

Service
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Service



Service Manual



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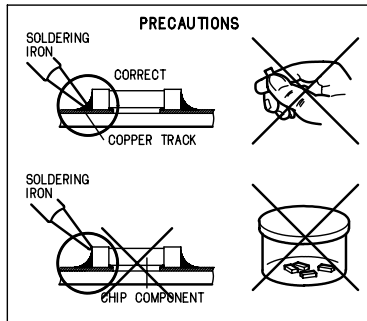
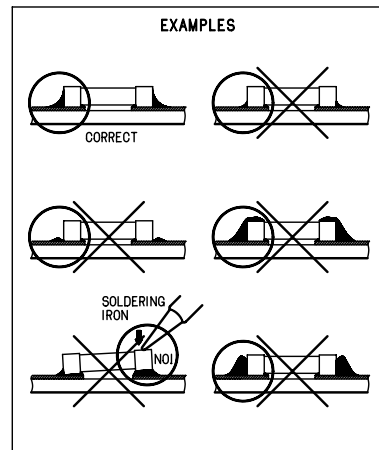
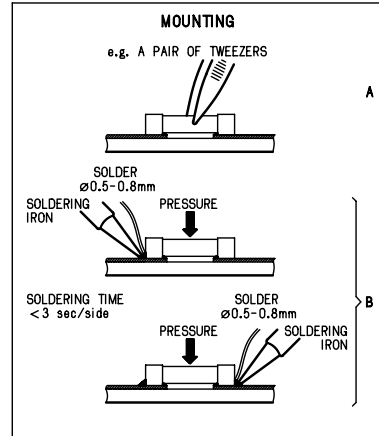
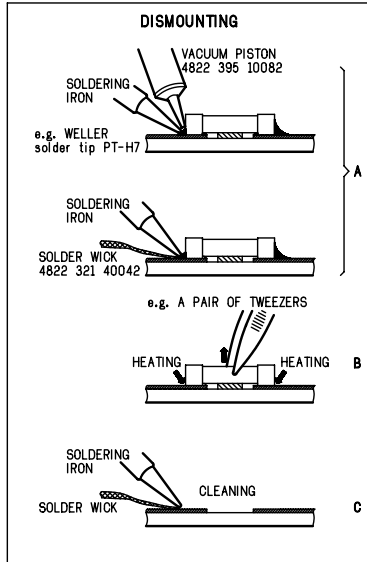
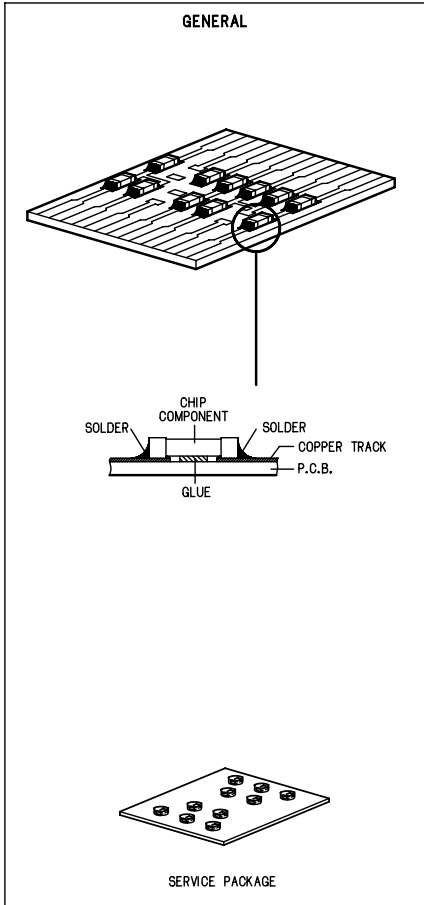
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PHILIPS

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). Unvorsichtige Behandlung im Reparaturfall kann die Lebensdauer drastisch reduzieren. Sorgen Sie dafür, daß Sie im Reparaturfall über ein Pulsarmband mit Widerstand mit dem Massepotential des Gerätes verbunden sind. Halten Sie Bauteile und Hilfsmittel ebenfalls auf diesem Potential.

(I) AVVERTIMENTO

Tutti IC e parecchi semi-conduttori sono sensibili alle scariche statiche (ESD). La loro longevità potrebbe essere fortemente ridotta in caso di non osservazione della più grande cauzione alla loro manipolazione. Durante le riparazioni occorre quindi essere collegato allo stesso potenziale che quello della massa dell'apparecchio tramite un braccialetto 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 symbol

(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 laitteessa ja suojauslaituksen 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 : 120 / 230 V
Mains frequency	-/00C : 50 Hz -/01 : 50 / 60 Hz
Battery	main set : 9 V (R14 x 6) remote : 3V (R6 x 2)
Power consumption	: < 30 W (max.)
Dimension (W x H x D)	: 405 x 162 x 232 mm
Weight	: 2.5 Kg

AMPLIFIER

Output power	mains : 2 x 1 W battery : 2 x 0.8 W
Speaker impedance	: 2 x 8 ohm
Frequency response	: 60 Hz - 20 kHz (± 3 dB)

TUNER - FM SECTION

Tuning range	: 87.5 - 108 MHz
IF frequency	: 10.7 MHz \pm 0.02 MHz
Sensitivity	: 20 dBf at 26dB S/N
Selectivity	: 24 dB at 300kHz
IF rejection	: 85 dB
Image rejection	: 24 dB

TUNER - AM SECTION

Tuning range	MW : 531 - 1602 kHz LW : 153 - 279 kHz
IF frequency	: 450 kHz \pm 1 kHz
Sensitivity	MW : 3200 μ V/m at 26dB S/N LW : 5500 μ V/m at 26dB S/N
Selectivity	MW : 22 dB LW : 29 dB
IF rejection	MW : 64 dB LW : 60 dB
Image rejection	MW : 32 dB LW : 38 dB

COMPACT DISC

Frequency response	: 100 Hz - 10 kHz \pm 2dB
S/N ratio	: 60 dB
Channel difference	1 kHz : 2 dB
Channel crosstalk	1 kHz : 40 dB
Laser wavelength	: 780 \pm 20 nm
Laser light power	: < 0.5 mW

SERVICE TOOLS

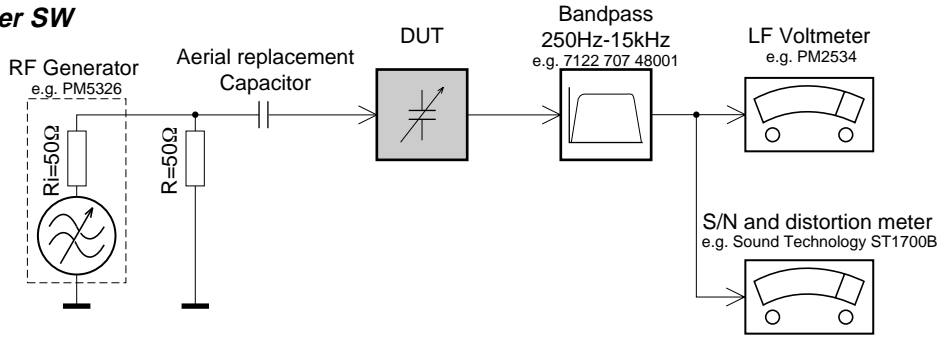
Audio signal disc SBC 429.....	4822 397 30184
Playability test disc SBC 444.....	4822 397 30245
Test disc 5 (disc without errors) +	
Test disc 5A (disc with dropout errors, black spots and fingerprints)	
SBC 426/426A.....	4822 397 30096
Burn in test disc (65 min. 1kHz signal at -30 dB level without "pause").....	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 Ω)		4822 320 11307
extendible cable (2m, 2M Ω , to connect wristband to connection box)		4822 320 11305
connecting cable (3m, 2M Ω , to connect table mat to connection box)		4822 320 11306
earth cable (1M Ω , 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

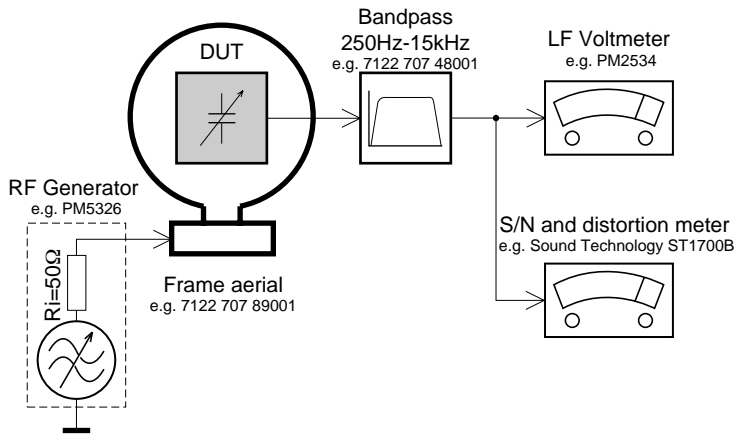
SERVICE MEASUREMENT

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).

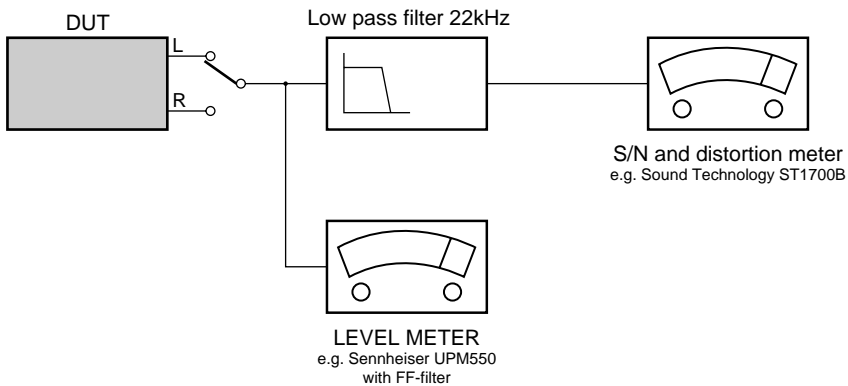
Tuner AM (MW,LW)



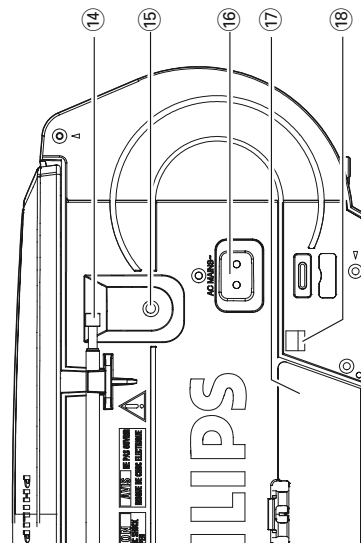
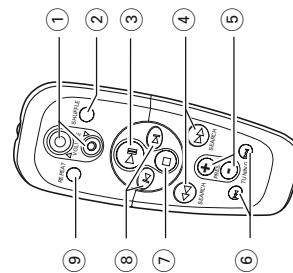
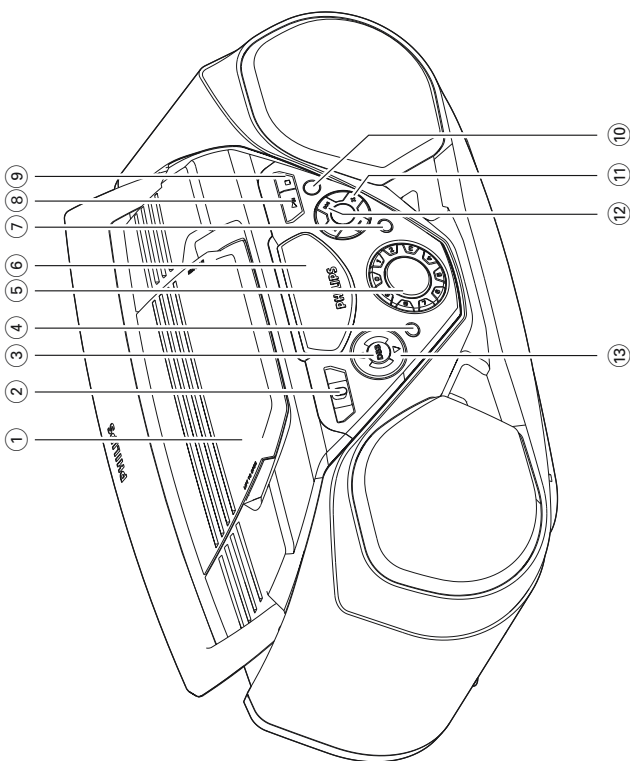
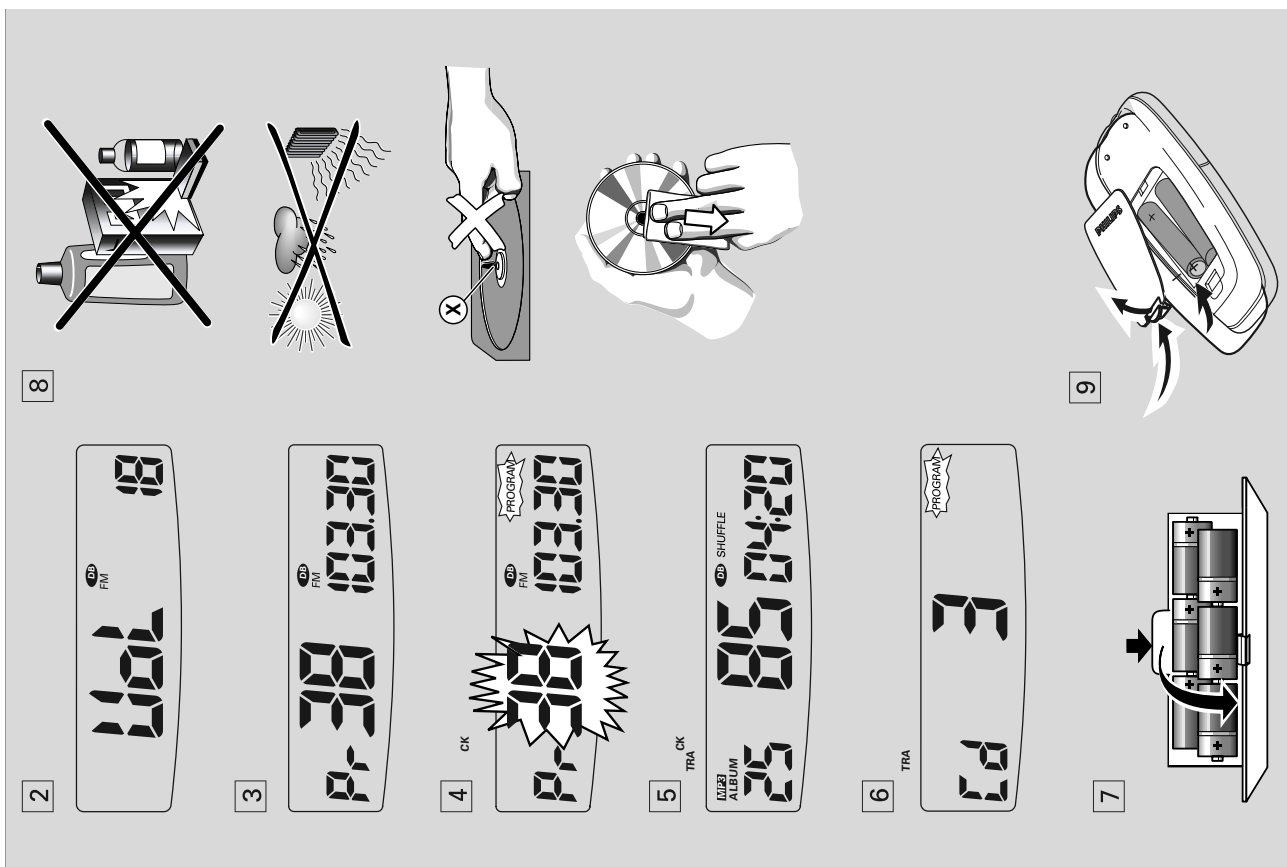
To avoid atmospheric interference all AM-measurements have to be carried out in a Faraday«s cage.

CD

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



CONNECTIONS AND CONTROLS



ACCESSORIES

- 1 x AC mains lead
- 1 x Remote Control

TOP AND FRONT PANEL (See 1)

- 1 **LIFT TO OPEN** - lift here to open MP3-CD door.
- 2 **POWER OFF/TUNER/CD** - selects **CD/TUNER** function and also the power off switch (**POWER OFF**)
- 3 **DBB (Dynamic Bass Boost)** - activates a more vivid bass response
- 4 **CD MODE/BAND** - selects different play modes: e.g. **REPEAT** or **SHUFFLE** (random) order
- selects waveband
- 5 **0-9** - digit panel
- 6 **MP3/CD**: track selection and direct playback
- 7 **TUNER**: selecting a preset station
- 8 **Display** - shows the status of the set.
- 9 **PROG**
- 10 **MP3/CD**: programs tracks and reviews the program;
- 11 **TUNER**: - programs preset radio stations.
- 12 **▶II** - starts or pauses MP3/CD playback.
- 13 **■** - stop MP3/CD playback;
- erases a MP3/CD program.
- 14 **Remote Sensor** - infrared sensor for remote control
- 15 **ALBUM (+, -)**
- 16 **MP3 only**: selects previous/next album
- 17 **TUNER**: selects the previous /next preset station
- 18 **SEARCH ◀◀ ▶▶**
- 19 **MP3/CD**: - searches backward / forward within a track;
- skips to the beginning of a current track/ previous/ later track
- 20 **TUNER**: - (down, up) tunes to radio stations.
- 21 **VOLUME ▲, ▼** - to adjust volume level up/down

BACK PANEL

- 1 **Telescopic aerial** - improves FM reception.
 - 2 **⌀** - 3.5 mm stereo headphone socket.
- Note:** The speakers will be muted when headphones are connected to the set.

CONTROL/POWER SUPPLY

- 16 **AC MAINS** - inlet for mains lead.
- 17 **Battery compartment** - for 6 batteries, type **R-14**, **UM2** or **C-cells**.

REMOTE CONTROL

- 1 **VOLUME ▲, ▼** - adjusts volume level.(up, down)
- 2 **SHUFFLE** - plays all CD tracks in random order.
- 3 **▶II** - starts CD playback;
- pauses CD playback
- 4 **SEARCH ◀◀, ▶▶** - searches backwards/forwards within a track.
- 5 **PRESET +, -** (up, down)
- 6 **TUNER**: selects a preset radio station
- 7 **MP3 only**: selects previous/next album
- 8 **TUNING ◀◀ ▶▶** (down, up) - tunes to tuner stations.
- 9 **■** - stop MP3/CD playback;
- erases a MP3/CD program.
- 10 **◀, ▶** - skips to the beginning of a current track previous/ subsequent track
- 11 **REPEAT** - repeats a track /program/ entire CD.

