

Service
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Service Manual



TABLE OF CONTENTS

Handling Chip Components and Safety1 - 1

Technical Specification & Measurement Setup2 - 1
Service Measurement.....2 - 2

Connections and controls3 - 1
Instructions for Use3 - 2 .. 3 - 6

Disassembly Diagram.....4 - 1
CD Service Test program4 - 2 .. 4 - 3

Block Diagram5 - 1
Wiring Diagram.....5 - 2

Front Board
circuit diagram6 - 1
layout diagram.....6 - 2

Tuner Board
circuit diagram7 - 1
layout diagram.....7 - 2

Recorder Board
circuit diagram8 - 1
layout diagram.....8 - 2

Combi Board
circuit diagram (CD part)9 - 1
layout diagram (copper side).....9 - 2
circuit diagram (power & rectifier part)9 - 3
layout diagram (component side)9 - 4

MP3 Board
circuit diagram10 - 1
layout diagram.....10 - 2

Exploded view - tape deck11 - 1
Exploded view - cabinet11 - 2
Mechanical partslist.....11 - 1

Electrical partslist12 - 1 .. 12 - 11



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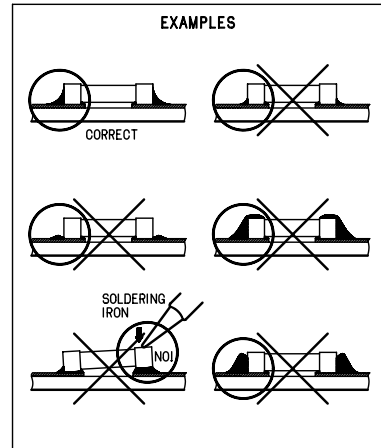
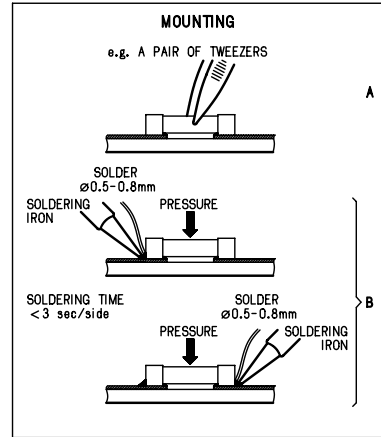
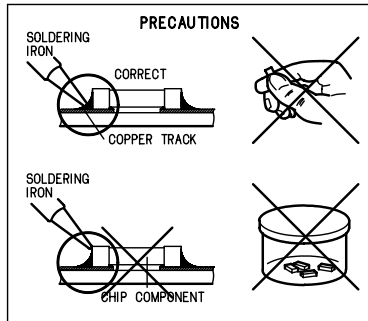
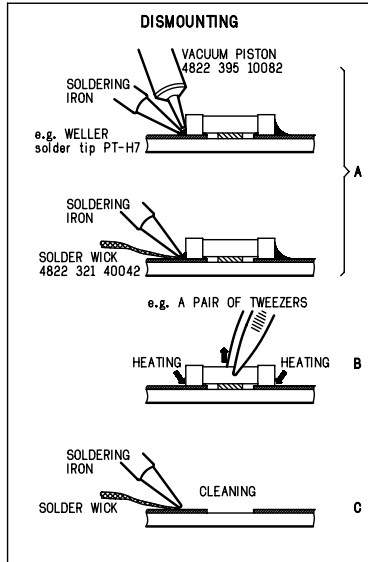
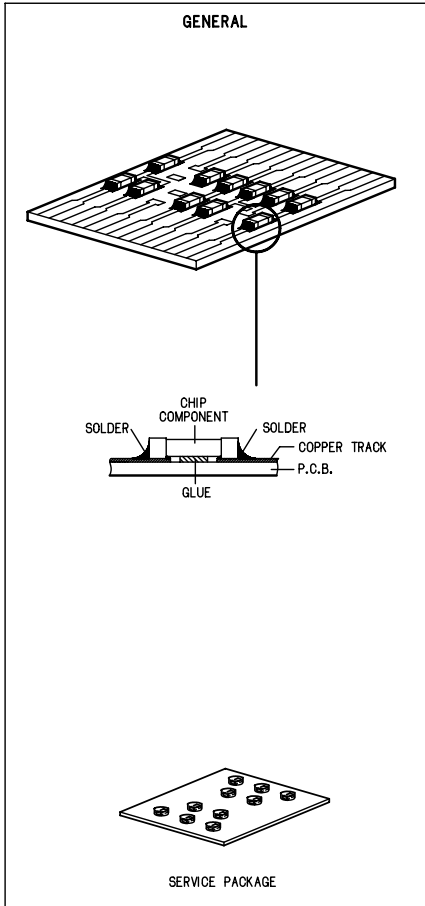
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PHILIPS

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 enfiler le bracelet sert 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 bracciale 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

SAFETY



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

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.



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.

S

Varning ! Ösynlig 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 suojalukituksen ohitettaessa olet alttiina näkymättömälle laserisäteilylle. Älä katso säteeseen !

F

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

SPECIFICATIONS

GENERAL

Mains voltage	-/00 : 230 V
	-/01 : 120 / 230 V
	-/17 : 120 V
Mains frequency	-/00 : 50 Hz
	-/01 : 50 / 60 Hz
	-/17 : 60 Hz
Battery	mains : 9 V (R20 x 6)
Power consumption	: 15 W
Dimension (W x H x D)	: 400 x 162 x 237 mm
Weight	: 3.4 Kg

AMPLIFIER

Output power	mains : 2 x 1 W
	battery : 2 x 1 W
Speaker impedance	: 2 x 8 ohm
Frequency response	: 100 Hz - 10 kHz (± 3 dB)

COMPACT DISC

Frequency response	: 100 Hz - 10 kHz
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	: < 0.3 mW

TUNER - FM SECTION

Tuning range	: 87.5 - 108 MHz
IF frequency	: 10.7 MHz \pm 0.03 MHz
Sensitivity	: 18 dB at 26dB S/N
Selectivity	: 24 dB at 300kHz
IF rejection	: 85 dB
Image rejection	: 24 dB

TUNER - AM SECTION

Tuning range	: 531 - 1602 kHz
	-/17 : 530 - 1700 kHz
Sensitivity	: 3200 μ V/m at 26dB S/N
Selectivity	: 22 dB
IF rejection	: 60 dB
Image rejection	: 32 dB

CASSETTE RECORDER

Frequency response	: 125 Hz - 8 kHz
S/N ratio	: > 36 dB
Channel crosstalk	1 kHz : 30 dB
Fast wind/rewind	C60 : 110 sec.
Tape speed	: 4.76 cm/sec \pm 3%
Wow and flutter	: < 0.48 JIS UWTD

SERVICE TOOLS

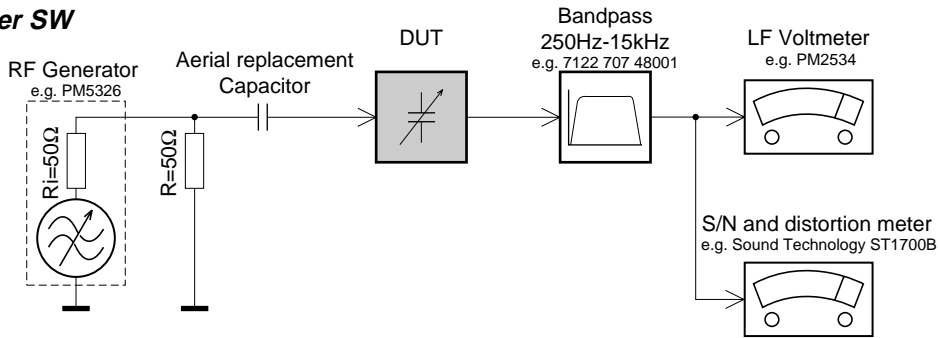
Audio signal disc SBC 429.....	4822 397 30184
Playability test disc SBC 444.....	4822 397 30245
Test disc 5 (disc without errors) +	
Test disc 5A (disc with dropout errors, black spots and fingerprints)	
SBC 426/426A.....	4822 397 30096
Burn in test disc (65 min. 1kHz signal at -30 dB level without "pause").....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

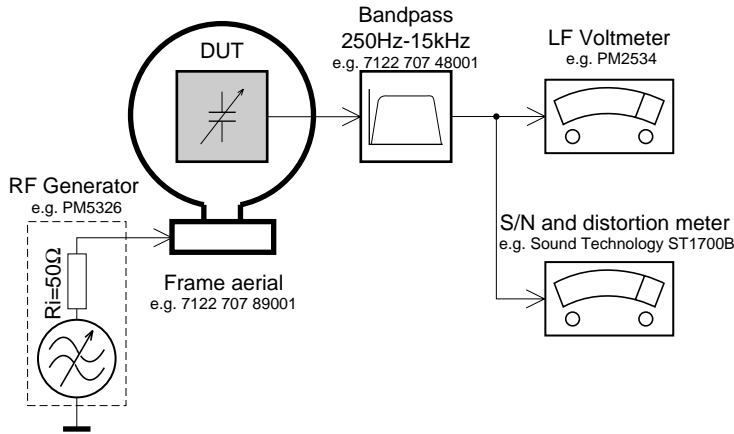
SERVICE MEASUREMENT

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).

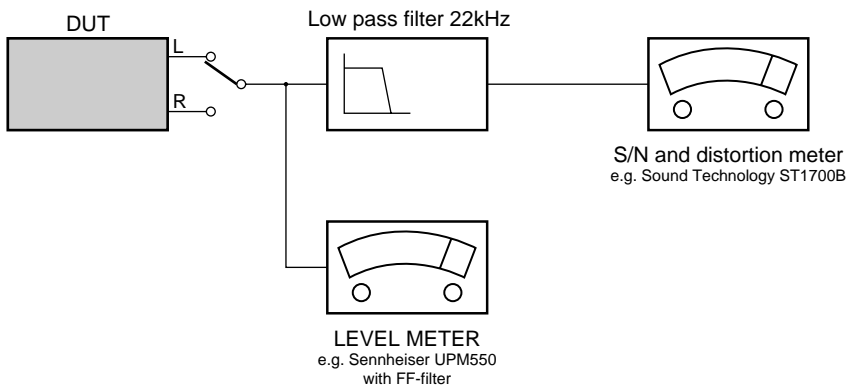
Tuner AM (MW,LW)



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



Caution

CAUTION: Use of controls or adjustments or performance of procedures other than herein may result in hazardous radiation exposure or other unsafe operation. This product complies with the radio interference requirements of the European Union.

ATTENTION: L'utilisation des commandes ou réglages ou le non-respect des procédures ci-inclues peuvent se traduire par une exposition dangereuse à l'irradiation. Ce matériel satisfait aux impératifs de brouillage radio de la Communauté Européenne.

ATENCIÓN: El uso de mandos o ajustes o la ejecución de métodos que no sean los aquí descritos puede ocasionar peligro de exposición a radiación. Este aparato satisface las normas relativas a la interferencia radioeléctrica de la Comunidad Europea.

ACHTUNG: Der Gebrauch von Bedienelemente oder Einstellungen bzw. Verfahrensauführungen die hier nicht ausdrücklich erwähnt worden sind, kann eine gefährliche Strahlendosierung oder andere unsichere Operationen zur Folge haben. Dieses Produkt entspricht den Funkstörvorschriften der Europäischen Union.

LET OP: Het gebruik van de toetsen en regelingen of het toepassen van de aanwijzingen anders dan hier beschreven, kan leiden tot blootstelling aan gevaarlijke straling of tot onveilige werking. Dit apparaat voldoet aan de radio-ontstoringseisen van de Europese Unie.

ATTENZIONE: L'uso dei comandi o regolazioni o prestazioni delle procedure oltre a quelle descritte nel presente potrebbero causare esposizione a radiazioni pericolose o altre operazioni rischiose.

AVISO: A utilização de comandos ou ajustes ou a execução de procedimentos de forma diferente daquela aqui indicada poderá resultar numa exposição perigosa a radiações ou noutra operação arriscada. Este produto obedece aos requisitos referentes a interferência de rádio estabelecidos pela União Europeia.

ADVARSEL: Anvendelse af andre betjeningsanordninger eller justeringer eller udførelse af andre procedurer end de heri angivne, kan medføre udsættelse for farlig stråling eller andre risici.

Dette apparat overholder EU's krav vedrørende radiostøj.

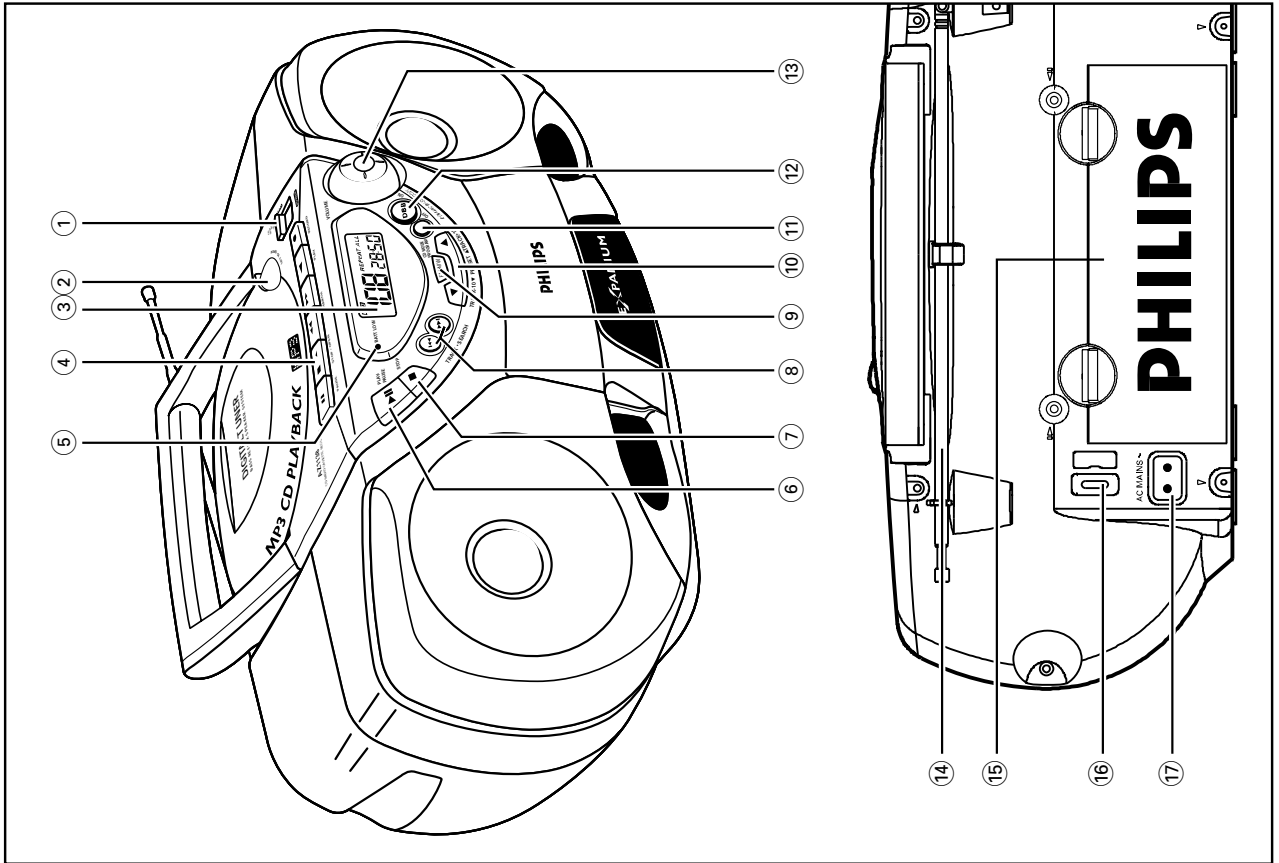
WARNING: Om du använder knapparna på annat än här angivet sätt eller utför andra justeringar eller förfaranden än de här angivna kan du utsättas för skadlig strålning eller andra risker.

Denna apparat uppfyller EU:s krav beträffande radiostörningar.

MUISTUTUS: Muiden kuin tässä kuvattujen säätimien tai säätöjen tai toimenpiteiden käyttö voi aiheuttaa vaarallisen altistuksen säteilylle tai muun turvallisuutta vaarantavan seurauksen.

Tämä tuote on Euroopan unionin radiohäiriöitä koskevien vaatimusten mukainen.

ΠΡΟΣΟΧΗ: Οποιαδήποτε διαδικασία, χρήση ή ρύθμιση των ρυθμιστικών πλήκτρων και διακοπών εκτός των προβλεπόμενων στο παρόν εγχειρίδιο, μπορεί να έχει ως αποτέλεσμα την επιβλαβή έκθεση σε ακτινοβολία ή άλλη επικίνδυνη λειτουργία. Το προϊόν αυτό πληροί τις απαιτήσεις της Ευρωπαϊκής Ένωσης ως προς τις ραδιοπαρεμβολές.



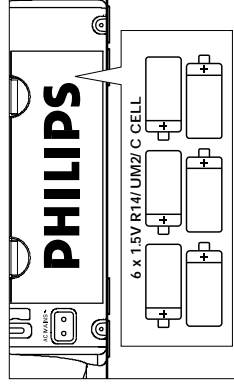
Top and Front Panels

- 1 **POWER slider** – selects sound source for MP3-CD, CD, RADIO, TAPE/Off, and the power on/ off switch
- 2 **LIFT TO OPEN** – opens/ closes the CD door
- 3 **Display** – shows the status of the set
- 4 **Cassette recorder keys:**
PAUSE II – pauses recording or playback
STOP-OPEN ■▲ – stops the tape; opens the cassette door
SEARCH ◀◀ or ▶▶ – fast rewinds/ winds the tape
PLAY ◀ – starts playback
RECORD ● – starts recording
- 5 **BATT LOW** – indicator lights up if battery power is running low
- 6 **PLAY+PAUSE ▶II** – starts or pauses MP3-CD/ CD playback
- 7 **STOP ■** – stops MP3-CD/ CD playback; erases a MP3-CD/ CD programme
- 8 **TRACK-SEARCH ◀◀ ▶▶**
MP3-CD: skips or searches a passage/ track backwards or forward
RADIO: tunes to a radio station (up, down)
- 9 **FM•MW** – selects FM/ MW waveband

Mains Supply

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

Batteries (not included)



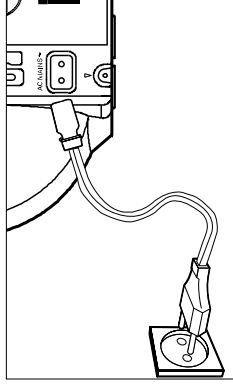
- 1 Open the battery compartment and insert six batteries, type **R-14, UM-2** or **C-cells**, (preferably alkaline) with the correct polarity as indicated by the "+", "–" symbols inside the compartment.
- 2 Close the compartment door, and make sure the batteries are firmly and correctly in place. The set is now ready to operate.
→ If BATT LOW lights up, battery power is running low. The **BATT LOW** indicator eventually goes out if the batteries are too weak.

Batteries contain chemical substances, so they should be disposed of properly.

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

- 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.
- Remove the batteries if the set is not to be used for a long time.

Using AC Mains



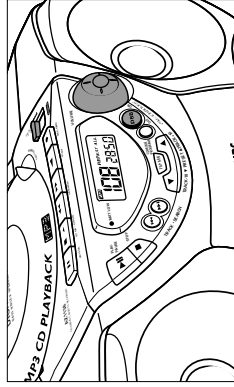
- 1 Check if the mains voltage, as shown on the **type plate located on the bottom of the set**, corresponds to your local mains supply. If it does not, consult your dealer or service centre.
 - 2 Connect the mains cord to the AC MAINS inlet and the wall outlet. The mains supply is now connected and ready for use.
 - 3 To switch off completely, unplug the mains cord from the wall outlet.
 - Unplug the mains cord from the wall outlet to protect your set during heavy thunderstorms.
- The type plate is located on the bottom of the set.**

Switching power on/off: Save energy

Whether you are using mains or battery supply, to avoid unnecessary energy consumption always adjust the **POWER slider** to **TAPE/Off** and check if the cassette keys are released.

General Operation

General Operation



- 1 To select your sound source adjust the **POWER slider to CD RADIO** or **TAPE/OFF**.
- 2 Adjust the sound with the **VOLUME** and **DBB OFF/ON** (Dynamic Bass Boost) controls.
- 3 To switch off the set adjust the **POWER slider to TAPE/OFF** position and check the cassette keys are released.
Note: When the set is switched off the tuner presets will be retained in the set's memory.

Changing tuning grid (some versions only)

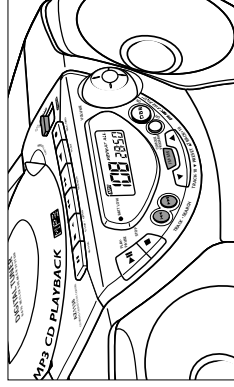
In North and South America the frequency step between adjacent channels in the MW and FM band are 10 KHz and 100 KHz respectively. In the rest of the world this step is 9 KHz and 50 KHz. Usually the frequency step has been preset in the factory for your area.

- 1 Ensure that the set is switched off (**POWER slider in TAPE/OFF** and cassette keys released).
- 2 To select 9KHz press simultaneously **PLAY** and **TRACK-SEARCH** ◀◀. Release the controls only when you switch on the set.
- 3 To select 10KHz press simultaneously **PLAY** and **TRACK-SEARCH** ▶▶. Release the controls only when you switch on the set.

Radio

- When tuning to radio stations, the display shows tuning in either steps of 9 or 10.
- All preset stations will be affected and you may need to reprogramme your presets.

