Micro System

MC160

all versions

Service
Service
Service

Service Manual

COMPACT disc DIGITAL AUDIO

TABLE OF CONTENTS

**CLASS 1
LASER PRODUCT**

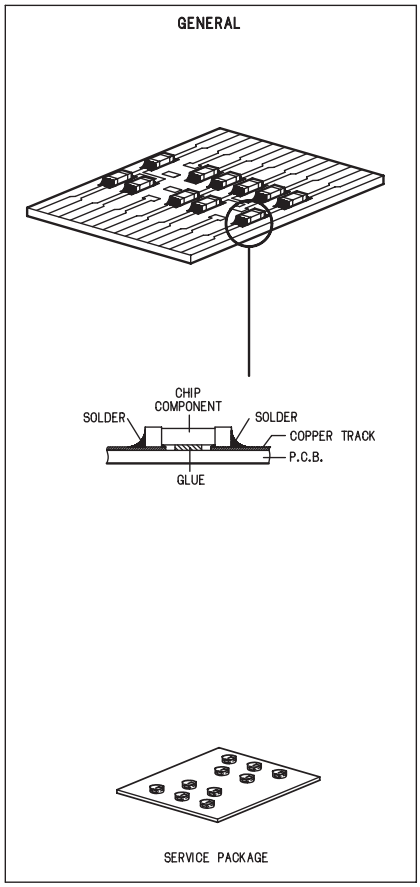
Published by LX 0416 Service Audio Printed in The Netherlands Subject to modification

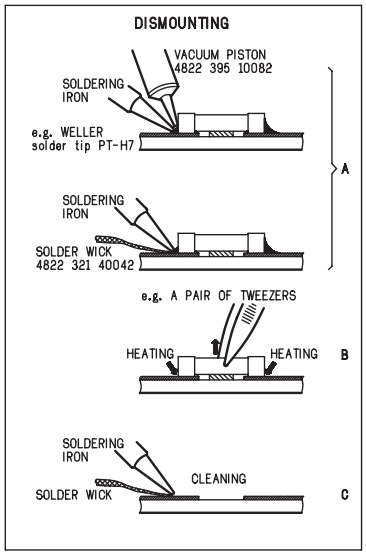
GB 3140 785 32930

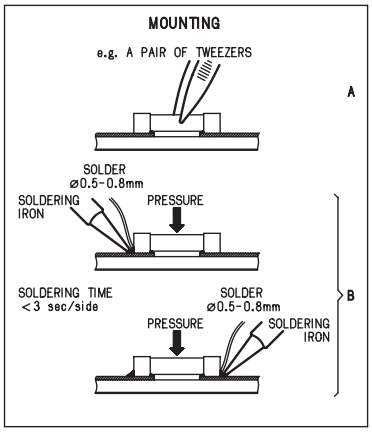
version1.0

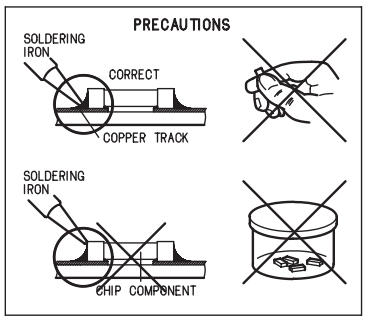
PHILIPS

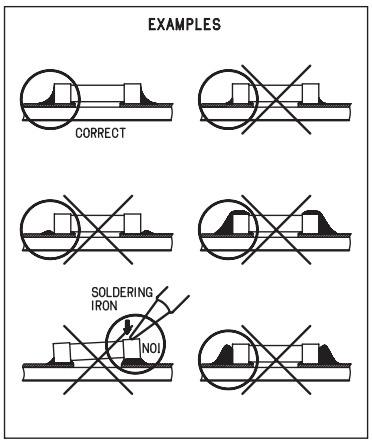
HANDLING CHIP COMPONENTS











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

ESD

(F) ATTENTION
Tous les IC et beaucoup d«autres semi-conducteurs sont sensibles aux d charges statiques (ESD). Leur long vite pourrait tre consid rablement court e par le fait qu«aucune pr caution n st prise leur manipulation.
Lors de r parations, s«assurer de bien tre reli au m me potentiel que la masse de l«appareil et enfileer le bracelet serti d«une r sistance de s curit .
Veiller ce que les composants ainsi que les outils que l«on utilise soient galement ce potentiel.

(D) WARNUNG
Alle ICs und viele andere Halbleiter sind empfindlich gegen ber elektrostatischen Entladungen (ESD).
Unsorgf ltige Behandlung im Reparaturfall kann die Lebensdauer drastisch reduzieren.
Sorgen Sie daf r, da§ Sie im Reparaturfall ber ein Puls-armband mit Widerstand mit dem Massepotential des Ger tes verbunden sind.
Halten Sie Bauteile und Hilfsmittel ebenfalls auf diesem Potential.

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

(I) AVVERTIMENTO
Tutti IC e parecchi semi-conduttori sono sensibili alle scariche statiche (ESD).
La loro longevit potrebbe essere fortemente ridatta in caso di non osservazione della pi grande cauzione alla loro manipolazione. Durante le riparationi occorre quindi essere collegato allo stesso potenziale che quello della massa del pparecchio tramite un braccialetto a resistenza.
Assicurarsi che i componenti e anche gli utensili con quali si lavora siano anche a questo potenziale.

SAFETY

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

(F)
Les normes de s curit exigent que l'appareil soit remis l' tat d'origine et que soient utilis es les pi ces de rechange identiques celles sp cifi es.
Les composants de s curit sont marqu s ⚠

(D)
Bei jeder Reparatur sind die geltenden Sicherheitsvor-schriften zu beachten. Der Originalzustand des Ger tes darf nicht ver ndert werden. F r Reparaturen sind Original-ersatzteile zu verwenden.
Sicherheitsbauteile sind durch das Symbol ⚠ markiert.

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

(I)
Le norme di sicurezza estigono che l«apparecchio venga rimesso nelle condizioni originali e che siano utilizzati i pezzi di ricambiago identici a quelli specificati.
Componenty di sicurezza sono marcati con ⚠

CLASS 1
LASER PRODUCT

DANGER: Invisible laser radiation when open.
AVOID DIRECT EXPOSURE TO BEAM.

(S) Varning !
Osynlig laserstr lning n r apparaten r ppnad och sp rren r urkopplad. Betrakta ej str len.

(DK) Advarsel !
Usynlig laserstr ling ved bning n r sikkerhedsafbrydere er ude af funktion. Undg udsaettelse for str ling.

(FIN) Varoitus !
Avatussa laitteessa ja suojalukituksen ohitettaessa olet alttiina n kym tt m lle laseris teilylle. l katso s teeseen !

(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 s curite, ces documents doivent tre utilis s par des sp cialistes agr s, seuls habilit s r parer votre appareil en panne".

TECHNICAL SPECIFICATIONS

GENERAL

Mains voltage	-/21/21M	:	120 / 230 V
	-/22/30/33	:	230 V
	-/25	:	240 V
Mains frequency	-/22/25/30/33	:	50 Hz
	-/21/21M	:	50 / 60 Hz
Battery	remote	:	3 V (R6 x 2)
Power consumption	normal	:	60 W
	Standby	:	3 W
Dimension (W x H x D)		:	231 x 140 x 280 mm
Weight		:	5.7 Kg

AMPLIFIER

Output power	mains	:	2 x 8 W
Speaker impedance		:	2 x 8 ohm
Frequency response		:	100 Hz - 10 kHz (±4dB)

TUNER - FM SECTION

Tuning range		:	87.5 - 108 MHz
IF frequency		:	10.7 MHz ± 0.02 MHz
Sensitivity		:	16 dBf at 26dB S/N
Selectivity	300kHz	:	55 dB
IF suppression		:	85 dB
Image suppression		:	40 dB
Channel separation	1kHz	:	28 dB

TUNER - AM SECTION

Tuning range	MW	:	531 - 1602 kHz
Tuning range	LW	:	153 - 279 kHz
IF frequency		:	450 kHz ± 1 kHz
Sensitivity	MW	:	≤ 3.5 mV/m at 26dB S/N
	LW	:	≤ 4.2 mV/m
Selectivity	MW	:	< 22 dB
	LW	:	< 35 dB
IF rejection	MW	:	< 64 dB
Spurious rejection ratio	MW	:	< 58 dB
	LW	:	< 51 dB
Image rejection ratio	MW	:	< 40 dB
	LW	:	< 47 dB

AUDIO CASSETTE RECORDER

Frequency response		:	80 - 12500 Hz
Wow & flutter		:	0.4 % (DIN)
Tape speed		:	4.76 cm/s ± 2 %
Channel difference	1kHz	:	0 dB
S/N ratio (unw.)	Ferro	:	47 dB
	Chrome	:	50 dB
S/N ratio (wght.)	Ferro	:	52 dB
	Chrome	:	56 dB

COMPACT DISC

Frequency response		:	20Hz – 20kHz within 1.5dB
S/N ratio (unw.)		:	> 85 dB
S/N ratio (A-wght.)		:	> 90 dB
THD+N	1 kHz	:	> 72 dB
Channel crosstalk		:	> 50 dB
Channel unbalance		:	< ±1 dB

SERVICE TOOLS

TORX T10 screwdriver with shaftlength 150mm.....4822 395 50423
TORX screwdriver set SBC 163.....4822 295 50145

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

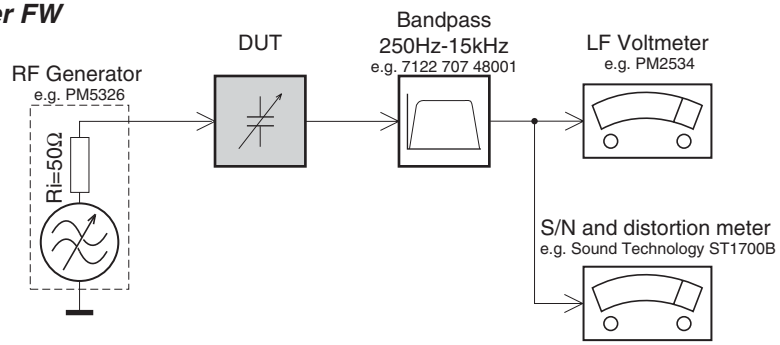
Universal test cassette Fe SBC 420.....4822 397 30071

AVAILABLE ESD PROTECTION EQUIPMENT

anti-static table mat	large 1200x650x1.25mm	4822 466 10953
	small 600x650x1.25mm	4822 466 10958
anti-static wristband		4822 395 10223
connection box (3 press stud connections, 1MΩ)		4822 320 11307
extendible cable (2m, 2MΩ, to connect wristband to connection box)		4822 320 11305
connecting cable (3m, 2MΩ, to connect table mat to connection box)		4822 320 11306
earth cable (1MΩ, 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

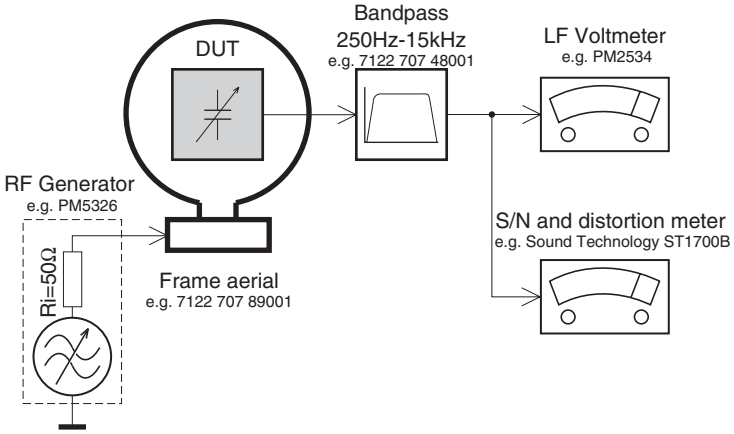
SERVICE MEASUREMENT

Tuner FW



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

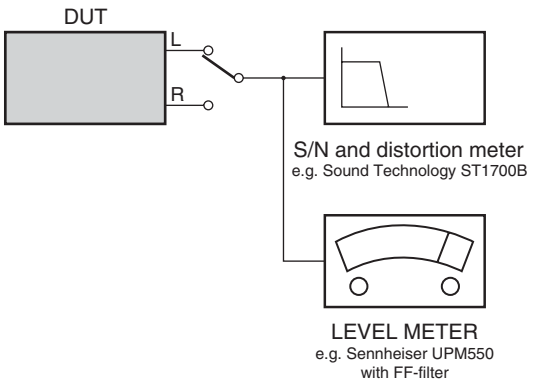
Tuner AM (MW,LW)



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

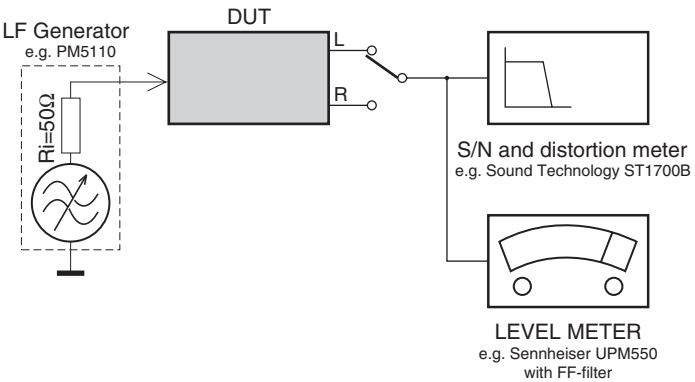
CD

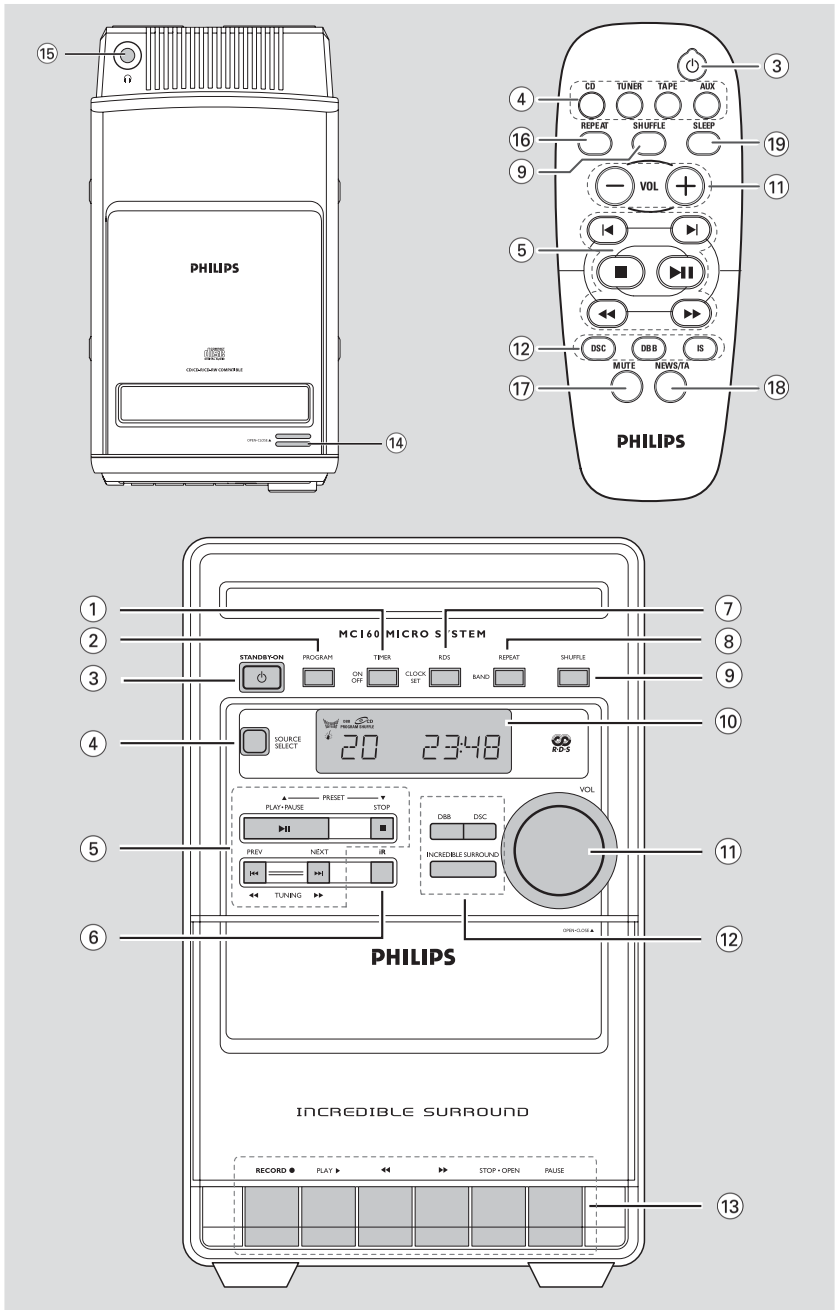
Use Audio Signal Disc SBC429 4822 397 30184
(replaces test disc 3)



RECORDER

Use Universal Test Cassette **Fe** SBC420 4822 397 30071





Controls *(illustrations on page 3)*

Controls on the system and remote control

① **TIMER ON•OFF**
– *activates/deactivates or sets the timer function.*

② **PROGRAM**
for CD ..... *programmes tracks and reviews the programme.*
for Tuner ..... *programmes tuner stations manually or automatically.*

③ **STANDBY ON** ⏻
– *switches the system to standby/on.*
– *on the remote control only - switches the system to standby.*

④ **SOURCE SELECT**
– *selects the respective sound source for CD / TUNER/ TAPE /AUX.*
– *switches on the system .*

⑤ **Mode Selection**
STOP ■ ..... *stops CD playback or erase a CD programme.*
PLAY•PAUSE ▶II
..... *starts or interrupts CD playback.*
PRESET ▲▼
(|◀, ▶|) ..... *selects a preset radio station.*
PREV |◀◀ / NEXT ▶▶|
(|◀, ▶|) ..... *skips to the beginning of a current track/previous/ subsequent track.*
(◀◀, ▶▶) ..... *fast searches back and forward within a track/CD.*
TUNING ◀◀ ▶▶
(◀◀, ▶▶) ..... *tunes to radio stations.*

⑥ **iR SENSOR**
– *infrared sensor for remote control .*

⑦ **CLOCK SET/ RDS**
for Tuner ..... *displays RDS information.*
for Clock ..... *sets the clock function.*

⑧ **REPEAT/ BAND**
for CD ..... *repeats a track/CD programme/ entire CD .*
for Tuner ..... *selects waveband.*

⑨ **SHUFFLE**
– *plays CD tracks in random order .*

⑩ **Display**
– *shows the status of the system .*

⑪ **VOLUME (VOL −/+)**
– *adjusts the volume level.*
– *on the system only - adjusts the hour and minutes for the clock/ timer functions.*

⑫ **INTERACTIVE SOUND controls:**
DBB ..... *(Dynamic Bass Boost) enhances the bass.*
DSC ..... *(Digital Sound Control) selects sound characteristics: CLASSIC/ ROCK/JAZZ/POP.*
INCREDIBLE SURR. (IS) ..... *creates a super-enhanced stereo effect.*

⑬ **Tape Deck Operation**
RECORD ..... *starts recording.*
PLAY ▶ ..... *starts playback.*
◀◀ / ▶▶ ..... *fast rewinds/winds the tape.*
STOP•OPEN ...*stops the tape; opens the tape compartment.*
PAUSE ..... *interrupts recording or playback.*

⑭ **OPEN•CLOSE**
– *opens/closes the CD door.*

⑮ 🎧
– *connect headphones.*

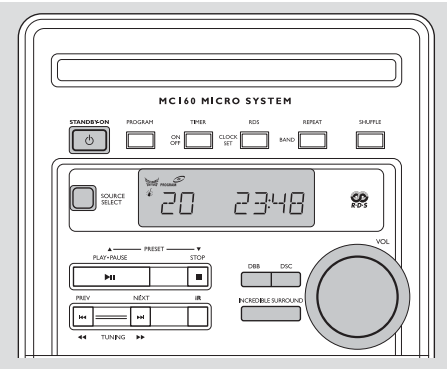
⑯ **REPEAT**
– *repeats a track/CD programme/ entire CD .*

⑰ **MUTE**
– *interrupts and resumes sound reproduction.*

⑱ **NEWS/TA**
– *activates RDS news and Traffic Announcement.*

⑲ **SLEEP**
– *activates/deactivates or selects the sleeper time.*

Notes for remote control:
– First select the source you wish to control by pressing one of the source select keys on the remote control (for example CD , TUNER).
– Then select the desired function (for example ▶, |◀, ▶|).



IMPORTANT:
Before you operate the system, complete the preparation procedures.

Switching the system on

Press ⏻ **STANDBY ON** *or* **SOURCE SELECT** .

The system will switch to the last selected source .

Press **CD**, **TUNER**, **TAPE** *or* **AUX** *on the remote control .*

The system will switch to the selected source.

To switch the system to standby mode

Press ⏻ **STANDBY ON** *on the system or remote control .*

If in tape mode or recording mode, press **STOP•OPEN** *first.*

The volume level, interactive sound settings, last selected source and tuner presets will be retained in the player's memory.

Power-saving automatic standby

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

Adjusting volume and sound

1 *Turn the* **VOLUME** *control anti-clockwise to decrease or clockwise to increase volume on the system (or press* **VOL** − / + *on the remote control) .*

Display shows the volume level VOL and a number from 0-32.

2 *Press* **DSC** *repeatedly to select the desired sound effect:* CLASSIC *(no indication)/* ROCK / JAZZ / POP.

3 *Press* **DBB** *to switch bass enhancement on or off.*

Display shows: DBB *if the DBB is activated.*

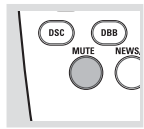
4 *Press* **INCREDIBLE SURR.** *(***IS** *on the remote control) to switch the surround sound effect on or off.*

Display shows: INCREDIBLE SURROUND *if activated.*

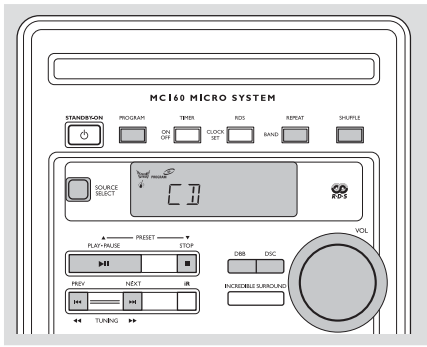
Note:
– The effect of INCREDIBLE SURROUND may vary with different types of music.

5 *Press* **MUTE** *on the remote control to interrupt sound reproduction instantly.*

Playback will continue without sound and the display shows MUTE.



To activate sound reproduction you can:
– *press* **MUTE** *again;*
– *adjust the volume controls;*
– *change source .*



IMPORTANT:
The lens of the CD player should never be touched.

Playing a disc

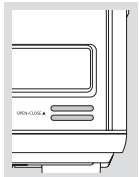
This CD player plays Audio Discs including CD - Recordables and CD-Rewritables.

CD-ROM, CD-I, CDV, VCD, DVD or computer CDs, however, are not possible.

1 *Select* **CD** *source .*

2 *Press* **OPEN•CLOSE** *on the top of the system to open the CD compartment.*

OPEN is displayed when you open the CD compartment.



3 *Insert a disc with the printed side facing up and press down on* **OPEN•CLOSE** *to close the CD door .*

READ is displayed as the CD player scans the contents of a disc , and then the total number of tracks and playing time are shown.

4 *Press* **PLAY•PAUSE** ▶II *(on the remote control* ▶II*) to start playback.*

Current track number and elapsed playing time of the track are displayed during disc playback.

5 *To interrupt playback press* **PLAY•PAUSE** ▶II *(on the remote control* ▶II*). Press* **PLAY•PAUSE** ▶II *(on the remote control* ▶II*) again to resume play.*

The display freezes and the elapsed playing time flashes when playback is interrupted.

6 *To stop disc playback, press* **STOP** ■.

Note: CD play will also stop when;
– the CD door is opened.
– the disc has reached the end.
– you select another source: TAPE, TUNER or AUX.
– you select to standby.
– you press the tape deck PLAY ► key.

Selecting a different track

Press **PREV** |◀◀ *or* **NEXT** ▶▶| *(on the remote control* |◀ *or* ▶|*) once or repeatedly until the desired track number appears in the display.*

If you have selected a track number shortly after loading a disc or in the PAUSE position, you will need to press **PLAY•PAUSE** ▶II *(on the remote control* ▶II*) to start playback.*

Finding a passage within a track

1 *Press and hold down on* **PREV** |◀◀ *or* **NEXT** ▶▶| *(on the remote control* ◀◀ *or* ▶▶ *).*

The disc is played at high speed and low volume .

2 *When you recognise the passage you want, release* **PREV** |◀◀ *or* **NEXT** ▶▶| *(on the remote control* ◀◀ *or* ▶▶ *).*

Normal playback continues.

Note:
– During a disc programme or if SHUFFLE/ REPEAT active, searching is only possible within the same track.

CD Operation

Different play modes: SHUFFLE and REPEAT

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

SHUFFLE ..... *tracks of the entire disc/ programme are played in random order*

SHUFFLE *and* REPEAT ALL... *to repeat the entire disc/ programme continuously in random order*

REPEAT ALL ... *repeats the entire disc/ programme*

REPEAT ..... *plays the current track continuously*

1 *To select your play mode, press the* **SHUFFLE** *or* **REPEAT** *button before or during playback until the display shows the desired function.*

2 *Press* **PLAY•PAUSE ▶II** *(on the remote control* **▶II***) to start playback if in the STOP position.*

If you have selected SHUFFLE, playback starts automatically.

3 *To return to normal playback, press the respective* **SHUFFLE** *or* **REPEAT** *button until the various SHUFFLE/ REPEAT modes are no longer displayed.*

You can also press **STOP ■** *to cancel your play mode.*

Programming track numbers

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

1 *Press* **PROGRAM** *to enter the programming mode.*

A track number is shown and **PROGRAM** *flashes.*

2 *Use the* **PREV ⏮** *or* **NEXT ⏭** *(on the remote control* **⏮** *or* **⏭***) to select your desired track number.*

3 *Press* **PROGRAM** *to confirm the track number to be stored.*

The number of tracks programmed and total playing time of the programme is shown briefly, then the selected track and PROG.

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

FULL *is displayed if you attempt to programme more than 20 tracks.*

5 *To start playback of your disc programme, press* **PLAY•PAUSE ▶II** *(on the remote control* **▶II***).*

Reviewing the programme

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

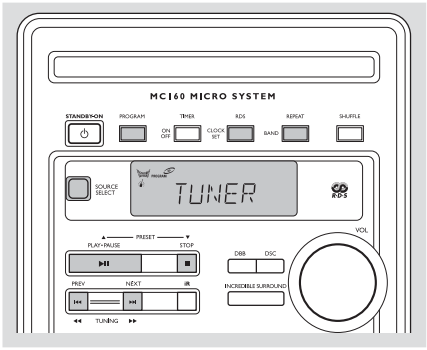
Erasing the programme

You can erase the programme by:

pressing **STOP ■** *once in the STOP mode;*
pressing **STOP ■** *twice during playback;*
opening the CD compartment;

PROGRAM *disappears from the display.*

Radio Reception



Tuning to radio stations

1 *Select* **TUNER** *source.*

TUNER *is displayed briefly.*

2 *Press* **BAND** *once or more to select your waveband.*

3 *Press down on* **TUNING ◀◀** *or* **▶▶** *and release button.*

The radio automatically tunes to a station with sufficient reception. Display indication during automatic tuning: SEARCH.

If a FM station is received in stereo, **STEREO** *is shown.*

4 *Repeat step* **3** *if necessary until you find the desired station.*

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

Programming radio stations

You can store up to a total of 40 radio stations in the memory.

Automatic programming

Automatic programming will start with a chosen preset number. From this preset number upwards, former programmed radio stations will be overridden. The system will only programme stations which are not in the memory already.

1 *Press* **PRESET ▲** *or* **▼** *(on the remote control* **⏮** *or* **⏭***) to select the preset number where programming should start.*

Note:
– If no preset number is selected, default is preset (1) and all your presets will be overridden.

2 *Press* **PROGRAM** *for more than 2 seconds to activate programming.*

AUTO *is displayed and available stations are programmed in order of waveband reception strength: FM followed by MW and LW. The last preset automatically stored will then be played.*

Manual programming

1 *Tune to your desired station (see Tuning to radio stations).*

2 *Press* **PROGRAM** *to activate programming.*

PROGRAM *flashes in the display.*

3 *Press* **PRESET ▲** *or* **▼** *(on the remote control* **⏮** *or* **⏭***) to allocate a number from 1 to 40 to this station.*

4 *Press* **PROGRAM** *again to confirm the setting.*

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 override a preset station by storing another frequency in its place.

Tuning to preset radio stations

Press **PRESET** ▲ *or* ▼ *(on the remote control* ⏮ *or* ⏭*) until the desired preset station is displayed.*

RDS

Radio Data System *is a service that allows FM stations to show additional information. If you are receiving a RDS station,* **R·D·S** *and the station name are displayed.*
When automatic programming is used, RDS stations will be programmed first.

Scrolling through different RDS information

Press **RDS** *briefly and repeatedly to scroll through the following information (if available):*

- *Station name*
- *Programme type such as* NEWS, SPORT, POPM ...
- *Radio text messages*
- *Frequency*

Note:

– *If you press RDS and the RDS signal is not available* NO RDS *is displayed.*

EON

Enhanced Other Network *allows you to search for an RDS station offering a certain programme type. If EON is available,* EON *is shown.*

Searching programme type (PTY)

PTY helps you find a desired programme type. To enable PTY, first programme RDS stations into the tuner memory (see Programming radio stations)

1 *While receiving an RDS station, press* **RDS** *briefly until the programme type is displayed.*

2 *Press* **PRESET** ▲ *or* ▼ *(on the remote control* ⏮ *or* ⏭*) until the desired programme type is displayed.*

3 *Press and hold down on* **TUNING** ◀◀ *or* ▶▶ *(on the remote control* ◀◀ *or* ▶▶*) to start searching.*

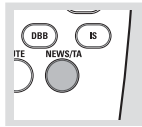
The radio tunes to a RDS station broadcasting this programme type. If the programme type is not available TYPE NOT FOUND *is displayed.*

RDS Programme types

NO TYPE ..... *No RDS programme type*
NEWS ..... *News services*
AFFAIRS ..... *Politics and current affairs*
INFO ..... *Special information programmes*
SPORT ..... *Sports*
EDUCATE ..... *Education and advanced training*
DRAMA ..... *Radio plays and literature*
CULTURE ..... *Culture, religion and society*
SCIENCE ..... *Science*
VARIED ..... *Entertainment programmes*
POP M ..... *Pop music*
ROCK M ..... *Rock music*
MOR M ..... *Light music*
LIGHT M ..... *Light classical music*
CLASSICS ..... *Classical music*
OTHER M ..... *Special music programmes*

Radio Reception

RDS News and Traffic Announcement (TA)



You may set up the tuner in such a way that listening to CD or tape is interrupted by the NEWS of a RDS station. This only works if the RDS station broadcasts a NEWS signal while sending the news.

1 *Tune to the desired RDS station.*

2 *Press* **NEWS/TA** *once or more on the remote control to select the NEWS option.*
NEWS ON, TA ON *or* OFF *is displayed briefly.*
NEWS *is displayed if you have activated the NEWS or TA option. Changing listening source will not disarm the function.*

Notes:

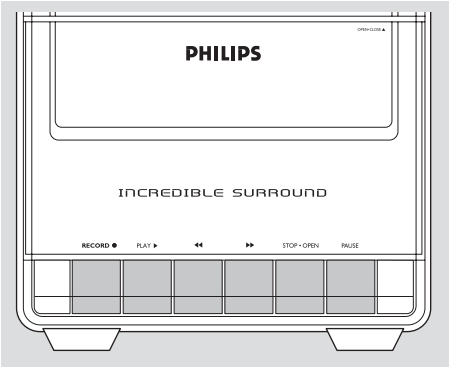
– *To avoid unwanted recordings, the NEWS announcement does not work while recording a tape.*
– *When you receive RDS news or traffic announcements during CD playback, playback will pause and you will be able to hear the news/TA. Playback resumes after the broadcast has finished. In tape mode, the tape continues playing but you will hear the news/TA only until the broadcast has finished.*
– *If you are using the RDS NEWS announcement with an EON station, the whole network is searched for the respective news.*

Disarming RDS News and Traffic Announcement

There are a number of ways to disarm the news feature:

Press **NEWS/TA** *on the remote control during reception of the news option.*
Press ⏻ **STANDBY ON** *on the system or remote control.*
Tune to a non-RDS-station.

