

CD Stereo Radio Recorder

Service
Service
Service

AZ2030

AZ2035

all versions



Service Manual

COMPACT
disc
DIGITAL AUDIO

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

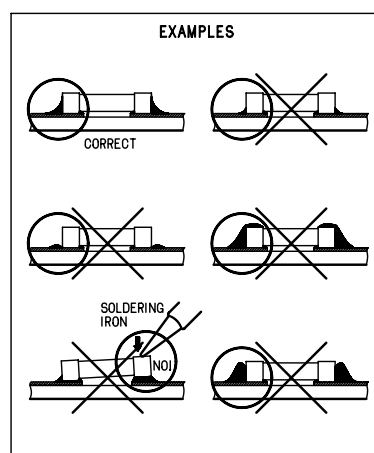
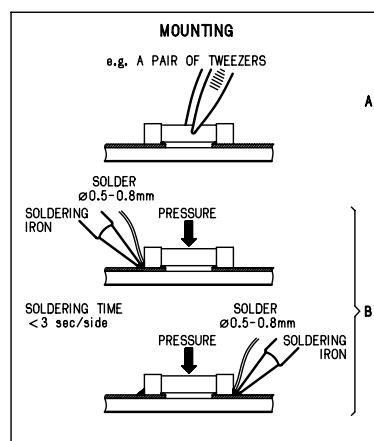
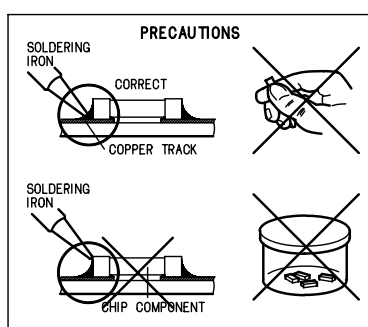
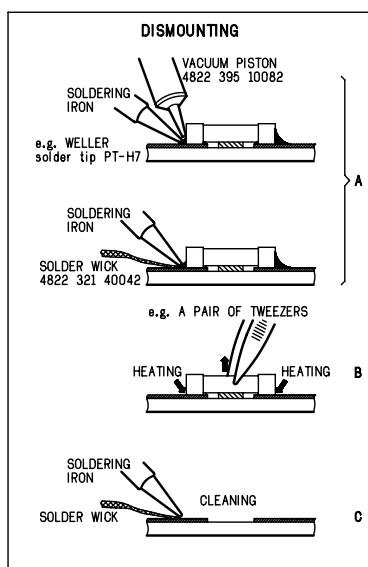
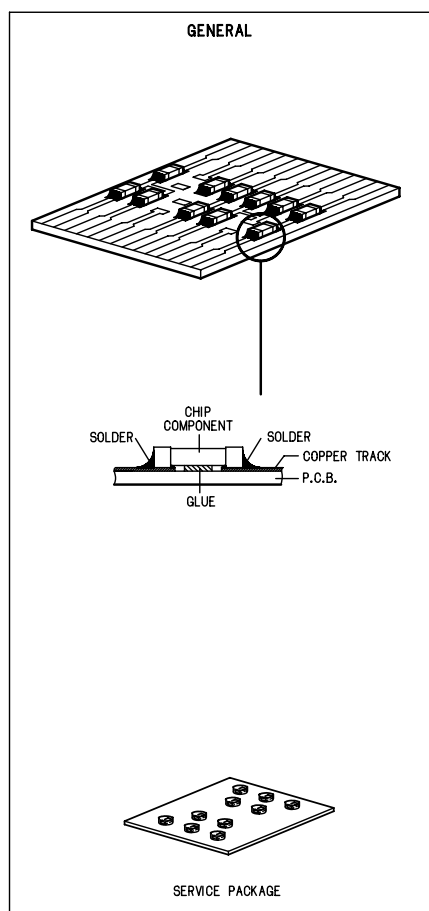
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**CLASS 1
LASER PRODUCT**



PHILIPS

HANDLING CHIP COMPONENTS

© **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

ñ **WAARSCHUWING**

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

f **ATTENTION**

Tous les IC et beaucoup d'autres semi-conducteurs sont sensibles aux décharges statiques (ESD). Leur longévité pourrait être considérablement écourtée par le fait qu'aucune précaution n'est prise à leur manipulation. Lors de réparations, s'assurer de bien être relié au même potentiel que la masse de l'appareil et enfilez le bracelet serti d'une résistance de sécurité. Veiller à ce que les composants ainsi que les outils que l'on utilise soient également à ce potentiel.

d **WARNUNG**

Alle ICs und viele andere Halbleiter sind empfindlich gegenüber elektrostatischen Entladungen (ESD). Unsorgfältige Behandlung im Reparaturfall kann die Lebensdauer drastisch reduzieren. Sorgen Sie dafür, daß Sie im Reparaturfall über ein Puls-armband mit Widerstand mit dem Massepotential des Gerätes verbunden sind. Halten Sie Bauteile und Hilfsmittel ebenfalls auf diesem Potential.

i **AVVERTIMENTO**

Tutti IC e parecchi semi-conduttori sono sensibili alle scariche statiche (ESD). La loro longevità potrebbe essere fortemente ridotta in caso di non osservazione della più grande cauzione alla loro manipolazione. Durante le riparazioni occorre quindi essere collegato allo stesso potenziale che quello della massa dell'apparecchio tramite un bracciale a resistenza. Assicurarsi che i componenti e anche gli utensili con quali si lavora siano anche a questo potenziale.

©

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

f

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

SAFETY



d

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

ñ

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

i

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

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

s **Varning !**

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

ð **Advarsel !**

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

ß **Varoitus !**

Avattussa laitteessa ja suojalukituksen ohitettaessa olet alttiina näkymättömälle laserisäteilylle. Älä katso säteeseen !

©

After servicing and before returning the set to customer perform a leakage current measurement test from all exposed metal parts to earth ground, to assure no shock hazard exists. The leakage current must not exceed 0.5mA.

f

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

TECHNICAL SPECIFICATIONS

GENERAL

Mains voltage	-/00/14 : 230 V
	-/01/11/16 : 120/230 V
	-/05/10 : 240 V
	-/17 : 120 V
Mains frequency	-/00/05/10/14 : 50 Hz
	-/01/11/16 : 50 / 60 Hz
	-/17 : 60 Hz
Battery	mains : 12 V (R20 x 8)
	remote : 3 V (R03 x 2)
Power consumption	max : < 35 W
	standby : 2.3 W
Dimension (W x H x D)	: 540 x 177 x 276 mm
Weight	: 5.5 kg

TUNER - AM SECTION

Tuning range	MW : 531 - 1602 kHz
	-/17 : 530 - 1700 kHz
	LW : 153 - 279 kHz
IF frequency	: 468 kHz $\pm$ 3 kHz
Sensitivity	MW : 1500 μ V/m at 26dB S/N
	LW : 5500 μ V/m at 26dB S/N
Selectivity	MW : 20 dB
	LW : 29 dB
IF rejection ratio	MW : 60 dB
	LW : 60 dB
Image rejection ratio	MW : 32 dB
	LW : 38 dB

AMPLIFIER

Output power	mains : 2 x 6 W
	battery : 2 x 6 W
Speaker impedance	: 2 x 8 Ohm
	: 2 x 6 Ohm
Frequency response	: 70 Hz - 10 kHz (-3dB)

AUDIO CASSETTE RECORDER

Number of tracks	: 1 stereo
Tape speed	: 4.76 cm/sec $\pm$ 3%
Wow & flutter	: < 0.48 % JIS UWTD
Fast wind/rewind C60	: < 110 sec.
Frequency response	P/B : 125 - 8000 Hz
S/N ratio	: > 38 dB

TUNER - FM SECTION

Tuning range	: 87.5 - 108 MHz
	-/14 : 65.81 - 74 MHz
IF frequency	: 10.7 MHz $\pm$ 0.2 MHz
Sensitivity	: 14 dB at 26dB S/N
Selectivity	: 55 dB at $\pm$ 300kHz
IF rejection	: 65 dB
Image rejection	: 26 dB

COMPACT DISC

Frequency response	: 100 Hz - 10 kHz
S/N ratio	: 60 dB
Channel difference	1 kHz : 2 dB
Channel crosstalk	1 kHz : 40 dB
Laser wavelength	: 780 $\pm$ 20nm
Laser light power	: < 0.3 mW

SERVICE TOOLS

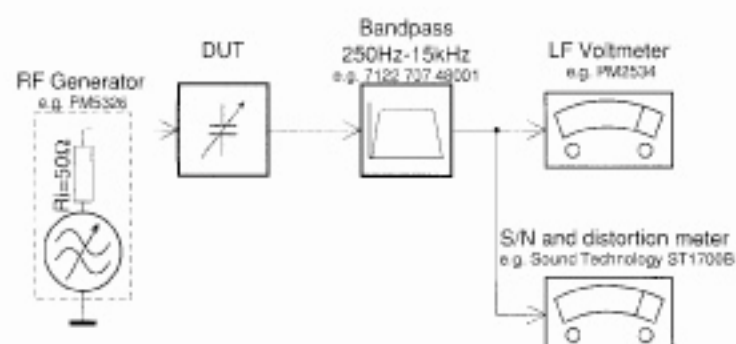
Audio signal disc SBC 429.....	4822 397 30184
Playability test disc SBC 444.....	4822 397 30245
Test disc 5 (disc without errors) +	
Test disc 5A (disc with dropout errors, black spots and fingerprints)	
SBC 426/426A.....	4822 397 30096
Burn in test disc (65 min. 1kHz signal at -30 dB level without "pause").....	4822 397 30155
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, 1M Ω)		4822 320 11307
extendible cable (2m, 2M Ω , to connect wristband to connection box)		4822 320 11305
connecting cable (3m, 2M Ω , to connect table mat to connection box)		4822 320 11306
earth cable (1M Ω , to connect any product to mat or to connection box)		4822 320 11308
KIT ESD3 (combining all 6 prior products - small table mat)		4822 310 10671
wristband tester		4822 344 13999

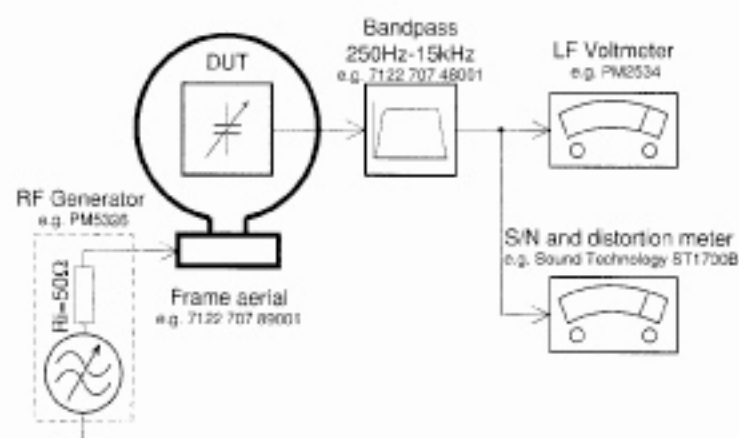
SERVICE MEASUREMENTS

Tuner FM



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

Tuner AM (MW, LW)



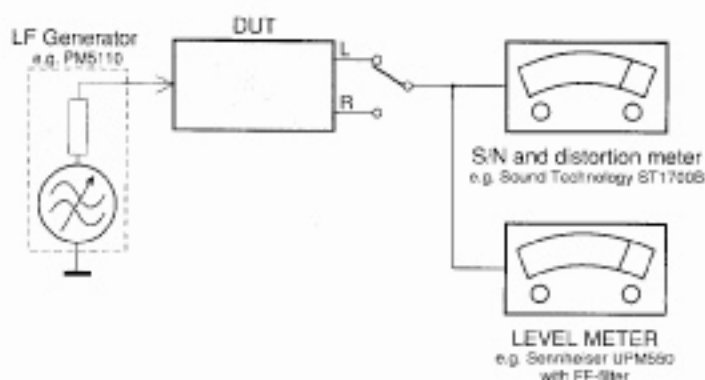
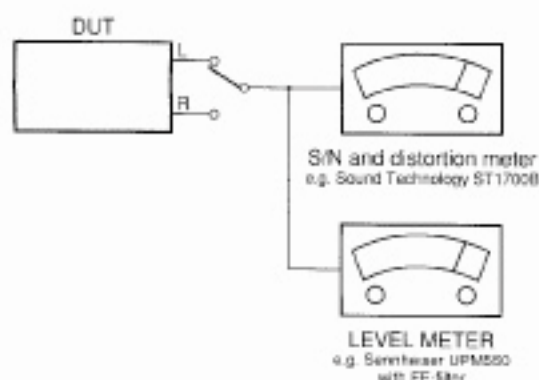
To avoid atmospheric interference all AM-measurements have to be carried out in a Faraday's cage.
Use a bandpass filter (or at least a high pass filter with 250Hz) to eliminate hum (50Hz, 100Hz).

CD

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

RECORDER

Use Universal Test Cassette Fe SBC420 4822 397 30071



CONNECTIONS AND CONTROLS

TOP AND FRONT PANELS

- ① ④ - 3.5 mm stereo headphone socket

Note: Connecting headphones will switch off the loudspeakers.

