

Service  
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**Service**



# Service Manual



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(Circuit and Layout diagram for reference only)



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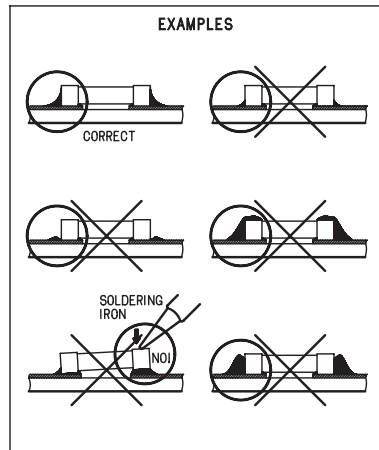
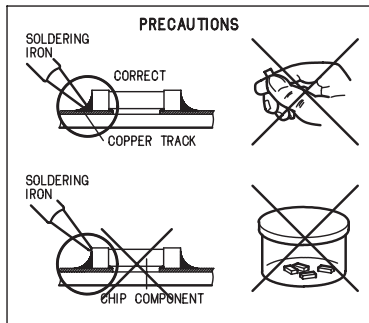
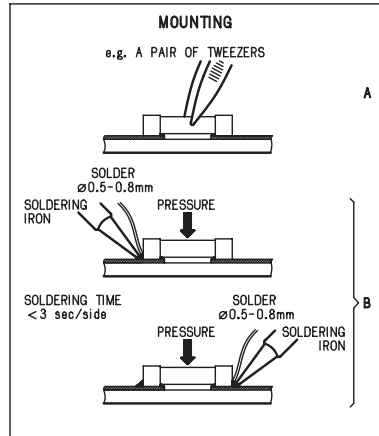
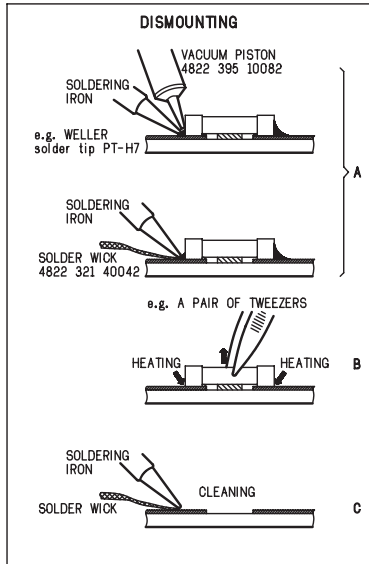
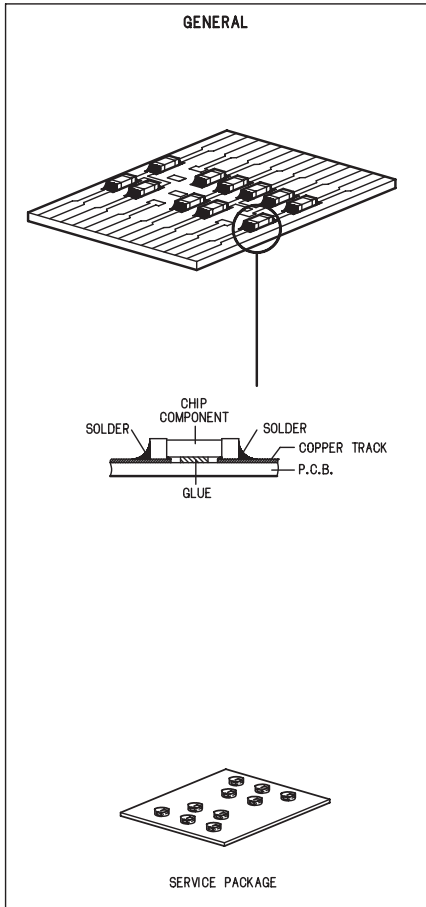
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**version1.0**



**PHILIPS**

# HANDLING CHIP COMPONENTS



**(GB) WARNING**

All ICs and many other semiconductors are susceptible to electrostatic discharges (ESD). Careless handling during repair can reduce life drastically. When repairing, make sure that you are connected with the same potential as the mass of the set via a wristband with resistance. Keep components and tools at this potential.

**ESD**



**(NL) WAARSCHUWING**

Alle IC's en vele andere halfgeleiders zijn gevoelig voor electrostatische ontladingen (ESD). Onzorgvuldig behandelen tijdens reparatie kan de levensduur drastisch doen verminderen. Zorg ervoor dat u tijdens reparatie via een polsband met weerstand verbonden bent met hetzelfde potentiaal als de massa van het apparaat. Houd componenten en hulpmiddelen ook op ditzelfde potentiaal.

**(F) ATTENTION**

Tous les IC et beaucoup d'autres semi-conducteurs sont sensibles aux décharges statiques (ESD). Leur longévité pourrait être considérablement écourtée par le fait qu'aucune précaution n'est prise à leur manipulation. Lors de réparations, s'assurer de bien être relié au même potentiel que la masse de l'appareil et enfilez le bracelet seriti 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 ridotta in caso di non osservazione della più grande cauzione alla loro manipolazione. Durante le riparazioni occorre quindi essere collegato allo stesso potenziale che quello della massa dell'apparecchio tramite un braccialeto a resistenza. Assicurarsi che i componenti e anche gli utensili con quali si lavora siano anche a questo potenziale.

**(GB)**

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

**(F)**

Les normes de sécurité exigent que l'appareil soit remis à l'état d'origine et que soient utilisées les pièces de rechange identiques à celles spécifiées. Les composants de sécurité sont marqués

**SAFETY**



**(D)**

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

**(NL)**

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

**(I)**

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



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

**(S) Varning !**

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

**(DK) Advarsel !**

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

**(FIN) Varoitus !**

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

## TECHNICAL SPECIFICATIONS

### GENERAL

Mains voltage	-/00C : 230 V
	-/01 : 230V/120 V
Mains frequency	-/00C : 50 Hz
	-/01 : 50 Hz/60Hz
Battery	mains : 12 V (R20 x 8)
Power consumption	: < 5 W typ. 2W(power off)
Dimension (W x H x D)	: 480 x 260 x 170 mm

### AMPLIFIER & MAX PART

Output power	mains : 2 x 4 W
	battery : 2 x 4 W
Residual noise	: 60nW (volume minimum)
Channel difference	: 3dB typ. at 500mW
Hum & noise	: 500nw (Vol.max.-20dB)

### TUNER - FM SECTION

Tuning range	: 87.5 - 108 MHz
IF frequency	: 10.7 MHz $\pm$ 0.02MHz
Sensitivity	: < 25 dBf at 26dB S/N
Selectivity	: > 20 dB at S9/300kHz
IF rejection	: > 50 dB
Image rejection	: > 20 dB

### TUNER - MW SECTION

Tuning range	: 531 - 1602 kHz
IF frequency	: 450 kHz $\pm$ 1 kHz
Sensitivity	: < 5000 $\mu$ V/m at 26dB S/N
Selectivity	: > 16 dB at S9/300kHz
IF rejection ratio	: > 24 dB
Image rejection	: > 28 dB

### COMPACT DISC

S/N ratio	: > 50 dB
Channel difference	: < 3 dB
Crosstalk	1 kHz : > 26 dB
Crosstalk	10 kHz : > 16 dB
Frequency response	: +10dB $\pm$ 2dB at 100Hz
(500mW output WOOX ON)	
Frequency response	: +1dB $\pm$ 2dB at 10kHz
(500mW output WOOX ON)	
THD (1KHz,-6dB)	: 1%
THD (10KHz,-20dB)	: 3%
Frequency accuracy	: +/-0.5%
Shock resistance	$\pm$ Z axis : > 2 g
	$\pm$ X or $\pm$ Y axis : > 3 g
Acoustical noise	: <35dBA (mode:play/pause)
	: <45dBA (mode:jump)

## SERVICE TOOLS

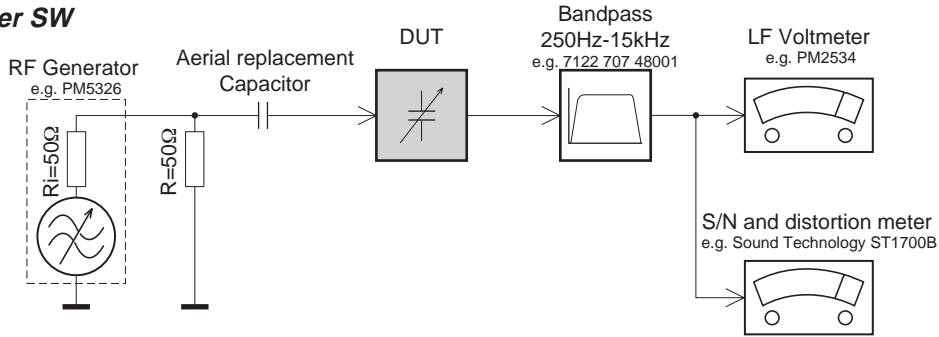
Audio signal disc SBC 429.....	4822 397 30184
Playability test disc SBC 444.....	4822 397 30245
Test disc 5 (disc without errors) +	
Test disc 5A (disc with dropout errors, black spots and fingerprints)	
SBC 426/426A.....	4822 397 30096
Burn in test disc (65 min. 1kHz signal at -30 dB level without "pause").....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

## AVAILABLE ESD PROTECTION EQUIPMENT

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

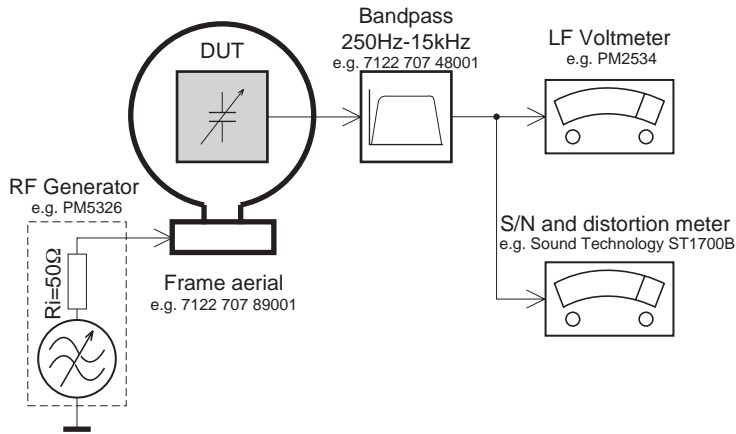
## SERVICE MEASUREMENT

### Tuner SW



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

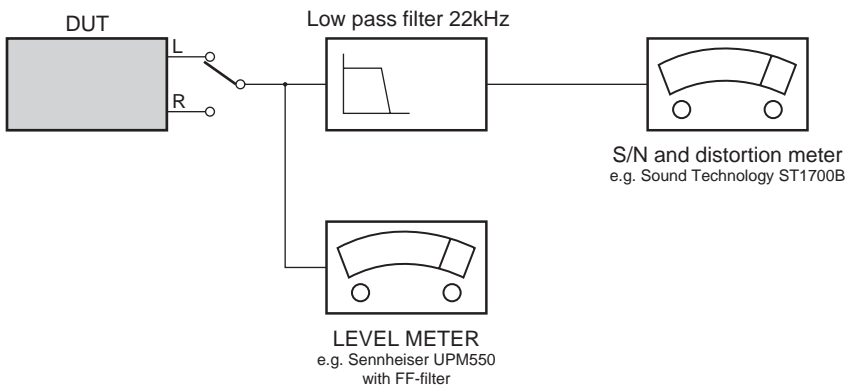
### Tuner AM (MW,LW)



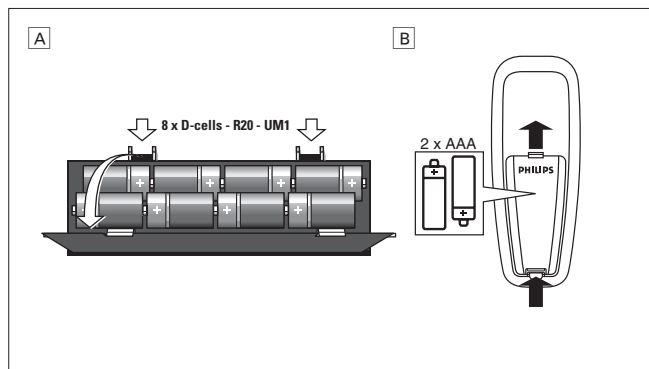
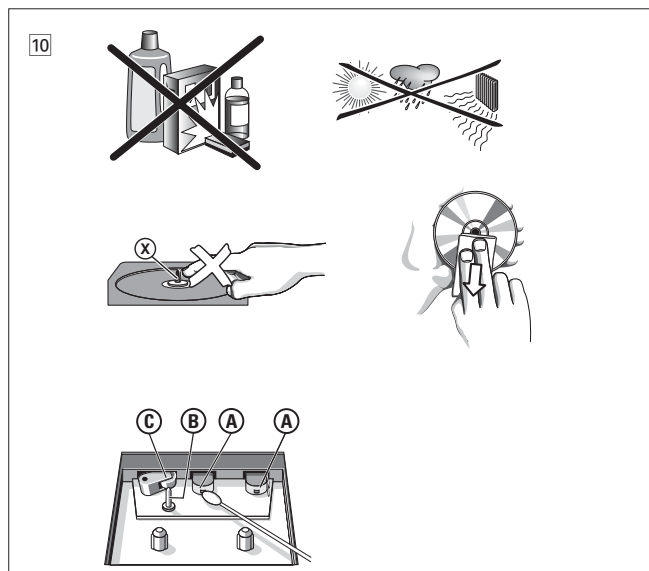
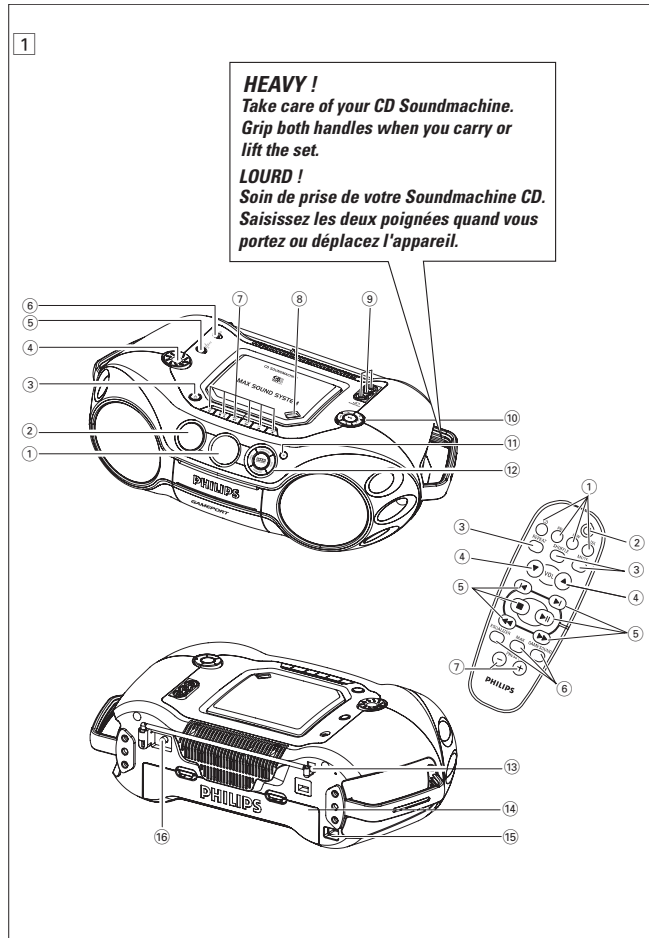
To avoid atmospheric interference all AM-measurements have to be carried out in a Faraday's cage.

### CD

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



# CONNECTIONS AND CONTROLS



# CONNECTIONS AND CONTROLS

## English

### SUPPLIED ACCESSORIES

- remote control
- video cable
- AC mains lead

### TOP AND FRONT PANEL (See 1)

- ① **LCD Display** – shows the status of the set
- ② **[dB]**: – display to indicate bass power.
- ③ **STANDBY ON**  $\odot$  – switch the set on/ off.
- ④ **VOLUME** – adjust volume level or equalizer level
- ⑤ **SOURCE** – selects sound source for functions:  
**CD / FM / MW / GAME AUX / TAPE**
- ⑥  $\text{🎧}$  – 3.5 mm stereo headphone jack.