Tape Operation / Recording



Tape playback

1 *Select* **TAPE** *source .*
Display: shows TAPE throughout tape operation.

2 *Press* **STOP•OPEN** *to open the tape door .*

3 *Insert a recorded tape and close the tape door . Load the tape with the open side downward and the full spool to the left.*

4 *Press* **PLAY ▶** *to start playback.*

5 *To pause, press* **PAUSE**. *Press again to resume.*

6 *By pressing* **à** *or* **á** *on the system fast winding of tape is possible in both directions.*

7 *To stop the tape , press* **STOP•OPEN**.
The keys are automatically released at the end of a tape, except if **PAUSE** *has been activated.*

Note:
– The sound source cannot be changed while recording a tape.

General information on recording

Recording is permissible insofar as copyright or other rights of third parties are not infringed. For recording, use only NORMAL (IEC type I) tapes on which the tabs have not yet been broken. This deck is not suited for recording on METAL (IEC IV) type tapes.
The best recording level is set automatically. Altering the VOLUME, INCREDIBLE SURROUND, DBB or INTERACTIVE SOUND controls will not affect the recording in progress.
The recording sound quality might differ depending on the quality of your recording source and the recording tape .
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. If, however, you wish to record over this side again, cover the tabs with a piece of adhesive tape.

Synchro start CD recording

1 *Select* **CD** *source .*

2 *Insert a disc and if desired, programme track numbers.*

3 *Press* **STOP•OPEN** *to open the tape door .*

4 *Insert a suitable tape into the deck and close the tape door .*

5 *Press* **RECORD** *to start recording.*
Playing of the CD programme starts automatically from the beginning of the CD after 7 seconds. It is not necessary to start the CD player separately.

To select and record a particular passage within a CD track:
Press ◀◀ or ▶▶. Release the control when you recognize the passage you want.
To pause CD playback, press ▶II.
Recording starts from this exact point in the track when you press **RECORD**.

6 *To pause, press* **PAUSE**. *Press again to resume.*

7 *To stop recording, press* **STOP•OPEN**.

Recording from the radio

1 *Tune to the desired radio station (see Tuning to radio stations).*

2 *Press* **STOP•OPEN** *to open the tape door .*

3 *Insert a suitable tape into the deck and close the tape door .*

4 *Press* **RECORD** *to start recording.*

5 *To pause, press* **PAUSE**. *Press again to resume.*

6 *To stop recording, press* **STOP•OPEN**.

Recording from Aux

1 *Select* **AUX** *source .*

2 *If necessary, prepare the additional appliance for recording.*

3 *Press* **RECORD** *to start recording.*

Maintenance

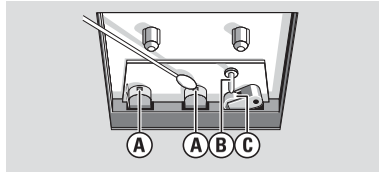
Cleaning the Cabinet
Use a soft cloth slightly moistened with a mild detergent solution. Do not use a solution containing alcohol , spirits, ammonia or abrasives.

Cleaning Discs

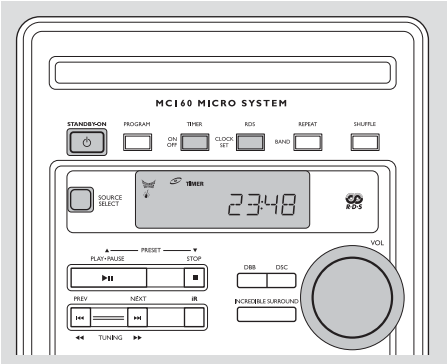
When a disc becomes dirty, clean it with a cleaning cloth. Wipe the disc from the centre out.
Do not use solvents such as benzene, thinner, commercially available cleaners, or antistatic spray intended for analogue records.

Cleaning the disc lens
After prolonged use , dirt or dust may accumulate at the disc lens. To ensure good playback quality, clean the disc lens with Philips CD Lens Cleaner or any commercially available cleaner. Follow the instructions supplied with cleaner.

Cleaning the Heads and the Tape Paths
To ensure good recording and playback quality, clean the heads Ⓐ, the capstan(s) Ⓑ, and pressure roller(s) Ⓒ after every 50 hours of tape operation.
Use a cotton swab slightly moistened with cleaning fluid or alcohol .
You can also clean the heads by playing a cleaning tape once .



Demagnetising the heads
Use a demagnetising tape available at your dealer.



Setting the clock

There are two possible methods for setting the clock: manually or automatically by using RDS.

Automatic clock setting *(RDS versions only)*

1 *Tune to a RDS station (see Radio Reception).*

2 *Press* **CLOCK SET** *for more than 2 seconds.*
SEARCH RDS TIME *is displayed for a maximum of 90 seconds; the time is then displayed.*
NO RDS TIME *is displayed if no time signal has been received and you will have to set the clock manually.*

Manual clock setting

1 *In standby, press* **CLOCK SET**.
The clock digits for the hours flash.

2 *Turn* **VOLUME** *to set the hours: clockwise for hours up; anti-clockwise for hours down.*

3 *Press* **CLOCK SET** *again.*
The clock digits for the minutes flash.

4 *Turn* **VOLUME** *to set the minutes: clockwise for minutes up; anti-clockwise for minutes down.*

5 *Press* **CLOCK SET** *to confirm the time.*

Note:
– *The backlight for clock display is dim in standby.*

Setting the timer

The system can be used as an alarm clock, whereby the CD or TUNER is switched on at a set time. The clock time needs to be set first before the timer can be used.
During setting, if no button is pressed within 90 seconds, the system will exit timer setting mode automatically.

1 *In any mode, press* **TIMER ON•OFF** *for more than 2 seconds.*

2 *Turn* **VOLUME** *clockwise (or press* **SELECT SOURCE***) to select sound source.*

3 *Press* **TIMER ON•OFF** *to confirm your desired mode.*
The selected source CD *or* TUNER *is shown. The clock digits for the hours flash.*

4 *Turn* **VOLUME** *to set the hours: clockwise for hours up; anti-clockwise for hours down.*

5 *Press* **TIMER ON•OFF** *again.*
The clock digits for the minutes flash.

6 *Turn* **VOLUME** *to set the minutes: clockwise for minutes up; anti-clockwise for minutes down.*

7 *Press* **TIMER ON•OFF** *to confirm the time.*
The timer is now set and activated.

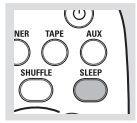
Activating and deactivating TIMER

In standby or during playback, press **TIMER ON•OFF** *once.*
Display shows **TIMER** *if activated, and disappears if deactivated.*

Activating and deactivating SLEEP

The sleep timer enables the system to switch off by itself after a set period of time. The clock time needs to be set first before the sleep timer can be used.

Press **SLEEP** *on the remote control once or more.*
Display shows SLEEP *and one of the sleep time options in sequence:* 60, 45, 30, 15, SLEEP OFF, 60... *if you have selected a time. Once SLEEP is activated,* SLEEP ON *scrolls across the display at repeated intervals.*



To deactivate, press **SLEEP** *on the remote control once or more until* SLEEP OFF *is shown, or press* **STANDBY ON** *on the system or remote control.*
SLEEP OFF *scrolls across the display.*

Specifications

AMPLIFIER
Output power ..... 2 x 5W RMS
..... 10W + 10W MPO
Signal-to-noise ratio ..... 65 dBA (IEC)
Frequency response ..... 40 – 20000 Hz, ± 3 dB
Input sensitivity AUX ..... 0.5V (max. 2V)
Impedance loudspeakers 8
Impedance headphones ..... 32 – 1000

CD PLAYER
Frequency range ..... 20 – 20000 Hz
Signal-to-noise ratio ..... 75 dBA

TUNER
FM wave range ..... 87.5 – 108 MHz
MW wave range ..... 531 – 1602 kHz
LW wave range ..... 153 – 279 kHz
Sensitivity at 75
– mono, 26 dB signal-to-noise ratio ..... 2.8 ∝V
– stereo, 46 dB signal-to-noise ratio ..... 61.4 ∝V
Selectivity ..... 28 dB
Total harmonic distortion 5%
Frequency response ..... 63 – 12500 Hz (± 3 dB)
Signal-to-noise-ratio ..... 50 dBA

TAPE DECK
Frequency response
Normal tape (type I) ... 120 – 10000 Hz (8 dB)
Signal-to-noise ratio
Normal tape (type I) ..... 48 dBA
Wow and flutter ..... 0.4% DIN

SPEAKERS
Bass reflex system
Dimensions (w x h x d) . 156 x 231 x 190 (mm)

GENERAL INFORMATION
AC Power ..... 220 – 230V / 50 Hz
Dimensions (w x h x d) ... 140 x 231 x 280(mm)
Weight (with/without speakers) .....
..... approx. 5.7 / 2.7 kg
Standby power consumption ..... < 3W

Subject to modification

Troubleshooting

WARNING

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

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

Problem	Solution
CD OPERATION	
"NO DISC" is displayed.	– *Insert a disc.* – *Check if the disc is inserted upside down.* – *W has cleared.* – *Replace or clean the disc, see "Maintenance".* – *Use a finalised CD-RW or CD-R.*
RADIO RECEPTION	
Radio reception is poor.	– *If the signal is too weak, adjust the antenna or connect an external antenna for better reception.* – *Increase the distance between the Micro HiFi System and your TV or VCR.*
TAPE OPERATION / RECORDING	
Recording or playback cannot be made.	– *Clean deck parts, see "Maintenance".* – *Use only normal (IEC I) tape for recording.* – *Apply a piece of adhesive tape over the missing tab space.*
GENERAL	
The system does not react when buttons are pressed.	– *Remove and reconnect the AC power plug and switch on the system again.*
Sound cannot be heard or is of poor quality.	– *Adjust the volume.* – *Disconnect the headphones.* – *Check that the speakers are connected correctly.* – *Check if the stripped speaker wire is clamped.*
The left and right sound outputs are reversed.	– *Check the speaker connections and location.*

Troubleshooting

The remote control does not function properly.	– *Select the source (CD or TUNER, for example) before pressing the function button (▶, ⏮, ⏭).* – *Reduce the distance between the remote control and the system.* – *Insert the batteries with their polarities (+/– signs) aligned as indicated.* – *Replace the batteries.* – *Point the remote control directly toward IR sensor on the front of the system.*
The timer is not working.	– *Set the clock correctly.* – *Press TIMER ON•OFF to switch on the timer.* – *If a recording is in progress, stop the recording.*
The Clock/Timer setting is erased.	– *Power has been interrupted or the power cord has been disconnected. Reset the clock/timer.*

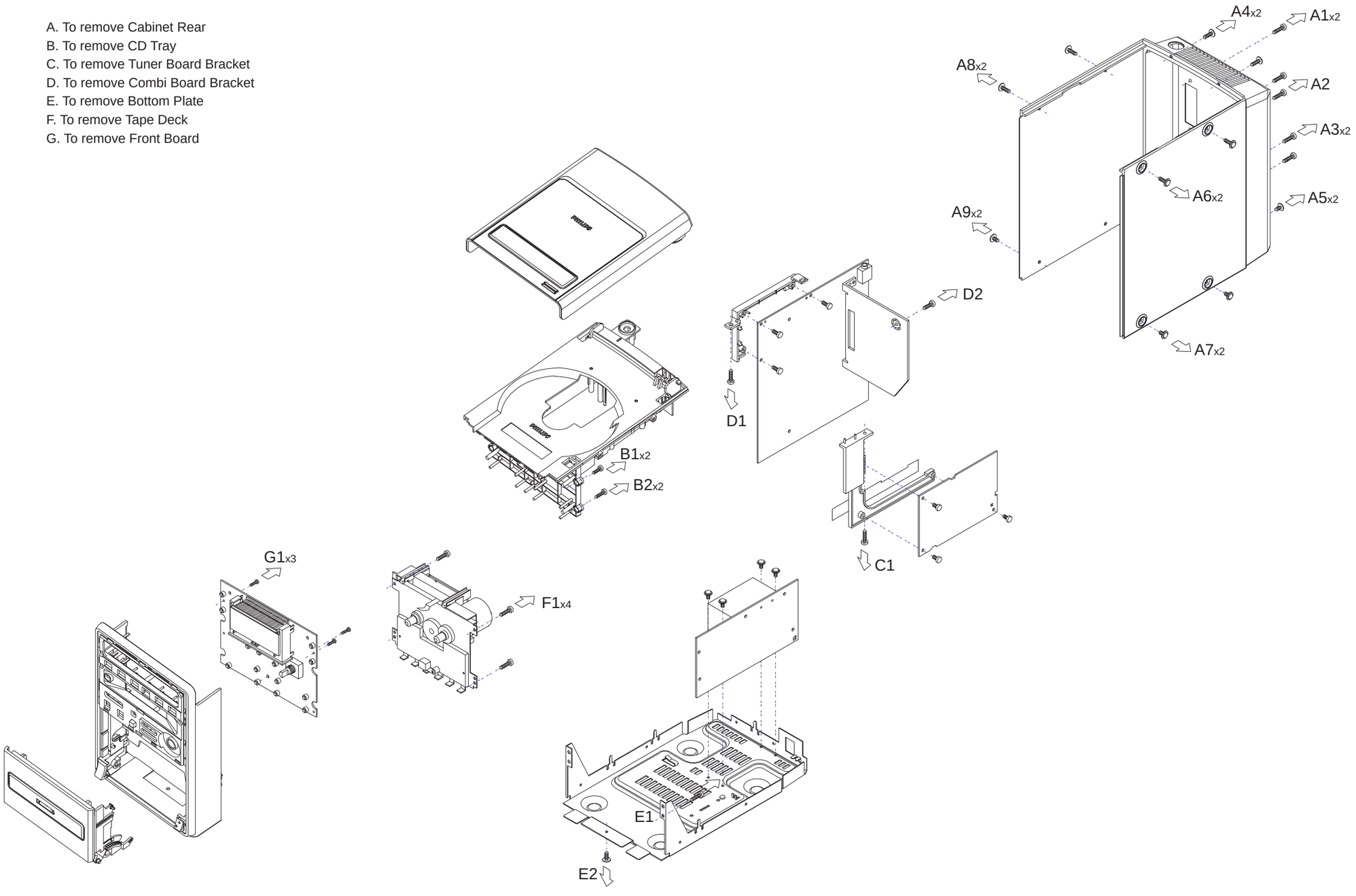
For more information onoperation instruction please visit Philips Audio internet site :

http://www.audio.philips.com

4 - 1

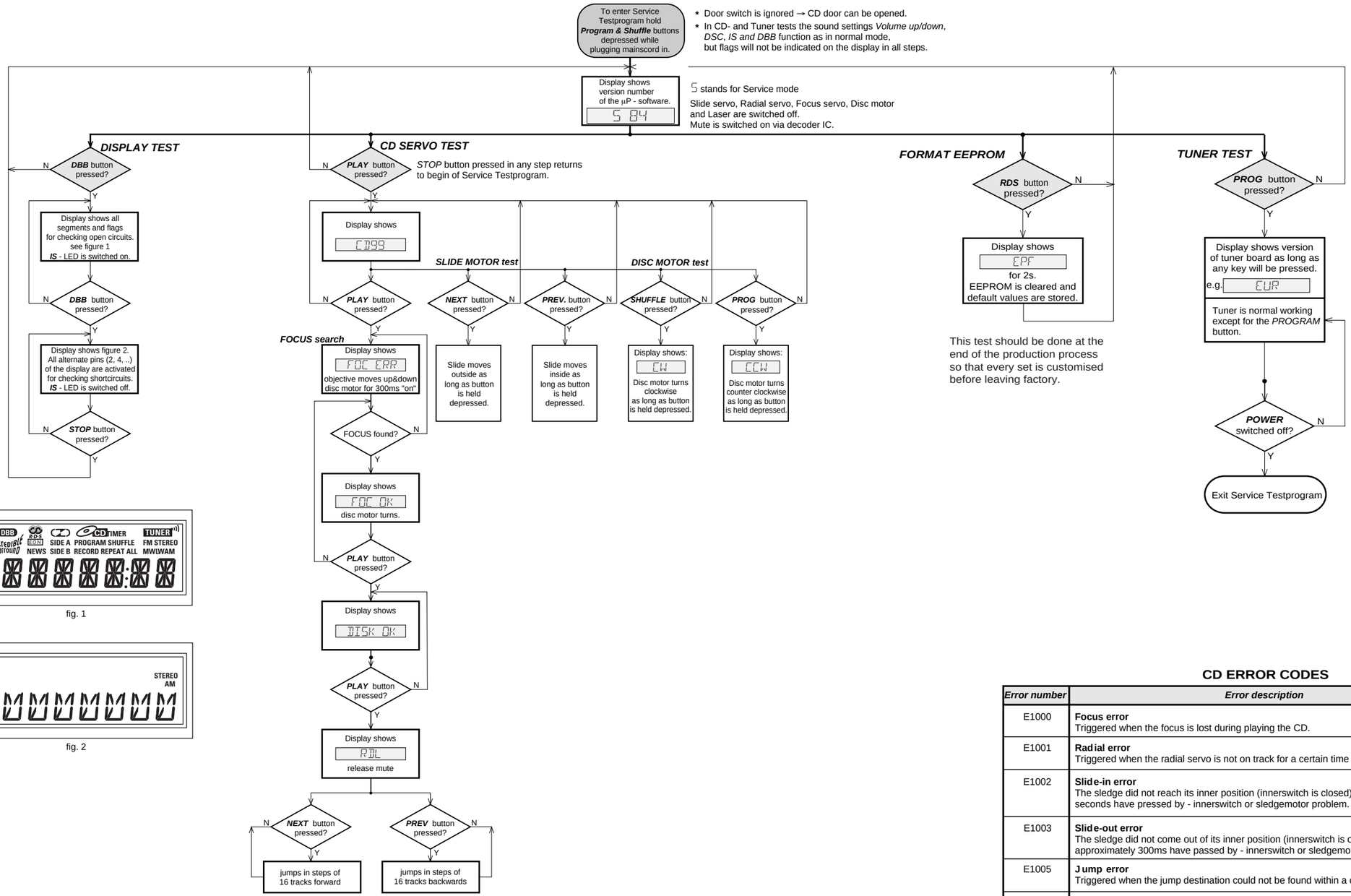
DISASSEMBLY DIAGRAM

A. To remove Cabinet Rear
B. To remove CD Tray
C. To remove Tuner Board Bracket
D. To remove Combi Board Bracket
E. To remove Bottom Plate
F. To remove Tape Deck
G. To remove Front Board



4 - 2

CD SERVICE TEST PROGRAM



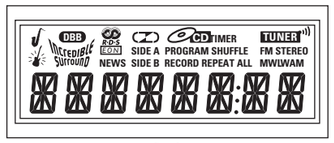


fig. 1

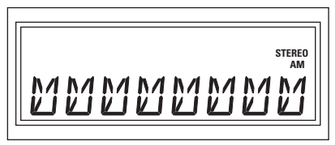


fig. 2

TUNER VERSIONS

	EUR	USA	OSE
REGION & SET VERSIONS	***EUROPE FM/MW***	***USA FM/MW***	***OVERSEAS FM/MW*** [1)]Grid switchable 100/10kHz - 50/9kHz
	/22/25	/37	/21/21M/30

table 2

[1)] To toggle frequency grid press ***SHUFFLE*** button for more than 5s in normal tuner mode (**not** in service testmode)**.**

Display will show either GRID 9 or GRID 10 for 2 s.

CD ERROR CODES

Error number	*Error description*	*Error type*
E1000	**Focus error** Triggered when the focus is lost during playing the CD.	W
E1001	**Radial error** Triggered when the radial servo is not on track for a certain time during playing the CD.	W
E1002	**Slide-in error** The sledge did not reach its inner position (innerswitch is closed) before approximately 6 seconds have pressed by - innerswitch or sledgemotor problem.	W
E1003	**Slide-out error** The sledge did not come out of its inner position (innerswitch is open) before approximately 300ms have passed by - innerswitch or sledgemotor problem.	W
E1005	**Jump error** Triggered when the jump destination could not be found within a certain time.	W
E1006	**Subcode error** No valid subcode for a certain time during play.	W
E1007	**PLL error** The Phase-Lock-Loop could not lock within a certain time.	W
E1008	**Turntable motor error** Generated when the CD could not reach 75% of speed during start-up within a certain time. Discmotor problem.	W
E1020	**Focus search error** The focus point has not been found within a certain time.	F

table 1

Error type: W = Warning → set continues operation, message remains on the display until next error occurs or any key is pressed.

F = Fatal Error → set stops operation, message remains on the display.

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

4 - 3

Abbreviations and Pin-description of CD Ics

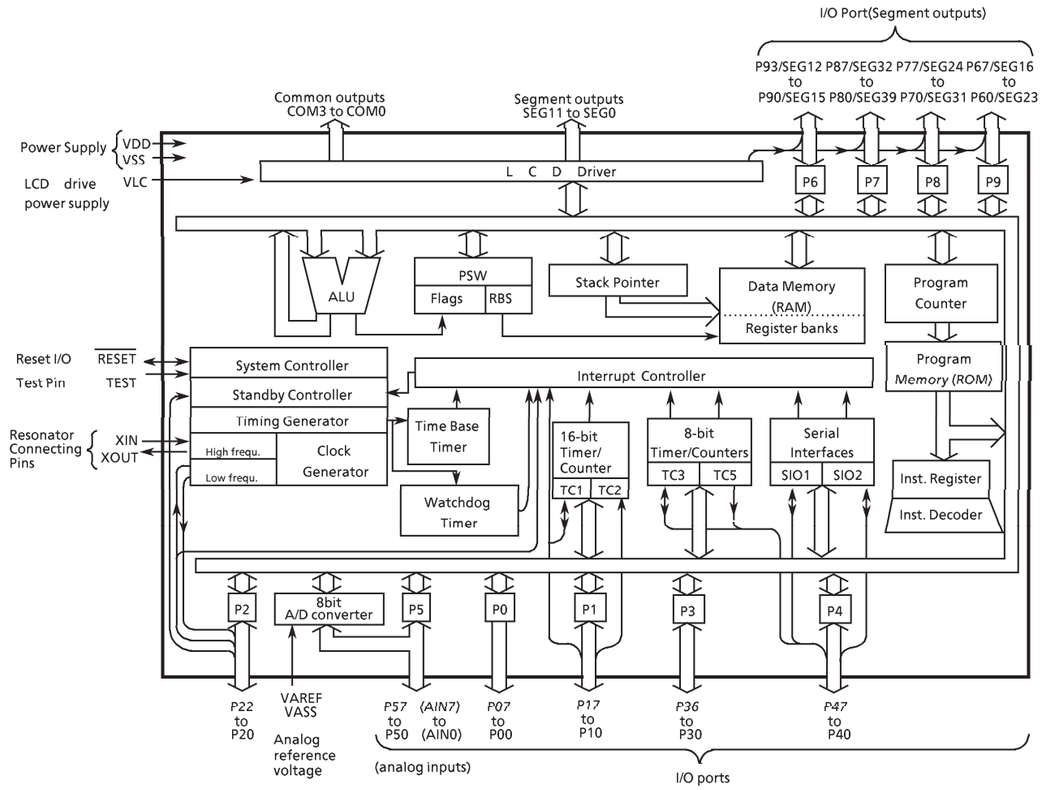
SERVO PROCESSOR SAA7325H

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)
$V_{DDD1(P)}$	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
$V_{DDD2(C)}$	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 OF INTEGRATED CIRCUIT

IC 7400 TMP87CM23F



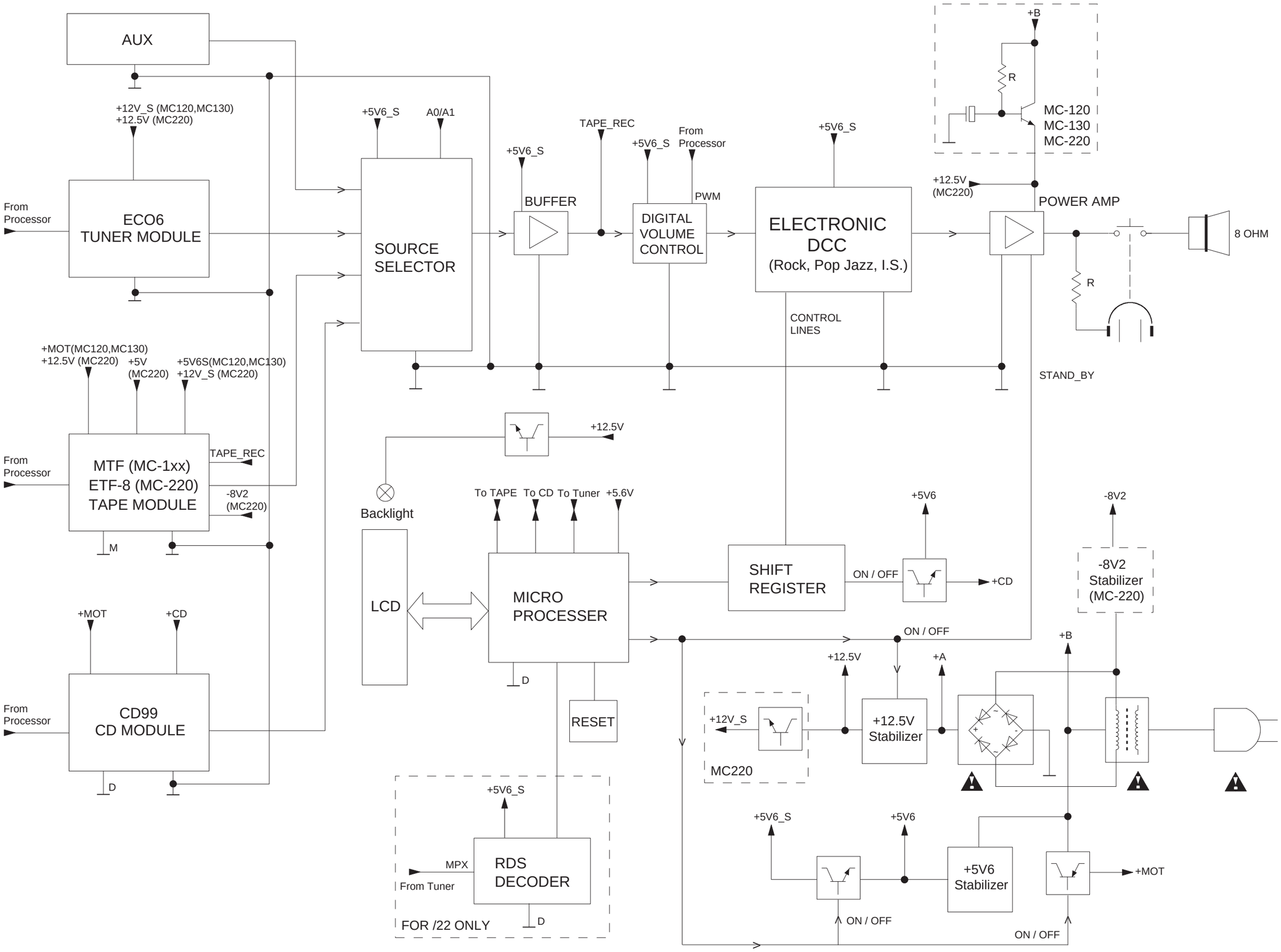
PINS DESCRIPTION OF IC 7400 TMP87CM23F

PIN FUNCTION

PIN NAME	Input / Output	FUNCTION	
P07 to P00	I/O	8-bit programmable input/output ports (tri-state).	
P17, P16			
P15 (TC2)	I/O (Input)	Each bit of these ports can be individually configured as an input or an output under software control. When used as timer/counter in or external interrupt input, the latch must be set to "0". When used as PPG output or divider output, the latch must be set to "1".	Timer/Counter 2 input
P14 ($\overline{PPG}$)	I/O (Output)		Programmable pulse generator output
P13 ($\overline{DVO}$)			Divider output
P12 (INT2 / TC1)	I/O (Input)		External interrupt input 2 or Timer/Counter 1 input
P11 ($\overline{INT1}$)			External interrupt input 1
P10 ($\overline{INT0}$)			External interrupt input 0
P22 (XTOUT)	I/O (Output)	3-bit input/output port with latch. When used as an input port, the latch must be set to "1".	Resonator connecting pins (32.768kHz). For inputting external clock, XTIN is used and XTOUT is opened.
P21 (XTIN)	I/O (Input)		
P20 ($\overline{INT5}$ / $\overline{STOP}$)			External interrupt input 5 or STOP mode release signal input
P36 to P30	I/O	7-bit input/output port with latch. When used as input port, the latch must be set to "1".	
P47 (SO2)	I/O (Output)	8-bit input/output port with latch. When used as input port or a SIO input/output port, the latch must be set to "1".	SIO2 serial data output
P46 (SI2)	I/O (Input)		SIO2 serial data input
P45 ($\overline{SCK2}$)	I/O (I/O)		SIO2 serial clock input/output
P44 (SO1)	I/O (Output)		SIO1 serial data output
P43 (SI1)	I/O (Input)		SIO1 serial data input
P42 ($\overline{SCK1}$)	I/O (I/O)		SIO1 serial clock input/output
P41 ($\overline{PWM}$/PDO)	I/O (Output)		8-bit PWM output, 8-bit programmable divider output
P40 (INT3/TC3)	I/O (Input)		External interrupt input 3, Timer/Counter 3 input
P57 (AIN07) to P50 (AIN00)	I/O (Input)	8-bit programmable input/output port (tri-state). Each bit of the port can be individually configured as an input or an output under software control. When used as analog input, the latch must be set to "0".	A/D converter analog inputs
SEG39 (P80) to SEG32 (P87)	Output (I/O)	8-bit input/output port with latch. When used as an input port, the latch must be set to "1".	LCD segment outputs. When used as segment output, the control register of P6, P7, P8 and P9 must be set to "1".
SEG31 (P70) to SEG24 (P77)	Output (I/O)		
SEG23 (P60) to SEG16 (P67)	Output (I/O)		
SEG15 (P90) to SEG12 (P93)	Output (I/O)	4-bit input/output port with latch. When used as an input port, the latch must be set to "1".	
SEG11 to SEG0	Output	LCD segment outputs	
COM3 to COM0	Output	LCD common outputs	
XIN, XOUT	Input, Output	Resonator connecting pins for high-frequency clock. For inputting external clock, XIN is used and XOUT is opened.	
$\overline{RESET}$	I/O	Reset signal input or watchdog timer output/address-trap-reset output	
TEST	Input	Test pin for out-going test. Be fixed to low.	
VDD, VSS	Power Supply	+ 5 V, 0 V (GND)	
VAREF, VASS		Analog reference voltage inputs (High, Low)	
VLC	LCD drive power supply.		