- ② **ULTRABASS** -

selects a more vivid bass response

- ③ **ULTRA HIGH CLARITY** -

adjusts the treble tones

- ④ **INCREDIBLE SURROUND** -

creates a super-enhanced stereo effect

- ⑤ **VOLUME** - to adjust volume level

- ⑥ **POWER slider** - selects the sound source for CD/ TUNER / TAPE and also the POWER OFF switch

- ⑦ **OPEN•CLOSE** - opens/ closes the CD door

- ⑧ **CASSETTE RECORDER keys**

RECORD ● - starts recording

PLAY ◀ - starts playback

SEARCH ◀◀ ▶▶ - fast winds/rewinds the tape

- STOP•OPEN** ■▲ - stops the tape;

- opens the cassette door

- PAUSE II** - pauses recording or playback

- ⑨ **BATT LOW** - indicates when battery power is running low

- ⑩ **PLAY** ▶▶ - starts or pauses

CD playback

- ⑪ **STOP** ■ - stops CD playback;

erases a CD programme

- ⑫ **CD MODE** - selects different play modes:

REPEAT or SHUFFLE (random) order

- ⑬ **SEARCH** ◀◀ ▶▶

Tuner: - (down, up) tunes to radio stations;

CD: - searches back and forward within a track;

- skips to the beginning of a current

track/ previous/ later track

- ⑭ **PROG** -

CD: programmes tracks and reviews the programme;

Tuner: programmes preset radio stations

- ⑮ **BAND** - selects waveband

- ⑯ **PRESET** ▼, ▲ - selects a preset tuner station (down, up)

- ⑰ **REMOTE SENSOR** - for AZ2035 model only: infrared sensor for remote control

BACK PANEL

- ⑱ **Telescopic aerial** - improves

FM reception

- ⑲ **AC MAINS** - inlet for mains lead

- ⑳ **Voltage selector** - (on the back of the set, some versions only) before plugging in the set, adjust selector to match the local voltage

- ㉑ **Battery compartment** - for eight batteries, type R-20, UM-1 or D-cells

REMOTE CONTROL (for AZ2035 only)

- ① **VOLUME** +, - - adjusts volume level

- ② **PRESET** ▲, ▼ (up, down) - selects a preset radio station

- ③ **TUNING** ◀◀ ▶▶ (down, up) - tunes to radio stations

- ④ **SHUFFLE** - to play CD tracks in random order

- ⑤ **REPEAT** - repeats a track/ CD programme/ entire CD

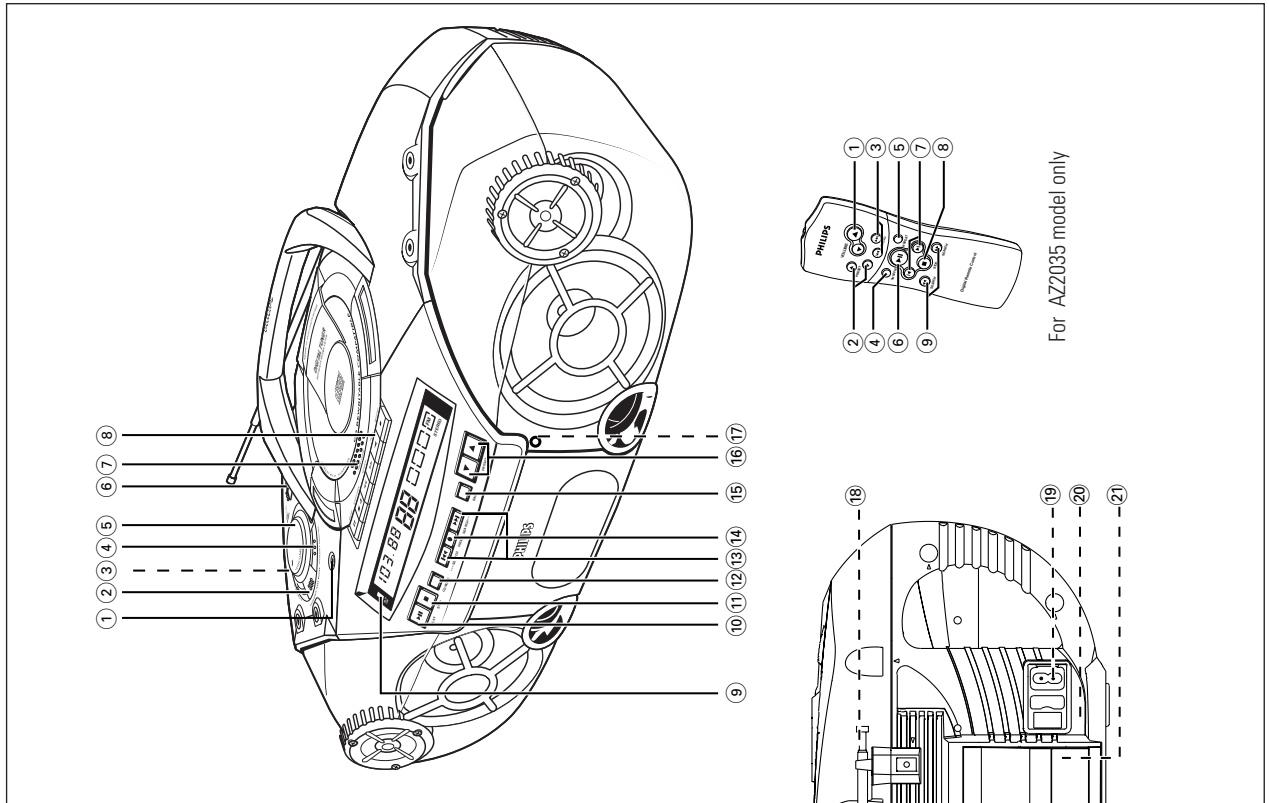
- ⑥ **▶II** - starts and pauses CD playback/

interrupts CD playback

- ⑦ **◀▶** - skips to the beginning of a current track/ previous/ later track

- ⑧ **STOP** ■ - stops CD playback or erases a CD programme

- ⑨ **SEARCH** ◀◀ ▶▶ - searches backwards or forwards within a track/CD



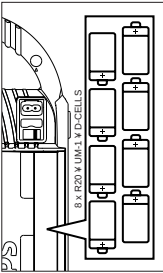
CAUTION

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

INSTRUCTION FOR USE

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

BATTERIES (not included)



1. Open the battery compartment and insert 8 batteries, type **R-20, UM-1** or **D-cells**, (preferably alkaline) with the correct polarity as indicated by the "+" and "-" symbols inside the holder.

Remote control (for AZ2035 model only)

Open the battery compartment and insert two batteries, type **AAA, R03** or **UM4** (preferably alkaline).



2. Replace the compartment door, making sure the batteries are firmly and correctly in place. The set is now ready to operate.

- If **BATT LOW** lights up, battery power is running low.
- The **BATT LOW** indicator eventually goes out if the batteries are too weak.

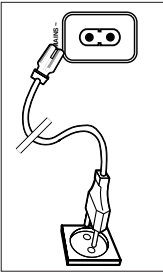
Incorrect use of batteries can cause electrolyte leakage and will corrode the compartment or cause the batteries to burst.

Therefore:

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

Using AC POWER

1. Check if the mains supply, as shown on the type plate located on the bottom of the set, corresponds to your local mains supply. If it does not, consult your dealer or service centre.
2. If your set is equipped with a voltage selector, adjust the selector so that it matches with the local mains supply.
3. Connect the mains lead to the wall socket and the set is now ready for use.
4. To disconnect the set from the mains supply completely, remove the mains plug from the wall socket.



Switching on and off

- Adjust the **POWER** slider to the desired sound source: **CD, TUNER** or **TAPE**.
- During playback, the **PLAY ►II, STOP ■** and **PRESET ▼, ▲** keys on the set light up
- The set is switched off when the **POWER** slider is in the **TAPE/OFF** position and the keys on the tape deck are released.
- The volume, tone, sound settings and tuner presets will be retained in the set's memory.

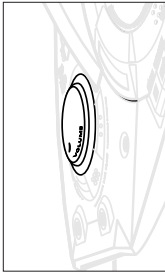
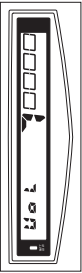
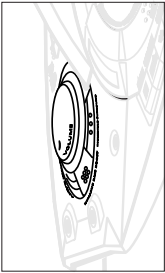
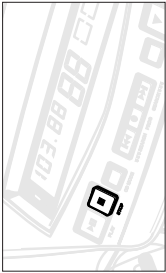
PHILIPS demo mode

1. On the set, press the **CD STOP ■** key for 5 seconds.
- **PH..IL..IPS** scrolls across the display continuously in the demo mode.
2. To return to the current display you can either:
 - press any function key on the front panel. This interrupts the demo mode for 30 seconds;
 - press the **CD STOP ■** key for 5 seconds. **PH..IL..IPS** scrolls across the display once before the demo mode is cancelled.

Adjusting volume and sound

1. Turn the **VOLUME** control clockwise to increase or anti-clockwise to decrease volume on the set (for AZ2035 model only; or press **VOLUME +** or **-** on the remote control).
- Display shows the volume level **VOL** and a number from 0-32.
2. Press **ULTRABASS** once or more to switch on or off.
- If on, indicator **1** lights up. Press again if you want extra bass and indicator **2** lights up.
3. To adjust the treble tone level, press **ULTRA HIGH CLARITY** once or more to switch on or off.
- If on, the indicator lights up.
4. Press **INCREDIBLE SURROUND** once or more to switch the surround sound effect on or off.
- If on, the indicator lights up.

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

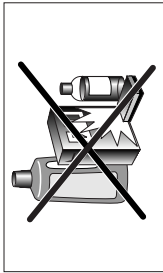


INSTRUCTION FOR USE

GENERAL INFORMATION

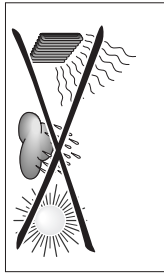
General maintenance

- Do not expose the set, batteries, CDs or cassettes to humidity, rain, sand or excessive heat caused by heating equipment or direct sunlight.
- To clean the set, use a soft, slightly dampened chamois leather. Do not use any cleaning agents containing alcohol, ammonia, benzene or abrasives as these may harm the housing.



Safety information

- Place the set on a hard and flat surface so that the system does not tilt. Make sure there is adequate ventilation to prevent the system from overheating.
- The mechanical parts of the set contain self-lubricating bearings and must not be oiled or lubricated.



TUNING

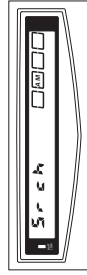
Changing tuning grid (some versions only)

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

- Check that the set is in the **TAPE/OFF** position and switched off.
 - To select **9KHz** press simultaneously, **PROG** and **SEARCH** . Release the controls only when you switch on the set.
 - To select **10KHz** press simultaneously, **PROG** and **BAND**. Release the controls only when you switch on the set.
- When tuning to radio stations, the display shows tuning in either steps of **9** or **10**.
- All preset stations will be affected and you may need to reprogramme your presets.

TUNING TO RADIO STATIONS

- Select **TUNER** source.
→ is displayed briefly and then the radio station frequency, waveband and, if programmed, a preset number is shown.
- Press **BAND** once or more to select your waveband.
- Press **SEARCH** or (for AZ2035 model only: or on the remote control **TUNING** or) and release when the frequency in the display starts running.
→ The tuner automatically tunes to a station of sufficient reception. Display shows during automatic tuning.
→ If an FM station is received in stereo, **STEREO** is shown.
- Repeat **step 3** if necessary until you find the desired station.
- To tune to a weak station, press **SEARCH** or briefly and repeatedly until you have found optimal reception.



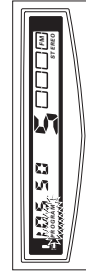
To improve radio reception

- For **FM**, pull out the telescopic aerial. Incline and turn the aerial. Reduce its length if the signal is too strong (very close to a transmitter).
- For **MW (AM)**, the set is provided with a built-in aerial so the telescopic aerial is not needed. Direct the aerial by turning the whole set.

Programming radio stations

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

- Tune to your desired station (see **Tuning to radio stations**).
- Press **PROG** to activate programming.
→ Display: **PROGRAM** flashes.
- Press **PRESET** or once or more to allocate a number from 1 to 30 to this station.
- Press **PROG** again to confirm the setting.
→ Display: **PROGRAM** disappears, the preset number and the frequency of the preset station are shown.
- Repeat the above four steps to store other stations.
- You can overwrite a preset station by storing another frequency in its place.

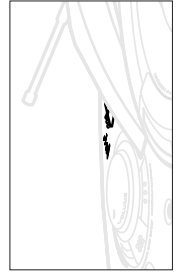


Tuning to preset stations

Press **PRESET** or until the desired preset station is displayed.

PLAYING A CD

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



- Select **CD** source.
→ and are displayed briefly, if



2. Press **OPEN•CLOSE** to open the CD compartment.

→ Display: **OPEN•CLOSE** when you open the CD compartment.

3. Insert a CD with the printed side facing up and press **OPEN•CLOSE** to close the CD compartment.

→ Display: the CD player scans the contents of a CD, and then the total number of tracks and playing time are shown.

Display: **3 5 9** is shown if you have inserted a non-finalized CD-R(W).

4. Press **PLAY ▶▶** (for AZ2035 model only: or on the remote control **▶▶**) to start playback.

→ Display: Current track number and elapsed playing time of the track during CD playback.

5. To pause playback press **PLAY ▶▶**. Press **PLAY ▶▶** again to resume play.

→ Display: the elapsed playing time flashes when playback is on pause.

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

Note: CD play will also stop when:
 - the CD door is opened;
 - the CD has reached the end
 - you select another source: **TAPE** or **TUNER**.

Selecting a different track

- Press **SEARCH ◀◀** or **▶▶** on the set, (for AZ2035 model only: or 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 CD or in the PAUSE position, you will need to press **PLAY ▶▶** (for AZ2035 model only: or on the remote control **▶▶**) to start playback.

Finding a passage within a track

1. Press and hold down **SEARCH ◀◀** or **▶▶** (for AZ2035 model only: or on the remote control **◀◀** or **▶▶**).
→ The CD is played at high speed and low volume.
2. When you recognize the passage you want, release **SEARCH ◀◀** or **▶▶**.
– Normal playback continues.

Note: During a CD programme or if SHUFFLE/ REPEAT is active, searching is only possible within a track.

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 **PROG.** **SHUFFLE** - tracks of the entire CD/ programme are played in random order

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

REPEAT ALL - to repeat the entire CD/ programme
REPEAT - to play the current track continuously

1. To select your play mode, press **CD MODE** (for AZ2035 model only: or on the remote control **SHUFFLE** or **REPEAT**) before or during playback until the display shows the desired function.
2. Press **PLAY ▶▶** to start playback if in the STOP position.
3. To return to normal playback, press **CD MODE** (for AZ2035 model only: or on the remote control the respective **SHUFFLE** or **REPEAT** key) until the various SHUFFLE/ REPEAT modes are no longer displayed.
 - You can also press **STOP ■** to cancel your play mode.