CAUTION

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

POWER SUPPLY

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

Batteries (not included)

- Insert 6 batteries, type **R-14**, **UM-2** or **C-cells**, (preferably alkaline) with the correct polarity. (See 7)
- **Remote control**
Insert 2 batteries, type **AAA**, **R03** or **UM4** (preferably alkaline). (See 9)

IMPORTANT!

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

POWER SUPPLY

- *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 centre.
2. Connect the mains lead to the wall socket.
3. To disconnect the mains supply, unplug the set from the wall socket.

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

This set complies with the radio interference requirements of the European Community.

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

BASIC FUNCTIONS

Switching on and off and selecting function

1. To switch on, adjust the **POWER OFF/TUNER/CD** to select: **CD** or **TUNER** function, and operate the respective function controls.
- **On** and then **Ⓛ** or **Ⓜ** are shown briefly when you switch on to the selected function.
2. To switch off, adjust the **POWER OFF/TUNER/CD** to select **POWER OFF**.

Note : The DBB setting, tuner presets and the volume (up to volume level 20) will be retained in the set's memory.

Adjusting volume and sound (See 2)

1. Adjust the volume with the **VOLUME** controls.
→ Display shows the volume level *100%* and a number from 0-32.
2. Press **DBB** once or more to select dynamic bass boost on or off.

DIGITAL TUNER

DIGITAL TUNER

Tuning to radio stations

1. Adjust the **POWER OFF/TUNER/CD to TUNER**.
→ **Ⓛ** is displayed briefly and then the radio station frequency, waveband and, if programmed, a preset number are shown. (See 3)
2. Press **CD MODE/BAND** once or more to select your waveband.
3. Press and hold **SEARCH ◀◀** or **▶▶** until the frequency in the display starts running.
→ The radio automatically tunes to a station of sufficient reception. Display shows *5 r c h* during automatic tuning.
4. Repeat step 3 if necessary until you find the desired station.

To tune to a weak station, press **◀◀** or **▶▶** briefly and repeatedly until you have found optimal reception.

To improve radio reception:-

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

Programming radio stations

You can store up to a total of 40 radio stations in the memory, manually or automatically (Autostore).

Manual programming

1. Tune to your desired station (see **Tuning to radio stations**).
 2. Press **PROG** to activate programming.
→ Display: *P r - - -* and **PROGRAM** flashes.
 3. Use the digit panel on the set to key in a number, 1-40, to select a preset station. E.g. press **1,1** if you want to store your station as preset 11. (See 4)
- Note** : If a higher preset number, 41-49 is selected, the display will show *r c P r* and tune to *P r - 4*. Presets exceeding 50, e.g. 67 will tune you to presets 5 and 7.
- **Remote control**: Press **PRESET + / -** once or more to select a preset station.
 - **Set**: press **ALBUM (+ / -)**
 4. Press **PROG** to confirm.

INSTRUCTIONS FOR USE

DIGITAL TUNER

5. Repeat steps 1-4 to store other stations.
- Note** : You can erase a preset station by storing another frequency in its place.
- Autostore**
Autostore automatically starts programming radio stations from preset 1. Available stations are programmed in order of waveband reception strength: FM, followed by MW (AM). Any previous presets e.g. manually programmed will be erased.
- Press **PROG** for 4 seconds or more to activate autostore programming.
→ The display shows \overline{P} \overline{L} \overline{O} \overline{S} , **PROG** blinks, followed by the radio station details when stored.
- After all stations are stored, the first preset station will then automatically play.

To listen to a preset station

- Set**: press **ALBUM (+ / -)**
- Direct Easy Access**: use the digit panel on the set to key in a number, 1-40, to select a preset station.
- Remote control**: optionally, press **PRESET +**, **-** to select your preset station.

MP3-CD PLAYER**IMPORTANT SPECIFICATIONS****Supported formats:**

- Disc format **ISO9660**, Joliet and multi-session CDs. Use **ISO9660** disc format when burning CD-ROM.
- MP3 music formats**.
- MP3 bit rate (data rate): 32-320 Kbps and variable bit rate.
- 650Mb and 700Mb CD-R and CD-RWs.
- Directory nesting up to a maximum of 8 levels (max. 64 characters).

General information

The music compression technology MP3 (MPEG Audio Layer 3) reduces the original digital audio data by a factor up to 10 without losing significant sound quality. This allows you to record up to 10 hours of CD-like quality music on a single CD-ROM.

MP3-CD PLAYER

- Playlist Files** e.g. .m3u, .pls of WMA, AAC, Winamp, Sonic, RealJukebox, MS Mediaplayer 7.0, MusicMatch.
- Recordings created on e.g. **PacketWriting** and **Package Writing**.

MP3/CD display indications

- \overline{P} \overline{E} \overline{P} \overline{L} when reading disc contents;
- \overline{P} \overline{L} \overline{O} \overline{S} if no CD inserted/ CD dirty, incorrectly inserted or damaged.
- \overline{L} \overline{O} throughout CD operation
- **MP3, TRACK, ALBUM** throughout MP3-CD operation
- **In CD stop mode**: total track number and total playback time
- \overline{P} \overline{L} \overline{O} \overline{S} if you have inserted a non-finalized CD-R(W).
- \overline{P} \overline{L} \overline{O} \overline{S} if no albums are available.

Playing disc

This set plays **Audio Discs** including CDR(W)s, and mp3 CD-ROMs.

- Adjust the **POWER OFF/TUNER/CD to CD**.
- Insert a CD with the printed side facing up and close the door.

Note: MP3-CDs may more than take 10 seconds to read.

- Press **▶II** to start playback.
- To pause playback press **▶II**. Press **▶II** again to resume play.
→ Display: elapsed playtime flashes during pause.
- To stop playback, press \blacksquare .

Note : *CD play will also stop when:*

- the CD door is opened
- the CD has reached the end
- you select **TUNER/POWER OFF**.

Selecting a different track

There are 2 ways:

Direct Easy Access:

- Key in the number of the track using the digit keyboard on the set.

MP3-CD PLAYER

Note: If you key in a number larger than the maximum track number, your input is ignored and the current track continues playing.

SEARCH $\overleftarrow{\ll}$ or $\overrightarrow{\gg}$

- Press **SEARCH** $\overleftarrow{\ll}$ or $\overrightarrow{\gg}$ once or repeatedly to select your track.
- To skip tracks rapidly press and hold **SEARCH** $\overleftarrow{\ll}$ or $\overrightarrow{\gg}$.

MP3-CD mode only:

First press **ALBUM, PRESET +** or **-** once or more to find your album.

Finding a passage within a track

- Press and hold **SEARCH** $\overleftarrow{\ll}$ or $\overrightarrow{\gg}$.
→ The MP3/CD is played at high speed.
- When you recognize the passage you want, release $\overleftarrow{\ll}$ or $\overrightarrow{\gg}$ to resume normal playback.

Note:

Searching is only possible within a track. The set goes into pause/stop mode when the end/start of a track is reached during searching.

Different play modes: SHUFFLE and REPEAT

You can select and change the various play modes before or during playback, and combine the modes with PROGRAM. (See [5])

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

- To select play mode, press **CD MODE/BAND** once or more.
- Press **▶II** to start playback if in the stop position, unless you have chosen a shuffle option.
- To select normal playback, press **CD MODE/BAND** repeatedly until the various modes are no longer displayed.
→ You can also press the \blacksquare button to cancel your play mode.

MP3-CD PLAYER

Programming track numbers

In the stop position, select and store your CD tracks in the desired sequence. Up to 20 tracks can be stored in the memory.

1. Press **SEARCH** ◀◀ or ▶▶ on the set to select your desired track number.

MP3-CD mode only:

First press **ALBUM**, **PRESET** + or - once or more to find your album.

2. Press **PROG**.

→ Display: **PROGRAM** and **Prog.** (See [6])

→ If you attempt to program without first selecting a track number, **MP3-CD** is shown.

3. Repeat steps **1-2** to select and store all desired tracks.

→ Display: **F U L L** if you try to program more than 20 tracks.

Reviewing the program

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

Erasing a program

You can erase the program by:

- pressing ■ twice
→ **U L R** is displayed briefly and **PROG** disappears.
- You select **TUNER /POWER OFF**.

SAFETY AND MAINTENANCE

SAFETY & MAINTENANCE INFORMATION

(See [8])

- Don't expose the set, batteries or CDs to humidity, rain, sand or excessive heat.
- 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.

CD player and CD 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.

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.**

TROUBLESHOOTING

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 guarantee.

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 centre.

No sound /power

- Volume not adjusted
- Adjust the **VOLUME**
- Mains lead not securely connected
- Connect the AC mains lead properly
- Batteries exhausted/ incorrectly inserted
- Insert (fresh) batteries correctly
- Headphones connected to the set
- Disconnect headphones.
- CD contains non-audio files
- Press **SEARCH** ◀◀ or ▶▶ once or more to skip to a CD audio track, instead of the data file

Severe radio hum or noise

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

Poor radio reception

- Weak radio signal
- FM: Adjust the FM telescopic aerial
- radio** **indication**
 - During programming radio preset stations, you have keyed in a preset number that exceeds the maximum preset number i.e. 40
 - Key in a preset number from 1-40

radio i.s.c. indication

- CD badly scratched or dirty
- Replace/ clean CD, see Maintenance
- Laser lens steamed up
- Wait until lens has cleared

radio i.s.c. indication

- CD-R(W) is blank/ not finalized
- Use a finalized CD-R(W)
- Sound skips during MP3 playback**
 - MP3 file made at compression level exceeding 320kpbs
 - Use a lower compression level to record CD tracks into MP3 format
- Cannot find desired MP3 title**
 - Wrong file extension used and/ or file name with unsuitable text characters used
 - Make sure the file names are typed in English text characters so that the MP3 files end with **.MP3**

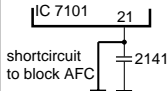
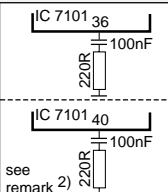
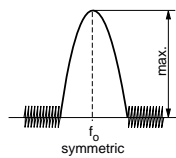

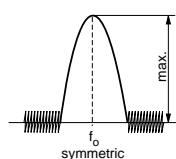
The CD skips tracks

- CD damaged or dirty
- Replace or clean CD
- SHUFFLE or PROGRAM is active
- Switch off SHUFFLE / PROGRAM

Remote control does not function properly

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

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

Waverange	Input frequency	Input	Tuned to	Adjust	Output	Scope/Voltmeter
<i>VARICAP ALIGNMENT</i>						
FM 87.5 - 108MHz (65.81 - 74, 87.5 - 108MHz)			108MHz	5130	◇ 1	8V -0.2V
			87.5MHz (65.81MHz)	check		4.3V -0.5V (1.2V -0.5V)
MW 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		6.9V -0.2V
			531kHz	check		1.1V -0.4V
LW 153 - 279kHz			279kHz	5122	8V -0.2V	
			153kHz	check	1.1V -0.4V	
MW FM/MW/LW- version, 9kHz grid 531 - 1602kHz			1602kHz	5123	8V -0.2V	
			531kHz	check	1.1V -0.4V	
<i>FM IF</i>						
FM	10.7MHz, 45mV continuous wave	◇ D		5119	◇ 2	0 - 3 mV DC
<i>FM RF</i>						
FM 87.5 - 108MHz (65.81 - 74, 87.5 - 108MHz)	108MHz	◇ A	108MHz	2155	◇ 4	MAX
	87.5MHz (65.81MHz)	mod=1kHz $\Delta f = -22.5\text{kHz}$	87.5MHz (65.81MHz)	5131		
<i>VCO</i>						
FM	98MHz, 1mV continuous wave	◇ A	98MHz	3142	◇ 3	152kHz -1kHz ¹⁾
<i>AM IF</i>						
MW	450kHz connect pin 6 of IC 7101 (AM Osc.) with 2.2k Ω to Vcc	◇ C $\Delta f = -10\text{kHz}$ $V_{RF} = 0.5\text{mV}$ (as low as possible)		5111	◇ 5	
			see remark 2)	5112		
AM AFC MW		◇ C continuous wave $V_{RF} = 2\text{mV}$		5114	◇ 2	0 - 2 mV DC
<i>AM RF ³⁾</i>						
LW	198kHz	◇ B 	198kHz	5105 LW ferrite coil	◇ 5	
MW FM/MW/LW- and FM/MW-version (9kHz grid) 531 - 1602kHz	1494kHz		1494kHz	2106		
	558kHz		558kHz	5104 MW ferrite coil		
MW FM/AM-version, 10kHz grid 530 - 1700kHz	1500kHz		$\Delta f = -30\text{kHz}$ V_{RF} as low as possible	1500kHz		
	560kHz		560kHz	5104 MW ferrite coil		

ECO6, general with ferrite antenna, 070799

Use Service Testprogram. By selecting the TUNER TEST test frequencies will be stored as preset frequencies automatically.

¹⁾ 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)²⁾ RC network serves for damping the IF-filter while adjusting the other one.³⁾ LW has to be aligned before MW.

↑ Repeat

Abbreviations and Pin-description of CD ICs

SERVO PROCESSOR SAA7 325H

SYMBOL	PIN	DESCRIPTION
HFREF	1	comparator common mode input
HFIN	2	comparator signal input
ISLICE	3	current feedback output from data slicer
V _{SSA1}	4 ⁽¹⁾	analog ground 1
V _{DDA1}	5 ⁽¹⁾	analog supply voltage 1
I _{ref}	6	reference current output pin
V _{RIN}	7	reference voltage for servo ADC' s
D1	8	unipolar current input (central diode signal input)
D2	9	unipolar current input (central diode signal input)
D3	10	unipolar current input (central diode signal input)
D4	11	unipolar current input (central diode signal input)
R1	12	unipolar current input (satellite diode signal input)
R2	13	unipolar current input (satellite diode signal input)
V _{SSA2}	14 ⁽¹⁾	analog ground 2
CROUT	15	crystal/resonator output
CRIN	16	crystal/resonator input
V _{DDA2}	17 ⁽¹⁾	analog supply voltage 2
LN	18	DAC left channel differential output - negative
LP	19	DAC left channel differential output - positive
V _{neg}	20	DAC negative reference input
V _{pos}	21	DAC positive reference input
RN	22	DAC right channel differential output - negative
RP	23	DAC right channel differential output - positive
SELPLL	24	selects whether internal clock multiplier PLL is used
TEST1	25	test control input 1; this pin should be tied LOW
CL16	26	16.9344 MHz system clock output
DATA	27	serial d4(1)ata output (3-state)
WCLK	28	word clock output (3-state)
SCLK	29	serial bit clock output (3-state)
EF	30	C2 error flag output (3-state)
TEST2	31	test control input 2; this pin should be tied LOW
KILL	32	kill output (programmable; open-drain)
V _{SSD1}	33 ⁽¹⁾	digital ground 2
V2/V3	34	versatile I/O: input versatile pin 2 or output versatile pin 3 (open-drain)
WCLI	35	word clock iutput (for data loopback to DAC)
SDI	36	serial data input (for data loopback to DAC)
SCLI	37	serial bit clock input (for data loopback to DAC)
RESET	38	power-on reset input (active LOW)
SDA	39	microcontroller interface data I/O line (open-drain output)
SCL	40	microcontroller interface clock line input

Abbreviations and Pin-description of CD ICs

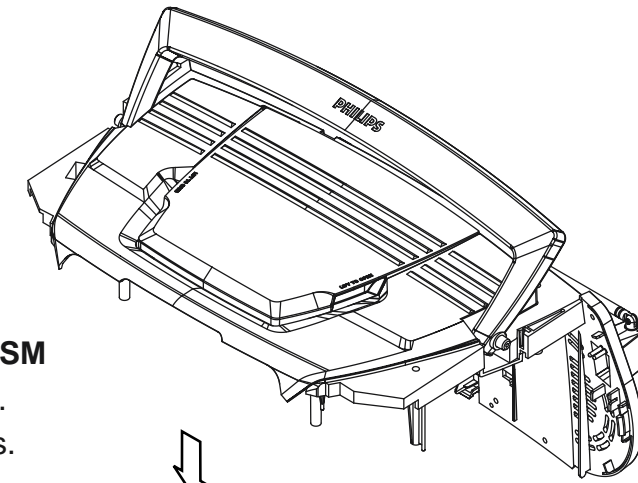
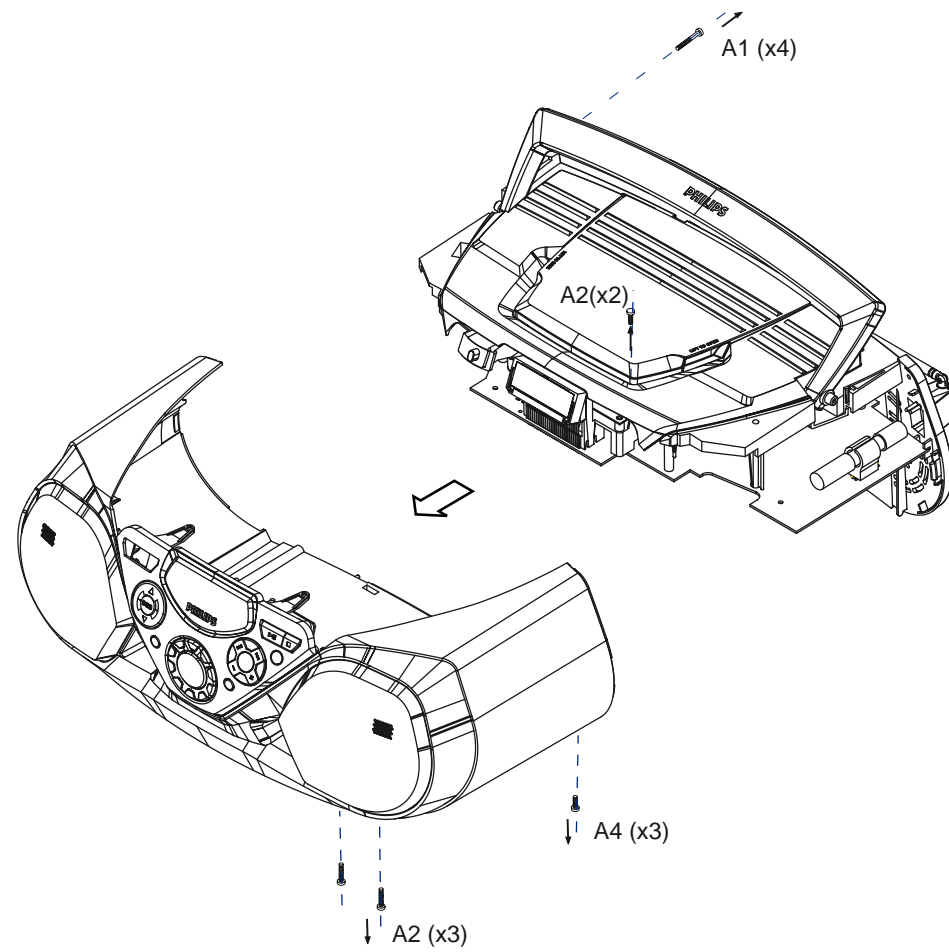
SERVO PROCESSOR SAA7 325H