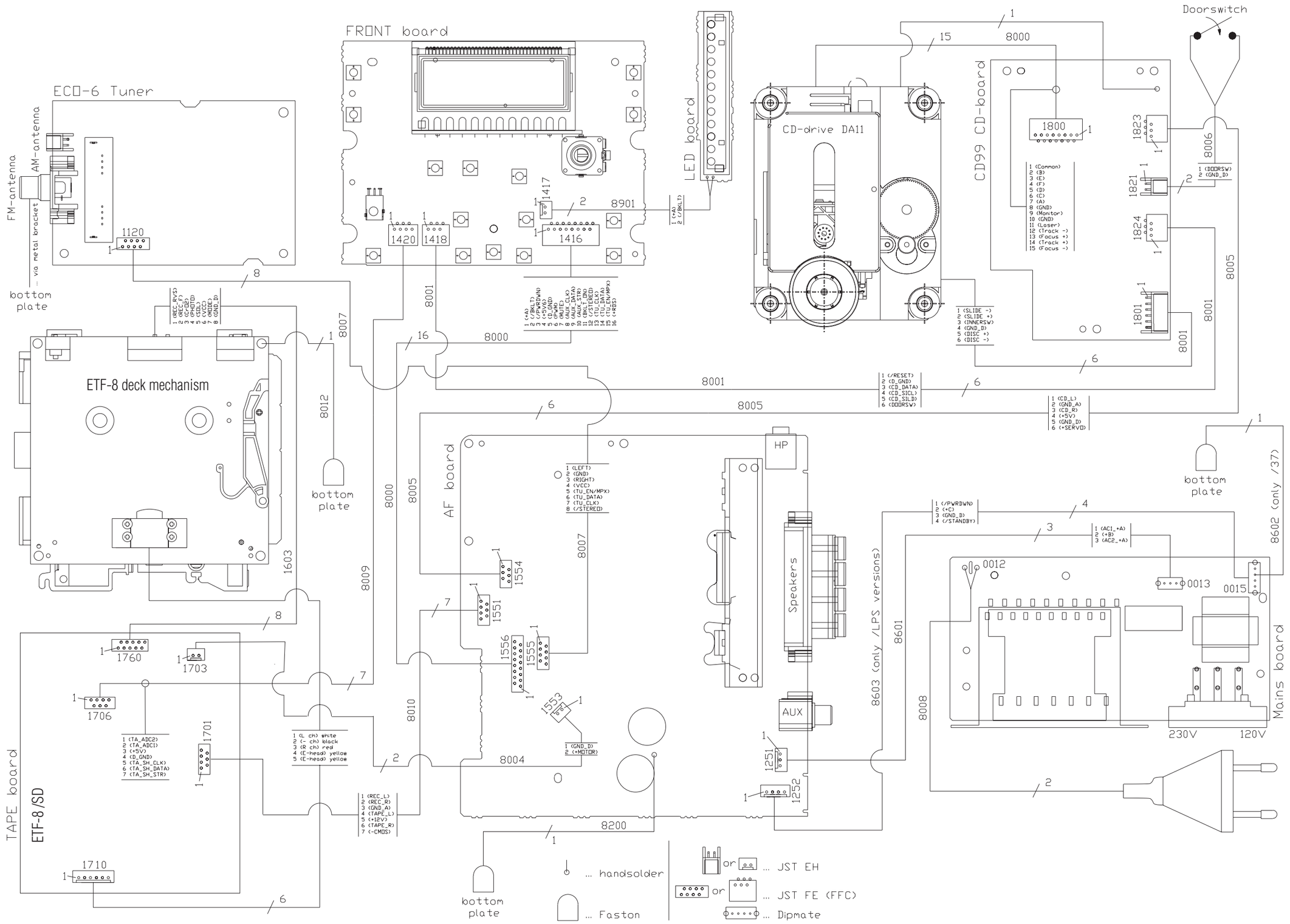
5 - 1

SET BLOCK DIAGRAM



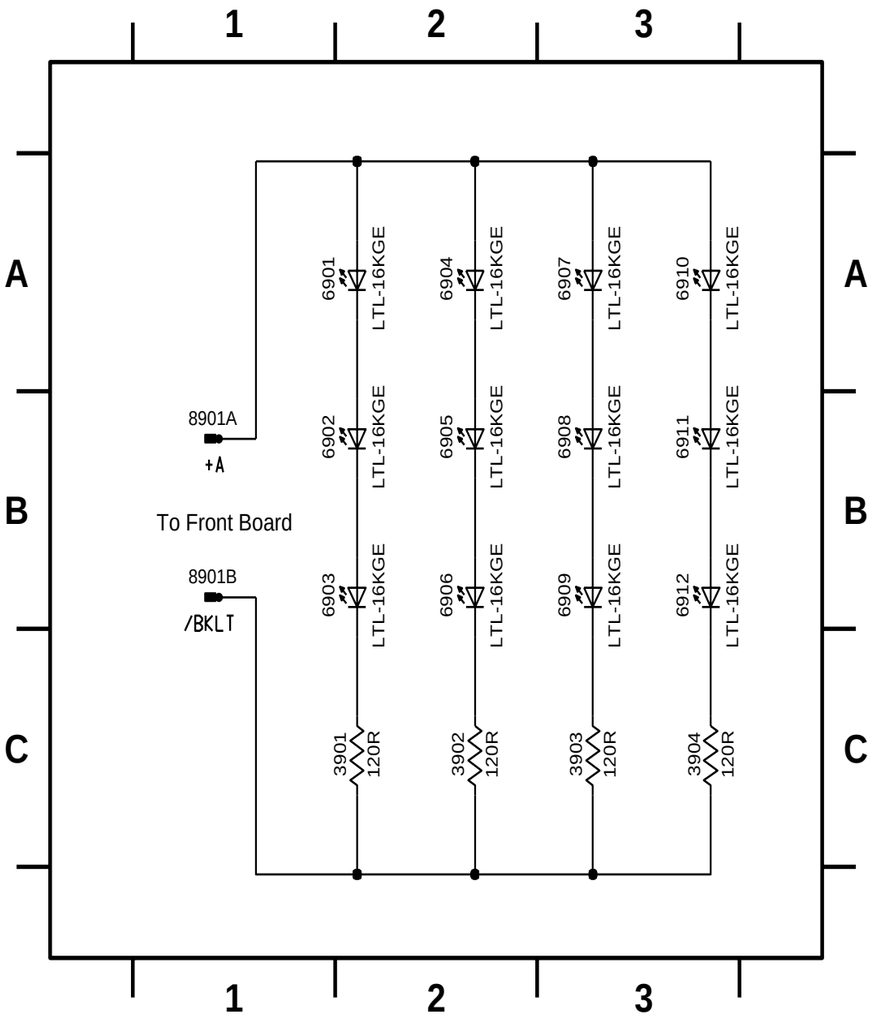
5 - 2

SET WIRING DIAGRAM

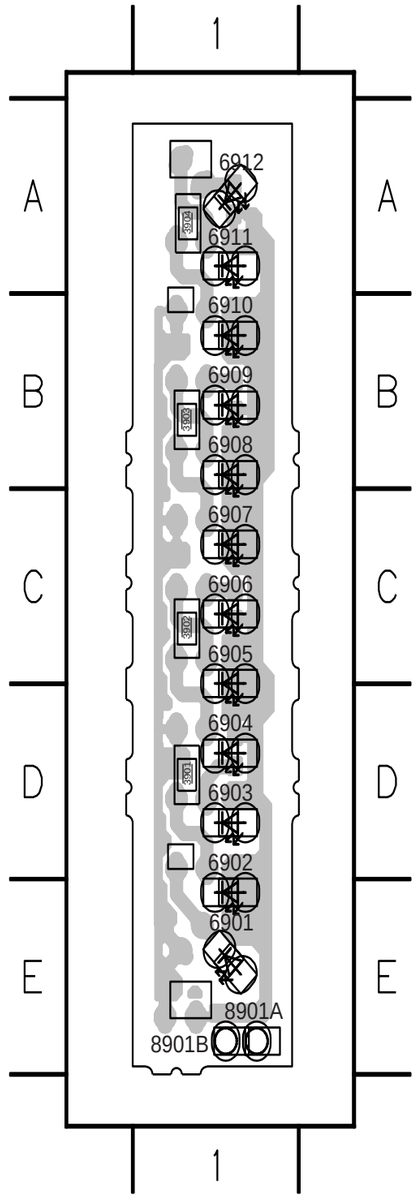


CIRCUIT DIAGRAM - LED BOARD

3901 C2	6902 B1	6907 A3	6912 B3
3902 C2	6903 B1	6908 B3	8901A B1
3903 C3	6904 A2	6909 B3	8901B B1
3904 C3	6905 B2	6910 A3	
6901 A1	6906 B2	6911 B3	

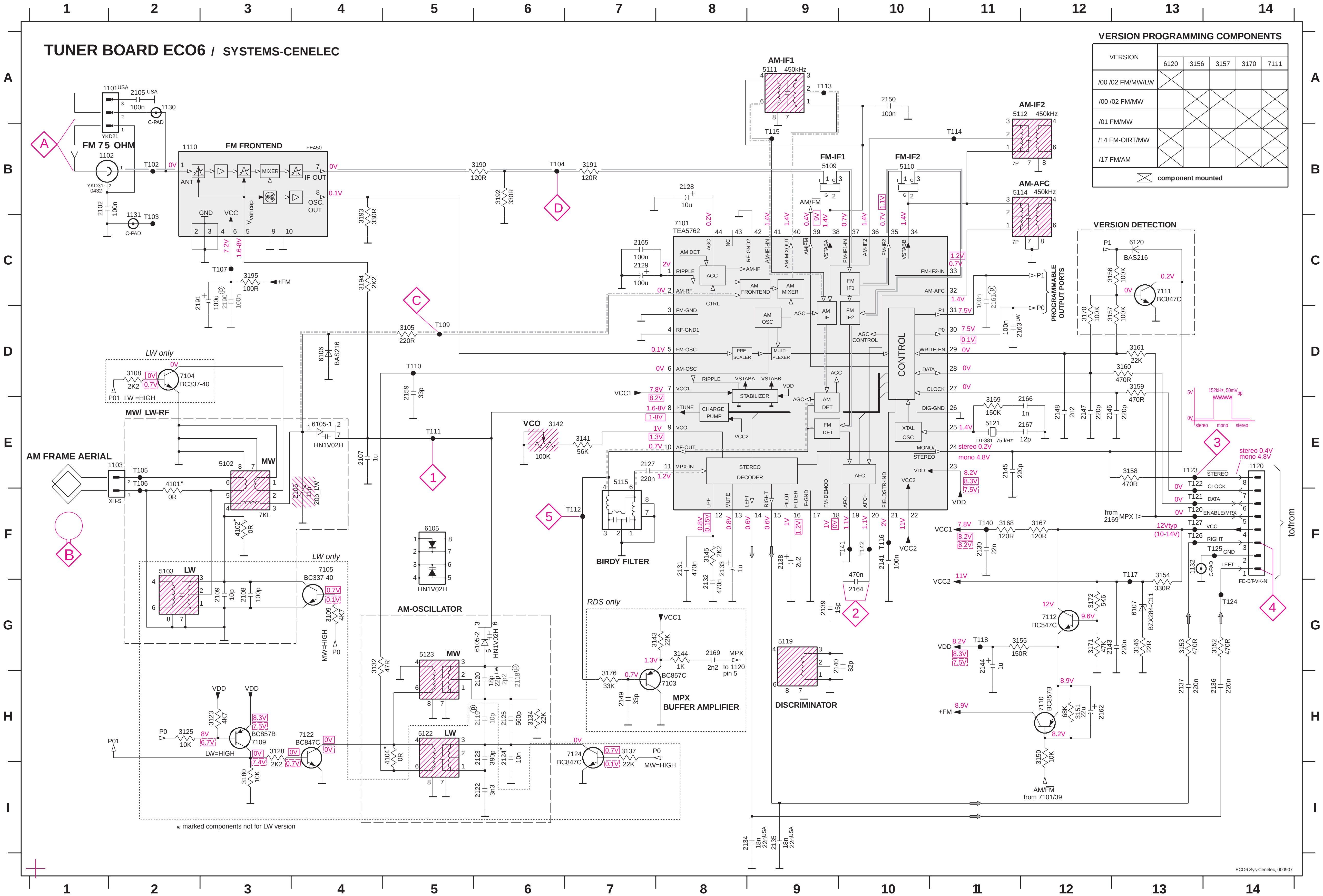


LAYOUT DIAGRAM - LED BOARD



3901	D1
3902	C1
3903	B1
3904	A1
6901	E1
6902	D1
6903	D1
6904	D1
6905	C1
6906	C1
6907	C1
6908	B1
6909	B1
6910	B1
6911	A1
6912	A1
8901A	E1
8901B	E1

CIRCUIT DIAGRAM - ECO6 SYSTEM CENELEC BOARD



LEGEND

* ... only assembled in FM/AM-version
p ...for provision only
USA ... for USA version only
LW ... for LW version only

SMD jumper
41xx
0R

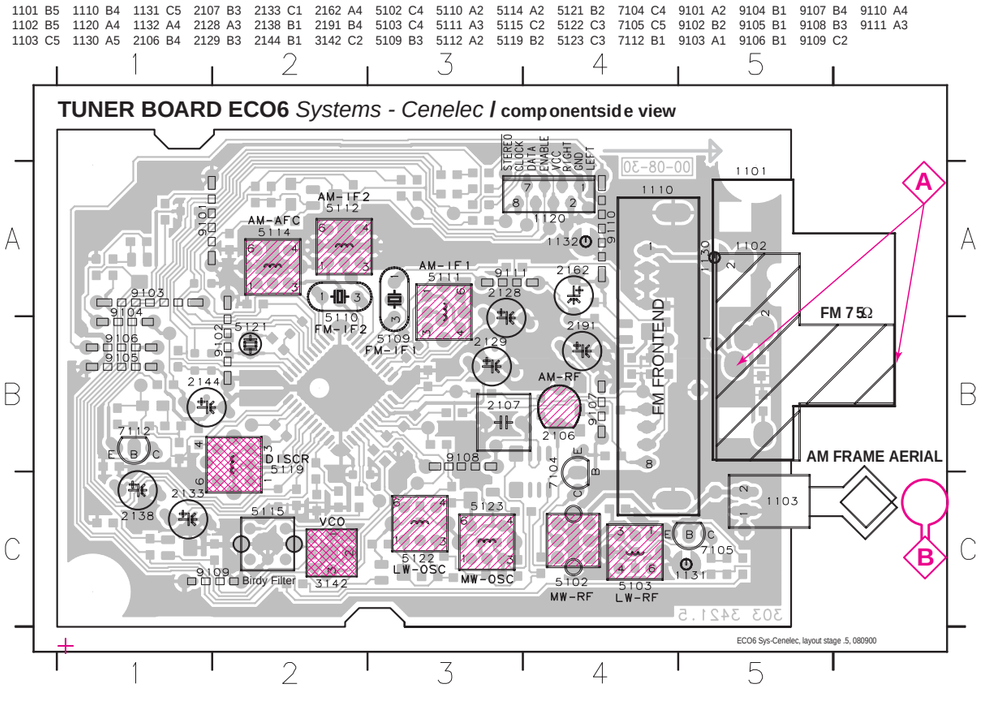
EVM

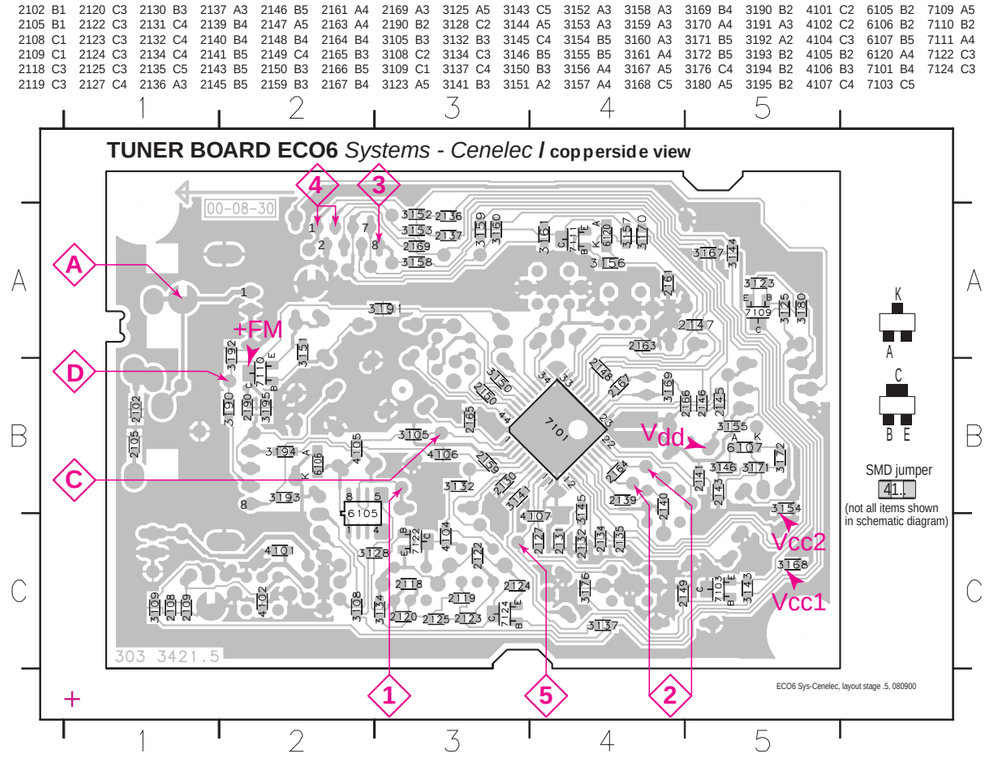
...V FM mode stereo
...V MW mode
...V LW mode
voltages measured while set is tuned to a strong transmitter

Signal path
FM
AM
MPX (Audio Frequency)
AF - left/right

1101	A2	6106	D4
1102	B1	6107	G13
1103	E2	6120	C13
1110	B2	7101	C8
1120	E14	7103	H8
1130	A2	7104	D2
1131	C2	7105	F4
1132	F13	7109	H3
2102	B1	7110	H12
2105	A2	7111	C13
2106	E3	7112	G12
2107	E4	7122	H4
2108	G3	7124	H7
2109	G3	T102	B2
2118	H6	T103	B2
2119	H6	T104	B6
2120	H6	T105	E2
2122	I6	T106	E2
2123	H6	T107	C3
2124	H6	T109	D5
2125	H6	T110	D5
2127	E7	T111	E5
2128	B8	T112	F7
2129	C7	T113	A9
2130	F11	T114	B11
2131	F8	T116	F10
2132	F8	T117	F13
2133	F8	T118	G11
2134	I8	T120	F13
2135	I9	T121	F13
2136	H14	T122	E13
2137	H13	T123	E13
2138	F9	T124	G14
2139	G9	T125	F14
2140	G9	T126	F13
2141	F10	T127	F13
2143	G12	T140	F11
2144	G11	T141	F10
2145	E11	T142	F10
2146	E12		
2147	E12		
2148	E12		
2149	H7		
2150	A10		
2159	D5		
2161	C11		
2162	H12		
2163	D11		
2164	G10		
2165	C7		
2166	E11		
2167	E11		
2169	G8		
2190	C3		
2191	C3		
3105	D5		
3108	D2		
3109	G4		
3123	H3		
3125	H2		
3128	H3		
3132	G4		
3134	H6		
3137	H7		
3141	E7		
3142	E6		
3143	G7		
3144	G8		
3145	F8		
3146	G13		
3150	H12		
3151	H12		
3152	G14		
3153	G13		
3154	F13		
3155	G12		
3156	C12		
3157	D12		
3158	E13		
3159	D13		
3160	D13		
3161	D13		
3167	F12		
3168	F11		
3169	E11		
3170	D12		
3171	G12		
3172	G12		
3176	H7		
3180	I3		
3190	B6		
3191	B7		
3192	B6		
3193	B4		
3194	C4		
3195	C3		
4101	E2		
4102	F3		
4104	H5		
5102	E3		
5103	F2		
5109	B9		
5110	B10		
5111	A9		
5112	A11		
5114	B11		
5115	E7		
5119	G9		
5121	E11		
5122	H5		
5123	G5		
6105-1	E4		
6105-2	G6		

LAYOUT DIAGRAM - ECO6 SYSTEM CENELEC BOARD





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

TUNER ADJUSTMENT TABLE (ECO6 Cenelec FM/MW - and FM/MW/LW - versions with AM-frame aerial)

Waverange	Input frequency	Input	Tuned to	Adjust	Output	Scope/ Voltmeter
VARICAP ALIGNMENT						
FM 87.5 - 108MHz (50kHz grid)			108MHz	check	◇1	8V ±1.2V
			87.5MHz	check		1.6V ±0.5V
MW 531 - 1602kHz (9kHz grid)			1602kHz	5123		8V ±0.2V 3-band 6.9V ±0.2V 2-band
			531kHz	check		1.1V ±0.4V
LW 153 - 279kHz (3kHz grid)			279kHz	5122		8V ±0.2V
			153kHz	check		1.1V ±0.4V
FM - IF						
FM	10.7MHz, 45mV continuous wave	◇D	IC 7101 pin 21 — shortcircuit to block AFC — 2141	5119	◇2	0mV ±3mV
FM - VCO						
FM	98MHz, 1mV continuous wave	◇A	98MHz	3142	◇3	152kHz ±1kHz [1]
FM RF (channel separation)	Note: The FM-frontend unit has already been adjusted by the factory and needs therefore no further adjustments for service purposes.					
FM	98MHz, 1mV 90% Left + 9% pilot mod=1kHz	◇A	98MHz	IF coil inside FM frontend 1110	◇4	right channel min.
AM IF						
MW	450kHz connect pin 6 of IC 7101 (AM Osc.) with 3.3kΩ to Vcc	◇C Δf = ±10kHz V_{RF} = 0.5mV (as low as possible)	IC 7101 pin 36 — 100nF — 220R	5111	◇5	max. / f_o symmetric
			IC 7101 pin 40 — 100nF — 220R (see remark [2])	5112		
AM AFC **MW**		◇C continuous wave V_{RF} = 2mV		5114	◇2	0mV ±2mV
AM RF [3]						
MW	1494kHz	◇B Δf = ±30kHz V_{RF} as low as possible	1494kHz	2106	◇5	max. / f_o symmetric
	558kHz		558kHz	5102		
LW	198kHz		198kHz	5103		

ECO6 Sys Cenelec, 190599

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] For AM RF adjustments the original frame antenna has to be used! MW has to be aligned before LW.

↕ Repeat

7 - 3

CIRCUIT DIAGRAM - ECO6 SYSTEM NON-CENELEC BOARD

TUNER BOARD ECO6 / SYSTEMS NON CENELEC

VERSION PROGRAMMING COMPONENTS

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

X component mounted

VERSION DETECTION

LEGEND

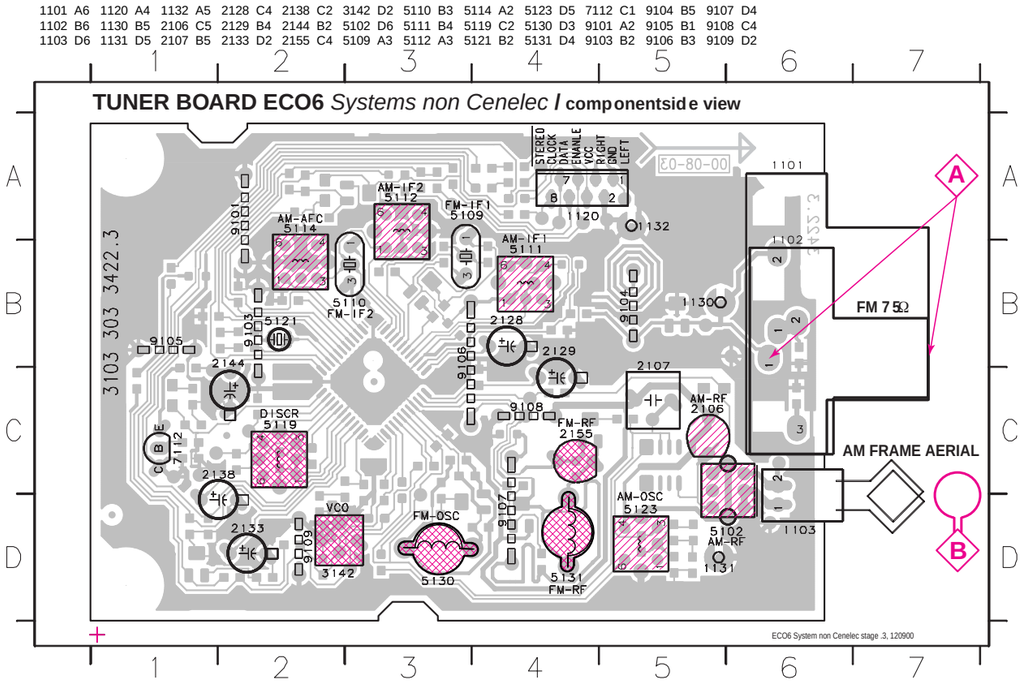
ⓟ...for provision only
USA ... for USA version only
E-EU ... for East European version only
J ...for Japanese version only

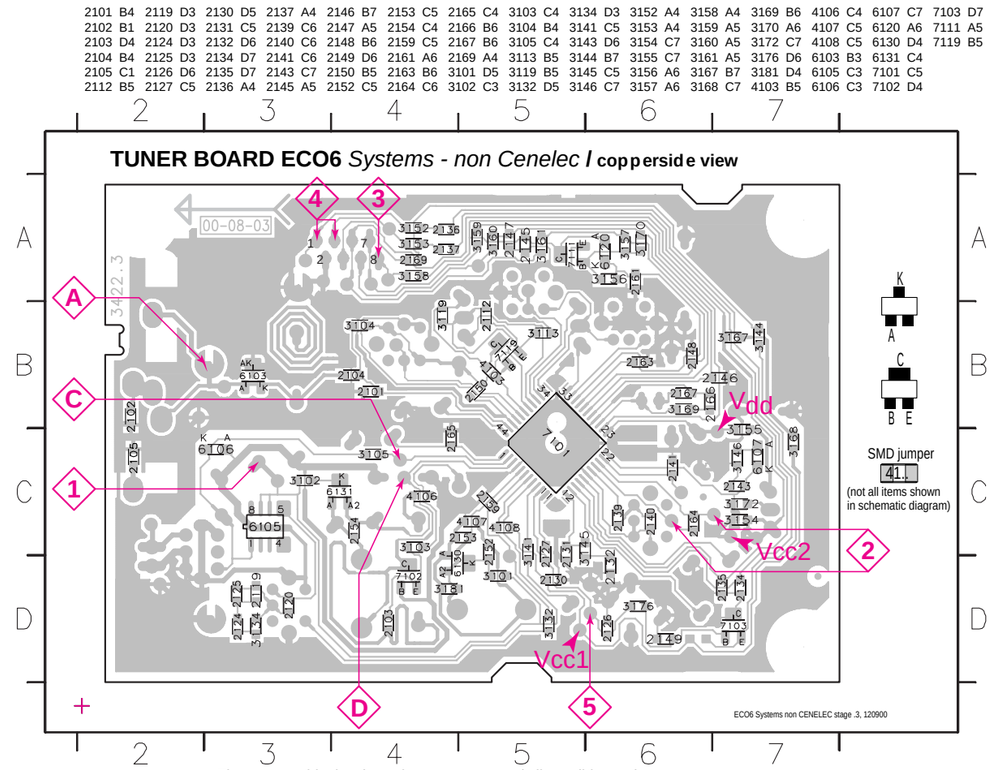
...V FM mode stereo
...V MW mode
Ⓥ EVM
...V LW mode
voltages measured while set is tuned to a strong transmitter

Signal path
FM
AM
MPX (Audio Frequency)
AF - left/right

ECO6 Sys-non Cenelec, 000911

LAYOUT DIAGRAM - ECO6 SYSTEM NON-CENELEC BOARD





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

7 - 4

TUNER ADJUSTMENT TABLE (ECO6 FM/MW- and FM/MW/LW - versions with AM-frame aerial)

Waverange	Input frequency	Input	Tuned to	Adjust	Output	Scope/ Voltmeter
VARICAP ALIGNMENT						
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
FM IF						
FM	10.7MHz, 45mV continuous wave	D	IC 7101 21 shortcircuit to block AFC 2141	5119	2	0 ± 3 mV DC
FM RF						
FM 87.5 - 108MHz (65.81 - 74, 87.5 - 108MHz)	108MHz	A	108MHz	2155	4	MAX
	87.5MHz (65.81MHz)	mod=1kHz Δf=±22.5kHz	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 3.3kΩ to Vcc	C Δf=±10kHz V_{RF} = 0.5mV (as low as possible)	IC 7101 36 220R 100nF	5111	5	max. f_o symmetric
			IC 7101 40 220R 100nF see remark [2]	5112		
AM AFC **MW**		C continuous wave V_{RF} = 2mV		5114	2	0 ± 2 mV DC
AM RF [3]						
MW [4] FM/MW/LW- and FM/MW-version (9kHz grid) 531 - 1602kHz	1494kHz	B	1494kHz	2106	5	max. f_o symmetric
	558kHz		558kHz	5102		
LW	198kHz		198kHz	5103		
MW FM/AM-version, 10kHz grid 530 - 1700kHz	1500kHz	Δf = ±30kHz V_{RF} as low as possible	1500kHz	2106		
	560kHz		560kHz	5102		

ECO6, Sys + PA with frame aerial, 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) For AM RF adjustments the original frame antenna has to be used !

4) MW has to be aligned before LW.