*Note: The speakers will be muted when headphones are connected to the set.*

- ⑦ **Cassette recorder keys**  
**PAUSE**  $\text{⏸}$  – pauses playback or recording  
**STOP • OPEN**  $\blacksquare \blacktriangle$   
– opens the cassette compartment  
– stops the tape  
**SEARCH**  $\ll / \gg$  – fast winds/rewinds tape  
**PLAY**  $\blacktriangleleft$  – starts playback  
**RECORD**  $\bullet$  – starts recording
- ⑧ **OPEN•CLOSE** – press to open/ close CD door
- ⑨ **AUDIO IN ( LEFT / RIGHT )** – LINE-IN jack for external audio appliance.  
**VIDEO IN** – to keep video plug in place
- ⑩ **PRESET**  $\text{⏪}, \text{⏩}$  – selects a preset radio station.  
**SEARCH**  $\ll, \gg$

## CONTROL

### REMOTE CONTROL (See 1)

- ① **CD** – selects CD sound source  
**FM / MW** – selects tuner source / wavebands  
**AUX** – selects **GAME AUX**
- ②  $\odot$  – switches the set to standby / on if set operating on AC power. (Switches set off only if battery powered)
- ③ **REPEAT** – repeat a track / CD programme / entire CD  
**SHUFFLE** – plays CD tracks in random order in CD source  
**MUTE** – interrupts/ resumes sound
- ④ **VOL**  $\blacktriangledown, \blacktriangle$  – adjust volume level or adjust equalizer level (**BASS/ MID/ HIGH**)
- ⑤  $\text{⏪}, \text{⏩}$  – select previous/ next track in CD playback  
 $\blacksquare$  – stop CD playback;  
– erases a CD program.  
 $\text{⏸}$  – starts or pauses CD playback  
 $\ll / \gg$  – searches backwards/ forwards within track / CD
- ⑥ **EQUALIZER** – selects bass, mid and treble frequencies  
**MAX** – select special bass enhancement on/ off  
**GAMESOUND** – select sound effects: **BLAST/ PUNCH/ SPEED/ NORMAL** in game mode
- ⑦ **PRESET**  $\text{⏪}, \text{⏩}$  – selects a previous/ next radio preset station.

## CONTROL

**CD**: – searches backward or forward ;  
– skips to the beginning of a current track/ previous/ later track.

**FM / MW** : – tunes to radio stations

$\text{⏸}$  – starts or pauses CD playback

$\blacksquare$  – stop CD playback;  
– erases a CD program

⑪ **IR SENSOR** – infrared sensor for remote control

⑫ **GAMESOUND** – select sound effects: **BLAST/ PUNCH/ SPEED/ NORMAL** in **GAME AUX** mode  
**EQUALIZER** – selects bass, mid and treble frequencies, and volume **BASS/ MID/ HIGH/ VOL PROG**

**CD**: – programs tracks and reviews the programmed songs;

**FM / MW** : – programs preset radio stations.

**FM / MW** – selects FM / MW waveband

**MODE** – selects different CD play modes: e.g. REPEAT or SHUFFLE order.

**MAX SOUND** – to active or deactivate the optimal mix of various sound features

### BACK PANEL (See 1)

⑬ **Telescopic antenna** – improved FM reception

⑭ **Battery compartment** – for 8 batteries, type R-20, UM-1 or D-cells

⑮ **AC MAINS** – inlet for power cord

⑯ **VIDEO OUT** – connect to the **VIDEO IN** jack on a TV or VCR for viewing or recording.

## POWER SUPPLY

Whenever convenient, use the power supply to conserve battery life. Make sure you remove the power cord from the set and wall jack before inserting batteries.

### BATTERIES

**Batteries (not included) (See A)**

- Insert 8 batteries, type **R-20, UM-1** or **D-cells**, (preferably alkaline) with the correct polarity.

**Remote control (See E)**

- Insert 2 batteries, type **AAA, R03** or **UM4** (preferably alkaline).

*Incorrect use of batteries can cause electrolyte leakage and will corrode the compartment or cause the batteries to burst.*

- Do not mix battery types: e.g. alkaline with carbon zinc. Only use batteries of the same type for the set.
- When inserting new batteries, do not try to mix old batteries with the new ones.
- **Batteries contain chemical substances, so they should be disposed of properly.**

### USING AC POWER

1. Check if the AC power supply, as shown on the **type plate located on the bottom of the set**, corresponds to your local power supply. If it does not, consult your dealer or service center.
2. If your set is equipped with a voltage selector, adjust the selector so that it matches with the local power supply.
3. Connect the power cord to the wall jack and the set is now ready for use.
4. To disconnect the power supply, unplug the set from the wall jack.

### POWER-SAVING AUTOMATIC STANDBY

As a power-saving feature, the system automatically switches to standby 15 minutes after CD has reached the end and no control is operated.

**The type plate is located on the bottom of the set.**

**For users in the U.K., please follow the boxed instructions 'Important notes...' on this sheet.**

## INSTRUCTION FOR USE

### DIGITAL TUNER

#### Tuning to stations (See [3])

1. Press **STANDBY ON**  $\odot$  to on, then press **SOURCE** once or more to select **FM/MW** (or press **FM/MW** on the remote control).  
→ Display: shows **TUNER** briefly followed by waveband, frequency, and preset station number if already stored.
  2. Press **FM/MW** once or more to select your waveband.
  3. **Tuning to stations:** you can tune to your stations manually or by automatic search tuning: Press down on  $\ll$  or  $\gg$  (  $\ll$  or  $\gg$  on the remote control) and release button when the frequency in the display starts running.  
→ The radio automatically tunes to a station of sufficient reception. Display shows **SEARCH** during automatic tuning.
  4. Repeat step 3 if necessary until you find the desired station.
- To tune to a weak station, press  $\ll$  or  $\gg$  briefly and repeatedly until you have found optimal reception.

#### To improve radio reception:

- For **FM**, extend, incline and turn the telescopic antenna. Reduce its length if the signal is too strong.
- For **MW**, the set uses a built-in antenna. Direct this antenna by turning the whole set.

#### Programming tuner stations:

You can store up to a total of 30 radio stations in the memory (20 FM and 10 MW), manually or automatically (Autostore).

#### Autostore

Automatic programming will start from preset 1 or a chosen preset number. The set will only program stations which are not in the memory already.

1. Press **PRESET -/+** once or more to select the preset number where programming should start.  
*Note: If no tuner preset number is selected, default is preset 1 and all your presets will be erased.*
2. Press **PROG** for 4 seconds or more to activate auto store programming.  
→ Display: **AUTO** is shown and available stations are programmed in order of waveband **FM**, followed by **MW**, the first preset station will then be played after all stations are stored automatically.

#### Manual programming

1. Tune to your desired station (see **Tuning to stations**).
2. Press **PROG** to activate programming.  
→ Display: **PROG** flashes.
3. Press **PRESET -/+** once or more to allocate a number from 1 to 20 for FM or 1 to 10 for MW.
4. Press **PROG** again to confirm.  
→ Display: shows the preset number, waveband and the frequency of the preset station.
5. Repeat the above four steps to store other stations.

*Note: You can erase a preset station by storing another frequency in its place.*

#### To listen to a preset station

Press **PRESET -/+** once or more until the desired preset station is displayed.

### CD PLAYER

#### Playing a CD

This CD player plays Audio Discs including CD-Recordables and CD-Rewritables.

1. Press **STANDBY ON**  $\odot$  once or more to on, then select **CD SOURCE**.
2. Press **OPEN•CLOSE** to open the CD door.  
⇒ **OPEN** is displayed when the CD door is open.
3. Insert a CD with the printed side facing up and press down on **OPEN•CLOSE** to close the CD door.  
⇒ Display show **READY**, then scrolls **NO DISC**, or **DISC ERROR** if no CD inserted/ CD dirty, incorrectly inserted or damaged.
4. Press **▶II** to start playback.
5. To pause playback press **▶II**. Press **▶II** again to resume play.  
→ Time digits flashes during pause.
6. To stop CD playback, press  $\blacksquare$ .

*Note: CD play will also stop when:*

- the CD door is opened
- the CD has reached the end
- you select an other sound source.

#### Selecting a different track

- Press **SEARCH**  $\ll$  or  $\gg$  (on the remote control  $\ll$  or  $\gg$ ) once or repeatedly until the desired track number appears in the display.
- If you have selected a track number shortly after loading a disc or in the **PAUSE** position, you will need to press **▶II** to start playback.

#### Finding a passage within a track

1. Press and hold **SEARCH**  $\ll$  or  $\gg$ .  
– The CD is played at high speed and low volume.
2. When you recognize the passage you want, release  $\ll$  or  $\gg$ . Normal playback continues.

*Note: During a CD program or if SHUFFLE/ REPEAT is active, searching is only possible within the same track.*

#### Different play modes: SHUFFLE and REPEAT (See [4] - [7])

You can select and change the various play modes before or during playback. The play modes can also be combined with PROGRAM.

**SHUFFLE** - tracks of the entire CD/ program are played in random order

**SHUFFLE REPEAT ALL** - to repeat the entire CD/ program continuously in random order

**REPEAT ALL** - repeats the entire CD/ program

**REPEAT** - plays the current track continuously

1. To select play mode, press **MODE** once or more. (**SHUFFLE / REPEAT** on the remote control).
2. Press **▶II** to start playback if in the stop position.  
⇒ If you have selected **SHUFFLE**, playback starts automatically.
3. To select normal playback, press **MODE** repeatedly until the various modes are no longer displayed.  
– You can also press the  $\blacksquare$  to cancel your play mode in playing.

#### Programming track numbers

Program in the stop position to select and store your CD tracks in the desired sequence. If you like, store any track more than once. Up to 20 tracks can be stored in the memory.

1. Press **SEARCH**  $\ll$  or  $\gg$  on the set to select your desired track number.
2. Press **PROG** to confirm the track number to be stored.  
→ If you attempt to program without first selecting a track number, **SELECT TRACK** is shown.
3. Repeat steps 1-2 to select and store all desired tracks.  
→ Display: **FULL** if you try to program more than 20 tracks.
4. To start playback of your disc program, press **▶II**.

*Note: During normal playback, you can press **PROG** to add a current track to your program list.*

# INSTRUCTION FOR USE

## CASSETTE RECORDER

### CD Synchro Start recording

- 1 Select **CD** source.
- 2 Insert a CD and if desired, programme track numbers.
- 3 press **STOP • OPEN** ■ ▲ to open the cassette door.
- 4 Insert a suitable tape into the cassette deck and close the door.
- 5 Press **RECORD** ● to start recording.
  - Playing of the CD programme starts automatically from the beginning of the programme. You don't need to start the CD player separately.

### To select and record a particular passage within a CD track:

- Press and hold down on **SEARCH** ◀◀ or ▶▶ (on the remote control ◀◀ or ▶▶).
  - When you recognize the passage you want, release **SEARCH** ◀◀ or ▶▶.
  - To interrupt CD playback press ▶|| (on the remote control ▶||).
  - Recording starts from this exact point in the track when you press **RECORD** ●.
- 6 For brief interruptions during recording, press **PAUSE** ||. To resume recording, press **PAUSE** || again.
  - 7 To stop recording, press **STOP • OPEN** ■ ▲.

### Recording from the tuner

- 1 Tune to the desired radio station (see Tuning to radio stations).
- 2 Follow steps 3-7, under Synchro Start CD recording.

## MAINTENANCE & SAFETY

### MAINTENANCE & SAFETY (See 10)

#### CD player and disc handling

- If the CD player cannot read CDs correctly, use a cleaning CD to clean the lens before taking the set to repair.
- The lens of the CD player should never be touched!
- Sudden changes in the surrounding temperature can cause condensation on the lens of your CD player. Playing a CD is then not possible. Do not attempt to clean the lens but leave the set in a warm environment until the moisture evaporates.
- Always close the CD door to avoid dust on the lens.
- To clean the CD, wipe in a straight line from the centre towards the edge using a soft, lint-free cloth. Do not use cleaning agents as they may damage the disc.
- Never write on a CD or attach any stickers to it.

### CAUTION

*Use of controls or adjustments or performance of procedures other than herein may result in hazardous radiation exposure or other unsafe operation.*

## MAINTENANCE & SAFETY

### Safety Information

- Don't expose the set, batteries, CDs or cassettes to humidity, rain, sand or excessive heat.
- To clean the set with a dry cloth. Don't use any cleaning agents containing alcohol, ammonia, benzene or abrasives as these may harm the set.
- Place the set on a hard and flat surface so that the system does not tilt. Make sure there is good ventilation to prevent the set overheating.
- The mechanical parts of the set contain self-lubricating bearings and must not be oiled or lubricated.
- Apparatus shall not be exposed to dripping or splashing.
- Do not place any sources of danger on the apparatus (e.g. liquid filled objects, lighted candles)

### Tape deck maintenance

To ensure quality recording and playback of the tape deck, clean parts (A), (B) and (C) as shown, once a month. Use a cotton bud slightly moistened with alcohol or a special head cleaning fluid to clean the deck.

- 1 Open the cassette door by pressing **STOP • OPEN** ■ ▲.
- 2 Press **PLAY** ◀ and clean the rubber pressure rollers (C).
- 3 Press **PAUSE** || and clean the magnetic heads (A), and also the capstan (B).
- 4 After cleaning, press **STOP • OPEN** ■ ▲.

*Note : Cleaning of the heads can also be done by playing a cleaning cassette through once.*

*This set complies with the radio interference requirements of the European Union.*

### Environmental information

We have done our best to reduce the packaging and make it easy to separate into 3 materials: cardboard, expandable polystyrene, polyethylene.

Your set consists of materials which can be recycled if disassembled by a specialized company. Please observe the local regulations regarding the disposal of packaging, exhausted batteries and old equipment.



## INSTRUCTION FOR USE

### BASIC FUNCTIONS

#### SWITCHING ON AND OFF

1. Press **STANDBY ON**  $\odot$  on the set to switch on.
2. Press **SOURCE** once or more to select your desired function: **CD, FM, MW, GAME AUX, TAPE**
3. Press **STANDBY ON**  $\odot$  to switch off the set.

#### Note :

- To change from **TAPE** to **FM / MW** or **CD** source, or when you are switching off the set: first, make sure you press the tape **STOP**  $\blacksquare$  key to end playback and all the cassette keys are released.
- The tone, sound settings, tuner presets and the volume level (up to a maximum volume level of VOL 20) will be retained in the set's memory.

#### ADJUSTING VOLUME AND SOUND

1. Adjust the volume with the **VOLUME** control.  
→ Display shows the volume level VOL and a number from 0-32. (See [2])

#### 2. MAX SOUND

To enhance the bass response: press **MAX SOUND** once or more to switch on / off.

- **MAX SOUND**-key backlight lights up when **MAX SOUND** is turned on.

#### Notes:

- **MAX SOUND** can be used when you play FM, MW, CD, TAPE and GAME AUX source.
- Some discs might be recorded in high modulation, which causes a distortion at high volume. If this occurs, deactivate **MAX SOUND** or reduce the volume.

#### 3. EQUALIZER

To adjust the bass, mid and treble frequencies press **EQUALIZER** once or more, then rotate **VOLUME** within 3 seconds to adjust each level.

- Display briefly shows **BASS**, **MID**, or **HIGH** level (-5 to +5) or VOL.

#### Note:

- **EQUALIZER** can be used during FM, MW, CD, TAPE and GAME AUX source.
- To prevent sound interference the bass control options operate exclusively. You cannot combine the bass from **EQUALIZER** with **MAX SOUND**

#### 4. GAMESOUND

To adjust the game sound, press **GAMESOUND** once or more to select your option.

- Display briefly shows **BLAST**, **PUNCH**, **SPEED** or **NORMAL**.

**Note:** **GAMESOUND** is only available when you play in **GAME AUX** source.

#### How to MUTE the sound

1. Press **MUTE** on the remote control to interrupt sound reproduction instantly.  
→ Playback continues without sound and the display flashes **MUTE**.
2. To reactivate sound reproduction you can:
  - press **MUTE** again;
  - adjust the volume controls;
  - change to another source.

### GAMESOUND

#### Reviewing the program

In stop, press and hold down **PROG** for a while until the display shows all your stored track numbers in sequence.

#### Erasing a program

You can erase the contents of the memory by:

- opening the CD door;
- selecting **MW, FM** or **TAPE** sound sources;
- pressing  $\blacksquare$  twice during playback or once in the stop position.  
→ **CLEAR** displayed briefly, and **PROG** disappears.