SYMBOL	PIN	DESCRIPTION
RAB	41	microcontroller interface R/W and load control line input (4-wire bus mode)
SILD	42	microcontroller interface R/W and load control line input (4-wire bus mode)
STATUS	43	servo interrupt request line/decoder status register output (open-drain)
TEST3	44	test control input 3; this pin should be tied LOW
RCK	45	subcode clock input
SUB	46	P-to-W subcode bits output (3-state)
SFSY	47	subcode frame sync output (3-state)
SBSY	48	subcode block sync output (3-state)
CL11/4	49	11.2896 MHz or 4.2336 MHz (for microcontroller) clock output
V _{SSD2}	50 ⁽¹⁾	digital ground 3
DOBM	51	bi-phase mark output (externally buffered; 3-state)
V _{DD1(P)}	52 ⁽¹⁾	digital supply voltage 2 for periphery
CFLG	53	correction flag output (open-drain)
RA	54	radial actuator output
FO	55	focus actuator output
SL	56	sledge control output
V _{DD2(C)}	57 ⁽¹⁾	digital supply voltage 3 for core
V _{SSD3}	58 ⁽¹⁾	digital ground 4
MOTO1	59	motor output 1; versatile (3-state)
MOTO2	60	motor output 2; versatile (3-state)
V4	61	versatile output pin 4
V5	62	versatile output pin 5
V1	63	versatile intput pin 1
LDON	64	laser drive on output (open-drain)

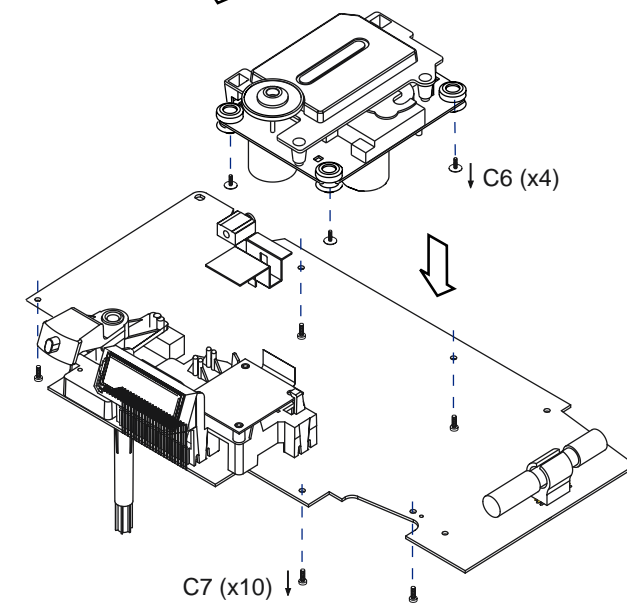
Note : All supply pins must be connected to the same external power supply voltage.

DISASSEMBLY DIAGRAM**A. TO REMOVE BOTTOM CABINET ASSEMBLY**

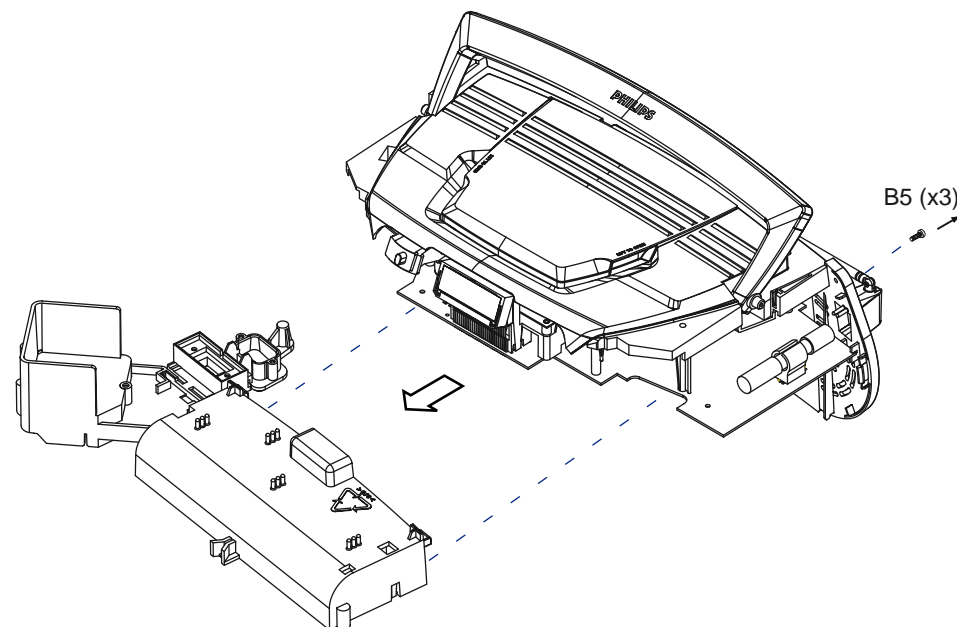
- Remove screws A1(3x20) 4pcs and screws A2(3x10) 2pcs (In CD Door).
- Remove screws A3(3x16) 3pcs and A4(3x10) 3pcs.

**C. TO REMOVE DECK MECHANISM**

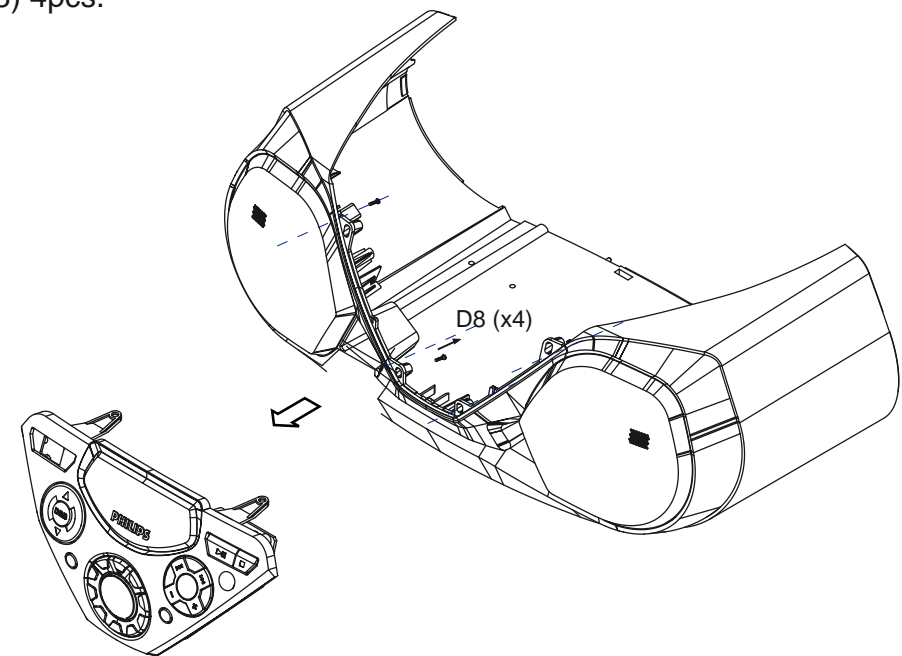
- Remove screws C6(3x10) 10pcs.
- Remove screws C7(2.5x10) 4pcs.

**B. TO REMOVE BATTERY COMPARTMENT ASSEMBLY**

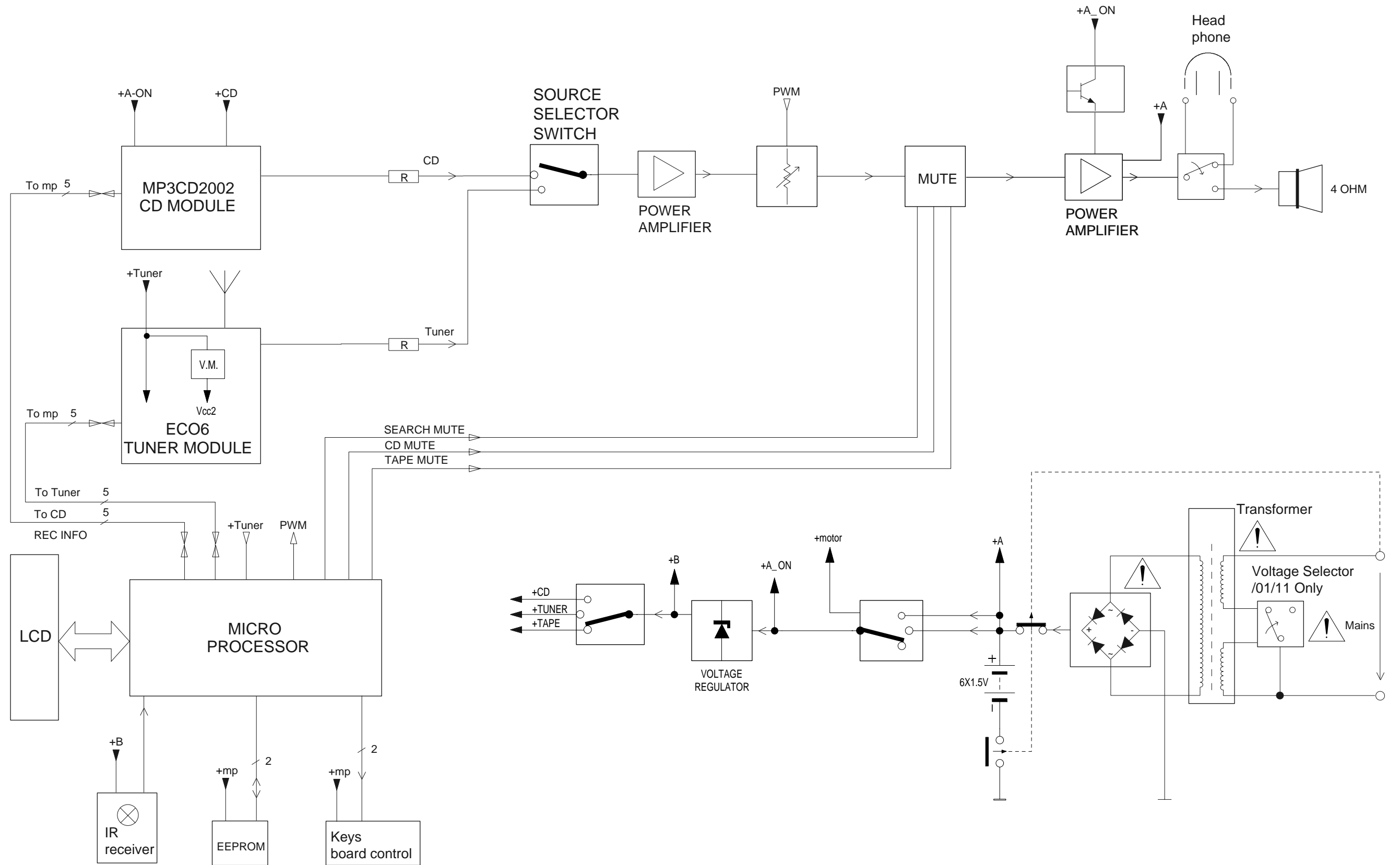
- Remove screws B5(3x10) 3pcs.

**D. TO REMOVE FRONT PANEL ASSEMBLY**

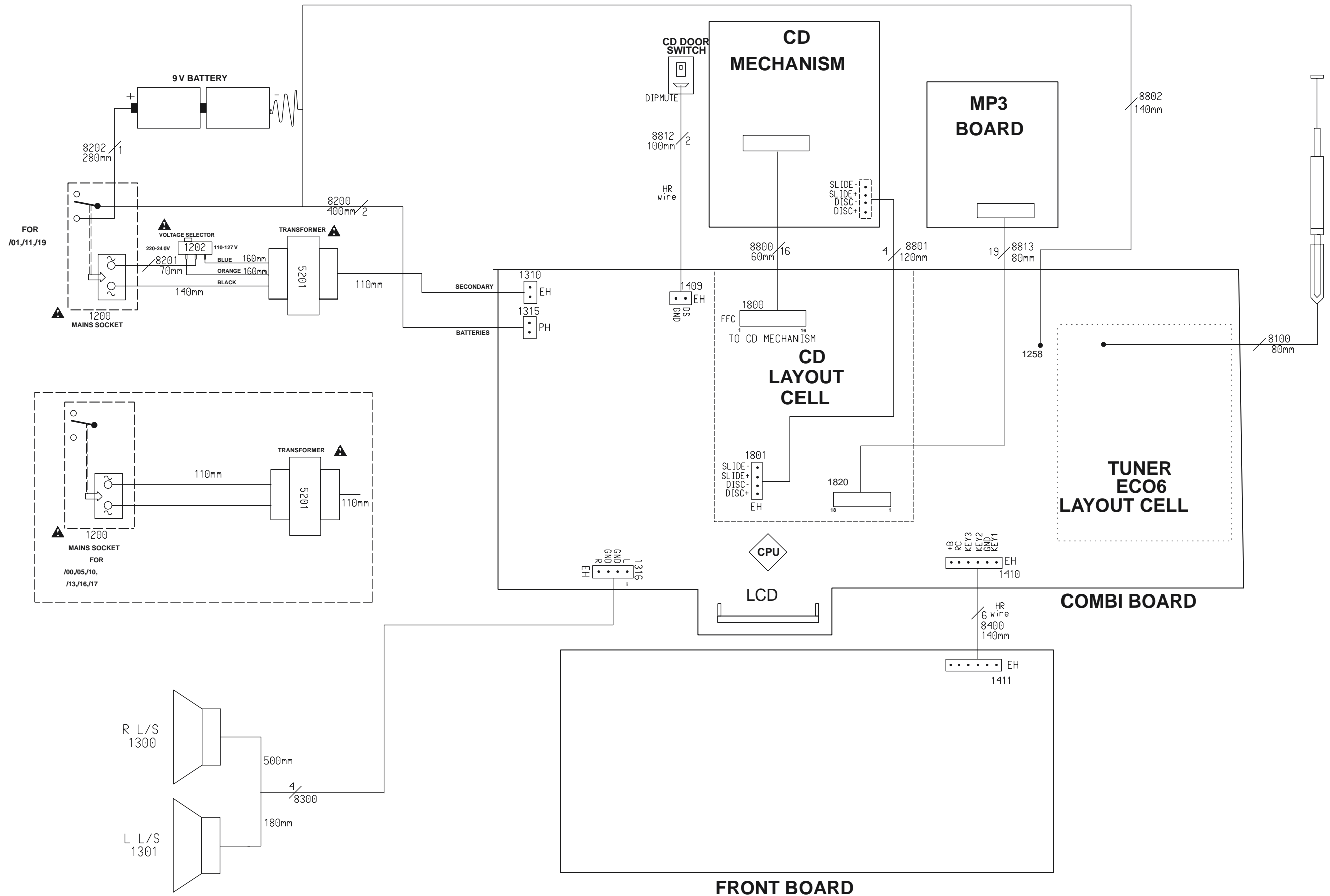
- Remove screws D8(2x8) 4pcs.



BLOCK DIAGRAM

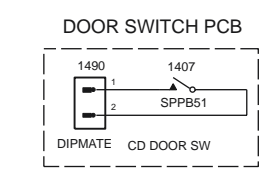
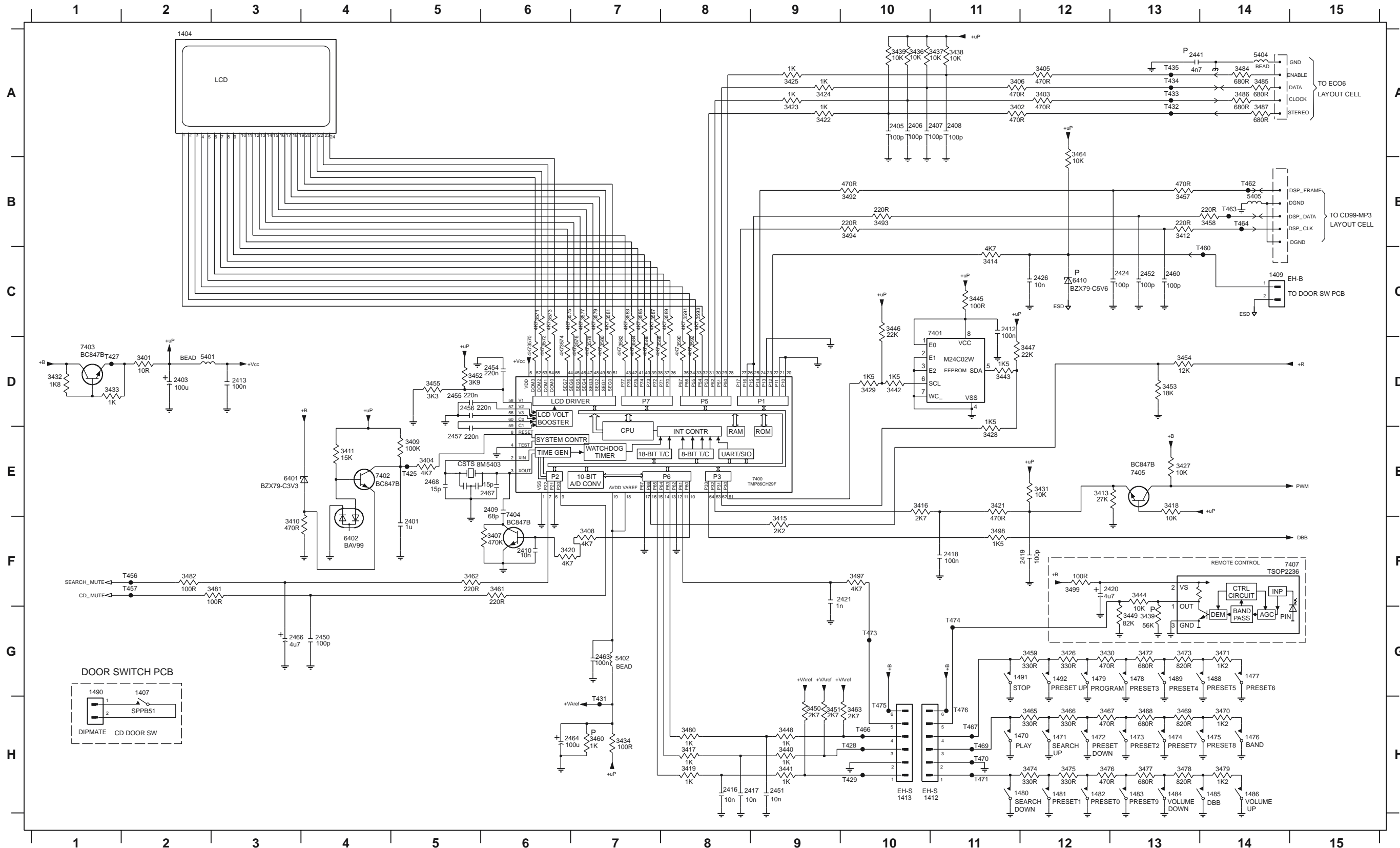


