994000005548	CABINET BACK (-/37)
32	994000005552	RIGHT CABINET (not for -/37)
32	994000005553	RIGHT CABINET (-/37)
33	994000003455	DVD MECHA. SHOCKPROOF WASHER
34	994000005571	GEAR
36	994000005572	GEAR BRACKET

**ACCESSORIES**

994000005078	AUDIO SINGLE WIRE W/RCA
994000005528	SPEAKER BOX ASS'Y
996500039112	SPEAKER BOX ASS'Y (-/61)
994000005529	1300 ANTENNA HOLDER BLACK
994000005531	MCD515 REMOTE HANDSET
996500039113	MCD515 REMOTE HANDSET (-/61)
994000005532	1P WIRE(26#) 1.8m (Fm ANT. WIRE)
994000005533	JUMPER WIRE(26#) 5.5m BLACK
996500038637	POWER PLUG ADAPTOR (-/55)

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

**ELECTRICAL PARTSLIST - MAIN BOARD****- DIODES -**

D1006	994000002544	RECTIFIER DIODE 5822
ZD1003	994000003722	ZENER DIODE 4.7V 1/2W-52
ZD1004	994000002516	ZENER DIODE 5.1V 1/2W-52
ZD1000	994000005488	ZENER DIODE 12V 0.5W-52
ZD1000	996500039109	ZENER DIODE 12V 1W-52 (-/61/55)
D1000	994000002521	THYRISTOR RS406(4A)
D1001	994000002521	THYRISTOR RS406(4A)

**- IC & TRANSISTORS -**

Q1001	994000002517	TRANSISTOR 2SB772A
Q1000	994000002517	TRANSISTOR 2SB772A
U1002	994000004935	IC LM2576-ADJP T-220
U1005	994000004977	IC TDA7265
U1004	994000002524	IC PT2309-S(L)SOP
U1003	994000005066	I.C. PT2314 PRINCETON
U1000	994000002548	IC LM7805/LM340T5 7805
U1001	994000004937	IC 7812

**- MISCELLANEOUS -**

J1002	994000002558	SINGLE RCA SOCKET
J1001	994000005489	SINGLE RCA SOCKET
J1003	994000005491	RCA COAXIAL-CABLE JACK
J1000	994000005492	EXTERIOR SWITCH
F1002	994000002529	FUSE F2AL250V
F1000	994000002531	FUSE F4AL250V
F1001	994000002531	FUSE F4AL250V

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

## ELECTRICAL PARTSLIST - DISPLAY BOARD

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### - IC & TRANSISTORS -

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U202	994000002547	IC AT24C02-PC27
U203	994000002549	CPU U252(3P9228 XYZ)
U204	994000002539	IC PT6311/SC16311/CD16311
IC201	994000003512	IC AC6811(RDS)CHIP (-/12)

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### - MISCELLANEOUS -

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LED201	994000005495	LED DIODE RED
VFD201	994000005496	VFD DISPLAY 515VFD
	994000002542	IR SENSOR BLACK
X203	994000002551	CRYSTAL OSC FREQ.32.768KHz
X202	994000003806	CRYSTAL 4.19MHz
X201	994000005497	CRYSTAL 4.332 49S MHZ (-/12)
SW201	994000002555	LIGHT TOUCH SWITCH
SW202	994000002555	LIGHT TOUCH SWITCH
SW203	994000002555	LIGHT TOUCH SWITCH
SW204	994000002555	LIGHT TOUCH SWITCH
SW205	994000002555	LIGHT TOUCH SWITCH
SW206	994000002555	LIGHT TOUCH SWITCH
SW207	994000002555	LIGHT TOUCH SWITCH
SW208	994000002555	LIGHT TOUCH SWITCH
SW209	994000002555	LIGHT TOUCH SWITCH
SW210	994000002555	LIGHT TOUCH SWITCH
SW211	994000002555	LIGHT TOUCH SWITCH
SW212	994000002555	LIGHT TOUCH SWITCH
SW213	994000002555	LIGHT TOUCH SWITCH
SW214	994000002555	LIGHT TOUCH SWITCH
ROT201	994000005498	ROT ENCODER ED1218-24-00C-F20

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



**ELECTRICAL PARTSLIST - CASSETTE BOARD**

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**- DIODES -**

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DZ801	994000005502	ZENER DIODE 5.6V 1/2W
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**- COILS & FILTERS -**

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T801	994000005501	I.F.T. COIL 668YF
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**- IC & TRANSISTORS -**

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Q807	994000005503	LFTRANSISTOR PBSS5140S-5
Q811	994000005503	LFTRANSISTOR PBSS5140S-5
Q812	994000005503	LFTRANSISTOR PBSS5140S-5
U802	994000005504	IC 74FCT BA3126N SIP9
U801	994000005505	IC TA8189N