Repeat

CIRCUIT DIAGRAM - MTF BOARD

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

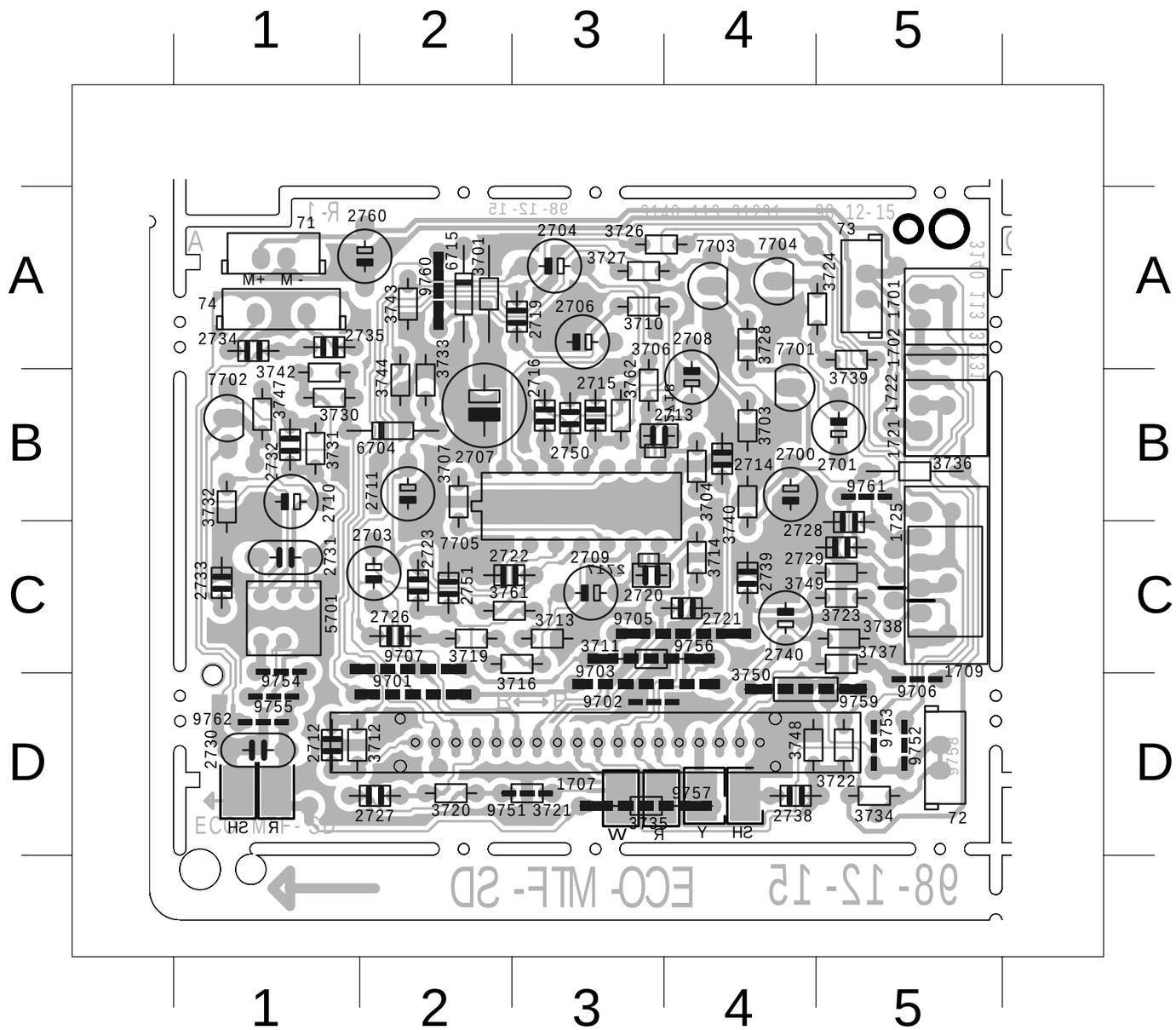
ALL CARBON RESISTORS E12 SERIES
0.33W 5% UNLESS OTHERWISE STATED.
PLATE CERAMIC CAPACITOR
MYLAR CAPACITOR
ELECTROLYTIC CAPACITOR
ALL TUBULAR CERAMIC CAPACITORS UNLESS OTHERWISE STATED.

d = 10V
E = 16V
f = 25V
G = 50V

OPT = OPTIONAL / Used for some Versions

8 - 2

LAYOUT DIAGRAM - MTF BOARD



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

CASSETTE ADJUSTMENT

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

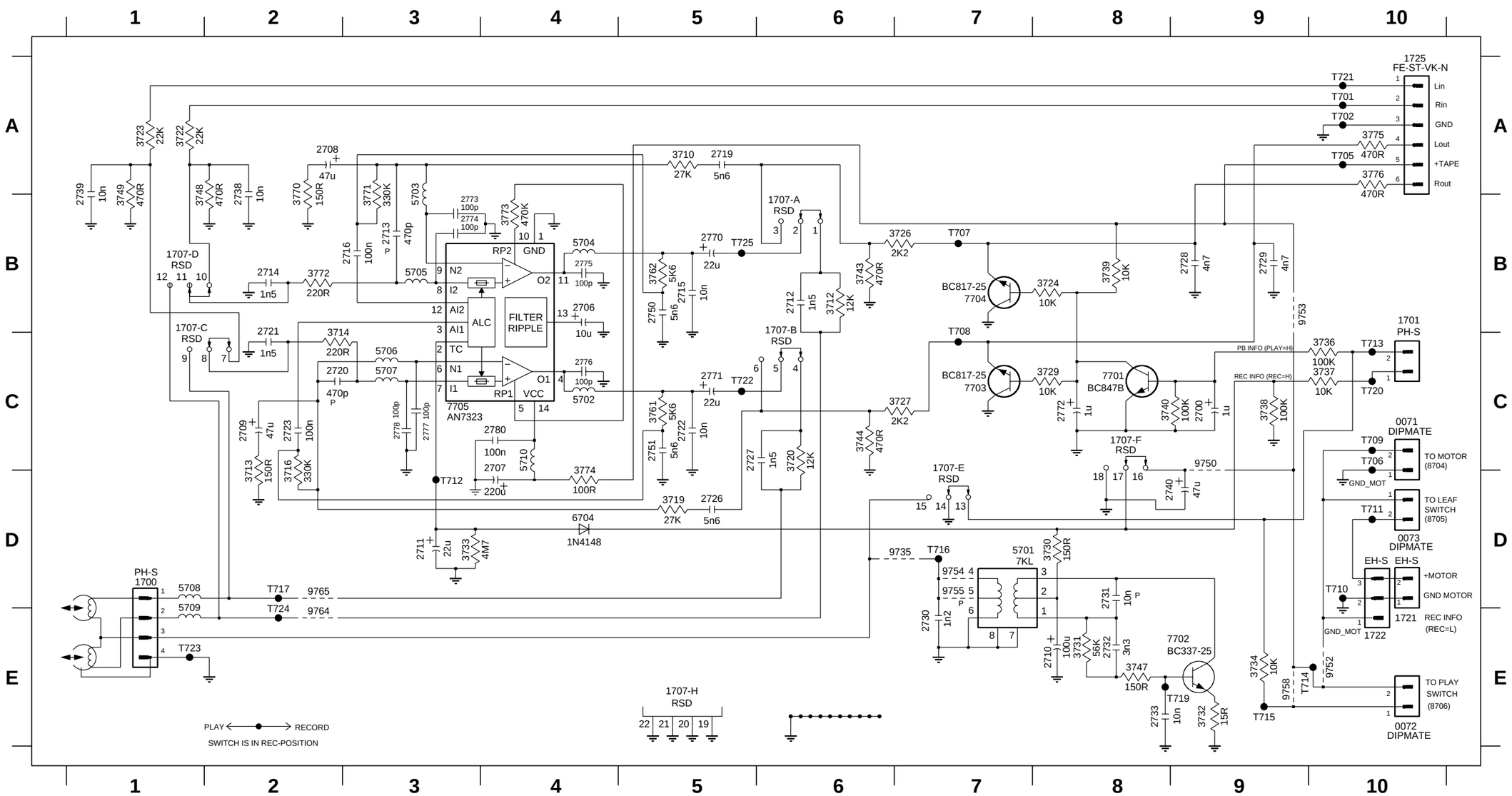
* SBC420 : 4822 397 30071

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

8 - 3

CIRCUIT DIAGRAM - MTF BOARD(FOR / 22 ONLY)

0071 C10	1707-C B1	1725 A10	2711 D3	2720 C2	2729 B9	2740 D9	2774 B3	3712 B6	3723 A1	3732 E9	3740 C8	3762 B5	3776 A10	5707 C3	7703 C7	9754 D7	T705 A10	T712 D3	T720 C10
0072 E10	1707-D B1	2700 C9	2712 B6	2721 C2	2730 E7	2750 B5	2775 B4	3713 D2	3724 B8	3733 D3	3743 B6	3770 A2	5701 D8	5708 D1	7704 B7	9755 D7	T706 C10	T713 C10	T721 A10
0073 D10	1707-E D7	2706 B4	2713 B3	2722 C5	2731 D8	2751 C5	2776 C4	3714 C2	3726 B7	3734 E9	3744 C6	3771 B3	5702 C4	5709 E1	7705 C3	9758 E9	T707 B7	T714 E9	T722 C5
1700 D1	1707-F C8	2707 C4	2714 B2	2723 C2	2732 E8	2770 B5	2777 C3	3716 D2	3727 C7	3736 C10	3747 E8	3772 B2	5703 A3	5710 C4	9735 D7	9764 E2	T708 C7	T715 E9	T723 E1
1701 B10	1707-H E5	2708 A2	2715 B5	2726 D5	2733 E8	2771 C5	2778 C3	3719 D5	3729 C8	3737 C10	3748 B1	3773 B4	5704 B4	6704 D4	9750 C9	9765 D2	T709 C10	T716 D7	T724 E2
1707-A B6	1721 E10	2709 C2	2716 B3	2727 C5	2738 A2	2772 C8	2780 C4	3720 C6	3730 D8	3738 C9	3749 B1	3774 D4	5705 B3	7701 C8	9752 E10	T701 A10	T710 D10	T717 D2	T725 B5
1707-B C6	1722 E10	2710 E8	2719 A5	2728 B9	2739 A1	2773 B3	3710 A5	3722 A1	3731 E8	3739 B8	3761 C5	3775 A10	5706 C3	7702 E8	9753 B9	T702 A10	T711 D10	T719 E9	

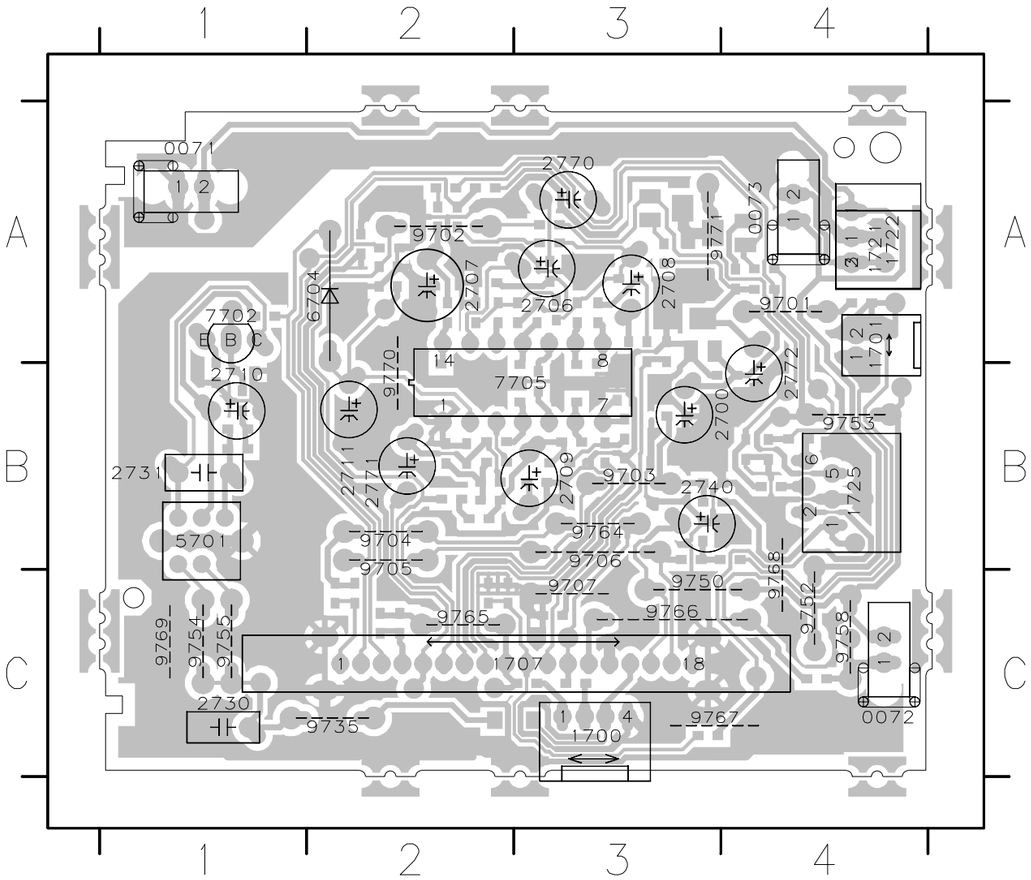


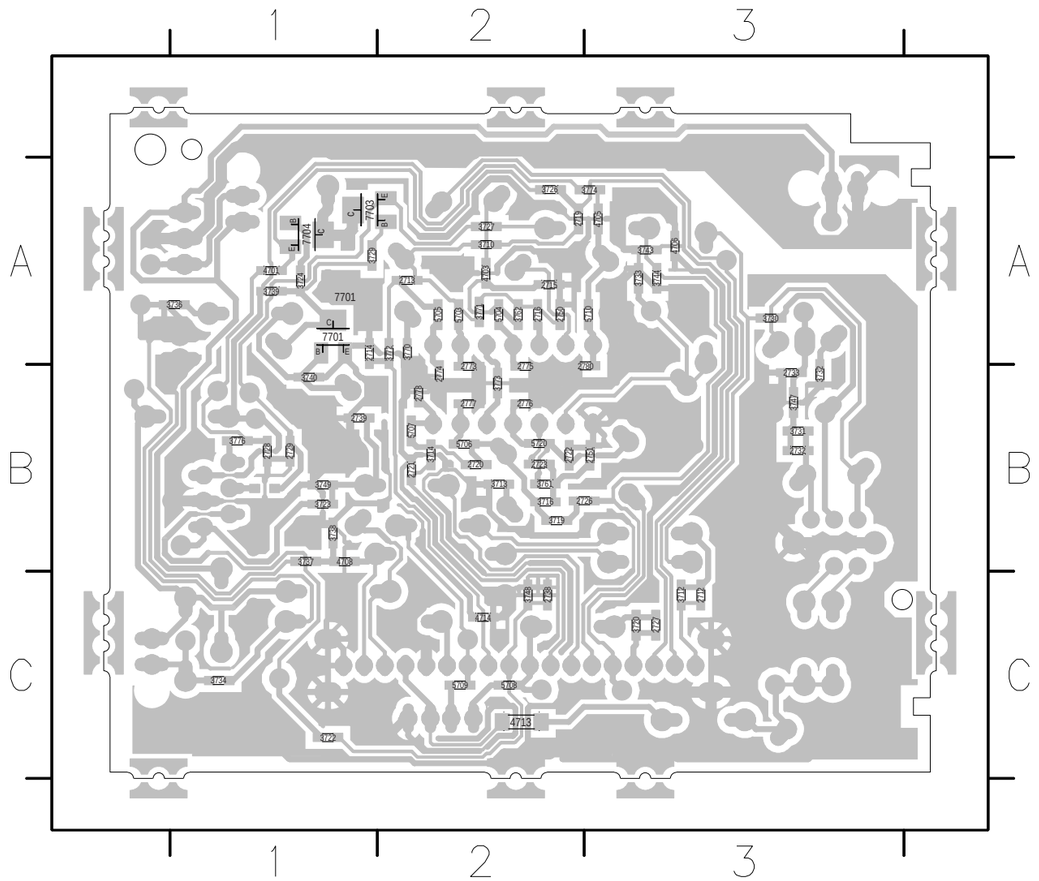
8 - 4

LAYOUT DIAGRAM - MTF BOARD(FOR / 22 ONLY)

0071 A1	1721 A4	2708 A3	2740 B3	7702 A1	9705 B2	9753 B4	9766 C3	
0072 C4	1722 A4	2709 B3	2770 A3	7705 B3	9706 B3	9754 C1	9767 C3	
0073 A4	1725 B4	2710 B1	2771 B2	9701 A4	9707 C3	9755 C1	9768 C4	
1700 C3	2700 B4	2711 B2	2772 B4	9702 A2	9735 C2	9758 C4	9769 C1	
1701 A4	2706 A3	2730 C1	5701 B1	9703 B3	9750 C3	9764 B3	9770 B2	
1707 C3	2707 A2	2731 B1	6704 A2	9704 B2	9752 C4	9765 C2	9771 A3	

2712 C3	2723 B2	2750 A2	3710 A2	3724 A1	3736 A1	3749 B1	3776 B1	5703 A2	7703 A1	
2713 A2	2726 B2	2751 B3	3712 C3	3726 A2	3737 B1	3761 B2	4701 A1	5704 A2	7704 A1	
2714 A1	2727 C3	2773 B2	3713 B2	3727 A2	3738 B1	3762 A2	4703 A2	5705 A2		
2715 A2	2728 B1	2774 B2	3714 B2	3729 A1	3739 A1	3770 A2	4705 A3	5706 B2		
2716 A2	2729 B1	2775 B2	3716 B2	3730 A3	3740 B1	3771 A2	4706 A3	5707 B2		
2719 A2	2732 B3	2776 B2	3719 B2	3731 B3	3743 A3	3772 A2	4708 B1	5708 C2		
2720 B2	2733 B3	2777 B2	3720 C3	3732 B3	3744 A3	3773 B2	4713 C2	5709 C2		
2721 B2	2738 C2	2778 B2	3722 C1	3733 A3	3747 B3	3774 A3	4714 C2	5710 A3		
2722 B2	2739 B1	2780 B3	3723 B1	3734 C1	3748 C2	3775 B1	5702 B2	7701 A1		





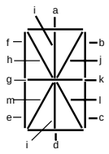
9 - 1

CIRCUIT DIAGRAM - FRONT BOARD

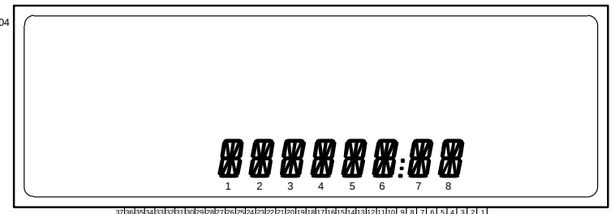
FRONT BOARD

DISPLAY CONNECTION TABLE

Pin	COM0	COM1	COM2	COM3
1	1e	1g	1f	ROCK
2	1m	1i	1h	POP
3	1d	1l	1j	1a
4	1c	1k	1b	JAZZ
5	2e	2g	2f	I.S.
6	2m	2i	2h	DBB
7	2d	2l	2j	2a
8	2c	2k	2b	NEWS
9	3e	3g	3f	EON
10	3m	3i	3h	RDS
11	3d	3l	3j	3a
12	3c	3k	3b	SIDE B
13	4e	4g	4f	SIDE A
14	4m	4i	4h	Y3
15	4d	4l	4j	4a
16	4c	4k	4b	Y1
17	5e	5g	5f	Y2
18	5m	5i	5h	RECORD
19	5d	5l	5j	5a
20	5c	5k	5b	PROGRAM
21	6e	6g	6f	CD
22	6m	6i	6h	REPEAT
23	6d	6l	6j	6a
24	6c	6k	6b	SHUFFLE
25	7e	7g	7f	TIMER
26	7m	7i	7h	ALL
27	7d	7l	7j	7a
28	7c	7k	7b	DOT
29	8e	8g	8f	COLON
30	8m	8i	8h	FM
31	8d	8l	8j	8a
32	8c	8k	8b	MW
33	AM	LW	STEREO	TUNER
34	--	--	--	COM3
35	--	--	COM2	--
36	--	COM1	--	--
37	COM0	--	--	--



1425
LP-6404



To uP pin no.95

To uP pin no.55

7400
TMP87CM23F

RDS DECODER

7406
SAA6579T

IR RECEIVER

7404
GP1U28XP

Communication
4V
0V

RESET

OSC

KEY GROUP1

SHUFFLE | BAND / REAPEAT | RDS | TIMER | PROGRAM | STANDBY | SOURCE

KEY GROUP2

DSC | DBB | I.S. | STOP | PLAY | FAST FORWARD | FAST BACKWARD | REC /MC220 only

7405
ST24C01B6
EEPROM

ROTARY ENCODER

1415
EC12E24404A8

To / From COMBI BOARD

To Backlight-Board

1417 EH-B

PH-B

1422
To Lightbar

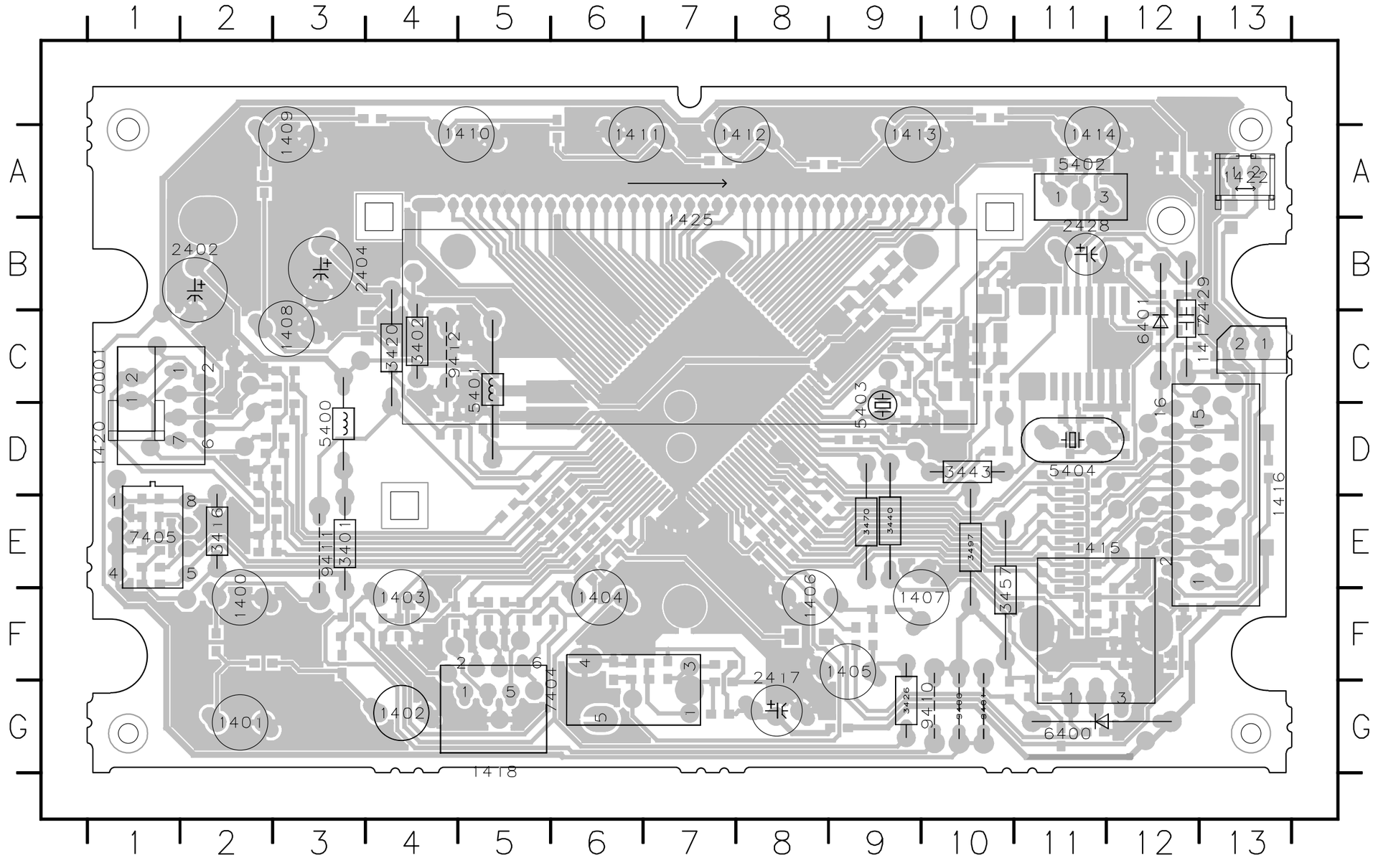
To CD99

To MTF

To TAPE

9 - 2

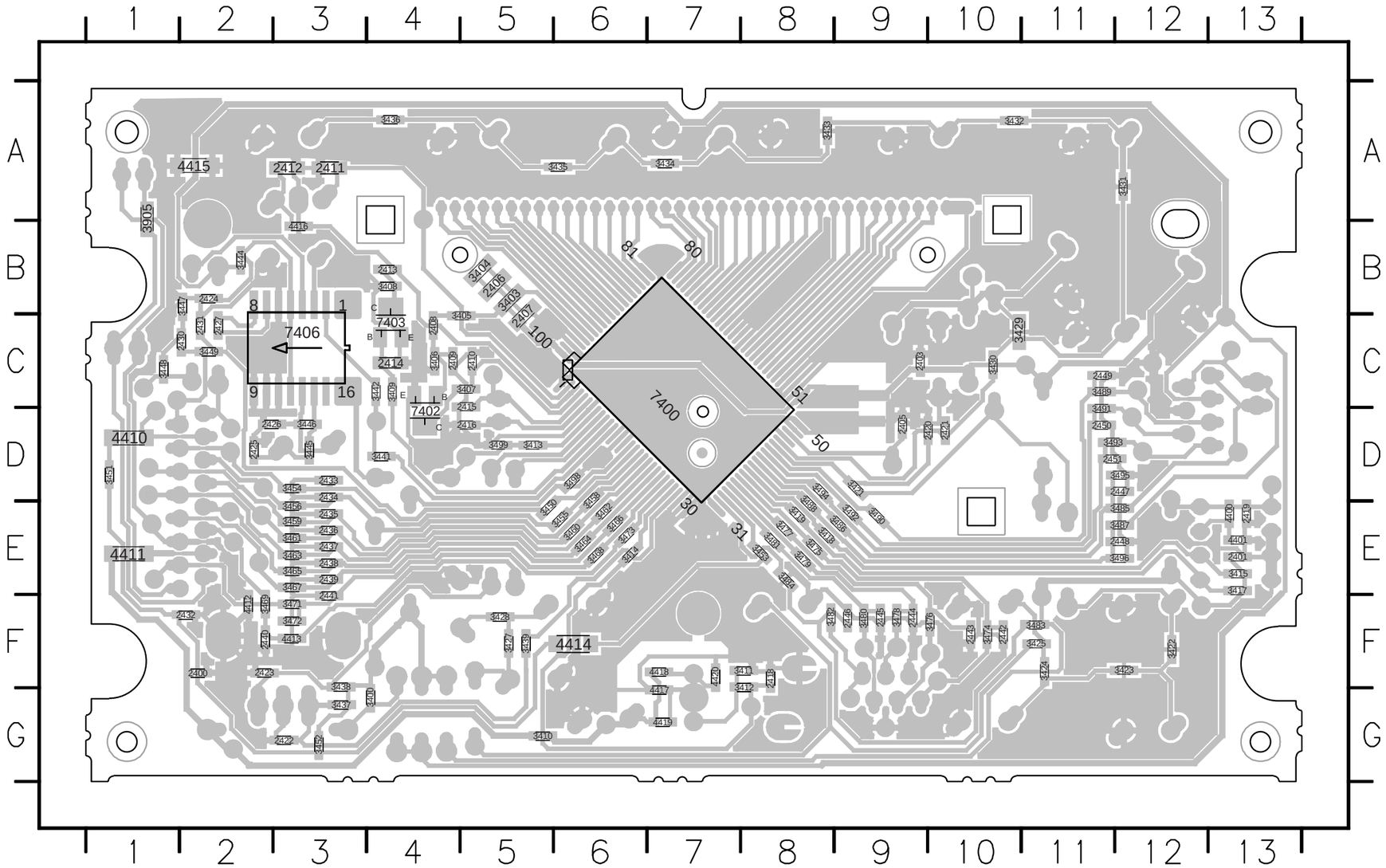
LAYOUT DIAGRAM - FRONT BOARD
Component Side View



0001 C1
1400 F2
1401 G2
1402 G4
1403 F4
1404 F6
1405 F9
1406 F8
1407 F9
1408 C3
1409 A3
1410 A5
1411 A6
1412 A8
1413 A9
1414 A11
1415 E11
1416 E13
1417 C13
1418 G5
1420 D1
1422 A13
1425 B7
2402 B2
2404 B3
2417 F8
2428 B11
2429 B13
3401 E3
3402 C4
3416 E2
3420 C4
3426 G9
3440 E9
3443 D10
3457 F10
3470 E9
3497 E10
5400 D3
5401 C5
5402 A11
5403 D9
5404 D11
6400 G11
6401 C12
7404 G6
7405 E1
9400 G10
9401 G10
9410 G10
9411 E3
9412 C4

9 - 3

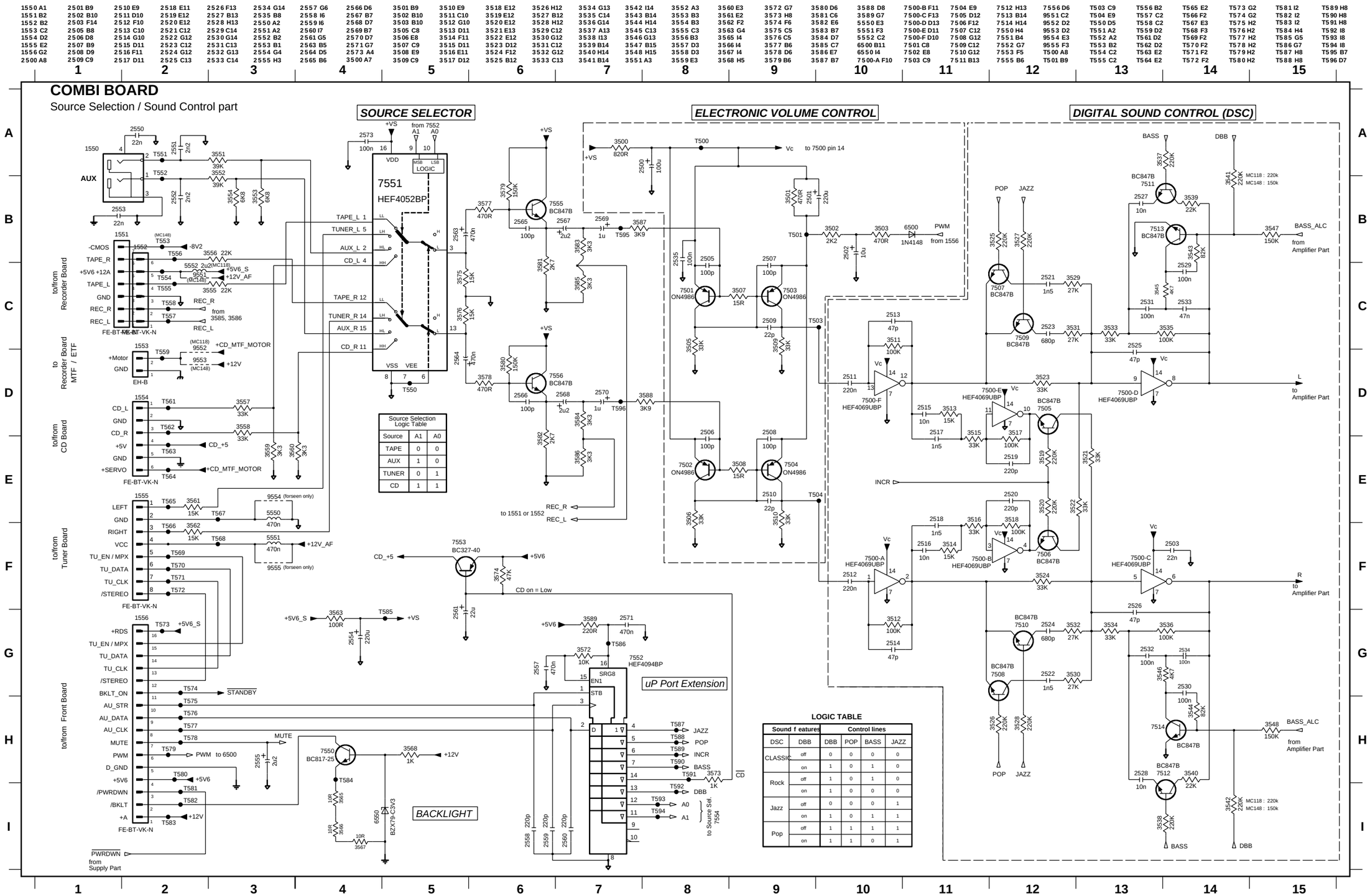
LAYOUT DIAGRAM - FRONT DIAGRAM
Copper Side View



2400	F2	3407	C5	3465	E3
2401	E13	3408	B4	3466	E6
2403	C9	3409	C4	3467	E3
2405	D9	3410	G5	3468	E6
2406	B5	3411	F8	3469	F2
2407	C5	3412	F8	3471	F3
2408	C4	3413	D5	3472	F3
2409	C4	3414	E6	3473	E6
2410	C5	3415	E13	3474	F10
2411	A3	3417	E13	3475	E8
2412	A3	3418	E8	3476	F10
2413	B4	3419	E8	3477	E8
2414	C4	3421	D9	3478	F9
2415	C5	3422	F12	3479	E8
2416	D5	3423	F12	3480	F9
2418	F8	3424	F11	3481	E8
2419	E13	3425	F11	3482	F8
2420	D10	3427	F5	3483	F11
2421	D10	3428	F5	3484	E8
2422	G3	3429	C10	3485	E12
2423	F2	3430	C10	3486	E9
2424	B2	3431	A12	3487	E12
2425	D2	3432	A10	3488	E8
2426	D2	3433	A8	3489	C11
2427	C2	3434	A7	3490	E9
2430	C2	3435	A6	3491	D11
2431	C2	3436	A4	3492	E9
2432	F2	3437	G3	3493	D11
2433	D3	3438	F3	3494	D8
2434	D3	3439	F5	3495	D12
2435	E3	3441	D4	3496	E12
2436	E3	3442	C4	3498	D6
2437	E3	3444	B2	3499	D5
2438	E3	3445	D3	3905	B1
2439	E3	3446	D3	4400	E13
2440	F2	3447	B2	4401	E13
2441	F3	3448	C1	4410	D1
2442	F10	3449	C2	4411	E1
2443	F10	3450	E5	4412	F2
2444	F9	3451	D1	4413	F3
2445	F9	3452	G3	4414	F6
2446	F9	3453	E8	4415	A2
2447	D12	3454	D3	4416	B3
2448	E12	3455	E6	4417	G7
2449	C11	3456	E3	4418	F7
2450	D11	3458	D6	4419	G7
2451	D11	3459	E3	4420	F7
3400	G4	3460	E6	7400	C7
3403	B5	3461	E3	7402	D4
3404	B5	3462	E6	7403	C4
3405	C5	3463	E3	7406	C3
3406	C4	3464	E6		

10 - 1

CIRCUIT DIAGRAM - COMBI BOARD (Part 1)



10 - 2

CIRCUIT DIAGRAM - COMBI BOARD (Part 2)

1330 A12 1331-A D13 2330 B7 2331 E4 2332 D4 2333 E5 2334 C5 2335 E5 2336 D5 2337 E9 2338 D9 2339 F9 2340 C9 2341 A10 2342 B10 2343 A11 2344 B11 2345 D12 2346 E12 2347 F10 2348 F10 2349 G9 2350 F5 2351 B5 2352 H5 2353 G6 2354 G7 2355 B7 3330 F5 3331 E4 3332 D4 3333 E4 3334 D4 3335 E9 3336 D9 3337 E9 3338 C9 3339 A10 3340 B10 3341 A11 3342 B11 3343 E8 3344 D8 3345 E8 3346 C8 3347 F7 3348 F6 3349 G7 3350 H7 3351 G11 3352 G10 3353 G11 3354 B4 3356 B4 3358 B5 3359 H5 3360 H5 3361 H5 3362 B7 3363 B7 3364 B8 3365 B8 4333 E5 4334 D5 4335 A4 5331 E9 5332 D9 5333 E9 5334 C9 6331 G10 6332 G10 6333 H4 6334 B8 7330 C6 7331 G7 7332 G6 7333 H6 7334 B4 7335 B7 9330 A7 T330 B6 T331 H5 T332 C6 T333 C7 T334 G6 T335 G8 T336 A11 T337 D12 T338 B11 T339 D12 T340 E12 T341 D12 T342 D12 T343 E3 T344 D3