WIRING DIAGRAM



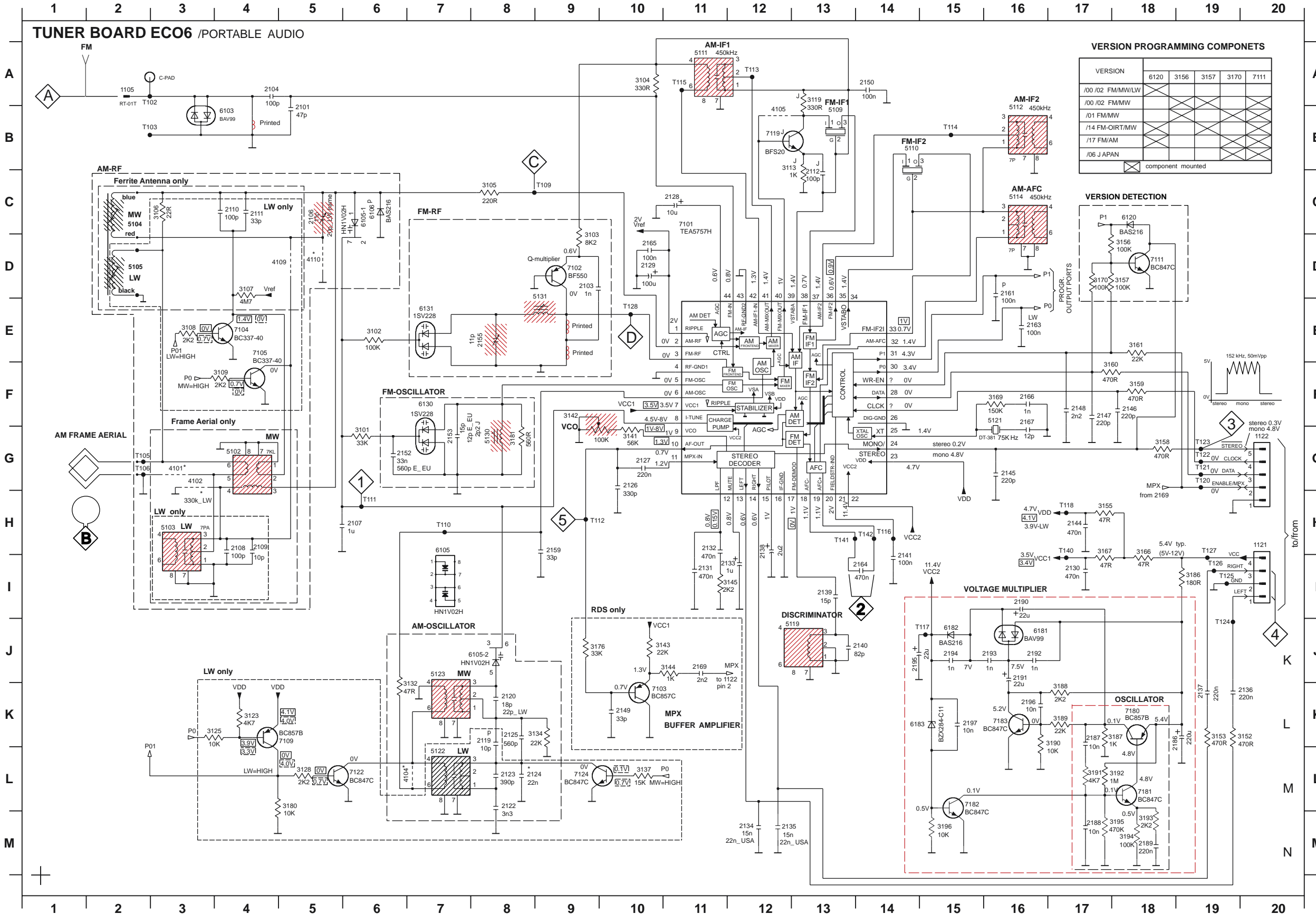
COMBI BOARD - CIRCUIT DIAGRAM (FRONT PART)

1404 A2	1471 H12	1477 G14	1483 H13	1490 G1	2406 A10	2413 D3	2421 F9	2452 C13	2463 G7	3402 A11	3408 F7	3414 C11	3420 F6	3426 G12	3432 D1	3438 A11	3444 F13	3450 H9	3457 B13	3463 H10	3469 H13	3475 H12	3481 F3	3492 B10	3570 D6	3576 D7	3582 D7	3588 D7	5401 D2	6402 F4	7404 F6	T429 H10	T456 F2	T466 H10	T474 G11
1407 G2	1472 H12	1478 G13	1484 H13	1491 G11	2407 A10	2416 H8	2424 C12	2454 D6	2464 H6	3403 A12	3409 E5	3415 F9	3421 E11	3427 E13	3433 D1	3439 G13	3445 C11	3451 H9	3458 B14	3464 B12	3470 H14	3476 H12	3482 F2	3493 B10	3571 C6	3577 C7	3583 C7	3589 C8	5402 G7	6410 C12	7405 E13	T431 H7	T457 F2	T467 H11	T475 H10
1409 C14	1473 H13	1479 G12	1485 H14	1492 G12	2408 A11	2417 H8	2426 C12	2455 D5	2466 G3	3404 E5	3410 F3	3416 E10	3422 A9	3428 E11	3434 H7	3440 H9	3446 C10	3452 D5	3459 G12	3465 H12	3471 G14	3477 H13	3484 A14	3494 B10	3572 D6	3578 D7	3584 D7	3590 D8	5403 E6	7400 E9	7407 F15	T432 A13	T468 C14	T469 H11	T476 H11
1412 H11	1474 H13	1480 H11	1486 H14	2401 F5	2409 E6	2418 F11	2441 A13	2456 D5	2467 E6	3405 A12	3411 E4	3417 H8	3423 A9	3429 D10	3435 A10	3441 H9	3447 D11	3453 D13	3460 H7	3466 H12	3472 G13	3478 H13	3485 A14	3497 F10	3573 C6	3579 C7	3585 C7	3591 C8	5404 A14	7401 C10	T425 E5	T433 A13	T462 B14	T470 H11	
1413 H10	1475 H14	1481 H12	1488 G14	2403 D2	2410 F6	2419 F12	2450 G4	2457 E5	2468 E5	3406 A11	3412 B13	3418 E13	3424 A9	3430 D10	3436 A10	3442 D10	3448 H9	3454 D13	3461 F6	3467 H12	3473 G13	3479 H14	3486 A14	3498 F11	3574 D6	3580 D7	3586 D7	3592 D8	5405 B14	7402 E4	T427 D1	T434 A13	T463 B14	T471 H11	
1470 H11	1476 H14	1482 H12	1489 G13	2405 A10	2412 C11	2420 F12	2451 H9	2460 C13	3401 D2	3407 F6	3413 E12	3419 H8	3425 A9	3431 E12	3437 A10	3443 D11	3449 G13	3455 D5	3462 F5	3468 H13	3474 H12	3480 H8	3487 A14	3499 F12	3575 C6	3581 C7	3587 C7	3593 C8	6401 E4	7403 D1	T428 H10	T435 A13	T464 B14	T473 G10	



P : PROVISIONAL

COMBI BOARD - CIRCUIT DIAGRAM (TUNER PART)



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 J APAN					

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 J APAN version only

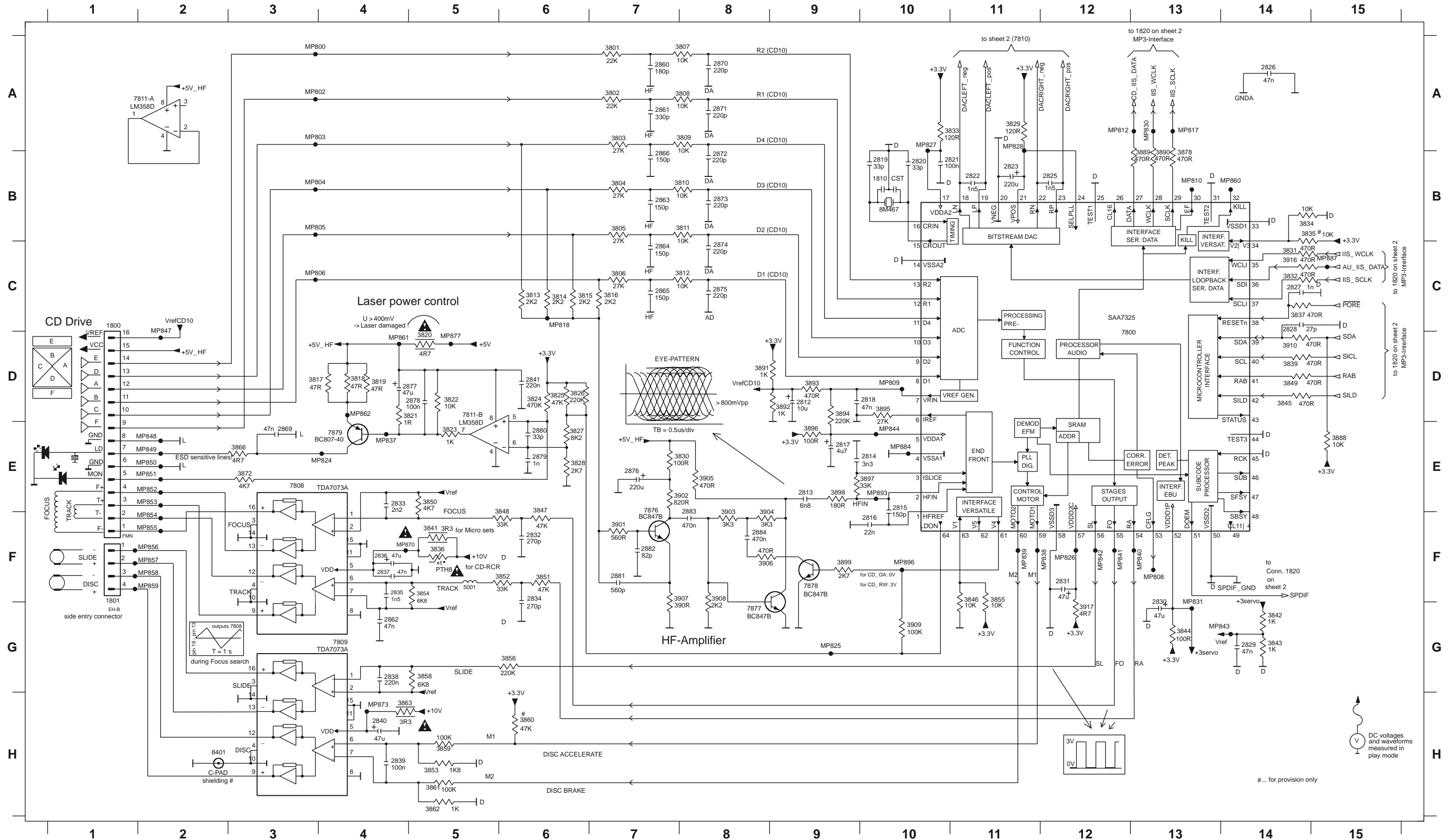
...V FM mode stereo
 ...V MW mode
 ...V LW mode

voltages measured while set is tuned to a strong transmitter

- 1105 A2
- 1121 H20
- 1122 G20
- 2101 C4
- 2103 D9
- 2104 A4
- 2106 C5
- 2107 H6
- 2108 H4
- 2109 H4
- 2110 C4
- 2111 C4
- 2112 C13
- 2119 K8
- 2120 K8
- 2122 L8
- 2123 L8
- 2124 L8
- 2125 K8
- 2126 G10
- 2127 G10
- 2128 C11
- 2129 D10
- 2130 I7
- 2131 I11
- 2132 H11
- 2133 I12
- 2134 M12
- 2135 M12
- 2136 K20
- 2137 K19
- 2138 H12
- 2139 I13
- 2140 J14
- 2141 H14
- 2144 H17
- 2145 G16
- 2146 F18
- 2147 F17
- 2148 F17
- 2149 K10
- 2150 A14
- 2152 G6
- 2153 G7
- 2155 E8
- 2159 H9
- 2161 D16
- 2163 E16
- 2164 I14
- 2165 D10
- 2166 F16
- 2167 J16
- 2169 J11
- 2186 K19
- 2187 K17
- 2188 M17
- 2189 M18
- 2190 G16
- 2191 J16
- 2192 J16
- 2193 J16
- 2194 J15
- 2195 J14
- 2196 K16
- 2197 K15
- 3101 G6
- 3102 E6
- 3103 D9
- 3104 A10
- 3105 C8
- 3106 C3
- 3107 D4
- 3108 E3
- 3109 F4
- 3113 B12
- 3119 A13
- 3123 K4
- 3125 K3
- 3128 L5
- 3132 K7
- 3134 K9
- 3137 L10
- 3141 F10
- 3142 F9
- 3143 J10
- 3144 J11
- 3145 I2
- 3152 K20
- 3153 K19
- 3155 H7
- 3156 D18
- 3157 D18
- 3158 G18
- 3159 F18
- 3160 F17
- 3161 E18
- 3166 H18
- 3167 H17
- 3169 F16
- 3170 D17
- 3176 J9
- 3180 L5
- 3181 G8
- 3186 I19
- 3187 K18
- 3188 K17
- 3189 K17
- 3190 K17
- 3191 L17
- 3192 L18
- 3193 M18
- 3194 M18
- 3195 M18
- 3196 M15
- 4101 G3
- 4102 G3
- 4104 L7
- 4105 B12
- 4108 D5
- 4110 D5
- 5102 G4
- 5103 H3
- 5109 B13
- 5110 B14
- 5111 A11
- 5112 B16
- 5114 C16
- 5119 J13
- 5121 F16
- 5122 L7
- 5123 J7
- 5130 G8
- 5131 E9
- 6103 B4
- 6105-1 C6
- 6105-2 J8
- 6106 C6
- 6120 C18
- 6130 F7
- 6131 E7
- 6181 J16
- 6182 J15
- 6183 K14
- 7101 C11
- 7102 D9
- 7103 K10
- 7104 E4
- 7105 E4
- 7109 K5
- 7111 D18
- 7119 B12
- 7122 L6
- 7124 L9
- 7180 K18
- 7181 L18
- 7182 L15
- 7183 K16
- T102 A2
- T103 B2
- T105 G2
- T106 G2
- T109 C9
- T110 H6
- T111 H6
- T112 H9
- T113 B12
- T114 H14
- T115 H14
- T116 H14
- T117 H14
- T118 H14
- T119 H14
- T120 H14
- T121 H14
- T122 H14
- T123 H14
- T124 H14
- T125 H14
- T126 H14
- T127 H14
- T128 H14
- T129 H14
- T130 H14
- T131 H14
- T132 H14
- T133 H14
- T134 H14
- T135 H14
- T136 H14
- T137 H14
- T138 H14
- T139 H14
- T140 H14
- T141 H14
- T142 H14

COMBI BOARD - CIRCUIT DIAGRAM (CD PART 1)

1800 C1	2816 F10	2823 B11	2831 F12	2838 G4	2863 B7	2872 B8	2879 E6	3802 A7	3809 A8	3816 C7	3823 E5	3830 E7	3837 C14	3846 F11	3853 H5	3861 H5	3889 B12	3896 E9	3904 F8	3916 C14	7811-B D5	MP802 A3	MP810 B13	MP827 A10	MP840 F13	MP849 E2	MP856 F2	MP870 F4
1801 G1	2817 E9	2825 B12	2832 F6	2839 H4	2864 C7	2873 B8	2880 E6	3803 A7	3810 B8	3817 D3	3824 D6	3831 C14	3839 D14	3847 E6	3854 F5	3862 H5	3890 B13	3897 E10	3905 E8	3917 G12	7876 F7	MP803 A3	MP812 A12	MP828 A11	MP841 F12	MP850 E2	MP857 F2	MP873 H4
1810 B10	2818 D9	2826 A14	2833 E4	2840 H4	2865 C7	2874 C8	2881 F7	3804 B7	3811 B8	3818 D4	3825 D6	3832 C14	3841 F5	3848 F6	3855 F11	3863 H4	3891 D8	3898 E9	3906 F8	5001 F5	7877 G8	MP804 B3	MP817 A13	MP829 A11	MP842 F12	MP851 E2	MP858 F2	MP877 D5
2812 D9	2819 B10	2827 C14	2834 G6	2841 D6	2866 B7	2875 C8	2882 F7	3805 B7	3812 C8	3819 D4	3826 D6	3833 A10	3842 G14	3849 D14	3856 G6	3866 E3	3892 D8	3899 F9	3907 F7	7800 C12	7878 F9	MP805 B3	MP818 C6	MP831 G13	MP843 G13	MP852 E2	MP859 F2	MP884 E10
2813 E9	2820 B10	2828 C14	2835 F4	2842 A7	2869 E3	2876 E7	2883 F8	3806 C7	3813 C6	3820 D5	3827 E6	3834 B14	3843 G14	3850 E5	3858 G5	3872 E3	3893 D9	3901 F7	3908 F8	7808 E3	7879 E4	MP806 C3	MP824 E4	MP837 E4	MP844 E10	MP853 E2	MP860 B14	MP887 C15
2814 E9	2821 B10	2829 G14	2836 F4	2843 A7	2870 A8	2877 D4	2884 F8	3807 A8	3814 C6	3821 D4	3828 E6	3835 B14	3844 G13	3851 F6	3859 H5	3878 B13	3894 D9	3902 E7	3909 G10	7809 G4	8401 H2	MP808 F13	MP825 G9	MP838 F12	MP847 D2	MP854 F2	MP861 D4	MP888 E10
2815 E10	2822 B11	2830 G13	2837 F4	2844 G4	2871 A8	2878 D5	3801 A7	3808 A8	3815 C6	3822 D5	3829 A11	3836 F5	3845 D14	3852 F6	3860 H6	3868 E15	3895 D10	3903 F8	3910 D14	7811-A A2	MP800 A3	MP809 D10	MP826 F12	MP839 F11	MP848 E2	MP855 F2	MP862 D4	MP896 F10