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

**ELECTRICAL PARTSLIST - TUNER BOARD****- DIODES -**

D2	994000003759	CHIP DIODE BAS316
DZ1	994000003761	CHIP ZENER DIODE BZX384-C11
D3	994000003762	VARIODE DIODE I348 L13
D3	994000003796	VARIODE DIODE HN1V02H SOP8 (-/12)
D4	994000003763	VARIODE DIODE BB804
D5	994000003763	VARIODE DIODE BB804
D1	994000003764	DIODE BAV99

**- COILS & FILTERS -**

T7	994000005137	I.F.T. COIL 6295
T5	994000005138	I.F.T. COIL 6296
T2	994000005139	I.F.T. COIL 6298
T3	994000005139	I.F.T. COIL 6298
T1	994000005141	I.F.T. COIL 6298
T4	994000005142	I.F.T. COIL 6299
CF1	994000003153	FM CERMIC FILTER 10.7MHz (not for -/12)
CF2	994000003153	FM CERMIC FILTER 10.7MHz (not for -/12)
CF1	994000005143	AM FILTER 10.73 (-/12)
CF2	994000005143	AM FILTER 10.73 (-/12)
CF4	994000005143	AM FILTER 10.73 (-/12)

**- IC & TRANSISTORS -**

Q1	994000003156	CHIP TRANSISTOR 9014
Q2	994000003156	CHIP TRANSISTOR 9014
Q3	994000003438	TRANSISTOR BC547B-5
Q3	994000005145	TRANSISTOR BC547C-5 (-/12)
Q4	994000003442	CHIP TRANSISTOR BC857C
IC1	994000003421	IC TEA5757H
IC1	994000003797	IC TEA5762 (-/12)

**- MISCELLANEOUS -**

X1	994000003452	CRYSTAL 75KHz $\pm$ 20PPm
JACK1	994000004941	FM OUTPUT SOCKET

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

## ELECTRICAL PARTSLIST

### - MISCELLANEOUS -

U1	994000003809	IC D4558/RC4558 (-/98/55/61)
JACK2	994000005508	SINGLE RCA SOCKET (not for -/12)
JACK3	994000005509	SINGLE RCA SOCKET (not for -/12)
JACK4	994000005511	SINGLE RCA SOCKET (not for -/12)
JACK5	994000005512	SINGLE RCA SOCKET (not for -/12)
JACK1	994000005513	S-VIODE TERMINAL (not for -/12)
JACK401	994000005514	SINGLE RCA SOCKET (-/12)
JACK403	994000005515	SOCKET 21PINS CS-109 (-/12)
JACK402	994000005516	S-VIODE TERMINAL PSW-10-EP (-/12)
J3	994000005517	PHONE TE-03506S-11
MIC1	994000005534	HEADPHONE TC38-103-35 (-/98/55/61)
	994000002566	SWITCH VSC-22-1-110/220V-m (-/98/55)
REL100	994000005535	RELAY OMI-SS112LDC 12V (-/37)
REL100	994000003509	RELAY 10A 240VAC/30VDC (-/12)
	994000005518	FLAT FLEX CABLE 7P
	996500039110	FLAT FLEX CABLE 7P (-/55/61)
	994000005519	FLAT FLEX CABLE 24P
⚠	994000005521	TRANSFORMER 220V/50 (-/93)
⚠	994000005522	TRANSFORMER 230V/120V (-/98/55)
⚠	994000005523	TRANSFORMER 120V/60 (-/37)
⚠	994000005524	TRANSFORMER 410D (-/37)
⚠	994000005525	TRANSFORMER EI 410D-12 (-/12)
⚠	994000005526	TRANSFORMER 230V/50 (-/12)
⚠	996500039114	TRANSFORMER 220V/60 (-/61)
⚠	994000003078	AC LINE CORD 1.95m (-/37)
⚠	994000003187	AC LINE CORD 1.95m (-/93)
⚠	994000005527	AC LINE CORD 1.95m (-/98/55)
⚠	996500039115	AC LINE CORD 1.95M KS (-/61)
⚠	994000005218	AC LINE CORD 1.95m (-/12)
	994000005487	AMP PCB ASS'Y PH MCD515
	994000005493	DISPLAY PCB ASS'Y PH MCD515 (-/12)
	994000005494	DISPLAY PCB ASS'Y PH MCD515 (not for -/12)
	994000005499	CASS PCB ASS'Y PH MCD515
	994000005506	ECO6-02 TUNER PCB ASS'Y (-/12)
	994000005507	ECO6-01 TUNER PCB ASS'Y (-/37/98/93/55)
	996500039116	ECO6-02 TUNER PCB ASS'Y (-/61)

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

## REVISION LIST

Version 1.0 (3141 785 30770)

- Initial Release

Version 1.1 (3141 785 30771)

- New versions MCD515/55/61 are introduced.
- Pages 12-2 : Mechanical parts list adapted.
- Pages 13-1 and 13-5 : Electrical parts list adapted.