#### GAMESOUND (See [8])

#### PLAYING WITH GAMESOUND:

1. Press **SOURCE** once or more on the set to select the **GAME AUX** function (**AUX** on the remote control)  
→ Display scrolls : **GAME PORT**
2. Connect your console to the cinches on the front of the set **AUDIO IN ( LEFT / RIGHT)** and **VIDEO IN**.
3. Press **GAMESOUND** once or more to select your game sound option.  
→ Display briefly shows **BLAST**, **PUNCH**, **SPEED** or **NORMAL**.

#### Connecting other equipment to your system

Use the supplied video cable to connect the **VIDEO OUT** terminal on the back of the set to **VIDEO IN** on a TV or VCR for viewing or recording.

### CASSETTE RECORDER

#### Cassette playback (See [9])

- 1 Select **TAPE** source.  
→ Display: shows **TAPE** throughout tape operation.
- 2 Press **STOP • OPEN**  $\blacksquare \blacktriangle$  to open the cassette door.
- 3 Insert a recorded cassette and close the cassette door.
- 4 Press **PLAY**  $\blacktriangleleft$  to start playback.
- 5 To interrupt playback press **PAUSE II**. To resume, press this key again.
- 6 By pressing **SEARCH**  $\blacktriangleleft$  or  $\blacktriangleright$  on the set fast winding of the tape is possible in both directions.
- 7 To stop the tape, press **STOP • OPEN**  $\blacksquare \blacktriangle$ .
  - The keys are automatically released at the end of a tape, except if **PAUSE II** has been activated.

#### GENERAL INFORMATION ON RECORDING

- Recording is permissible insofar as copyright or other rights of third parties are not infringed.
- This deck is not suited for recording on CHROME (IEC II) or METAL (IEC IV) type cassettes. For recording, use only NORMAL type cassettes (IEC I) on which the tabs have not yet been broken.
- The best recording level is set automatically. Altering the **VOLUME**, **MAX SOUND** or **BASS, MID & HIGH** controls will not affect the recording in progress.
- To protect a tape from accidental erasure, have the tape in front of you and break out the left tab. If you wish to record again, cover the tabs with a piece of adhesive tape.




# INSTRUCTION FOR USE

## TROUBLESHOOTING

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

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

### No sound /power

- Volume not adjusted
- Adjust the VOLUME
- Mains lead not securely connected
- Connect the AC mains lead properly
- Batteries flat / incorrectly inserted
- Insert (fresh) batteries correctly
- Headphones connected to the set
- Disconnect headphones
- Electrostatic discharge/interference
- Unplug the set. If batteries inserted, remove batteries from the battery compartment. Press and hold **STANDBY ON**  for 10 seconds, then re-plug / replace battery supply, and try activating the set again.
- CD contains non-audio files
- Press **SEARCH**  or . once or more to skip to a CD audio track, instead of the data file

### Poor sound quality in GAME•AUX mode

- Adjust the volume on the set or on your game console

### Severe radio hum or noise

- Electrical interference: set too close to TV, VCR or computer
- Move the set to increase the distance

### Remote control does not function properly

- Batteries flat/ incorrectly inserted
- Insert (fresh) batteries correctly
- Distance/ angle between the set too large
- Reduce the distance/ angle

### Poor radio reception

- Weak radio signal
- FM / MW: Adjust the FM / MW telescopic aerial

### NF DISC indication

- CD-R(W) is blank/ not finalized
- Use an unfinalized CD-R(W)

### NO DISC/DISC ERROR indication

- No CD inserted
- Inserted a suitable disc
- CD badly scratched or dirty
- Replace/ clean CD, see Maintenance
- Laser lens steamed up
- Wait until lens has cleared

### The CD skips tracks

- CD damaged or dirty
- Replace or clean CD
- shuffle or program is active
- Switch off shuffle / program

### Poor cassette sound quality

- Dust and dirt on the heads, etc.
- Clean deck parts, see Maintenance
- Use of incompatible cassette types (METAL or CHROME)
- Only use NORMAL (IEC I) for recording

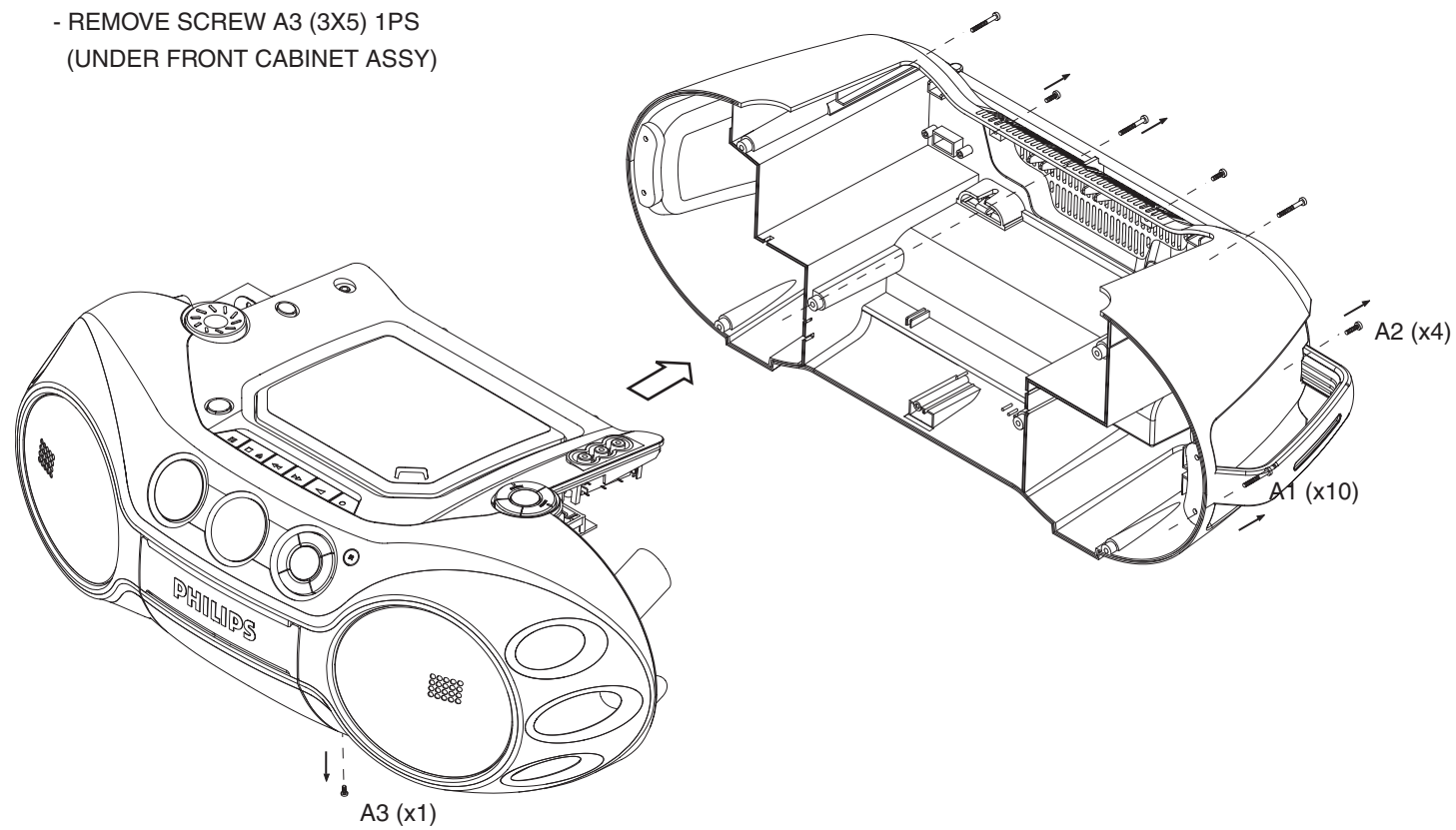
### Recording does not work

- Cassette tab(s) may be broken
- Apply adhesive tape over the missing tab space

## DISASSEMBLY DIAGRAM

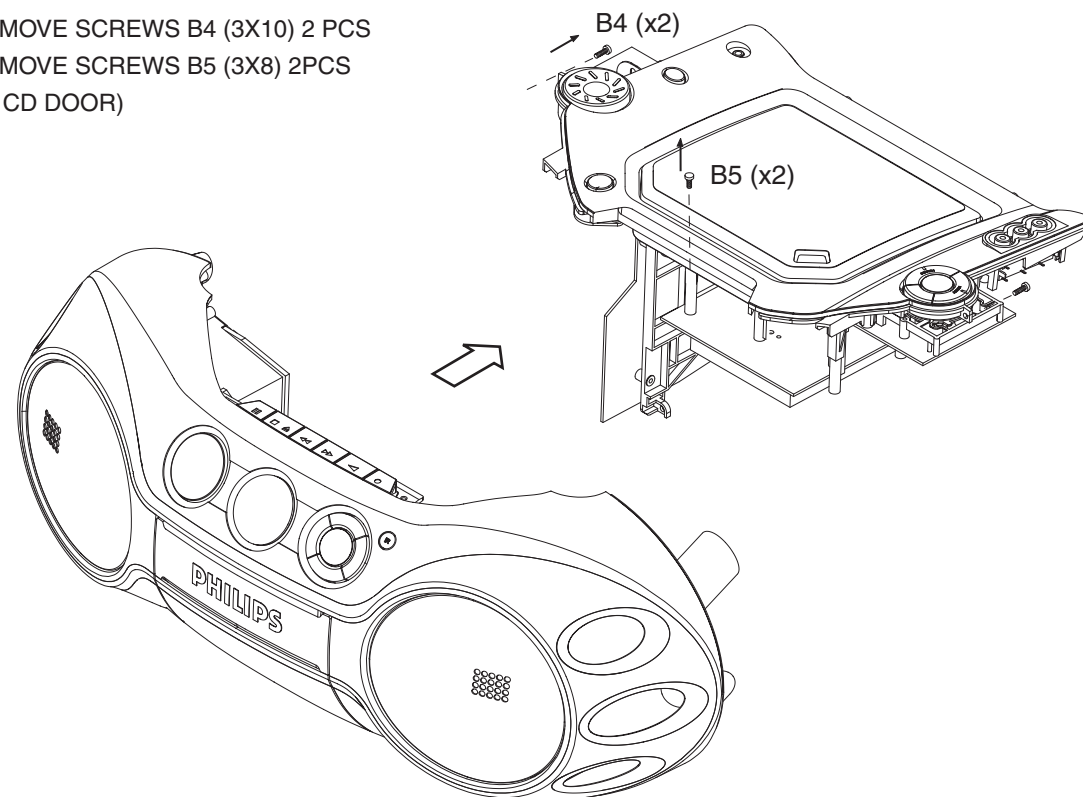
## A. REMOVE REAR CABINET ASSEMBLY

- REMOVE SCREWS A1 (3X20) 10 PCS.
- REMOVE SCREWS A2 (3X12) 4 PCS
- REMOVE SCREW A3 (3X5) 1PS  
(UNDER FRONT CABINET ASSY)



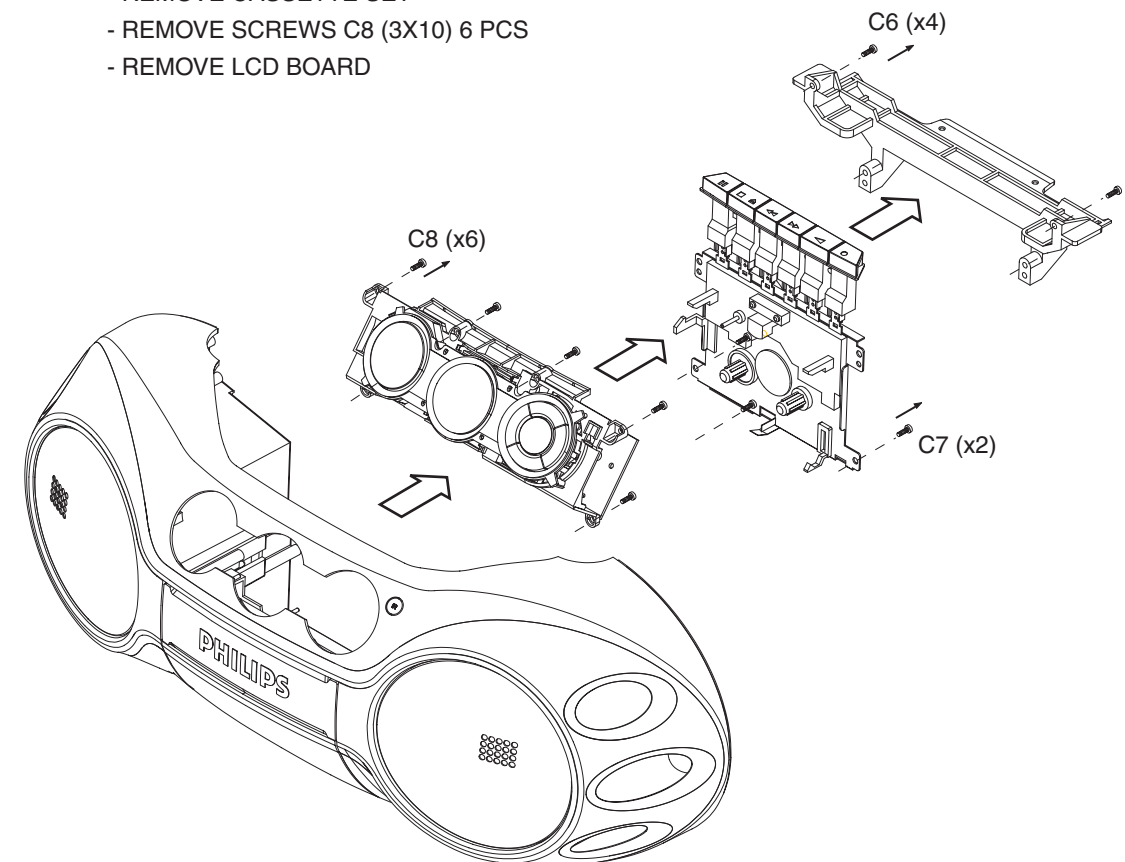
## B. REMOVE CD TRAY ASSEMBLY

- REMOVE SCREWS B4 (3X10) 2 PCS
- REMOVE SCREWS B5 (3X8) 2PCS  
(IN CD DOOR)