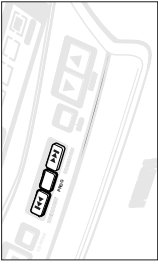
Note: In SHUFFLE mode, the display shows rapid patterns e.g. **◀◀**, **▶▶**, when the CD player selects a random track number.

Programming track numbers

In the STOP position, select and store your CD tracks in the desired sequence. If you like, store any track more than once.

Up to 20 tracks can be stored in the memory.

1. Use the **SEARCH ◀◀** or **▶▶** on the set, (for AZ2035 model only: or on the remote control **◀◀** or **▶▶**) to select your desired track number.
2. Press **PROG.**
→ Display: **PROGRAM** and the selected track number.
PROGRAM appears briefly.
- If you attempt to programme without first selecting a track number, **no sel** or **no prog** scrolls across the display.
3. Repeat steps 1-2 to select and store all desired tracks.
→ **FULL** is displayed if you attempt to programme more than 20 tracks.
4. To start playback of your CD program, press **PLAY ▶▶** (for AZ2035 model only: or on the remote control **▶▶**).



Reviewing the programme

In the STOP position or during playback, press and hold down **PROG** for a while until the display shows all your stored track numbers in sequence.

Erasing a programme

You can erase the programme by:

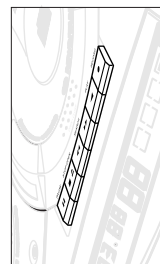
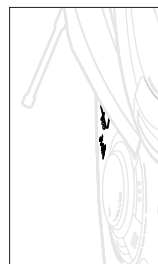
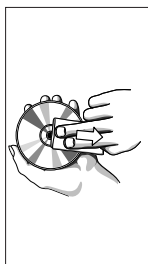
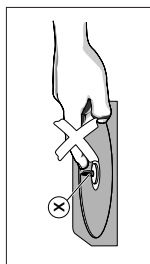
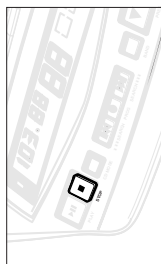
- pressing **STOP** ■ twice in the STOP position or during playback.
- **no prog** scrolls across the display briefly and **PROGRAM** disappears.
- selecting another source: **TAPE** or **TUNER**.

CD player and CD handling

- If the CD player cannot read CDs correctly, use a commonly available cleaning CD to clean the lens before taking the set to repair. Other cleaning methods may destroy the lens.
- The lens of the CD player should never be touched!
- Sudden changes in the surrounding temperature can cause condensation to cloud over on the lens of your CD player. Playing a CD is then not possible. Do not attempt to clean the lens but leave the set in a warm environment until the moisture evaporates.
- Always keep the CD compartment closed to avoid dust on the lens.
- To take a CD out of its box, press the centre spindle while lifting the CD. Always pick up the CD by the edge and return the CD to its box after use to avoid scratching and dust.
- To clean the CD, wipe in a straight line from the centre towards the edge using a soft, lint-free cloth. Do not use cleaning agents as they may damage the disc.
- Never write on a CD or attach any stickers to it.

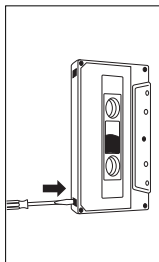
CASSETTE PLAYBACK

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



GENERAL INFORMATION ON RECORDING

- Recording is permissible insofar as copyright or other rights of third parties are not infringed.
- This deck is not suitable for recording on CHROME (IEC II) or METAL (IEC IV) type cassettes. For recording, use NORMAL type cassettes (IEC I) on which the tabs have not yet been broken.
- *The best recording level is set automatically.* Altering the **VOLUME**, **INCREDIBLE SURROUND**, **ULTRABASS** or **ULTRA HIGH CLARITY** controls will not affect the recording in progress.
- 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.

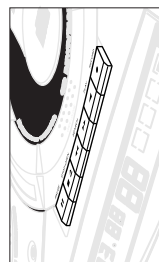


SYNCHRO START CD RECORDING

1. Select **CD** source.
2. Insert a CD and if desired, programme track numbers.
3. Press **STOP•OPEN** ■▲ to open the cassette door.
4. Insert a suitable cassette into the cassette deck and close the cassette door.
5. Press **RECORD** ● to start recording.
– Playing of the CD programme starts automatically from the beginning of the programme. *It is not necessary to start the CD player separately.*

To select and record a particular passage within a track

- Press and hold down **SEARCH** ◀◀ or ▶▶ (for AZZ035 model only; or on the remote control ◀◀ or ▶▶).
- When you recognize the passage you want, release **SEARCH** ◀◀ or ▶▶.
- To pause CD playback press **PLAY** ▶ (for AZZ035 model only; or on the remote control ▶▶).
- Recording will begin from this exact point in the track when you press **RECORD** ●.
- 6. For brief interruptions press **PAUSE II**. To resume recording, press **PAUSE II** again.
- 7. To stop recording, press **STOP•OPEN** ■▲.



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

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

Recording from the radio

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

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

3. Insert a suitable cassette into the cassette deck and close the cassette door.

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

5. For brief interruptions, press **PAUSE II**. To resume recording, press **PAUSE II** again.

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

MAINTENANCE

Tape deck maintenance

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

1. Open the cassette door by pressing **STOP•OPEN** .

2. Press **PLAY** and clean the rubber pressure roller .

3. Press **PAUSE II** and clean the magnetic heads and also the capstan .

4. After cleaning, press **STOP•OPEN** .

Note:

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

Environmental information

All unnecessary packaging material has been omitted. We have tried to make the packaging easy to separate into three mono-materials: cardboard (box), expandable polystyrene (buffer), polyethylene (bags, protective foam).

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

PROBLEM	 indication
– POSSIBLE CAUSE	– CD-R(W) is blank or the disc is not finalised
• REMEDY	• Use a finalised CD-R(W)
	– CD badly scratched or dirty
	• Replace/ clean CD, see MAINTENANCE
No sound/power	
• VOLUME not adjusted	
• Adjust the VOLUME	
– Headphones connected	
• Disconnect headphones	
– mains lead not securely connected	
• Connect the AC mains lead properly	
– Batteries dead/ incorrectly inserted	
• Insert (fresh) batteries correctly	
Severe radio hum or noise	
– Electrical interference: set too close to TV, VCR or computer	
• Increase the distance	
Poor radio reception	
– Weak radio signal	
• FM: Direct the FM telescopic aerial for optimum reception	
 indication	
– No CD inserted	
• Insert a CD	
– CD badly scratched or dirty	
• Replace/ clean CD, see MAINTENANCE	
– Laser lens steamed up	
• Wait until lens has cleared	
Recording does not work	
– Cassette tab(s) may be broken	
• Apply a piece of adhesive tape over the missing tab space.	
Remote control does not function properly	
– Batteries dead/ incorrectly inserted	
• Insert (fresh) batteries correctly	
– Distance/ angle between the set too large	
• Reduce the distance/ angle	
– Remote sensor obstructed by object, sticker etc.	
• Remove obstruction/ make sure right hand side of cassette door is free from obstruction	

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

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DISASSEMBLY DIAGRAM

A. To remove the Top Cabinet and Front Panel Assy

A7. Lift from the centre back (ventilation slot) to remove Top Cabinet (see fig. 1 & 2)

B. To separate Top Cabinet and Top Cabinet Bracket

C. To separate Front Panel Assy and Top Cabinet Bracket

D. To remove Tape Deck

E. To remove Front Board

F. To remove Panel LCD Assy

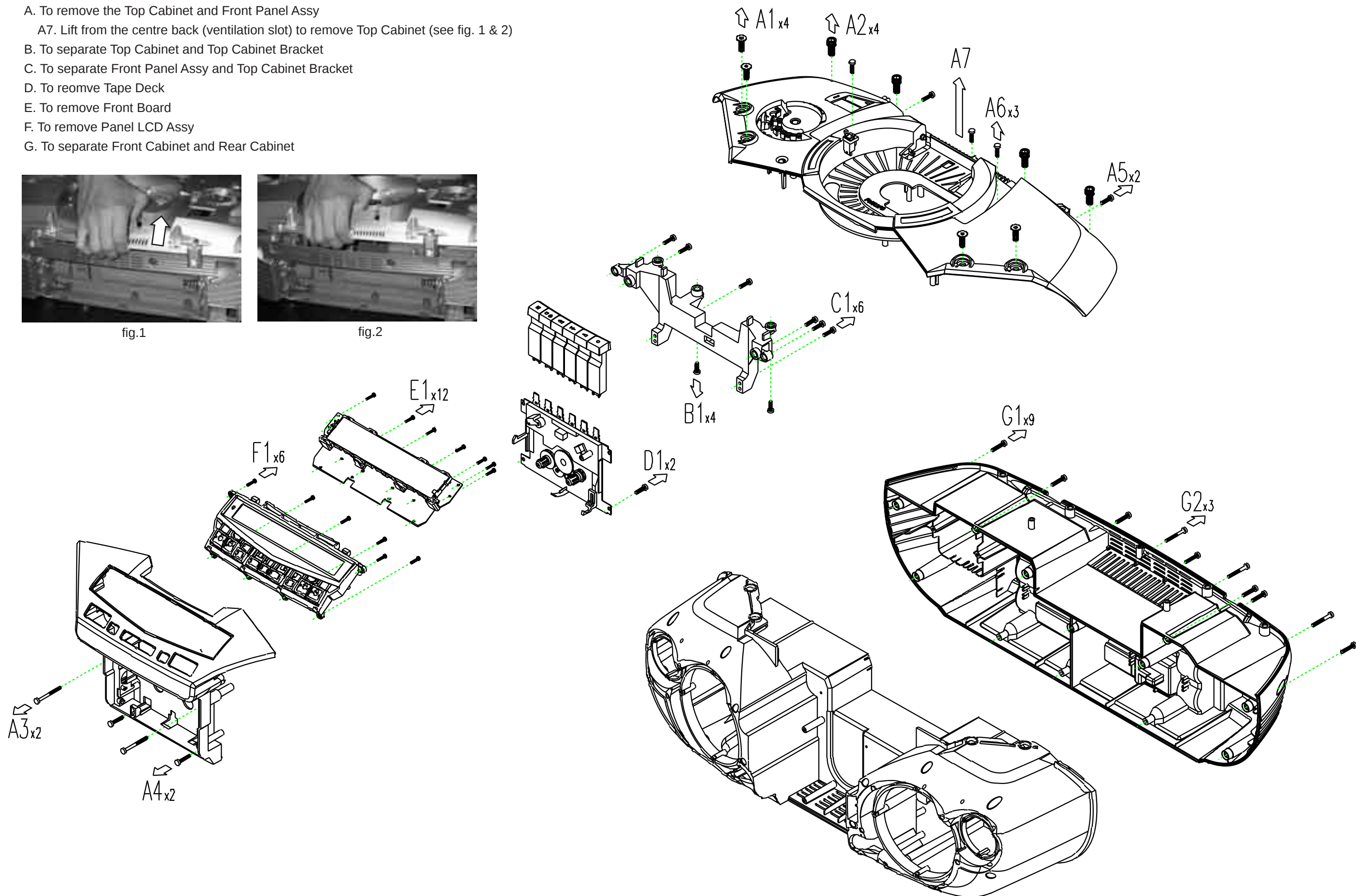
G. To separate Front Cabinet and Rear Cabinet