Radio Reception



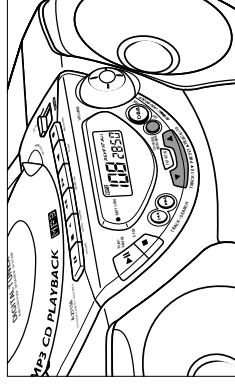
- 1 Adjust the **POWER slider to RADIO**.
→ Display shows *FM 285.0*.
The radio frequency is then shown.
 - 2 Press **FM•MW** once or more to select the desired waveband.
→ Display shows your waveband
 - 3 Press and hold down **TRACK•SEARCH** ◀◀ or ▶▶ briefly to tune to a radio station. Release when the frequency in the display starts to change.
→ The radio automatically tunes to a radio station of sufficient reception. Display shows *FM 285.0* during automatic tuning.
- To tune to a weak station, press **TRACK•SEARCH** ◀◀ or ▶▶ briefly and repeatedly until you have found optimal reception.
- To improve reception**
- For **FM**, pull out the telescopic aerial. Incline and turn the aerial.
 - Reduce its length if the signal is too strong (very close to a transmitter).

Radio

- For **MW** the set is provided with a built-in aerial so the telescopic aerial is not needed. Direct the aerial by turning the whole set.
- 4 To switch off the radio, adjust the **POWER slider to TAPE/OFF** position and check the cassette keys are released.

Programming Radio Stations

You can store up to a total of 30 radio stations in the memory.



- 1 Tune to your desired station (see Radio Reception).
 - 2 Press **CD MODE•PROGRAM** to activate programming.
→ Display **PROGRAM** flashes.
 - 3 Press **PRESET** ▲ or ▼ once or more to allocate a number from 1 to 30 to this station.
 - 4 Press **CD MODE•PROGRAM** again to confirm the setting.
→ Display **PROGRAM** disappears, the preset number and the frequency of the preset station are shown.
 - 5 Repeat the above four steps to store other stations.
- You can erase a preset station by storing another frequency in its place.

MP3-CD/ CD-Player

Tuning to preset stations

Press **PRESET** ▲ or ▼ until the desired preset station is shown.

General Information on the MP3-CD/ CD Player

Supported formats

- Disc format: ISO 9960, Joliet, finalised multisection
- MP3 music files
- MP3 bit rate (data rate): 32-320 kbps and variable bit rate
- Total number of music files maximum: 999
- Some encoder software offer an option to protect music files, i.e. the files can only be played on the computer which created them. If you burn such files on a CD-ROM, you cannot play them on this unit. Make sure to deactivate the protection option in the encoder software before creating the music files. In this case you are responsible for adherence to all local or international copyrights.

MP3-CD

Make sure the file names of the MP3 files end with **.mp3**

IMPORTANT!

Do not attempt to combine CD audio and MP3 tracks within a CD-R(W) or CD-ROM, as the set will only be able to playback your CD audio tracks from mixed CD formats.

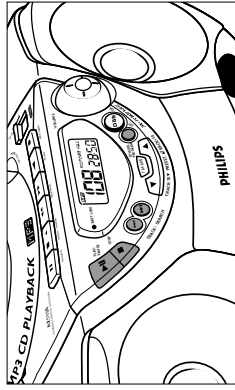
This set does not play/ support the following:

- UDF disc format.
- Non-finalised discs.
- Recordings created on e.g. DirectCD, Packet Writing and Package Writing.
- Playlist files e.g. m3u, pls of WMA, AAC, Winamp, Sonic, RealJukebox.
- MS Mediaplayer 7.0, MusicMatch.

MP3-CD/ CD-Player

Programming track numbers

You may store up to 20 tracks in the desired sequence. If you like, store any track more than once.



- 1 In the STOP mode, press **TRACK•SEARCH** **◀▶▶▶** or **TRACK +/-10 PRESET** **▲** or **▼** for your desired track.

- 2 When your chosen track number appears, press **CD MODE•PROGRAM** once to store the track.

→ The display shows **PROGRAM** and 'P P P', briefly followed by your selected track number.
 → If you attempt to programme without first selecting a track number, **no SEL** is shown.

- 3 Repeat steps **1** to **2** to select and store all desired tracks in this way
 → **FULL** is displayed if you attempt to programme more than 20 tracks.

- 4 To play your programme, press **PLAY•PAUSE** **▶||**

Reviewing your programme

- In the STOP mode, press and hold down **CD MODE•PROGRAM** for more than one second.
 → The display shows all your stored track numbers in sequence.

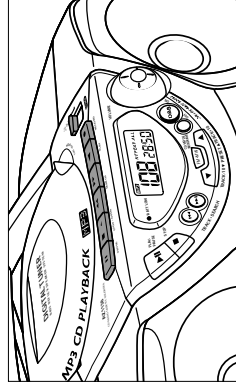
Cassette recorder

Erasing a programme

You can erase the contents of the memory by any one of the following:

- opening the **CD door**;
- selecting **RADIO** or **TAPE** source;
- pressing **STOP** **■** (twice during playback or in the stop position.)
 → Display: shows **no P P P**; briefly when the programme is cancelled.

Cassette playback



- 1 Adjust the **POWER slider** to **TAPE/OFF**.
- 2 Press **STOP•OPEN** **■▲** to open the cassette door and insert a recorded cassette.

- 3 Close the cassette door.

- 4 Press **PLAY** **▶** to start playback.
 → Display: shows **LRPE** throughout tape operation.

- 5 To pause playback press **PAUSE** **||** To resume, press the key again.

- 6 By pressing **◀◀** or **▶▶**, fast winding of the tape is possible in both directions. To stop fast winding, press **STOP•OPEN** **■▲**.

- 7 To stop the tape, press **STOP•OPEN** **■▲**.
 • The keys are automatically released at the end of the tape, the **LRPE** indication goes out and the set is switched off, except if **PAUSE** **||** has been activated.

Recording

- 4 Close the cassette door.
- 5 Press **RECORD** **●** to start recording.

- Playing of the disc programme starts automatically from the beginning of the programme. It is not necessary to start the CD player separately.

- 6 For brief interruptions press **PAUSE** **||** To resume recording, press **PAUSE** **||** again.

- 7 To stop recording, press **STOP•OPEN** **■▲**.

Selecting and recording a particular passage

- During playback, press and hold down **TRACK•SEARCH** **◀◀** or **▶▶** to find your passage.

- Press **PLAY•PAUSE** **▶||** to put the CD player on pause at the selected passage.
 → Recording will begin from this exact point in the track when you press **RECORD** **●**.

Recording from the Radio

- 1 Select **RADIO** source and your waveband.

- 2 Tune to the desired radio station (see **Radio reception**).

- 3 Press **STOP•OPEN** **■▲** to open the cassette door. Insert a blank tape.

- 4 Close the cassette door.

- 5 Press **RECORD** **●** to start recording.

- 6 For brief interruptions, press **PAUSE** **||** To resume recording, press **PAUSE** **||** again.

- 7 To stop recording, press **STOP•OPEN** **■▲**.

General information on Recording

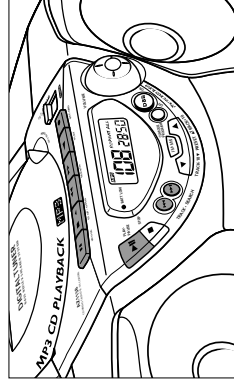
- Recording is permissible insofar as copyright or other rights of third parties are not infringed.

- 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 type **I**) on which the tabs have not been broken.

- At the very beginning and end of the tape, no recording will take place during the 7 seconds when the leader tape passes the recorder heads.

- To protect a tape from accidental erasure, have the tape in front of you and break out the left tab. Recording on this side is no longer possible. To record over this side again, cover the tabs with a piece of adhesive tape.

Synchro Start MP3-CD/ CD Recording



- 1 Select **CD** source.
- 2 Insert a disc and if desired, programme track numbers.

- 3 Press **STOP•OPEN** **■▲** to open the cassette door. Insert a blank tape.

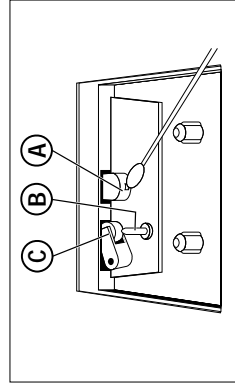
Maintenance

Precautions & General Maintenance

- Place the set on a hard and flat surface so that the system does not tilt.
- Do not expose the set, batteries, CDs or cassettes to humidity, rain, sand or excessive heat caused by heating equipment or direct sunlight.
- Do not cover the set. Adequate ventilation with a minimum gap of 6 inches between the ventilation holes and surrounding surfaces is necessary to prevent heat build-up.
- The mechanical parts of the set contain self-lubricating bearings and must not be oiled or lubricated.
- To clean the set, use a soft, dry chamolins leather. Do not use any cleaning agents containing alcohol, ammonia, benzene or abrasives as these may harm the housing.

Tape deck maintenance

To ensure quality recording and playback of the tape deck, clean parts (A), (B) and (C) shown in the diagram below, after approx. 50 hours of operation, or on average once a month. Use a cotton bud slightly moistened with alcohol or a special head cleaning fluid to clean the deck.



- Open the cassette door by pressing **STOP•OPEN** ■▲

- Press **PLAY** ◀ and clean the rubber pressure roller (C).
 - Press **PAUSE** ■ and clean the magnetic heads (A), and also the capstan (B).
 - After cleaning, press **STOP•OPEN** ■▲
 - Cleaning of the heads can also be done by playing a cleaning cassette through once.
- ### CD player and disc handling
- The lens of the CD player should never be touched!
- Sudden changes in the surrounding temperature can cause condensation to form and the lens of your CD player to cloud over. Playing a disc 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 keep the CD compartment dust-free. To clean, dust the compartment with a soft dry cloth.
 - To take a disc out of its box, press the centre spindle while lifting the disc. Always pick up the disc by the edge and replace the disc back in its box after use to avoid scratching and dust.
 - To clean the disc, 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 disc or attach any stickers to it.

Troubleshooting

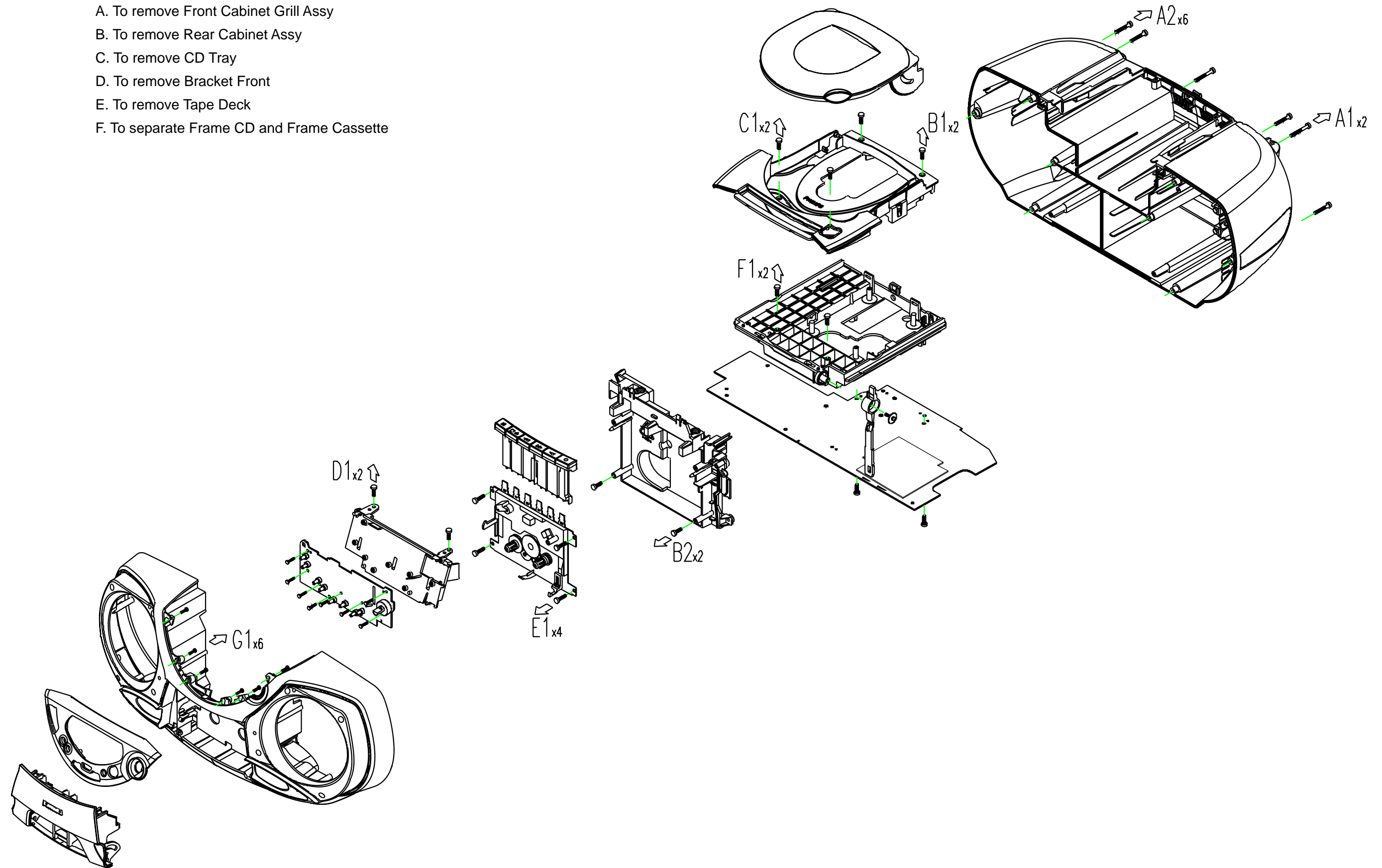
If a fault occurs, first check the points listed below before taking the set for repair. Do not open the set as there is a risk of electric shock. If you are unable to remedy a problem by following these hints, consult your dealer or service centre.

WARNING: Under no circumstances should you try to repair the set yourself, as this will invalidate the guarantee.

Problem	Solution
No sound/ power	<ul style="list-style-type: none"> Volume not adjusted. Adjust the VOLUME. Mains cord not securely connected. Connect AC mains cord properly. Batteries exhausted /incorrectly inserted. Insert (fresh) batteries correctly
Display does not function properly/ No reaction to operation of any of the controls <i>no d 15L, Ld Err or nF d 15L</i>	<ul style="list-style-type: none"> Electrostatic discharge. Switch off and unplug the set. Reconnect after a few seconds. No disc inserted. Insert a disc. Disc badly scratched/ dirty. Replace/ clean disc (see maintenance). CD-R(W) is blank or the disc is not finalised. Use a finalised CD-R(W). Laser lens steamed up. Wait until lens has recovered to room temperature. Incompatible format used for MP3. Check if your disc format is ISO 9960, Joliet, finalised multisession.
The disc skips tracks	<ul style="list-style-type: none"> Disc damaged or dirty. Replace or clean CD. SHUFFLE or a programme is active. Quit SHUFFLE/ programme mode.
Sound skips during MP3 playback	<ul style="list-style-type: none"> MP3 file made at compression level exceeding 320 kbps. Use a lower compression level to record CD tracks into MP3 format.
Cannot find desired MP3 title	<ul style="list-style-type: none"> Wrong file extension/ used. Change file extension to .MP3
Poor cassette sound quality	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> Cassette tab(s) may be broken. Apply a piece of adhesive tape over the missing tab space.

DISASSEMBLY DIAGRAM

- A. To remove Front Cabinet Grill Assy
- B. To remove Rear Cabinet Assy
- C. To remove CD Tray
- D. To remove Bracket Front
- E. To remove Tape Deck
- F. To separate Frame CD and Frame Cassette

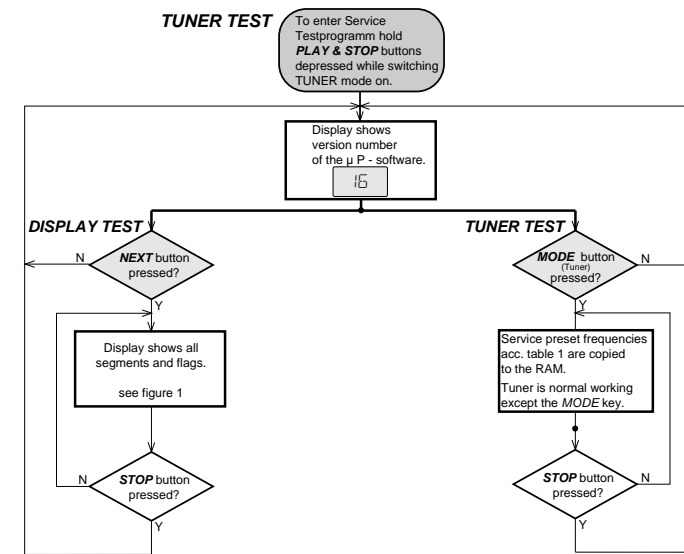
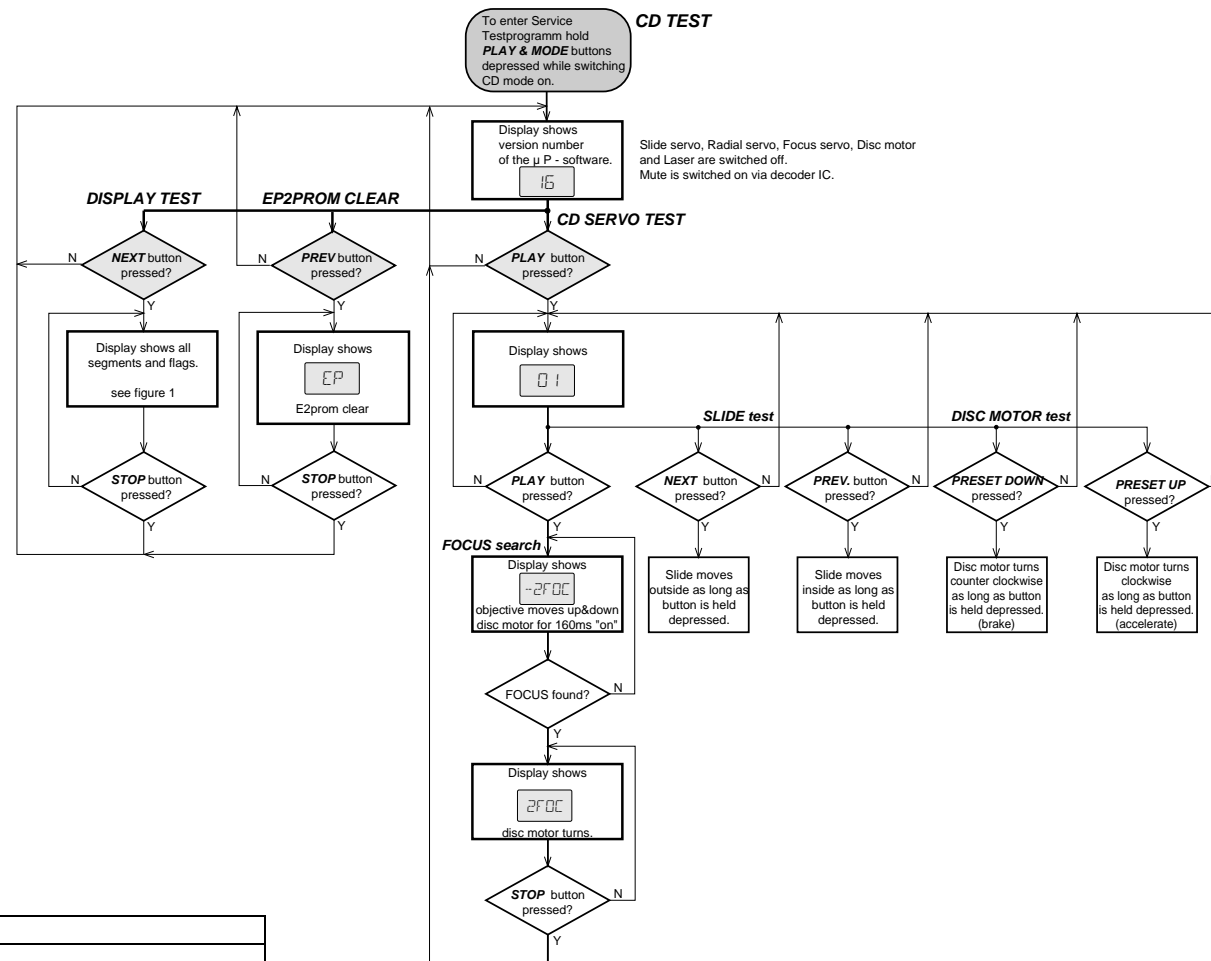


SERVICE TEST PROGRAM

- * STOP button pressed in any step returns to begin of Service Testprogram.
- * To leave Service Testprogram switch mode switch to off-position.
- * Door switch is ignored → CD door can be opened.
- * Volume up/down buttons function independently of the service testprogram.



fig. 1



ERROR	MEANING
Err 1	No focus found
Err 2	Time out error for disc motor reach the normal speed
Err 3	Focus error during tracking initialization
Err 4	Subcode error on play mode
Err 5	Focus error on play mode
Err 6	Radial error on search mode
Err 7	Focus error

table 2

STATUS	MEANING
Sta 0	Silde mode
Sta 1	Silde mode
Sta 2	Silde mode
Sta 3	Silde mode
Sta 8	Play mode
Sta > 8	Recover mode

table 3

SERVICE PRESET FREQUENCIES

REGION	EUROPE FM/MW/LW	EUROPE2B FM/MW	OVERSEAS FM/MW	EAST-EUROPE FM/MW	USA FM/MW
PRESET	/0005/20/25	/00	¹⁾ Grid switchable 10-100kHz/9-50kHz /01/21	/14	/14/37
1	87.5 MHz	87.5 MHz	87.5 MHz	65.81 MHz	87.5 MHz
2	108 MHz	108 MHz	108 MHz	108 MHz	108 MHz
3	531 kHz	531 kHz	531/530 KHz	74 MHz	530 kHz
4	1602 kHz	1602 kHz	1602/1700 kHz	87.5 MHz	1700 kHz
5	558 kHz	558 kHz	558/560 kHz	531 kHz	560 kHz
6	1494 kHz	1494 kHz	1494/1500 kHz	1602 kHz	1500 kHz
7	153 kHz	-	-	558 kHz	-
8	279 kHz	-	-	1494 kHz	-
9	198 kHz	-	-	-	-
10	-	-	-	-	-
11	-	-	-	-	-
12	-	-	-	-	-
13	-	-	-	-	-

table 1

1) How to set frequency grid:

AM - 9 kHz / FM - 50 kHz : Hold **PLAY KEY** with the **PRESET DOWN KEY** simultaneously and then switch to **TUNER**.