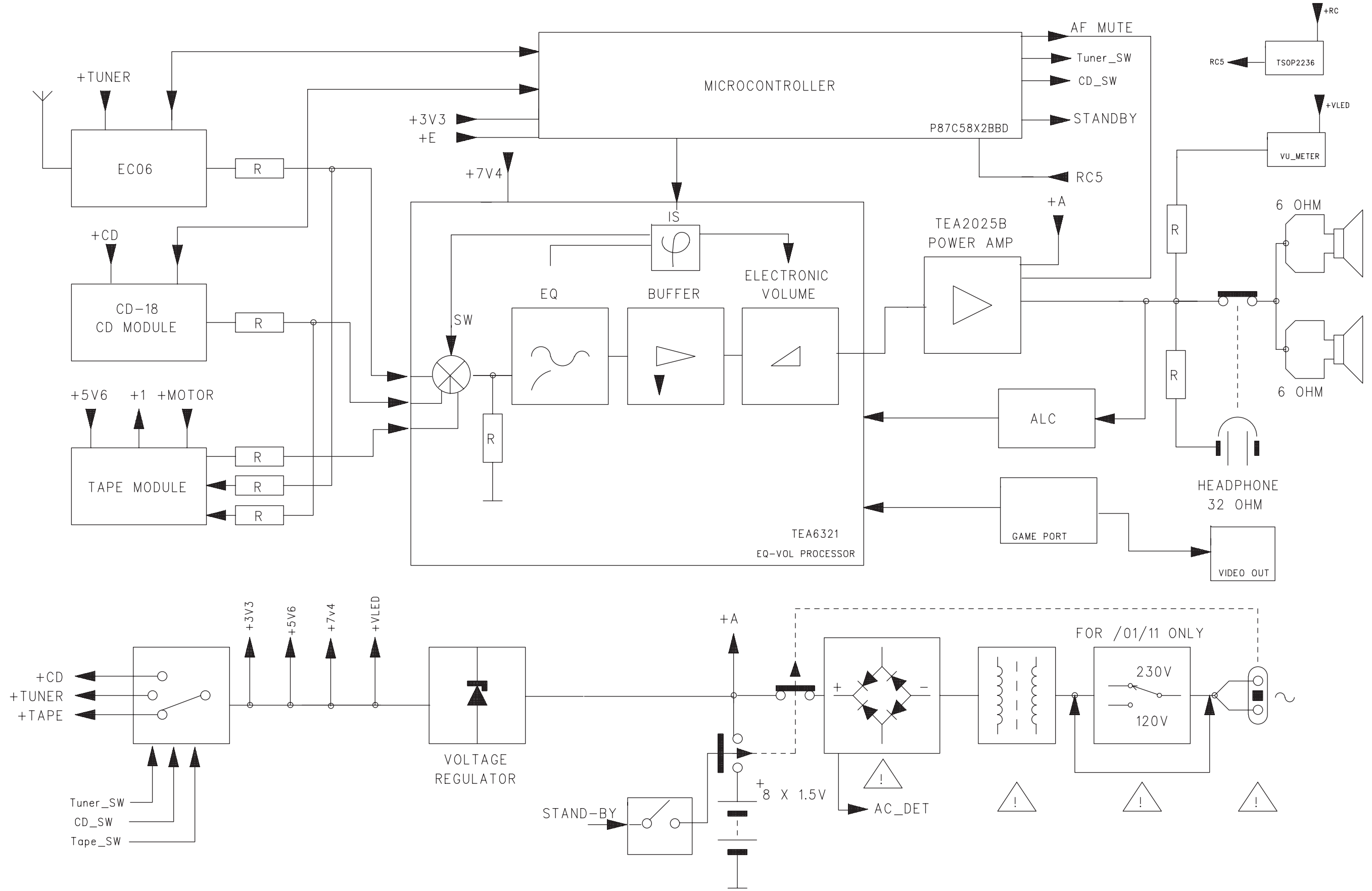


## C. REMOVE LCD BOARD

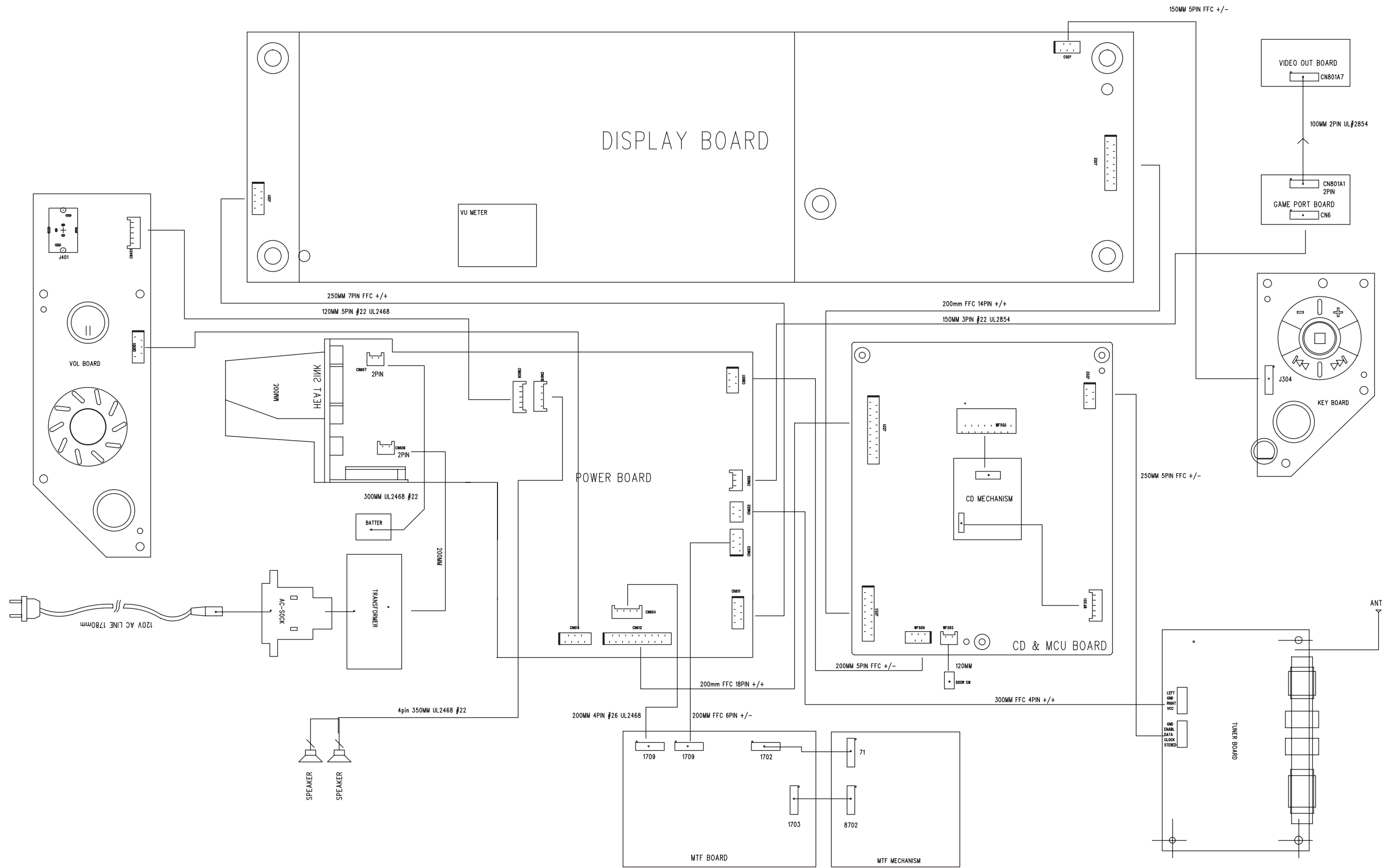
- REMOVE SCREWS C6 (3X10) 4 PCS
- REMOVE CASSETTE BRACKET
- REMOVE SCREWS C7 (3X10) 2 PCS
- REMOVE CASSETTE SET
- REMOVE SCREWS C8 (3X10) 6 PCS
- REMOVE LCD BOARD



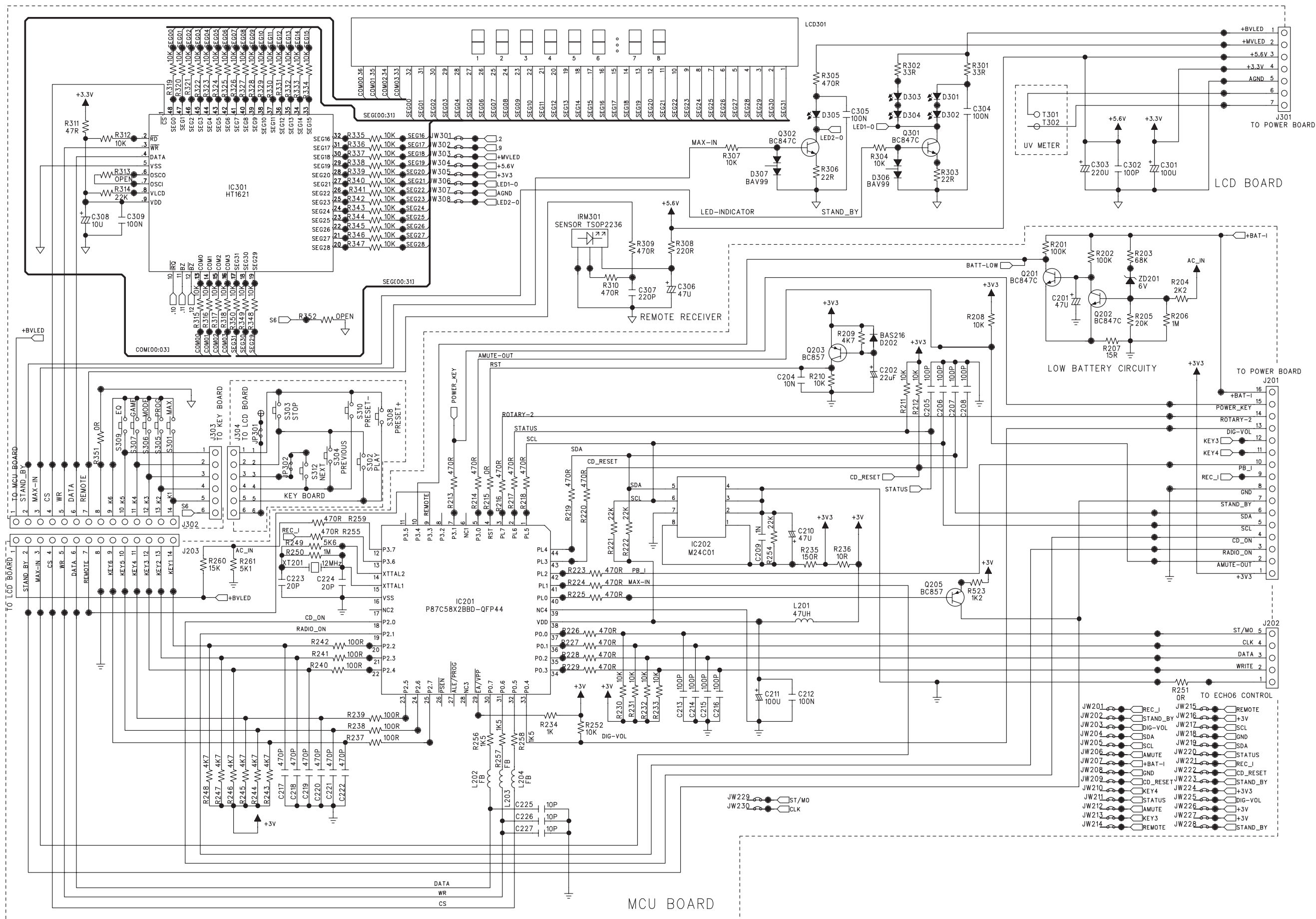
BLOCK DIAGRAM



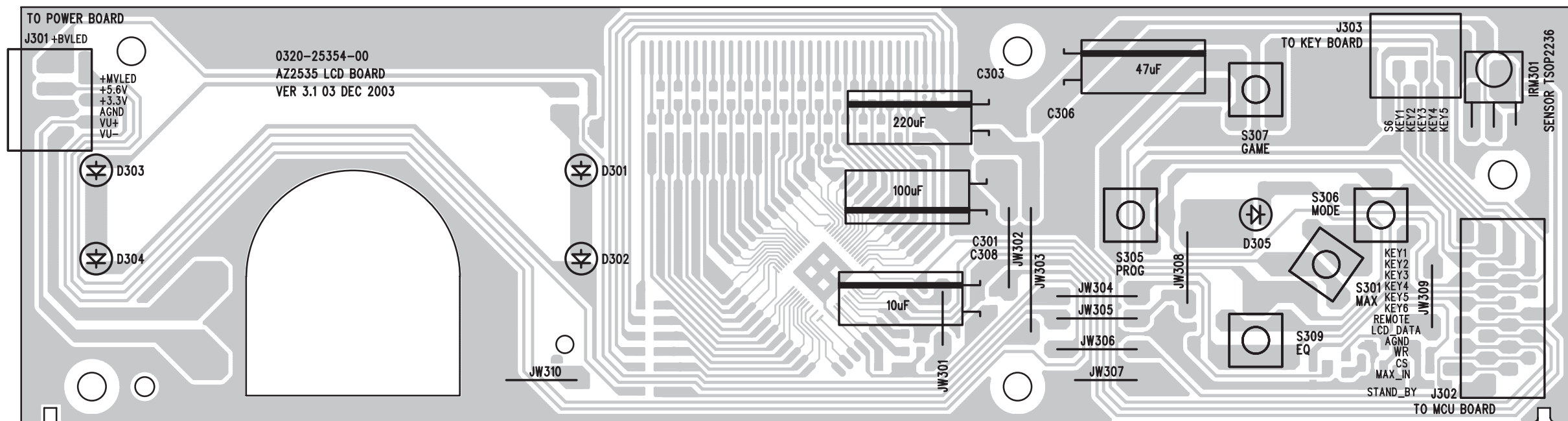
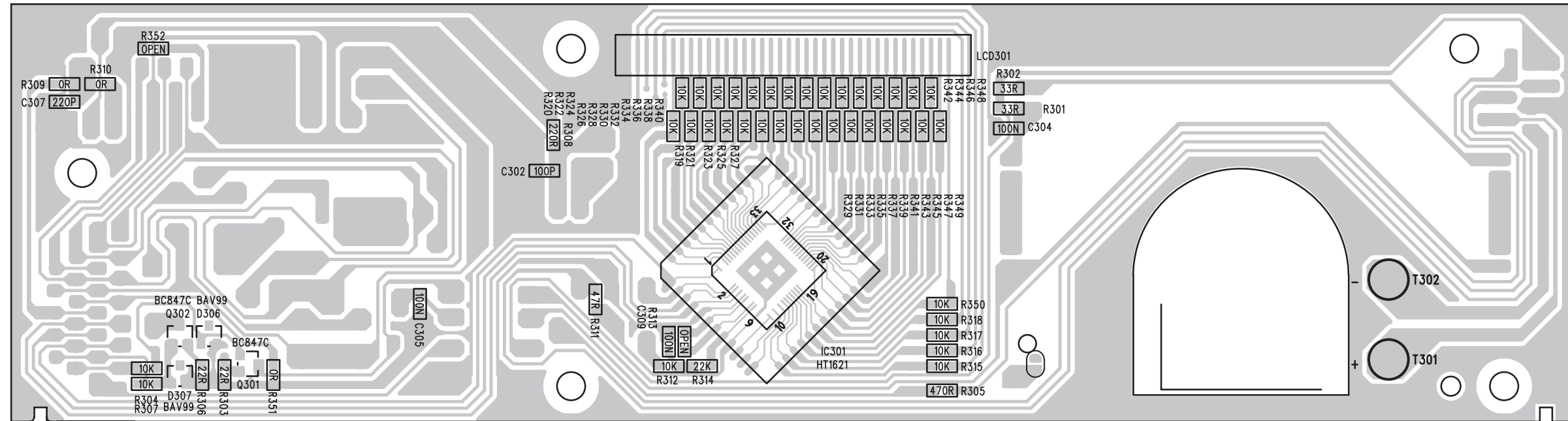
# WIRING DIAGRAM