1 2 3 4 5 6 7 8 9 10 11 12 13 14

COMBI BOARD - POWER AMPLIFIER PART

MUTE
4335
+5V6
(forseen only)
3356 22K
3354 10K
7334 BC847B
3358 4K7
T330
2351 4u7

(MC148) 9330
+AMP
BDW93CFP 7335
2330 4u7
3363 10K
3362 1K8
3364 390R
3365 270R
2355 1u
100u
6334 BZX55-B11
(MC118)
T333
T332

7330 AN7125
VCC 1
OUT1+ 2
GND1 3
OUT1- 4
IN1 6
STB 5
MUTE 9
VREF
OUT2- 10
GND2 11
OUT2+ 12
IN2 8
GND 7

(forseen only)
2334 150n
R
T344
2332 150n
3332 10K
4334
3334 6K8
2336 220p
(forseen only)
2333 150n
L
T343
2331 150n
3331 10K
4333
3333 6K8
2335 220p

from
Source Selection and Sound Control Part

5334 360n 3338 2R2 2340 220n
3346 10K
5332 360n 3336 2R2 2338 220n
3344 10K
5331 360n 3335 2R2 2337 220n
3343 10K
5333 360n 3337 2R2 2339 220n
3345 10K

+12V
3330 3K3
2350 100u
3348 22K
3347 22K
3349 22K
POWERSTAGE PROTECTION
BC857B 7332
BC857B 7331
T336
T335
T331
2353 10n
2354 10n

STANDBY
6333 1N4148
3359 6K8
3361 100R
2352 4u7
3360 100K
7333 BC847B
3350 47K

3339 120R
2341 47u
3340 120R
2342 47u
MC118 : 68ohm
MC148 : 120ohm
MC118 : 4k7
MC148 : 560ohm
3341 560R
3342 560R
2343 1n
2344 1n
T337
T338
HEADPHONE SOCKET
1330
7 L
4 L
3 L
2
R 5
R 6
1
16 - 150 ohm

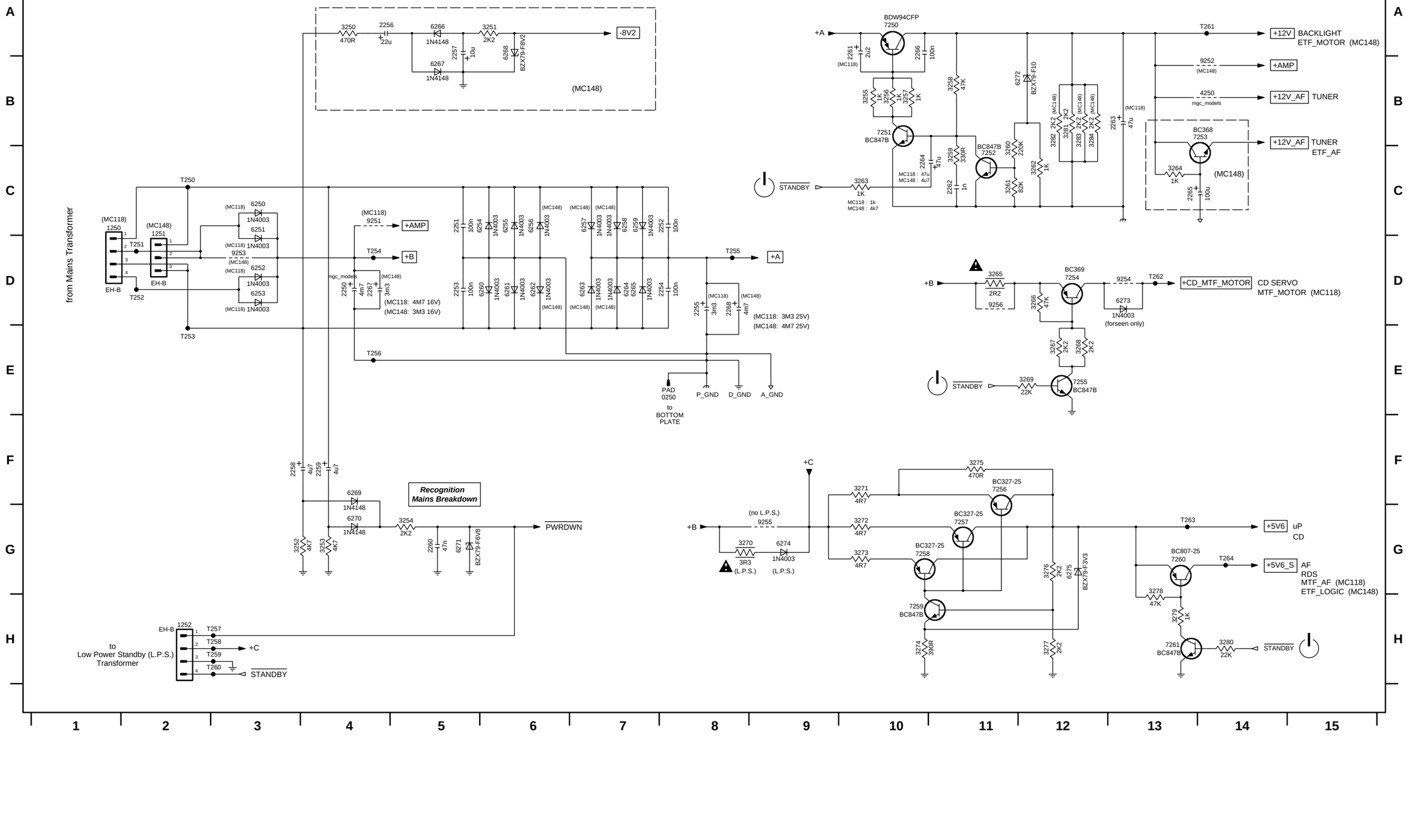
BASS_ALC
T334
3353 47R
to 3547/3548
DIGITAL SOUND
CONTROL (DSC)
2349 100u
2348 47u
2347 47u
6332 1N4148
6331 1N4148
3352 1K
3351 1K

2345 22n
2346 22n
T339 L 1
T341 L 2
T342 R 3
T340 R 4
1331-A
8R LS BOX left
8R LS BOX right
Clickfit socket

10 - 3

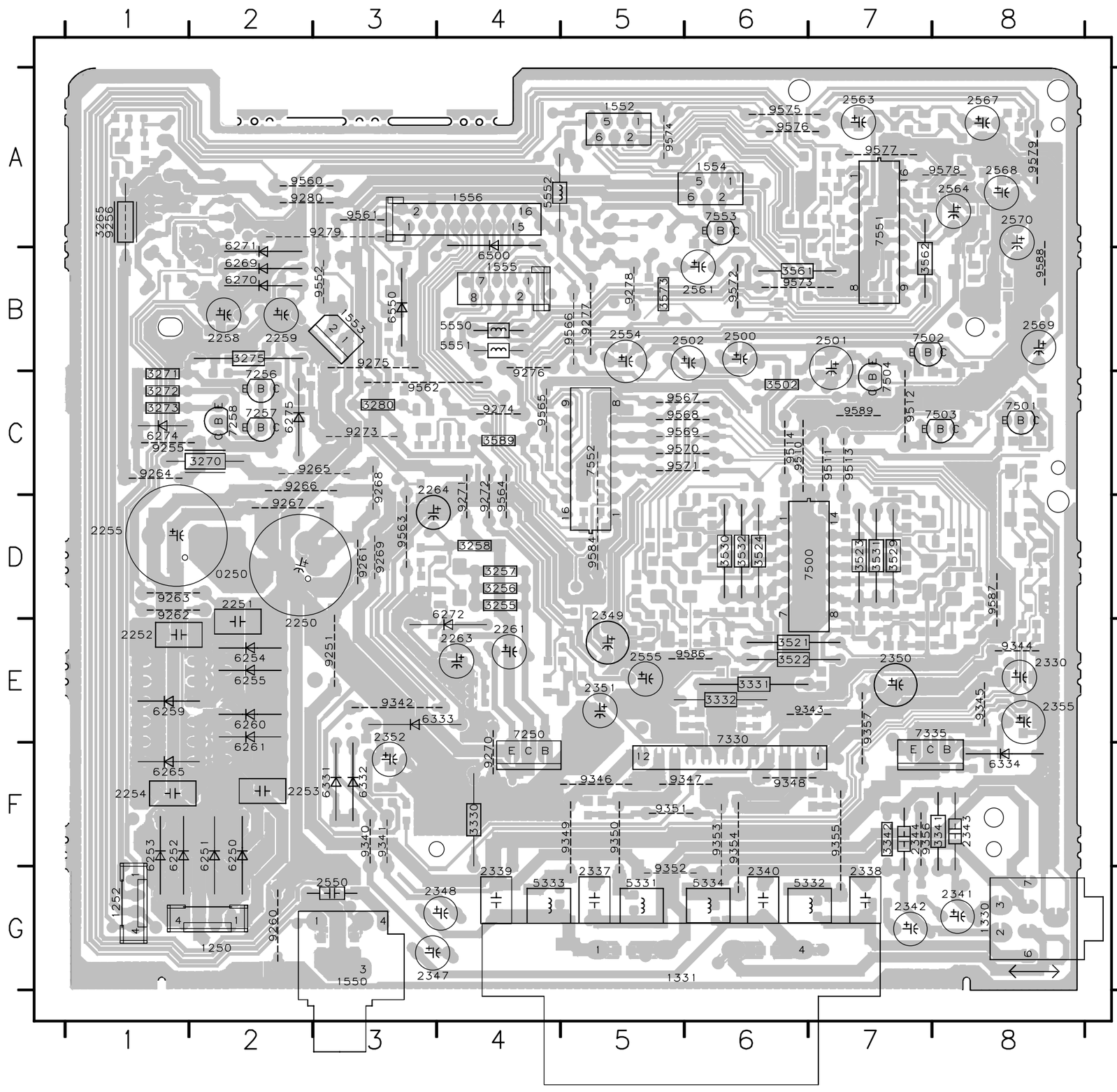
CIRCUIT DIAGRAM - COMBI BOARD (Part 3)

COMBI BOARD - SUPPLY PART



10 - 4

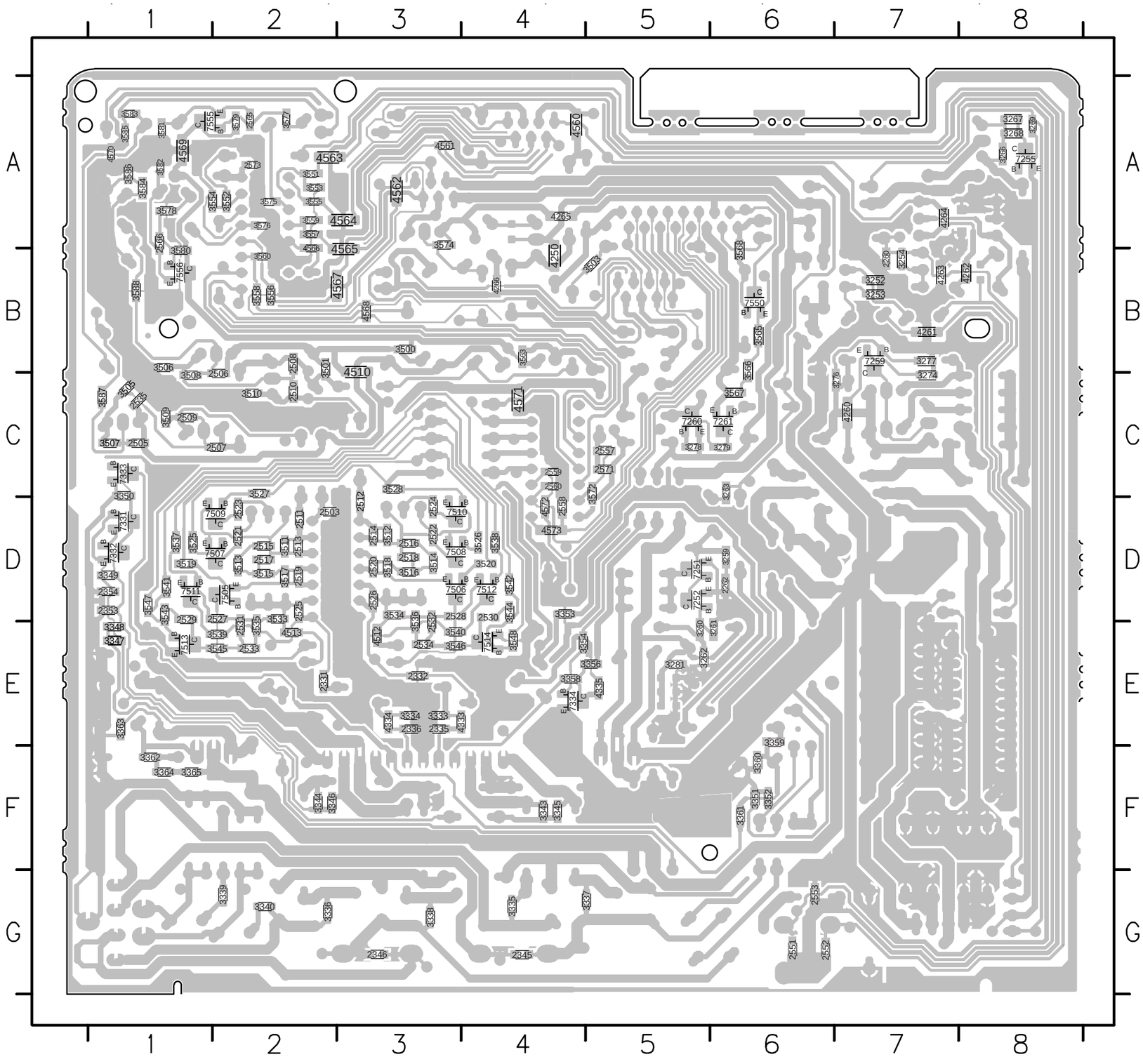
LAYOUT DIAGRAM - COMBI BOARD
Component Side View



0250 D2	3341 F8	9253 F2	9578 A8	
1250 G2	3342 F7	9254 A2	9579 A8	
1251 G2	3502 C6	9255 C1	9584 D5	
1252 G1	3521 E6	9256 A1	9586 E6	
1330 G8	3522 E6	9260 G2	9587 D8	
1331 G5	3523 D7	9261 D3	9588 B8	
1550 G3	3524 D6	9262 D1	9589 C7	
1551 A5	3529 D7	9263 D1		
1552 A5	3530 D6	9264 C1		
1553 B3	3531 D7	9265 C3		
1554 A6	3532 D6	9266 C2		
1555 B4	3561 B6	9267 D2		
1556 A4	3562 B7	9268 C3		
2250 E2	3573 B5	9269 D3		
2251 D2	3589 C4	9270 F4		
2252 E1	5331 G5	9271 D4		
2253 F2	5332 G7	9272 D4		
2254 F1	5333 G4	9273 C3		
2255 D1	5334 G6	9274 C4		
2256 B1	5550 B4	9275 B3		
2257 B2	5551 B4	9276 C4		
2258 B2	5552 A4	9277 B5		
2259 B2	6250 F2	9278 B5		
2261 E4	6251 F2	9279 A3		
2263 E4	6252 F1	9280 A2		
2264 C3	6253 F1	9330 F7		
2265 A5	6254 E2	9340 F3		
2267 E2	6255 E2	9341 F3		
2268 D1	6256 E2	9342 E3		
2330 E8	6257 E1	9343 E7		
2337 G5	6258 E1	9344 E8		
2338 G7	6259 E1	9345 E8		
2339 G4	6260 E2	9346 F5		
2340 G6	6261 F2	9347 F6		
2341 G8	6262 F2	9348 F6		
2342 G7	6263 E1	9349 F5		
2343 F8	6264 F1	9350 F5		
2344 F7	6265 F1	9351 F5		
2347 G3	6266 A2	9352 G5		
2348 G4	6267 A2	9353 F6		
2349 D5	6268 A2	9354 F6		
2350 E7	6269 B2	9355 F7		
2351 E5	6270 B2	9356 F7		
2352 E3	6271 A2	9357 E7		
2355 E8	6272 D4	9510 C6		
2500 B6	6273 A2	9511 C7		
2501 B7	6274 C1	9512 C7		
2502 B6	6275 C2	9513 C7		
2550 G3	6331 F3	9514 C6		
2554 B5	6332 F3	9551 A5		
2555 E5	6333 E4	9552 B3		
2561 B6	6334 F8	9553 B3		
2563 A7	6500 B4	9554 B4		
2564 A8	6550 B3	9555 B4		
2567 A8	7250 E4	9560 A2		
2568 A8	7253 A5	9561 A3		
2569 B8	7254 A1	9562 C3		
2570 A8	7256 C2	9563 D3		
3255 D4	7257 C2	9564 D4		
3256 D4	7258 C2	9565 C4		
3257 D4	7330 E6	9566 B5		
3258 D4	7335 E7	9567 C5		
3265 A1	7500 D7	9568 C5		
3270 C2	7501 C8	9569 C5		
3271 C1	7502 B7	9570 C5		
3272 C1	7503 C8	9571 C5		
3273 C1	7504 C7	9572 B6		
3275 B2	7551 A7	9573 B6		
3280 C3	7552 C5	9574 A5		
3330 F4	7553 A6	9575 A6		
3331 E6	9251 E3	9576 A6		
3332 E6	9252 F4	9577 A7		

10 - 5

LAYOUT DIAGRAM - COMBI BOARD
Copper Side View

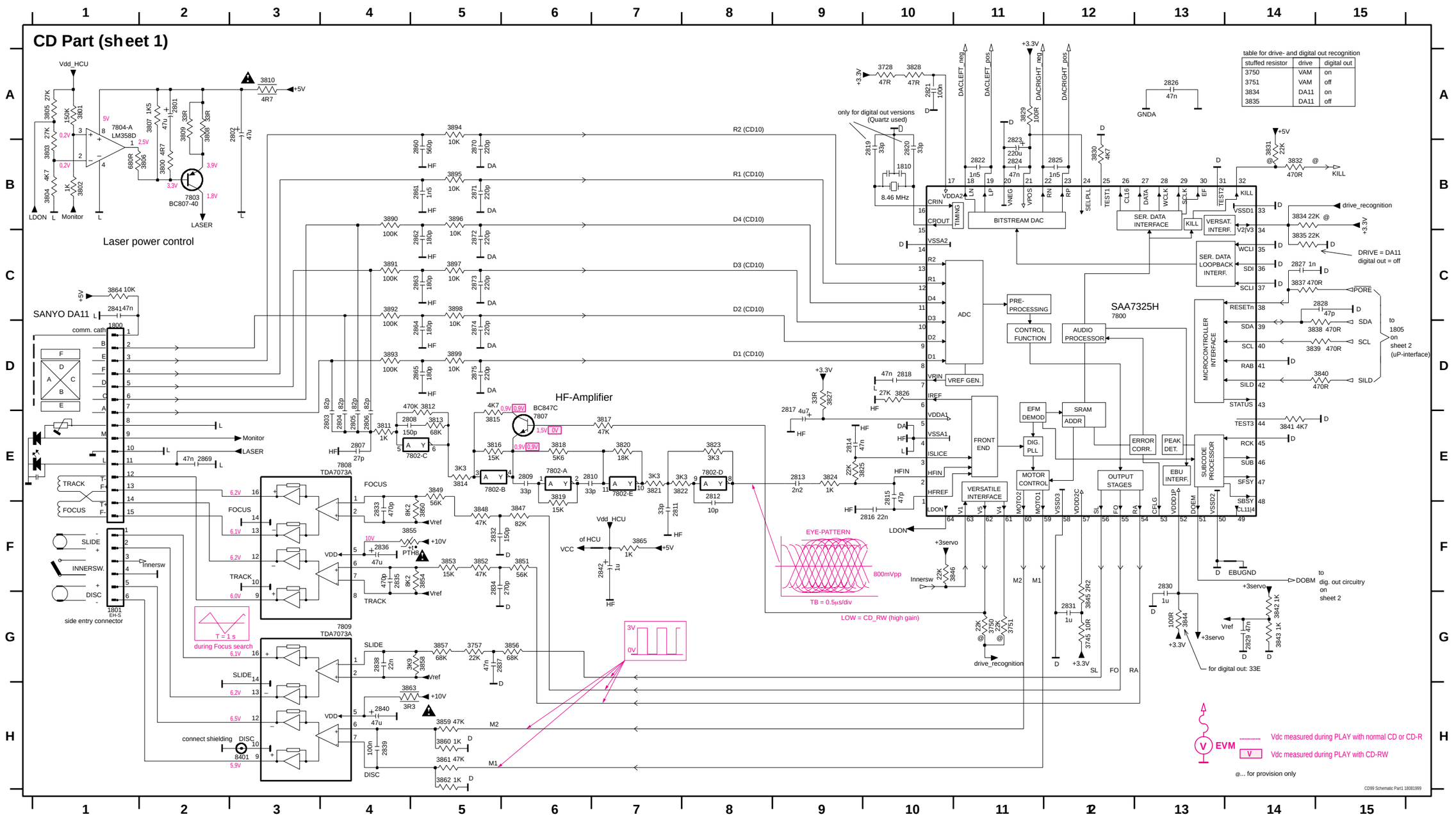


2260	B7	3276	C7	3545	E2	7334	E4
2262	D6	3277	B7	3546	E3	7505	D2
2266	E5	3278	C5	3547	D1	7506	D3
2331	E2	3279	C6	3548	E4	7507	D2
2332	E3	3281	E5	3551	A2	7508	D3
2333	E4	3282	E5	3552	A2	7509	D2
2334	E3	3283	E5	3553	A2	7510	D3
2335	E3	3284	E5	3554	A2	7511	D1
2336	E3	3333	E3	3555	A2	7512	D4
2345	G4	3334	E3	3556	B2	7513	E1
2346	G3	3335	G4	3557	A2	7514	E4
2353	D1	3336	G2	3558	B2	7550	B6
2354	D1	3337	G5	3559	A2	7555	A1
2503	D2	3338	G3	3560	B2	7556	B1
2505	C1	3339	G2	3563	B4		
2506	C2	3340	G2	3565	B6		
2507	C2	3343	F4	3566	B6		
2508	B2	3344	F2	3567	C6		
2509	C1	3345	F4	3568	B6		
2510	C2	3346	F2	3572	C5		
2511	D2	3347	E1	3574	A3		
2512	D3	3348	E1	3575	A2		
2513	D2	3349	D1	3576	A2		
2514	D3	3350	C1	3577	A2		
2515	D2	3351	F6	3578	A1		
2516	D3	3352	F6	3579	A2		
2517	D2	3353	D4	3580	B1		
2518	D3	3354	E4	3581	A1		
2519	D2	3356	E5	3582	A1		
2520	D3	3358	E4	3583	A1		
2521	D2	3359	E6	3584	A1		
2522	D3	3360	F6	3585	A1		
2523	D2	3361	F6	3586	A1		
2524	D3	3362	F1	3587	C1		
2525	D2	3363	E1	3588	B1		
2526	D3	3364	F1	4250	B4		
2527	D2	3365	F1	4260	C7		
2528	D3	3500	B3	4261	B7		
2529	D1	3501	B2	4262	B8		
2530	D4	3503	B5	4263	B7		
2531	E2	3505	C1	4264	A8		
2532	E3	3506	B1	4265	A4		
2533	E2	3507	C1	4266	B4		
2534	E3	3508	C1	4333	E4		
2535	C1	3509	C1	4334	E3		
2551	G6	3510	C2	4335	E5		
2552	G6	3511	D2	4510	B3		
2553	G6	3512	D3	4512	E3		
2557	C5	3513	D2	4513	E2		
2558	D4	3514	D3	4560	A4		
2559	C4	3515	D2	4561	A3		
2560	C4	3516	D3	4562	A3		
2565	A2	3517	D2	4563	A2		
2566	A1	3518	D3	4564	A3		
2571	C5	3519	D1	4565	B3		
2573	A2	3520	D4	4566	A2		
3250	B8	3525	D1	4567	B3		
3251	A7	3526	D4	4568	B3		
3252	B7	3527	C2	4569	A1		
3253	B7	3528	C3	4570	A1		
3254	B7	3533	D2	4571	C4		
3259	D6	3534	D3	4572	D4		
3260	E5	3535	E2	4573	D4		
3261	E6	3536	E3	7251	D5		
3262	E5	3537	D1	7252	D5		
3263	C6	3538	D4	7255	A8		
3264	A4	3539	E2	7259	B7		
3266	A8	3540	E3	7260	C5		
3267	A8	3541	D1	7261	C6		
3268	A8	3542	D4	7331	D1		
3269	A8	3543	D1	7332	D1		
3274	C7	3544	D4	7333	C1		

11 - 1

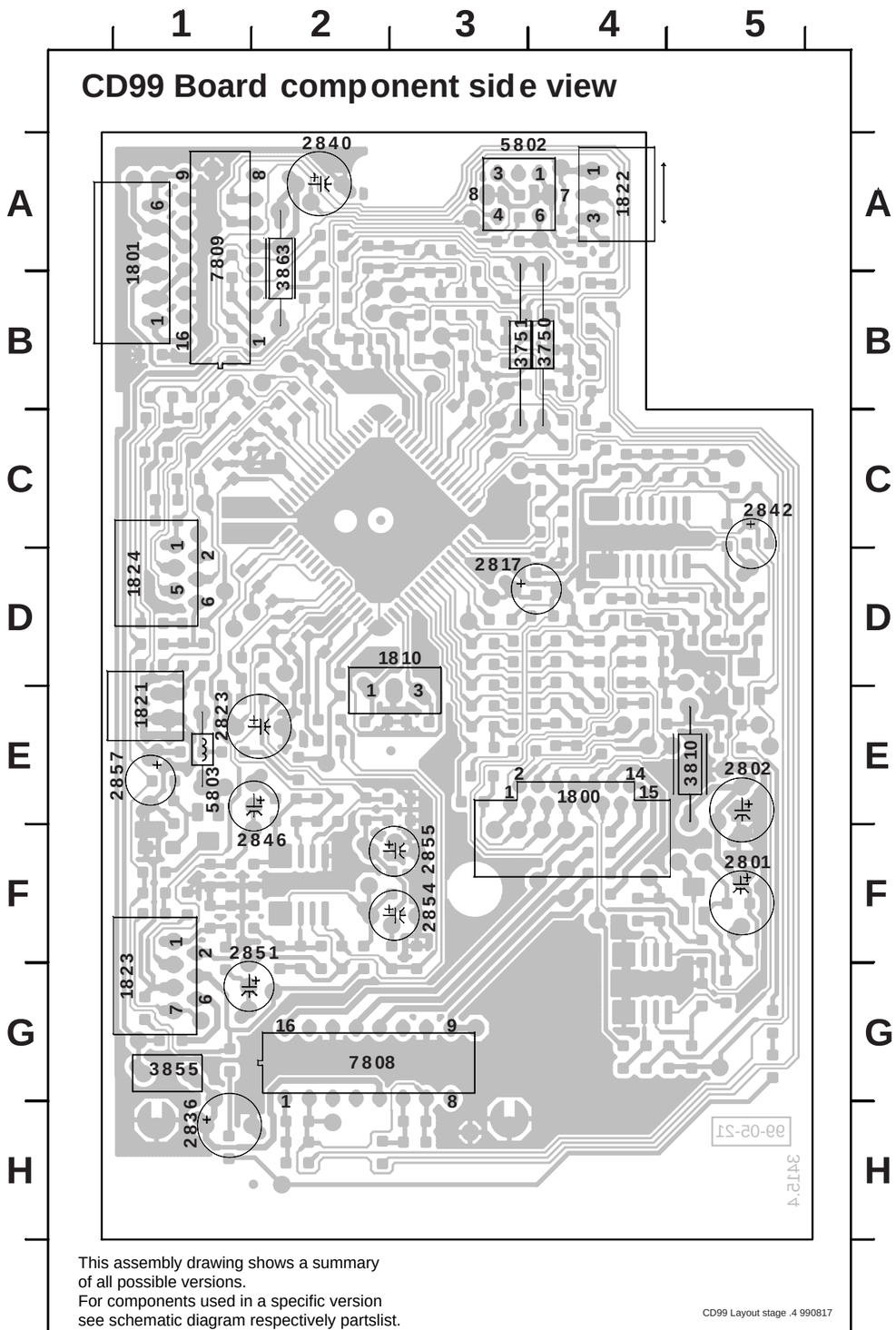
CIRCUIT DIAGRAM - CD99/ DA11 BOARD (Part 1)

1800 D1	2806 E4	2813 E9	2820 B10	2827 C14	2834 F5	2841 C1	2865 D5	2875 D5	3801 A1	3808 A2	3815 E5	3822 E7	3829 A11	3838 D14	3845 G12	3852 F5	3859 H5	3890 B4	3897 C5	7802-D E8	7808 E4
1801 G1	2807 E4	2814 E9	2821 B11	2828 C14	2835 F4	2842 F7	2869 E2	3728 A10	3802 B1	3809 A2	3816 E5	3823 E8	3830 B12	3839 D14	3846 F10	3853 F5	3860 H5	3891 C4	3898 C5	7802-E E7	7809 G4
2801 A2	2808 E4	2815 E10	2822 B11	2829 G14	2836 F4	2860 B5	2870 B5	3745 G12	3803 B1	3810 A3	3817 E7	3824 E9	3831 B14	3840 D15	3847 F6	3854 F5	3861 H5	3892 C4	3899 D5	7802-F F8	8401 H3
2802 A3	2809 E6	2816 F10	2823 B11	2830 F13	2837 G5	2861 B5	2871 B5	3750 G11	3804 B1	3811 E4	3818 E6	3825 E9	3832 B14	3841 E14	3848 F5	3855 F4	3862 H5	3893 D4	7800 D12	7803 B2	
2803 E4	2810 E6	2817 D9	2824 B11	2831 G12	2838 G4	2862 C5	2872 C5	3751 G11	3805 A1	3812 D5	3819 E6	3826 D10	3834 B14	3842 G14	3849 E5	3856 G6	3863 H4	3894 A5	7802-A E6	7804-A A1	
2804 E4	2811 F7	2818 D9	2825 B12	2832 F5	2839 H4	2863 C5	2873 C5	3757 G5	3806 B2	3813 E5	3820 E7	3827 D9	3835 C14	3843 G14	3850 F5	3857 G5	3864 C1	3895 B5	7802-B E5	7804-B C3	
2805 E4	2812 E8	2819 B10	2826 A13	2833 F4	2840 H4	2864 D5	2874 D5	3800 B2	3807 A2	3814 E5	3821 E7	3828 A10	3837 C14	3844 G13	3851 F6	3858 G5	3865 F7	3896 B5	7802-C E5	7807 E6	