AM - 10 kHz / FM - 100 kHz : Hold **PLAY KEY** with the **PRESET UP KEY** simultaneously and then switch to **TUNER**.

Selected frequency grid is stored in the EEPROM.

2) In sets with 30kHz grid on FM band it may occur that the tuned frequency is indicated wrong on the display because of tolerances of the discriminator filter.

For that reason the testsoftware is prepared for an automatic IF-offset correction.

Note: This test functions only with the East European tuner version used in /14/34 set versions.

The test was executed on every set in the production line.

In case the discriminator filter or the EEPROM has to be exchanged the automatic IF-offset correction should also be executed after repair.

To execute the automatic IF-offset correction proceed as follows:

- * feed a strong 87.5MHz signal to the antenna
- * press the PLAY button

The μ P starts now several times the search mode.

If the transmitter was found at 87.5MHz the stop-frequency sent by the radio IC is compared with the nominal frequency else the display shows "00E".

When the same difference is found twice the value will be stored as offset.

The actual used offset is shown on the display (-3, -2, -1, 0, 1, 2, 3).

Abbreviations and Pin-description of CD ICs**SERVO PROCESSOR SAA7325H**

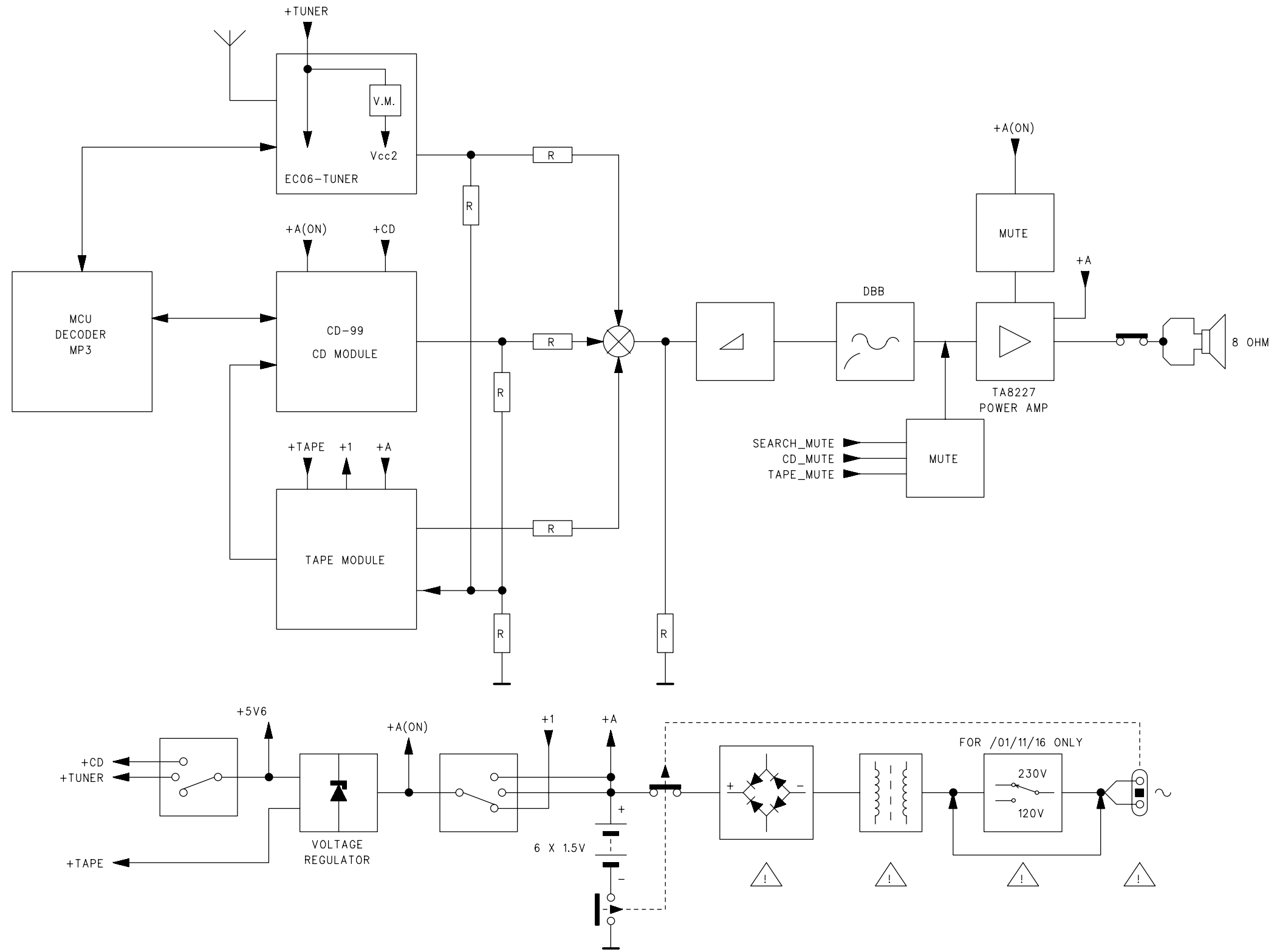
SYMBOL	PIN	DESCRIPTION
HFREF	1	comparator common mode input
HFIN	2	comparator signal input
ISLICE	3	current feedback output from data slicer
V _{SSA1}	4 ⁽¹⁾	analog ground 1
V _{DDA1}	5 ⁽¹⁾	analog supply voltage 1
I _{ref}	6	reference current output pin
V _{RIN}	7	reference voltage for servo ADC's
D1	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 SAA7325H**

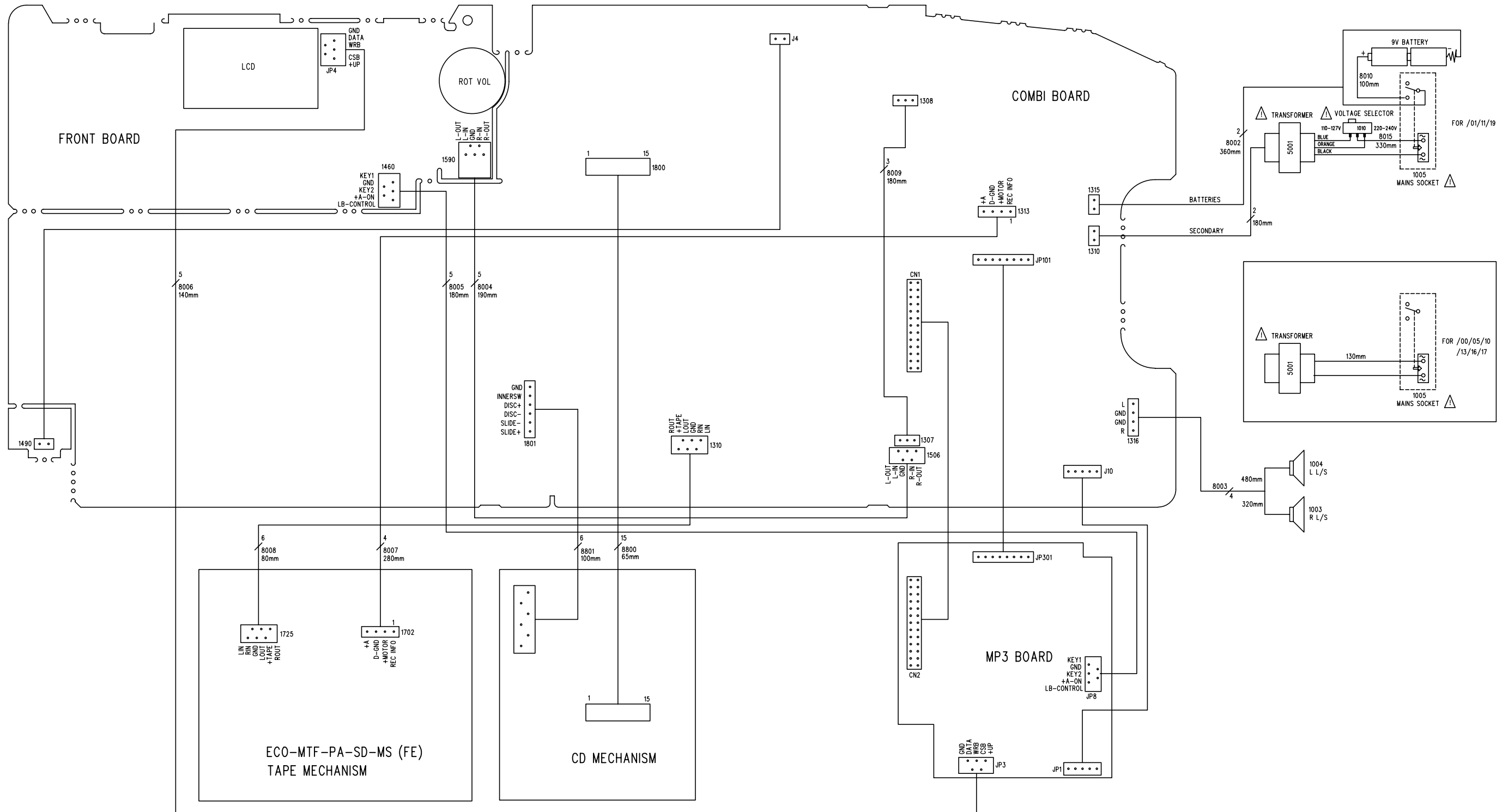
SYMBOL	PIN	DESCRIPTION
RAB	41	microcontroller interface R/W and load control line input (4-wire bus mode)
SILD	42	microcontroller interface R/W and load control line input (4-wire bus mode)
STATUS	43	servo interrupt request line/decoder status register output (open-drain)
TEST3	44	test control input 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.

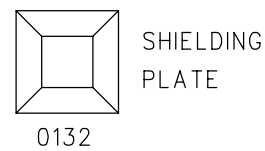
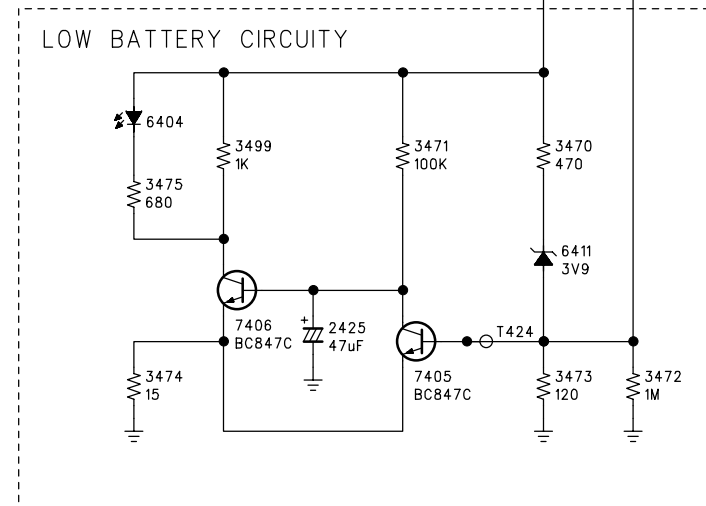
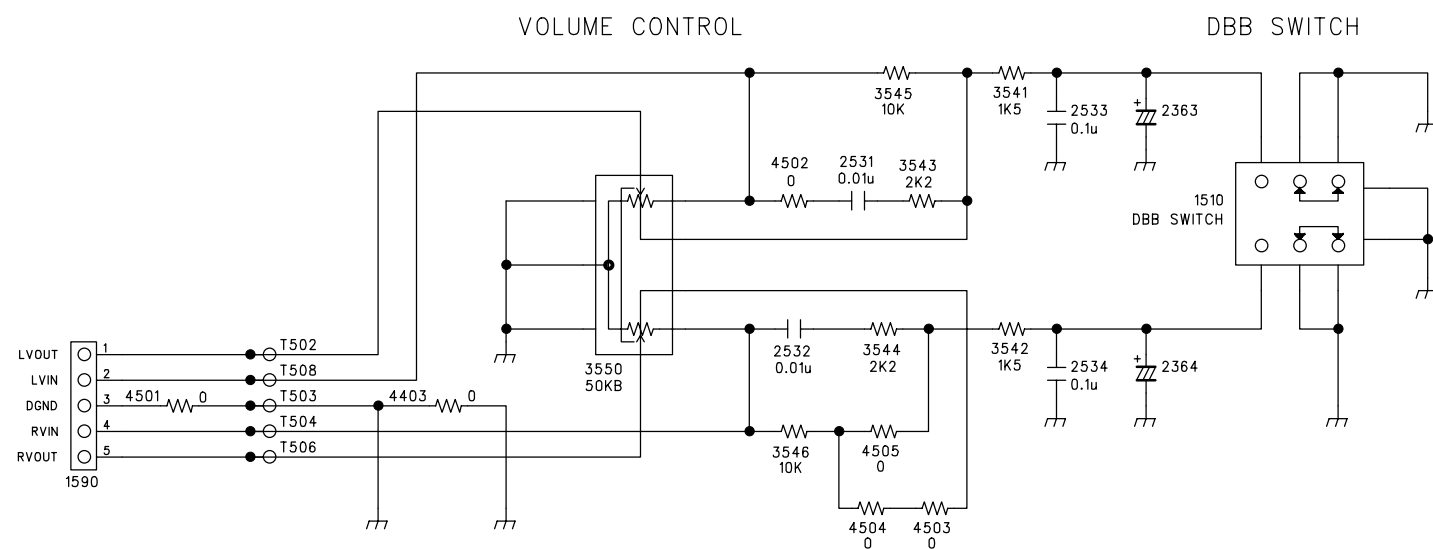
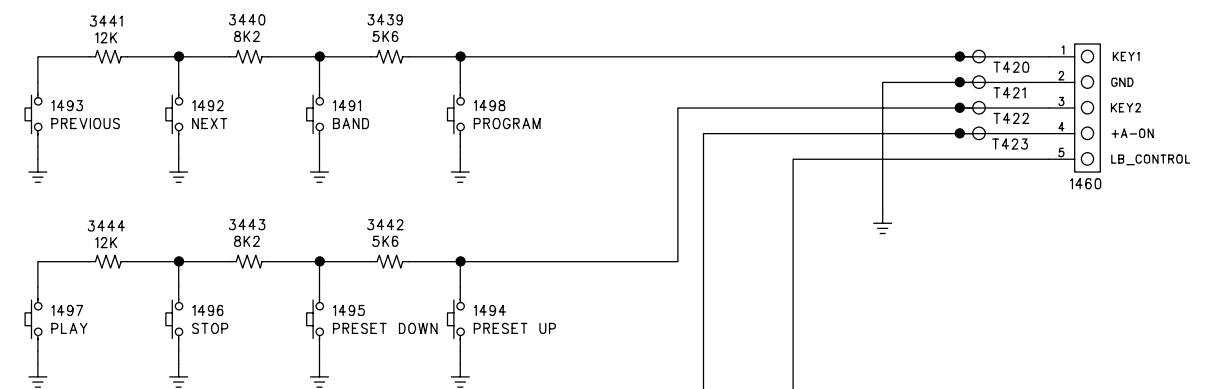
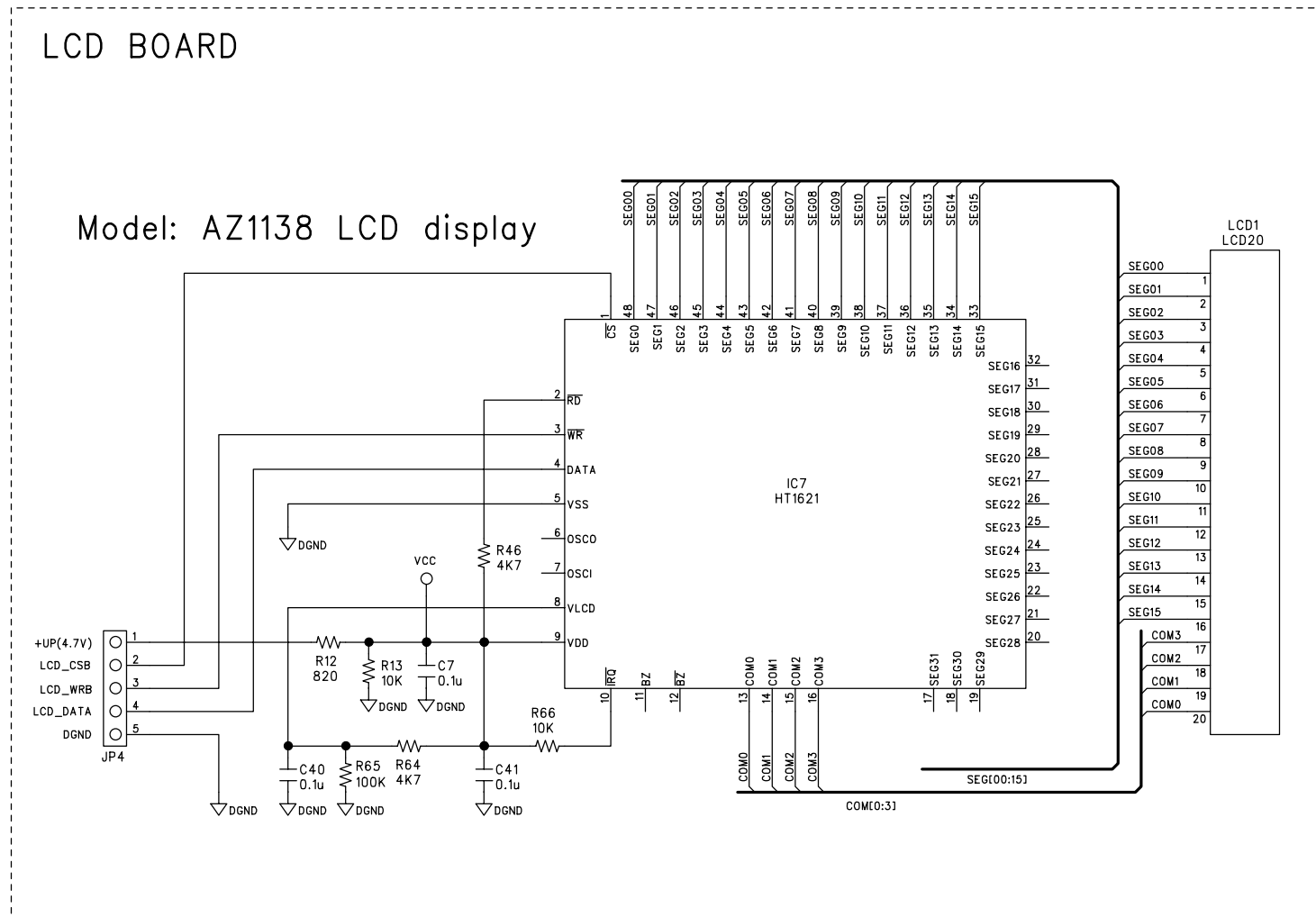
BLOCK DIAGRAM