fig.1



fig.2



CD SERVICE TEST PROGRAM

4-2

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

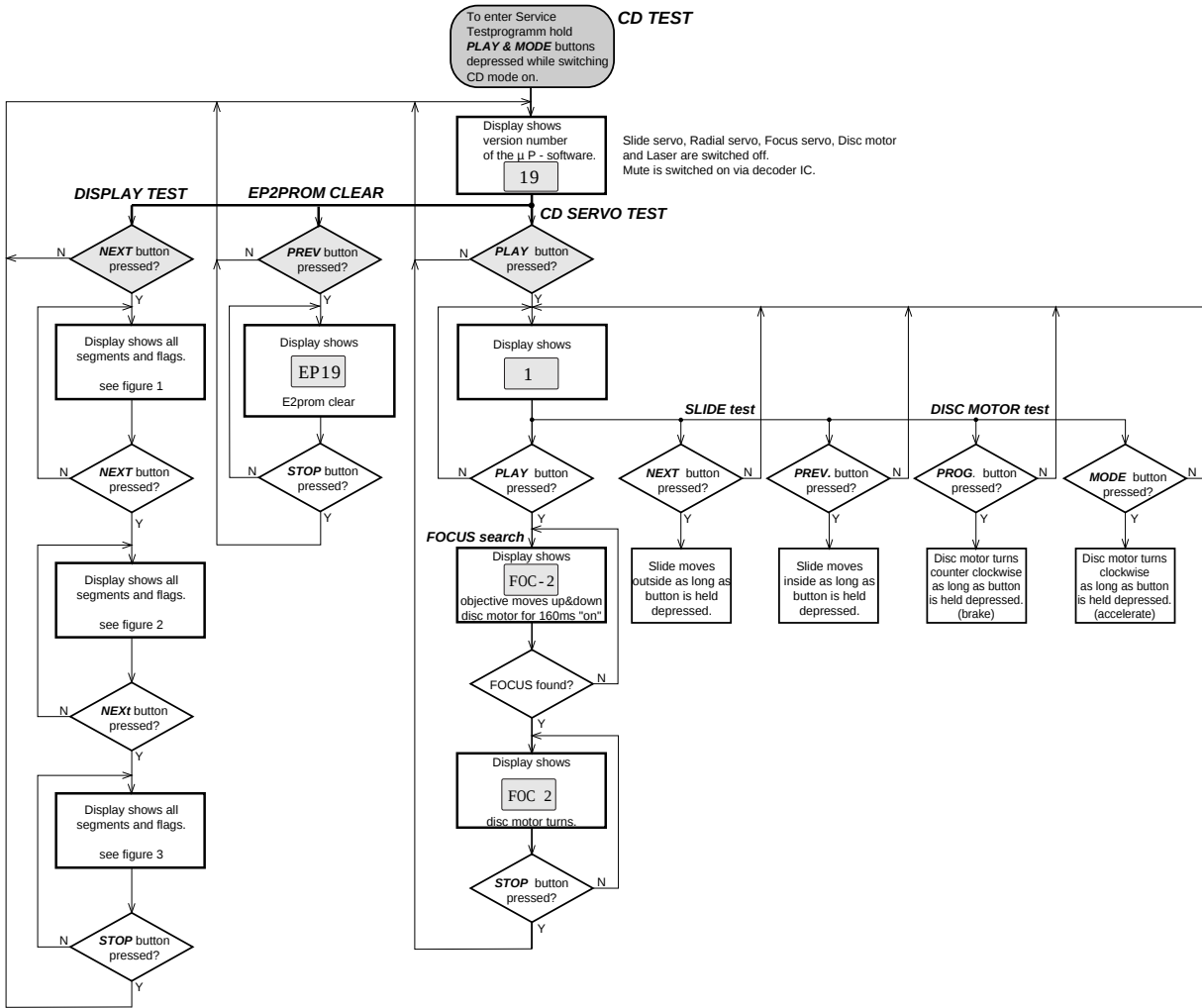


fig. 1

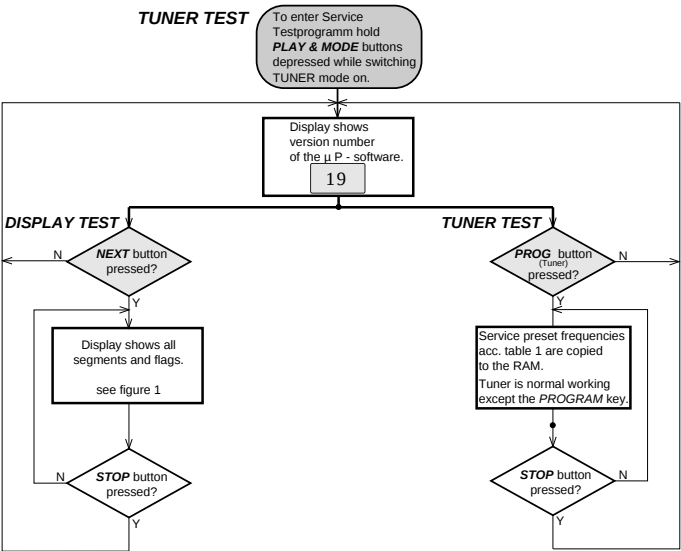


fig. 2



fig. 3

4-2



SERVICE PRESET FREQUENCIES

REGION	EUROPE FM/MW/LW	EUROPE2B FM/MW	OVERSEAS FM/MW ¹⁾ Grid switchable 10-100kHz/9-50kHz	EAST-EUROPE FM/MW	USA FM/MW
PRESET	/00/05/20/25	/00	/01/21	/14	/14/17/37
1	87.5 MHz	87.5 MHz	87.5 MHz	65.81 MHz	87.5 MHz
2	108 MHz	108 MHz	108 MHz	108 MHz	108 MHz
3	531 kHz	531 kHz	531/530 KHz	74 MHz	530 kHz
4	1602 kHz	1602 kHz	1602/1700 kHz	87.5 MHz	1700 kHz
5	558 kHz	558 kHz	558/560 kHz	531 kHz	560 kHz
6	1494 kHz	1494 kHz	1494/1500 kHz	1602 kHz	1500 kHz
7	153 kHz	-	-	558 kHz	-
8	279 kHz	-	-	1494 kHz	-
9	198 kHz	-	-	-	-
10	-	-	-	-	-
11	-	-	-	-	-
12	-	-	-	-	-
13	-	-	-	-	-

table 1

1) How to set frequency grid:

- AM - 9 kHz / FM - 50 kHz** : Hold **MODE KEY** with the **TUNING UP KEY** simultaneously and then switch to **TUNER**.
- AM - 10 kHz / FM - 100 kHz** : Hold **MODE KEY** with the **PROGRAM KEY** simultaneously and then switch to **TUNER**.
- Selected frequency grid is stored in the EEPROM.

Abbreviations and Pin-description of CD lcs

SERVO PROCESSOR SAA7325H

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

Abbreviations and Pin-description of CD lcs

SERVO PROCESSOR SAA7325H

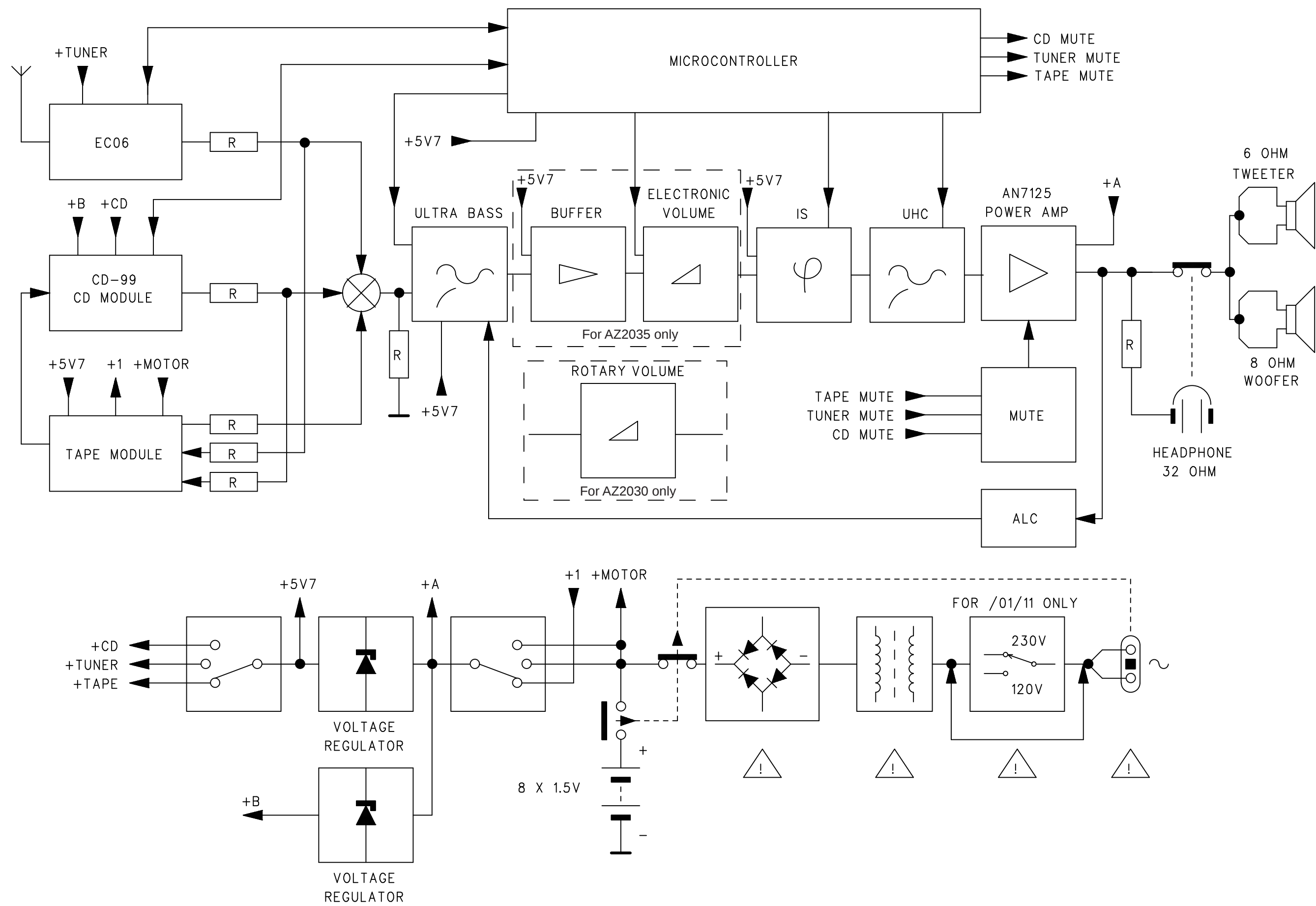
SYMBOL	PIN	DESCRIPTION
RAB	41	microcontroller interface R/ $\bar{W}$ and load control line input (4-wire bus mode)
SILD	42	microcontroller interface $\bar{R}/W$ and load control line input (4-wire bus mode)
STATUS	43	servo interrupt request line/decoder status register output (open-drain)
TEST3	44	test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