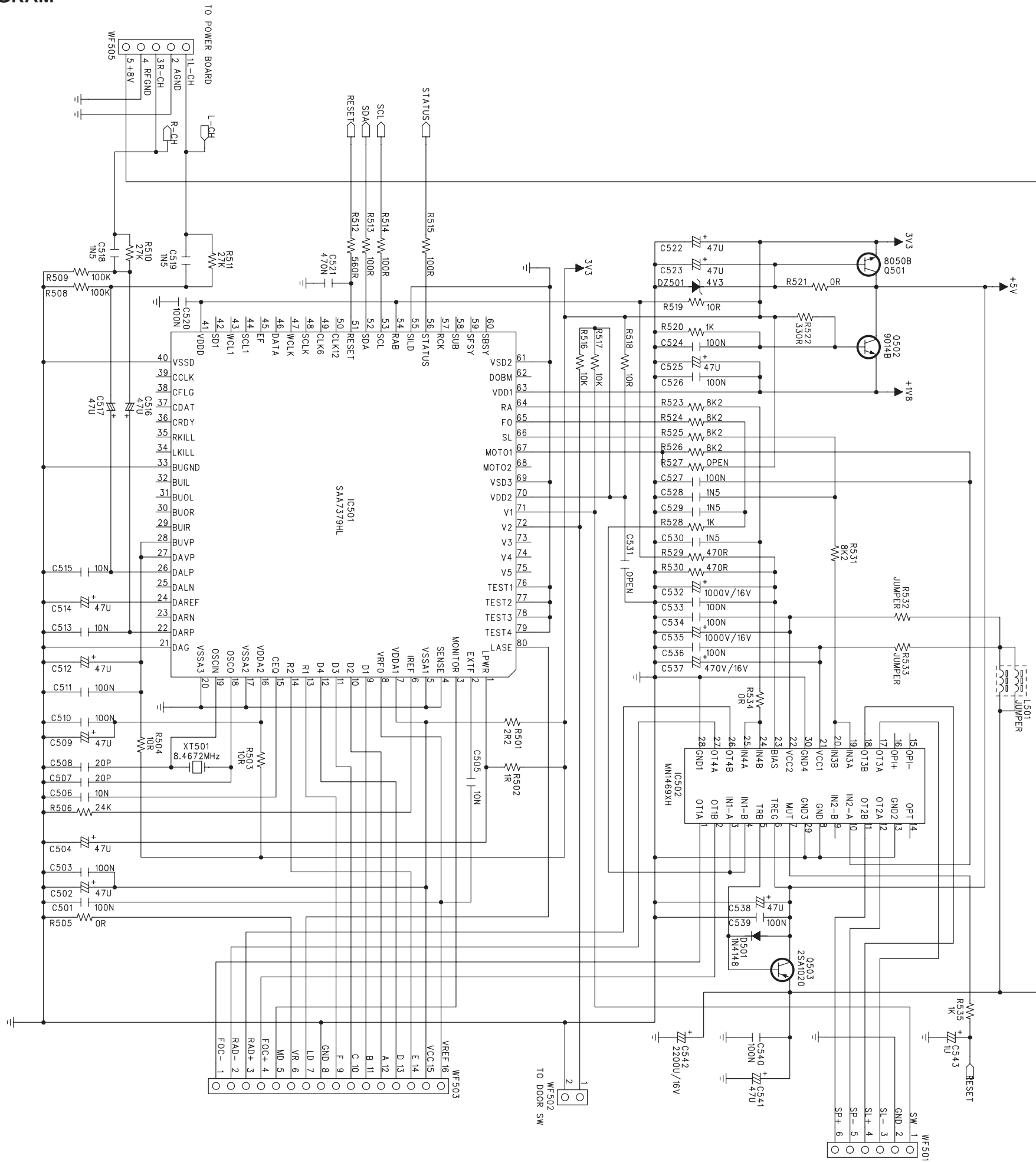
# LCD BOARD - CIRCUIT DIAGRAM



# LCD BOARD - LAYOUT DIAGRAM

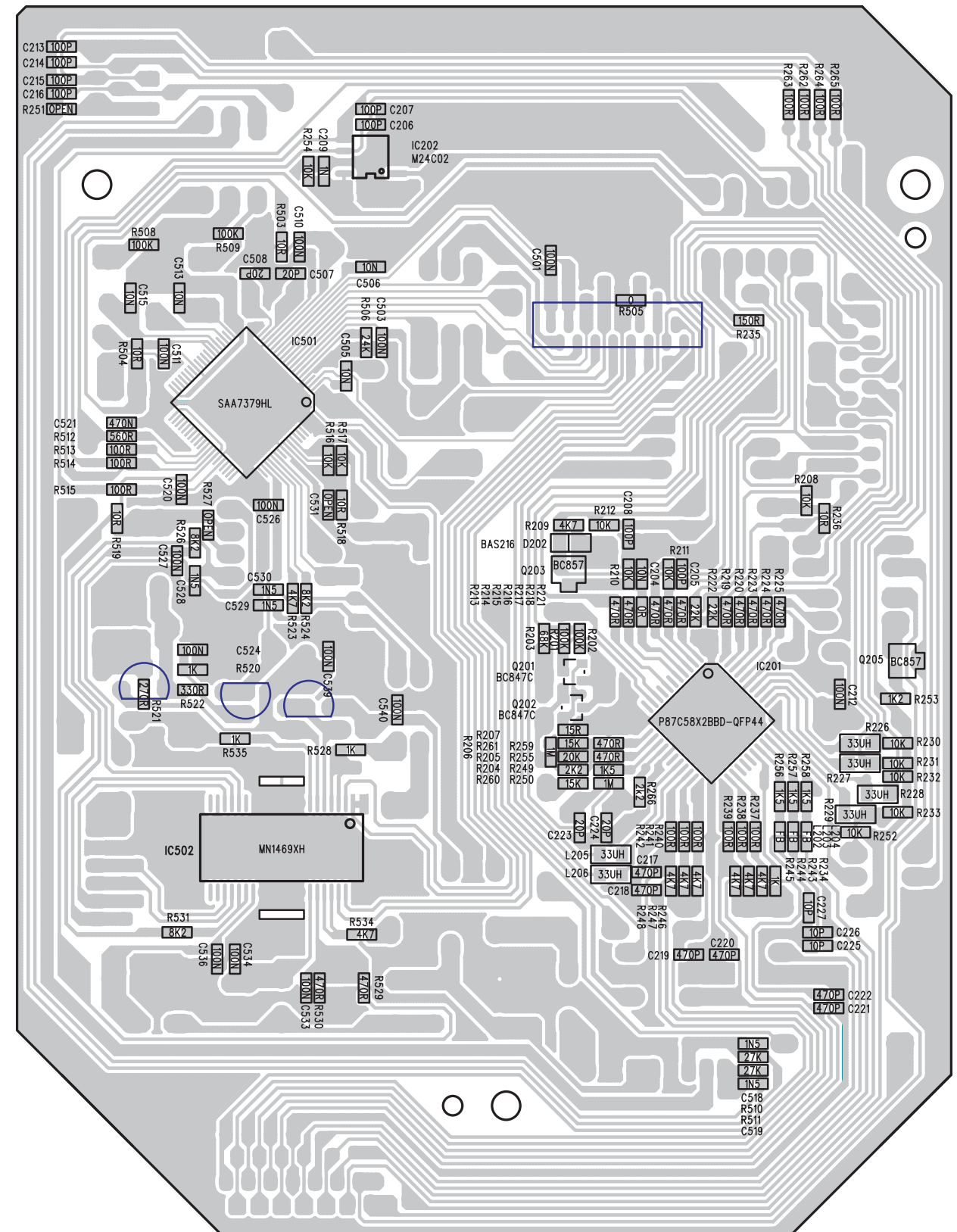
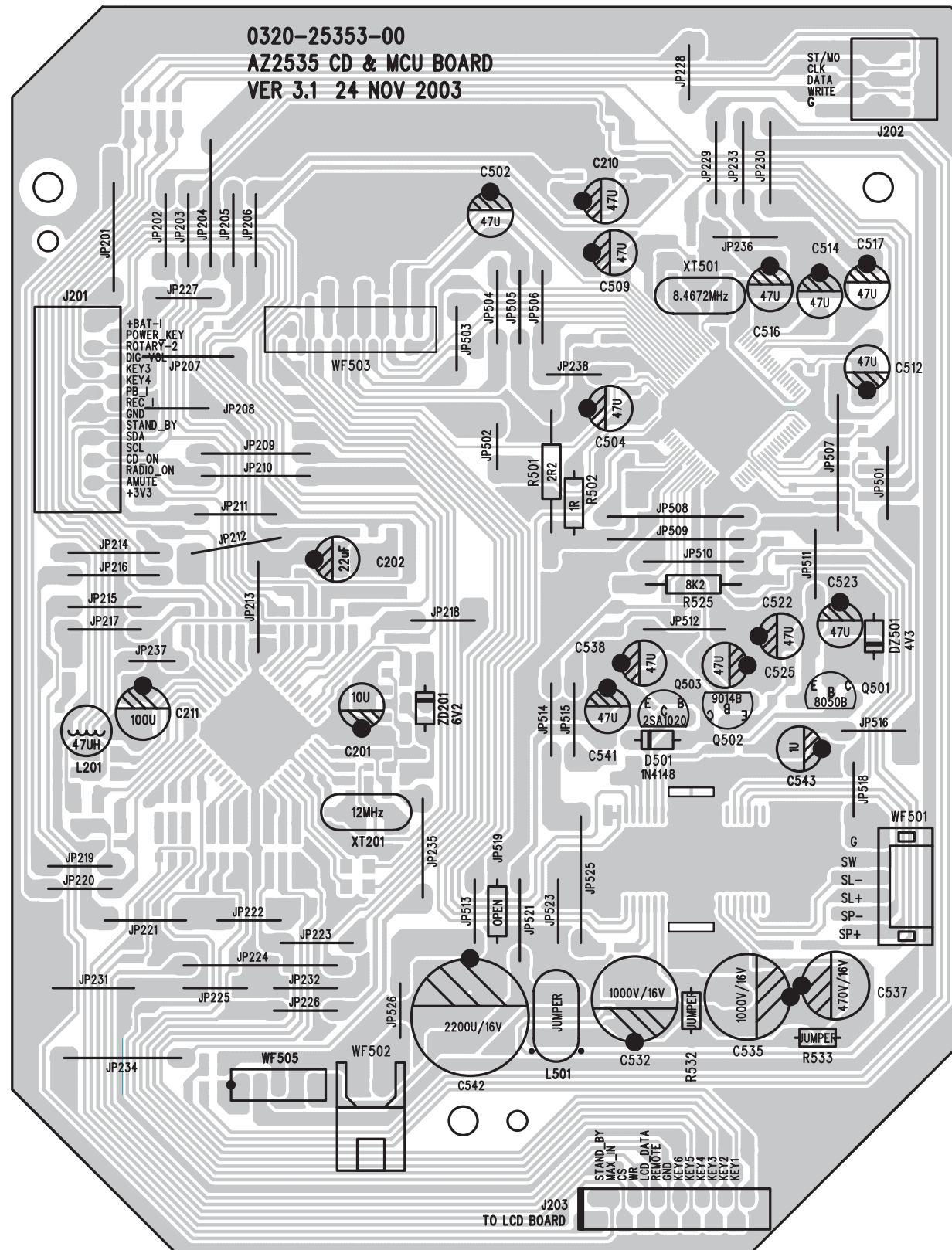


# CD/MCU BOARD - CIRCUIT DIAGRAM



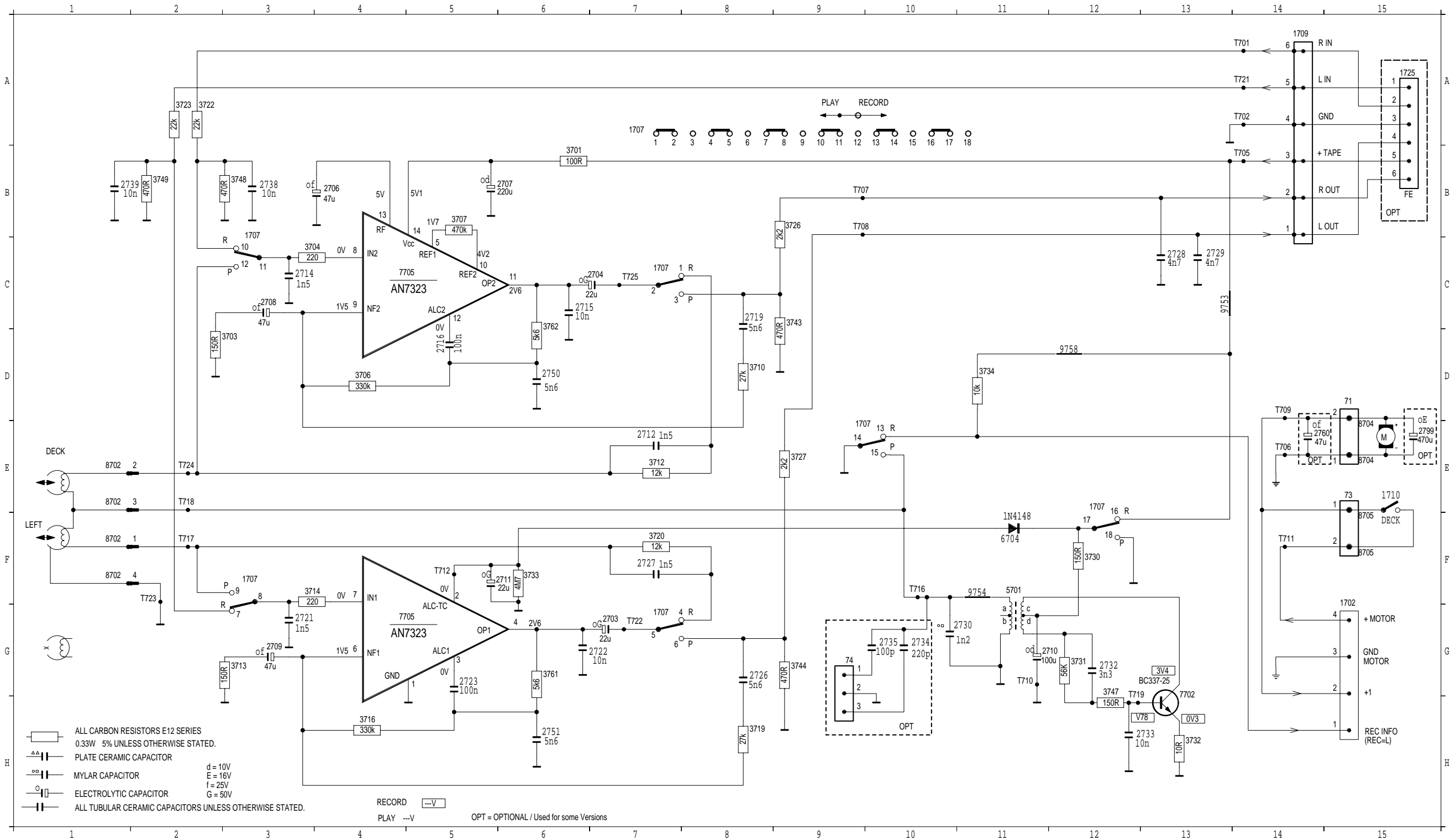


CD/MCU BOARD - LAYOUT DIAGRAM

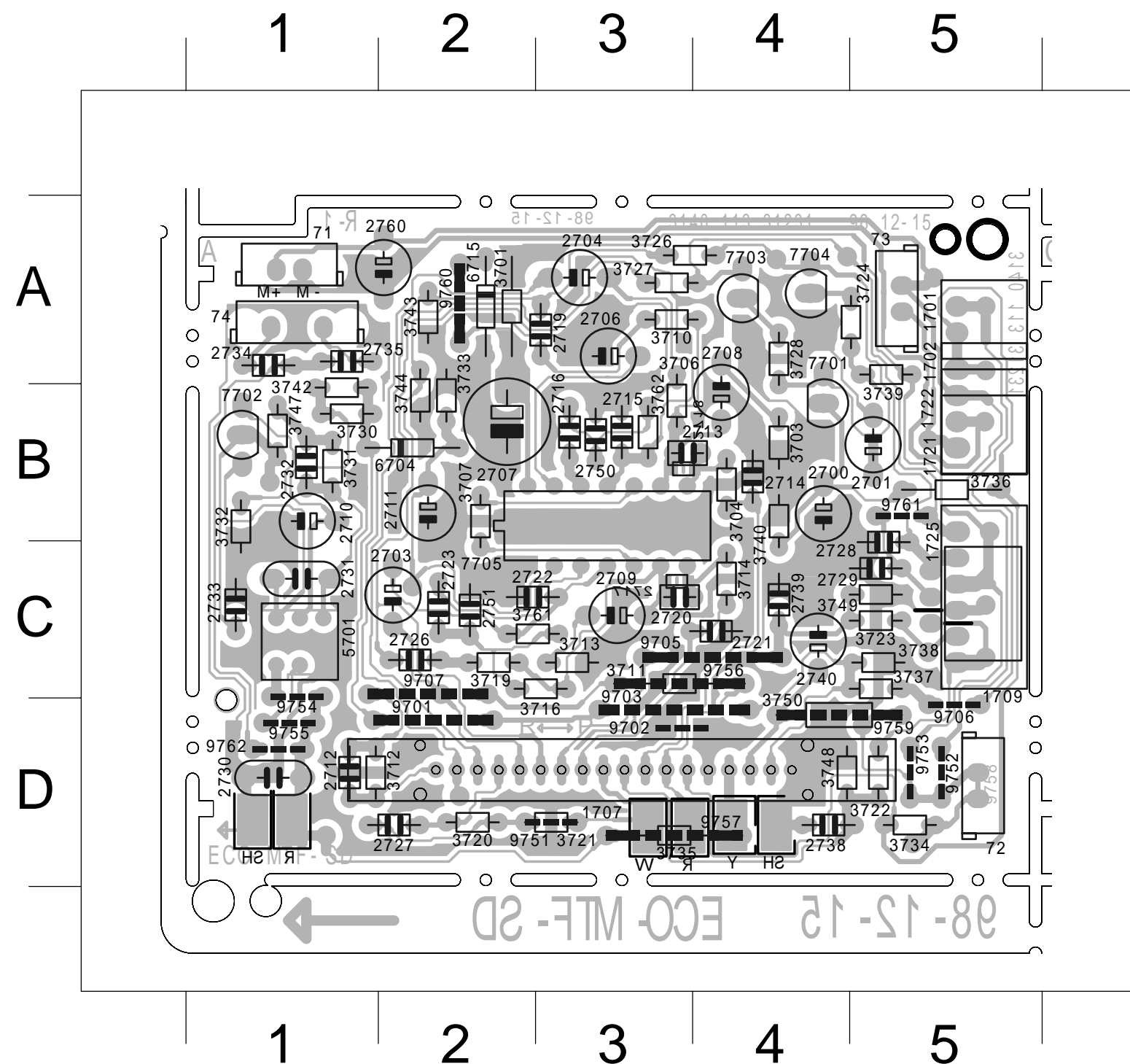


# MTF BOARD - CIRCUIT DIAGRAM

71	D15	1707	C 3	1709	A14	2706	B 4	2711	F 6	2719	C 8	2727	F 7	2733	H13	2750	D 6	3703	D 3	3712	F 7	3720	F 7	3730	F12	3743	C 9	3761	G 6	7705	G 4	8702	E 1	9753	C13	T705	B14	T710	G11	T718	E 2	T724	E 2
73	E15	1707	G 7	1710	E15	2707	B 4	2712	C 3	2721	G 7	2728	C13	2734	G10	2751	H 6	3704	C 3	3713	F 7	3722	A 2	3731	G12	3744	G 9	3762	D 6	7705	G 4	8704	E15	9754	F11	T706	B14	T711	F14	T719	H13	T725	C 7
74	G 9	1707	C 7	1725	A15	2708	C 3	2714	C 3	2722	G 7	2729	C13	2735	G10	2760	E14	3706	D 4	3714	F 3	3723	A 2	3732	H13	3747	G12	5701	F11	8702	F 1	8704	E15	9758	D12	T707	B10	T712	F 5	T721	A14		
1702	G15	1707	E 9	2703	G 7	2709	G 3	2715	C 6	2723	G 5	2730	G11	2738	B 3	2799	E15	3707	B 5	3716	H 4	3726	B 9	3733	F 6	3748	B 3	6704	F11	8702	F 1	8705	F15	T701	A14	T708	B10	T716	F10	T722	G 7		
1707	F 3	1707	E12	2704	C 7	2710	G12	2716	D 5	2726	G 8	2732	G12	2739	B 1	3701	B 6	3710	D 8	3719	H 8	3727	B 9	3734	D11	3749	B 2	7702	H13	8702	E 1	8705	F15	T702	A14	T709	D14	T717	F 2	T723	F 2		