WIRING DIAGRAM

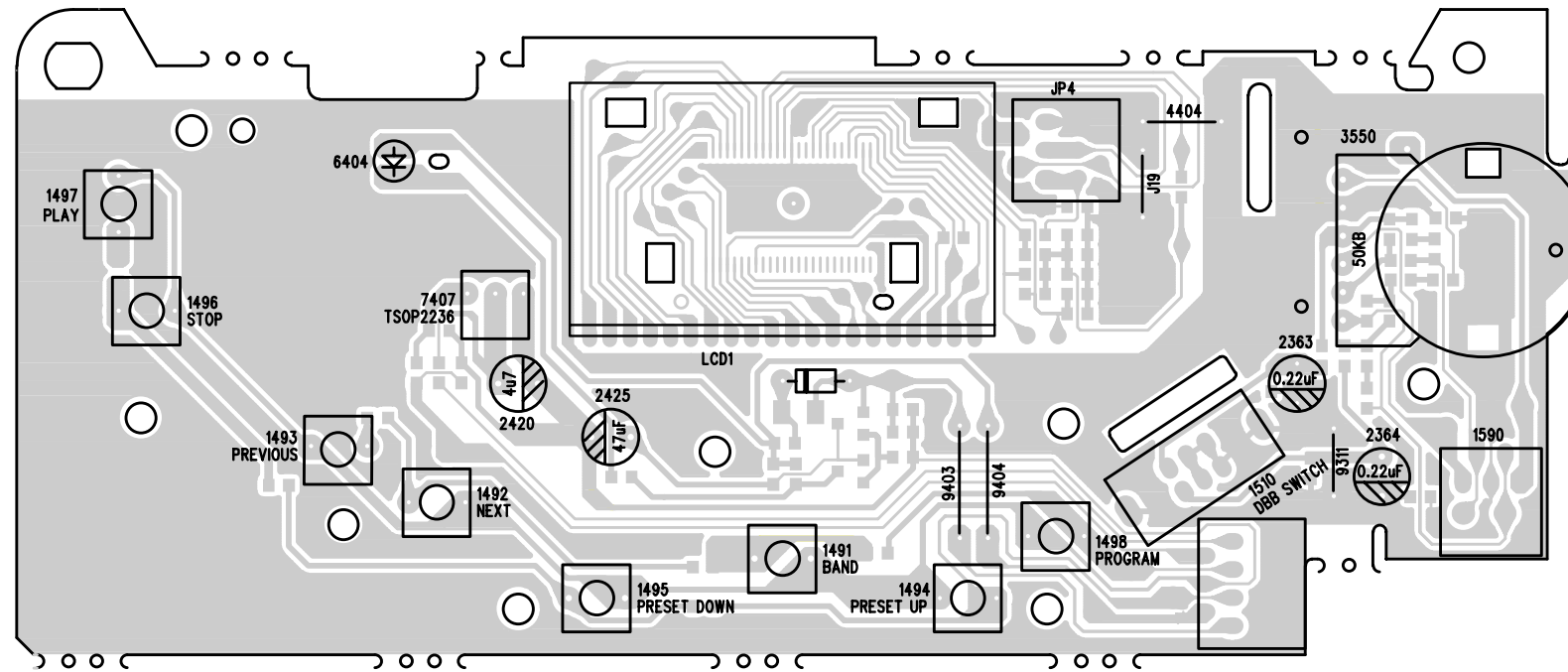


FRONT BOARD - CIRCUIT DIAGRAM

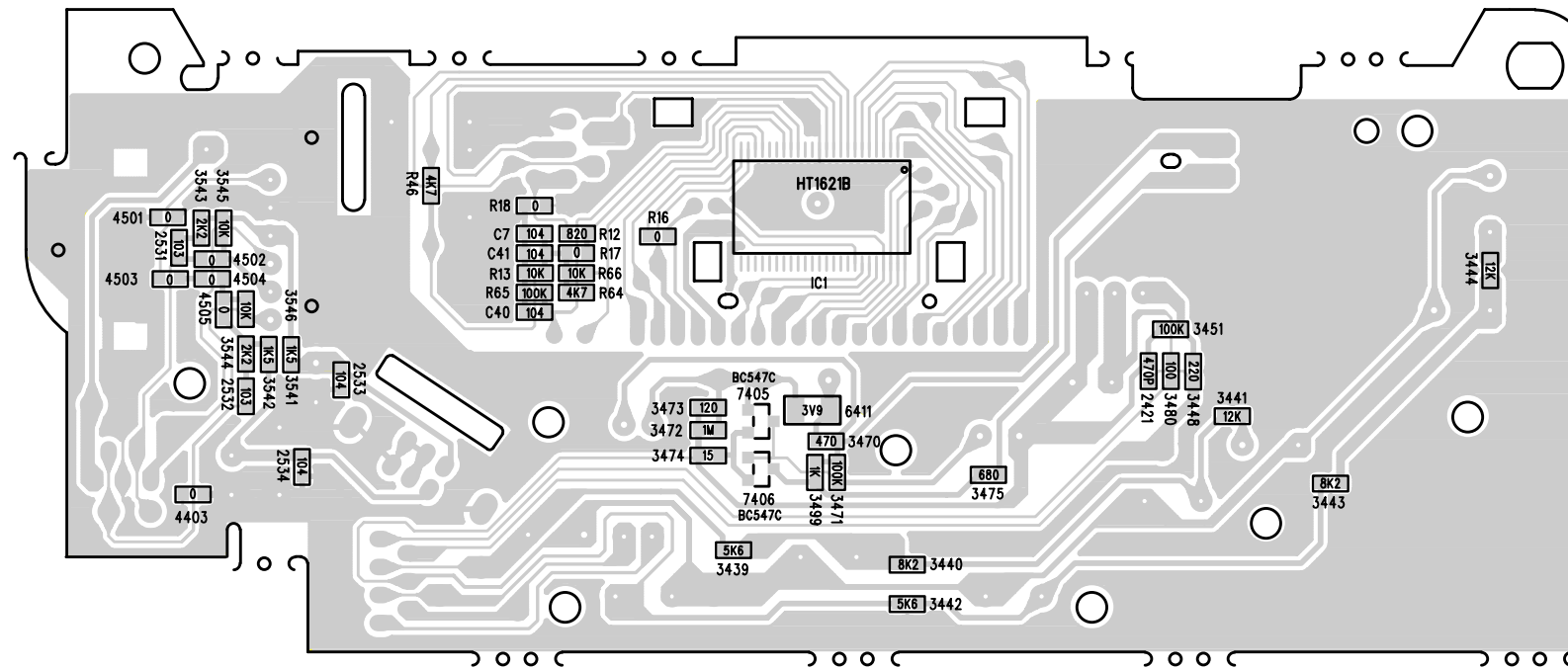


FRONT BOARD - LAYOUT DIAGRAM

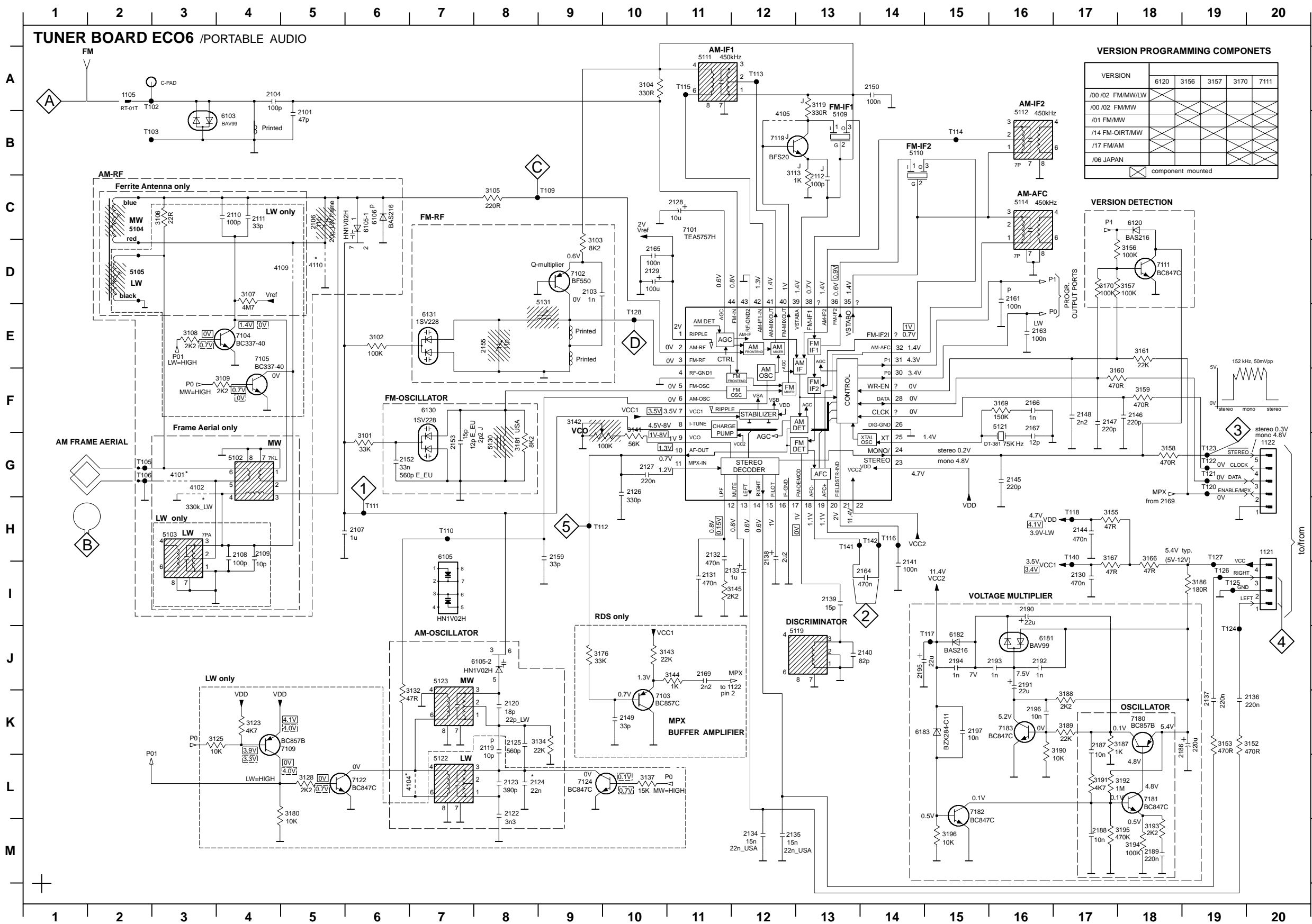
TOP VIEW



BOTOM VIEW



TUNER BOARD - CIRCUIT DIAGRAM



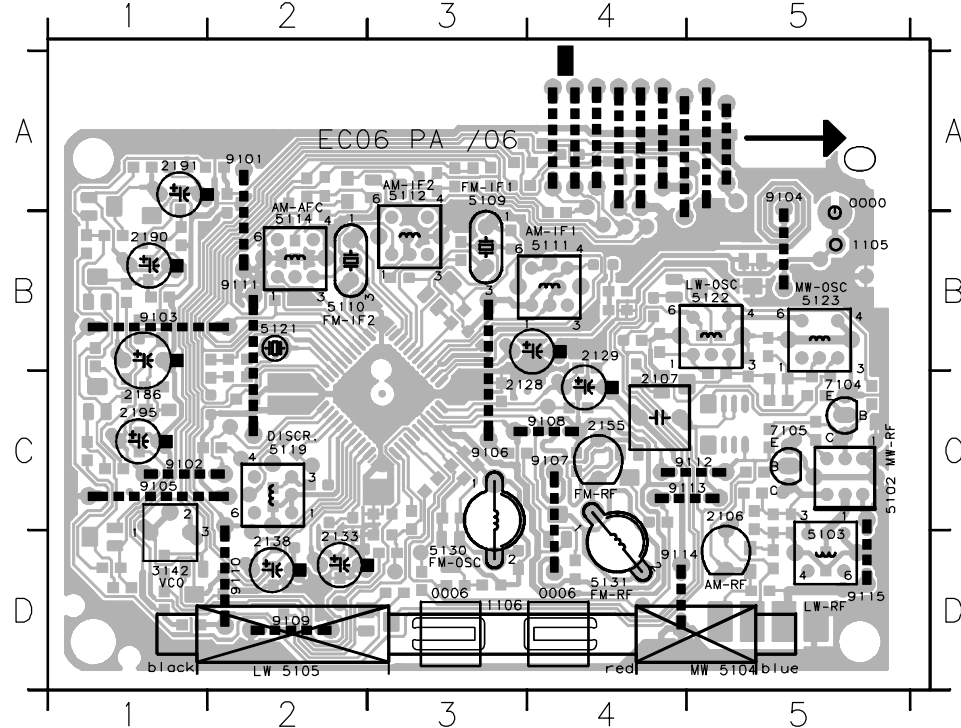
VERSION	6120	3156	3157	3170	7111
/00 /02 FM/MW/LW					
/00 /02 FM/MW					
/01 FM/MW					
/14 FM-OIRT/MW					
/17 FM/AM					
/06 JAPAN					

component mounted

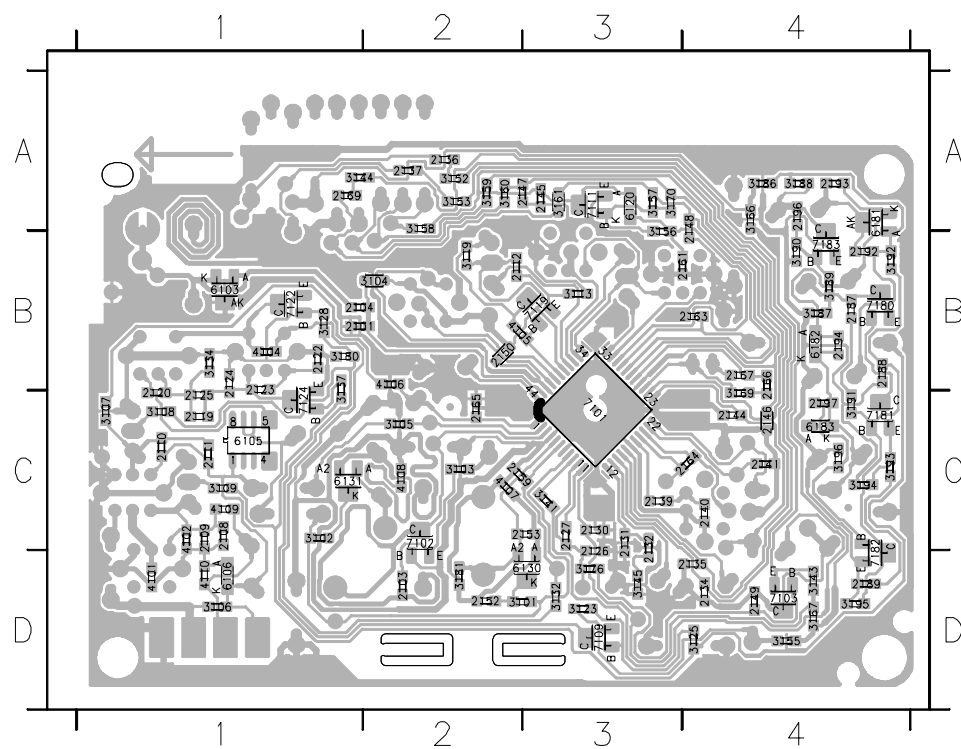
1105 A2	4104 L7
1121 H20	4105 B12
1122 G20	4109 D5
2101 B5	4110 D5
2103 D9	5102 G4
2104 A4	5103 H3
2106 C5	5109 B13
2107 H6	5110 B14
2108 H4	5111 A11
2109 H4	5112 B16
2110 C4	5114 C16
2111 C4	5119 J13
2112 C13	5121 F16
2119 K8	5122 L7
2120 K8	5123 J7
2122 L8	5130 G8
2123 L8	5131 E9
2124 L8	6103 B4
2125 K8	6105-1 C6
2126 G10	6105-2 J8
2127 G10	6106 C6
2128 C11	6120 C18
2129 D10	6130 F7
2130 H7	6131 E7
2131 H11	6181 J16
2132 H11	6182 J15
2133 H12	6183 K14
2134 M12	7101 C11
2135 D10	7102 B9
2136 K20	7103 K10
2137 K19	7104 E4
2138 H12	7105 E4
2139 H13	7109 K5
2140 J14	7111 D18
2141 H4	7119 B12
2142 H7	7122 L6
2145 G16	7124 L9
2146 F18	7180 K18
2147 F17	7181 L18
2148 F17	7182 L15
2149 K10	7183 K16
2150 A14	7188 M17
2152 B12	7189 B12
2153 G7	7189 B12
2155 E8	7189 B12
2159 H9	7189 B12
2161 D16	7189 B12
2163 E16	7189 B12
2164 H4	7189 B12
2165 D10	7189 B12
2166 F16	7189 B12
2167 F16	7189 B12
2169 J11	7189 B12
2186 K19	7189 B12
2187 K17	7189 B12
2188 M17	7189 B12
2189 H18	7189 B12
2190 H16	7189 B12
2191 J16	7189 B12
2192 J16	7189 B12
2193 J16	7189 B12
2194 J15	7189 B12
2195 J14	7189 B12
2196 K16	7189 B12
2197 K15	7189 B12
3101 G6	7189 B12
3102 E6	7189 B12
3103 D9	7189 B12
3104 A10	7189 B12
3105 C8	7189 B12
3106 C3	7189 B12
3107 D4	7189 B12
3108 E3	7189 B12
3109 F4	7189 B12
3113 B12	7189 B12
3119 A13	7189 B12
3123 K4	7189 B12
3125 K3	7189 B12
3128 L5	7189 B12
3132 K7	7189 B12
3134 K9	7189 B12
3137 L10	7189 B12
3141 F10	7189 B12
3142 F9	7189 B12
3143 J10	7189 B12
3144 J11	7189 B12
3145 H2	7189 B12
3152 K20	7189 B12
3153 K19	7189 B12
3155 H17	7189 B12
3156 D18	7189 B12
3157 D18	7189 B12
3158 G18	7189 B12
3159 F18	7189 B12
3160 F17	7189 B12
3161 E18	7189 B12
3166 H18	7189 B12
3167 H17	7189 B12
3169 F16	7189 B12
3170 D17	7189 B12
3176 J9	7189 B12
3180 L5	7189 B12
3181 G8	7189 B12
3186 H9	7189 B12
3187 K18	7189 B12
3188 K17	7189 B12
3189 K17	7189 B12
3190 K17	7189 B12
3191 L17	7189 B12
3192 L18	7189 B12
3194 M18	7189 B12
3195 M18	7189 B12
3196 M15	7189 B12
4101 G3	7189 B12
4102 G3	7189 B12

TUNER BOARD - LAYOUT DIAGRAM

J1 A4 J7 A4 1105 B5 2133 D2 2191 A1 5109 A3 5119 C2 5131 D4 9103 B1 9108 C4 9113 C5
 J2 A4 J8 A4 2106 C5 2138 D2 2195 C1 5110 B2 5121 B2 7104 C5 9104 A5 9109 D2 9114 D4
 J3 A4 J9 A4 2107 C4 2155 C4 3142 D1 5111 B4 5122 B5 7105 C5 9105 C1 9110 D2 9115 D5
 J4 A4 J10 A4 2128 C3 2186 C1 5102 C5 5112 A3 5123 B5 9101 A2 9106 C3 9111 B2
 J6 A4 0000 A5 2129 B4 2190 B1 5103 D5 5114 B2 5130 D3 9102 C1 9107 C4 9112 C5



2101 B1 2123 B1 2137 A2 2152 D2 2188 B4 3105 C2 3134 B1 3158 A2 3186 A4 4101 D1 6106 D1 7111 A3
 2103 D2 2124 B1 2139 C3 2153 C3 2189 D4 3106 D1 3137 B1 3159 A2 3187 B4 4102 C1 6120 A3 7119 B3
 2104 B1 2125 C1 2140 C4 2159 C2 2192 B4 3107 C1 3141 C3 3160 A2 3188 A4 4104 B1 6130 D3 7122 B1
 2108 C1 2126 D3 2141 C4 2161 B4 2193 A4 3108 C1 3143 D4 3161 A3 3189 B4 4105 B2 6131 C1 7124 C1
 2109 C1 2127 C3 2144 C4 2163 B4 2194 B4 3109 C1 3144 A1 3166 A4 3190 B4 4106 B2 6181 A4 7180 B4
 2110 C1 2130 C3 2145 A3 2164 C4 2196 A4 3113 B3 3145 D3 3167 D4 3191 C4 4107 C2 6182 B4 7181 C4
 2111 C1 2131 C3 2146 C4 2165 C2 2197 C4 3119 B2 3152 A2 3169 C4 3192 B4 4108 C2 6183 C4 7182 D4
 2112 B2 2132 C3 2147 A3 2166 B4 3101 D3 3123 D3 3153 A2 3170 A3 3193 C4 4109 C1 7101 C3 7183 B4
 2119 C1 2134 D4 2148 A4 2167 B4 3102 C1 3125 D4 3155 D4 3176 D3 3194 C4 4110 D1 7102 C2
 2120 C1 2135 D4 2149 D4 2169 A1 3103 C2 3128 B1 3156 B3 3180 B1 3195 D4 6103 B1 7103 D4
 2122 B1 2136 A2 2150 B2 2187 B4 3104 B2 3132 D3 3157 A3 3181 D2 3196 C4 6105 C1 7109 D3



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

Waverange	Input frequency	Input	Tuned to	Adjust	Output	Scope/Voltmeter
VARICAP ALIGNMENT						
FM 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)
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	1	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
FM IF						
FM	10.7MHz, 45mV continuous wave	D		5119	2	0 ± 3 mV DC
FM RF						
FM 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		
VCO						
FM	98MHz, 1mV continuous wave	A	98MHz	3142	3	152kHz ±1kHz ¹⁾
AM IF						
MW	450kHz connect pin 6 of IC 7101 (AM Osc.) with 2.2k to Vcc	C Δf=±10kHz V _{RF} = 0.5mV (as low as possible)		5111	5	
			see remark 2)	5112		
AM AFC		C		5114	2	0 ± 2 mV DC
AM RF³⁾						
LW	198kHz	B 	198kHz	5105 LW ferrite coil	5	
MW FM/MW/LW- and FMMW-version (9kHz grid) 531 - 1602kHz	1494kHz		1494kHz	2106 MW ferrite coil		
	558kHz		558kHz	5104 MW ferrite coil		
MW FM/AM-version, 10kHz grid 530 - 1700kHz	1500kHz	Δf = ±30kHz V _{RF} as low as possible	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.

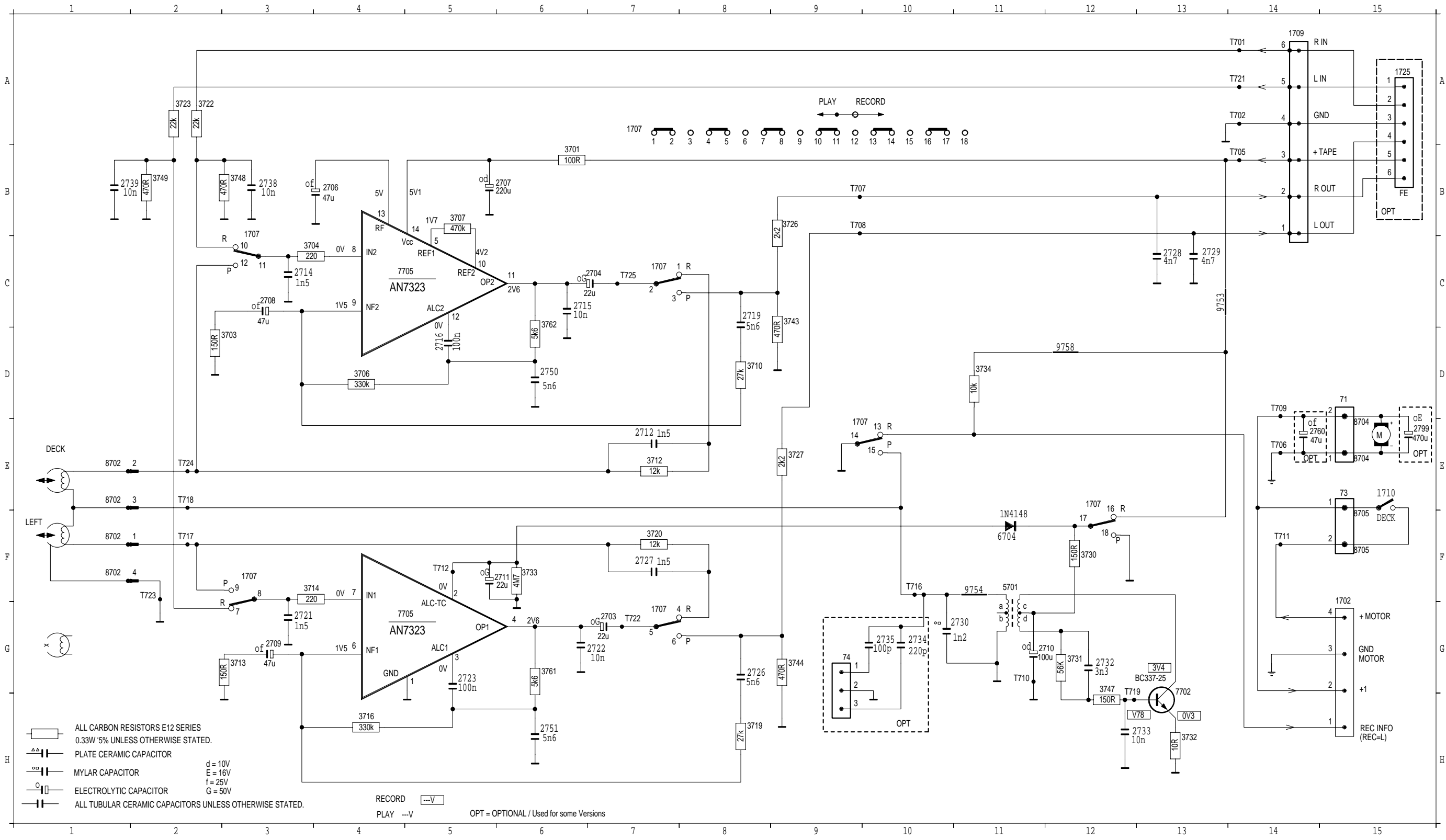
1) If sensitivity of frequency counter is too low adjust to max. channel separation 2) RC network serves for damping the IF-filter while adjusting the other one.
 (input signal: stereo left 90% + 9%, adjust output on right channel to minimum)

3) LW has to be aligned before MW.