11 - 2

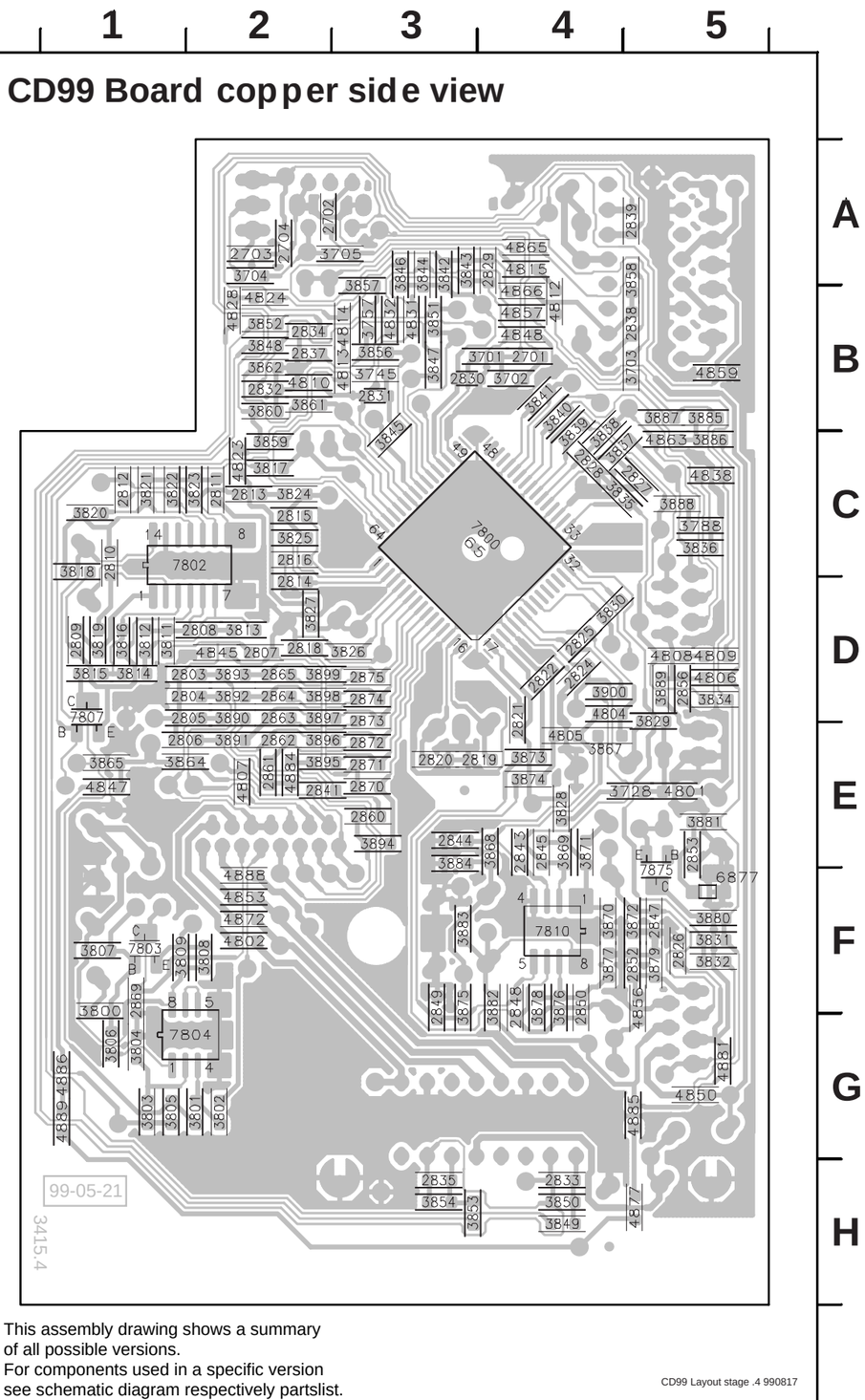
LAYOUT DIAGRAM - CD99/ DA11 BOARD



1800	F2	3703	B5	3876	F4
1801	A5	3704	A2	3877	F4
1810	D3	3705	A3	3878	F4
1821	E5	3728	E5	3879	F5
1822	A2	3745	B3	3880	F5
1823	G5	3750	B2	3881	E5
1824	D5	3751	B2	3882	F4
2701	B4	3757	B3	3883	F3
2702	A2	3788	C5	3884	E3
2703	A2	3800	F1	3885	B5
2704	A2	3801	G2	3886	C5
2801	F1	3802	G2	3887	B5
2802	E1	3803	G1	3888	C5
2803	D2	3804	G1	3889	D5
2804	D2	3805	G1	3890	D2
2805	D2	3806	G1	3891	E2
2806	E1	3807	F1	3892	D2
2807	D2	3808	F2	3893	D2
2808	D2	3809	F1	3894	E3
2809	D1	3810	E1	3895	E2
2810	C1	3811	D1	3896	E2
2811	C2	3812	D1	3897	D2
2812	C1	3813	D2	3898	D2
2813	C2	3814	D1	3899	D2
2814	D2	3815	D1	3900	D4
2815	C2	3816	D1	4801	E5
2816	C2	3817	C2	4802	F2
2817	D2	3818	C1	4804	D4
2818	D2	3819	D1	4805	E4
2819	E4	3820	C1	4806	D5
2820	E3	3821	C1	4807	E2
2821	D4	3822	C1	4808	D5
2822	D4	3823	C2	4809	D5
2823	E4	3824	C2	4810	B2
2824	D4	3825	C2	4812	B4
2825	D4	3826	D3	4813	B3
2826	F5	3827	D2	4814	B3
2827	C5	3828	E4	4815	A4
2828	C4	3829	D5	4823	C2
2829	A4	3830	D4	4824	B2
2830	B3	3831	F5	4828	B2
2831	B3	3832	F5	4831	B3
2832	B2	3834	D5	4832	B3
2833	H4	3835	C4	4838	C5
2834	B2	3836	C5	4845	D2
2835	H3	3837	C4	4847	E1
2836	G5	3838	C4	4848	B4
2837	B2	3839	C4	4850	G5
2838	B5	3840	B4	4853	F2
2839	A5	3841	B4	4856	F5
2840	A4	3842	A3	4857	B4
2841	E2	3843	A3	4859	B5
2842	C1	3844	A3	4863	C5
2843	E4	3845	C3	4865	A4
2844	E3	3846	A3	4866	B4
2845	E4	3847	B3	4872	F2
2846	E4	3848	B2	4877	H5
2847	F5	3849	H4	4881	G5
2848	F4	3850	H4	4884	E2
2849	F3	3851	B3	4885	G5
2850	F4	3852	B2	4886	G1
2851	G4	3853	H3	4888	F2
2852	F5	3854	H3	4889	G1
2853	E5	3855	G5	5802	A2
2854	F3	3856	B3	5803	E5
2855	E3	3857	B3	6877	F5
2856	D5	3858	A5	7800	C4
2857	E5	3859	C2	7802	C2
2860	E3	3860	B2	7803	F1
2861	E2	3861	B2	7804	G2
2862	E2	3862	B2	7807	D1
2863	D2	3863	A4	7808	G4
2864	D2	3864	E1	7809	A5
2865	D2	3865	E1	7810	F4
2869	F1	3867	E4	7875	F5
2870	E3	3868	E4	8401	H3
2871	E3	3869	E4	8402	H5
2872	E3	3870	F4		
2873	D3	3871	E4		
2874	D3	3872	F5		
2875	D3	3873	E4		
3701	B4	3874	E4		
3702	B4	3875	F3		

This assembly drawing shows a summary
of all possible versions.
For components used in a specific version
see schematic diagram respectively partslist.

CD99 Layout stage .4 990817



This assembly drawing shows a summary
of all possible versions.
For components used in a specific version
see schematic diagram respectively partslist.

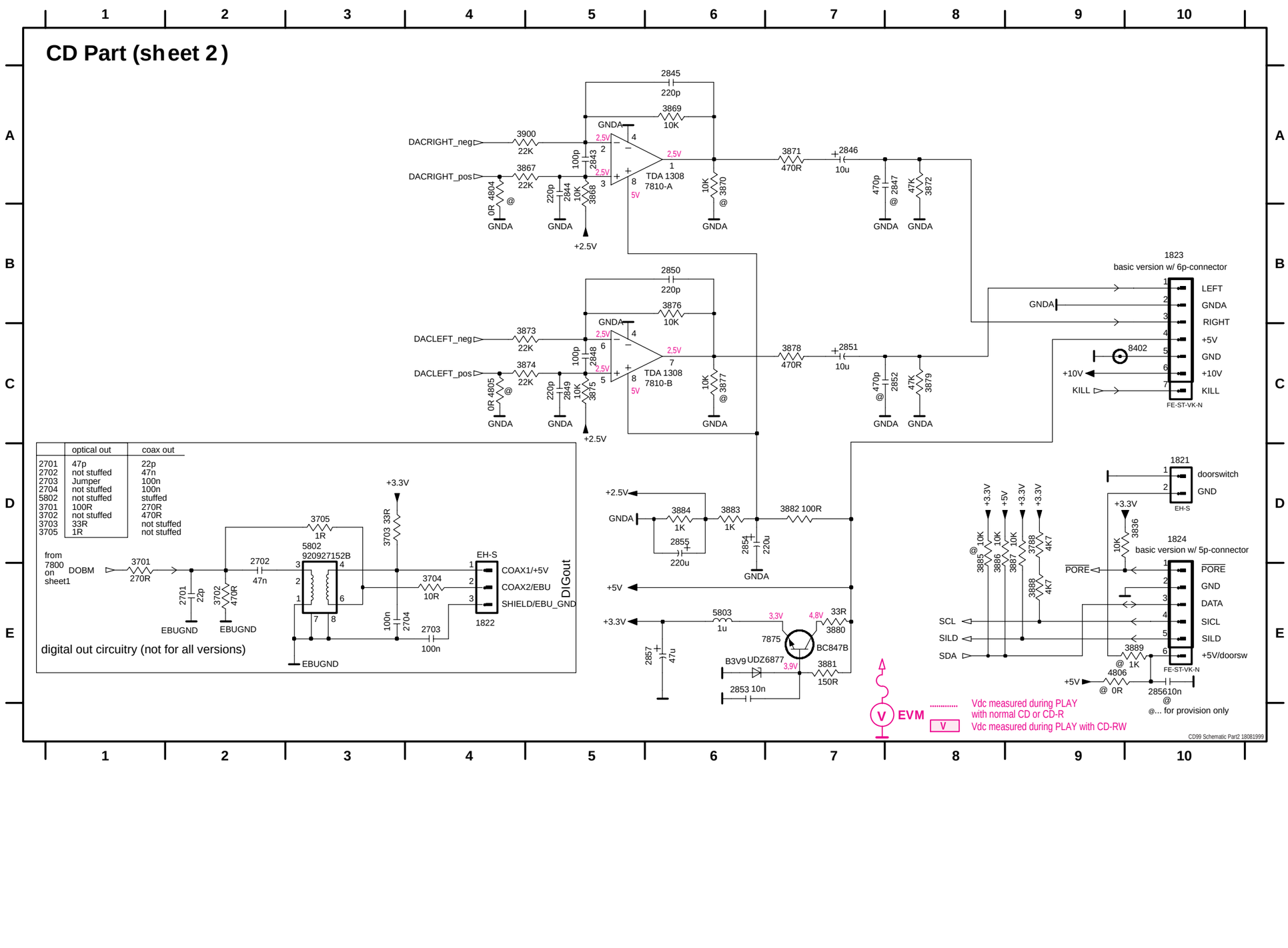
CD99 Layout stage .4 990817

11 - 3

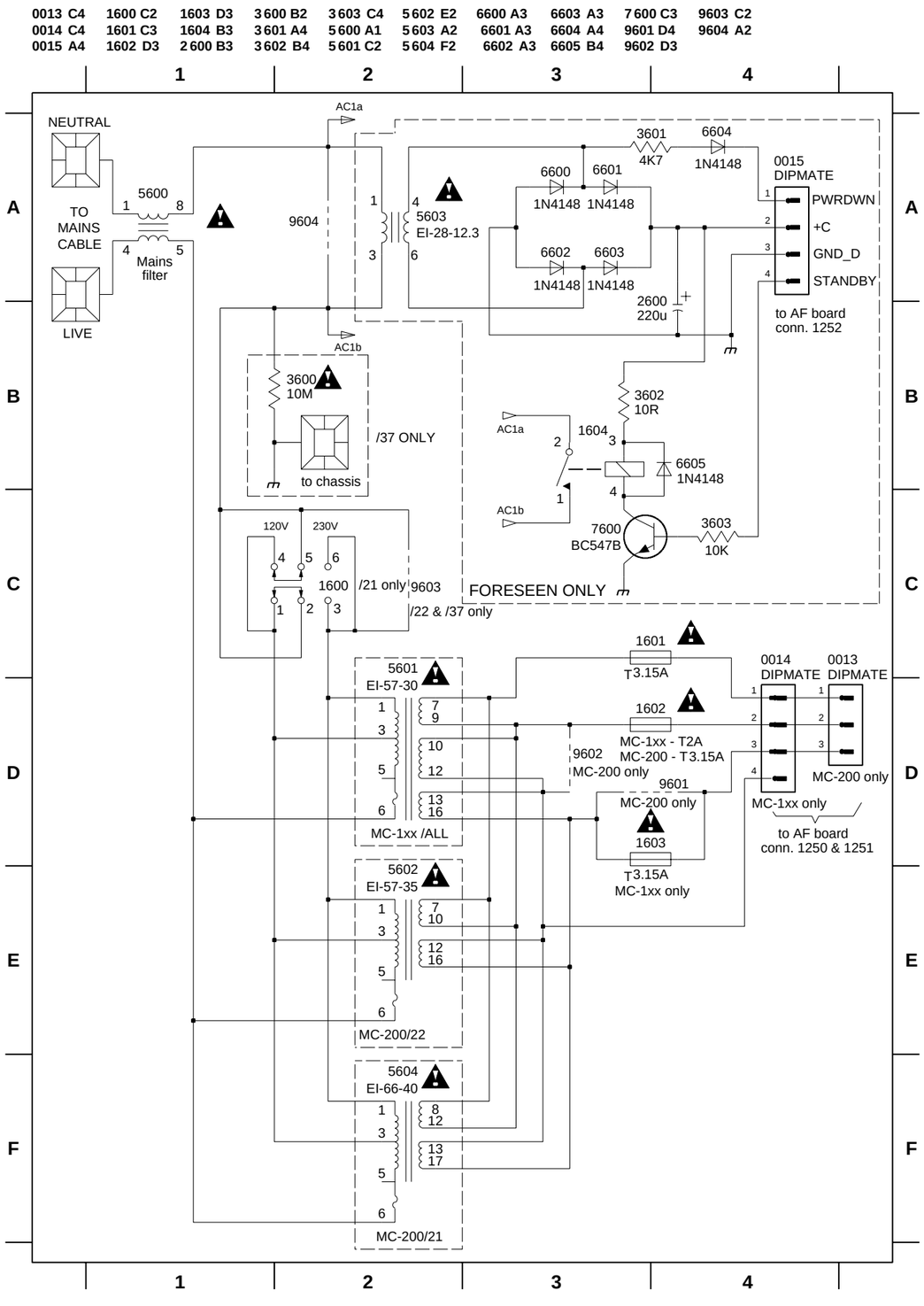
CIRCUIT DIAGRAM - CD99/ DA11 BOARD (Part 2)

1821 D10	2702 E2	2845 A6	2850 B6	2855 D6	3703 D3	3867 A5	3872 A8	3877 C6	3882 D7	3887 E9	4805 C4	7810-A A5
1822 E4	2703 E4	2846 A7	2851 C7	2856 E10	3704 E4	3868 A5	3873 C5	3878 C7	3883 D6	3888 E9	4806 E9	7810-B C5
1823 B10	2704 E3	2847 A8	2852 C8	2857 E6	3705 D3	3869 A6	3874 C5	3879 C8	3884 D6	3889 E10	5802 D3	7875 E7
1824 D10	2843 A5	2848 C5	2853 E6	3701 E1	3788 E9	3870 A6	3875 C5	3880 E7	3885 E8	3900 A5	5803 E6	8402 C9
2701 E2	2844 A5	2849 C5	2854 D6	3702 E2	3836 D10	3871 A7	3876 B6	3881 E7	3886 E8	4804 A4	6877 E7	

CD Part (sheet 2)

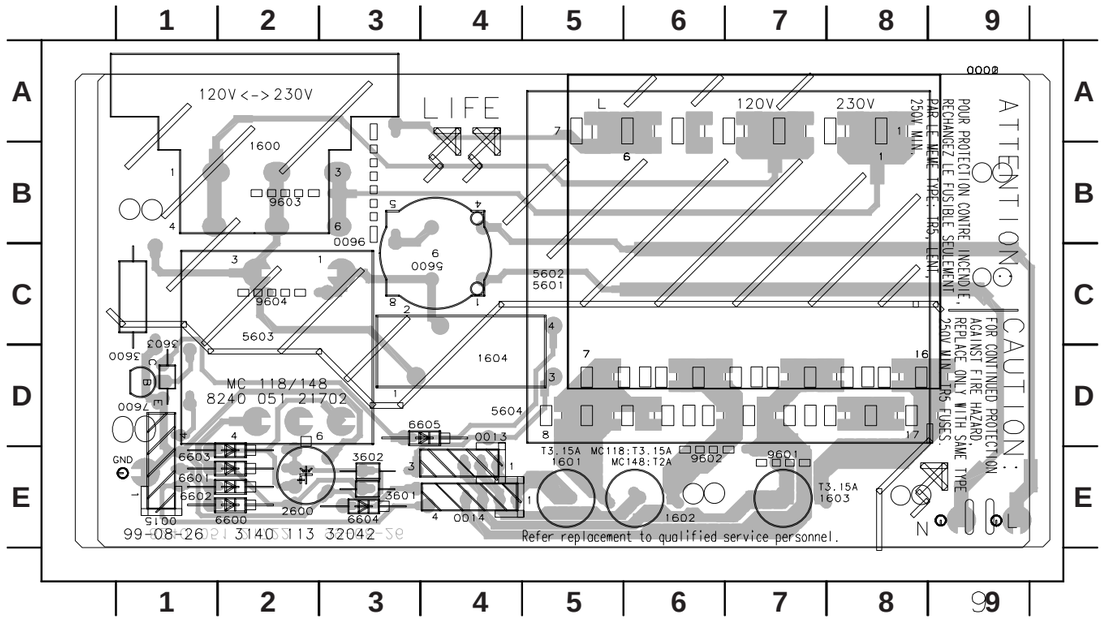


CIRCUIT DIAGRAM - POWER BOARD

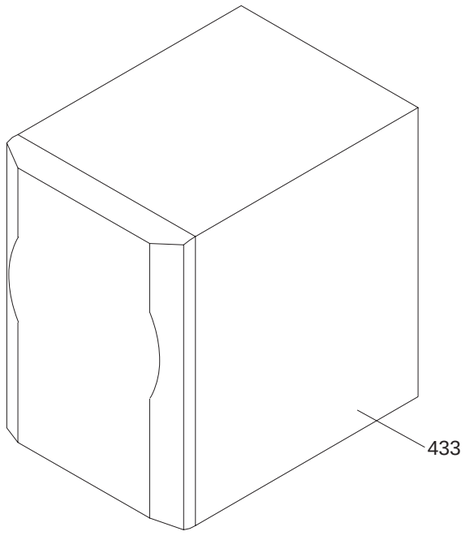


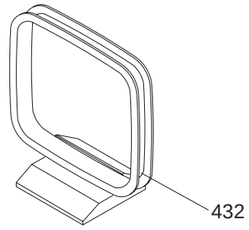
LAYOUT DIAGRAM - POWER BOARD

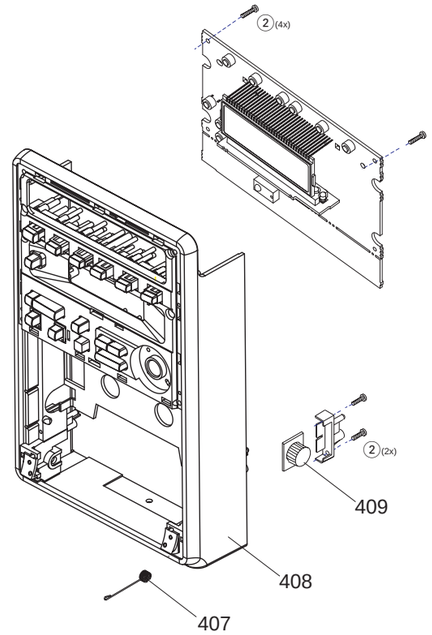
0000 A9	0015 E1	1604 D4	3603 C1	5604 D4	6604 E3	9602 E6
0001 A9	1600 B2	2600 E2	5600 C4	6600 E2	6605 D4	9603 B2
0002 A9	1601 E5	3600 D1	5601 C5	6601 E1	7600 D1	9604 C2
0013 D4	1602 E6	3601 E3	5602 C5	6602 E1	9600 B3	
0014 E4	1603 E8	3602 E3	5603 C2	6603 E1	9601 E7	

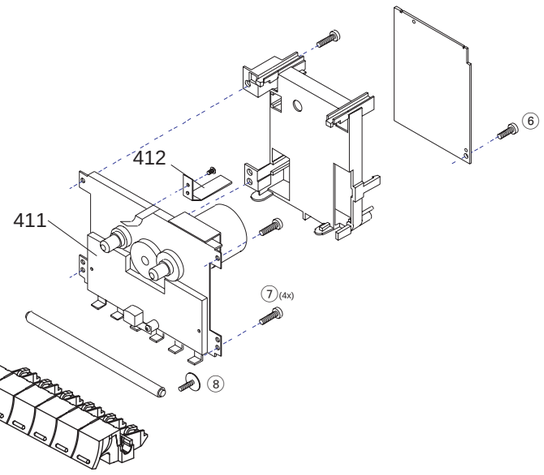


EXPLODED VIEW DIAGRAM

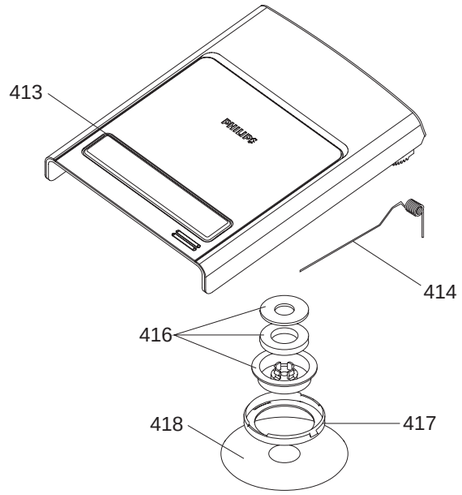


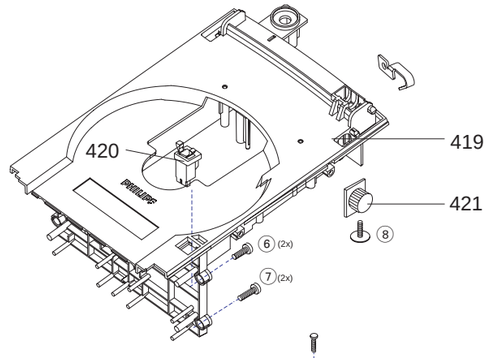


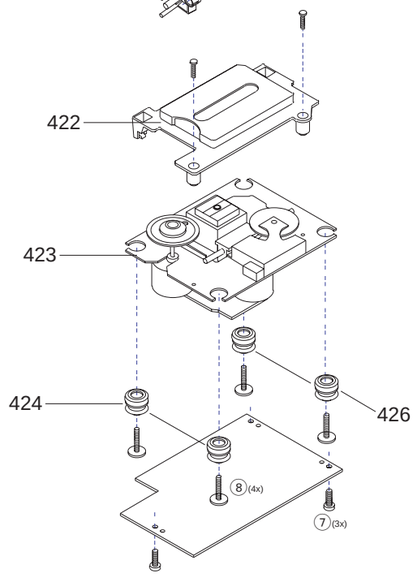




13 - 1

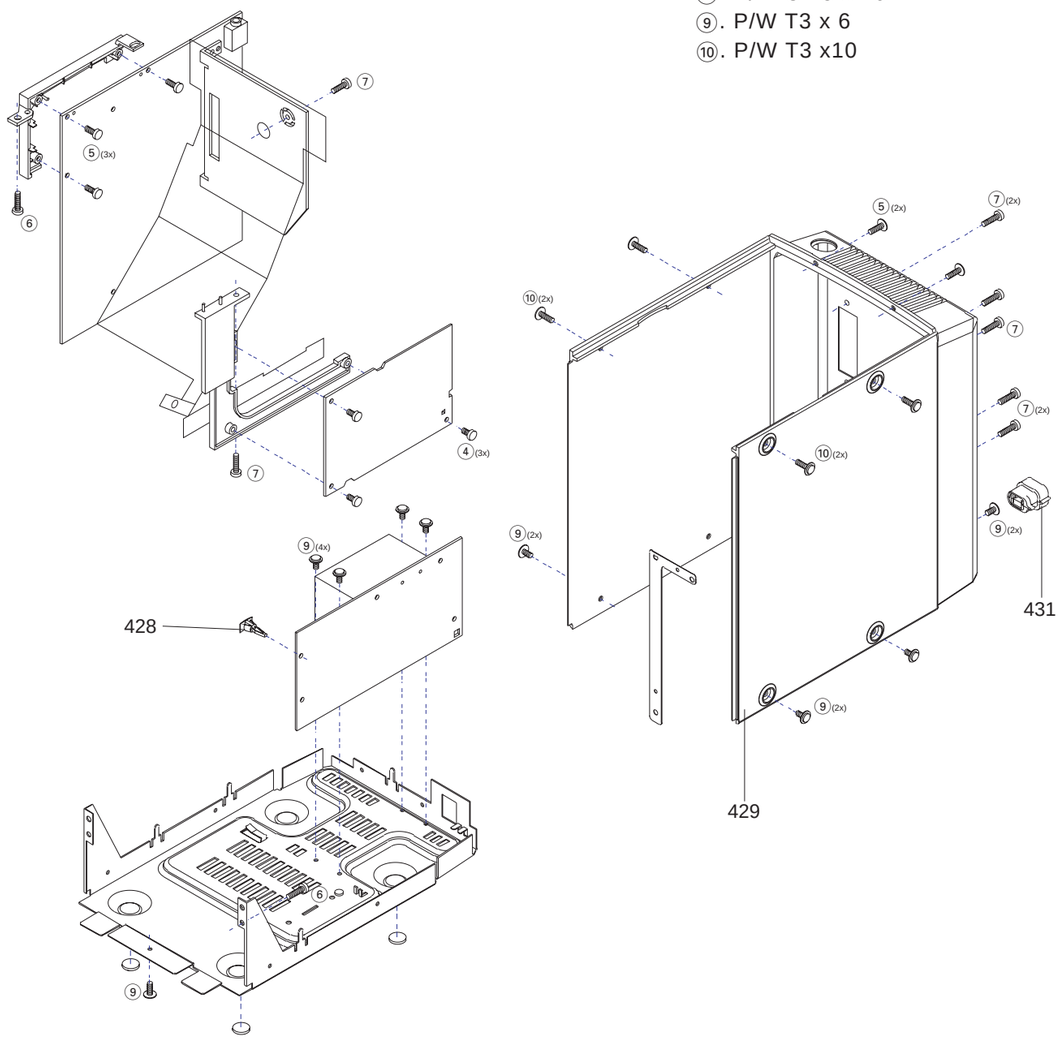




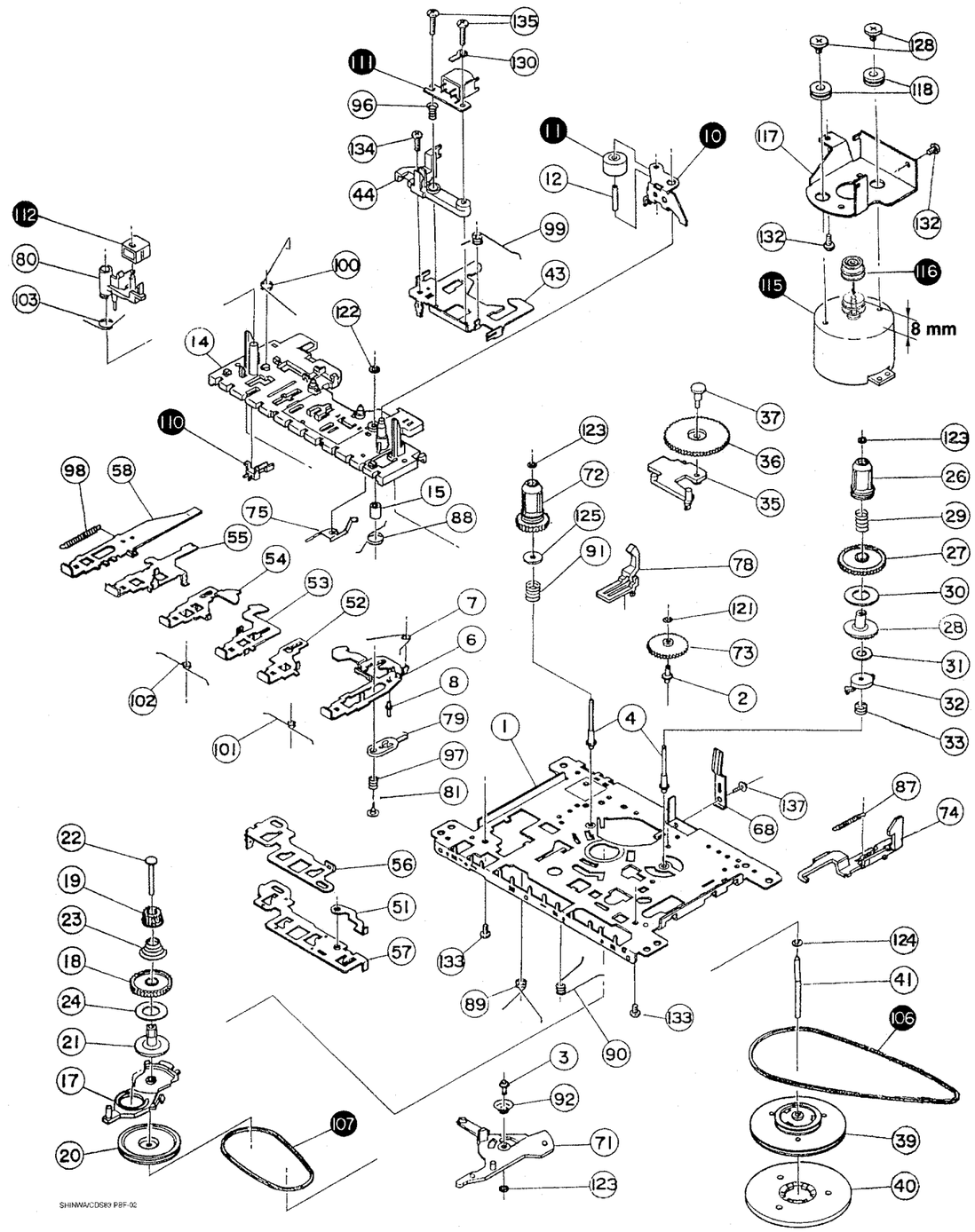


SCREW LIST

① . T2 x 6
② . T2 x 10
③ . T2.5 x 10
④ . T3 x 6
⑤ . T3 x 8
⑥ . T3 x10
⑦ . T3 x12
⑧ . P/W C2.5 x 10
⑨ . P/W T3 x 6
⑩ . P/W T3 x10



EXPLODED VIEW DIAGRAM - TAPE DECK (CDS-8 3 -PBF-06)



MECHANICAL PARTSLIST - MAIN SET

401	3140 117 73691	CASSETTE DOOR ASSY
402	3140 114 64221	Technique door (MTF)MC160
403	3139 111 22786	SPRING LEAF
404	3140 117 72941	KNOB-VOLUME PNT
406	3140 117 73661	PANEL FRONT ASSY (-/22/25)
406	3140 117 73721	PANEL FRONT ASSY (-/30/33/21/21M)
407	3140 111 00572	CASSETTE DOOR SPRING
408	3140 117 73601	FRONT CABINET ASSY
409	3139 118 73624	DAMPER ASSY MODULE 0.8
411	3140 118 71377	DECK TAPE MECHANISM
412	3140 111 20804	SPRING-RECORDING
413	3140 117 73201	CD DOOR ASSY
414	3140 111 01512	SPRING-CD
416	3103 307 95011	PRESSURE RING ASSY
417	3140 114 24401	RING (CD LID)
418	3139 118 10001	DISC
419	3140 114 64471	CD-TRAY
420	4822 276 13963	CD DOOR SWITCH
421	3139 118 73624	DAMPER ASSY MODULE 0.8
422	3103 304 66151	COVER-CD COMPATIBLE
423	3103 309 05291	CD DA11N DRIVE ASSY
424	3140 114 13902	DAMPER - RUBBER (35 DEGREES)
426	3140 114 13892	DAMPER - RUBBER (30 DEG)
428	3139 114 35693	SPACER 5MM
429	3141 077 50081	CABINET REAR PNT
431	3140 113 21881	MAINS CORD RELIEF
432	2422 549 45067	ANT AM LOOP LAN-006 B
432	3104 218 20371	AM FRAME AERIAL WITH XHP
433	3140 118 51951	PACKED SPEAKER BOX ASSY
	3139 228 61971	REMOTE CONTROL 19621004/01
	3140 118 51061	REMOTE CONTRAL ASSY
	3139 118 71161	FM AERIAL
	3103 308 91963	CABLE 55MM AWG24/JST SVF