MTF BOARD - LAYOUT DIAGRAM



71 A 1	2729 C 5	3733 B 2	9756 C 3
72 D 5	2730 D 1	3734 D 5	9757 D 3
73 A 5	2731 C 1	3735 D 3	9759 D 4
74 A 1	2732 B 1	3736 B 5	9760 A 2
1701 A 5	2733 C 1	3737 C 5	9761 B 5
1702 B 5	2734 A 1	3738 C 5	9762 D 1
1707 D 3	2735 A 1	3739 A 5	T701 C 5
1709 C 5	2738 D 4	3740 B 4	T702 C 5
1721 B 5	2739 C 4	3742 B 1	T705 B 5
1722 B 5	2740 C 4	3743 A 2	T706 B 5
1725 C 5	2750 B 3	3744 B 2	T709 A 5
2700 B 4	2751 C 2	3747 B 1	T710 C 1
2701 B 5	2760 A 2	3748 D 4	T711 B 5
2703 C 2	3701 A 2	3749 C 5	T712 C 2
2704 A 3	3703 B 4	3750 D 4	T713 A 5
2706 A 3	3704 B 4	3761 C 2	T714 D 5
2707 B 2	3706 B 3	3762 B 3	T715 D 5
2708 B 4	3707 B 2	5701 C 1	T716 D 1
2709 C 3	3710 A 3	6704 B 2	T719 B 1
2710 B 1	3711 C 3	6715 A 2	T720 A 5
2711 B 2	3712 D 1	7701 B 4	T721 C 5
2712 D 1	3713 C 3	7702 B 1	T722 C 2
2713 B 3	3714 C 4	7703 A 4	T725 D 2
2714 B 4	3716 C 3	7704 A 4	T7707 A 4
2715 B 3	3719 C 2	7705 B 3	T7708 A 4
2716 B 3	3720 D 2	9701 D 2	
2717 C 3	3721 D 3	9702 D 3	
2718 B 3	3722 D 5	9703 D 3	
2719 A 3	3723 C 5	9705 C 4	
2720 C 3	3724 A 5	9706 D 5	
2721 C 4	3726 A 3	9707 C 2	
2722 C 2	3727 A 3	9751 D 3	
2723 C 2	3728 A 4	9752 D 5	
2726 C 2	3730 B 1	9753 D 5	
2727 D 2	3731 B 1	9754 C 1	
2728 C 5	3732 B 1	9755 D 1	

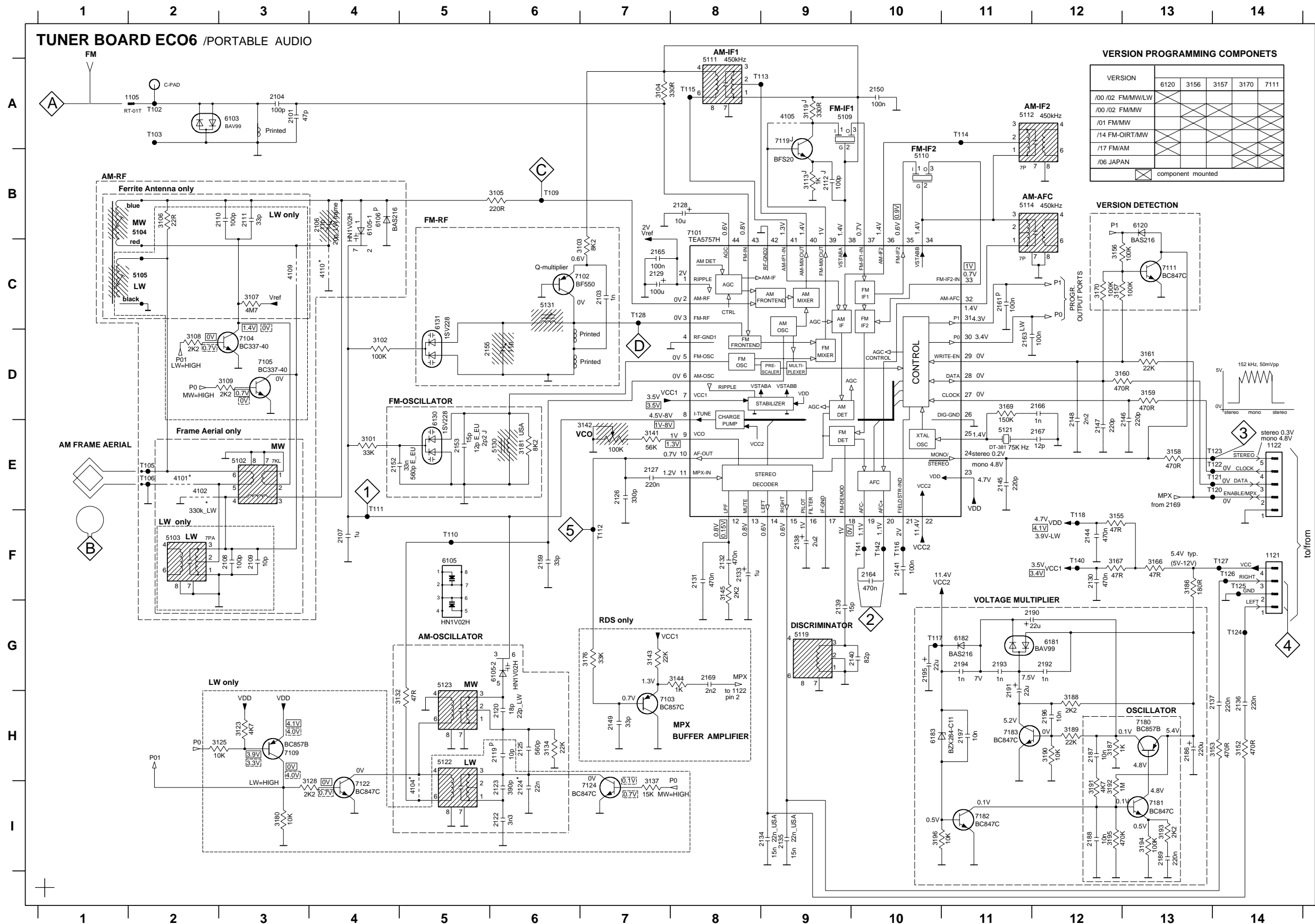
CASSETTE ADJUSTMENT

Adjustment	Cassette	SK ....	Deck 1	Measure on	Read on	Adjust with	Adjust to
Azimuth	10 kHz SBC420*	Tape	Play	H/P Jack	mV meter	Left hand Screw R/P head	max.
Motor Speed	3150 kHz SBC420*	Tape	Play	H/P Jack	Wow and flutter meter	Preset in motor	**a

\* SBC420 : 4822 397 30071

\*\*a The maximum permissible speed deviation is - 3%.  
Moreover, the wow and flutter value can be read.

# TUNER BOARD - CIRCUIT DIAGRAM



VERSION	6120	3156	3157	3170	7111
/00 /02 FM/MW/LW					
/00 /02 FM/MW					
/01 FM/MW					
/14 FM-OIRT/MW					
/17 FM/AM					
/06 JAPAN					

component mounted

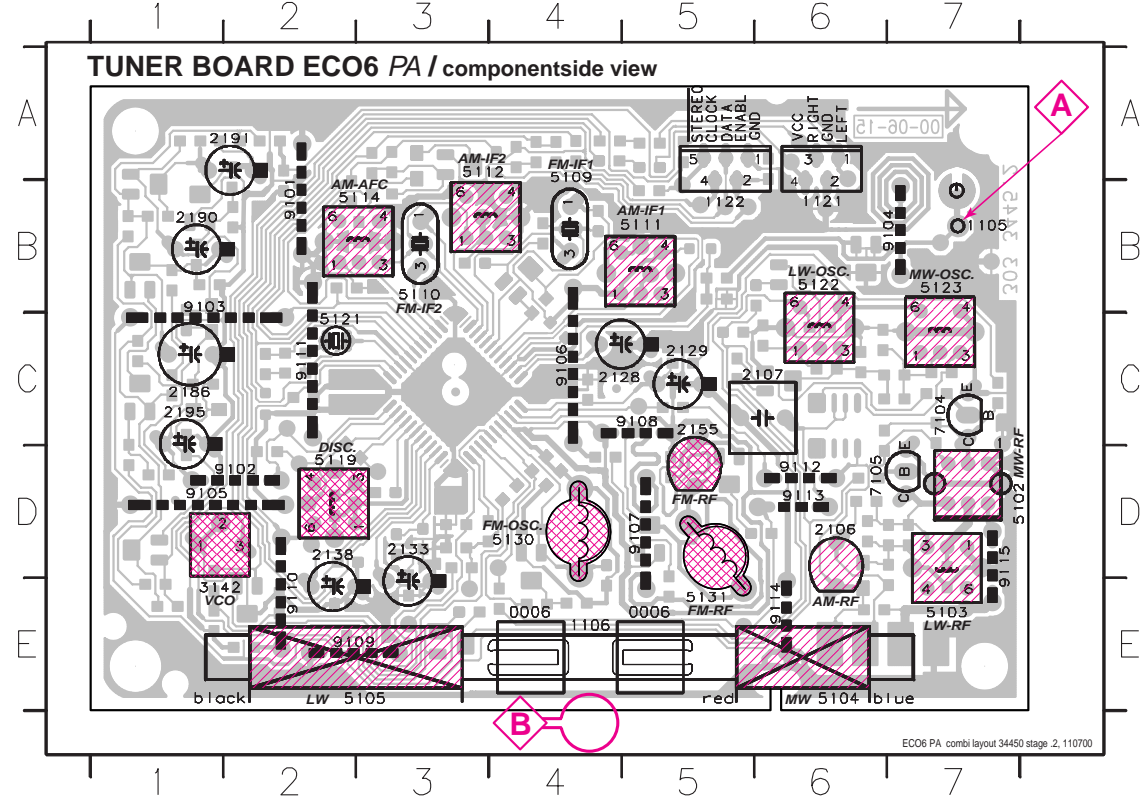
**LEGEND**  
 \*... only assembled in FM/AM-version  
 p... for provision only  
 USA ... for USA version only  
 LW ... for LW version only  
 LW frame ... for LW version with frame aerial only  
 E\_EU ... for East European version only  
 J ... for JAPAN version only

...V FM mode stereo  
 ...V MW mode  
 ...V LW mode  
 voltages measured while set is tuned to a strong transmitter

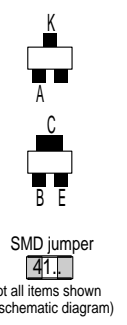
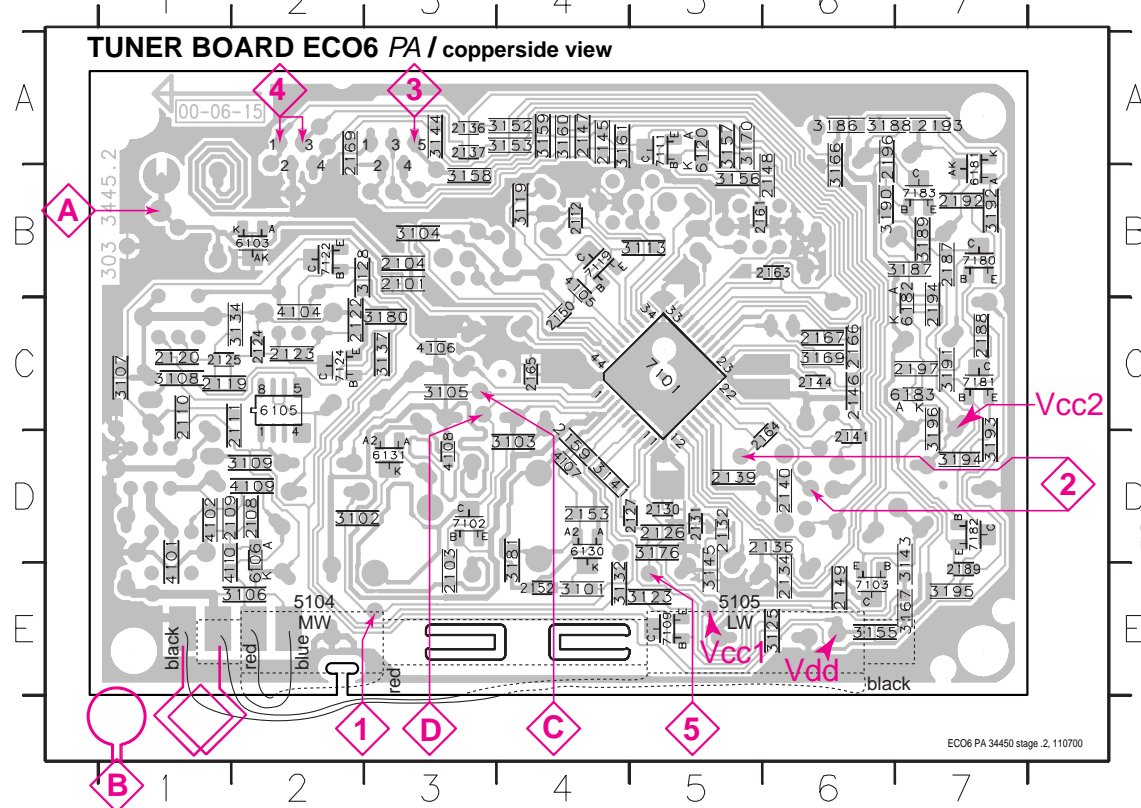
- 4104 I5
- 4105 A9
- 4109 C3
- 4110 C4
- 5102 E3
- 5103 F2
- 5109 A9
- 5110 B10
- 5111 A8
- 5112 A11
- 5114 B11
- 5119 B9
- 5121 E11
- 5122 H5
- 5123 G5
- 5130 E6
- 5131 C6
- 6103 A3
- 6105-1 B4
- 6106 B4
- 6105-2 G6
- 6106 B4
- 6120 B3
- 6121 C5
- 6181 G12
- 6182 G11
- 6183 H10
- 7101 B8
- 7102 C7
- 7103 H14
- 7104 D3
- 7105 D3
- 7109 H3
- 7111 C13
- 7119 A9
- 7122 H4
- 7123 E11
- 7180 H13
- 7181 H13
- 7182 H11
- 7183 H11
- 7184 A2
- 7185 E5
- 7186 E2
- 7187 H12
- 7188 H12
- 7189 H13
- 7190 G12
- 7191 H11
- 7192 G12
- 7193 H14
- 7194 G11
- 7195 G10
- 7196 H12
- 7197 H11
- 7198 H12
- 7199 H11
- 7200 F10
- 7201 F7
- 7202 A2
- 7203 A2
- 7204 D3
- 7205 D3
- 7206 D12
- 7207 E12
- 7208 H13
- 7209 H13
- 7210 G10
- 7211 C13
- 7212 F10
- 7213 A9
- 7214 E14
- 7215 E14
- 7216 D12
- 7217 F14
- 7218 F14
- 7219 F14
- 7220 F14
- 7221 F14
- 7222 E14
- 7223 E14
- 7224 E14
- 7225 E14
- 7226 E14
- 7227 E14
- 7228 E14
- 7229 E14
- 7230 E14
- 7231 E14
- 7232 E14
- 7233 E14
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- 7235 E14
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- 7237 E14
- 7238 E14
- 7239 E14
- 7240 E14
- 7241 E14
- 7242 E14
- 7243 E14
- 7244 E14
- 7245 E14
- 7246 E14
- 7247 E14
- 7248 E14
- 7249 H7
- 7250 A10
- 7251 A2
- 7252 A2
- 7253 E5
- 7254 D5
- 7255 D5
- 7256 D5
- 7257 F5
- 7258 F5
- 7259 B6
- 7260 F5
- 7261 F11
- 7262 F11
- 7263 D11
- 7264 F10
- 7265 C7
- 7266 D12
- 7267 E12
- 7268 G8
- 7269 H13
- 7270 G10
- 7271 G10
- 7272 E14
- 7273 E14
- 7274 E14
- 7275 E14
- 7276 E14
- 7277 E14
- 7278 E14
- 7279 E14
- 7280 E14
- 7281 E14
- 7282 E14
- 7283 E14
- 7284 E14
- 7285 E14
- 7286 E14
- 7287 E14
- 7288 E14
- 7289 E14
- 7290 E14
- 7291 E14
- 7292 E14
- 7293 E14
- 7294 E14
- 7295 E14
- 7296 E14
- 7297 E14
- 7298 E14
- 7299 E14
- 7300 E14
- 7301 C7
- 7302 D4
- 7303 B6
- 7304 D2
- 7305 D3
- 7306 B9
- 7307 H3
- 7308 D3
- 7309 D3
- 7310 D3
- 7311 C13
- 7312 F10
- 7313 A9
- 7314 E14
- 7315 E14
- 7316 D12
- 7317 I7
- 7318 I7
- 7319 G7
- 7320 G7
- 7321 G8
- 7322 H5
- 7323 H5
- 7324 H6
- 7325 H7
- 7326 E7
- 7327 E7
- 7328 G7
- 7329 H8
- 7330 F8
- 7331 H4
- 7332 H4
- 7333 F12
- 7334 C12
- 7335 E13
- 7336 D13
- 7337 F12
- 7338 F12
- 7339 D11
- 7340 C12
- 7341 G7
- 7342 E7
- 7343 G7
- 7344 G8
- 7345 F8
- 7346 H4
- 7347 H4
- 7348 F12
- 7349 C12
- 7350 D13
- 7351 D13
- 7352 F13
- 7353 F12
- 7354 D11
- 7355 D11
- 7356 G7
- 7357 G7
- 7358 E6
- 7359 F13
- 7360 H12
- 7361 H12
- 7362 H12
- 7363 H12
- 7364 H12
- 7365 H12
- 7366 H12
- 7367 H12
- 7368 H12
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- 7382 H12
- 7383 H12
- 7384 H12
- 7385 H12
- 7386 H12
- 7387 H12
- 7388 H12
- 7389 H12
- 7390 H12
- 7391 H12
- 7392 H12
- 7393 H13
- 7394 H13
- 7395 H13
- 7396 H10
- 4101 E2
- 4102 E2