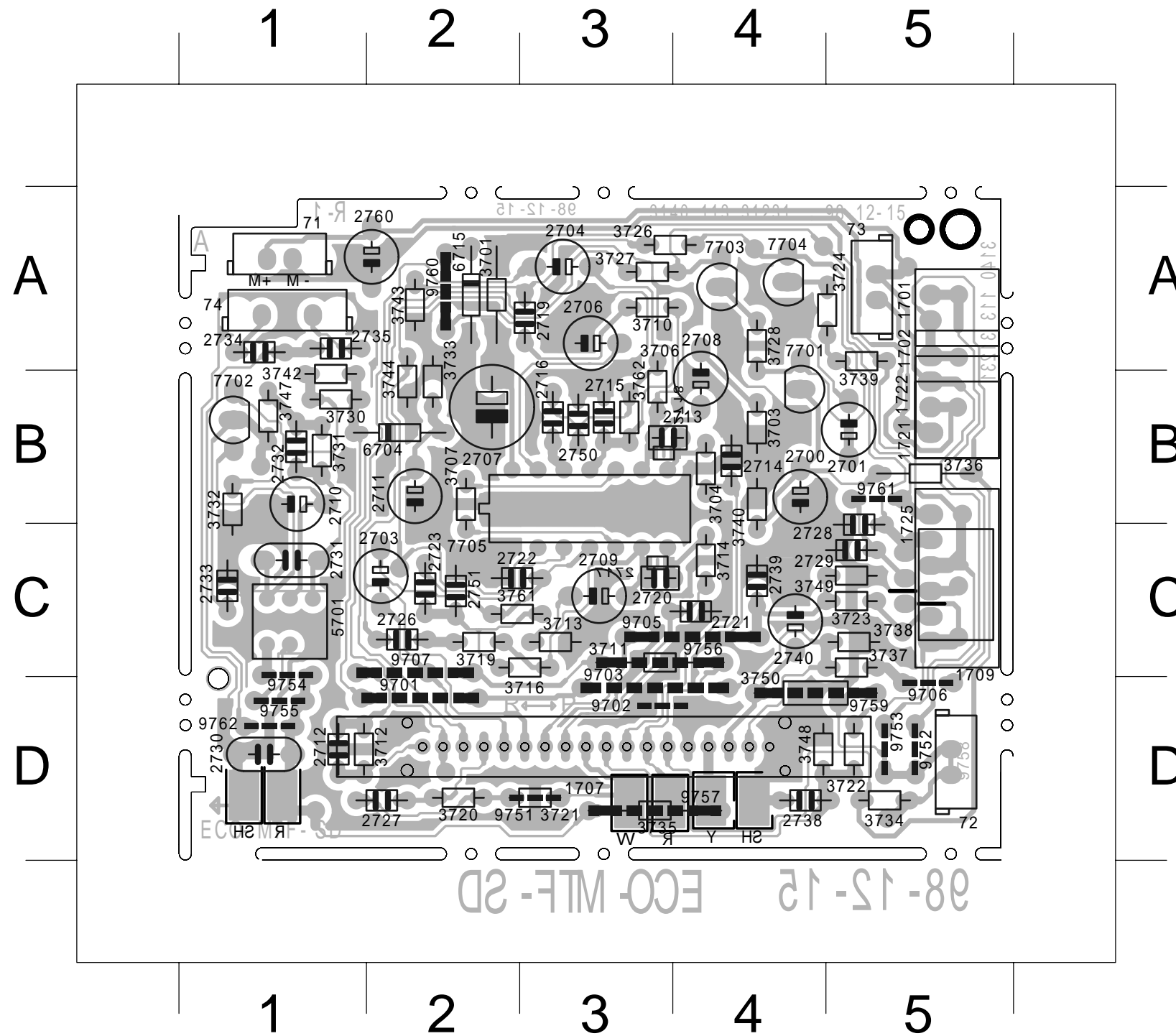
↑ Repeat

RECORDER BOARD - CIRCUIT DIAGRAM (ECO-MTF)

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	E 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 6	2712	E 7	2721	G 3	2728	C13	2734	G10	2751	H 6	3704	C 3	3713	G 3	3722	A 2	3731	G12	3744	G 9	3762	D 6	7705	C 4	8704	E15	9754	F11	T706	E14	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	H 3	3723	A 2	3732	H13	3747	G12	5701	F11	8702	F11	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	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	E 9	3734	D11	3749	B 2	7702	H13	8702	E 1	8705	F15	T702	A14	T709	D14	T717	F 2	T723	F 2		



**RECORDER BOARD - LAYOUT DIAGRAM
(ECO-MTF)**



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	

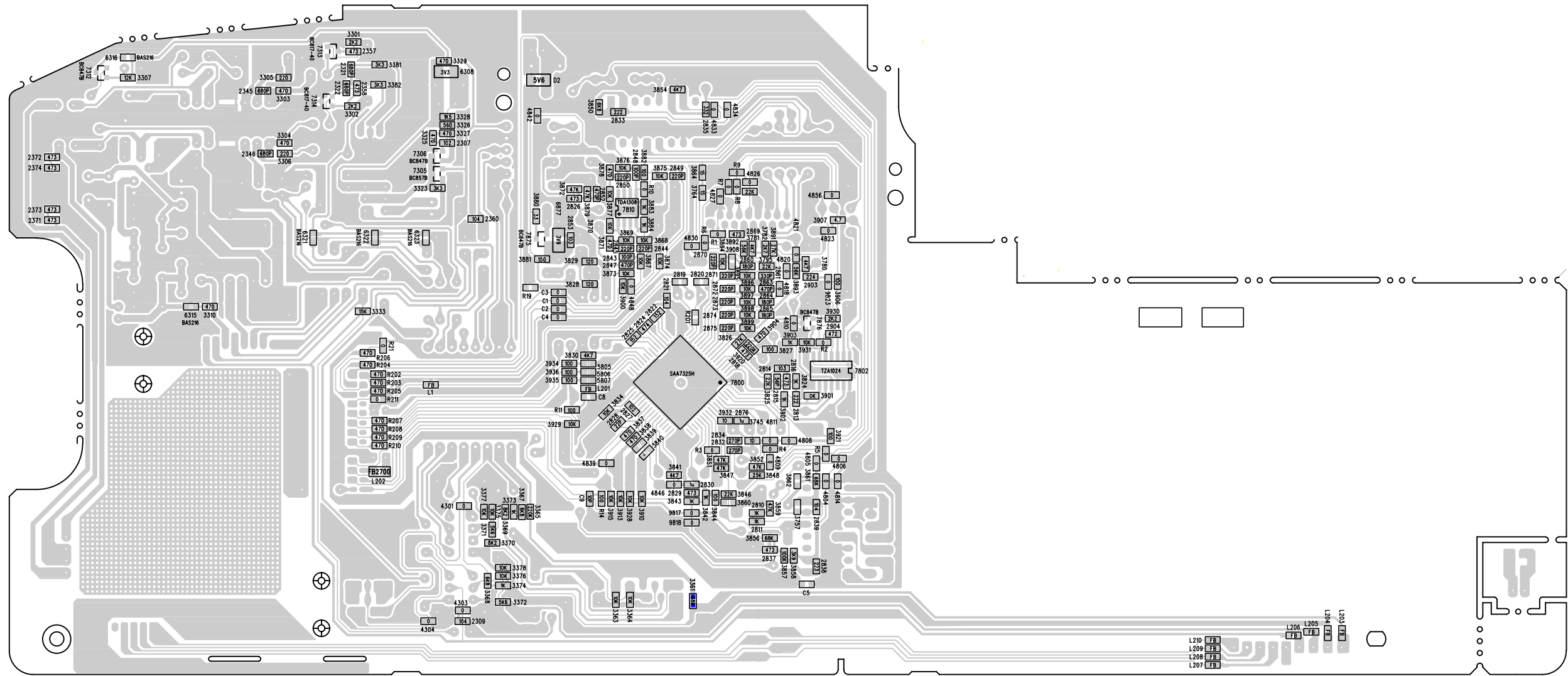
CASSETTE ADJUSTMENT

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

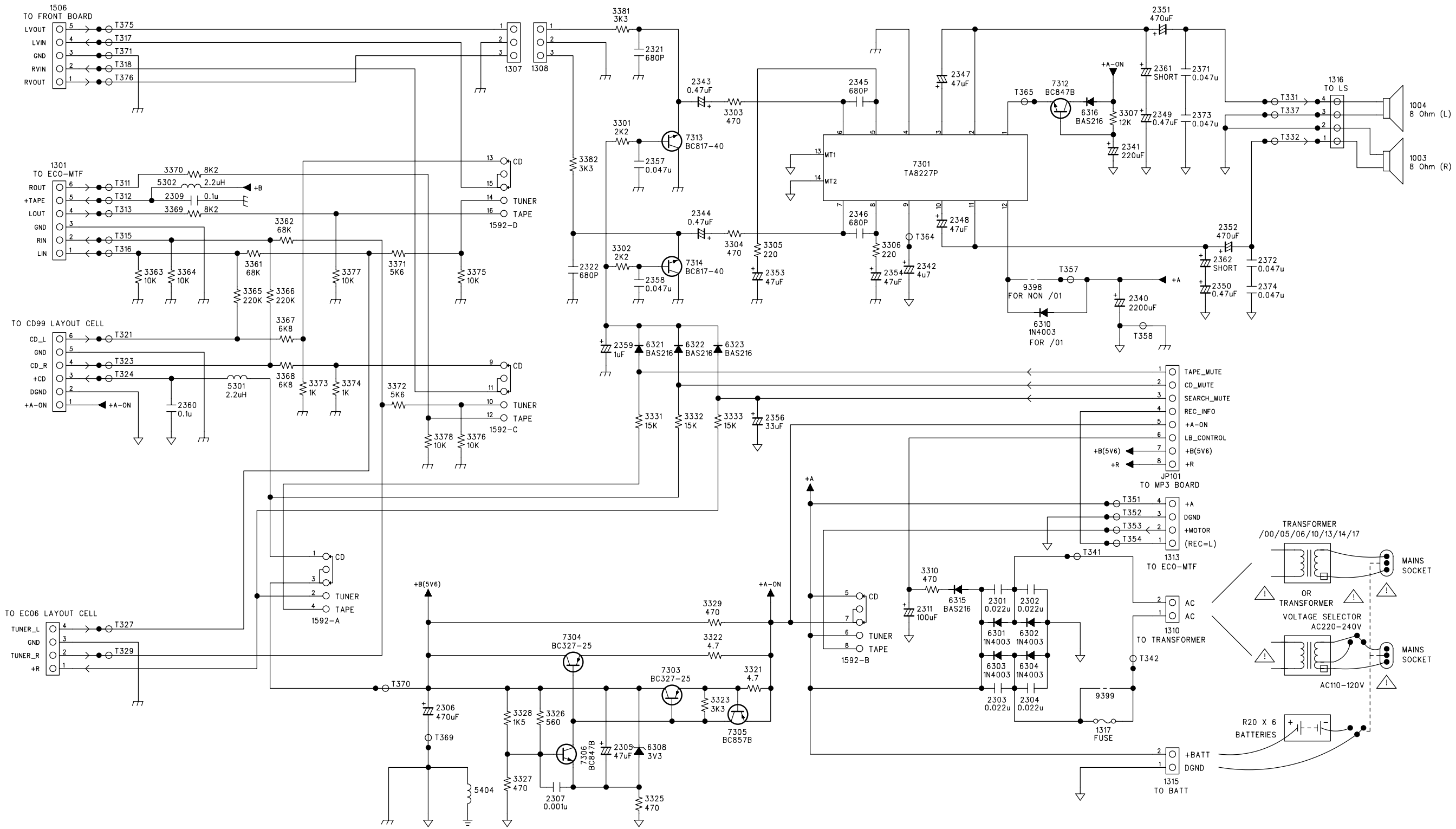
* SBC420 : 4822 397 30071

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

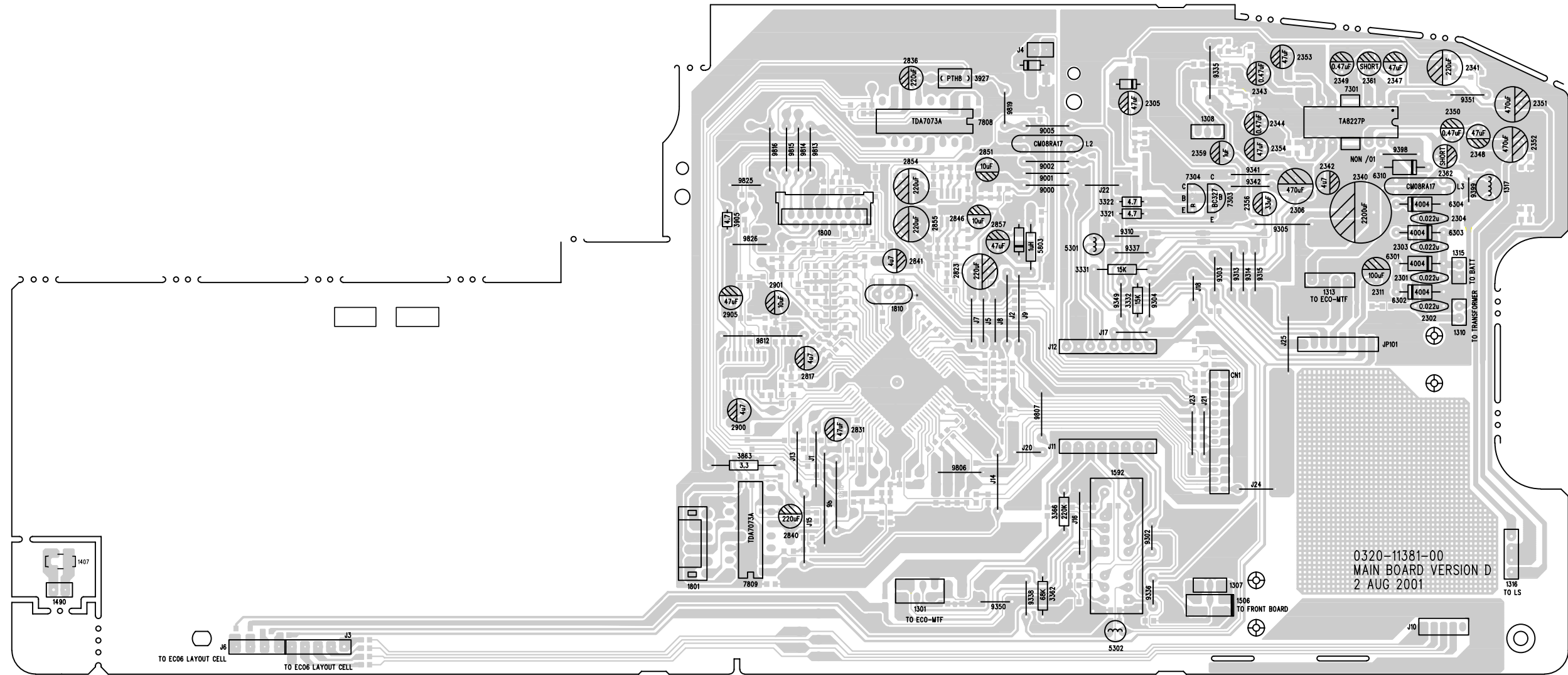
COMBI BOARD - LAYOUT DIAGRAM (COPPER SIDE)



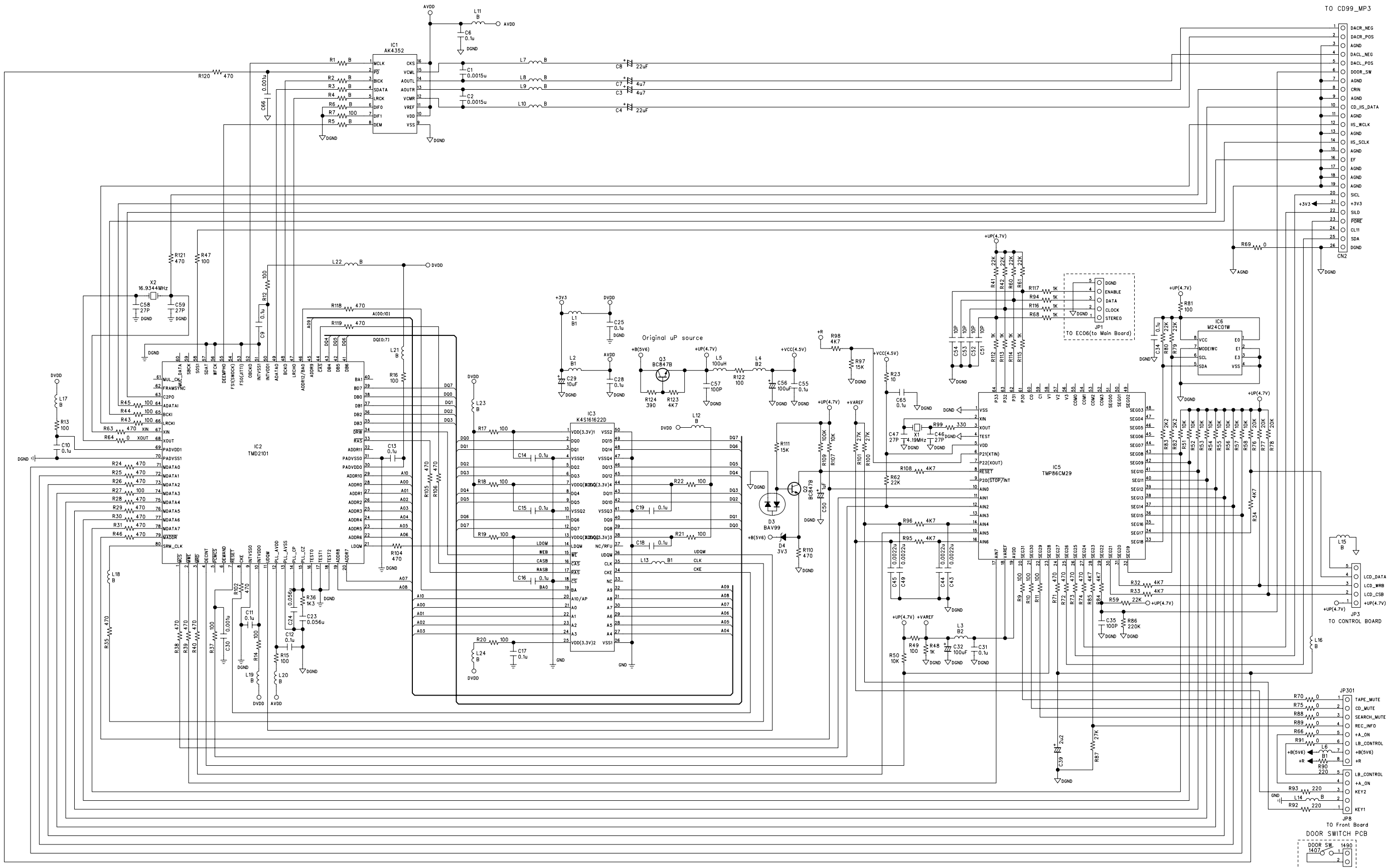
COMBI BOARD - CIRCUIT DIAGRAM (POWER & RECTIFIER PART)



COMBI BOARD - LAYOUT DIAGRAM (COMPONENT SIDE)



MP3 BOARD - CIRCUIT DIAGRAM



TO CD99_MP3

- 1 DACR_NEG
- 2 DACR_POS
- 3 AGND
- 4 DACL_NEG
- 5 DACL_POS
- 6 AGND
- 7 DOOR_SW
- 8 CRIN
- 9 AGND
- 10 CD_IS_DATA
- 11 AGND
- 12 IS_WCLK
- 13 AGND
- 14 IS_SCLK
- 15 AGND
- 16 EF
- 17 AGND
- 18 AGND
- 19 AGND
- 20 SICL
- 21 +3V3
- 22 SLD
- 23 PORE
- 24 CL11
- 25 SDA
- 26 DND