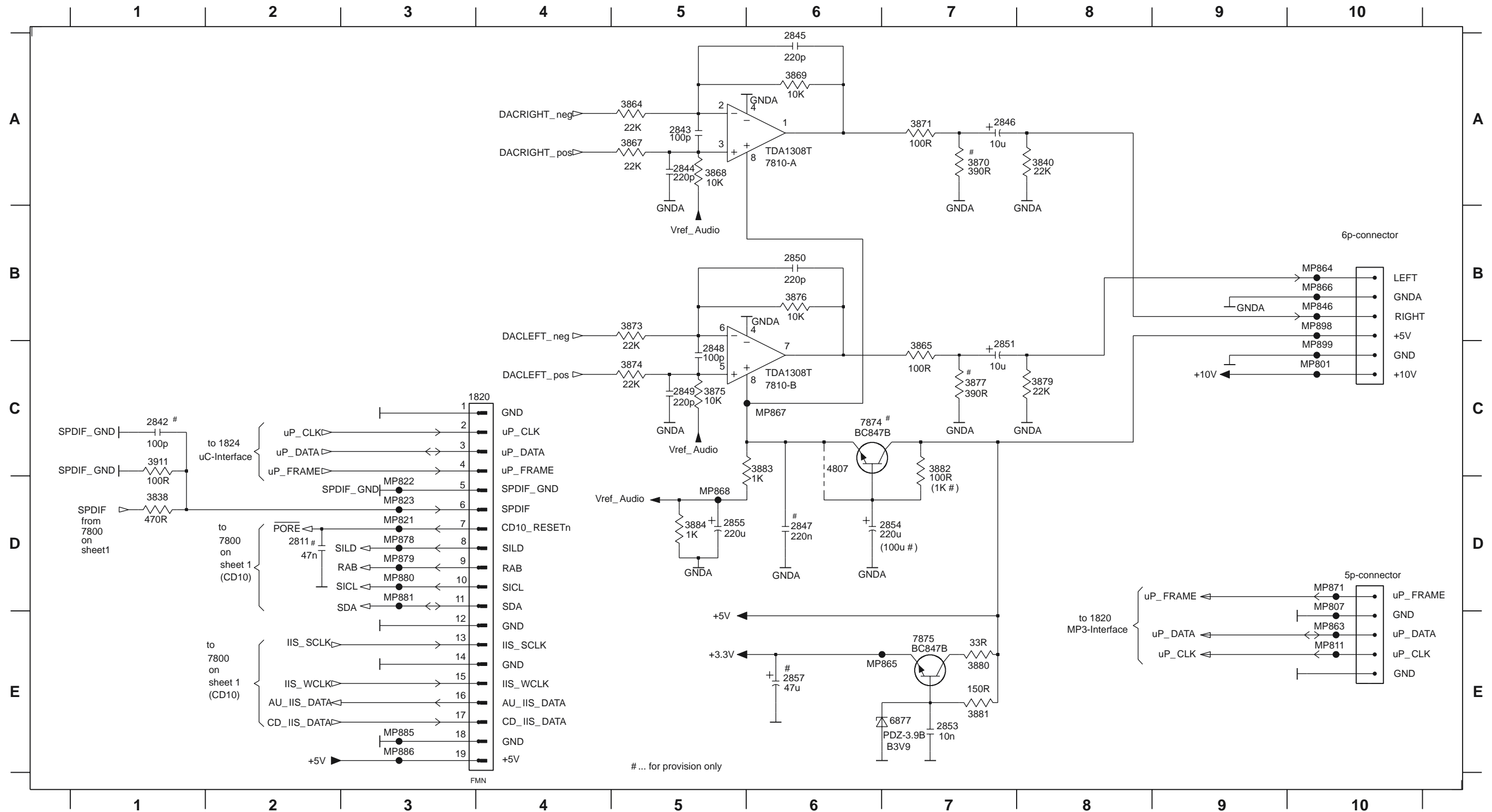


DC voltages and waveforms measured in play mode

#... for provision only

**COMBI BOARD - CIRCUIT DIAGRAM
(CD PART 2)**

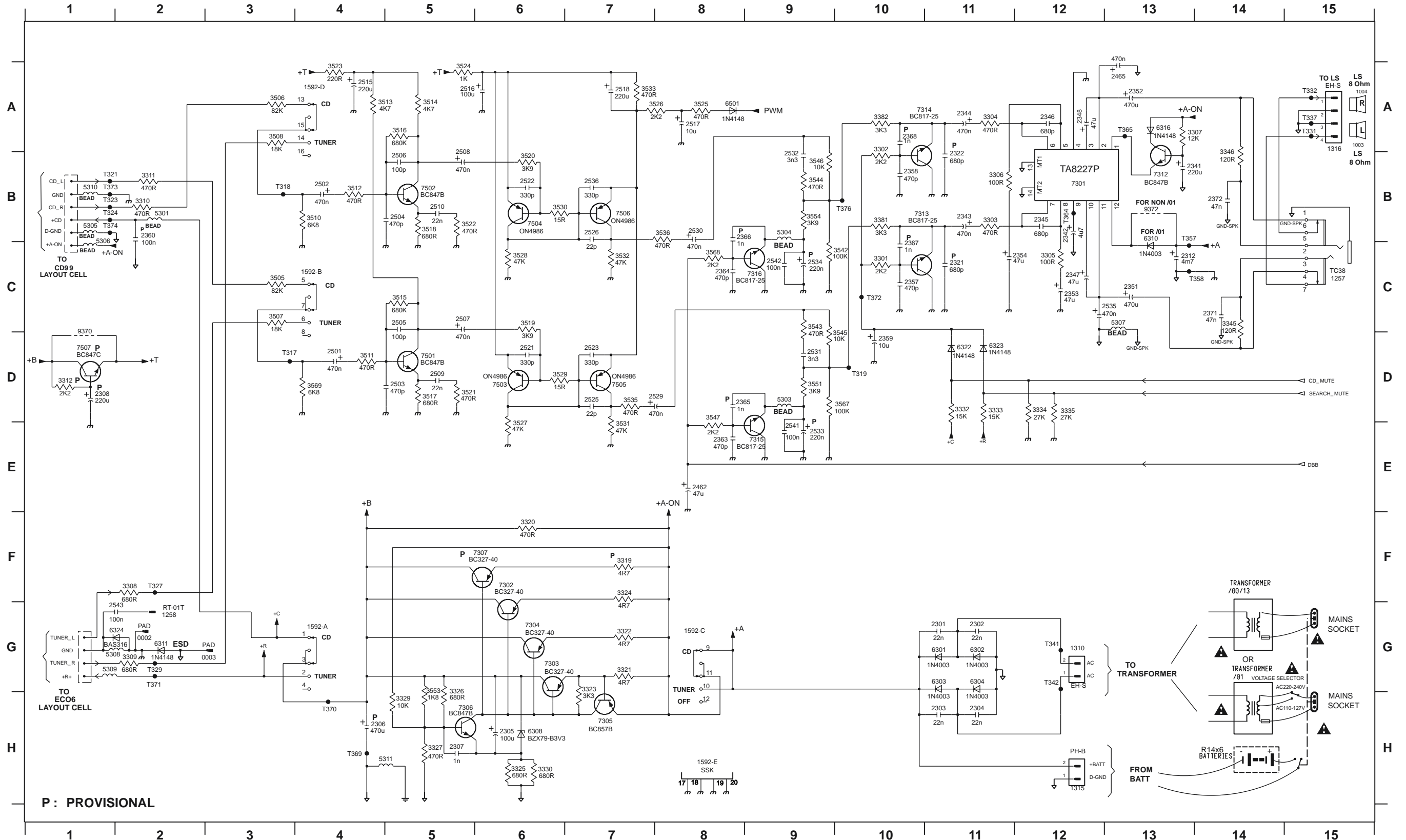
1820 C3	2844 A5	2848 C5	2853 E7	3838 D1	3867 A5	3871 A7	3876 B6	3881 E7	3911 C1	7810-B C6	MP807 D10	MP823 D3	MP865 E7	MP871 D10	MP881 D3	MP899 C10
2811 D2	2845 A6	2849 C5	2854 D6	3840 A7	3868 A5	3873 B5	3877 C7	3882 C7	4807 C6	7874 C7	MP811 E10	MP846 B10	MP866 B10	MP878 D3	MP885 E3	
2842 C1	2846 A7	2850 B6	2855 D5	3864 A5	3869 A6	3874 C5	3879 C7	3883 C5	6877 E7	7875 E7	MP821 D3	MP863 E10	MP867 C6	MP879 D3	MP886 E3	
2843 A5	2847 D6	2851 C7	2857 E6	3865 C7	3870 A7	3875 C5	3880 E7	3884 D5	7810-A A6	MP801 C10	MP822 D3	MP864 B10	MP868 D5	MP880 D3	MP898 B10	



... for provision only

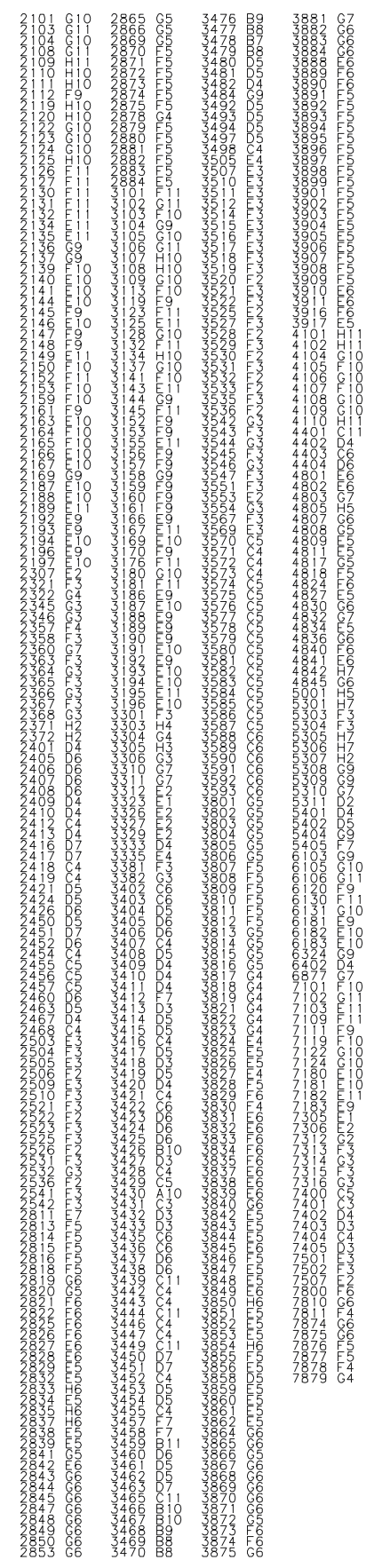
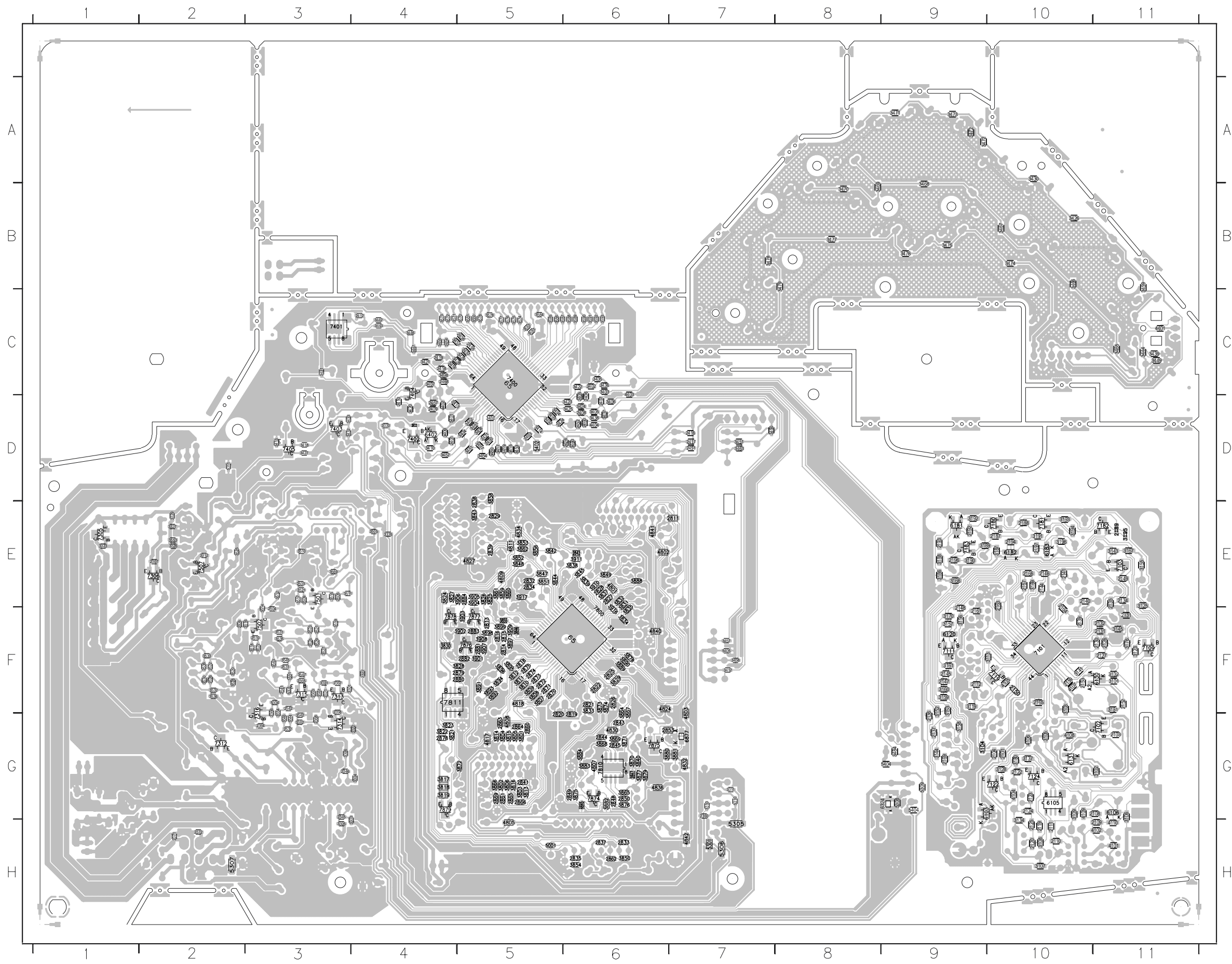
COMBI BOARD - CIRCUIT DIAGRAM (AUDIO/SUPPLY PART)

0001 G2	1316 A15	2303 H11	2322 B11	2348 A12	2360 B2	2372 B14	2506 B5	2518 A7	2531 D9	2543 G2	3308 F2	3322 G7	3332 D11	3505 C3	3514 A5	3522 B5	3530 B6	3544 B9	3568 C8	5308 G1	6308 H6	7301 B12	7313 B10	7505 D7	T321 B1	T341 G12	T371 G2
0002 G2	1592-A G4	2304 H11	2341 B13	2351 C13	2363 E8	2462 E8	2507 C5	2521 D6	2532 B9	3301 C10	3309 G2	3323 H7	3333 D11	3506 A3	3515 C5	3523 A4	3531 E7	3545 D9	3569 D4	5309 G1	6310 B13	7302 F6	7314 A10	7506 B7	T323 B1	T342 G12	T372 C10
0003 G2	1592-B G4	2306 H6	2342 B12	2352 A13	2364 C8	2465 A13	2508 B5	2522 B6	2533 E9	3302 A10	3309 B2	3324 F7	3334 D12	3507 C3	3516 A5	3524 A5	3532 C7	3546 B9	3570 B2	5310 B1	6311 G2	7303 G6	7315 D8	7507 D2	T324 B1	T343 B13	T373 B1
1003 A15	1592-C G8	2306 H4	2343 B11	2353 C12	2365 D8	2501 D4	2509 D5	2523 D7	2534 C9	3303 B11	3311 B2	3325 H6	3335 A12	3508 A3	3517 D5	3525 A8	3533 A7	3547 D8	5303 D9	5311 H5	6316 A13	7304 G6	7316 B8	7507 D1	T327 F2	T358 C14	T374 B1
1004 A15	1592-D A4	2307 H5	2344 A11	2354 C11	2366 B8	2502 B4	2510 B5	2525 D7	2535 C12	3304 A11	3312 D1	3326 H5	3345 C14	3510 B4	3518 B5	3526 A8	3535 D7	3551 D9	5304 B9	6301 G11	6322 D11	7305 H7	7501 D5	9372 B13	T329 G2	T364 B12	T376 B10
1257 C15	1592-E H8	2308 D1	2345 B12	2357 C10	2367 C10	2503 D4	2515 A4	2526 B7	2536 B7	3305 C12	3319 F7	3327 H5	3346 B14	3511 D4	3519 C6	3527 E6	3536 B8	3553 H5	5305 B1	6302 G11	6323 D11	7306 H5	7502 B5	T317 D3	T331 A15	T365 A13	
1310 G12	2301 G11	2312 C13	2346 A12	2358 B10	2368 A10	2504 B4	2516 A6	2529 D8	2541 E9	3306 B11	3320 F6	3329 H5	3381 B10	3512 B4	3520 B6	3528 C6	3542 C9	3554 B9	5306 C1	6303 G11	6324 G2	7307 F5	7503 D6	T318 B3	T332 A15	T369 H4	
1315 H12	2302 G11	2321 C11	2347 C12	2359 D10	2371 C14	2505 C5	2517 A8	2530 B8	2542 C9	3307 A13	3321 G7	3330 H6	3382 A10	3513 A4	3521 D5	3529 D6	3543 C9	3567 D9	5307 C13	6304 G11	6501 A8	7312 B13	7504 B6	T319 D10	T337 A15	T370 H4	