TUNER BOARD ECO6 - LAYOUT DIAGRAM

1105 B7 2106 D6 2129 C5 2155 C5 2191 A2 5102 D7 5110 B3 5114 B3 5122 B6 5131 E5 9101 B2 9104 B7 9107 D5 9110 E2 9113 D6  
 1121 B6 2107 C6 2133 D3 2186 C1 2195 C1 5103 E7 5111 B4 5119 D2 5123 B7 7104 C7 9102 D2 9105 D1 9108 C5 9111 C2 9114 E6  
 1122 B5 2128 C4 2138 D2 2190 B1 3142 E1 5109 B4 5112 B3 5121 C2 5130 D4 7105 D6 9103 B1 9106 C4 9109 E2 9112 D6 9115 D7



2101 B3 2119 C1 2130 D5 2140 D6 2150 C4 2166 C6 2194 C7 3106 E2 3128 B2 3152 A4 3161 A4 3186 A6 3194 D7 4107 D4 6130 D4 7109 E5 7183 B7  
 2103 E3 2120 C1 2131 D5 2141 D6 2152 E4 2167 C6 2196 A6 3107 C1 3132 E4 3153 A4 3166 B6 3187 B7 3195 E7 4108 D3 6131 D3 7111 A5  
 2104 B3 2122 C2 2132 D5 2144 C6 2153 D4 2169 A2 2197 C7 3108 C1 3134 C2 3155 E6 3167 E7 3188 A6 3196 C7 4109 D2 6181 B7 7119 B5  
 2108 D2 2123 C2 2134 E6 2145 A4 2159 D4 2187 B7 3101 E4 3109 D2 3137 C3 3156 B5 3169 C6 3189 B7 4101 D1 4110 D1 6182 C7 7122 B2  
 2109 D1 2124 C2 2135 D6 2146 C6 2161 B5 2188 C7 3102 D2 3113 B5 3141 D4 3157 A5 3170 A5 3190 B6 4102 D1 6103 B2 6183 C7 7124 C2  
 2110 C1 2125 C1 2136 A3 2147 A4 2163 B6 2189 E7 3103 D4 3119 B5 3143 D7 3158 B3 3176 D5 3191 C7 4104 C2 6105 C2 7101 C5 7180 B7  
 2111 C2 2126 D5 2137 A3 2148 B6 2164 D6 2192 A7 3104 B3 3123 E5 3144 A3 3159 A4 3180 C3 3192 B7 4105 B4 6106 D2 7102 D3 7181 C7  
 2112 B4 2127 D5 2139 D5 2149 E6 2165 C4 2193 A7 3105 C3 3125 E6 3145 E5 3160 A4 3181 D4 3193 D7 4106 C3 6120 A5 7103 E6 7182 D7



These assembly drawings show a summary of all possible versions.  
 For components used in a specific version see schematic diagram respectively partslist.

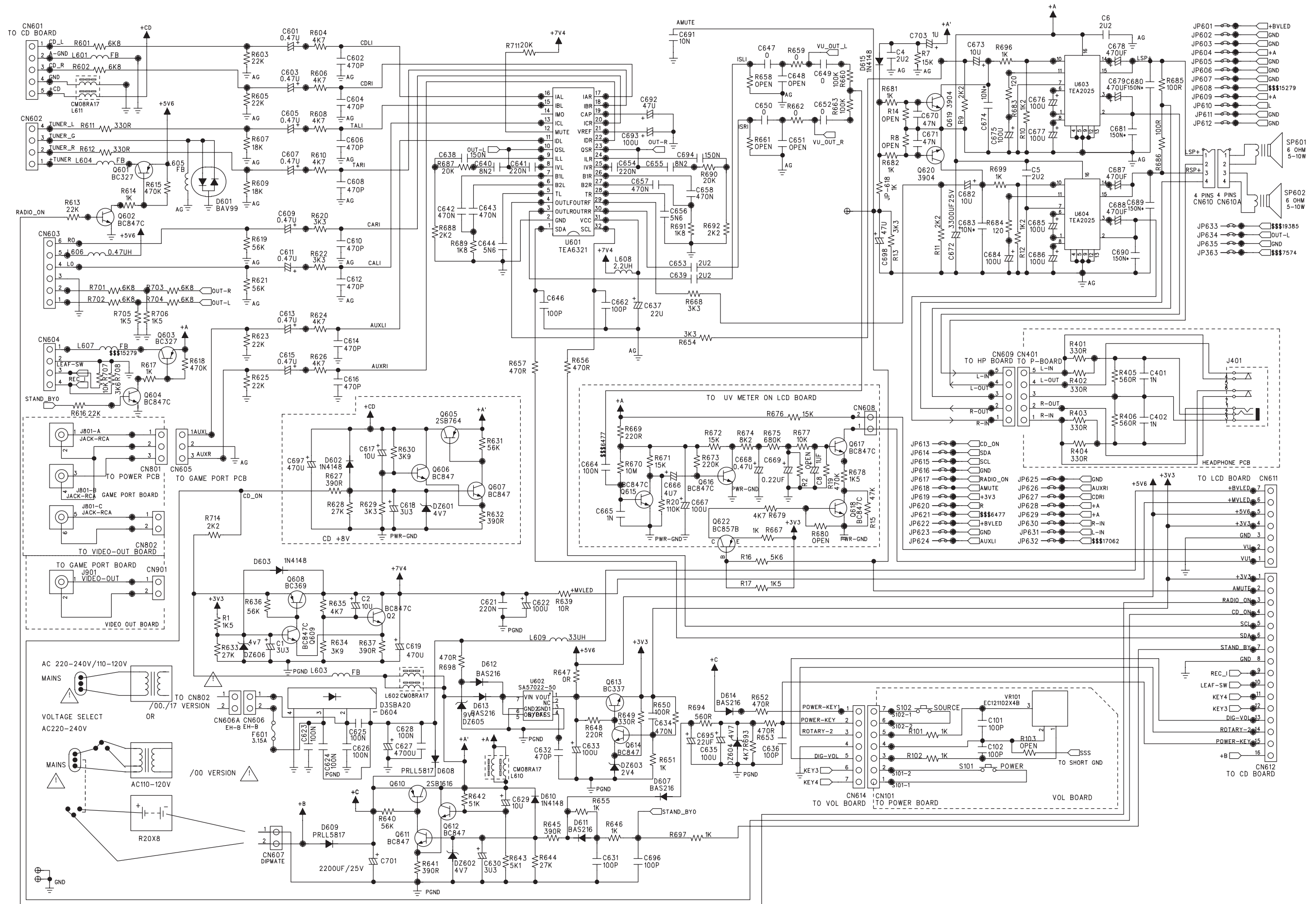
TUNER ADJUSTMENT TABLE ( ECO6 FM/MW- and FM/MW/LW - versions with ferrite antenna)

Waverange	Input frequency	Input	Tuned to	Adjust	Output	Scope/Voltmeter
<b>VARICAP ALIGNMENT</b>						
<b>FM</b> 87.5 - 108MHz (65.81 - 74, 87.5 - 108MHz)			108MHz	5130		8V -0.2V
			87.5MHz (65.81MHz)	check		4.3V -0.5V (1.2V -0.5V)
<b>MW</b> FM/AM-version, 10kHz grid 530 - 1700kHz			1700kHz	5123		8V -0.2V
			530kHz	check		1.1V -0.4V
FM/MW-version, 9kHz grid 531 - 1602kHz			1602kHz	5123	1	6.9V -0.2V
			531kHz	check		1.1V -0.4V
<b>LW</b> 153 - 279kHz			279kHz	5122		8V -0.2V
			153kHz	check		1.1V -0.4V
<b>MW</b> FM/MW/LW- version, 9kHz grid 531 - 1602kHz			1602kHz	5123		8V -0.2V
			531kHz	check		1.1V -0.4V
<b>FM IF</b>						
<b>FM</b>	10.7MHz, 45mV continuous wave	D		5119	2	0 - 3 mV DC
<b>FM RF</b>						
<b>FM</b> 87.5 - 108MHz (65.81 - 74, 87.5 - 108MHz)	108MHz	A mod=1kHz Δf=-22.5kHz	108MHz	2155	4	MAX
	87.5MHz (65.81MHz)		87.5MHz (65.81MHz)	5131		
<b>VCO</b>						
<b>FM</b>	98MHz, 1mV continuous wave	A	98MHz	3142	3	152kHz -1kHz <sup>1)</sup>
<b>AM IF</b>						
<b>MW</b>	450kHz connect pin 6 of IC 7101 (AM Osc.) with 2.2kΩ to Vcc	C Δf=-10kHz V <sub>RF</sub> = 0.5mV (as low as possible) see remark 2)		5111	5	
				5112		
<b>AM AFC</b>		C		5114	2	0 - 2 mV DC
<b>AM RF<sup>3)</sup></b>						
<b>LW</b>	198kHz	B	198kHz	5105 LW ferrite coil	5	
<b>MW</b> FMMW/LW- and FM/MW-version (9kHz grid) 531 - 1602kHz	1494kHz		2106			
	558kHz		5104 MW ferrite coil			
<b>MW</b> FM/AM-version, 10kHz grid 530 - 1700kHz	1500kHz		1500kHz	2106		
	560kHz		560kHz	5104 MW ferrite coil		