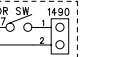
TO CONTROL BOARD

- 1 +UP(4.7V)
- 2 LCD_CS
- 3 LCD_DATA
- 4 LCD_WB
- 5 +UP(4.7V)

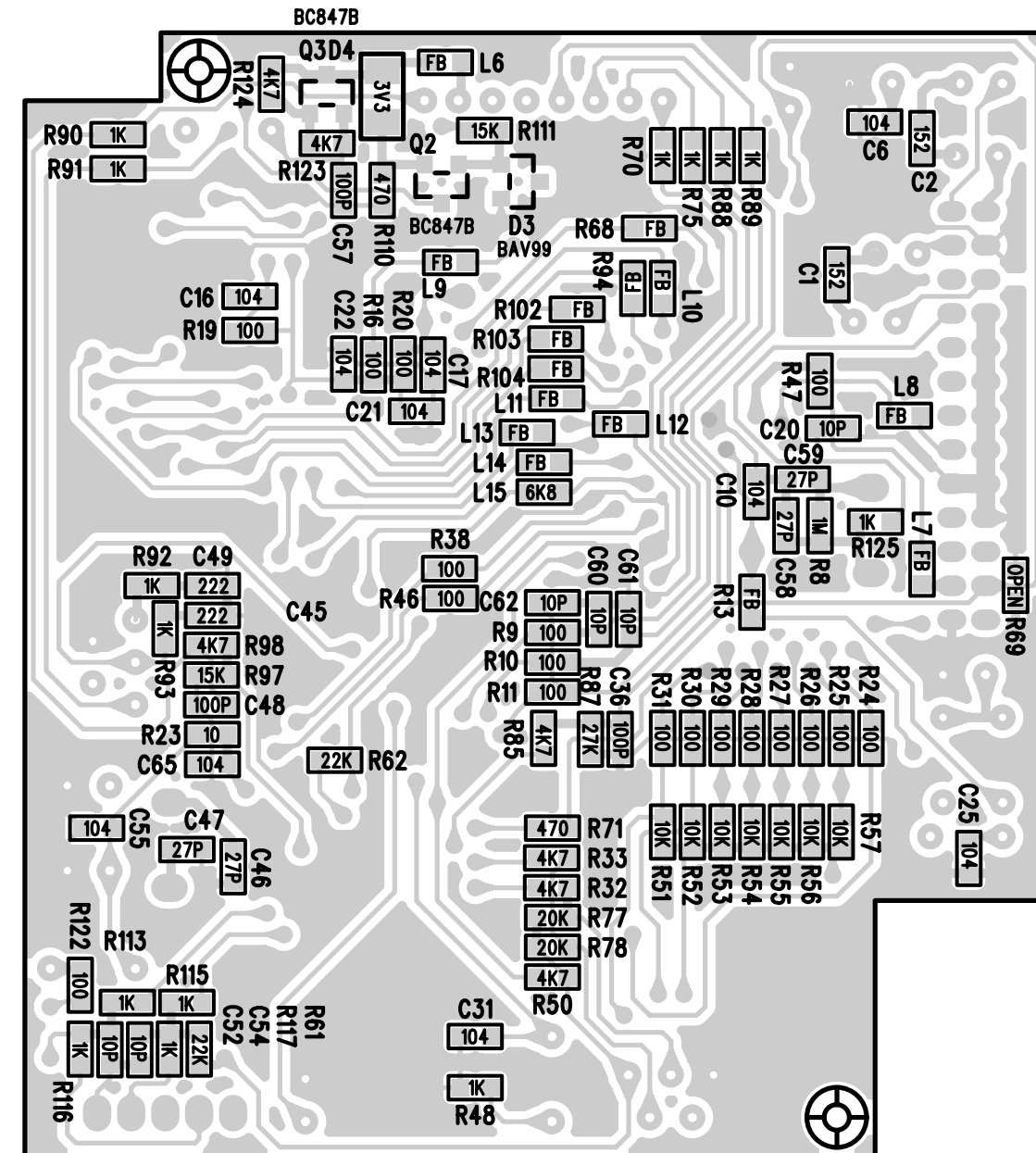
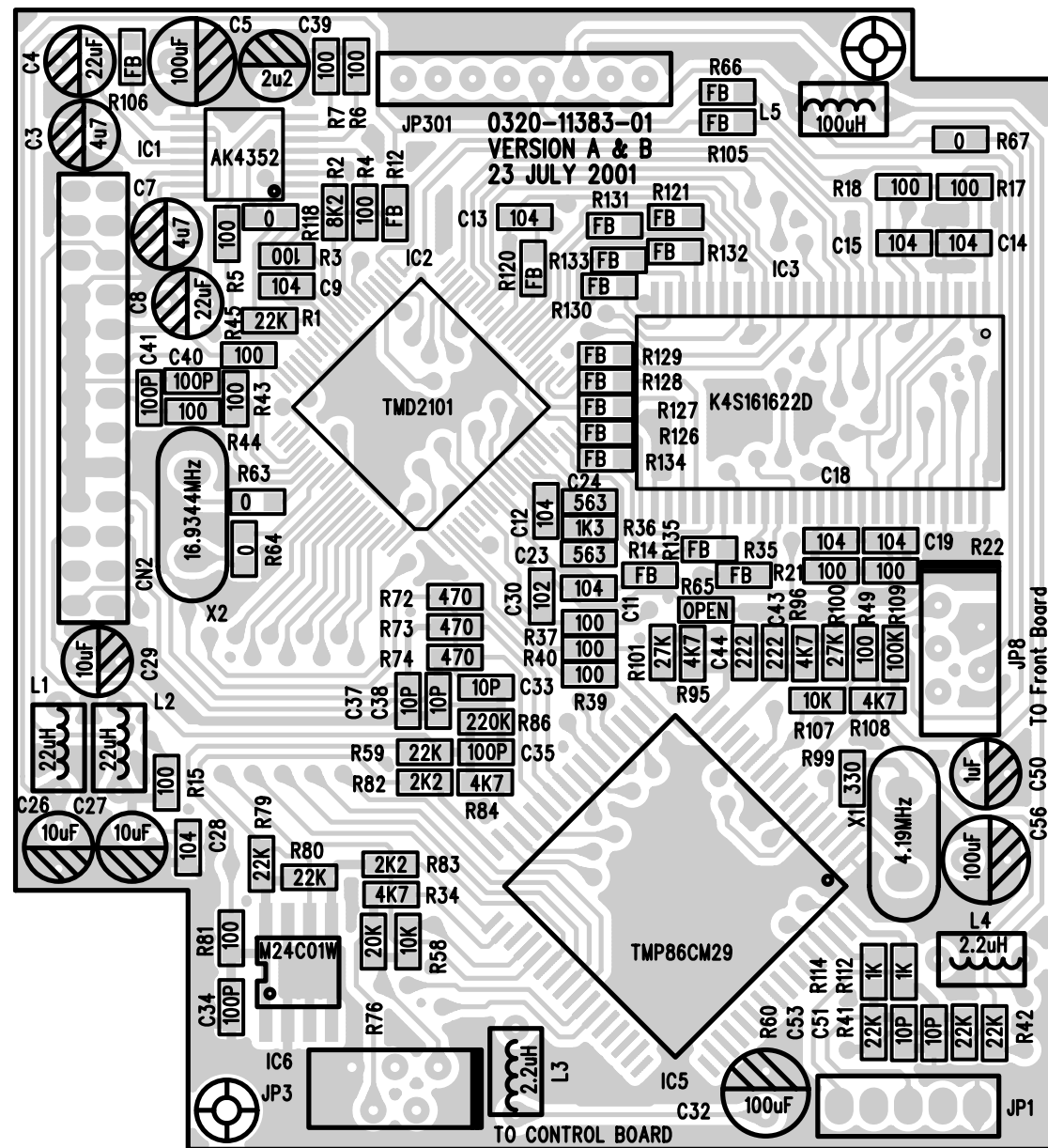
JP301

- 1 TAPE_MUTE
- 2 CD_MUTE
- 3 SEARCH_MUTE
- 4 REC_INFO
- 5 +A_ON
- 6 LB_CONTROL
- 7 +B(5V6)
- 8 +R
- 9 +R
- 10 LB_CONTROL
- 11 +A_ON
- 12 KEY2
- 13 KEY1

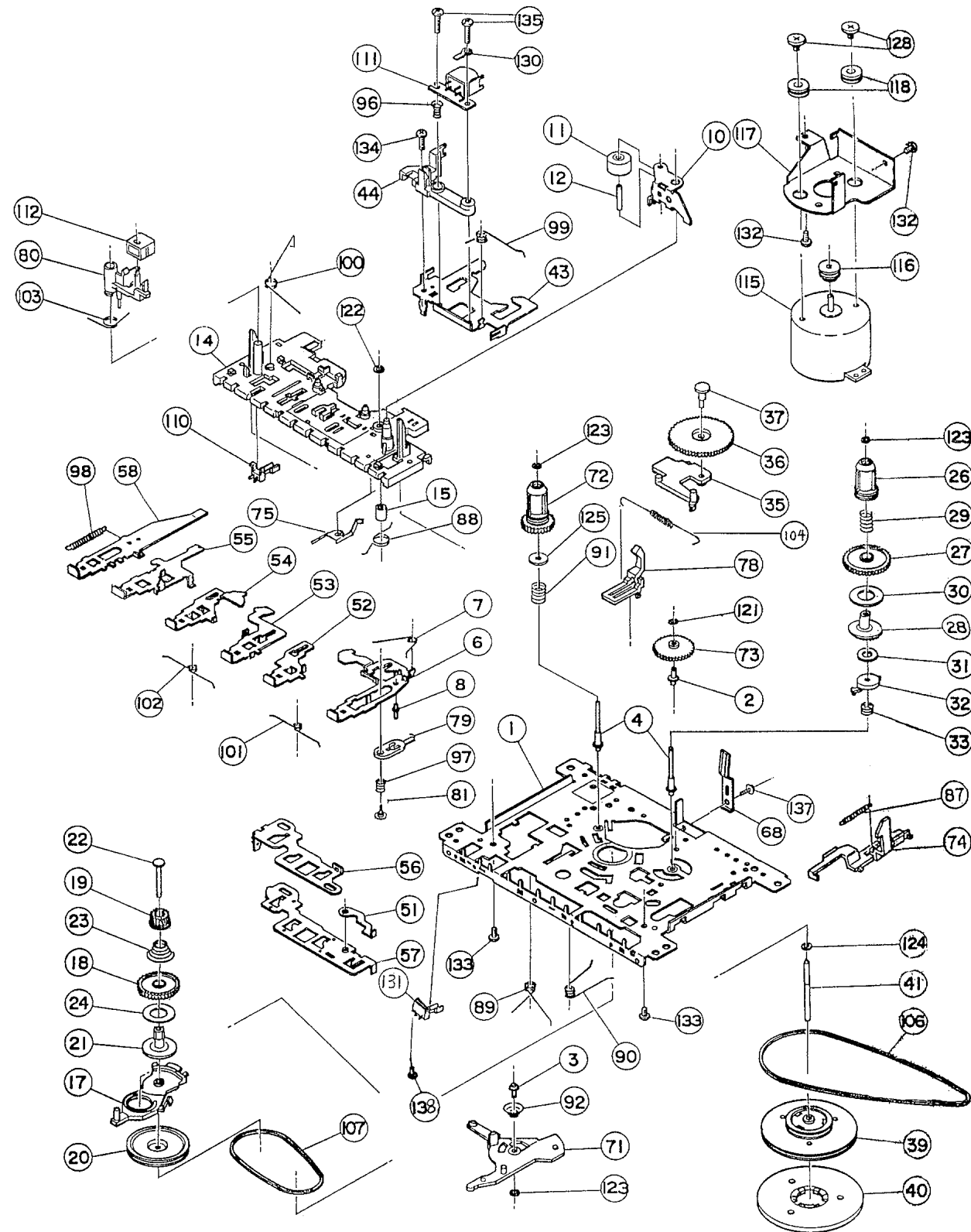
TO Front Board



MP3 BOARD - LAYOUT DIAGRAM



EXPLODED VIEW DIAGRAM - TAPE DECK



MECHANICAL PARTSLIST - TAPE DECK

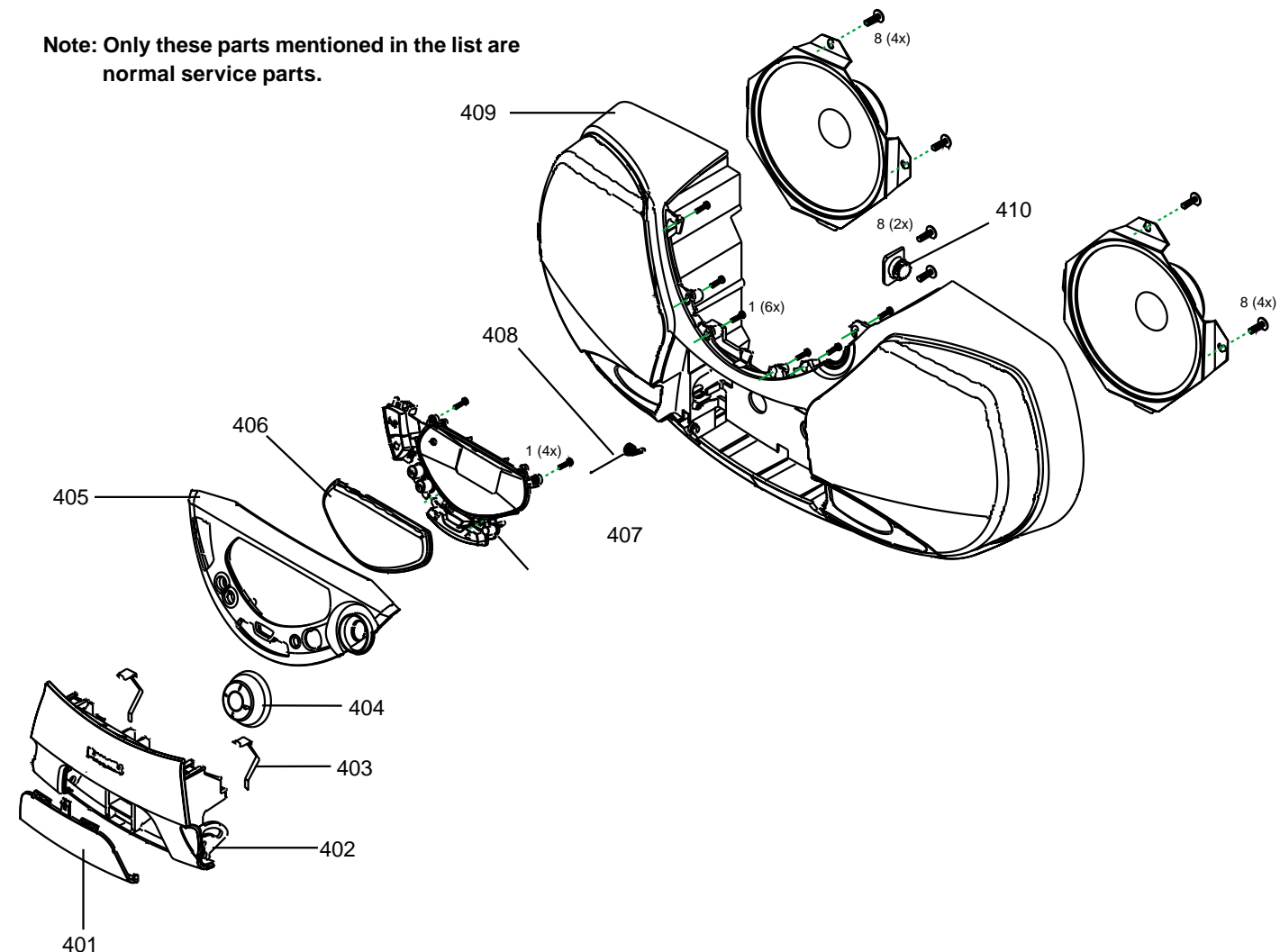
- | | | | | | |
|-----|----------------|----------------------|-----|----------------|-------------------|
| 10 | 4822 528 70849 | Pinch Roller Arm (B) | 111 | 4822 249 30218 | MS18R-AKONI |
| 11 | 4822 528 70695 | Pinch Roller Assy | 112 | 4822 249 40306 | E. Head |
| 74 | 4822 403 70968 | Eject Hook (A) | 115 | 4822 361 21565 | Motor EG-530AD-9B |
| 106 | 4822 358 31325 | Main Belt 45.2 x 1.2 | 116 | 4822 528 81497 | Motor Pulley |
| 107 | 4822 358 31124 | Sub Belt 44.7 x 1.2 | | | |
| 110 | 4822 278 90721 | Leaf Switch | | | |
- Note** Only these parts mentioned in the list are normal service parts.

EXPLODED VIEW DIAGRAM - CABINET

MECHANICAL PARTSLIST - CABINET

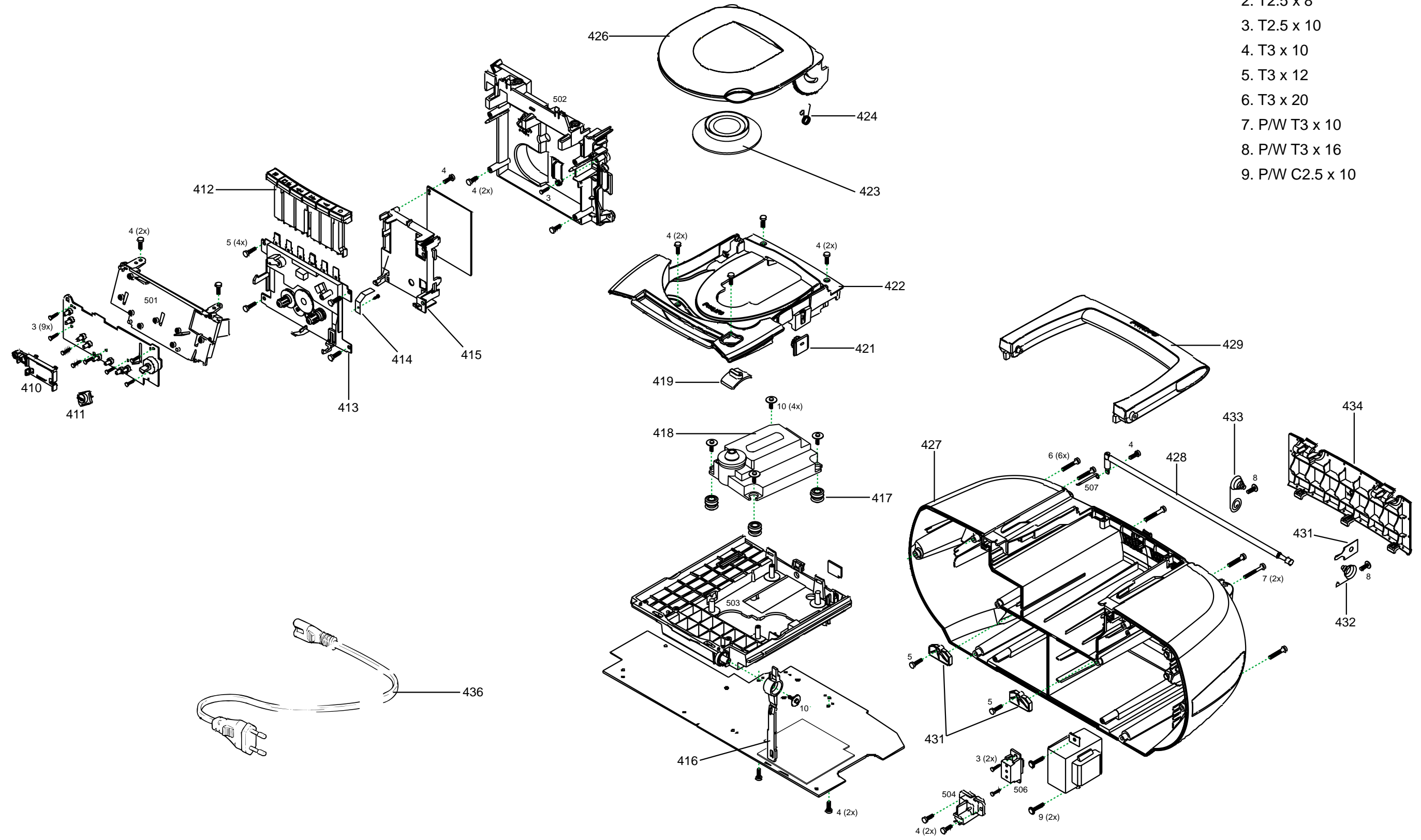
- | | | | | | |
|-----|----------------|------------------------|-----|----------------|--------------------------|
| 401 | 9965 000 10656 | Cassette Door Lens | 423 | 3140 117 59810 | Clamper Ring Assy |
| 402 | 9965 000 10651 | Cassette Door | 424 | 3140 111 00800 | Spring - CD Door |
| 403 | 3140 111 21730 | Spring - Leaf | 426 | 9965 000 10650 | Door - CD |
| 404 | 9965 000 10658 | Knob - Volume | 427 | 9965 000 10648 | Rear Cabinet |
| 405 | 9965 000 10649 | Front - CD Panel | 428 | 3140 118 71570 | Telescopic Aerial |
| 406 | 9965 000 10657 | Lens - CD | 429 | 9965 000 10652 | Handle |
| 407 | 9965 000 10661 | Window Keyset | 431 | 3140 111 21320 | Contact Plate |
| 408 | 4822 492 11776 | Spring - Cass Door | 431 | 9965 000 10654 | Cover Plate |
| 410 | 9965 000 10664 | Bracket - LCD | 432 | 3140 111 00780 | Spring - Compression |
| 411 | 9965 000 10659 | Knob - DBB | 433 | 3140 111 00790 | Spring - PLUS/MINUS |
| 412 | 9965 000 10660 | Keyset - Cass | 434 | 9965 000 10653 | Door - Battery |
| 413 | 4822 691 10612 | Tape Deck CDS-83VBF-77 | 436 | 2422 070 98133 | Mains Cord (For -/00/01) |
| 414 | 3140 111 20800 | Spring - Recording | 436 | 2422 070 98152 | Mains Cord (For -/17) |
| 415 | 3140 114 20430 | Bracket - Recording | | | |
| 416 | 9965 000 10663 | Lever - Mode | | | |
| 417 | 4822 529 10431 | Damper Rubber (25 DEG) | | | |
| 418 | 9305 022 30103 | VAM2201/03 | | | |
| 419 | 9965 000 10662 | Knob Cap - Mode | | | |
| 421 | 4822 529 10322 | Damper Assy | | | |
| 422 | 9965 000 10655 | Tray - CD | | | |