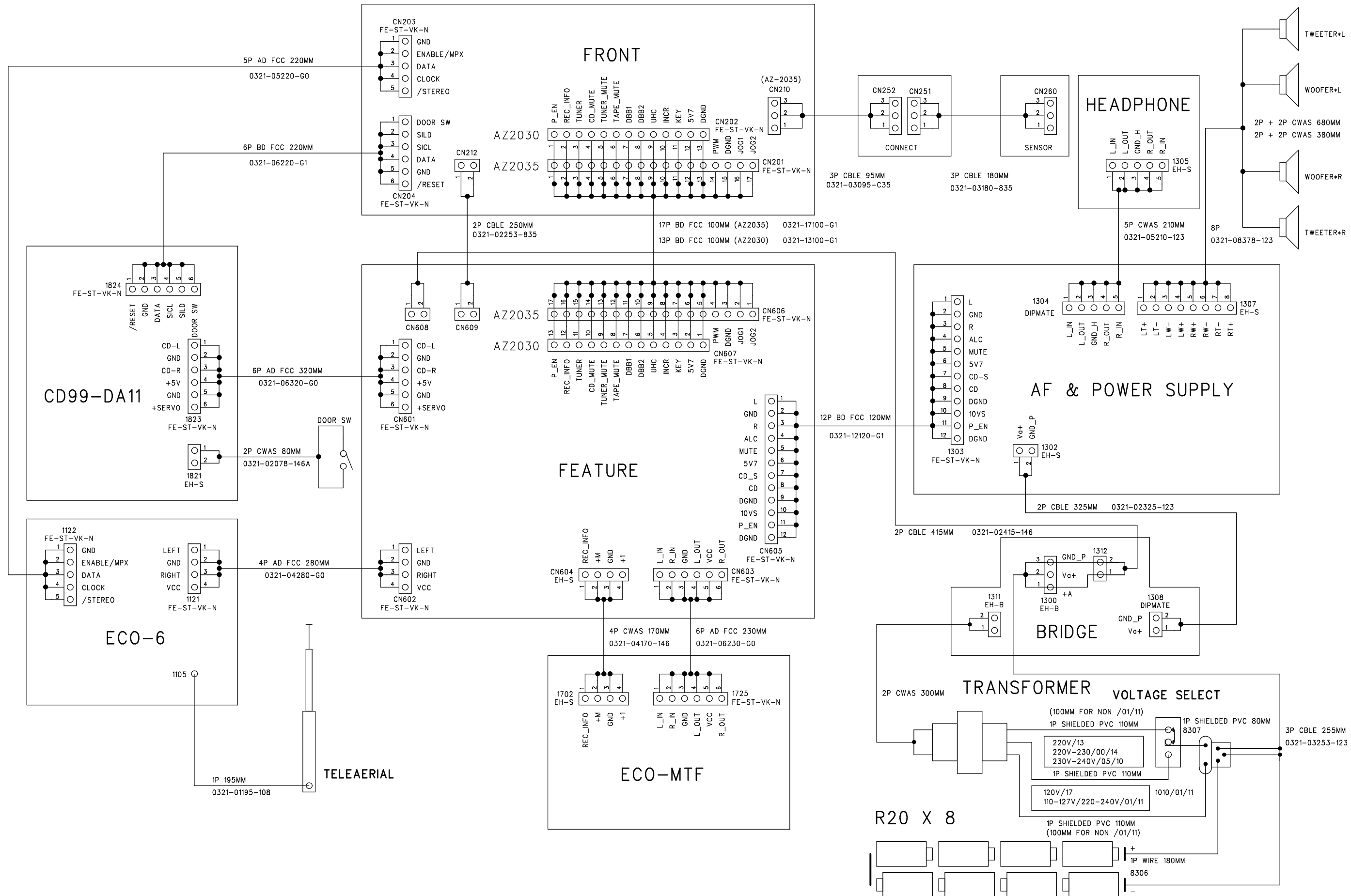
5-1

5-1



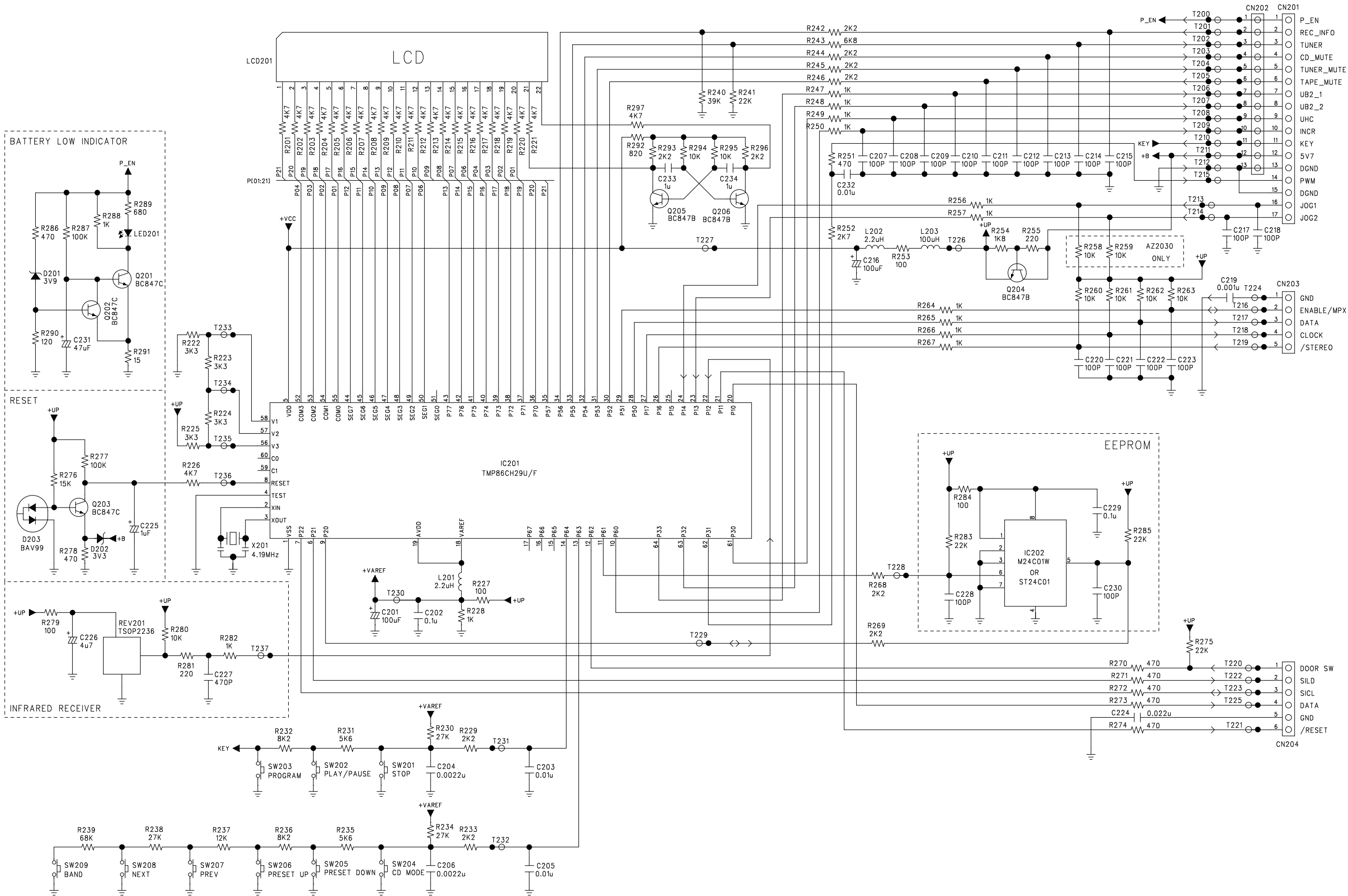
WIRING DIAGRAM

5-2

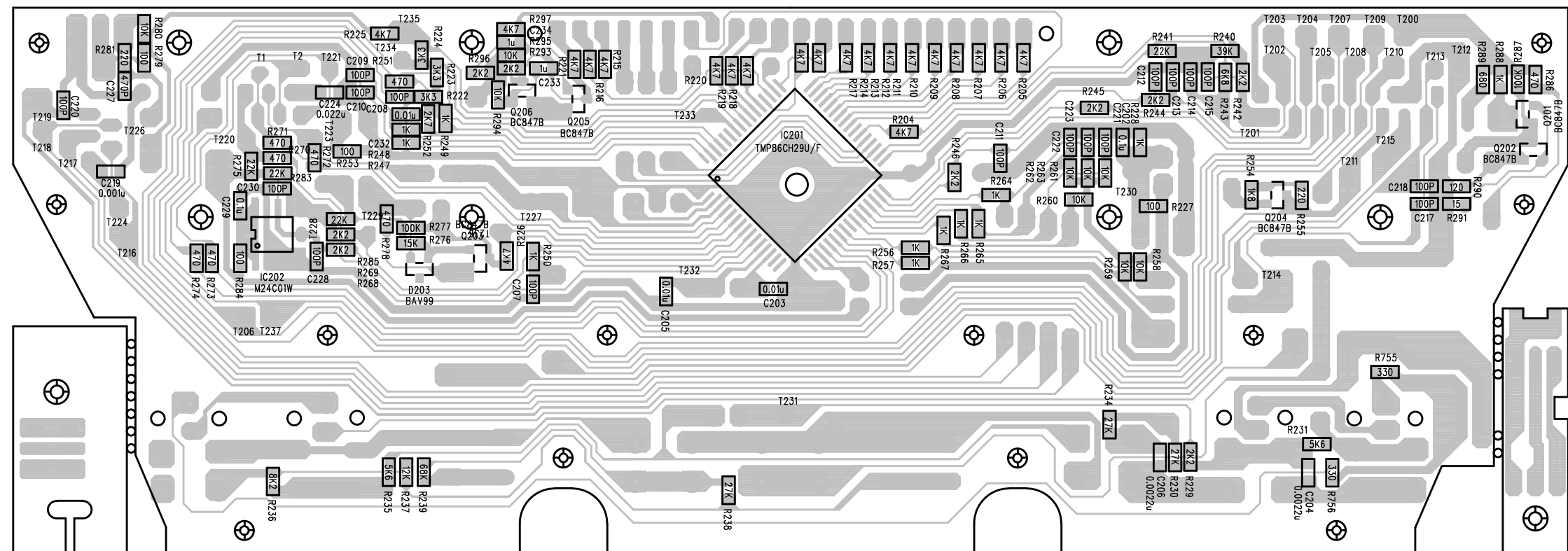


FRONT BOARD - CIRCUIT DIAGRAM

6-1

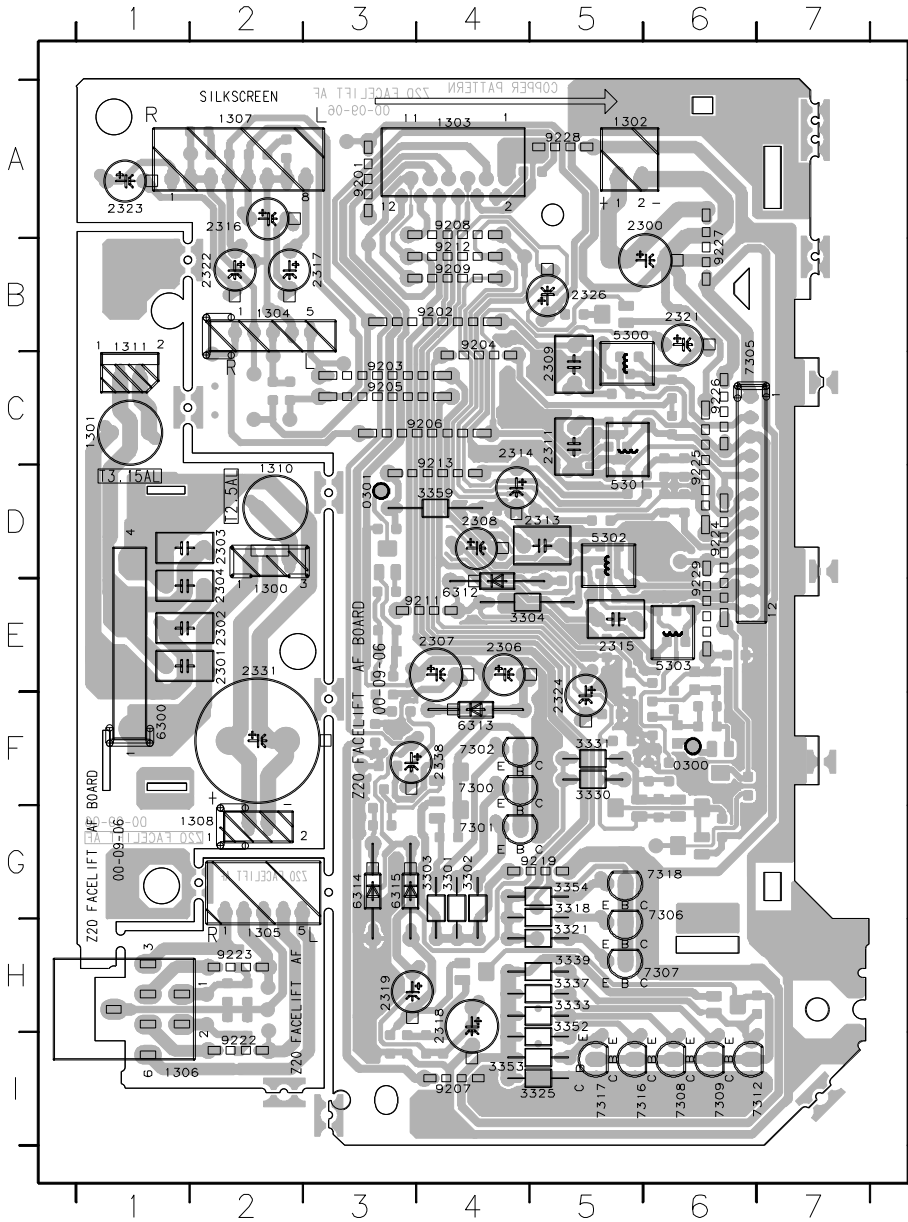


6-1

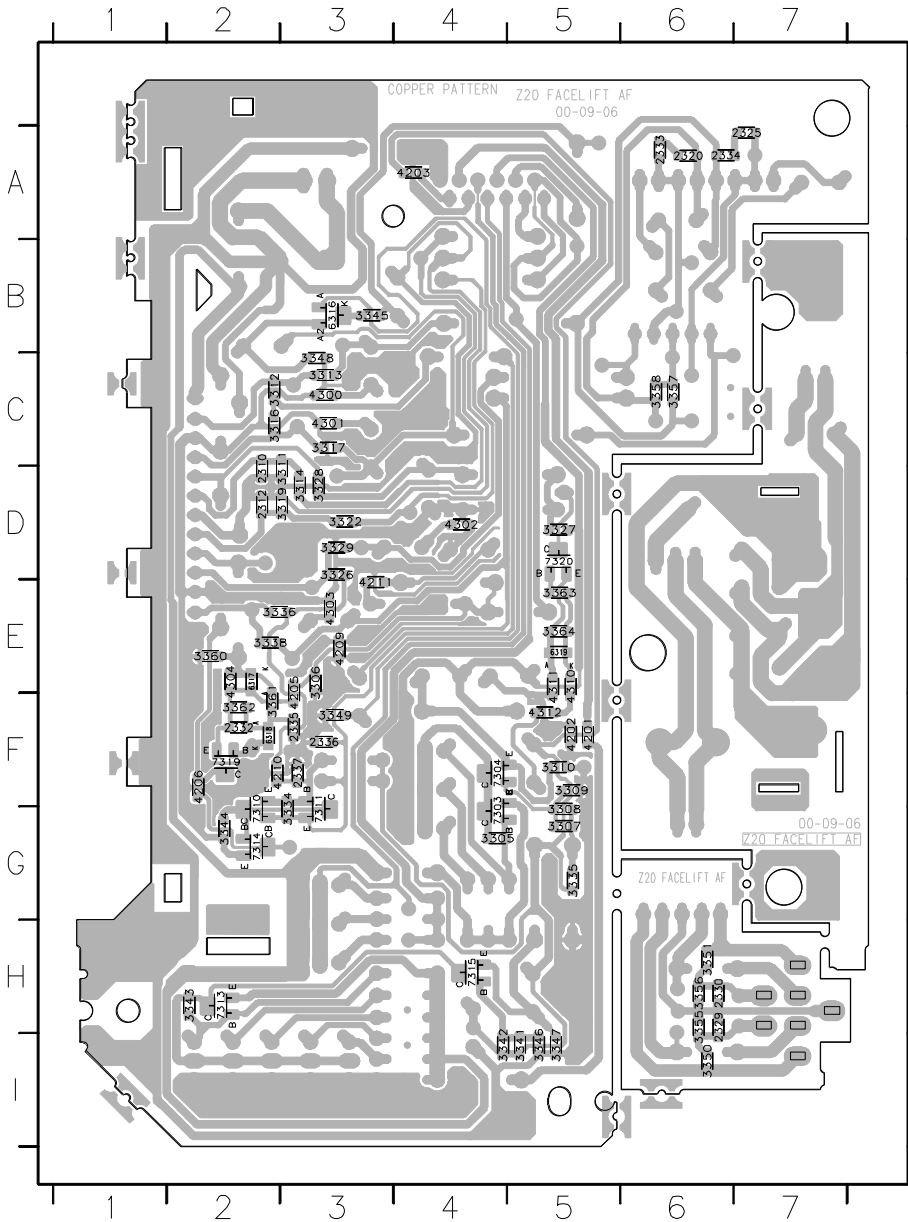


7-1





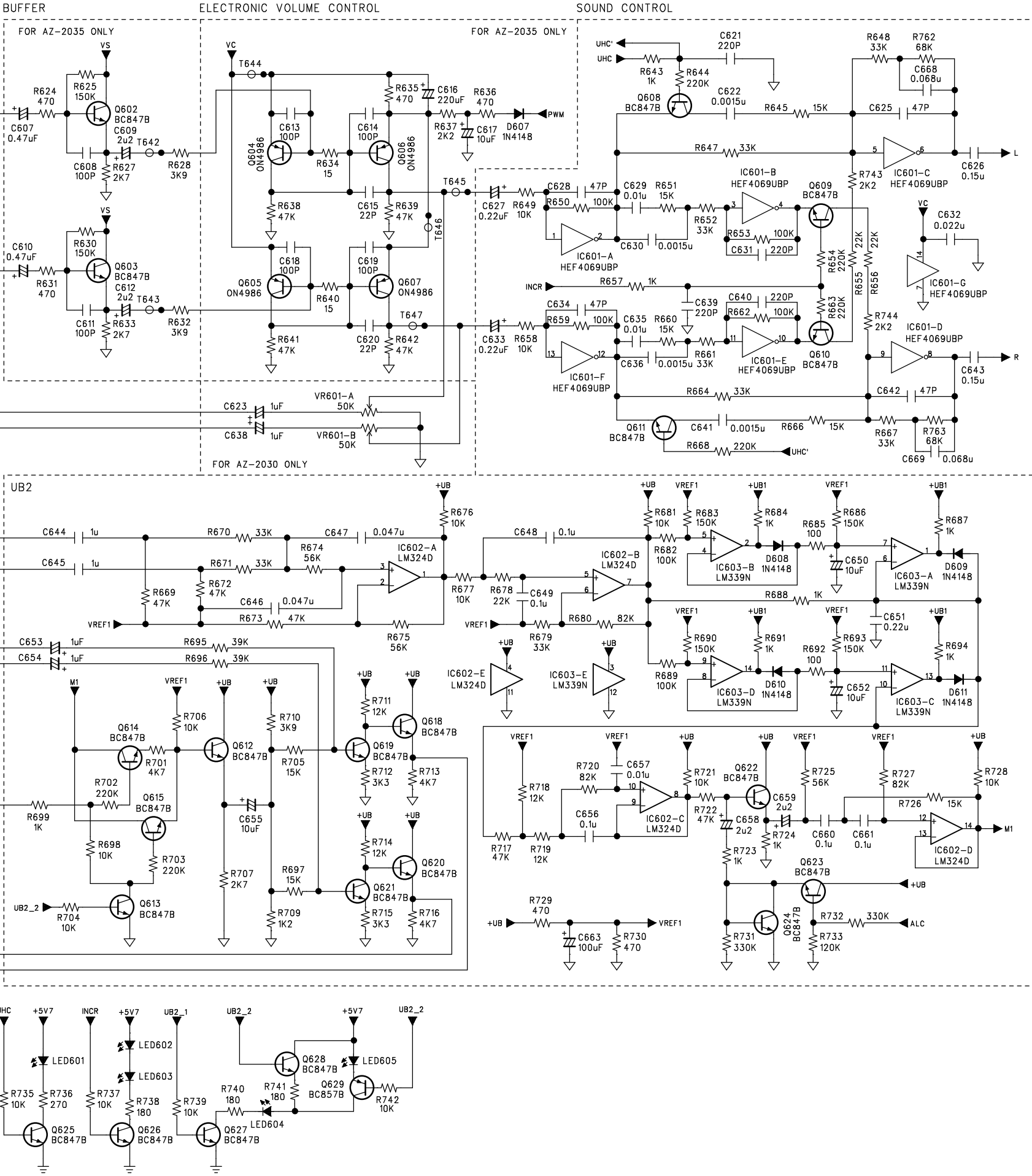
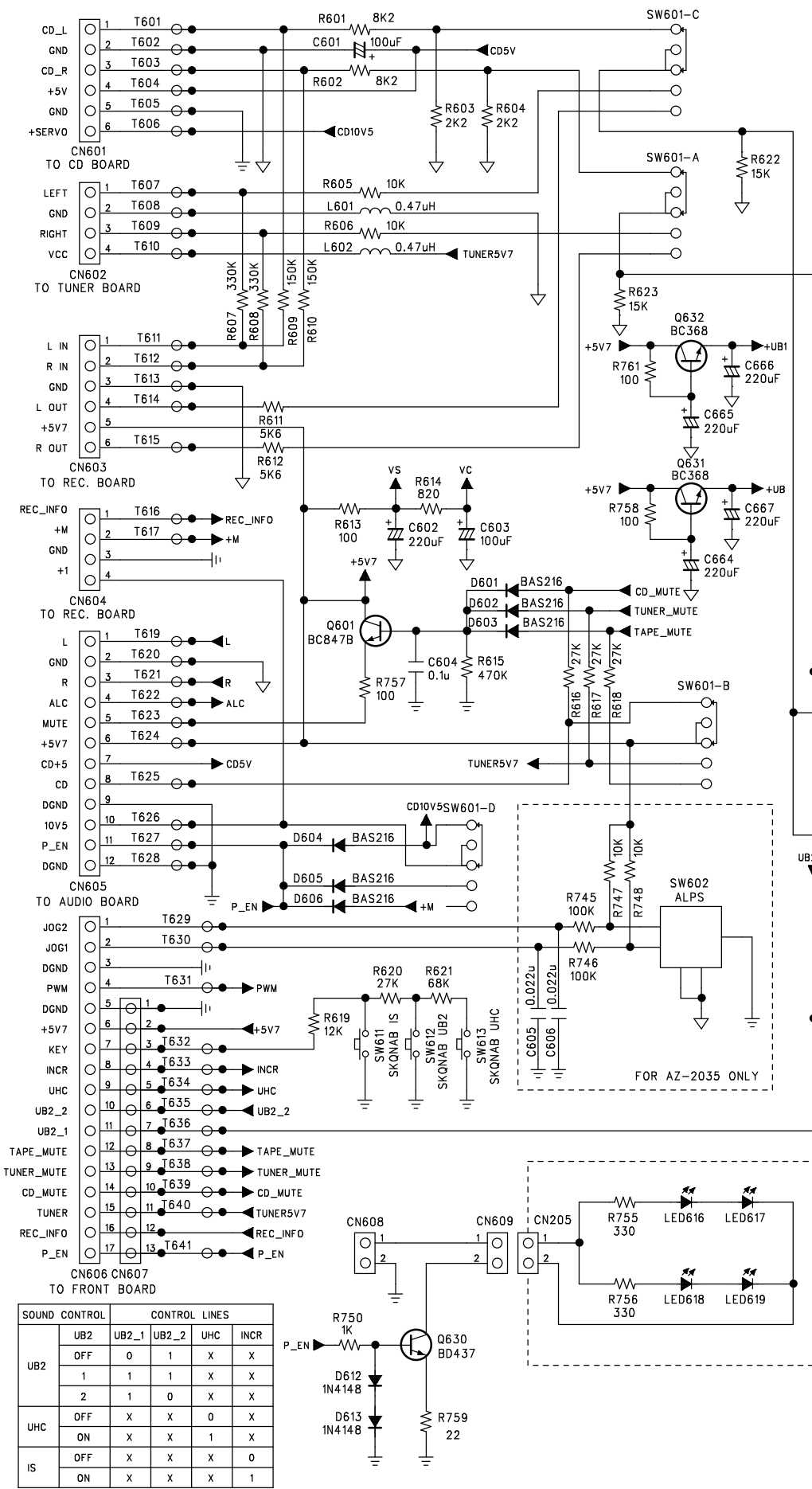
300 F6	3333 H5	9227 B6
301 D3	3337 H5	9228 A5
1300 E2	3339 H5	9229 E6
1301 C1	3352 H5	
1302 A5	3353 I4	
1303 A4	3354 G5	
1304 B2	3359 D4	
1305 H2	5300 B5	
1306 I1	5301 D5	
1307 A2	5302 D5	
1308 G2	5303 E6	
1310 D2	6300 F1	
1311 B1	6312 E4	
2300 A6	6313 F4	
2301 E2	6314 G3	
2302 E2	6315 G3	
2303 D2	7300 F4	
2304 E2	7301 G4	
2306 E4	7302 F4	
2307 E4	7305 C6	
2308 D4	7306 G6	
2309 C5	7307 H6	
2311 C5	7308 I6	
2313 D5	7309 I6	
2314 C4	7312 I7	
2315 E5	7316 I5	
2316 A2	7317 I5	
2317 B3	7318 G6	
2318 H4	9201 A3	
2319 H3	9202 B4	
2321 B6	9203 C3	