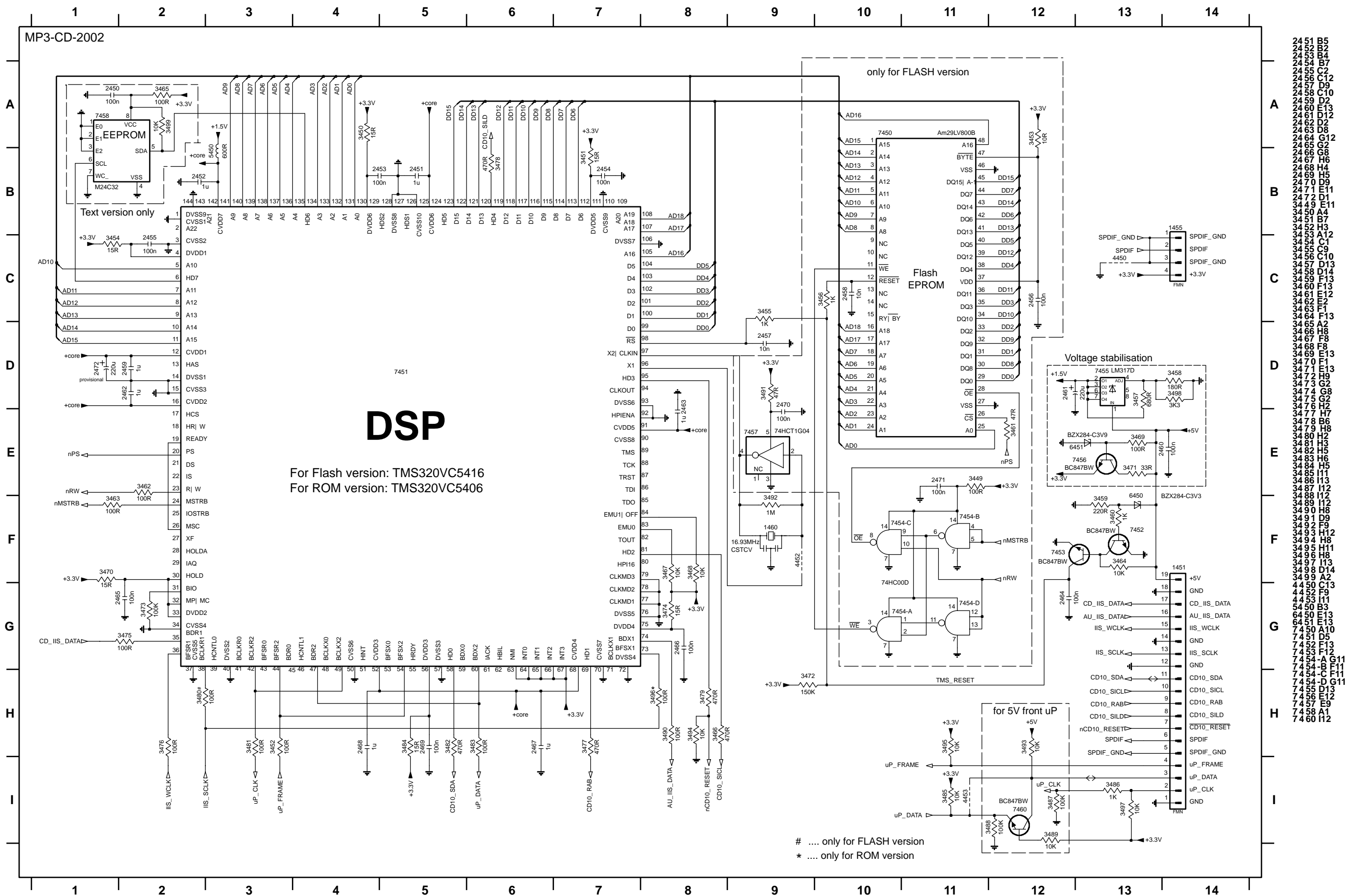


P: PROVISIONAL

COMBI BOARD - LAYOUT DIAGRAM (COPPER SIDE)



CIRCUIT DIAGRAM - MP3CD2002 BOARD

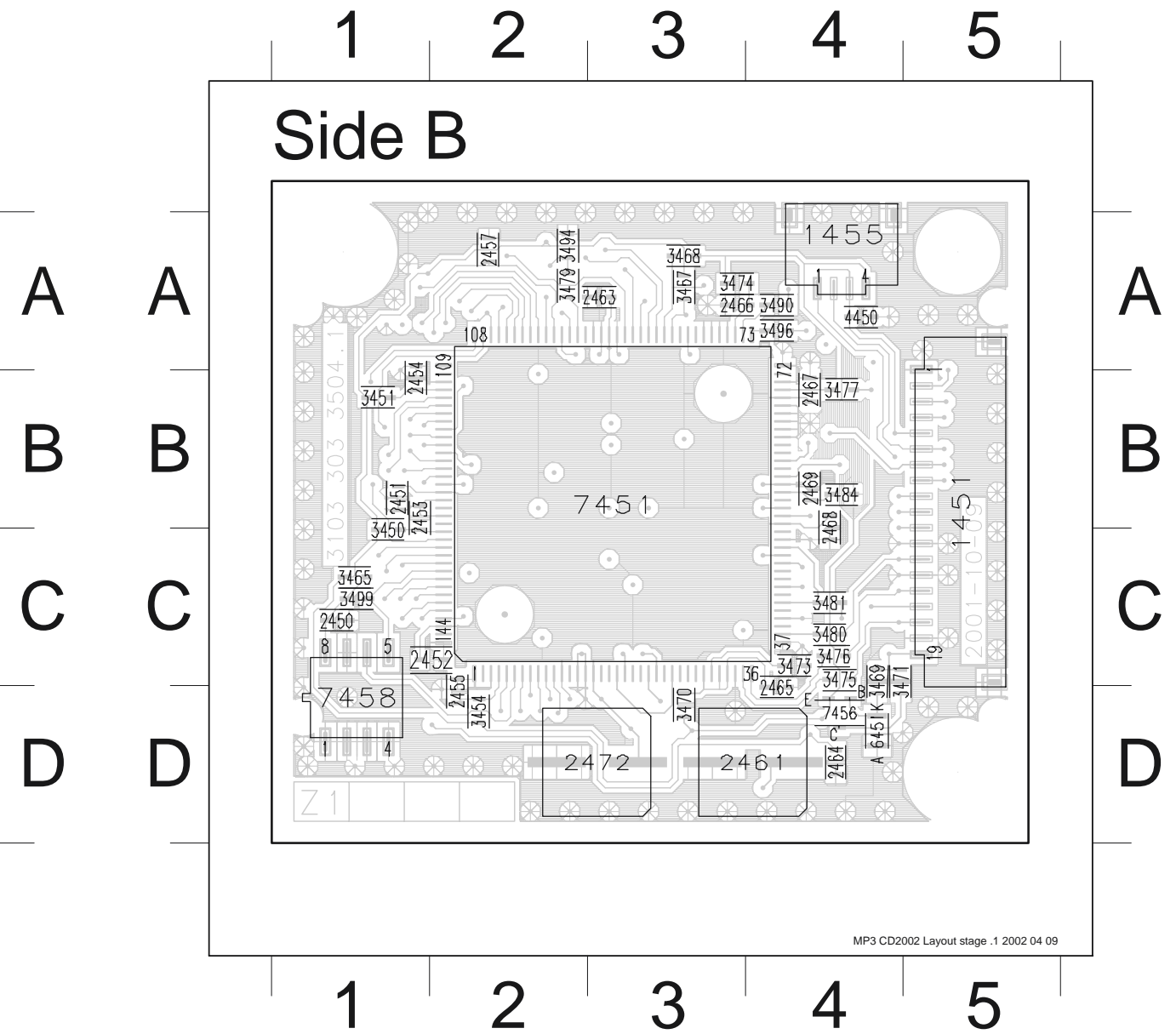
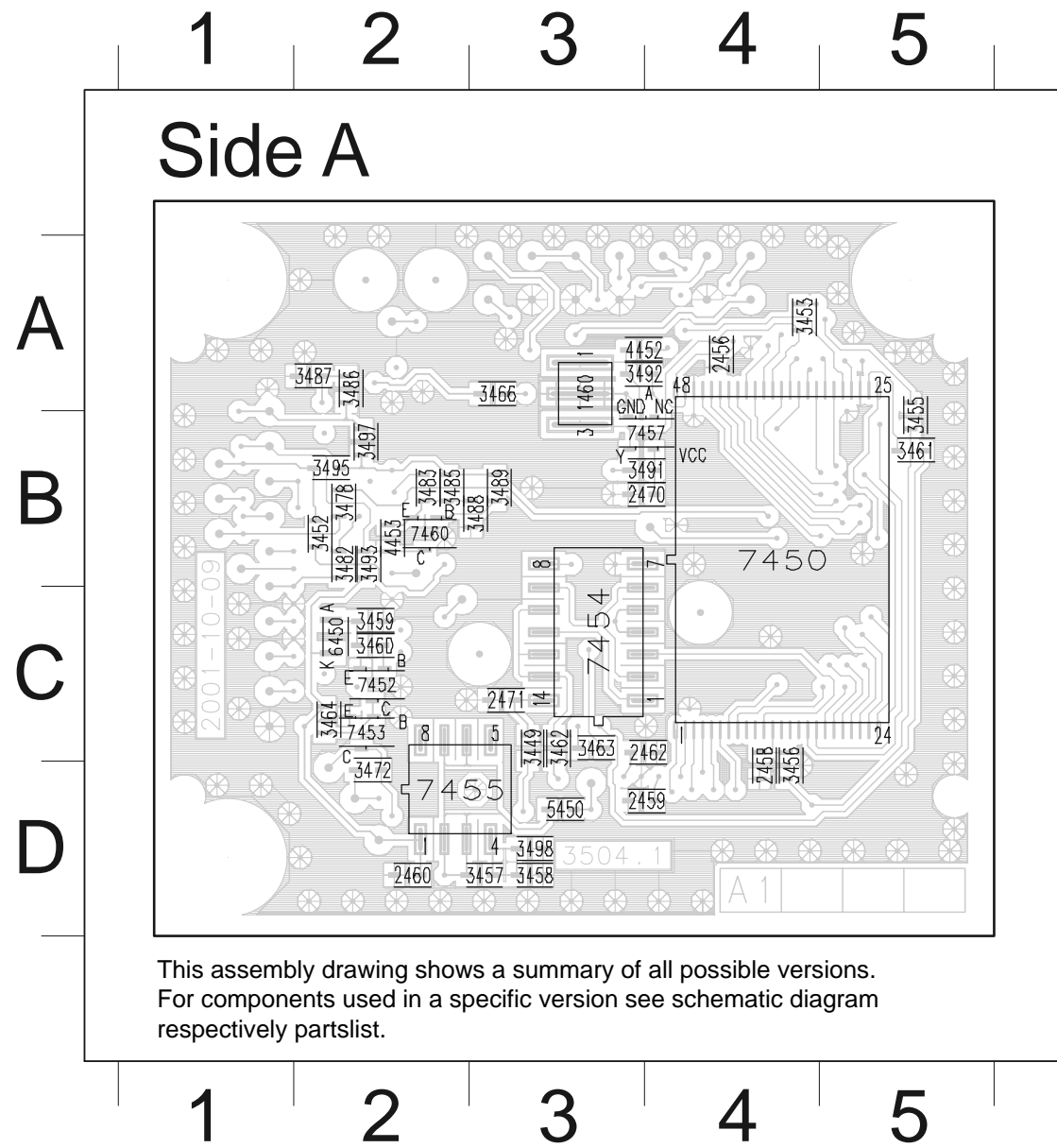


- 24 51 B5
- 24 52 B2
- 24 53 B4
- 24 54 B7
- 24 55 C2
- 24 56 C12
- 24 57 D9
- 24 58 C10
- 24 59 D2
- 24 60 F13
- 24 61 D12
- 24 62 D2
- 24 63 D8
- 24 64 G12
- 24 65 G2
- 24 66 G8
- 24 67 H6
- 24 68 H4
- 24 69 H5
- 24 70 D9
- 24 71 F11
- 24 72 D1
- 34 49 E11
- 34 50 A4
- 34 51 B7
- 34 52 H3
- 34 53 A12
- 34 54 C1
- 34 55 C9
- 34 56 C10
- 34 57 D13
- 34 58 F13
- 34 59 F13
- 34 60 F13
- 34 61 E12
- 34 62 E2
- 34 63 F1
- 34 64 F13
- 34 65 A2
- 34 66 H8
- 34 67 F8
- 34 68 F8
- 34 69 E13
- 34 70 F13
- 34 71 E13
- 34 72 H9
- 34 73 G2
- 34 74 G8
- 34 75 G2
- 34 76 H2
- 34 77 H7
- 34 78 B6
- 34 79 H8
- 34 80 H2
- 34 81 F9
- 34 82 H5
- 34 83 H6
- 34 84 H5
- 34 85 I11
- 34 86 I13
- 34 87 I12
- 34 88 I12
- 34 89 I12
- 34 90 H8
- 34 91 D9
- 34 92 F9
- 34 93 H12
- 34 94 H8
- 34 95 H11
- 34 96 H8
- 34 97 I13
- 34 98 D14
- 34 99 A2
- 44 50 C13
- 44 52 F9
- 44 53 H1
- 54 50 B3
- 64 50 E13
- 74 50 A10
- 74 51 D5
- 74 52 F13
- 74 53 F12
- 74 54 A G11
- 74 54 B F11
- 74 54 C F11
- 74 54 D G11
- 74 55 D13
- 74 56 E12
- 74 57 E9
- 74 58 A1
- 74 60 I12

LAYOUT DIAGRAM - MP3CD2002 BOARD

1460 A3	3449 C3	3460 C2	3482 B2	3492 A3	6450 C2
2456 A4	3452 B2	3461 B5	3483 B2	3493 B2	7450 B4
2458 D4	3453 A4	3462 C3	3485 B2	3495 B2	7452 C2
2459 D4	3455 B5	3463 C3	3486 A2	3497 B2	7453 C2
2460 D2	3456 D4	3464 C2	3487 A2	3498 D3	7454 C3
2462 C4	3457 D3	3466 A3	3488 B3	4452 A3	7455 D2
2470 B4	3458 D3	3472 D2	3489 B3	4453 B2	7457 B4
2471 C3	3459 C2	3478 B2	3491 B4	5450 D3	7460 B2

1451 B5	2457 A2	2469 B4	3469 C4	3479 A2	4450 A4
1455 A4	2461 D4	2472 D3	3470 D3	3480 C4	6451 D4
2450 C1	2463 A3	3450 C1	3471 C4	3481 C4	7451 B3
2451 B1	2464 D4	3451 B1	3473 C4	3484 B4	7456 D4
2452 C2	2465 D4	3454 D2	3474 A3	3490 A4	7458 D1
2453 B1	2466 A3	3465 C1	3475 C4	3494 A2	
2454 B1	2467 B4	3467 A3	3476 C4	3496 A4	
2455 D2	2468 B4	3468 A3	3477 B4	3499 C1	



EXPLODED VIEW DIAGRAM - CABINET

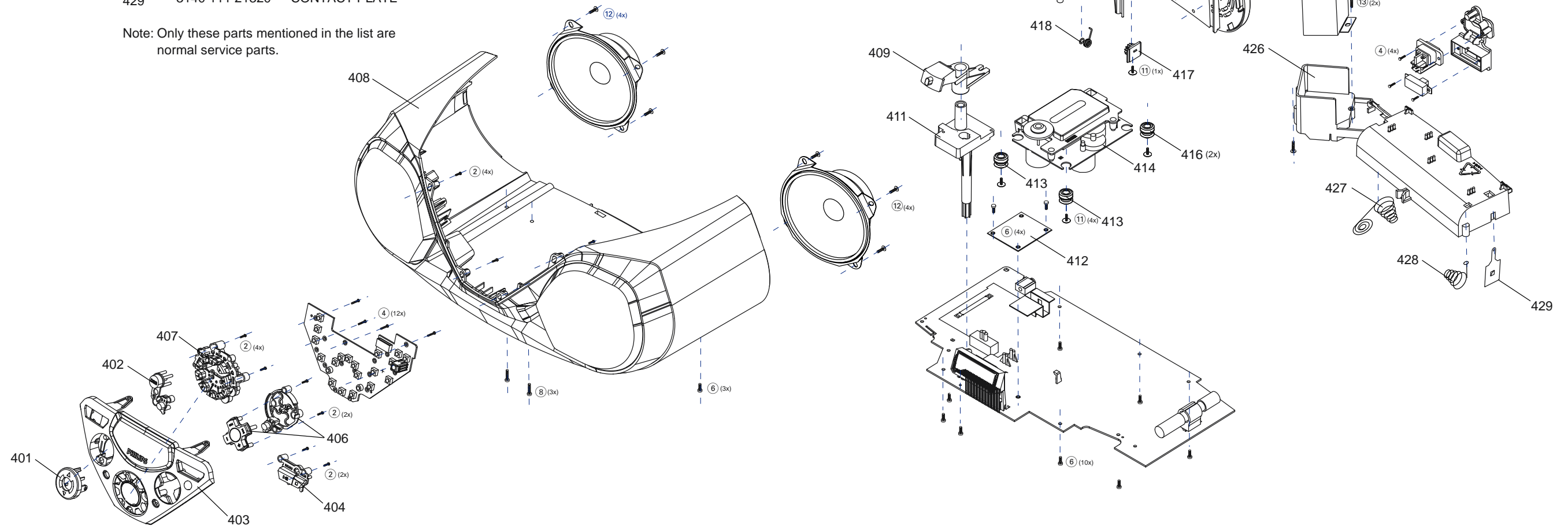
MECHANICAL PARTSLIST - CABINET

401	3140 114 42810	KNOB-VOKUME
402	3140 114 42920	KNOB-DBB/BAND
403	3140 117 63020	FRONT PANEL ASS' Y
404	3140 114 42820	CD BUTTON-PLAY/STOP
406	3140 114 42840	BUTTON-SEARCH
407	3140 114 42900	TUNER KEYSET
408	3140 117 63000	BOTTOM CABINET ASS' Y
409	3140 114 42850	MODE-LEVER
411	3140 114 42860	SLIDE-BASE
412	3103 308 66430	PBAS MP3CD2002 TXT
413	4822 529 10387	DAMPER - RUBBER (40 DEG)
414	3103 309 05410	CD MCD2-SC ASSY
416	4822 529 10386	DAMPER - RUBBER (30 DEG)
417	4822 529 10322	DAMPER ASSY
418	3140 111 01250	SPRING-CD DOOR
419	3140 117 63010	TOP CABINET ASS' Y
421	3140 114 42790	DOOR-CD
422	3140 114 42950	HANDLE
423	3140 118 71810	TELESCOPIC AERIAL
424	3140 114 41230	BATTERY DOOR
426	3140 114 41320	BATTERY COMPARTMENT
427	3140 111 00790	SPRING-PLUS/MINUS
428	3140 111 00780	SPRING-COMPRESSION (-)
429	3140 111 21320	CONTACT PLATE

SCREW LIST :

①	T3 x 6
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 12
⑭	T P/W 3 x 16

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



ELECTRICAL PARTSLIST - COMBI BOARD**- MISCELLANEOUS -**

1106	3140 114 50050	FERRITE BAR 80MM(/00C)
1106	2422 549 44211	FERRITE BAR(/01)
1257	2422 026 05076	HEADPHONE SOCKET
1404	3140 110 51480	LCD PANEL 91772TR
1407	4822 276 12889	MICRO SWITCH (DOOR)
1470	2422 128 02917	SWITCH-TACT
1471	2422 128 02917	SWITCH-TACT
1472	2422 128 02917	SWITCH-TACT
1473	2422 128 02917	SWITCH-TACT
1474	2422 128 02917	SWITCH-TACT
1475	2422 128 02917	SWITCH-TACT
1476	2422 128 02917	SWITCH-TACT
1477	2422 128 02917	SWITCH-TACT
1478	2422 128 02917	SWITCH-TACT
1479	2422 128 02917	SWITCH-TACT
1480	2422 128 02917	SWITCH-TACT
1481	2422 128 02917	SWITCH-TACT
1482	2422 128 02917	SWITCH-TACT
1483	2422 128 02917	SWITCH-TACT
1484	2422 128 02917	SWITCH-TACT
1485	2422 128 02917	SWITCH-TACT
1486	2422 128 02917	SWITCH-TACT
1488	2422 128 02917	SWITCH-TACT
1489	2422 128 02917	SWITCH-TACT
1491	2422 128 02917	SWITCH-TACT
1492	2422 128 02917	SWITCH-TACT
1592	2422 127 00542	SWITCH-SLIDE 4P3T