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



- 9965 000 10665 Instr Manual (For -/00)
- 9965 000 10694 Instr Manual (For -/01)
- 9965 000 10695 Instr Manual (For -/17)

EXPLODED VIEW DIAGRAM - CABINET



SCREW LIST

1. T2 x 8
2. T2.5 x 8
3. T2.5 x 10
4. T3 x 10
5. T3 x 12
6. T3 x 20
7. P/W T3 x 10
8. P/W T3 x 16
9. P/W C2.5 x 10

ELECTRICAL PARTSLIST - CONTROL BOARD**CAPACTORS**

2425	4822 124 81286	47µF 10V 20%
2531	5322 126 11583	10nF 50V 20%
2532	5322 126 11583	10nF 50V 20%
2533	4822 126 14305	100nF 50V 20%
2534	4822 126 14305	100nF 50V 20%

C40	4822 126 14305	100nF 50V 20%
C41	4822 126 14305	100nF 50V 20%
C7	4822 126 14305	100nF 50V 20%

RESISTORS

3439	4822 051 30562	5,6K 0,062W 5%
3440	4822 117 12902	8,2K 0,062W 5%
3441	4822 051 30123	12K 0,062W 5%
3442	4822 051 30562	5,6K 0,062W 5%
3443	4822 117 12902	8,2K 0,062W 5%

3444	4822 051 30123	12K 0,062W 5%
3470	4822 051 30471	470R 0,062W 5%
3471	4822 117 13632	100K 0,062W 5%
3472	4822 051 30105	1M 0,062W 5%
3473	4822 051 30121	120R 0,062W 5%

3474	4822 117 12971	15R 0,062W 5%
3475	4822 051 30681	680R 0,062W 5%
3499	4822 051 30102	1K 0,062W 5%
3541	4822 051 30152	1,5K 0,062W 5%
3542	4822 051 30152	1,5K 0,062W 5%

3543	4822 051 30222	2,2K 0,062W 5%
3544	4822 051 30222	2,2K 0,062W 5%
3545	4822 051 30103	10K 0,062W 5%
3546	4822 051 30103	10K 0,062W 5%
3550	2120 354 90029	Var. Resistor 50KX2

4403	4822 051 30008	OR Jumper 0603
4501	4822 051 30008	OR Jumper 0603
4502	4822 051 30008	OR Jumper 0603
4503	4822 051 30008	OR Jumper 0603
4504	4822 051 30008	OR Jumper 0603

4505	4822 051 30008	OR Jumper 0603
R12	4822 117 12968	820R 0,062W 5%
R13	4822 051 30103	10K 0,062W 5%
R19	4822 051 30008	OR Jumper 0603
R46	4822 051 30472	4,7K 0,062W 5%

R64	4822 051 30472	4,7K 0,062W 5%
R65	4822 117 13632	100K 0,062W 5%
R66	4822 051 30103	10K 0,062W 5%

DIODES

6404	4822 130 82978	LTL-16KPE-P
6411	4822 130 11564	UDZ3.9B

TRANSISTORS & IC

7405	5322 130 42755	BC847C
7406	5322 130 42755	BC847C
IC7	9965 000 10667	HT1621

MISCELLANEOUS

1491	2422 128 02922	SWITCH-TACT
1492	2422 128 02922	SWITCH-TACT
1493	2422 128 02922	SWITCH-TACT
1494	2422 128 02922	SWITCH-TACT
1495	2422 128 02922	SWITCH-TACT
1496	2422 128 02922	SWITCH-TACT
1497	2422 128 02922	SWITCH-TACT
1498	2422 128 02922	SWITCH-TACT
1510	9965 000 10666	SWITCH-SLIDE 2P2T
LCD1	9965 000 10668	LCD DISPLAY 91221TR-P

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

ELECTRICAL PARTSLIST - TUNER**CAPACTORS**

2101	4822 126 13692	47pF 1% 63V
2103	5322 122 31647	1nF 10% 63V
2104	5322 122 32531	100pF 5% 50V
2106	2020 800 00191	3pF-11pF N450 100V
2107	4822 121 51319	1µF 10% 63V

2120	5322 122 32658	22pF 5% 50V
2124	5322 122 32654	22nF 10% 63V
2125	2238 861 18561	560pF 1% 50V
2126	5322 122 31863	330pF 5% 63V
2127	4822 126 14076	220nF 80/20% 25V

2128	4822 124 40248	10µF 20% 63V
2129	4822 124 41584	100µF 20% 10V
2130	4822 126 13482	470nF 80/20% 16V
2131	4822 126 13482	470nF 80/20% 16V
2132	4822 126 13482	470nF 80/20% 16V

2133	4822 124 21913	1µF 20% 63V
2134	5322 122 32654	22nF 10% 63V
2135	5322 122 32654	22nF 10% 63V
2136	4822 126 14076	220nF 80/20% 25V
2137	4822 126 14076	220nF 80/20% 25V

2138	4822 124 22652	2,2µF 20% 50V
2139	4822 126 14236	15pF 5% 50V
2140	4822 126 13695	82pF 1% 63V
2141	4822 126 13838	100nF 80/20% 50V
2144	4822 126 13482	470nF 80/20% 16V

2145	4822 122 33575	220pF 5% 63V
2146	4822 122 33575	220pF 5% 63V
2147	4822 122 33575	220pF 5% 63V
2148	4822 122 33127	2,2nF 10% 63V
2150	4822 126 13838	100nF 80/20% 50V

2152	4822 126 12105	33nF 5% 50V
2153	4822 126 13486	15pF 2% 63V
2155	2020 800 00191	3pF-11pF N450 100V
2159	5322 122 32659	33pF 5% 50V
2164	4822 126 13482	470nF 80/20% 16V

2165	4822 126 13838	100nF 80/20% 50V
2166	5322 122 31647	1nF 10% 63V
2167	4822 122 33926	12pF 5% 50V
2186	4822 124 40196	220µF 20% 16V
2187	4822 122 33177	10nF 20% 50V

2188	4822 122 33177	10nF 20% 50V
2189	4822 126 14076	220nF 80/20% 25V
2190	4822 124 81151	22µF 50V
2191	4822 124 81151	22µF 50V
2192	5322 122 31647	1nF 10% 63V

CAPACTORS

2193	5322 122 31647	1nF 10% 63V
2194	5322 122 31647	1nF 10% 63V
2195	4822 124 81151	22µF 20% 50V
2196	4822 122 33177	10nF 20% 50V
2197	4822 122 33177	10nF 20% 50V

RESISTORS

3187	4822 051 10102	1K 2% 0,25W
3181	4822 051 10182	1,8K 2% 0,25W
4104	4822 051 20008	OR Jumper 0805
3192	4822 051 20105	1M 5% 0,1W
3169	4822 051 20154	150K 5% 0,1W

3134	4822 051 20223	22K 5% 0,1W
3161	4822 051 20223	22K 5% 0,1W
3189	4822 051 20223	22K 5% 0,1W
3101	4822 051 20333	33K 5% 0,1W
3152	4822 051 20471	470R 5% 0,1W

3153	4822 051 20471	470R 5% 0,1W
3158	4822 051 20471	470R 5% 0,1W
3159	4822 051 20471	470R 5% 0,1W
3160	4822 051 20471	470R 5% 0,1W
3191	4822 051 20472	4,7K 5% 0,1W

3195	4822 051 20474	470K 5% 0,1W
3132	4822 051 20479	47R 5% 0,1W
3155	4822 051 20479	47R 5% 0,1W
3166	4822 051 20479	47R 5% 0,1W
3167	4822 051 20479	47R 5% 0,1W

3103	4822 051 20682	6,8K 5% 0,1W
3142	4822 100 12159	100K 30%
3190	4822 117 10833	10K 1% 0,1W
3196	4822 117 10833	10K 1% 0,1W
3102	4822 117 10837	100K 1% 0,1W

3156	4822 117 10837	100K 1% 0,1W
3157	4822 117 10837	100K 1% 0,1W
3194	4822 117 10837	100K 1% 0,1W
3141	4822 117 11148	56K 1% 0,1W
3186	4822 117 11448	180R 1% 0,1W

3145	4822 117 11449	2,2K 5% 0,1W
3188	4822 117 11449	2,2K 5% 0,1W
3193	4822 117 11449	2,2K 5% 0,1W
3105	4822 117 11503	220R 1% 0,1W
3104	4822 117 13577	330R 1% 1,25W

ELECTRICAL PARTSLIST - TUNER**RESISTORS**

4105	4822 051 20008	0R Jumper 0805
4101	4822 051 20008	0R Jumper 0805
4107	4822 051 20008	0R Jumper 0805
4108	4822 051 20008	0R Jumper 0805
4110	4822 051 20008	0R Jumper 0805

MISCELLANEOUS

1106	9965 000 10684	Ferrite Bar 5x13x55mm
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Note: Only these parts mentioned in the list are normal service parts.

COILS AND FILTERS

5104	2422 535 91074	Coil MW ANT
5109	4822 242 70665	Filter SFE10,7MS3-A
5110	4822 242 70665	Filter SFE10,7MS3-A
5111	9965 000 10685	Ind Var 450kHz
5112	9965 000 10686	AM IFT yellow
5114	9965 000 10686	AM IFT yellow
5119	9965 000 10687	Coil 2,4µH
5121	4822 242 10261	Crystal 75kHz
5123	9965 000 10688	Ind Var 796kHz
5130	4822 157 11843	Coil MD7B-01F
5131	4822 157 11843	Coil MD7B-01F

DIODES

6103	5322 130 34337	BAV99
6105	4822 130 83075	HN1V02H-B
6130	4822 130 82833	1SV228
6131	4822 130 82833	1SV228
6181	5322 130 34337	BAV99
6182	4822 130 83757	BAS216
6183	9340 386 90115	BZX284-C11

TRANSISTORS AND IC

7101	9351 740 80557	TEA5757H/V1
7102	4822 130 42131	BF550
7111	5322 130 42755	BC847C
7180	4822 130 60373	BC856B
7181	5322 130 42755	BC847C
7182	5322 130 42755	BC847C
7183	5322 130 42755	BC847C

ELECTRICAL PARTSLIST - ECO MTF BOARD**CAPACTORS**

2703	4822 124 81151	22µF 16V 20%
2704	4822 124 81151	22µF 16V 20%
2706	4822 124 40443	47µF 16V 20%
2707	4822 124 40196	220µF 16V 20%
2708	4822 124 40443	47µF 16V 20%
2709	4822 124 40443	47µF 16V 20%
2710	4822 124 41584	100µF 16V 20%
2711	4822 124 81151	22µF 16V 20%
2712	4822 126 12878	1,5nF +80-20% 16V
2714	4822 126 12878	1,5nF +80-20% 16V
2715	4822 121 51387	10nF +80-20% 16V
2716	4822 126 12882	0,1µF 50V +80/-20%
2719	4822 126 13098	5,6nF +80-20% 16V
2721	4822 126 12878	1,5nF +80-20% 16V
2722	4822 121 51387	10nF +80-20% 16V
2723	4822 126 12882	0,1µF 50V +80/-20%
2726	4822 126 13098	5,6nF +80-20% 16V
2727	4822 126 12878	1,5nF +80-20% 16V
2728	4822 126 11714	4,7nF +80-20% 16V
2729	4822 126 11714	4,7nF +80-20% 16V
2730	2020 300 90561	1,2nF 50V 5%
2732	4822 122 10577	3,3nF 100V 10%
2733	4822 121 51387	10nF 100V 10%
2738	4822 121 51387	10nF 50V 10%
2739	4822 121 51387	10nF 50V 10%
2750	4822 126 13098	5,6nF +80-20% 16V
2751	4822 126 13098	5,6nF +80-20% 16V

RESISTORS

3701	4822 116 52175	100R 0,16W 5%
3703	4822 116 83868	150R 0,16W 5%
3704	4822 116 83872	220R 0,16W 5%
3706	4822 116 52272	330K 0,16W 5%
3707	4822 116 52285	470K 0,16W 5%
3710	4822 116 52264	27K 0,16W 5%
3712	4822 116 52238	12K 0,16W 5%
3713	4822 116 83868	150R 0,16W 5%
3714	4822 116 83872	220R 0,16W 5%
3716	4822 116 52272	330K 0,16W 5%
3719	4822 116 52264	27K 0,16W 5%
3720	4822 116 52238	12K 0,16W 5%
3722	4822 116 52257	22K 0,16W 5%
3723	4822 116 52257	22K 0,16W 5%
3726	4822 116 52256	2,2K 0,16W 5%

RESISTORS

3727	4822 116 52256	2,2K 0,16W 5%
3730	4822 116 83868	150R 0,16W 5%
3731	4822 116 52291	56K 0,16W 5%
3732	4822 116 52182	15R 0,16W 5%
3733	4822 111 30893	4,7M 0,16W 5%
3734	4822 050 21003	10K 0,16W 5%
3743	4822 116 83883	470R 0,16W 5%
3744	4822 116 83883	470R 0,16W 5%
3747	4822 116 83868	150R 0,16W 5%
3748	4822 116 83883	470R 0,16W 5%
3749	4822 116 83883	470R 0,16W 5%
3761	4822 116 52289	5,6K 0,16W 5%
3762	4822 116 52289	5,6K 0,16W 5%

COILS AND FILTERS

5701	4822 157 10371	BIAS OSC COIL
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DIODES

6704	4822 130 30621	1N4148
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TRANSISTORS AND IC

7702	4822 130 40981	BC337-25
7705	4822 209 17498	AN7323

MISCELLANEOUS

1707	4822 277 11504	PUSH SWITCH 6P2T
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Note: Only these parts mentioned in the list are normal service parts.

ELECTRICAL PARTSLIST - CD99/MP3**CAPACTORS**

2813	4822 126 14238	2,2nF 50V 20%
2814	5322 126 11583	10nF 50V 20%
2815	4822 126 14225	56pF 50V 5%
2816	3198 024 44730	47nF 50V 20%
2817	4822 124 40769	4,7µF 50V 20%
2818	3198 024 44730	47nF 50V 20%
2821	4822 126 14305	100nF 16V 20%
2822	4822 126 13344	1,5nF 50V 20%
2823	4822 124 42383	220µF 10V 20%
2824	3198 017 44740	470nF 10V 20%
2825	4822 126 13344	1,5nF 50V 20%
2826	3198 024 44730	47nF 50V 20%
2827	5322 126 11578	1nF 50V 20%
2828	4822 122 33761	22pF 50V 5%
2829	3198 024 44730	47nF 50V 20%
2830	3198 017 41050	1µF 10V 20%
2831	4822 124 41751	47µF 16V 20%
2832	4822 126 14506	270pF 50V 10%
2833	4822 126 14238	2,2nF 50V 20%
2834	4822 126 14506	270pF 50V 10%
2835	5322 126 11579	3,3nF 50V 20%
2836	4822 124 42383	220µF 10V 20%
2837	3198 024 44730	47nF 50V 20%
2838	5322 122 32654	22nF 50V 20%
2839	4822 126 14305	100nF 16V 20%
2840	4822 124 42383	220µF 10V 20%
2841	4822 124 40769	4,7µF 50V 20%
2843	4822 122 31765	100pF 50V 10%
2844	4822 126 13883	220pF 50V 10%
2845	4822 126 13883	220pF 50V 10%
2846	4822 124 40248	10µF 16V 20%
2847	4822 126 13881	470pF 50V 10%
2848	4822 122 31765	100pF 50V 10%
2849	4822 126 13883	220pF 50V 10%
2850	4822 126 13883	220pF 50V 10%
2851	4822 124 40248	10µF 16V 20%
2852	4822 126 13881	470pF 50V 10%
2853	5322 126 11583	10nF 50V 20%
2854	4822 124 42383	220µF 10V 20%
2855	4822 124 42383	220µF 10V 20%
2857	4822 124 41751	47µF 16V 20%
2860	4822 126 14508	180pF 50V 10%
2861	4822 126 14241	330pF 50V 10%
2863	3198 017 34710	470pF 50V 10%
2864	4822 126 14508	180pF 50V 10%

CAPACTORS

2865	4822 126 14508	180pF 50V 10%
2869	3198 024 44730	47nF 50V 20%
2870	4822 126 13883	220pF 50V 10%
2871	4822 126 13883	220pF 50V 10%
2872	4822 126 13883	220pF 50V 10%
2873	4822 126 13883	220pF 50V 10%
2874	4822 126 13883	220pF 50V 10%
2875	4822 126 13883	220pF 50V 10%
2876	3198 017 41050	1µF 10V 20%
2900	4822 124 40769	4,7µF 50V 20%
2901	4822 124 40248	10µF 16V 20%
2903	4822 126 13879	220nF 16V 20%
2904	4822 126 13193	4,7nF 50V 20%
2905	4822 124 41751	47µF 16V 20%
C9	4822 122 33741	10pF 50V 5%
R121	4822 126 14305	100nF 16V 20%

RESISTORS

2810	4822 051 30102	1K 0,062W 5%
2811	4822 051 30102	1K 0,062W 5%
3745	4822 051 30109	10R 0,062W 5%
3764	4822 051 30159	15R 0,062W 5%
3780	4822 051 30472	4,7K 0,062W 5%
3781	4822 051 30472	4,7K 0,062W 5%
3782	4822 051 30272	2,7K 0,062W 5%
3794	4822 051 30223	22K 0,062W 5%
3795	4822 051 30223	22K 0,062W 5%
3824	4822 051 30102	1K 0,062W 5%
3825	4822 051 30223	22K 0,062W 5%
3826	4822 051 30273	27K 0,062W 5%
3827	4822 051 30101	100R 0,062W 5%
3828	4822 051 30121	120R 0,062W 5%
3829	4822 051 30121	120R 0,062W 5%
3830	4822 051 30472	4,7K 0,062W 5%
3834	4822 051 30103	10K 0,062W 5%
3837	4822 051 30471	470R 0,062W 5%
3838	4822 051 30471	470R 0,062W 5%
3839	4822 051 30471	470R 0,062W 5%
3840	4822 051 30471	470R 0,062W 5%
3841	4822 051 30472	4,7K 0,062W 5%
3842	4822 051 30102	1K 0,062W 5%
3843	4822 051 30102	1K 0,062W 5%
3844	4822 051 30101	100R 0,062W 5%

ELECTRICAL PARTSLIST - CD99/MP3**RESISTORS**

3846	4822 051 30223	22K 0,062W 5%
3847	4822 051 30473	47K 0,062W 5%
3848	4822 051 30243	24K 0,062W 5%
3850	4822 051 30682	6,8K 0,062W 5%
3851	4822 051 30473	47K 0,062W 5%
3852	4822 051 30473	47K 0,062W 5%
3854	4822 051 30472	4,7K 0,062W 5%
3856	4822 051 20683	68K 0,062W 5%
3857	4822 051 30104	100 K 0,062W 5%
3858	4822 051 30392	3,9K 0,062W 5%
3859	4822 051 30473	47K 0,062W 5%
3861	4822 051 20683	68K 0,062W 5%
3863	4822 052 10338	3,3R 0,25W 5% (RF25S)
3864	4822 051 30159	15R 0,062W 5%
3867	4822 051 30103	10K 0,062W 5%
3868	4822 051 30103	10K 0,062W 5%
3869	4822 051 30103	10K 0,062W 5%
3870	4822 051 30103	10K 0,062W 5%
3871	4822 051 30471	470R 0,062W 5%
3872	4822 051 30473	47K 0,062W 5%
3873	4822 051 30103	10K 0,062W 5%
3874	4822 051 30103	10K 0,062W 5%
3875	4822 051 30103	10K 0,062W 5%
3876	4822 051 30103	10K 0,062W 5%
3877	4822 051 30103	10K 0,062W 5%
3878	4822 051 30471	470R 0,062W 5%
3879	4822 051 30473	47K 0,062W 5%
3880	4822 051 20339	33R 0,062W 5%
3881	4822 051 30151	150R 0,062W 5%
3882	4822 051 30101	100R 0,062W 5%
3883	4822 051 30102	1K 0,062W 5%
3884	4822 051 30102	1K 0,062W 5%
3891	4822 051 30273	27K 0,062W 5%
3892	3198 021 35630	56K 0,062W 5%
3893	3198 021 35630	56K 0,062W 5%
3894	4822 051 30103	10K 0,062W 5%
3895	4822 051 30103	10K 0,062W 5%
3896	4822 051 30103	10K 0,062W 5%
3897	4822 051 30103	10K 0,062W 5%
3898	4822 051 30103	10K 0,062W 5%
3899	4822 051 30103	10K 0,062W 5%
3900	4822 051 30103	10K 0,062W 5%
3901	4822 051 30103	10K 0,062W 5%
3902	4822 051 30102	1K 0,062W 5%
3903	4822 051 30102	1K 0,062W 5%