2322 B2	9204 B4	
2323 A1	9205 C3	
2324 F5	9206 C4	
2326 B5	9207 I4	
2331 E2	9208 A4	
2338 F4	9209 B4	
3301 G4	9211 E4	
3302 G4	9212 B4	
3303 G4	9213 C4	
3304 E4	9219 G5	
3318 G5	9222 I2	
3321 H5	9223 H2	
3325 I5	9224 D6	
3330 F5	9225 D6	
3331 F5	9226 C6	



2310 D2	3356 H6
2312 D2	3357 C6
2320 A6	3358 C6
2325 A7	3360 E2
2329 H6	3361 F2
2330 H6	3362 F2
2332 F2	3363 E5
2333 A6	3364 E5
2334 A6	4201 F5
2335 F3	4202 F5
2336 F3	4203 A4
2337 F3	4205 F3
3305 G4	4206 F2
3306 E3	4209 E3
3307 G5	4210 F2
3308 G5	4211 E3
3309 F5	4300 C3
3310 F5	4301 C3
3311 D3	4302 D4
3312 C2	4303 E3
3313 C3	4304 E2
3314 D3	4310 E5
3316 C2	4311 E5
3317 C3	4312 F5
3319 D3	6316 B3
3322 D3	6317 E2
3326 D3	6318 F2
3327 D5	6319 E5
3328 D3	7303 G4
3329 D3	7304 F4
3334 G3	7310 G2
3335 G5	7311 G3
3336 E2	7313 H2
3338 E2	7314 G2
3341 I5	7315 H4
3342 I4	7319 F2
3343 H2	7320 D5
3344 G2	
3345 B3	
3346 I5	
3347 I5	
3348 C3	
3349 F3	
3350 I6	
3351 H6	
3355 H6	