MECHANICAL PARTSLIST - TAPE DECK

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

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

13 - 3

ELETRICAL SERVICE PARTSLIST

1001	3103 308 63421	PBAS 8 CD99/DA11
1001	3140 118 86221	PBAS 7 -ECO-MTF GSM AS-ES-SD (-/22/25)
1001	3140 118 63041	PCBA ECO-MTF-PA-SD-ES (-/21M/30/33/21)
1021	3140 118 63151	MI-PL PBAS 6 MC118/VDE (-/22/25/30/33)
1021	3140 118 63171	MI-PL PBAS 6 MC118/OVE (-/21M/21)
1022	3103 308 64241	PBAS TUNER ECO6 AS /02 3B RDS (-/22/25)
1022	3103 308 64261	PBAS TUNER ECO6 AS /01 2B (-/21M/21)
1022	3103 308 64401	PBAS TUNER ECO6 AS /01 2B (-/30/33)
1025	8240 008 70121	SWITCH-LATCH 1P
1330	2422 026 05282	SOCKET PHONE H 1P
1331	2422 026 04001	SOCKET CLICK H 4P
1401	2422 128 02922	SWITCH-TACT
1402	2422 128 02922	SWITCH-TACT
1403	2422 128 02922	SWITCH-TACT
1404	2422 128 02922	SWITCH-TACT
1405	2422 128 02922	SWITCH-TACT
1406	2422 128 02922	SWITCH-TACT
1407	2422 128 02922	SWITCH-TACT
1408	2422 128 02922	SWITCH-TACT
1409	2422 128 02922	SWITCH-TACT
1410	2422 128 02922	SWITCH-TACT
1411	2422 128 02922	SWITCH-TACT
1412	2422 128 02922	SWITCH-TACT
1413	2422 128 02922	SWITCH-TACT
1414	2422 128 02922	SWITCH-TACT
1415	2422 129 16545	ROT ENCODER 24P
1425	3140 110 51941	LCD PANEL MC120
1550	2422 026 04397	SOCKET CINCH H 2P
1601	2422 086 10423	FUSE 3,15A 250V
1601	2422 086 10785	FUSE 3,15A 250V
1602	2422 086 10423	FUSE 3,15A 250V
1602	2422 086 10785	FUSE 3,15A 250V
1603	2422 086 10423	FUSE 3,15A 250V
1603	2422 086 10785	FUSE 3,15A 250V
5601	3140 118 32402	TRANSFORMER (-/22/25/30/33)
5601	3140 118 32412	TRANSFORMER (-/21/21M)
6901	9322 074 50682	LED VS LTL-16KAE
6902	9322 074 50682	LED VS LTL-16KAE
6903	9322 074 50682	LED VS LTL-16KAE
6904	9322 074 50682	LED VS LTL-16KAE
6905	9322 074 50682	LED VS LTL-16KAE
6906	9322 074 50682	LED VS LTL-16KAE
6907	9322 074 50682	LED VS LTL-16KAE
6908	9322 074 50682	LED VS LTL-16KAE
6909	9322 074 50682	LED VS LTL-16KAE
6910	9322 074 50682	LED VS LTL-16KAE
6911	9322 074 50682	LED VS LTL-16KAE
6912	9322 074 50682	LED VS LTL-16KAE
7330	9322 133 18682	AN7125P
7400	3140 110 51781	MCU TMP87CP23F

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

ELECTRICAL PARTSLIST - FRONT, LED AND COMBI BOARD

- MISCELLANEOUS -

1330	2422 026 05282	SOCKET PHONE 1P
1331	4822 267 31176	CONNECTOR
1401	4822 276 13775	SWITCH-PUSH
1402	4822 276 13775	SWITCH-PUSH
1403	4822 276 13775	SWITCH-PUSH
1404	4822 276 13775	SWITCH-PUSH
1405	4822 276 13775	SWITCH-PUSH
1406	4822 276 13775	SWITCH-PUSH
1407	4822 276 13775	SWITCH-PUSH
1408	4822 276 13775	SWITCH-PUSH
1409	4822 276 13775	SWITCH-PUSH
1410	4822 276 13775	SWITCH-PUSH
1411	4822 276 13775	SWITCH-PUSH
1412	4822 276 13775	SWITCH-PUSH
1413	4822 276 13775	SWITCH-PUSH
1414	4822 276 13775	SWITCH-PUSH
1415	2422 129 16545	ROT ENCODER 24P
1416	2422 025 14546	FFC Socket 16P
1418	4822 265 11207	FFC Socket 6P
1425	3140 110 51000	LCD PANEL
1550	4822 265 20553	CONNECTOR
1552	4822 267 10731	FFC Socket 6P
1554	4822 267 10731	FFC Socket 6P
1555	4822 265 11515	FFC Socket 8P
1556	2422 025 14526	FFC Socket 16P
8008	2422 070 98244	MAINSCORD 2,5A 1,8MHZ

- CAPACITORS -

2250	4822 124 41458	4700 F 20% 16V
2251	5322 121 42386	100nF 5% 63V
2252	5322 121 42386	100nF 5% 63V
2253	5322 121 42386	100nF 5% 63V
2254	5322 121 42386	100nF 5% 63V
2255	4822 124 81039	3300 F 20% 25V
2258	4822 124 40769	4,7 F 20% 100V
2259	4822 124 40769	4,7 F 20% 100V
2260	3198 017 34730	47nF X7R 16V
2261	4822 124 22652	2,2 F 20% 50V
2262	3198 016 31020	1nF NP0 25V
2263	4822 124 40433	47 F 20% 25V
2264	4822 124 40433	47 F 20% 25V
2330	4822 124 40769	4,7 F 20% 100V
2331	2238 786 19852	150nF +80-20% Y5V 16V
2332	2238 786 19852	150nF +80-20% Y5V 16V
2337	4822 121 42408	220nF 5% 63V
2338	4822 121 42408	220nF 5% 63V
2339	4822 121 42408	220nF 5% 63V
2340	4822 121 42408	220nF 5% 63V

- CAPACITORS -

2341	4822 124 40433	47 F 20% 25V
2342	4822 124 40433	47 F 20% 25V
2343	4822 122 33197	1nF 10% 50V
2344	4822 122 33197	1nF 10% 50V
2345	4822 126 14494	22nF 10% X7R 25V
2346	4822 126 14494	22nF 10% X7R 25V
2347	4822 124 40433	47 F 20% 25V
2348	4822 124 40433	47 F 20% 25V
2349	4822 124 40207	100 F 20% 25V
2350	4822 124 40207	100 F 20% 25V
2351	4822 124 40769	4,7 F 20% 100V
2352	4822 124 40433	47 F 20% 25V
2353	5322 126 11583	10nF 10% X7R 50V
2354	5322 126 11583	10nF 10% X7R 50V
2355	4822 124 40207	100 F 20% 25V
2400	5322 126 11583	10nF 10% X7R 50V
2401	5322 126 11583	10nF 10% X7R 50V
2402	4822 124 23432	100 F 20% 10V
2403	2238 586 59812	100nF +80-20% Y5V 50V
2404	4822 124 23432	100 F 20% 10V
2405	5322 126 11583	10nF 10% X7R 50V
2406	5322 126 11583	10nF 10% X7R 50V
2407	2238 586 59812	100nF +80-20% Y5V 50V
2408	2238 586 59812	100nF +80-20% Y5V 50V
2409	5322 126 11583	10nF 10% X7R 50V
2410	5322 126 11583	10nF 10% X7R 50V
2411	4822 122 33752	15pF 5% NP0 50V
2412	4822 122 33752	15pF 5% NP0 50V
2413	4822 126 11785	47pF 5% NP0 50V
2414	5322 126 11583	10nF 10% X7R 50V
2415	4822 126 11669	27pF
2416	4822 126 11669	27pF
2417	4822 124 40433	47 F 20% 25V
2418	5322 126 11578	1nF 10% X7R 50V
2419	2238 586 59812	100nF +80-20% Y5V 50V
2420	5322 126 11583	10nF 10% X7R 50V
2421	5322 126 11583	10nF 10% X7R 50V
2422	2020 552 94427	100pF 5% NP0 50V
2423	2020 552 94427	100pF 5% NP0 50V
2431	4822 126 13193	4,7nF10% X7R 63V
2432	2020 552 94427	100pF 5% NP0 50V
2433	4822 126 13881	470pF 5% 50V
2434	2020 552 94427	100pF 5% NP0 50V
2435	4822 126 13881	470pF 5% 50V
2436	4822 126 13881	470pF 5% 50V
2437	4822 126 13881	470pF 5% 50V
2438	4822 126 13881	470pF 5% 50V
2439	4822 126 13881	470pF 5% 50V
2440	4822 126 14238	2,2nF X7R 50V
2441	5322 126 11583	10nF 10% X7R 50V

ELECTRICAL PARTSLIST - FRONT, LED AND COMBI BOARD

- CAPACITORS -

2442	4822 126 13883	220pF 5% 50V
2443	4822 126 13883	220pF 5% 50V
2444	4822 126 13883	220pF 5% 50V
2445	4822 126 13883	220pF 5% 50V
2446	5322 126 11583	10nF 10% X7R 50V
2449	4822 126 13881	470pF 5% 50V
2450	4822 126 13881	470pF 5% 50V
2451	4822 126 13881	470pF 5% 50V
2500	4822 124 41584	100 F 20% 10V
2501	4822 124 40196	220 F 20% 16V
2502	4822 124 40248	10 F 20% 63V
2503	4822 126 14494	22nF 10% X7R 25V
2505	2020 552 94427	100pF 5% NP0 50V
2506	2020 552 94427	100pF 5% NP0 50V
2507	2020 552 94427	100pF 5% NP0 50V
2508	2020 552 94427	100pF 5% NP0 50V
2509	4822 122 33761	22pF 5% NP0 50V
2510	4822 122 33761	22pF 5% NP0 50V
2511	4822 126 13879	220nF +80-20% 16V
2512	4822 126 13879	220nF +80-20% 16V
2513	4822 126 11785	47pF 5% NP0 50V
2514	4822 126 11785	47pF 5% NP0 50V
2515	5322 126 11583	10nF 10% X7R 50V
2516	5322 126 11583	10nF 10% X7R 50V
2517	4822 126 14247	1,5nF X7R 50V
2518	4822 126 14247	1,5nF X7R 50V
2519	4822 126 13883	220pF 5% 50V
2520	4822 126 13883	220pF 5% 50V
2521	4822 126 14247	1,5nF X7R 50V
2522	4822 126 14247	1,5nF X7R 50V
2523	3198 016 36810	680pF NP0 25V
2524	3198 016 36810	680pF NP0 25V
2525	4822 126 11785	47pF 5% NP0 50V
2526	4822 126 11785	47pF 5% NP0 50V
2527	5322 126 11583	10nF 10% X7R 50V
2528	5322 126 11583	10nF 10% X7R 50V
2529	2238 586 59812	100nF +80-20% Y5V 50V
2530	2238 586 59812	100nF +80-20% Y5V 50V
2531	2238 586 59812	100nF +80-20% Y5V 50V
2532	2238 586 59812	100nF +80-20% Y5V 50V
2533	2238 586 59812	100nF +80-20% Y5V 50V
2534	2238 586 59812	100nF +80-20% Y5V 50V
2535	2238 586 59812	100nF +80-20% Y5V 50V
2550	4822 126 11585	22nF +80-20% Y5V 25V
2551	4822 126 14238	2,2nF X7R 50V
2552	4822 126 14238	2,2nF X7R 50V
2553	4822 126 14494	22nF 10% X7R 25V
2554	4822 124 40196	220 F 20% 16V
2555	4822 124 22652	2,2 F 20% 50V
2557	3198 017 44740	470nF Y5V 10V

- CAPACITORS -

2558	4822 126 13883	220pF 5% 50V
2559	4822 126 13883	220pF 5% 50V
2560	4822 126 13883	220pF 5% 50V
2561	4822 124 81151	22 F 50V
2563	4822 124 41407	0,47 F 20% 63V
2564	4822 124 41407	0,47 F 20% 63V
2565	2020 552 94427	100pF 5% NP0 50V
2566	2020 552 94427	100pF 5% NP0 50V
2567	4822 124 22652	2,2 F 20% 50V
2568	4822 124 22652	2,2 F 20% 50V
2569	4822 124 21913	1 F 20% 63V
2570	4822 124 21913	1 F 20% 63V
2571	3198 017 44740	470nF Y5V 10V
2573	2238 586 59812	100nF +80-20% Y5V 50V

- RESISTORS -

3252	4822 051 20472	4,7K 5% 0,1W
3253	4822 051 20472	4,7K 5% 0,1W
3254	4822 117 11449	2,2K 5% 0,1W
3255	4822 050 11002	1K 1% 0,4W
3256	4822 050 11002	1K 1% 0,4W
3257	4822 050 11002	1K 1% 0,4W
3258	4822 116 83884	47K 5% 0,5W
3259	4822 051 30331	330R 5% 0,062W
3260	4822 117 12891	220K 1%
3261	4822 117 12864	82K 5% 0,6W
3262	4822 051 10102	1K 2% 0,25W
3263	4822 051 30102	1K 5% 0,062W
3266	4822 117 12925	47K 1% 0,063W
3267	4822 117 11449	2,2K 5% 0,1W
3268	4822 117 11449	2,2K 5% 0,1W
3269	4822 051 30223	22K 5% 0,062W
3271	4822 050 24708	4,7R 1% 0,6W
3272	4822 050 24708	4,7R 1% 0,6W
3273	4822 050 24708	4,7R 1% 0,6W
3274	4822 051 20391	390R 5% 0,1W
3275	4822 116 83883	470R 5% 0,5W
3276	4822 051 30222	2,2K 5% 0,062W
3277	4822 051 30222	2,2K 5% 0,062W
3278	4822 117 12925	47K 1% 0,063W
3279	4822 051 30102	1K 5% 0,062W
3280	4822 116 52257	22K 5% 0,5W
3281	4822 117 11449	2,2K 5% 0,1W
3330	4822 116 52269	3,3K 5% 0,5W
3331	4822 050 21003	10K 1% 0,6W
3332	4822 050 21003	10K 1% 0,6W

ELECTRICAL PARTSLIST - FRONT, LED AND COMBI BOARD

- RESISTORS -

3333	4822 051 30682	6,8K 5% 0,062W
3334	4822 051 30682	6,8K 5% 0,062W
3335	4822 051 20228	2,2R 5% 0,1W
3336	4822 051 20228	2,2R 5% 0,1W
3337	4822 051 20228	2,2R 5% 0,1W
3338	4822 051 20228	2,2R 5% 0,1W
3339	4822 117 12521	68R 1% 0,1W
3340	4822 117 12521	68R 1% 0,1W
3341	4822 116 52283	4,7K 5% 0,5W
3342	4822 116 52283	4,7K 5% 0,5W
3343	4822 051 30103	10K 5% 0,062W
3344	4822 051 30103	10K 5% 0,062W
3345	4822 051 30103	10K 5% 0,062W
3346	4822 051 30103	10K 5% 0,062W
3347	4822 051 30223	22K 5% 0,062W
3348	4822 051 30223	22K 5% 0,062W
3349	4822 051 30223	22K 5% 0,062W
3350	4822 117 12925	47K 1% 0,063W
3351	4822 051 10102	1K 2% 0,25W
3352	4822 051 10102	1K 2% 0,25W
3353	4822 051 20479	47R 5% 0,1W
3358	4822 051 30472	4,7K 5% 0,062W
3359	4822 051 30682	6,8K 5% 0,062W
3360	4822 117 13632	100K 1% 0,62W
3361	4822 117 11373	100R 1% RC12H
3362	4822 051 20182	1,8K 5% 0,1W
3363	4822 051 30103	10K 5% 0,062W
3364	4822 051 20391	390R 5% 0,1W
3365	4822 117 11504	270R 1% 0,1W
3400	4822 051 30109	10R 5% 0,062W
3401	4822 116 52182	15R 5% 0,5W
3402	4822 116 52175	100R 5% 0,5W
3403	4822 051 30682	6,8K 5% 0,062W
3404	4822 051 30332	3,3K 5% 0,062W
3405	4822 051 30102	1K 5% 0,062W
3406	4822 117 13632	100K 1% 0,62W
3407	4822 051 30102	1K 5% 0,062W
3408	4822 051 30474	470K 5% 0,062W
3409	4822 051 30103	10K 5% 0,062W
3410	4822 051 30101	100R 5% 0,062W
3411	4822 117 13632	100K 1% 0,62W
3412	4822 051 30103	10K 5% 0,062W
3413	4822 051 30102	1K 5% 0,062W
3414	4822 051 30333	33K 5% 0,062W
3415	4822 051 30153	15K 5% 0,062W
3416	4822 116 83872	220R 5% 0,5W
3417	4822 051 30153	15K 5% 0,062W
3418	4822 051 30152	1,5K 5% 0,062W
3419	4822 051 30152	1,5K 5% 0,062W
3420	4822 050 21003	10K 1% 0,6W

- RESISTORS -

3421	4822 051 30562	5,6K 5% 0,063W
3422	4822 051 30471	470R 5% 0,062W
3423	4822 051 30102	1K 5% 0,062W
3424	4822 051 30152	1,5K 5% 0,062W
3425	4822 051 30222	2,2K 5% 0,062W
3426	4822 116 52269	3,3K 5% 0,5W
3427	4822 051 30562	5,6K 5% 0,063W
3428	4822 051 30103	10K 5% 0,062W
3429	4822 051 30103	10K 5% 0,062W
3430	4822 051 30562	5,6K 5% 0,063W
3431	4822 051 30471	470R 5% 0,062W
3432	4822 051 30102	1K 5% 0,062W
3433	4822 051 30152	1,5K 5% 0,062W
3434	4822 051 30222	2,2K 5% 0,062W
3435	4822 051 30332	3,3K 5% 0,062W
3436	4822 051 30562	5,6K 5% 0,063W
3437	4822 051 30223	22K 5% 0,062W
3438	4822 051 30223	22K 5% 0,062W
3439	4822 051 30102	1K 5% 0,062W
3440	4822 050 11002	1K 1% 0,4W
3441	4822 051 30102	1K 5% 0,062W
3449	4822 051 30223	22K 5% 0,062W
3450	4822 051 30103	10K 5% 0,062W
3451	4822 051 30471	470R 5% 0,062W
3452	4822 051 30103	10K 5% 0,062W
3453	4822 051 30102	1K 5% 0,062W
3454	4822 051 30102	1K 5% 0,062W
3455	4822 051 30102	1K 5% 0,062W
3456	4822 051 30102	1K 5% 0,062W
3457	4822 050 21003	10K 1% 0,6W
3458	4822 051 30102	1K 5% 0,062W
3459	4822 051 30221	220R 5% 0,062W
3460	4822 051 30471	4,7K 5% 0,062W
3461	4822 051 30472	4,7K 5% 0,062W
3462	4822 051 30472	4,7K 5% 0,062W
3463	4822 051 30472	4,7K 5% 0,062W
3464	4822 051 30472	4,7K 5% 0,062W
3465	4822 051 30472	4,7K 5% 0,062W
3466	4822 051 30472	4,7K 5% 0,062W
3467	4822 051 30222	2,2K 5% 0,062W
3468	4822 051 30222	2,2K 5% 0,062W
3469	4822 051 30471	470R 5% 0,062W
3470	4822 116 52263	2,7K 5% 0,5W
3471	4822 051 30333	33K 5% 0,062W
3472	4822 051 30474	470K 5% 0,062W
3473	4822 051 30472	4,7K 5% 0,062W
3474	4822 051 30102	1K 5% 0,062W
3475	4822 051 30331	330R 5% 0,062W
3476	4822 051 30471	470R 5% 0,062W
3477	4822 051 30471	470R 5% 0,062W

ELECTRICAL PARTSLIST - FRONT, LED AND COMBI BOARD

- RESISTORS -

3478	4822 051 30471	470R 5% 0,062W
3479	4822 051 30471	470R 5% 0,062W
3480	4822 051 30102	1K 5% 0,062W
3481	4822 051 30471	470R 5% 0,062W
3482	4822 051 30102	1K 5% 0,062W
3483	4822 051 30153	15K 5% 0,062W
3484	4822 051 30103	10K 5% 0,062W
3485	4822 051 30222	2,2K 5% 0,062W
3486	4822 051 30101	100R 5% 0,062W
3487	4822 051 30222	2,2K 5% 0,062W
3488	4822 051 30101	100R 5% 0,062W
3489	4822 051 30102	1K 5% 0,062W
3490	4822 051 30102	1K 5% 0,062W
3491	4822 051 30102	1K 5% 0,062W
3492	4822 051 30102	1K 5% 0,062W
3493	4822 051 30102	1K 5% 0,062W
3494	4822 051 30102	1K 5% 0,062W
3495	4822 051 30563	56K 5% 0,062W
3496	4822 051 30563	56K 5% 0,062W
3498	4822 051 30103	10K 5% 0,062W
3499	4822 051 30223	22K 5% 0,062W
3500	4822 117 12968	820R 5% 0,62W
3501	4822 051 30471	470R 5% 0,062W
3502	4822 116 52256	2,2K 5% 0,5W
3503	4822 051 30471	470R 5% 0,062W
3505	4822 051 20333	33K 5% 0,1W
3506	4822 051 20333	33K 5% 0,1W
3507	4822 117 12971	15R 5% 0,62W
3508	4822 117 12971	15R 5% 0,62W
3509	4822 051 20333	33K 5% 0,1W
3510	4822 051 20333	33K 5% 0,1W
3511	4822 117 13632	100K 1% 0,62W
3512	4822 117 13632	100K 1% 0,62W
3513	4822 051 30153	15K 5% 0,062W
3514	4822 051 30153	15K 5% 0,062W
3515	4822 051 30333	33K 5% 0,062W
3516	4822 051 30333	33K 5% 0,062W
3517	4822 117 13632	100K 1% 0,62W
3518	4822 117 13632	100K 1% 0,62W
3519	4822 117 12891	220K 1%
3520	4822 117 12891	220K 1%
3521	4822 050 23303	33K 1% 0,6W
3522	4822 050 23303	33K 1% 0,6W
3523	4822 050 23303	33K 1% 0,6W
3524	4822 050 23303	33K 1% 0,6W
3525	4822 117 12891	220K 1%
3526	4822 117 12891	220K 1%
3527	4822 117 12891	220K 1%
3528	4822 117 12891	220K 1%
3529	4822 116 52264	27K 5% 0,5W

- RESISTORS -

3530	4822 116 52264	27K 5% 0,5W
3531	4822 116 52264	27K 5% 0,5W
3532	4822 116 52264	27K 5% 0,5W
3533	4822 051 30333	33K 5% 0,062W
3534	4822 051 30333	33K 5% 0,062W
3535	4822 117 13632	100K 1% 0,62W
3536	4822 117 13632	100K 1% 0,62W
3537	4822 117 12891	220K 1%
3538	4822 117 12891	220K 1%
3539	4822 051 30223	22K 5% 0,062W
3540	4822 051 30223	22K 5% 0,062W
3541	4822 117 12891	220K 1%
3542	4822 117 12891	220K 1%
3543	4822 117 12864	82K 5% 0,6W
3544	4822 117 12864	82K 5% 0,6W
3545	4822 051 30472	4,7K 5% 0,062W
3546	4822 051 30472	4,7K 5% 0,062W
3547	4822 051 30154	150K 5% 0,062W
3548	4822 051 30154	150K 5% 0,062W
3551	4822 051 30393	39K 5% 0,062W
3552	4822 051 30393	39K 5% 0,062W
3553	4822 051 30682	6,8K 5% 0,062W
3554	4822 051 30682	6,8K 5% 0,062W
3555	4822 051 30223	22K 5% 0,062W
3556	4822 051 30223	22K 5% 0,062W
3557	4822 051 30333	33K 5% 0,062W
3558	4822 051 30333	33K 5% 0,062W
3559	4822 051 30332	3,3K 5% 0,062W
3560	4822 051 30332	3,3K 5% 0,062W
3561	4822 116 52244	15K 5% 0,5W
3562	4822 116 52244	15K 5% 0,5W
3563	4822 117 11373	100R 1%
3565	4822 051 20109	10R 5% 0,1W
3566	4822 051 20109	10R 5% 0,1W
3567	4822 051 20109	10R 5% 0,1W
3568	4822 051 10102	1K 2% 0,25W
3572	4822 051 30103	10K 5% 0,062W
3573	4822 050 11002	1K 1% 0,4W
3574	4822 117 12925	47K 1% 0,063W
3575	4822 051 30153	15K 5% 0,062W
3576	4822 051 30153	15K 5% 0,062W
3577	4822 051 30471	470R 5% 0,062W
3578	4822 051 30471	470R 5% 0,062W
3579	4822 051 30154	150K 5% 0,062W
3580	4822 051 30154	150K 5% 0,062W
3581	4822 051 30272	2,7K 5% 0,062W
3582	4822 051 30272	2,7K 5% 0,062W
3583	4822 051 30472	4,7K 5% 0,062W
3584	4822 051 30472	4,7K 5% 0,062W
3585	4822 051 30222	2,2K 5% 0,062W

ELECTRICAL PARTSLIST - FRONT, LED AND COMBI BOARD

- RESISTORS -

3586	4822 051 30222	2,2K 5% 0,062W
3587	4822 051 30392	3,9K 5% 0,063W
3588	4822 051 30392	3,9K 5% 0,063W
3589	4822 116 83872	120R 5% 0,1W
3901	4822 051 20121	120R 5% 0,1W
3902	4822 051 20121	120R 5% 0,1W
3903	4822 051 20121	120R 5% 0,1W
3904	4822 051 20121	120R 5% 0,1W
3905	4822 117 12521	68R 1% 0,1W
4250	4822 051 10008	0R 5% 0,25W
4260	4822 051 10008	0R 5% 0,25W
4261	4822 051 10008	0R 5% 0,25W
4263	4822 051 10008	0R 5% 0,25W
4264	4822 051 10008	0R 5% 0,25W
4265	4822 051 10008	0R 5% 0,25W
4333	4822 051 20008	0R JUMPER(0805)
4334	4822 051 20008	0R JUMPER(0805)
4335	4822 051 20008	0R JUMPER(0805)
4401	4822 051 30008	0R JUMPER
4410	4822 051 10008	0R 5% 0,25W
4411	4822 051 10008	0R 5% 0,25W
4412	4822 051 30008	0R JUMPER
4413	4822 051 30008	0R JUMPER
4414	4822 051 10008	0R 5% 0,25W
4415	4822 051 10008	0R 5% 0,25W
4416	4822 051 30008	0R JUMPER
4419	4822 051 30008	0R JUMPER
4420	4822 051 30008	0R JUMPER
4510	4822 051 10008	0R 5% 0,25W
4512	4822 051 20008	0R JUMPER(0805)
4513	4822 051 20008	0R JUMPER(0805)
4560	4822 051 10008	0R 5% 0,25W
4561	4822 051 20008	0R JUMPER(0805)
4562	4822 051 10008	0R 5% 0,25W
4563	4822 051 10008	0R 5% 0,25W
4564	4822 051 10008	0R 5% 0,25W
4565	4822 051 10008	0R 5% 0,25W
4566	4822 051 20008	0R JUMPER(0805)
4567	4822 051 10008	0R 5% 0,25W
4568	4822 051 20008	0R JUMPER(0805)
4569	4822 051 10008	0R 5% 0,25W
4570	4822 051 20008	0R JUMPER(0805)
4571	4822 051 10008	0R 5% 0,25W
4572	4822 051 20008	0R JUMPER(0805)
4573	4822 051 10008	0R 5% 0,25W

- COILS & FILTERS -

5331	4822 157 11837	0,36 H 10%
5332	4822 157 11837	0,36 H 10%
5333	4822 157 11837	0,36 H 10%
5334	4822 157 11837	0,36 H 10%
5400	3198 018 11580	1,5 H 5%
5401	3198 018 11580	1,5 H 5%
5402	2422 540 98518	8MHZ CSTS*MG03
5403	2422 543 01069	RES XTL 32KHZ768
5550	4822 157 10686	CHOKE COIL 0,47 F
5551	4822 157 10686	CHOKE COIL 0,47 F
5600	4822 157 11832	FILTER, MAINS

- DIODES -

6250	4822 130 31878	1N4003G
6251	4822 130 31878	1N4003G
6252	4822 130 31878	1N4003G
6253	4822 130 31878	1N4003G
6254	4822 130 31878	1N4003G
6255	4822 130 31878	1N4003G
6259	4822 130 31878	1N4003G
6260	4822 130 31878	1N4003G
6261	4822 130 31878	1N4003G
6265	4822 130 31878	1N4003G
6269	4822 130 30621	1N4148
6270	4822 130 30621	1N4148
6271	4822 130 34278	BZX79-B6V8
6272	4822 130 61219	BZX79-B10
6275	3198 010 53380	BZX79-B3V3
6331	4822 130 30621	1N4148
6332	4822 130 30621	1N4148
6333	4822 130 30621	1N4148
6334	9337 127 10673	BZX55-B11
6400	4822 130 30621	1N4148
6401	4822 130 30621	1N4148
6500	4822 130 30621	1N4148
6550	3198 010 53380	BZX79-B3V3
6901	9322 033 20682	LED TLHG4405
6902	9322 033 20682	LED TLHG4405
6903	9322 033 20682	LED TLHG4405
6904	9322 033 20682	LED TLHG4405
6905	9322 033 20682	LED TLHG4405
6906	9322 033 20682	LED TLHG4405
6907	9322 033 20682	LED TLHG4405
6908	9322 033 20682	LED TLHG4405
6909	9322 033 20682	LED TLHG4405
6910	9322 033 20682	LED TLHG4405
6911	9322 033 20682	LED TLHG4405
6912	9322 033 20682	LED TLHG4405

ELECTRICAL PARTSLIST - FRONT,LED AND COMBI BOARD

- IC & TRANSISTORS -

7250	9322 139 24687	BDW94CFP
7251	5322 130 60159	BC846B
7252	5322 130 60159	BC846B
7254	5322 130 44593	BC369
7255	5322 130 60159	BC846B
7256	4822 130 41246	BC327-25
7257	4822 130 41246	BC327-25
7258	4822 130 41246	BC327-25
7259	5322 130 60159	BC846B
7260	5322 130 60845	BC807-25
7261	5322 130 60159	BC846B
7330	9322 133 18682	AN7125P
7331	4822 130 60373	BC856B
7332	4822 130 60373	BC856B
7333	5322 130 60159	BC846B
7335	9322 143 35687	BDW93CFP
7400	3140 110 51781	TMP87CP23F
7402	5322 130 60159	BC846B
7403	5322 130 60159	BC846B
7404	9322 155 82667	TSOP2236
7405	9322 140 83682	M24C01-BN6
7500	4822 209 10264	HEF4069UBP
7501	4822 130 44568	BC557B
7502	4822 130 44568	BC557B
7503	4822 130 44568	BC557B
7504	4822 130 44568	BC557B
7505	5322 130 60159	BC846B
7506	5322 130 60159	BC846B
7507	5322 130 60159	BC846B
7508	5322 130 60159	BC846B
7509	5322 130 60159	BC846B
7510	5322 130 60159	BC846B
7511	5322 130 60159	BC846B
7512	5322 130 60159	BC846B
7513	5322 130 60159	BC846B
7514	5322 130 60159	BC846B
7550	4822 130 42804	BC817-25
7551	4822 209 10263	HEF4052BP
7552	5322 209 10421	HEF4094BP
7553	4822 130 41327	BC327-40
7555	5322 130 60159	BC846B
7556	5322 130 60159	BC846B

- MISCELLANEOUS -

6	4822 492 71733	CLAMP
7	4822 255 40179	CLIP
9	3140 114 29180	LCD HOLDER
1600	4822 272 10269	MAINS SWITCH
8000	3140 110 22351	FFC FOIL 16P/280/16P AD FOI
8001	3140 110 21220	FFC FOIL 06P/220/6P AD
8003	3140 110 21190	FFC FOIL 6P/140/6P AD
8005	3140 110 21210	FFC FOIL 6P/220/6P AD
8007	3140 110 21240	FFC FOIL 8P/180/8P AD
8008	2422 070 98244	MAINS CORD SET(/21/21M/22
8008	2422 070 98204	MAINS CORD SET(/30)
8008	2422 070 98203	MAINS CORD SET (/37)
8008	4822 321 10941	MAINS CORD SET (/25)
8800	4822 320 12178	FLEXIBLE FOIL

Note: these are NOT service parts,only for referrence.