RESISTORS

3904	4822 051 30471	470R 0,062W 5%
3905	4822 052 10478	4,7R 0,25W 5% (RF25S)
3906	4822 051 30101	100R 0,062W 5%
3907	4822 117 13608	4,7R 0,062W 5%
3910	4822 051 30103	10K 0,062W 5%
3915	4822 051 30103	10K 0,062W 5%
3920	4822 051 30224	220 K 0,062W 5%
3921	4822 051 30101	100R 0,062W 5%
3927	9965 000 10676	PTC DC 4,6R
3928	4822 051 30103	10K 0,062W 5%
3929	4822 051 30103	10K 0,062W 5%
3930	4822 051 30222	2,2K 0,062W 5%
3931	4822 051 30103	10K 0,062W 5%
3932	4822 051 30109	10R 0,062W 5%
3934	4822 051 30101	100R 0,062W 5%
3935	4822 051 30101	100R 0,062W 5%
3936	4822 051 30101	100R 0,062W 5%
4301	4822 051 30008	0R Jumper 0603
4303	4822 051 30008	0R Jumper 0603
4304	4822 051 30008	0R Jumper 0603
4804	4822 051 30008	0R Jumper 0603
4805	4822 051 30008	0R Jumper 0603
4806	4822 051 30008	0R Jumper 0603
4808	4822 051 30008	0R Jumper 0603
4809	4822 051 30008	0R Jumper 0603
4810	4822 051 30008	0R Jumper 0603
4811	4822 051 30008	0R Jumper 0603
4814	4822 051 30008	0R Jumper 0603
4818	4822 051 30008	0R Jumper 0603
4820	4822 051 30008	0R Jumper 0603
4821	4822 051 30008	0R Jumper 0603
4823	4822 051 30008	0R Jumper 0603
4826	4822 051 30008	0R Jumper 0603
4827	4822 051 30008	0R Jumper 0603
4830	4822 051 30008	0R Jumper 0603
4833	4822 051 30008	0R Jumper 0603
4834	4822 051 30008	0R Jumper 0603
4839	4822 051 30008	0R Jumper 0603
4842	4822 051 30008	0R Jumper 0603
4846	4822 051 30008	0R Jumper 0603
4848	4822 051 30008	0R Jumper 0603
4856	4822 051 30008	0R Jumper 0603
9817	4822 051 30008	0R Jumper 0603
9818	4822 051 30008	0R Jumper 0603
9823	4822 051 30008	0R Jumper 0603

ELECTRICAL PARTSLIST - CD99/MP3**RESISTORS**

C1	4822 051 30008	0R Jumper 0603
C2	4822 051 30008	0R Jumper 0603
C3	4822 051 30008	0R Jumper 0603
C4	4822 051 30008	0R Jumper 0603
R1	4822 051 30008	0R Jumper 0603
R2	4822 051 30008	0R Jumper 0603
R3	4822 051 30008	0R Jumper 0603
R4	4822 051 30008	0R Jumper 0603
R5	4822 051 30008	0R Jumper 0603
R6	4822 051 30008	0R Jumper 0603
R7	4822 051 30008	0R Jumper 0603
R8	4822 051 30008	0R Jumper 0603
R9	4822 051 30008	0R Jumper 0603
R10	4822 051 30008	0R Jumper 0603
R11	4822 051 30101	100R 0,062W 5%
R14	4822 051 30101	100R 0,062W 5%
R15	4822 051 30008	0R Jumper 0603
R211	4822 051 30102	1K 0,062W 5%

COILS & FILTERS

5803	9965 000 10677	Fixed Inductor 1R0K
5805	4822 157 11074	Choke 600ohm 100MHz
5806	4822 157 11074	Choke 600ohm 100MHz
5807	4822 157 11074	Choke 600ohm 100MHz
L1	4822 157 11074	Choke 600ohm 100MHz
L201	4822 157 11074	Choke 600ohm 100MHz
L202	2422 549 44393	Inductor 2,2μH

DIODES

6877	4822 130 11564	UDZ3.9B
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TRANSISTORS AND IC

7800	9352 642 17557	SAA7325H/MB2
7802	9965 000 10678	TZA1025T/V2
7808	4822 209 32852	TDA7073A/N4
7809	4822 209 32852	TDA7073A/N4
7810	4822 209 33165	TDA1308T/N1
7875	4822 130 60511	BC847B
7876	4822 130 60511	BC847B

MISCELLANEOUS

1800	9965 000 10683	FFC Connector 15P Ver.
	9965 000 10679	FFC Cable 15P 80mm

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

ELECTRICAL PARTSLIST - MP3 BOARD**CAPACTORS**

C1	3198 017 31520	1,5nF 50V 20%
C2	3198 017 31520	1,5nF 50V 20%
C3	3198 029 54780	4,7µF 50V 20%
C4	3198 029 22290	22µF 10V 20%
C5	3198 028 11010	100µF 10V 20%
C6	3198 017 31040	100nF 16V 10%
C7	3198 029 54780	4,7µF 50V 20%
C8	3198 029 22290	22µF 10V 20%
C9	3198 017 31040	100nF 16V 10%
C10	3198 017 31040	100nF 16V 10%
C11	3198 017 31040	100nF 16V 10%
C12	3198 017 31040	100nF 16V 10%
C13	3198 017 31040	100nF 16V 10%
C14	3198 017 31040	100nF 16V 10%
C15	3198 017 31040	100nF 16V 10%
C16	3198 017 31040	100nF 16V 10%
C17	3198 017 31040	100nF 16V 10%
C18	3198 017 31040	100nF 16V 10%
C19	3198 017 31040	100nF 16V 10%
C20	3198 016 31090	10pF 50V 10%
C21	3198 017 31040	100nF 16V 10%
C22	3198 017 31040	100nF 16V 10%
C23	0000 000 00000	56nF 50V 20% (0603)
C24	0000 000 00000	56nF 50V 20% (0603)
C25	3198 017 31040	100nF 16V 10%
C26	3198 028 11010	100µF 10V 20%
C27	3198 028 11010	100µF 10V 20%
C28	3198 017 31040	100nF 16V 10%
C29	3198 028 11010	100µF 10V 20%
C30	3198 017 31020	1nF 50V 20%
C31	3198 017 31040	100nF 16V 10%
C32	3198 028 11010	100µF 10V 20%
C33	3198 016 31090	10pF 50V 10%
C34	3198 016 31010	100pF 50V 20%
C35	3198 016 31010	100pF 50V 20%
C36	3198 016 31010	100pF 50V 20%
C37	3198 016 31090	10pF 50V 10%
C38	3198 016 31090	10pF 50V 10%
C39	3198 029 54770	2,2µF 50V 20%
C40	3198 016 31010	100pF 50V 20%
C41	3198 016 31010	100pF 50V 20%
C43	3198 017 32229	2,2nF 50V 20%
C44	3198 017 32229	2,2nF 50V 20%
C45	3198 017 32229	2,2nF 50V 20%
C46	3198 016 32790	27pF 50V 20%

CAPACTORS

C47	3198 016 32790	27pF 50V 20%
C48	3198 016 31010	100pF 50V 20%
C49	3198 017 32229	2,2nF 50V 20%
C50	3198 029 51080	1µF 50V 20%
C51	3198 016 31090	10pF 50V 10%
C52	3198 016 31090	10pF 50V 10%
C53	3198 016 31090	10pF 50V 10%
C54	3198 016 31090	10pF 50V 10%
C55	3198 017 31040	100nF 16V 10%
C56	3198 028 11010	100µF 10V 20%
C57	3198 016 31010	100pF 50V 20%
C58	3198 016 31810	180pF 50V 20%
C59	3198 016 32790	27pF 50V 20%
C60	3198 016 31090	10pF 50V 10%
C61	3198 016 31090	10pF 50V 10%
C62	3198 016 31090	10pF 50V 10%
C65	3198 017 31040	100nF 16V 10%

RESISTORS

R1	4822 051 30223	22K 0,062W 5%
R2	4822 117 12902	8,2k 0,062W 5%
R3	4822 051 30101	100R 0,062W 5%
R4	4822 051 30101	100R 0,062W 5%
R5	4822 051 30101	100R 0,062W 5%
R6	4822 051 30101	100R 0,062W 5%
R7	4822 051 30101	100R 0,062W 5%
R8	4822 051 30105	1M 0,062W 5%
R9	4822 051 30101	100R 0,062W 5%
R10	4822 051 30101	100R 0,062W 5%
R15	4822 051 30101	100R 0,062W 5%
R16	4822 051 30101	100R 0,062W 5%
R17	4822 051 30101	100R 0,062W 5%
R18	4822 051 30101	100R 0,062W 5%
R19	4822 051 30101	100R 0,062W 5%
R20	4822 051 30101	100R 0,062W 5%
R21	4822 051 30101	100R 0,062W 5%
R22	4822 051 30101	100R 0,062W 5%
R23	4822 051 30109	10R 0,062W 5%
R24	4822 051 30101	100R 0,062W 5%
R25	4822 051 30101	100R 0,062W 5%
R26	4822 051 30101	100R 0,062W 5%
R27	4822 051 30101	100R 0,062W 5%
R28	4822 051 30101	100R 0,062W 5%
R29	4822 051 30101	100R 0,062W 5%

ELECTRICAL PARTSLIST - MP3 BOARD**RESISTORS**

R30	4822 051 30101	100R 0,062W 5%
R31	4822 051 30101	100R 0,062W 5%
R32	4822 051 30472	4,7K 0,062W 5%
R33	4822 051 30472	4,7K 0,062W 5%
R34	4822 051 30472	4,7K 0,062W 5%
R36	0000 000 00000	1,3K 0,062W 5%
R37	4822 051 30101	100R 0,062W 5%
R38	4822 051 30101	100R 0,062W 5%
R39	4822 051 30101	100R 0,062W 5%
R40	4822 051 30101	100R 0,062W 5%
R41	4822 051 30223	22K 0,062W 5%
R42	4822 051 30223	22K 0,062W 5%
R43	4822 051 30101	100R 0,062W 5%
R44	4822 051 30101	100R 0,062W 5%
R45	4822 051 30101	100R 0,062W 5%
R46	4822 051 30101	100R 0,062W 5%
R47	4822 051 30101	100R 0,062W 5%
R48	4822 051 30102	1K 0,062W 5%
R49	4822 051 30101	100R 0,062W 5%
R50	4822 051 30472	4,7K 0,062W 5%
R51	4822 051 30103	10K 0,062W 5%
R52	4822 051 30103	10K 0,062W 5%
R53	4822 051 30103	10K 0,062W 5%
R54	4822 051 30103	10K 0,062W 5%
R55	4822 051 30103	10K 0,062W 5%
R56	4822 051 30103	10K 0,062W 5%
R57	4822 051 30103	10K 0,062W 5%
R58	4822 051 30103	10K 0,062W 5%
R59	4822 051 30223	22K 0,062W 5%
R60	4822 051 30223	22K 0,062W 5%
R61	4822 051 30223	22K 0,062W 5%
R62	4822 051 30223	22K 0,062W 5%
R63	4822 051 30008	0R Jumper 0603
R64	4822 051 30008	0R Jumper 0603
R67	4822 051 30008	0R Jumper 0603
R69	4822 051 30008	0R Jumper 0603
R70	4822 051 30102	1K 0,062W 5%
R71	4822 051 30471	470R 0,062W 5%
R72	4822 051 30471	470R 0,062W 5%
R73	4822 051 30471	470R 0,062W 5%
R74	4822 051 30471	470R 0,062W 5%
R75	4822 051 30102	1K 0,062W 5%
R76	4822 051 30203	20K 0,062W 5%
R77	4822 051 30203	20K 0,062W 5%
R78	4822 051 30203	20K 0,062W 5%

RESISTORS

R79	4822 051 30223	22K 0,062W 5%
R80	4822 051 30223	22K 0,062W 5%
R81	4822 051 30101	100R 0,062W 5%
R82	4822 051 30222	2,2K 0,062W 5%
R83	4822 051 30222	2,2K 0,062W 5%
R84	4822 051 30472	4,7K 0,062W 5%
R85	4822 051 30472	4,7K 0,062W 5%
R86	4822 051 30224	220K 0,062W 5%
R87	4822 051 30273	27K 0,062W 5%
R88	4822 051 30102	1K 0,062W 5%
R89	4822 051 30102	1K 0,062W 5%
R90	4822 051 30102	1K 0,062W 5%
R91	4822 051 30102	1K 0,062W 5%
R92	4822 051 30102	1K 0,062W 5%
R93	4822 051 30102	1K 0,062W 5%
R95	4822 051 30472	4,7K 0,062W 5%
R96	4822 051 30472	4,7K 0,062W 5%
R97	4822 051 30153	15K 0,062W 5%
R98	4822 051 30472	4,7K 0,062W 5%
R99	4822 051 30331	330R 0,062W 5%
R100	4822 051 30273	27K 0,062W 5%
R101	4822 051 30273	27K 0,062W 5%
R107	4822 051 30103	10K 0,062W 5%
R108	4822 051 30472	4,7K 0,062W 5%
R109	4822 051 30104	100K 0,062W 5%
R110	4822 051 30471	470R 0,062W 5%
R111	4822 051 30153	15K 0,062W 5%
R112	4822 051 30102	1K 0,062W 5%
R113	4822 051 30102	1K 0,062W 5%
R114	4822 051 30102	1K 0,062W 5%
R115	4822 051 30102	1K 0,062W 5%
R116	4822 051 30102	1K 0,062W 5%
R117	4822 051 30102	1K 0,062W 5%
R118	4822 051 30008	0R Jumper 0603
R122	4822 051 30101	100R 0,062W 5%
R123	4822 051 30472	4,7K 0,062W 5%
R124	4822 051 30472	4,7K 0,062W 5%
R125	4822 051 30102	1K 0,062W 5%
R102	4822 157 11074	Choke 600R 100MHz
R103	4822 157 11074	Choke 600R 100MHz
R104	4822 157 11074	Choke 600R 100MHz
R105	4822 157 11074	Choke 600R 100MHz
R106	4822 157 11074	Choke 600R 100MHz

ELECTRICAL PARTSLIST - MP3 BOARD**COILS & FILTERS**

L1	4822 157 11828	Inductor 22uH
L2	4822 157 11828	Inductor 22uH
L3	2422 549 44393	Inductor 2,2uH
L4	2422 549 44393	Inductor 2,2uH
L5	9965 000 10691	Inductor 100uH
L6	4822 157 11074	Choke 600R 100MHz
L7	4822 157 11074	Choke 600R 100MHz
L8	4822 157 11074	Choke 600R 100MHz
L9	4822 157 11074	Choke 600R 100MHz
L10	4822 157 11074	Choke 600R 100MHz
L11	4822 157 11074	Choke 600R 100MHz
L12	4822 157 11074	Choke 600R 100MHz
L13	4822 157 11074	Choke 600R 100MHz
L14	4822 157 11074	Choke 600R 100MHz
X1	4822 242 73769	Cer, Res, CST4,19MGW-TF01
X2	9965 000 10692	Cer, Res, CSA 16,93 MXZ040

DIODES

D3	5322 130 34337	BAV99
D4	4822 130 10838	BZX384-C3V3

TRANSISTORS AND IC

IC1	8240 005 52320	AK4352
IC2	9965 000 09631	TMD2101
IC5	9965 000 10690	TMP86PM29AF
IC6	9965 000 04931	M24C01-WMN6
Q2	4822 130 60511	BC847B
Q3	4822 130 60511	BC847B

MISCELLANEOUS

1407	9965 000 09617	TACT SWITCH - SPPB51
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Note: Only these parts mentioned in the list are normal service parts.

ELECTRICAL PARTSLIST - POWER AND RECTIFIER**CAPACTORS**

2301	4822 126 11585	22nF 50V +80/-20%
2302	4822 126 11585	22nF 50V +80/-20%
2303	4822 126 11585	22nF 50V +80/-20%
2304	4822 126 11585	22nF 50V +80/-20%
2305	4822 124 81286	47µF 50V 20%
2306	4822 124 80195	470µF 16V 20%
2307	5322 126 11578	1nF 50V 20%
2309	4822 126 14305	100nF 50V 20%
2311	4822 124 40207	100µF 10V 20%
2321	3198 016 36810	680pF 50V 20%
2322	3198 016 36810	680pF 50V 20%
2340	4822 123 14025	2200µF 16V 20%
2341	4822 124 40196	220µF 25V 20%
2342	4822 124 40768	4,7µF 50V 20%
2343	4822 124 41407	0,47µF 50V 20%
2344	4822 124 41407	0,47µF 50V 20%
2345	3198 016 36810	680pF 50V 20%
2346	3198 016 36810	680pF 50V 20%
2347	4822 124 81286	47µF 50V 20%
2348	4822 124 81286	47µF 50V 20%
2349	4822 124 41407	0,47µF 50V 20%
2350	4822 124 41407	0,47µF 50V 20%
2351	4822 124 80195	470µF 16V 20%
2352	4822 124 80195	470µF 16V 20%
2353	4822 124 81286	47µF 50V 20%
2354	4822 124 81286	47µF 50V 20%
2356	4822 124 41509	33µF 50V 20%
2357	3198 017 34730	47nF 50V 20%
2358	3198 017 34730	47nF 50V 20%
2359	4822 124 21913	1µF 50V 20%
2360	4822 126 14305	100nF 50V 20%
2371	3198 017 34730	47nF 50V 20%
2372	3198 017 34730	47nF 50V 20%
2373	3198 017 34730	47nF 50V 20%
2374	3198 017 34730	47nF 50V 20%

RESISTORS

3301	4822 051 30222	2,2K 0,062W 5%
3302	4822 051 30222	2,2K 0,062W 5%
3303	4822 051 30471	470R 0,062W 5%
3304	4822 051 30471	470R 0,062W 5%
3305	4822 051 30221	220R 0,062W 5%

RESISTORS

3306	4822 051 30221	220R 0,062W 5%
3307	4822 051 30123	12K 0,062W 5%
3310	4822 051 30471	470R 0,062W 5%
3321	4822 050 24708	4,7R 0,5W 5%
3322	4822 050 24708	4,7R 0,5W 5%
3323	4822 051 30332	3,3K 0,062W 5%
3325	4822 051 30471	470R 0,062W 5%
3326	4822 051 30561	560R 0,062W 5%
3327	4822 051 30471	470R 0,062W 5%
3328	4822 051 30152	1,5K 0,062W 5%
3329	4822 051 30471	470R 0,062W 5%
3331	4822 116 52244	15K 0,5W 5%
3332	4822 116 52244	15K 0,5W 5%
3333	4822 051 30153	15K 0,062W 5%
3361	4822 051 30683	68K 0,062W 5%
3362	4822 116 52297	68K 0,5W 5%
3363	4822 051 30103	10K 0,062W 5%
3364	4822 051 30103	10K 0,062W 5%
3365	4822 117 12891	220K 0,062W 5%
3366	4822 116 83874	220K 0,5W 5%
3367	4822 051 30682	6,8K0,062W 5%
3368	4822 051 30682	6,8K0,062W 5%
3369	4822 117 12902	8,2K 0,062W 5%
3370	4822 117 12902	8,2K 0,062W 5%
3371	4822 051 30562	5,6K 0,062W 5%
3372	4822 051 30562	5,6K 0,062W 5%
3373	4822 051 30102	1K 0,062W 5%
3374	4822 051 30102	1K 0,062W 5%
3375	4822 051 30103	10K 0,062W 5%
3376	4822 051 30103	10K 0,062W 5%
3377	4822 051 30103	10K 0,062W 5%
3378	4822 051 30103	10K 0,062W 5%
3381	4822 051 30332	3,3K 0,062W 5%
3382	4822 051 30332	3,3K 0,062W 5%
R21	4822 051 30008	0R Jumper 0603
R201	4822 051 30471	470R 0,062W 5%
R202	4822 051 30471	470R 0,062W 5%
R203	4822 051 30471	470R 0,062W 5%
R204	4822 051 30471	470R 0,062W 5%
R205	4822 051 30471	470R 0,062W 5%
R206	4822 051 30471	470R 0,062W 5%
R207	4822 051 30471	470R 0,062W 5%
R208	4822 051 30471	470R 0,062W 5%
R209	4822 051 30471	470R 0,062W 5%
R210	4822 051 30471	470R 0,062W 5%

ELECTRICAL PARTSLIST - POWER AND RECTIFIER**COILS & FILTERS**

5301	9965 000 10671	2,2µH 5%
5302	9965 000 10671	2,2µH 5%
L203	4822 157 11074	SMD BEAD 100MHz 600R
L204	4822 157 11074	SMD BEAD 100MHz 600R
L205	4822 157 11074	SMD BEAD 100MHz 600R
L206	4822 157 11074	SMD BEAD 100MHz 600R
L207	4822 157 11074	SMD BEAD 100MHz 600R
L208	4822 157 11074	SMD BEAD 100MHz 600R
L209	4822 157 11074	SMD BEAD 100MHz 600R
L210	4822 157 11074	SMD BEAD 100MHz 600R

TRANSISTORS & IC

7301	4822 209 31544	TA8227P
7303	4822 130 41246	BC327-25
7304	4822 130 41246	BC327-25
7305	4822 130 60373	BC856B
7306	5322 130 60159	BC846B
7312	5322 130 60159	BC846B
7313	4822 130 42615	BC817-40
7314	4822 130 42615	BC817-40

DIODES

6301	5322 130 34574	1N 4004
6302	5322 130 34574	1N 4004
6303	5322 130 34574	1N 4004
6304	5322 130 34574	1N 4004
6308	4822 130 11411	BZX284-C3V3
6315	4822 130 83757	BAS216
6316	4822 130 83757	BAS216
6321	4822 130 83757	BAS216
6322	4822 130 83757	BAS216
6323	4822 130 83757	BAS216
D2	9965 000 10673	UDZS5,6B

MISCELLANEOUS

1592	9965 000 10669	SWITCH SSK-43E01
	9965 000 10675	FFC Cable 6P 90mm
	9965 000 10674	FFC Cable 5P 190mm

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

ELECTRICAL PARTSLIST - MISCELLANEOUS

1003	9965 000 10693	Loudspeaker 4" 8 OHM 6W
1004	9965 000 10693	Loudspeaker 4" 8 OHM 6W
1005	△ 2422 030 00333	Mains Socket (/00 /01)
1005	△ 9965 000 08584	AC Socket (/17)
1010	△ 4822 277 21794	Voltage Selector (/01 only)
5001	△ 3140 118 32980	Transformer 230V (/00)
5001	△ 3140 118 32990	Transformer 120/230V (/01)
5001	△ 3140 118 33000	Transformer 120V (/17)