FEATURE BOARD - CIRCUIT DIAGRAM

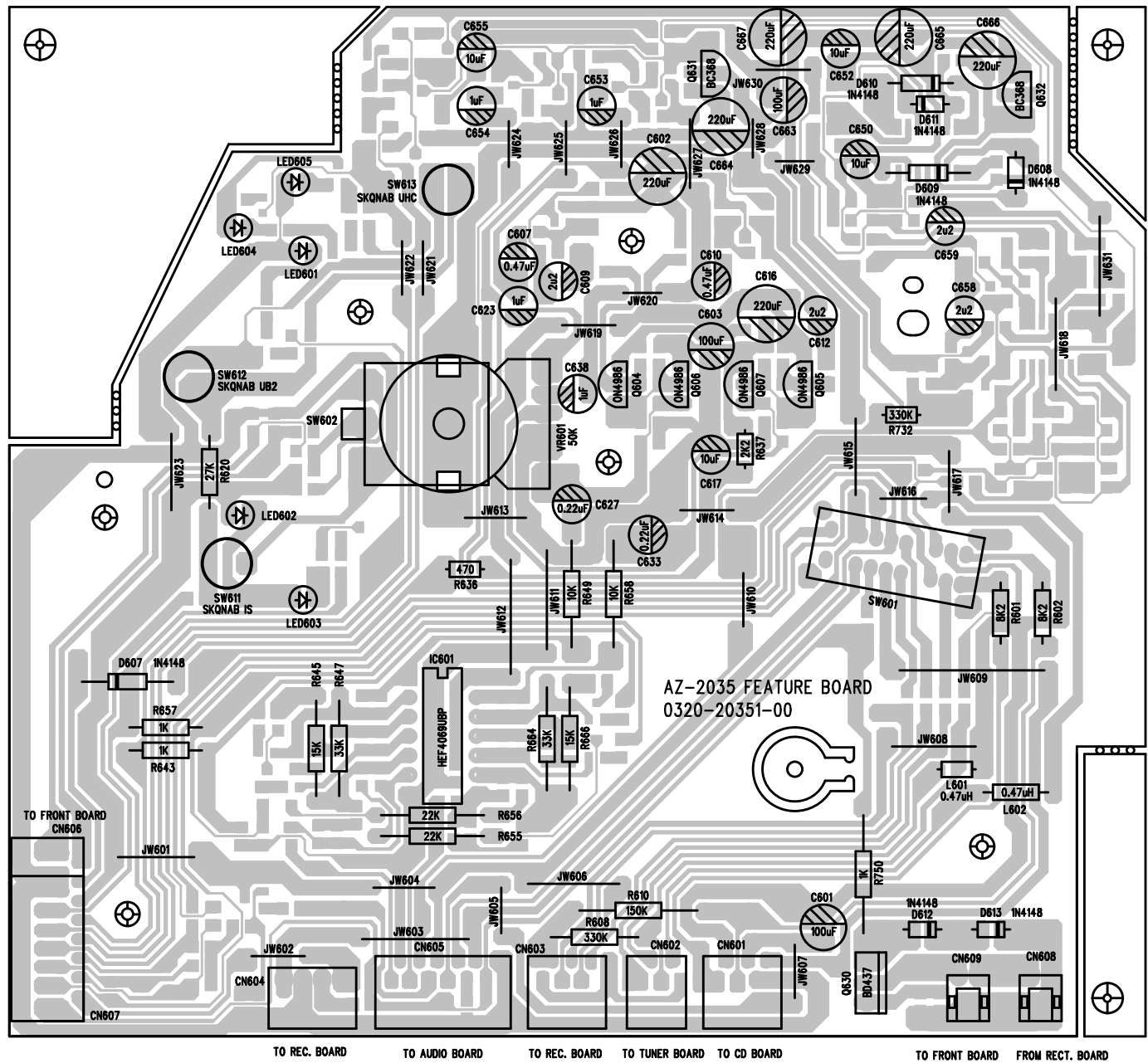
8-1



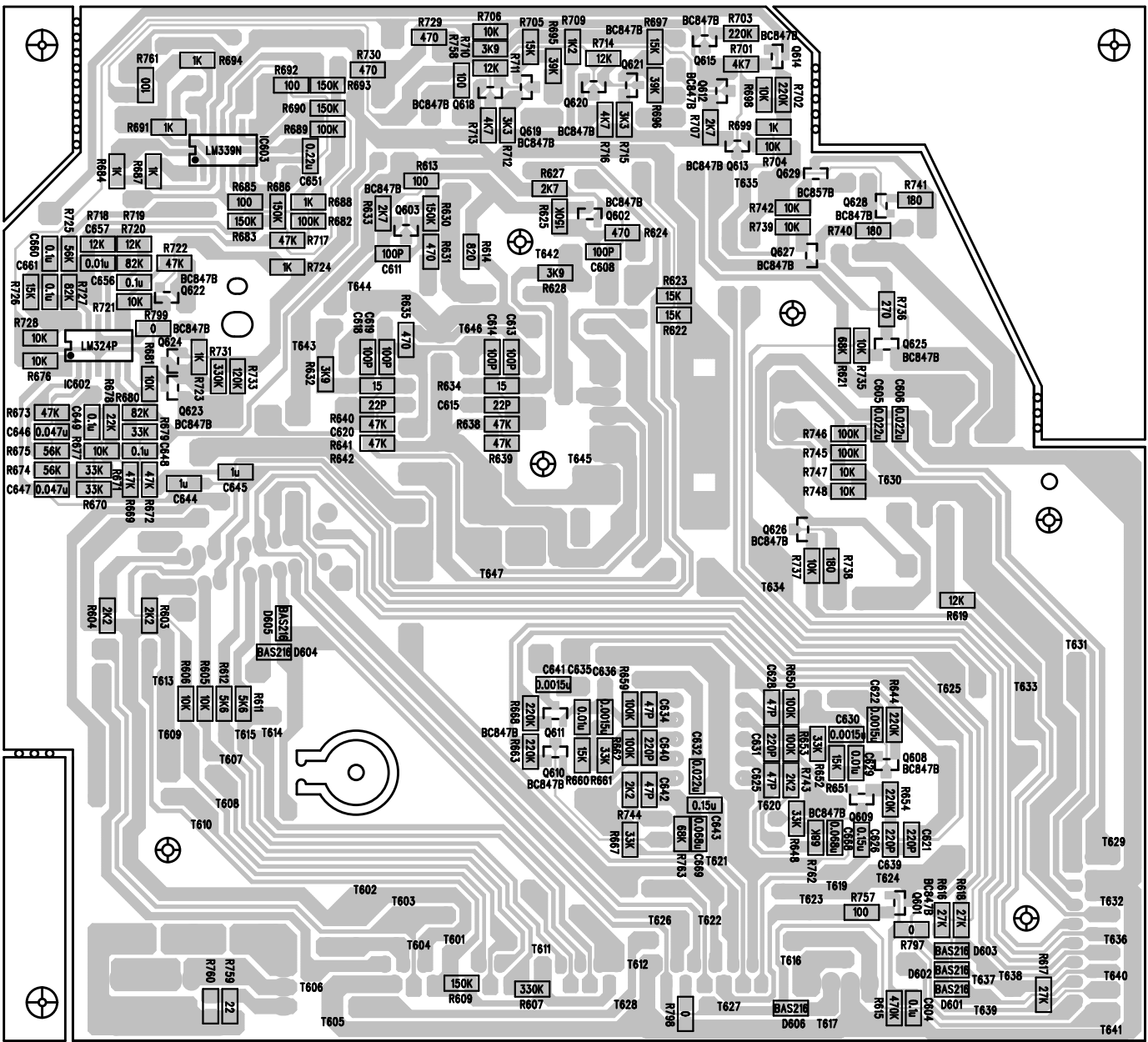
8-1

FEATURE BOARD - LAYOUT DIAGRAM

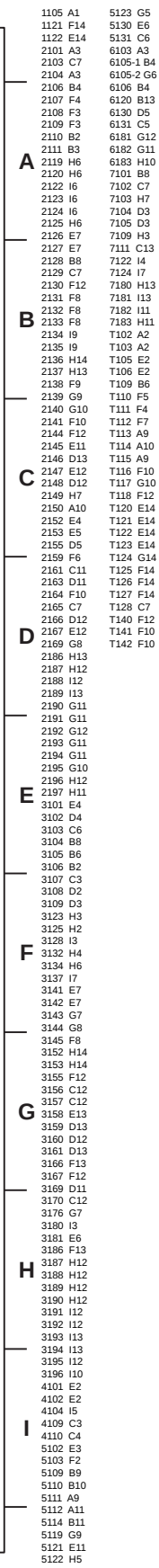
8-2



8-2



PCS 104 425



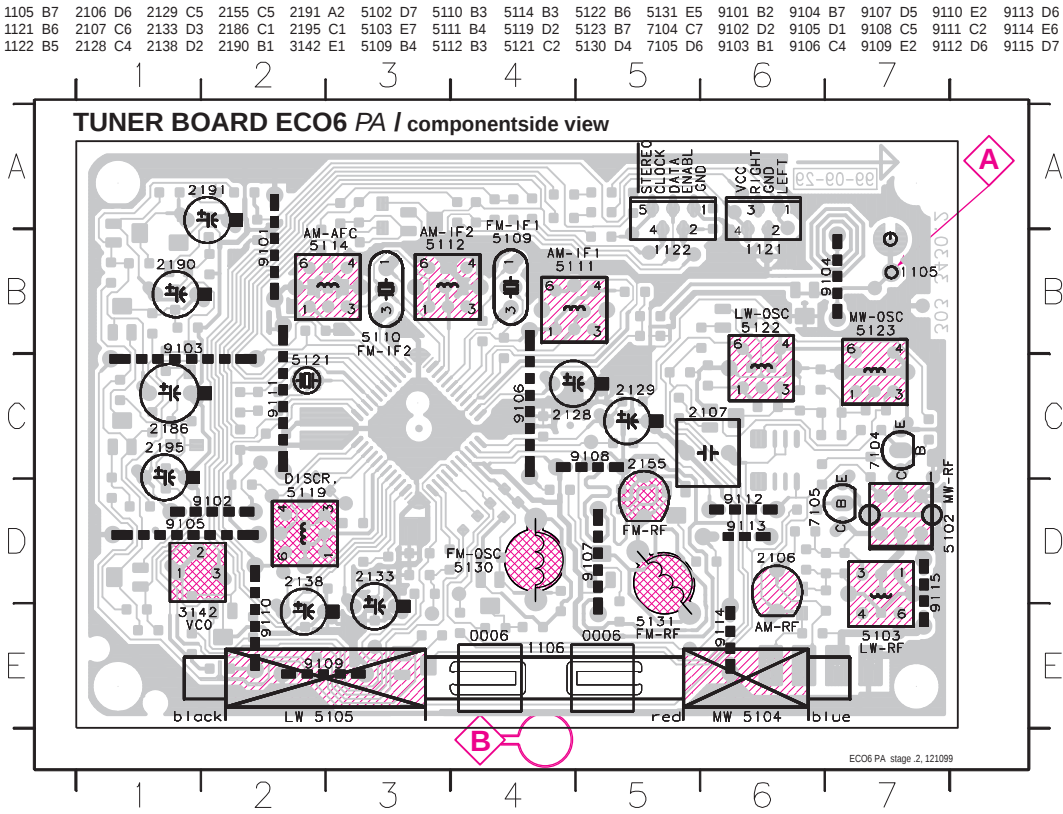
ECOS PA. 99110

* ... only assembled in FM/AM-version SMD
 (p)...for provision only
 USA ... for USA version only
 LW ... for LW version only
 LW frame ... for LW version with frame aerial only
 E_EU ... for East European version only

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

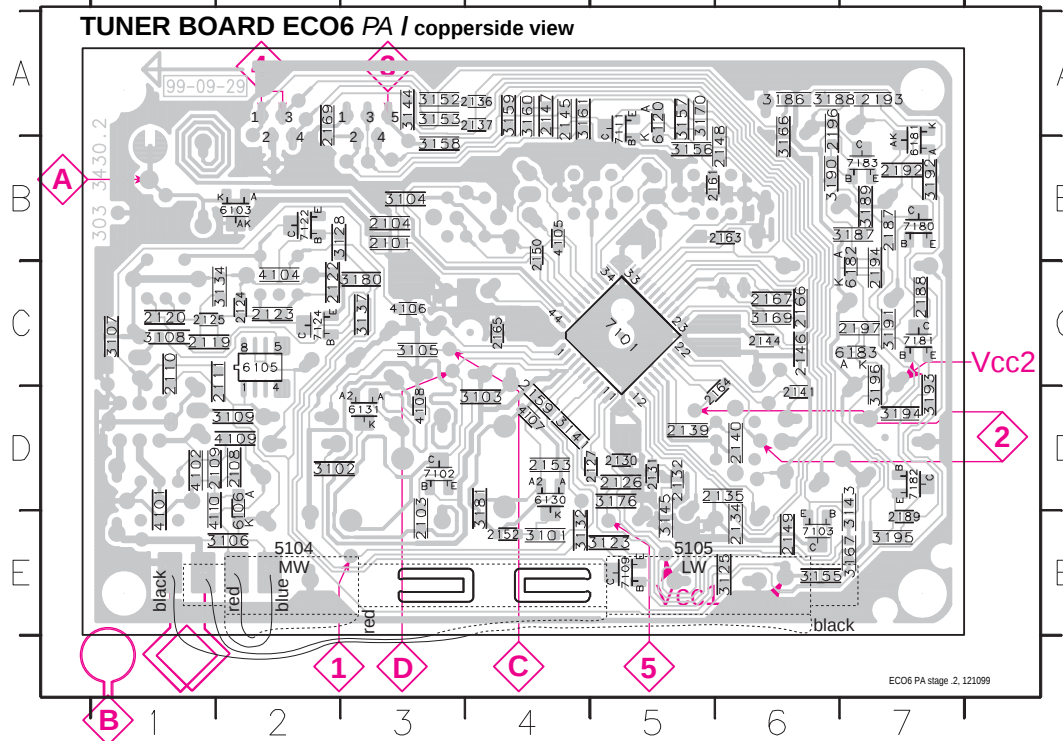
- FM
- · · · · AM
- · · · · MPX (Audio Frequency)
- ⇒ AF - left/right

TUNER BOARD ECO6 - LAYOUT DIAGRAM



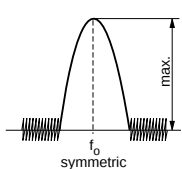
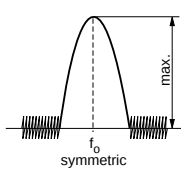
2101 B3 2120 C1 2131 D5 2141 D6 2152 E4 2167 C6 2196 A6 3107 C1 3137 C3 3156 B5 3169 C6 3189 B7 4101 D1 4110 D1 6182 C7 7124 C2
2103 E3 2122 C2 2132 D5 2144 C6 2153 D4 2169 A2 2197 C7 3108 C1 3141 D4 3157 A5 3170 A5 3190 B6 4102 D1 6103 B2 6183 C7 7180 B7
2104 B3 2123 C2 2134 E6 2145 A4 2159 D4 2187 B7 3101 E4 3109 D2 3143 D7 3158 B3 3176 D5 3191 C7 4104 C2 6105 C2 7101 C5 7181 C7
2108 D2 2124 C2 2135 D6 2146 C6 2161 B5 2188 C7 3102 D2 3123 E5 3144 A3 3159 A4 3180 C3 3192 B7 4105 B4 6106 D2 7102 D3 7182 D7
2109 D1 2125 C1 2136 A4 2147 A4 2163 B6 2189 E7 3103 D4 3145 E5 3160 A4 3181 D4 3193 D7 4106 C3 6120 A5 7103 E6 7183 B7
2110 C1 2126 D5 2137 A4 2148 B6 2164 D6 2192 B7 3104 B3 3128 B2 3152 A3 3161 A4 3186 A6 3194 D7 4107 D4 6130 D4 7109 E5
2111 C2 2127 D5 2138 D5 2149 E6 2165 C4 2193 A7 3105 C3 3132 E4 3153 A3 3166 B6 3187 B7 3195 E7 4108 D3 6131 D3 7111 A5
2119 C1 2130 D5 2140 D6 2150 B4 2166 C6 2194 C7 3106 E2 3134 C2 3155 E6 3167 E7 3188 A6 3196 C7 4109 D2 6181 B7 7122 B2

1 2 3 4 5 6 7



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

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

Waverange	Input frequency	Input	Tuned to	Adjust	Output	Scope/Voltmeter
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 mod=1kHz Δf=±22.5kHz	108MHz	2155	4	MAX
	87.5MHz (65.81MHz)		87.5MHz (65.81MHz)	5131		
VCO						
FM	98MHz, 1mV continuous wave	A	98MHz	3142	3	152kHz ±1kHz ¹⁾
AM IF						
MW	450kHz connect pin 6 of IC 7101 (AM Osc.) with 2.2kΩ to Vcc	C Δf=±10kHz V _{RF} = 0.5mV (as low as possible)	IC 7101 36 100nF 220R	5111	5	
			IC 7101 40 100nF 220R see remark 2)	5112		
AM AFC MW		C continuous wave V _{RF} = 2mV		5114	2	0 ± 2 mV DC
AM RF ³⁾						
LW	198kHz	B  Δf = ±30kHz V _{RF} as low as possible	198kHz	5105 LW ferrite coil	5	
MW FM/MW/LW- and FM/MW-version (9kHz grid) 531 - 1602kHz	1494kHz		1494kHz	2106		
	558kHz		558kHz	5104 MW ferrite coil		
MW FM/AM-version, 10kHz grid 530 - 1700kHz	1500kHz		1500kHz	2106		
	560kHz	560kHz	5104 MW ferrite coil			

ECO6, general with ferrite antenna, 070799

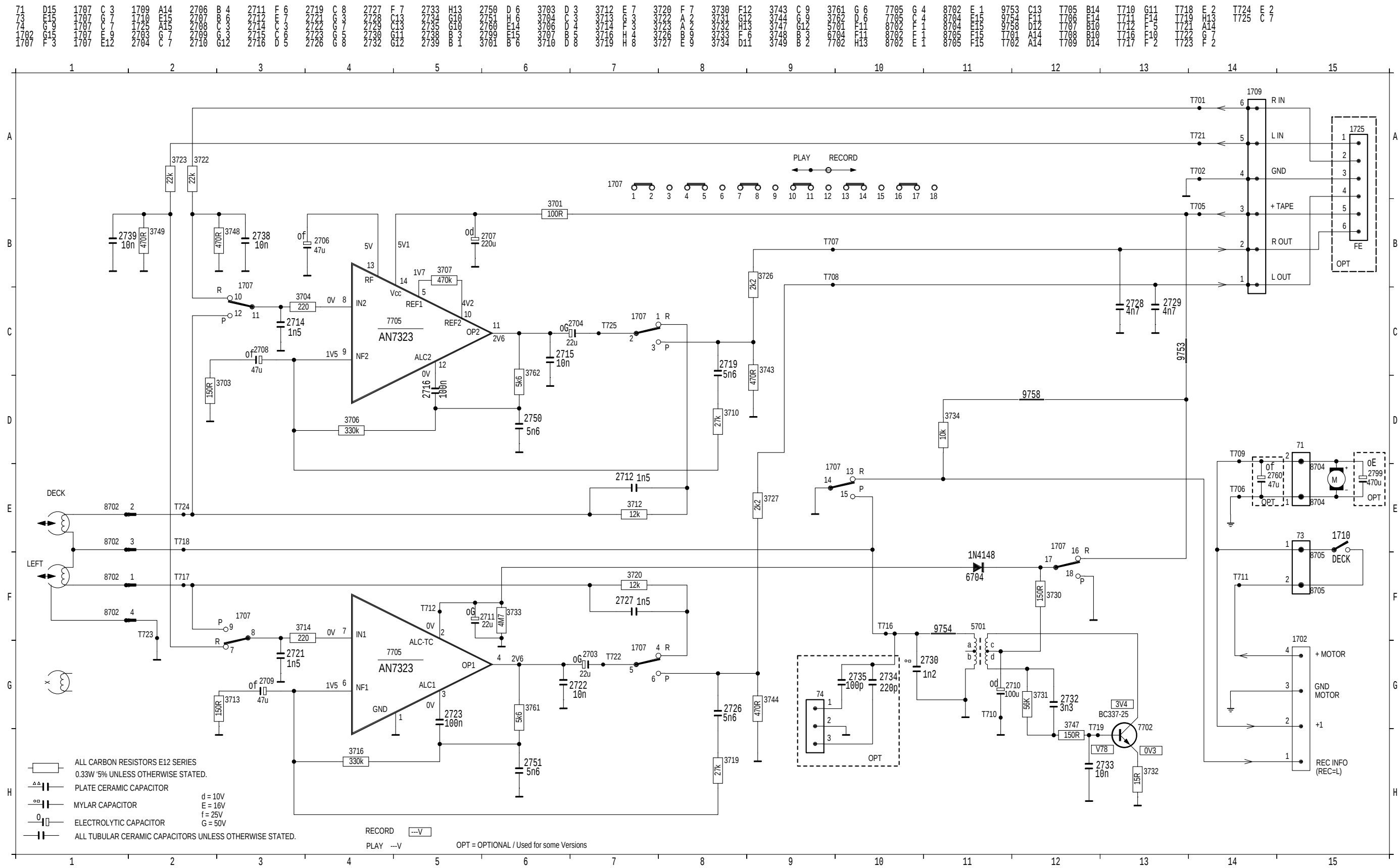
Use Service Testprogram. By selecting the TUNER TEST test frequencies will be stored as preset frequencies automatically.