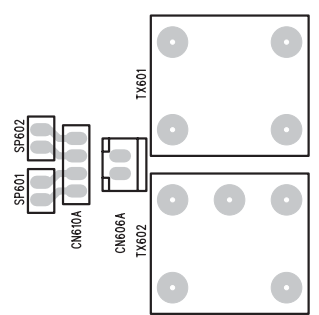
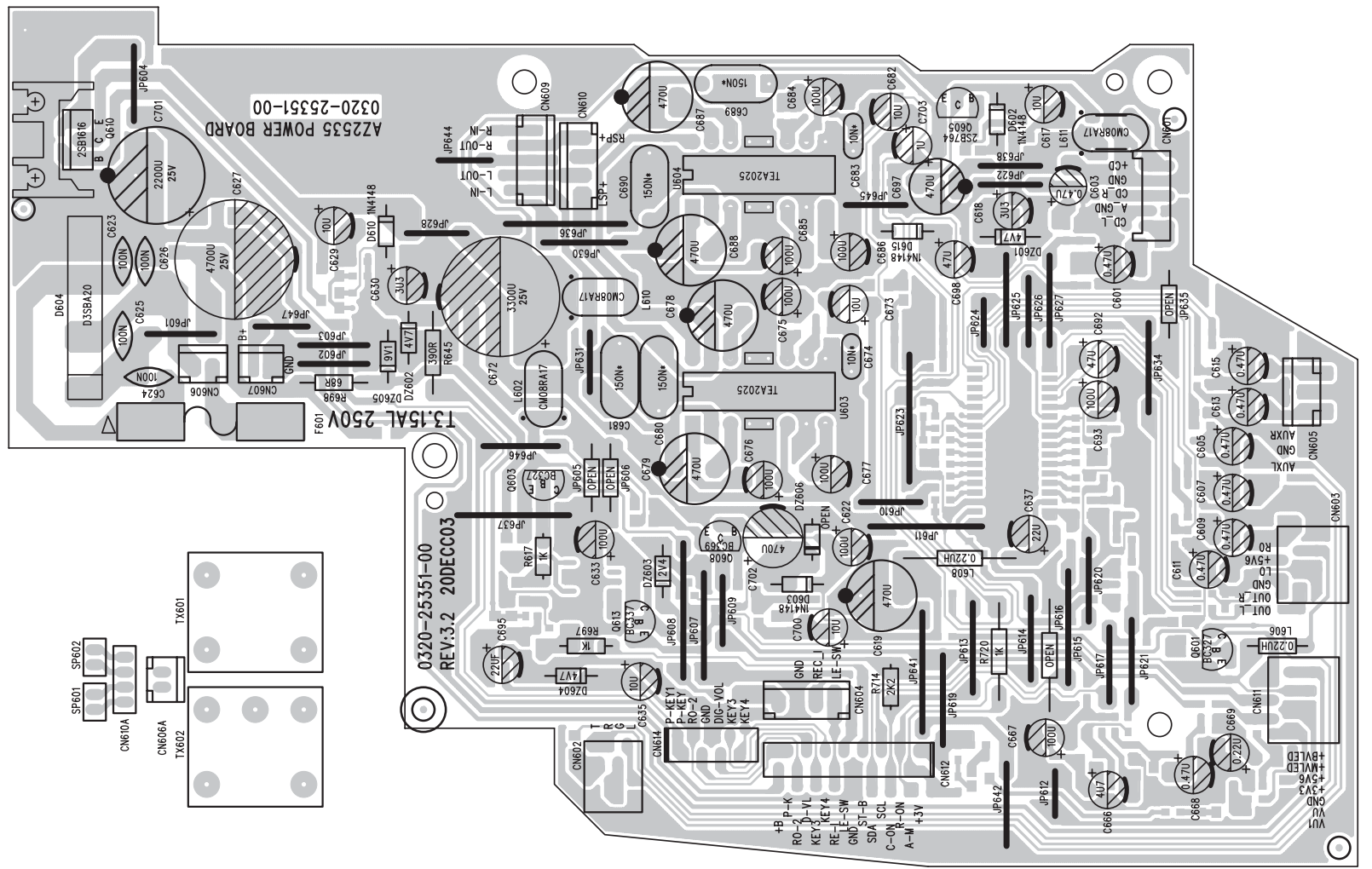
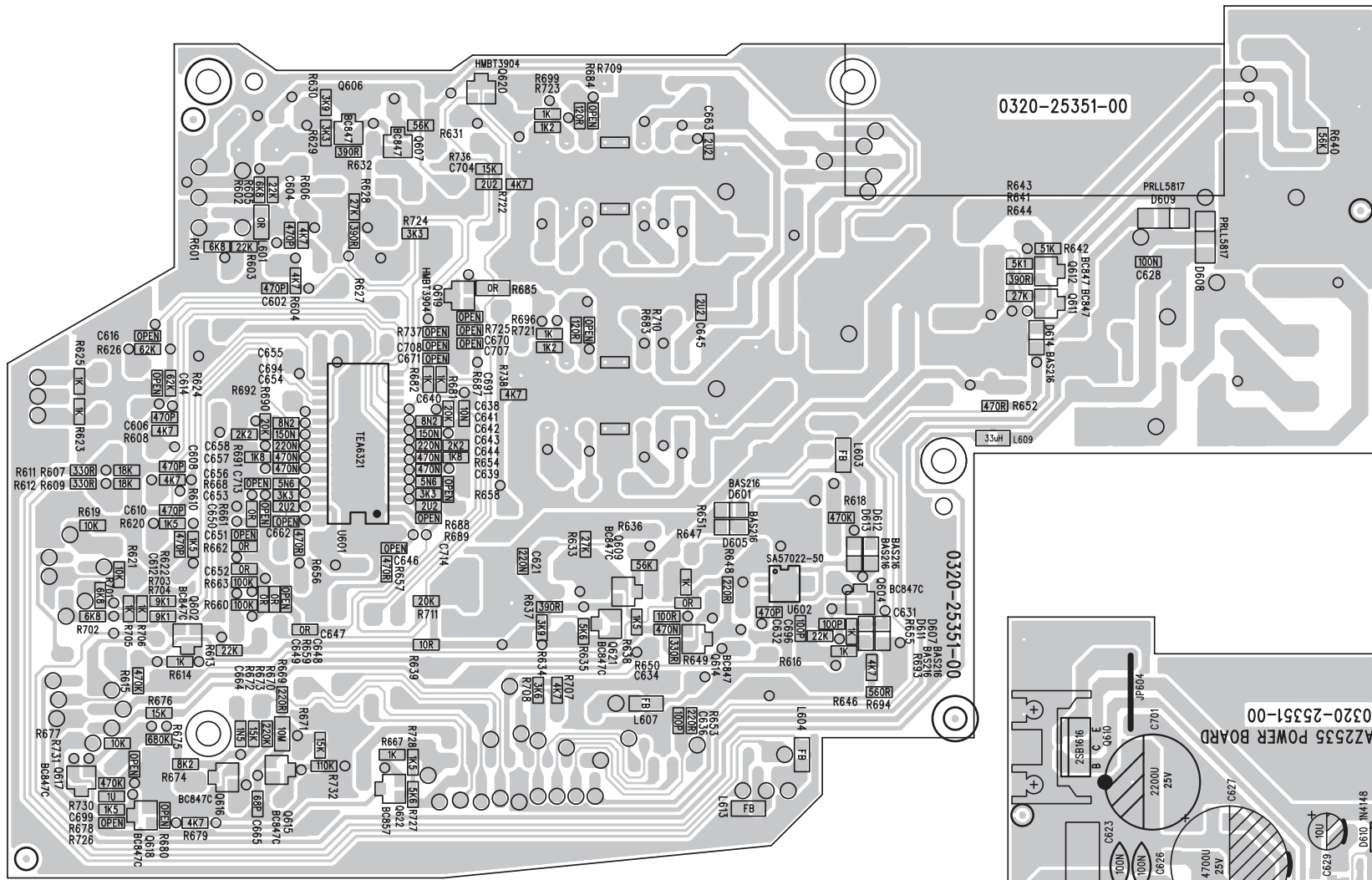
Use Service Testprogram. By selecting the TUNER TEST test frequencies will be stored as preset frequencies automatically.  
<sup>1)</sup> If sensitivity of frequency counter is too low adjust to max. channel separation (input signal: stereo left 90% + 9%, adjust output on right channel to minimum)  
<sup>2)</sup> RC network serves for damping the IF-filter while adjusting the other one.  
<sup>3)</sup> LW has to be aligned before MW.

↑ Repeat

# POWER BOARD - CIRCUIT DIAGRAM



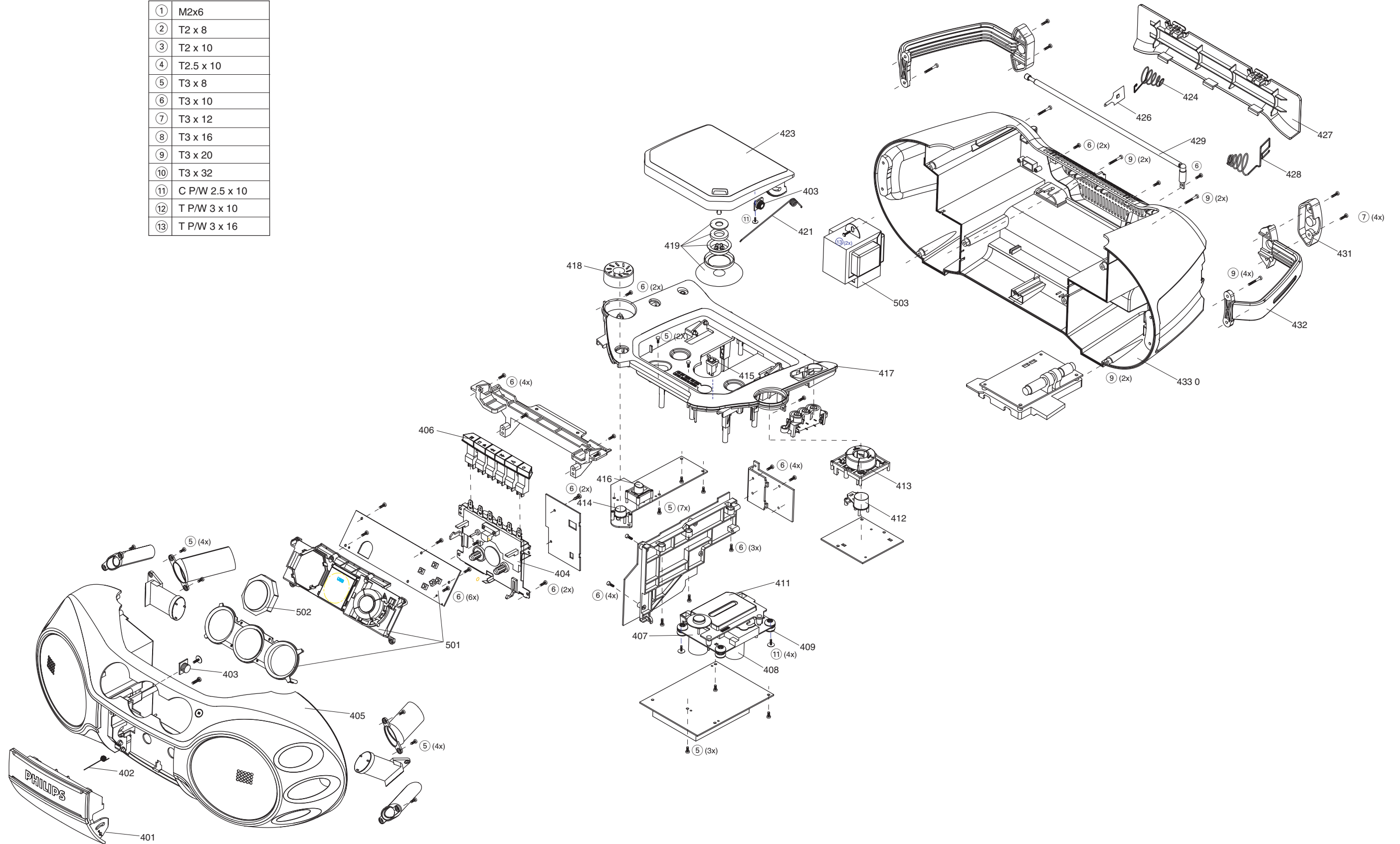
# POWER BOARD - CIRCUIT DIAGRAM



EXPLODED VIEW DIAGRAM - CABINET

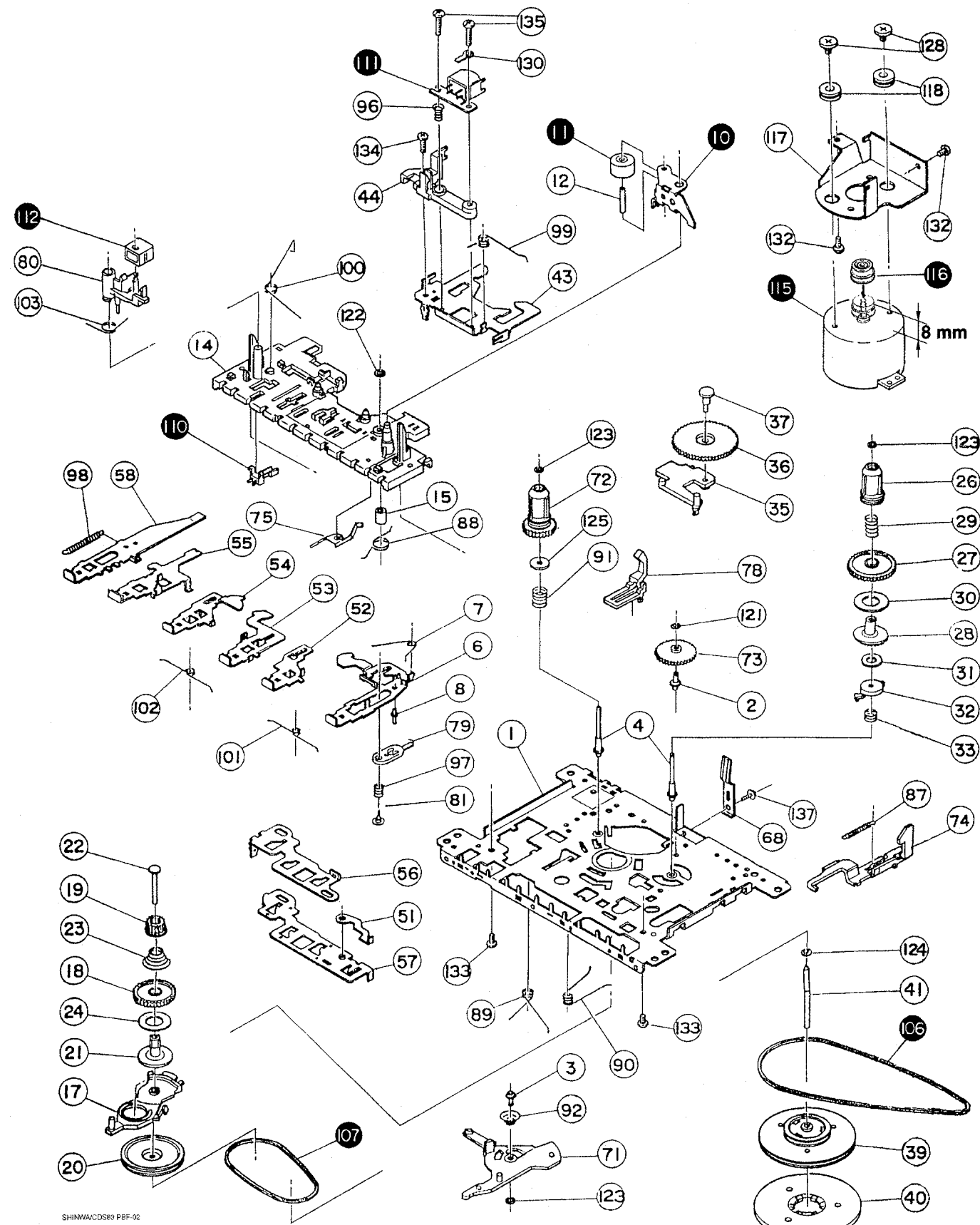
SCREW LIST :

①	M2x6
②	T2 x 8
③	T2 x 10
④	T2.5 x 10
⑤	T3 x 8
⑥	T3 x 10
⑦	T3 x 12
⑧	T3 x 16
⑨	T3 x 20
⑩	T3 x 32
⑪	C P/W 2.5 x 10
⑫	T P/W 3 x 10
⑬	T P/W 3 x 16





EXPLODED VIEW DIAGRAM - TAPE DECK



SHINWAACDSR9 PBF-02

MECHANICAL PARTSLIST - CABINET

401	994000000076	CASS DOOR ASSY
402	994000000077	CASS SPRING
403	994000000073	DAMPER ASSY
404	994000000075	CASS DECK TK20FX-V689-001
405	994000000121	FRONT CABINET ASSY
406	994000000074	CASSETTE KEY 1
406	994000000133	CASSETTE KEY 2
406	994000000134	CASSETTE KEY 3
406	994000000135	CASSETTE KEY 4
406	994000000136	CASSETTE KEY 5
406	994000000137	CASSETTE KEY 6
407	310330905291	DA11T3CN-PH
408	994000000097	DAMPER RUBBER 30
409	994000000098	DAMPER RUBBER 40
411	994000000095	DUST COVER
412	994000000091	KET SET-PLAY
413	994000000092	KEY SET-PRESET
414	994000000089	KEY SET-POW-ON-OFF
415	994000000101	DOOR LATCH SWITCH
416	994000000094	SOURCE KNOB
417	994000000087	CD TRAY
418	994000000093	VOLUME KNOB
419	994000000102	CHUCKING PLATE ASSY
421	994000000132	CD SPRING
423	994000000088	DOOR-CD
424	994000000084	SPRING-COMPRESS(-)
426	994000000083	CONTACT PLATE
427	994000000081	DOOR-BATTERY
428	994000000086	BATTERY SPRING(+)
429	994000000085	ROD ANT
431	994000000082	HANDLE COVER
432	994000000079	HANDLE
433	994000000078	REAR CAB ASSY
	994000000103	REMOTE CONTROL (RC19621006/01)
	994000000104	AV CORD
	994000000131	TRANSFORMER EI57 (-/01)
	994000000119	TRANSFORMER EI57 (-/00C)
	242207098151	1.5M VDE APPD.CORD SET

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

MECHANIAL PARTSLIST - TAPE DECK

	4822 528 11189	PINCH ROLLER ASSY
10	4822 528 70849	PINCH ROLLER ARM(B)
11	4822 528 70695	ROLLER
74	4822 403 30792	EJECT HOOK(B)
106	4822 358 31325	MAIN BELT 45.2 x 1.2
107	4822 358 31124	SUB BELT 44.7 x 1.2
110	4822 278 90721	LEAF SWITCH
111	4822 249 30218	R/P HEAD MS18R
112	4822 249 40306	ERASE HEAD
115	4822 361 21656	MOTOR EG-530AD-9B
116	4822 528 81497	MOTOR PULLEY
131	4822 276 13712	LEAF SWITCH LSA1115B

## ELECTRICAL PARTSLIST

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### - MISCELLANEOUS -

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994000000105	MTF BOARD ASSY
994000000106	TUNER BAORD ASSY (-/00C)
994000000129	TUNER BAORD ASSY (-/01)
994000000107	CD/MCU BOARD ASSY
994000000108	LCD/LCD DRIVE BOARD ASSY
994000000109	POWER BOARD ASSY
994000000111	GAME BOARD ASSY
994000000112	VIDEO OUT BOARD ASSY
994000000114	KEY/PHONE BOARD ASSY
994000000115	KEY BOARD ASSY
994000000117	VU-METER
994000000118	GLASS FUSE 3,15A 250V
996500013424	TACT SWITCH
994000000128	HEAT SEAL CONNECTOR

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