ELECTRICAL PARTSLIST - TUNER BOARD ECO6 (Cenelec)

MISCELLANEOUS

1102	4822 267 10283	FM Ant. Socket
1103	4822 265 31184	AM Ant. Socket
1110	2422 542 90071	FM Frontend FE450-G01

CAPACITORS

2102	4822 126 14305	100nF 10% X7R 16V
2106	2020 800 00204	CTRM 4,2-20 pF N750
2107	4822 121 51319	1 F 10% 63V
2108	4822 122 31765	100pF 2% NP0 63V
2109	4822 122 33741	10pF 10% NP0 50V
2120	4822 122 33761	22pF 5% NP0 50V
2122	5322 126 11579	3,3nF 10% X7R 63V
2123	2238 861 18391	390pF 10% NP0 50V
2125	2238 861 18561	560pF 10% NP0 50V
2127	4822 126 13879	220nF +80-20% 16V
2128	4822 124 40248	10 F 20% 63V
2129	4822 124 41584	100 F 20% 10V
2130	4822 126 14494	22nF 10% X7R 25V
2131	3198 017 44740	470nF +80-20% 10V
2132	3198 017 44740	470nF +80-20% 10V
2133	4822 124 21913	1 F 20% 63V
2134	2020 552 94387	18nF 10% X7R 50V
2134	3198 017 31530	15nF 10% X7R 50V
2135	3198 017 31530	15nF 10% X7R 50V
2135	4822 122 33893	18nF10% X7R 63V
2136	4822 126 13879	220nF +80-20% 16V
2137	4822 126 13879	220nF +80-20% 16V
2138	4822 124 22652	2,2 F 20% 50V
2139	4822 122 33752	15pF 5% NP0 50V
2140	4822 126 14226	82pF 5% NP0 50V
2141	4822 126 14305	100nF 10% X7R 16V
2143	4822 126 13879	220nF +80-20% 16V
2144	4822 124 21913	1 F 20% 63V
2145	4822 126 13883	220pF 5% 50V
2146	4822 122 33575	220pF 5% NP0 63V
2147	4822 122 33575	220pF 5% NP0 63V
2148	4822 122 33127	2,2nF10% X7R 63V
2149	4822 126 11671	33pF 1% 50V
2150	4822 126 13838	100nF +80-20% 50V
2159	4822 126 11671	33pF 1% 50V
2162	4822 124 81151	22 F 20% 50V
2163	4822 126 14305	100nF 10% X7R 16V
2164	3198 017 44740	470nF +80-20% 10V
2165	4822 126 14305	100nF 10% X7R 16V
2166	5322 122 31647	1nF10% X7R 63V
2167	4822 126 11663	12pF 1% 50V
2169	4822 126 14238	2,2nF 20% X7R 50V
2180	5322 126 11583	10nF 10% X7R 50V
2191	4822 124 41584	100 F 20% 10V

RESISTORS

3105	4822 051 30221	220R 5% 0,1W
3108	4822 051 30222	2K2 5% 0,1W
3109	4822 051 30472	4K7 5% 0,1W
3123	4822 051 30472	4K7 5% 0,1W
3125	4822 051 30103	10K 5% 0,1W
3128	4822 051 30222	2K2 5% 0,1W
3130	4822 117 12968	820R 5% 0,6W
3131	4822 117 12968	820R 5% 0,6W
3132	4822 051 30479	47R 5% 0,1W
3134	4822 051 30223	22K 5% 0,1W
3135	4822 051 30102	1K 5% 0,1W
3137	4822 051 30223	22K 5% 0,1W
3141	4822 051 30563	56K 5% 0,1W
3142	4822 100 12159	100K 30%
3143	4822 051 30223	22K 5% 0,1W
3144	4822 051 30102	1K 5% 0,1W
3145	4822 051 30222	2K2 5% 0,1W
3146	4822 117 12139	22R 5% 0,1W
3150	4822 051 30103	10K 5% 0,1W
3151	4822 051 30683	68K 5% 0,1W
3152	4822 051 30471	470R 5% 0,1W
3153	4822 051 30471	470R 5% 0,1W
3154	4822 051 30331	330R 5% 0,1W
3155	4822 051 30151	150R 5% 0,1W
3158	4822 051 30471	470R 5% 0,1W
3159	4822 051 30471	470R 5% 0,1W
3160	4822 051 30471	470R 5% 0,1W
3161	4822 051 30223	22K 5% 0,1W
3167	4822 051 20121	120R 5% 0,1W
3168	4822 051 30121	120R 5% 0,1W
3169	4822 051 30154	150K 5% 0,1W
3171	4822 117 12925	47K 1% 0,1W
3172	4822 051 30562	5K6 5% 0,1W
3176	4822 051 30333	33K 5% 0,1W
3180	4822 051 30103	10K 5% 0,1W
3190	4822 051 30121	120R 5% 0,1W
3191	4822 051 30121	120R 5% 0,1W
3192	4822 051 30331	330R 5% 0,1W
3193	4822 051 30331	330R 5% 0,1W
3194	4822 051 30222	2K2 5% 0,1W
3195	4822 051 30101	100R 5% 0,1W
4105	4822 051 20008	0R Jumper 0805
4106	4822 051 30008	0R Jumper 0603
4107	4822 051 20008	0R Jumper 0805

ELECTRICAL PARTSLIST - TUNER BOARD ECO6 (Cenelec)

COILS AND FILTERS

5102	4822 157 71634	MW Aerial Coil
5103	2422 549 44107	LW Aerial Coil
5109	4822 157 71639	FM IF SFE10,7MJA10H-A
5110	4822 242 70665	FM IF SFE10,7MS3-A
5111	2422 549 44023	AM IF 7PY 450KHZ
5112	4822 157 70302	AM IF F7MCS-12216N
5114	4822 157 70302	AM IF F7MCS-12216N
5115	4822 157 71636	Birdie Filter Coil
5118	2422 535 95881	Inductor 0,1μH 5%
5119	4822 157 11443	FM Disc 2,4μH 10,7MHz
5121	4822 242 10261	Crystal 75KHz T6252F00
5122	2422 549 44108	MW Osc Coil
5123	2422 549 44108	LW Osc Coil

DIODES

6105	4822 130 83075	HN1V02H-B
6106	4822 130 83757	BAS216
6107	9340 386 90115	BZX284-C11
6120	4822 130 83757	BAS216

TRANSISTORS & IC

7101	9351 772 20557	TEA5762H/V1
7103	5322 130 42756	BC857C
7104	4822 130 40855	BC337
7105	4822 130 40855	BC337
7109	4822 130 60373	BC856B
7110	4822 130 60373	BC856B
7112	4822 130 44503	BC547C
7122	5322 130 42755	BC847C
7124	5322 130 42755	BC847C

Note: These are NOT service parts,only for referrence.

ELECTRICAL PARTSLIST - TUNER BOARD ECO6 (Non cenelec)

MISCELLANEOUS

1102	4822 267 10283	FM Ant. Socket
1103	4822 265 31184	AM Ant. Socket
1120	4822 265 11515	FFC Socket 8P

CAPACITORS

2101	4822 122 33777	47pF 5% NP0 63V
2102	4822 126 14305	100nF 10% X7R 16V
2103	5322 126 11578	1nF 10% X7R 50V
2104	4822 122 31765	100pF 2% NP0 63V
2106	2020 800 00191	CTRM 3P-11P N450
2107	4822 121 51319	1 F 10% 63V
2120	4822 126 14507	18pF 5% 50V
2124	4822 126 14494	22nF 10% X7R 25V
2125	2238 861 18561	560pF 1% NP0 50V
2126	4822 126 14241	330pF 10% NP0 50V
2127	4822 126 13879	220nF +80-20% 16V
2128	4822 124 40248	10 F 20% 63V
2129	4822 124 41584	100 F 20% 10V
2130	4822 126 14494	22nF 10% X7R 25V
2131	3198 017 44740	470nF +80-20% 10V
2132	3198 017 44740	470nF +80-20% 10V
2133	4822 124 21913	1 F 20% 63V
2134	3198 017 31530	15nF 20% X7R 50V
2135	3198 017 31530	15nF 20% X7R 50V
2136	4822 126 13879	220nF +80-20% 16V
2137	4822 126 13879	220nF +80-20% 16V
2138	4822 124 22652	2,2 F 20% 50V
2139	4822 122 33752	15pF 5% NP0 50V
2140	4822 126 14226	82pF 5% NP0 50V
2141	4822 126 14305	100nF 10% X7R 16V
2143	4822 126 13879	220nF +80-20% 16V
2144	4822 124 21913	1 F 20% 63V
2145	4822 126 13883	220pF 5% 50V
2146	4822 126 13883	220pF 5% 50V
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% 16V
2153	4822 122 33752	15pF 5% NP0 50V
2155	2020 800 00191	CTRM 3P-11P N450
2159	4822 126 11671	33pF 1% 50V
2164	3198 017 44740	470nF +80-20% 10V
2165	4822 126 14305	100nF 10% X7R 16V
2166	5322 126 11578	1nF 10% X7R 50V
2167	4822 126 11663	12pF 1% 50V

RESISTORS

3101	4822 051 30333	33K 5% 0,1W
3102	4822 117 13632	100K 1% 0,62W
3103	4822 117 12902	8K2 1% 0,1W
3104	4822 117 13577	330R 1% 0,25W
3105	4822 051 30221	220R 5% 0,1W
3132	4822 051 30479	47R 5% 0,1W
3134	4822 051 30223	22K 5% 0,1W
3141	4822 051 30563	56K 5% 0,1W
3142	4822 100 12159	100K 30% Var.
3145	4822 051 30222	2K2 5% 0,1W
3146	4822 117 12139	22R 5% 0,1W
3152	4822 051 30471	470R 5% 0,1W
3153	4822 051 30471	470R 5% 0,1W
3154	4822 051 30331	330R 5% 0,1W
3155	4822 051 30221	220R 5% 0,1W
3156	4822 117 13632	100K 1% 0,62W
3158	4822 051 30471	470R 5% 0,1W
3159	4822 051 30471	470R 5% 0,1W
3160	4822 051 30471	470R 5% 0,1W
3161	4822 051 20223	22K 5% 0,1W
3167	4822 051 20121	120R 5% 0,1W
3168	4822 051 30121	120R 5% 0,1W
3169	4822 051 30154	150K 5% 0,1W
3170	4822 117 13632	100K 1% 0,62W
3172	4822 051 30562	5K6 5% 0,1W
3181	4822 051 30102	1K 5% 0,1W
4103	4822 051 30008	0R Jumper 0603
4106	4822 051 20008	0R Jumper 0805
4107	4822 051 30008	0R Jumper 0603
4108	4822 051 30008	0R Jumper 0603

COILS AND FILTERS

5102	4822 157 71634	MW Aerial Coil
5109	4822 242 70665	FM IF SFE10,7MS3-A
5110	4822 242 70665	FM IF SFE10,7MS3-A
5111	2422 549 44023	AM IF 7PY 450KHZ
5112	4822 157 70302	AM IF F7MCS-12216N
5114	4822 157 70302	AM IF F7MCS-12216N
5119	4822 157 11443	FM Disr 2,4 H 10,7MHz
5121	4822 242 10261	Crystal 75KHz T6252F00
5123	2422 549 44108	MW Osc Coil
5130	4822 157 11843	FM RF Coil
5131	4822 157 11843	FM RF Coil

ELECTRICAL PARTSLIST - TUNER BOARD ECO6 (Non cenelec)

DIODES

6103	5322 130 34337	BAV99
6105	4822 130 83075	HN1V02H-B
6106	4822 130 83757	BAS216
6107	9340 386 90115	BZX284-C11
6130	4822 130 82833	1SV228
6131	4822 130 82833	1SV228

TRANSISTORS & IC

7101	9351 740 80557	TEA5757H/V1
7102	4822 130 42131	BF550
7111	5322 130 42755	BC847C
7112	4822 130 40959	BC547B

Note: These are NOT service parts,only for referrence.

ELECTRICAL PARTSLIST - ECO-MTF BOARD

- MISCELLANEOUS -

1707	4822 277 11504	SWITCH-PUSH
1725	4822 265 11207	CONNECTOR SOCKET 6P

- CAPACITORS -

2700	4822 124 21913	1 F 20% 63V
2701	4822 124 21913	1 F 20% 63V
2703	4822 124 81151	22 F 50V
2704	4822 124 81151	22 F 50V
2706	4822 124 40433	47 F 20% 25V
2707	4822 124 40196	220 F 20% 16V
2708	4822 124 40433	47 F 20% 25V
2709	4822 124 40433	47 F 20% 25V
2710	4822 124 41584	100 F 20% 10V
2711	4822 124 81151	22 F 50V
2712	4822 126 12878	1,5nF 10% 16V
2714	4822 126 12878	1,5nF 10% 16V
2715	4822 121 51387	10nF 20% 16V
2716	4822 126 12882	100nF +80-20% 50V
2719	4822 126 13098	5,6nF 20% 16V
2721	4822 126 12878	1,5nF 10% 16V
2722	4822 121 51387	10nF 20% 16V
2723	4822 126 12882	100nF +80-20% 50V
2726	4822 126 13098	5,6nF 20% 16V
2727	4822 126 12878	1,5nF 10% 16V
2728	4822 126 11714	4,7nF 20%
2729	4822 126 11714	4,7nF 20%
2730	2020 300 90561	1,2nF 10% 50V
2732	4822 122 10577	3,3nF 10% 16V
2733	4822 121 51387	10nF 20% 16V
2738	4822 121 51387	10nF 20% 16V
2739	4822 121 51387	10nF 20% 16V
2750	4822 126 13098	5,6nF 20% 16V
2751	4822 126 13098	5,6nF 20% 16V

- RESISTORS -

3701	4822 116 52175	100R 5% 0,5W
3703	4822 116 83868	150R 5% 0,5W
3704	4822 116 83872	220R 5% 0,5W
3706	4822 116 52272	330K 5% 0,5W
3707	4822 116 52285	470K 5% 0,5W
3710	4822 116 52264	27K 5% 0,5W
3712	4822 116 52238	12K 5% 0,5W
3713	4822 116 83868	150R 5% 0,5W
3714	4822 116 83872	220R 5% 0,5W
3716	4822 116 52272	330K 5% 0,5W

- RESISTORS -

3719	4822 116 52264	27K 5% 0,5W
3720	4822 116 52238	12K 5% 0,5W
3722	4822 116 52257	22K 5% 0,5W
3723	4822 116 52257	22K 5% 0,5W
3724	4822 050 21003	10K 1% 0,6W
3726	4822 116 52256	2,2K 5% 0,5W
3727	4822 116 52256	2,2K 5% 0,5W
3728	4822 050 21003	10K 1% 0,6W
3730	4822 116 83868	150R 5% 0,5W
3731	4822 116 52291	56K 5% 0,5W
3732	4822 116 52176	10R 5% 0,5W
3732	4822 116 52182	15R 5% 0,5W
3733	4822 111 30893	4,7M 5% 0,2W
3734	4822 050 21003	10K 1% 0,6W
3736	4822 116 52234	100K 5% 0,5W
3737	4822 050 21003	10K 1% 0,6W
3738	4822 116 52234	100K 5% 0,5W
3739	4822 050 21003	10K 1% 0,6W
3740	4822 116 52234	100K 5% 0,5W
3743	4822 116 83883	470R 5% 0,5W
3744	4822 116 83883	470R 5% 0,5W
3747	4822 116 83868	150R 5% 0,5W
3748	4822 116 83883	470R 5% 0,5W
3749	4822 116 83883	470R 5% 0,5W
3761	4822 116 52289	5,6K 5% 0,5W
3762	4822 116 52289	5,6K 5% 0,5W

- COILS & FILTERS -

5701	4822 157 10371	COIL

- DIODES -

6704	4822 130 30621	1N4148

- IC & TRANSISTORS -

7701	4822 130 40959	BC547B
7702	4822 130 40981	BC337-25
7703	4822 130 40981	BC337-25
7704	4822 130 40981	BC337-25
7705	4822 209 17498	AN7323

Note: these are NOT service parts, only for reference.

ELECTRICAL PARTSLIST - MTF BOARD (FOR / 22 ONLY)

- MISCELLANEOUS -

100	3140 114 20430	BRACKET
104	3140 111 20800	SPRING
120	4822 691 10633	TAPE DECK
1707	4822 277 11504	SWITCH-PUSH
1725	4822 265 11207	CONNECTOR SOCKET 6P

- CAPACITORS -

2700	4822 124 21913	1 F 20% 63V
2706	4822 124 40248	10 F 20% 63V
2707	4822 124 40196	220 F 20% 16V
2708	4822 124 40433	47 F 20% 25V
2709	4822 124 40433	47 F 20% 25V
2710	4822 124 41584	100 F 20% 10V
2711	4822 124 81151	22 F 50V
2712	4822 126 14247	1,5nF X7R 50V
2714	4822 126 14247	1,5nF X7R 50V
2715	5322 126 11583	10nF 10% X7R 50V
2716	2238 586 59812	100nF +80-20% Y5V 50V
2719	2238 586 15633	5,6nF 10% X7R 50V
2721	4822 126 14247	1,5nF X7R 50V
2722	5322 126 11583	10nF 10% X7R 50V
2723	2238 586 59812	100nF +80-20% Y5V 50V
2726	2238 586 15633	5,6nF 10% X7R 50V
2727	4822 126 14247	1,5nF X7R 50V
2728	4822 126 13193	4,7nF 10% X7R 63V
2729	4822 126 13193	4,7nF 10% X7R 63V
2730	2020 300 90561	1,2nF 10% 50V
2732	5322 126 11579	3,3nF10% X7R 63V
2733	5322 126 11583	10nF 10% X7R 50V
2738	5322 126 11583	10nF 10% X7R 50V
2739	5322 126 11583	10nF 10% X7R 50V
2750	2238 586 15633	5,6nF 10% X7R 50V
2751	2238 586 15633	5,6nF 10% X7R 50V
2770	4822 124 81151	22 F 50V
2771	4822 124 81151	22 F 50V
2772	4822 124 40756	1 F 20% 100V
2780	2238 586 59812	100nF +80-20% Y5V 50V

- RESISTORS -

3710	4822 051 30273	27K 5% 0,062W
3712	4822 051 30123	12K 5% 0,062W
3713	4822 051 30151	150R 5% 0,062W
3714	4822 051 30221	220R 5% 0,062W
3716	4822 051 30334	330K 5% 0,062W

- RESISTORS -

3719	4822 051 30273	27K 5% 0,062W
3720	4822 051 30123	12K 5% 0,062W
3722	4822 051 30223	22K 5% 0,062W
3723	4822 051 30223	22K 5% 0,062W
3724	4822 051 30103	10K 5% 0,062W
3726	4822 051 30222	2,2K 5% 0,062W
3727	4822 051 30222	2,2K 5% 0,062W
3729	4822 051 30103	10K 5% 0,062W
3730	4822 051 30151	150R 5% 0,062W
3731	4822 051 30563	56K 5% 0,062W
3732	4822 117 12971	15R 5% 0,62W
3733	4822 051 30475	4,7M 5% 0,062W
3734	4822 051 30103	10K 5% 0,062W
3736	4822 117 13632	100K 1% 0,62W
3737	4822 051 30103	10K 5% 0,062W
3738	4822 117 13632	100K 1% 0,62W
3739	4822 051 30103	10K 5% 0,062W
3740	4822 117 13632	100K 1% 0,62W
3743	4822 051 30471	470R 5% 0,062W
3744	4822 051 30471	470R 5% 0,062W
3747	4822 051 30151	150R 5% 0,062W
3748	4822 051 30471	470R 5% 0,062W
3749	4822 051 30471	470R 5% 0,062W
3761	4822 051 30562	5,6K 5% 0,063W
3762	4822 051 30562	5,6K 5% 0,063W
3770	4822 051 30151	150R 5% 0,062W
3771	4822 051 30334	330K 5% 0,062W
3772	4822 051 30221	220R 5% 0,062W
3773	4822 051 30474	470K 5% 0,062W
3774	4822 051 30101	100R 5% 0,062W
3775	4822 051 30471	470R 5% 0,062W
3776	4822 051 30471	470R 5% 0,062W
4701	4822 051 30008	0R JUMPER
4703	4822 051 30008	0R JUMPER
4705	4822 051 30008	0R JUMPER
4706	4822 051 30008	0R JUMPER
4708	4822 051 30008	0R JUMPER
4713	4822 051 20008	0R JUMPER(0805)
4714	4822 051 30008	0R JUMPER
5708	4822 051 30008	0R JUMPER
5709	4822 051 30008	0R JUMPER

- COILS & FILTERS -

5701	4822 157 10371	COIL
5702	2422 549 44608	IND FXD 100MHZ 1K
5703	2422 549 44608	IND FXD 100MHZ 1K
5704	2422 549 44608	IND FXD 100MHZ 1K
5705	2422 549 44608	IND FXD 100MHZ 1K

ELECTRICAL PARTSLIST - MTF BOARD (FOR / 22 ONLY)

- COILS & FILTERS -

5706	2422 549 44608	IND FXD 100MHZ 1K
5707	2422 549 44608	IND FXD 100MHZ 1K
5710	2422 549 44608	IND FXD 100MHZ 1K

- DIODES -

6704	4822 130 30621	1N4148

- IC & TRANSISTORS -

7701	5322 130 60159	BC846B
7702	4822 130 40981	BC337-25
7703	4822 130 42804	BC817-25
7704	4822 130 42804	BC817-25
7705	4822 209 17498	AN7323

Note: these are NOT service parts, only for reference.

ELECTRICAL PARTSLIST - CD99/ DA11 BOARD

MISCELLANEOUS

1800	4822 265 10925	FFC Socket 15P
1823	4822 265 11207	FFC Socket 6P
1824	4822 265 11207	FFC Socket 6P

CAPACITORS

2801	4822 124 41751	47 F 20% 50V
2802	4822 124 41751	47 F 20% 50V
2803	4822 126 14226	82pF 5% NP0 50V
2804	4822 126 14226	82pF 5% NP0 50V
2805	4822 126 14226	82pF 5% NP0 50V
2806	4822 126 13695	82pF 1% NP0 63V
2807	4822 126 11669	27pF 5% 50V
2808	5322 122 33538	150pF 2% NP0 63V
2809	4822 126 11669	27pF 5% 50V
2810	4822 126 13692	47pF 1% NP0 63V
2811	4822 126 11671	33pF 5% 50V
2812	4822 122 33741	10pF 10% NP0 50V
2813	4822 126 14238	2,2nF X7R 50V
2814	3198 024 44730	47nF Y5V 50V
2815	4822 122 33777	47pF 5% NP0 63V
2816	5322 122 32654	22nF 10% 63V
2817	4822 124 40769	4,7 F 20% 100V
2818	3198 024 44730	47nF Y5V 50V
2821	4822 126 14305	100nF 10% X7R 16V
2822	4822 126 13344	1,5nF 5% 63V
2823	4822 124 42383	220 F 20% 4V
2824	4822 126 13751	47nF 10% X7R 63V
2825	4822 126 13344	1,5nF 5% 63V
2826	3198 024 44730	47nF Y5V 50V
2827	5322 126 11578	1nF 10% X7R 50V
2828	4822 122 33777	47pF 5% NP0 63V
2829	3198 024 44730	47nF Y5V 50V
2830	3198 017 41050	1 F Y5V 10V
2831	4822 126 14043	1 F +80-20% 16V
2832	4822 122 33753	150pF 5% NP0 50V
2833	4822 126 13881	470pF 5% 50V
2834	4822 126 14506	270pF 5% 50V
2835	4822 126 13881	470pF 5% 50V
2836	4822 124 41751	47 F 20% 50V
2837	3198 024 44730	47nF Y5V 50V
2838	3198 017 42230	22nF Y5V 50V
2839	4822 126 14305	100nF 10% X7R 16V
2840	4822 124 41751	47 F 20% 50V
2841	4822 126 13751	47nF 10% X7R 63V
2842	4822 124 21913	1 F 20% 63V
2843	4822 122 31765	100pF 2% NP0 63V
2844	4822 126 13883	220pF 5% 50V
2845	4822 126 13883	220pF 5% 50V
2846	4822 124 40248	10 F 20% 63V
2848	4822 122 31765	100pF 2% NP0 63V

CAPACITORS

2849	4822 126 13883	220pF 5% 50V
2850	4822 126 13883	220pF 5% 50V
2851	4822 124 40248	10 F 20% 63V
2853	5322 126 11583	10nF 10% X7R 50V
2854	4822 124 11912	220 F 20% 6,3V
2855	4822 124 11912	220 F 20% 6,3V
2857	4822 124 12362	47 F 20% 4V
2860	5322 116 80853	560pF 5% 63V
2861	4822 126 13344	1,5nF 5% 63V
2862	4822 126 14508	180pF 5% 50V
2863	4822 126 14508	180pF 5% 50V
2864	4822 126 14508	180pF 5% 50V
2865	4822 126 14508	180pF 5% 50V
2869	3198 024 44730	47nF Y5V 50V
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

RESISTORS

3728	4822 051 20479	47R 5% 0,1W
3745	4822 051 30338	3R3 5% 0,1W
3757	4822 051 20223	22K 5% 0,1W
3788	4822 051 20472	4K7 5% 0,1W
3800	4822 117 13608	4R7 5% 0,1W
3801	4822 051 30154	150K 5% 0,1W
3802	4822 051 30102	1K 5% 0,1W
3803	4822 051 30273	27K 5% 0,1W
3804	4822 051 30472	4K7 5% 0,1W
3805	4822 051 30273	27K 5% 0,1W
3806	4822 117 10361	680R 1% 0,1W
3807	4822 051 30152	1K5 5% 0,1W
3808	4822 051 30339	33R 5% 0,1W
3809	4822 051 30339	33R 5% 0,1W
3810	4822 052 10478	4R7 5% 0,33W
3811	4822 051 30102	1K 5% 0,1W
3812	4822 051 30474	470K 5% 0,1W
3813	4822 051 30683	68K 5% 0,1W
3814	4822 051 30332	3K3 5% 0,1W
3815	4822 051 30472	4K7 5% 0,1W
3816	4822 051 30153	15K 5% 0,1W
3817	4822 117 10834	47K 1% 0,1W
3818	4822 051 20562	5K6 5% 0,1W
3819	4822 051 30153	15K 5% 0,1W
3820	4822 051 30183	18K 5% 0,1W

ELECTRICAL PARTSLIST - CD99/ DA11 BOARD

RESISTORS

3821	4822 051 20332	3K3 5% 0,1W
3822	4822 051 30332	3K3 5% 0,1W
3823	4822 051 20332	3K3 5% 0,1W
3824	4822 051 30102	1K 5% 0,1W
3825	4822 051 30223	22K 5% 0,1W
3826	4822 051 30273	27K 5% 0,1W
3827	4822 051 20339	33R 5% 0,1W
3828	4822 051 20479	47R 5% 0,1W
3829	4822 051 30101	100R 5% 0,1W
3830	4822 051 30472	4K7 5% 0,1W
3835	4822 051 30223	22K 5% 0,1W
3836	4822 117 10833	10K 1% 0,1W
3837	4822 051 20471	470R 5% 0,1W
3838	4822 051 20471	470R 5% 0,1W
3839	4822 051 30471	470R 5% 0,1W
3840	4822 051 30471	470R 5% 0,1W
3841	4822 051 30472	4K7 5% 0,1W
3842	4822 051 10102	1K 2% 0,25W
3843	4822 051 30102	1K 5% 0,1W
3844	4822 051 30101	100R 5% 0,1W
3845	2120 108 92668	3R3 5% 0,1W
3846	4822 051 20223	22K 5% 0,1W
3847	4822 117 12864	82K 5% 0,6W
3848	4822 117 10834	47K 1% 0,1W
3849	4822 051 30563	56K 5% 0,1W
3850	4822 117 12902	8K2 1% 0,1W
3851	4822 051 30563	56K 5% 0,1W
3852	4822 117 10834	47K 1% 0,1W
3853	4822 051 30153	15K 5% 0,1W
3854	4822 117 12902	8K2 1% 0,1W
3855	4822 116 40227	4R6 25% 12V
3856	4822 051 20683	68K 5% 0,1W
3857	4822 051 20154	150K 5% 0,1W
3858	4822 051 30392	3K9 5% 0,1W
3859	4822 117 10834	47K 1% 0,1W
3860	4822 051 30102	1K 5% 0,1W
3861	4822 117 10834	47K 1% 0,1W
3862	4822 051 10102	1K 2% 0,25W
3863	4822 052 10338	3R3 5% 0,33W
3864	4822 117 10833	10K 1% 0,1W
3865	4822 051 30102	1K 5% 0,1W
3867	4822 051 20223	22K 5% 0,1W
3868	4822 051 30103	10K 5% 0,1W
3869	4822 051 30103	10K 5% 0,1W
3871	4822 051 30471	470R 5% 0,1W
3872	4822 117 12925	47K 1% 0,1W
3873	4822 051 30223	22K 5% 0,1W
3874	4822 051 30223	22K 5% 0,1W
3875	4822 051 30103	10K 5% 0,1W
3876	4822 051 30103	10K 5% 0,1W

RESISTORS

3878	4822 051 30471	470R 5% 0,1W
3879	4822 117 12925	47K 1% 0,1W
3880	4822 051 20339	33R 5% 0,1W
3881	4822 051 30151	150R 5% 0,1W
3882	4822 117 11373	100R 1% 0.1W
3883	4822 051 30102	1K 5% 0,1W
3884	4822 051 30102	1K 5% 0,1W
3886	4822 117 10833	10K 1% 0,1W
3887	4822 117 10833	10K 1% 0,1W
3888	4822 051 20472	4K7 5% 0,1W
3889	4822 051 30102	1K 5% 0,1W
3890	4822 117 10837	100K 1% 0,1W
3891	4822 117 10837	100K 1% 0,1W
3892	4822 117 13632	100K 1% 0,62W
3893	4822 117 13632	100K 1% 0,62W
3894	4822 117 10833	10K 1% 0,1W
3895	4822 117 10833	10K 1% 0,1W
3896	4822 117 10833	10K 1% 0,1W
3897	4822 117 10833	10K 1% 0,1W
3898	4822 117 10833	10K 1% 0,1W
3899	4822 117 10833	10K 1% 0,1W
3900	4822 051 30223	22K 5% 0,1W
4801	4822 051 30008	0R Jumper 0603
4802	4822 051 20008	0R Jumper 0805
4807	4822 051 20008	0R Jumper 0805
4808	4822 051 30008	0R Jumper 0603
4809	4822 051 20008	0R Jumper 0805
4810	4822 051 20008	0R Jumper 0805
4812	4822 051 20008	0R Jumper 0805
4813	4822 051 20008	0R Jumper 0805
4814	4822 051 20008	0R Jumper 0805
4815	4822 051 20008	0R Jumper 0805
4823	4822 051 20008	0R Jumper 0805
4824	4822 051 20008	0R Jumper 0805
4828	4822 051 20008	0R Jumper 0805
4831	4822 051 20008	0R Jumper 0805
4832	4822 051 20008	0R Jumper 0805
4838	4822 051 20008	0R Jumper 0805
4845	4822 051 20008	0R Jumper 0805
4847	4822 051 20008	0R Jumper 0805
4848	4822 051 20008	0R Jumper 0805
4850	4822 051 20008	0R Jumper 0805
4853	4822 051 20008	0R Jumper 0805
4856	4822 051 30008	0R Jumper 0603
4857	4822 051 20008	0R Jumper 0805
4859	4822 051 20008	0R Jumper 0805
4863	4822 051 20008	0R Jumper 0805
4865	4822 051 20008	0R Jumper 0805
4866	4822 051 20008	0R Jumper 0805
4872	4822 051 20008	0R Jumper 0805

ELECTRICAL PARTSLIST - CD99/DA11 BOARD

RESISTORS

4877	4822 051 30008	0R Jumper 0603
4881	4822 051 20008	0R Jumper 0805
4884	4822 051 20008	0R Jumper 0805
4885	4822 051 30008	0R Jumper 0603
4886	4822 051 20008	0R Jumper 0805
4888	4822 051 20008	0R Jumper 0805
4889	4822 051 20008	0R Jumper 0805

COILS AND FILTERS

1810	4822 242 73557	CST8,46MTW-TF01
5803	4822 157 11231	1μH 5%

DIODES

6877	9322 129 34685	BZM55-C3V9

TRANSISTORS & IC

7800	9352 690 17557	SAA7325H/T/M2B/WD
7802	5322 209 11517	PC74HCU04T
7803	5322 130 60123	BC807-40
7804	5322 209 82941	LM358D
7807	5322 130 42755	BC847C
7808	4822 209 32852	TDA7073A/N2
7809	4822 209 32852	TDA7073A/N2
7810	4822 209 33165	TDA1308T/N1
7875	4822 130 60511	BC847B

Note: These are NOT service parts,only for referrence.