- CAPACITORS -

2101	4822 126 11785	47pF 5% NP0 50V
2103	5322 126 11578	1nF 10% X7R 50V
2104	2020 552 94427	100pF 5% NP0 50V
2106	2020 800 00191	CTRM 100V 3-11pF N450
2107	4822 121 51319	1µF 10% 63V
2110	2020 552 94427	100pF 5% NP0 50V
2111	2222 867 15339	33pF 5% NP0 50V
2120	4822 122 33761	22pF 5% NP0 50V
2120	3198 016 31890	18pF NP0 50V(/01)
2122	5322 126 11579	3,3nF 10% X7R 63V
2123	2238 861 18391	390pF 1% NP0 50V
2124	3198 017 32230	22nF X7R 25V(/01)
2125	2238 861 18561	560pF 1% NP0 50V
2126	4822 126 14241	330pF 5% NP0 50V
2127	4822 126 13879	220nF +80-20% 16V
2128	4822 124 40248	10µF 20% 63V
2129	4822 124 41584	100µF 20% 10V
2130	3198 017 44740	470nF 20% Y5V 10V
2131	3198 017 44740	470nF 20% Y5V 10V
2132	3198 017 44740	470nF 20% Y5V 10V

- CAPACITORS -

2133	4822 124 22651	1µF 20% 50V
2134	3198 017 31530	15nF 10% X7R 50V
2135	3198 017 31530	15nF 10% X7R 50V
2136	4822 126 13879	220nF +80-20% 16V
2137	4822 126 13879	220nF +80-20% 16V
2138	4822 124 22652	2,2µF 20% 50V
2139	4822 122 33752	15pF 5% NP0 50V
2140	4822 126 14226	82pF 5% NP0 50V
2141	2238 586 59812	100nF +80-20% Y5V 50V
2144	3198 017 44740	470nF 20% Y5V 10V
2145	4822 126 13883	220pF 5% 50V
2146	4822 122 33575	220pF 5% NP0 63V
2147	4822 126 13883	220pF 5% 50V
2148	4822 126 14238	2,2nF 10% X7R 50V
2150	4822 126 14585	100nF 10% X7R 50V
2152	4822 126 14549	33nF 10% X7R 16V
2153	4822 122 33752	15pF 5% NP0 50V
2155	2020 800 00191	CTRM 100V 3-11pF N450
2159	2222 867 15339	33pF 5% NP0 50V
2163	2238 586 59812	100nF +80-20% Y5V 50V
2164	3198 017 44740	470nF 20% Y5V 10V
2165	2238 586 59812	100nF +80-20% Y5V 50V
2166	5322 126 11578	1nF 10% X7R 50V
2167	4822 126 11663	12pF 1% 50V
2186	4822 124 40196	220µF 20% 16V
2187	5322 126 11583	10nF 10% X7R 50V
2188	5322 126 11583	10nF 10% X7R 50V
2189	4822 126 13879	220nF +80-20% 16V
2190	4822 124 81151	22µF 20% 50V
2191	4822 124 81151	22µF 20% 50V
2192	5322 126 11578	1nF 10% X7R 50V
2193	5322 126 11578	1nF 10% X7R 50V
2194	5322 126 11578	1nF 10% X7R 50V
2195	4822 124 81151	22µF 20% 50V
2196	5322 126 11583	10nF 10% X7R 50V
2197	5322 126 11583	10nF 10% X7R 50V
2301	4822 126 11585	22nF +80-20% Y5V 25V
2302	4822 126 11585	22nF +80-20% Y5V 25V
2303	4822 126 11585	22nF +80-20% Y5V 25V
2304	4822 126 11585	22nF +80-20% Y5V 25V
2305	4822 124 80231	47µF 20% 16V
2306	4822 124 80791	470µF 20% 16V
2307	5322 126 11578	1nF 10% X7R 50V
2312	4822 124 11878	4700µF 16V
2341	4822 124 40196	220µF 20% 16V
2342	4822 124 40769	4,7µF 20% 100V
2343	4822 124 41407	0,47µF 20% 63V
2344	4822 124 41407	0,47µF 20% 63V
2345	4822 126 13909	680pF 10% X7R 50V
2346	4822 126 13909	680pF 10% X7R 50V

ELECTRICAL PARTSLIST - COMBI BOARD**- CAPACITORS -**

2347	4822 124 40433	47µF 20% 25V
2348	4822 124 40433	47µF 20% 25V
2351	4822 124 80195	470µF 20% 10V
2352	4822 124 80195	470µF 20% 10V
2353	4822 124 40433	47µF 20% 25V
2354	4822 124 40433	47µF 20% 25V
2357	4822 126 13881	470pF 5% 50V
2358	4822 126 13881	470pF 5% 50V
2359	4822 124 40248	10µF 20% 63V
2363	4822 126 13881	470pF 5% 50V
2364	4822 126 13881	470pF 5% 50V
2371	3198 017 34730	47nF 10% X7R 16V
2372	3198 017 34730	47nF 10% X7R 16V
2401	3198 017 41050	1µF 20% Y5V 10V
2403	4822 124 41584	100µF 20% 10V
2405	2020 552 94427	100pF 5% NP0 50V
2406	2020 552 94427	100pF 5% NP0 50V
2407	2020 552 94427	100pF 5% NP0 50V
2408	2020 552 94427	100pF 5% NP0 50V
2409	4822 126 13956	68pF 5% NP0 63V
2410	5322 126 11583	10nF 10% X7R 50V
2412	2238 586 59812	100nF +80-20% Y5V 50V
2413	2238 586 59812	100nF +80-20% Y5V 50V
2416	5322 126 11583	10nF 10% X7R 50V
2417	5322 126 11583	10nF 10% X7R 50V
2418	2238 586 59812	100nF +80-20% Y5V 50V
2419	2020 552 94427	100pF 5% NP0 50V
2420	4822 124 12032	4,7µF 20% 50V
2421	5322 126 11578	1nF 10% X7R 50V
2424	2020 552 94427	100pF 5% NP0 50V
2426	5322 126 11583	10nF 10% X7R 50V
2450	2020 552 94427	100pF 5% NP0 50V
2451	5322 126 11583	10nF 10% X7R 50V
2452	2020 552 94427	100pF 5% NP0 50V
2454	4822 126 13879	220nF +80-20% 16V
2455	4822 126 13879	220nF +80-20% 16V
2456	4822 126 13879	220nF +80-20% 16V
2457	4822 126 13879	220nF +80-20% 16V
2460	2020 552 94427	100pF 5% NP0 50V
2462	4822 124 40433	47µF 20% 25V
2463	2238 586 59812	100nF +80-20% Y5V 50V
2464	4822 124 41584	100µF 20% 10V
2465	4822 124 41407	0,47µF 20% 63V
2466	4822 124 40769	4,7µF 20% 100V
2467	4822 122 33752	15pF 5% NP0 50V
2468	4822 122 33752	15pF 5% NP0 50V
2501	4822 124 41407	0,47µF 20% 63V
2502	4822 124 41407	0,47µF 20% 63V
2503	4822 126 13881	470pF 5% 50V
2504	4822 126 13881	470pF 5% 50V

- CAPACITORS -

2505	2020 552 94427	100pF 5% NP0 50V
2506	2020 552 94427	100pF 5% NP0 50V
2507	4822 124 41407	0,47µF 20% 63V
2508	4822 124 41407	0,47µF 20% 63V
2509	3198 017 42230	22nF 20% Y5V 50V
2510	3198 017 42230	22nF 20% Y5V 50V
2515	4822 124 40196	220µF 20% 16V
2516	4822 124 23052	100µF 20% 16V
2517	4822 124 21732	10µF 20% 25V
2518	4822 124 40196	220µF 20% 16V
2521	4822 126 14241	330pF 5% NP0 50V
2522	4822 126 14241	330pF 5% NP0 50V
2523	4822 126 14241	330pF 5% NP0 50V
2525	4822 122 33761	22pF 5% NP0 50V
2526	4822 122 33761	22pF 5% NP0 50V
2529	4822 124 41407	0,47µF 20% 63V
2530	4822 124 41407	0,47µF 20% 63V
2531	5322 126 11579	3,3nF 10% X7R 63V
2532	5322 126 11579	3,3nF 10% X7R 63V
2535	4822 124 41407	0,47µF 20% 63V
2536	4822 126 14241	330pF 5% NP0 50V
2541	2238 586 59812	100nF +80-20% Y5V 50V
2542	2238 586 59812	100nF +80-20% Y5V 50V
2543	5322 121 42386	100nF 5% 63V
2812	4822 124 40248	10µF 20% 63V
2813	5322 126 11582	6,8nF 10% X7R 63V
2814	5322 126 11579	3,3nF 10% X7R 63V
2815	4822 122 33753	150pF 5% NP0 50V
2816	4822 126 14494	22nF 10% X7R 25V
2817	4822 124 40769	4,7µF 20% 100V
2818	3198 017 34730	47nF 10% X7R 16V
2821	2238 586 59812	100nF +80-20% Y5V 50V
2822	4822 126 13344	1,5nF 5% 63V
2823	4822 124 42383	220µF 20% 4V
2825	4822 126 13344	1,5nF 5% 63V
2826	3198 017 34730	47nF 10% X7R 16V
2827	5322 126 11578	1nF 10% X7R 50V
2828	4822 126 11669	27pF 1% 50V
2829	3198 017 34730	47nF 10% X7R 16V
2830	4822 124 81286	47µF 20% 16V
2831	4822 124 81286	47µF 20% 16V
2832	4822 126 14506	270pF 5% NP0 50V
2833	4822 126 14238	2,2nF 10% X7R 50V
2834	4822 126 14506	270pF 5% NP0 50V
2835	4822 126 14247	1,5nF 10% X7R 50V
2836	4822 124 40433	47µF 20% 25V
2837	3198 017 34730	47nF 10% X7R 16V
2838	4822 126 13879	220nF +80-20% 16V
2839	2238 586 59812	100nF +80-20% Y5V 50V
2840	4822 124 81286	47µF 20% 16V

ELECTRICAL PARTSLIST - COMBI BOARD**- CAPACITORS -**

2841	4822 126 13879	220nF +80-20% 16V
2843	2020 552 94427	100pF 5% NP0 50V
2844	4822 126 13883	220pF 5% 50V
2845	4822 126 13883	220pF 5% 50V
2846	4822 124 21732	10µF 20% 25V
2847	4822 126 13879	220nF +80-20% 16V
2848	2020 552 94427	100pF 5% NP0 50V
2849	4822 126 13883	220pF 5% 50V
2850	4822 126 13883	220pF 5% 50V
2851	4822 124 11947	10µF 20% 16V
2853	5322 126 11583	10nF 10% X7R 50V
2854	4822 124 41584	100µF 20% 10V
2855	4822 124 11912	220µF 20% 6,3V
2860	4822 126 14508	180pF 5% NP0 50V
2861	4822 126 14241	330pF 5% NP0 50V
2862	3198 017 34730	47nF 10% X7R 16V
2863	4822 122 33753	150pF 5% NP0 50V
2864	4822 122 33753	150pF 5% NP0 50V
2865	4822 122 33753	150pF 5% NP0 50V
2866	4822 122 33753	150pF 5% NP0 50V
2869	3198 017 34730	47nF 10% X7R 16V
2870	4822 126 13883	220pF 5% 50V
2871	4822 126 13883	220pF 5% 50V
2872	4822 126 13883	220pF 5% 50V
2873	4822 126 13883	220pF 5% 50V
2874	4822 126 13883	220pF 5% 50V
2875	4822 126 13883	220pF 5% 50V
2876	4822 124 40196	220µF 20% 16V
2877	4822 124 40433	47µF 20% 25V
2878	2238 586 59812	100nF +80-20% Y5V 50V
2879	5322 126 11578	1nF 10% X7R 50V
2880	2222 867 15339	33pF 5% NP0 50V
2881	4822 126 14249	560pF 10% X7R 50V
2882	4822 126 14226	82pF 5% NP0 50V
2883	3198 017 44740	470nF 20% Y5V 10V
2884	3198 017 44740	470nF 20% Y5V 10V

- RESISTORS -

3125	4822 051 30103	10K 5% 0,062W
3128	4822 051 30222	2,2K 5% 0,062W
3132	4822 051 30479	47R 5% 0,062W
3134	4822 051 30223	22K 5% 0,062W
3137	4822 051 30153	15K 5% 0,062W
3141	4822 051 30563	56K 5% 0,062W
3142	4822 100 12159	100K 30%
3145	4822 051 30222	2,2K 5% 0,062W
3152	4822 051 30471	470R 5% 0,062W
3153	4822 051 30471	470R 5% 0,062W

- RESISTORS -

3155	4822 051 30479	47R 5% 0,062W
3156	3198 021 31040	100K 5%(/01)
3158	4822 051 30471	470R 5% 0,062W
3159	4822 051 30471	470R 5% 0,062W
3160	4822 051 30471	470R 5% 0,062W
3161	4822 051 20223	22K 5% 0,1W
3166	4822 051 20479	47R 5% 0,1W
3167	4822 051 20479	47R 5% 0,1W
3169	4822 051 20154	150K 5% 0,1W
3170	3198 021 31040	100K 5% (/01)
3180	4822 051 30103	10K 5% 0,062W
3186	4822 117 11448	180R 1% 0,1W
3187	4822 051 30102	1K 5% 0,062W
3188	4822 051 30222	2,2K 5% 0,062W
3189	4822 051 30223	22K 5% 0,062W
3190	4822 051 30103	10K 5% 0,062W
3191	4822 051 30472	4,7K 5% 0,062W
3192	4822 051 30105	1M 5% 0,062W
3193	4822 051 30222	2,2K 5% 0,062W
3194	4822 117 13632	100K 1% 0,62W
3195	4822 051 30474	470K 5% 0,062W
3196	4822 051 30103	10K 5% 0,062W
3301	4822 051 30222	2,2K 5% 0,062W
3302	4822 116 52256	2,2K 5% 0,5W
3303	4822 051 30471	470R 5% 0,062W
3304	4822 051 30471	470R 5% 0,062W
3305	4822 051 30101	100R 5% 0,062W
3306	4822 051 30101	100R 5% 0,062W
3307	4822 116 52238	12K 5% 0,5W
3308	4822 116 52228	680R 5% 0,5W
3309	4822 116 52228	680R 5% 0,5W
3310	4822 11712902	8,2K 5% 0,062W
3311	4822 11712902	8,2K 5% 0,062W
3320	4822 116 83883	470R 5% 0,5W
3321	4822 050 24708	4,7R 1% 0,6W
3322	4822 050 24708	4,7R 1% 0,6W
3323	4822 051 30332	3,3K 5% 0,062W
3324	4822 050 24708	4,7R 1% 0,6W
3325	4822 116 52228	680R 5% 0,5W
3326	5322 117 13051	680R 1% 0,062W RC22H
3327	5322 117 13049	470R 1% 0,062W RC22H
3330	4822 116 52228	680R 5% 0,5W
3332	4822 116 52244	15K 5% 0,5W
3333	4822 051 30153	15K 5% 0,062W
3334	4822 116 52264	27K 5% 0,5W
3335	4822 051 30273	27K 5% 0,062W
3345	4822 116 52206	120R 5% 0,5W
3346	4822 116 52206	120R 5% 0,5W
3381	4822 051 30682	6,8K 5% 0,062W
3382	4822 051 30682	6,8K 5% 0,062W

ELECTRICAL PARTSLIST - COMBI BOARD**- RESISTORS -**

3401	4822 116 52176	10R 5% 0,5W
3402	4822 051 30471	470R 5% 0,062W
3403	4822 051 30471	470R 5% 0,062W
3404	4822 051 30472	4,7K 5% 0,062W
3405	4822 051 30471	470R 5% 0,062W
3406	4822 051 30471	470R 5% 0,062W
3407	4822 051 30474	470K 5% 0,062W
3408	4822 051 30472	4,7K 5% 0,062W
3409	4822 117 13632	100K 1% 0,62W
3410	4822 051 30471	470R 5% 0,062W
3411	4822 051 30153	15K 5% 0,062W
3412	4822 051 30221	220R 5% 0,062W
3413	4822 051 30273	27K 5% 0,062W
3414	4822 051 30472	4,7K 5% 0,062W
3415	4822 051 30222	2,2K 5% 0,062W
3416	4822 051 30272	2,7K 5% 0,062W
3417	4822 051 30102	1K 5% 0,062W
3418	4822 051 30103	10K 5% 0,062W
3419	4822 051 30102	1K 5% 0,062W
3420	4822 051 30472	4,7K 5% 0,062W
3421	4822 051 30471	470R 5% 0,062W
3422	4822 051 30102	1K 5% 0,062W
3423	4822 051 30102	1K 5% 0,062W
3424	4822 051 30102	1K 5% 0,062W
3425	4822 051 30102	1K 5% 0,062W
3426	4822 051 30331	330R 5% 0,062W
3427	4822 051 30103	10K 5% 0,062W
3428	4822 051 30152	1,5K 5% 0,062W
3429	4822 051 30152	1,5K 5% 0,062W
3430	4822 051 30471	470R 5% 0,062W
3431	4822 051 30103	10K 5% 0,062W
3432	4822 117 12903	1,8K 1% 0,062W
3433	4822 051 30102	1K 5% 0,062W
3434	4822 116 52175	100R 5% 0,5W
3435	4822 051 30103	10K 5% 0,062W
3436	4822 051 30103	10K 5% 0,062W
3437	4822 051 30103	10K 5% 0,062W
3438	4822 051 30103	10K 5% 0,062W
3440	4822 050 11002	1K 1% 0,4W
3441	4822 050 11002	1K 1% 0,4W
3442	4822 051 30152	1,5K 5% 0,062W
3443	4822 051 30152	1,5K 5% 0,062W
3444	4822 051 30103	10K 5% 0,062W
3445	4822 116 52175	100R 5% 0,5W
3446	4822 051 30223	22K 5% 0,062W
3447	4822 051 30223	22K 5% 0,062W
3448	4822 050 11002	1K 1% 0,4W
3449	4822 117 12864	82K 5% 0,6W
3450	4822 051 30272	2,7K 5% 0,062W
3451	4822 051 30272	2,7K 5% 0,062W

- RESISTORS -

3452	4822 051 30392	3,9K 5% 0,062W
3453	4822 051 30183	18K 5% 0,062W
3454	4822 051 30123	12K 5% 0,062W
3455	4822 051 30332	3,3K 5% 0,062W
3457	4822 051 30471	470R 5% 0,062W
3458	4822 051 30221	220R 5% 0,062W
3459	4822 051 30331	330R 5% 0,062W
3461	4822 051 30221	220R 5% 0,062W
3462	4822 051 30221	220R 5% 0,062W
3463	4822 051 30272	2,7K 5% 0,062W
3464	4822 050 21003	10K 1% 0,6W
3465	4822 051 30331	330R 5% 0,062W
3466	4822 051 30331	330R 5% 0,062W
3467	4822 051 30471	470R 5% 0,062W
3468	4822 051 30681	680R 5% 0,062W
3469	4822 117 12968	820R 5% 0,62W
3470	4822 117 11817	1,2K 1% 1/16W
3471	4822 117 11817	1,2K 1% 1/16W
3472	4822 051 30681	680R 5% 0,062W
3473	4822 117 12968	820R 5% 0,62W
3474	4822 051 30331	330R 5% 0,062W
3475	4822 051 30331	330R 5% 0,062W
3476	4822 051 30471	470R 5% 0,062W
3477	4822 051 30681	680R 5% 0,062W
3478	4822 117 12968	820R 5% 0,62W
3479	4822 117 11817	1,2K 1% 1/16W
3480	4822 051 30102	1K 5% 0,062W
3481	4822 051 30101	100R 5% 0,062W
3482	4822 051 30101	100R 5% 0,062W
3484	4822 051 30681	680R 5% 0,062W
3485	4822 116 52228	680R 5% 0,5W
3486	4822 116 52228	680R 5% 0,5W
3487	4822 116 52228	680R 5% 0,5W
3492	4822 051 30471	470R 5% 0,062W
3493	4822 051 30221	220R 5% 0,062W
3494	4822 051 30221	220R 5% 0,062W
3497	4822 051 30472	4,7K 5% 0,062W
3498	4822 051 30152	1,5K 5% 0,062W
3499	4822 116 52175	100R 5% 0,5W
3505	4822 117 12864	82K 5% 0,6W
3506	4822 116 52304	82K 5% 0,5W
3507	4822 051 30153	15K 5% 0,062W
3508	4822 116 52244	15K 5% 0,5W
3510	4822 051 30682	6,8K 5% 0,062W
3511	4822 051 30471	470R 5% 0,062W
3512	4822 051 30471	470R 5% 0,062W
3513	4822 116 52283	4,7K 5% 0,5W
3514	4822 051 30472	4,7K 5% 0,062W
3515	4822 051 30684	680K 5% 0,062W
3516	4822 051 30684	680K 5% 0,062W

ELECTRICAL PARTSLIST - COMBI BOARD**- RESISTORS -**

3517	4822 051 30681	680R 5% 0,062W
3518	4822 051 30681	680R 5% 0,062W
3519	4822 051 30392	3,9K 5% 0,062W
3520	4822 051 30392	3,9K 5% 0,062W
3521	4822 051 30471	470R 5% 0,062W
3522	4822 051 30471	470R 5% 0,062W
3523	4822 116 83872	220R 5% 0,5W
3524	4822 050 11002	1K 1% 0,4W
3525	4822 051 30471	470R 5% 0,062W
3526	4822 116 52256	2,2K 5% 0,5W
3527	4822 117 12925	47K 1% 0,062W
3528	4822 117 12925	47K 1% 0,062W
3529	4822 117 12971	15R 5% MCR03 0,62W
3530	4822 117 12971	15R 5% MCR03 0,62W
3531	4822 117 12925	47K 1% 0,062W
3532	4822 117 12925	47K 1% 0,062W
3533	4822 051 30471	470R 5% 0,062W
3535	4822 051 30471	470R 5% 0,062W
3536	4822 051 30471	470R 5% 0,062W
3542	4822 117 13632	100K 1% 0,62W
3543	4822 051 30471	470R 5% 0,062W
3544	4822 051 30471	470R 5% 0,062W
3545	4822 051 30103	10K 5% 0,062W
3546	4822 051 30103	10K 5% 0,062W
3547	4822 051 30222	2,2K 5% 0,062W
3551	4822 051 30332	3,3K 5% 0,062W
3553	5322 117 13046	1K8 1% 0,062W RC22H
3554	4822 051 30332	3,3K 5% 0,062W
3567	4822 117 13632	100K 1% 0,62W
3568	4822 116 52256	2,2K 5% 0,5W
3569	4822 051 30682	6,8K 5% 0,062W
3570	4822 051 30472	4,7K 5% 0,062W
3571	4822 051 30472	4,7K 5% 0,062W
3572	4822 051 30472	4,7K 5% 0,062W
3573	4822 051 30472	4,7K 5% 0,062W
3574	4822 051 30472	4,7K 5% 0,062W
3575	4822 051 30472	4,7K 5% 0,062W
3576	4822 051 30472	4,7K 5% 0,062W
3577	4822 051 30472	4,7K 5% 0,062W
3578	4822 051 30472	4,7K 5% 0,062W
3579	4822 051 30472	4,7K 5% 0,062W
3580	4822 051 30472	4,7K 5% 0,062W
3581	4822 051 30472	4,7K 5% 0,062W
3582	4822 051 30472	4,7K 5% 0,062W
3583	4822 051 30472	4,7K 5% 0,062W
3584	4822 051 30472	4,7K 5% 0,062W
3585	4822 051 30472	4,7K 5% 0,062W
3586	4822 051 30472	4,7K 5% 0,062W
3587	4822 051 30472	4,7K 5% 0,062W
3588	4822 051 30472	4,7K 5% 0,062W

- RESISTORS -

3589	4822 051 30472	4,7K 5% 0,062W
3590	4822 051 30472	4,7K 5% 0,062W
3591	4822 051 30472	4,7K 5% 0,062W
3592	4822 051 30472	4,7K 5% 0,062W
3593	4822 051 30472	4,7K 5% 0,062W
3801	4822 051 30223	22K 5% 0,062W
3802	4822 051 30223	22K 5% 0,062W
3803	4822 051 30273	27K 5% 0,062W
3804	4822 051 30273	27K 5% 0,062W
3805	4822 051 30273	27K 5% 0,062W
3806	4822 051 30273	27K 5% 0,062W
3807	4822 051 30103	10K 5% 0,062W
3808	4822 051 30103	10K 5% 0,062W
3809	4822 051 30103	10K 5% 0,062W
3810	4822 051 30103	10K 5% 0,062W
3811	4822 051 30103	10K 5% 0,062W
3812	4822 051 30103	10K 5% 0,062W
3813	4822 051 30222	2,2K 5% 0,062W
3814	4822 051 30222	2,2K 5% 0,062W
3815	4822 051 30222	2,2K 5% 0,062W
3816	4822 051 30222	2,2K 5% 0,062W
3817	4822 051 30479	47R 5% 0,062W
3818	4822 051 30479	47R 5% 0,062W
3819	4822 051 30479	47R 5% 0,062W
3820	4822 052 10478	4,7R 5% 0,33W
3821	4822 117 12917	1R 5% 0,062W
3822	4822 051 30103	10K 5% 0,062W
3823	4822 051 30102	1K 5% 0,062W
3824	4822 051 20474	470K 5% 0,1W
3825	5322 117 13029	47K 1% 0,062W RC22H
3826	4822 117 12891	220K 1% ERJ 3E
3827	5322 117 13056	8,2K 1% 0,062W RC22H
3828	5322 117 13052	2,7K 1% 0,062W RC22H
3829	4822 051 30121	120R 5% 0,062W
3830	4822 117 11373	100R 1% RC12H
3831	4822 051 30471	470R 5% 0,062W
3832	4822 051 30471	470R 5% 0,062W
3833	4822 051 30121	120R 5% 0,062W
3834	4822 051 30472	4,7K 5% 0,062W
3836	4822 116 40227	4,6R 25% 12V
3837	4822 051 30471	470R 5% 0,062W
3839	4822 051 30471	470R 5% 0,062W
3840	4822 051 30223	22K 5% 0,062W
3842	4822 051 30102	1K 5% 0,062W
3843	4822 051 30102	1K 5% 0,062W
3844	4822 051 30101	100R 5% 0,062W
3845	4822 051 30471	470R 5% 0,062W
3846	4822 051 30472	4,7K 5% 0,062W
3847	4822 117 10834	47K 1% 0,1W
3848	4822 051 30333	33K 5% 0,062W

ELECTRICAL PARTSLIST - COMBI BOARD**- RESISTORS -**

3849	4822 051 30471	470R 5% 0,062W
3850	4822 051 30472	4,7K 5% 0,062W
3851	4822 117 10834	47K 1% 0,1W
3852	4822 051 30333	33K 5% 0,062W
3853	4822 117 12903	1,8K 1% 0,062W
3854	4822 051 30682	6,8K 5% 0,062W
3856	4822 117 12891	220K 1% ERJ 3E
3858	4822 051 30682	6,8K 5% 0,062W
3859	4822 117 13632	100K 1% 0,62W
3861	4822 117 13632	100K 1% 0,62W
3862	4822 051 30102	1K 5% 0,062W
3863	4822 052 10338	3,3R 5% 0,33W
3864	4822 051 30223	22K 5% 0,062W
3865	4822 051 30101	100R 5% 0,062W
3866	4822 117 13608	4,7R 5% 0,0016W
3867	4822 051 30223	22K 5% 0,062W
3868	4822 051 30103	10K 5% 0,062W
3869	4822 051 30103	10K 5% 0,062W
3871	4822 051 30101	100R 5% 0,062W
3872	4822 051 30101	100R 5% 0,062W
3873	4822 051 30223	22K 5% 0,062W
3874	4822 051 30223	22K 5% 0,062W
3875	4822 051 30103	10K 5% 0,062W
3876	4822 051 30103	10K 5% 0,062W
3878	4822 051 30471	470R 5% 0,062W
3879	4822 051 30223	22K 5% 0,062W
3880	4822 051 30339	33K 5% 0,062W
3881	4822 051 30151	150R 5% 0,062W
3882	4822 051 10102	1K 2% 0,25W
3883	4822 051 30102	1K 5% 0,062W
3884	4822 051 30102	1K 5% 0,062W
3888	4822 051 30103	10K 5% 0,062W
3889	4822 051 30471	470R 5% 0,062W
3890	4822 051 30471	470R 5% 0,062W
3891	4822 051 30102	1K 5% 0,062W
3892	4822 051 30102	1K 5% 0,062W
3893	4822 051 30471	470R 5% 0,062W
3894	4822 117 12891	220K 1% ERJ 3E
3895	4822 051 30273	27K 5% 0,062W
3896	4822 051 30101	100R 5% 0,062W
3897	4822 051 30333	33K 5% 0,062W
3898	4822 051 30181	180R 5% 0,062W
3899	4822 051 30272	2,7K 5% 0,062W
3901	4822 051 30561	560R 5% 0,062W
3902	4822 117 12968	820R 5% 0,62W
3903	4822 051 30332	3,3K 5% 0,062W
3904	4822 051 30332	3,3K 5% 0,062W
3905	4822 051 30471	470R 5% 0,062W
3906	4822 051 30471	470R 5% 0,062W
3907	4822 051 30391	390R 5% 0,062W

- RESISTORS -

3908	4822 051 30222	2,2K 5% 0,062W
3909	4822 117 13632	100K 1% 0,62W
3910	4822 051 30471	470R 5% 0,062W
3916	4822 051 30471	470R 5% 0,062W
3917	4822 117 13608	4,7R 5% 0,0016W
4104	3198 021 90030	OR J UMPER(/01)
4105	4822 051 30008	OR J UMPER
4106	4822 051 30008	OR J UMPER
4107	4822 051 30008	OR J UMPER
4108	4822 051 30008	OR J UMPER
4109	4822 051 30008	OR J UMPER
4110	3198 021 90030	OR J UMPER(/01)
4401	4822 051 30008	OR J UMPER
4402	4822 051 30008	OR J UMPER
4403	4822 051 30008	OR J UMPER
4404	4822 051 30008	OR J UMPER
4801	4822 051 20008	OR J UMPER (0805)
4802	4822 051 20008	OR J UMPER (0805)
4803	4822 051 20008	OR J UMPER (0805)
4805	4822 051 20008	OR J UMPER (0805)
4808	4822 051 20008	OR J UMPER (0805)
4809	4822 051 20008	OR J UMPER (0805)
4811	4822 051 20008	OR J UMPER (0805)
4817	4822 051 30008	OR J UMPER
4818	4822 051 20008	OR J UMPER (0805)
4824	4822 051 20008	OR J UMPER (0805)
4827	4822 051 20008	OR J UMPER (0805)
4830	4822 051 20008	OR J UMPER (0805)
4832	4822 051 20008	OR J UMPER (0805)
4834	4822 051 20008	OR J UMPER (0805)
4836	4822 051 20008	OR J UMPER (0805)
4840	4822 051 20008	OR J UMPER (0805)
4841	4822 051 20008	OR J UMPER (0805)
4842	4822 051 20008	OR J UMPER (0805)
4845	4822 051 30008	OR J UMPER

- COILS & FILTERS -

5001	2422 549 44607	IND FXD SM 100MHZ 600R
5104	4822 157 11269	COIL MW ANTENNA
5104	2422 536 00364	IND FXD FM 190µH(/01)
5105	4822 157 11271	COIL LW ANTENNA
5109	4822 242 70665	SFE10,7MS3-A
5110	4822 242 70665	SFE10,7MS3-A
5111	2422 549 44023	IND VAR 7MM 450KHZ
5112	4822 157 70302	F7MCS-12216N
5114	4822 157 70302	F7MCS-12216N
5119	4822 157 11443	2,4µH 10,7MHZ

ELECTRICAL PARTSLIST - COMBI BOARD**- COILS & FILTERS -**

5121	4822 242 10261	T6252F00 (75KHZ)
5122	2422 549 44108	IND VAR 7MM 796KHZ
5123	2422 549 44108	IND VAR 7MM 796KHZ
5130	4822 157 11843	MD7B-01F
5131	4822 157 11843	MD7B-01F
5301	2422 549 44393	IND FXD SM 100MHZ 2K7
5303	4822 157 11074	100µH
5304	4822 157 11074	100µH
5305	2422 549 44919	IND FXD SM 100MHZ 600R
5306	2422 549 44919	IND FXD SM 100MHZ 600R
5307	2422 549 44919	IND FXD SM 100MHZ 600R
5308	4822 157 11074	100µH
5309	4822 157 11074	100µH
5310	4822 157 11074	100µH
5311	4822 157 11074	100µH
5401	2422 549 44393	IND FXD SM 100MHZ 2K7
5402	2422 549 44393	IND FXD SM 100MHZ 2K7
5403	2422 540 98518	RES CER 8MHZ CSTS* MG03
5405	4822 157 11074	100µH

- DIODES -

6103	5322 130 34337	BAV99
6105	4822 130 83075	HN1V02H-B
6120	4822 130 11397	BAS316
6130	4822 130 82833	1SV228
6131	4822 130 82833	1SV228
6181	5322 130 34337	BAV99
6182	4822 130 11397	BAS316
6183	9340 386 90115	BZX284-C11
6301	4822 130 31878	1N4003G
6302	4822 130 31878	1N4003G
6303	4822 130 31878	1N4003G
6304	4822 130 31878	1N4003G
6308	3198 010 53380	BZX79-B3V3
6310	9334 515 80673	1N4003(/01)
6311	4822 130 30621	1N4148
6316	4822 130 30621	1N4148
6322	4822 130 30621	1N4148
6323	4822 130 30621	1N4148
6324	4822 130 11397	BAS316
6401	5322 130 31504	BZX79-B3V3
6402	5322 130 34337	BAV99
6501	4822 130 30621	1N4148
6877	9322 129 34685	BZM55-C3V9

- IC & TRANSISTORS -

7101	9351 740 80557	TEA5757H/V1
7102	4822 130 42131	BF550
7104	4822 130 40855	BC337
7105	4822 130 40855	BC337
7109	4822 130 60373	BC856B
7111	9335 896 00215	BC847C(/01)
7122	5322 130 42755	BC847C
7124	5322 130 42755	BC847C
7180	4822 130 60373	BC856B
7181	5322 130 42755	BC847C
7182	5322 130 42755	BC847C
7183	5322 130 42755	BC847C
7301	4822 209 31544	TA8227P
7302	4822 130 41327	BC327-40
7303	4822 130 41327	BC327-40
7304	4822 130 41327	BC327-40
7305	4822 130 60373	BC856B
7306	5322 130 60159	BC846B
7312	5322 130 60159	BC846B
7313	4822 130 42804	BC817-25
7314	4822 130 42804	BC817-25
7315	4822 130 42804	BC817-25
7316	4822 130 42804	BC817-25
7400	3140 110 51490	TMP86CM29F MASK
7401	9322 145 26668	M24C02-WMN6
7402	5322 130 60159	BC846B
7403	5322 130 60159	BC846B
7404	5322 130 60159	BC846B
7405	5322 130 60159	BC846B
7407	9322 155 82667	IR RECEIVER TSOP2236
7501	5322 130 60159	BC846B
7503	4822 130 44568	BC557B
7504	4822 130 44568	BC557B
7505	4822 130 44568	BC557B
7506	4822 130 44568	BC557B
7800	9352 684 20557	SAA7325H/T/M2B
7808	4822 209 32852	TDA7073A/N2
7809	4822 209 32852	TDA7073A/N2
7810	4822 209 33165	TDA1308T/N1
7811	5322 209 82941	LM358D
7874	5322 130 60159	BC846B
7875	5322 130 60159	BC846B
7876	5322 130 60159	BC846B
7877	5322 130 60159	BC846B
7878	5322 130 60159	BC846B
7879	5322 130 60123	BC807-40

ELECTRICAL PARTSLIST - MISCELLANEOUS

- MISCELLANEOUS -

1200	△	2422 030 00333	AC SOCKET 2P
1202	△	2422 127 00453	VOLTAGE SELECTOR(/01)
1300		2422 264 00454	LOUDSPEAKER
1301		2422 264 00454	LOUDSPEAKER
1800		4822 267 11028	FFC CONNECTOR 16P
1820		2422 025 16978	FFC CONNECTOR 19P
5201	△	3140 118 33281	TRANSFORMER(/00C)
5201	△	3140 118 33290	TRANSFORMER(/01)
8201		3140 110 22120	CABLE 1P/70/1P(/01)

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