¹⁾ If sensitivity of frequency counter is too low adjust to max. channel separation (input signal: stereo left 90% + 9%, adjust output on right channel to minimum)
²⁾ RC network serves for damping the IF-filter while adjusting the other one.
³⁾ LW has to be aligned before MW.

RECORDER BOARD - CIRCUIT DIAGRAM

10-1

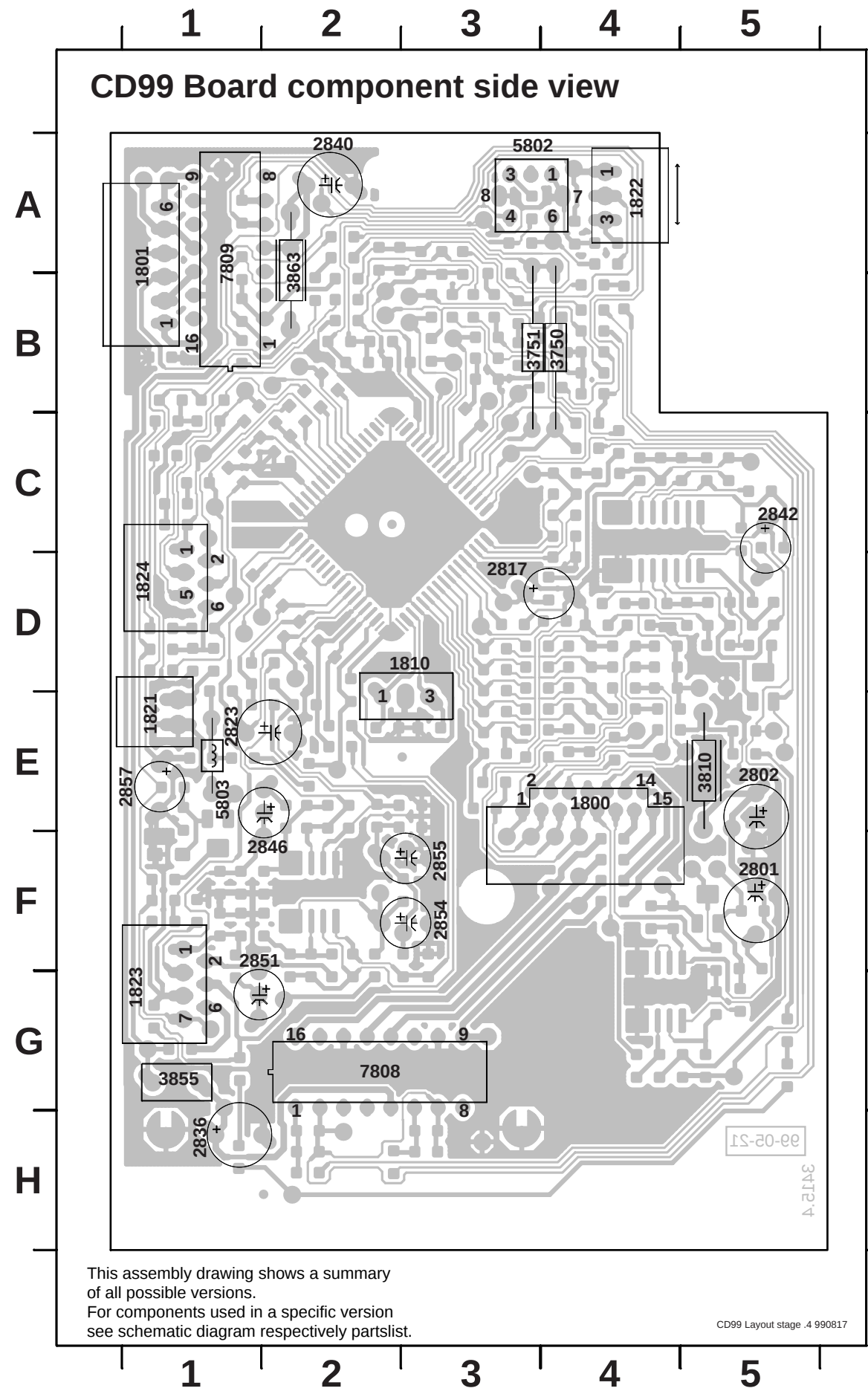
10-1



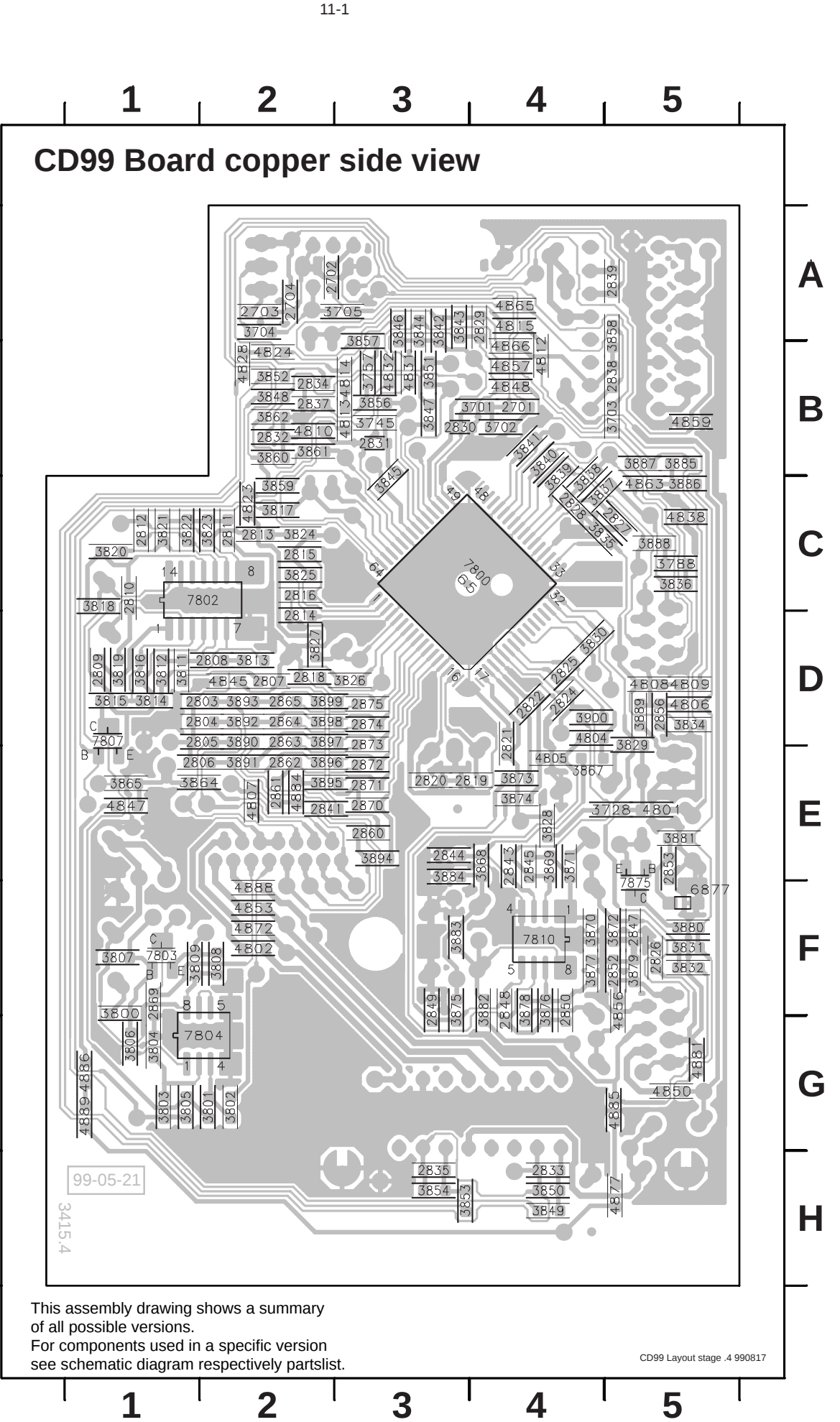
71	A	1	2729	C	5	3733	B	2	9756	C	3
72	D	5	2730	D	1	3734	D	5	9757	D	3
73	A	5	2731	C	1	3735	D	3	9759	D	4
74	A	1	2732	B	1	3736	B	5	9760	A	2
1701	A	5	2733	C	1	3737	C	5	9761	B	5
1702	B	5	2734	A	1	3738	C	5	9762	D	1
1707	D	3	2735	A	1	3739	A	5	T701	C	5
1709	C	5	2738	D	4	3740	B	4	T702	C	5
1721	B	5	2739	C	4	3742	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			

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

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

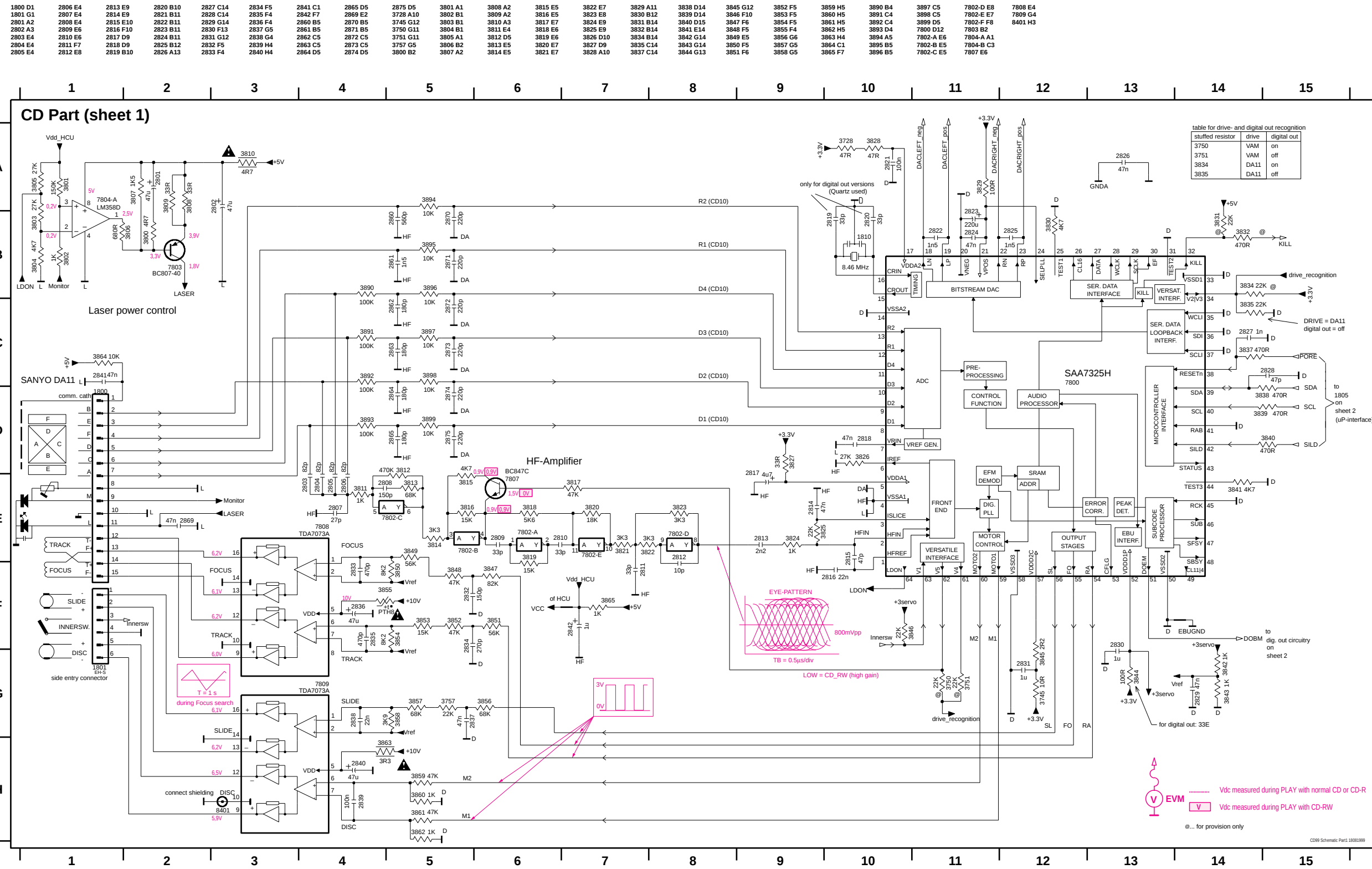


1800	F2	3703	B5	3876	F4
1801	A5	3704	A2	3877	F4
1810	D3	3705	A3	3878	F4
1821	E5	3728	E5	3879	F5
1822	A2	3745	B3	3880	F5
1823	G5	3750	B2	3881	E5
1824	D5	3751	B2	3882	F4
2701	B4	3757	B3	3883	F3
2702	A2	3788	C5	3884	E3
2703	A2	3800	F1	3885	B5
2704	A2	3801	G2	3886	C5
2801	F1	3802	G2	3887	B5
2802	E1	3803	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		

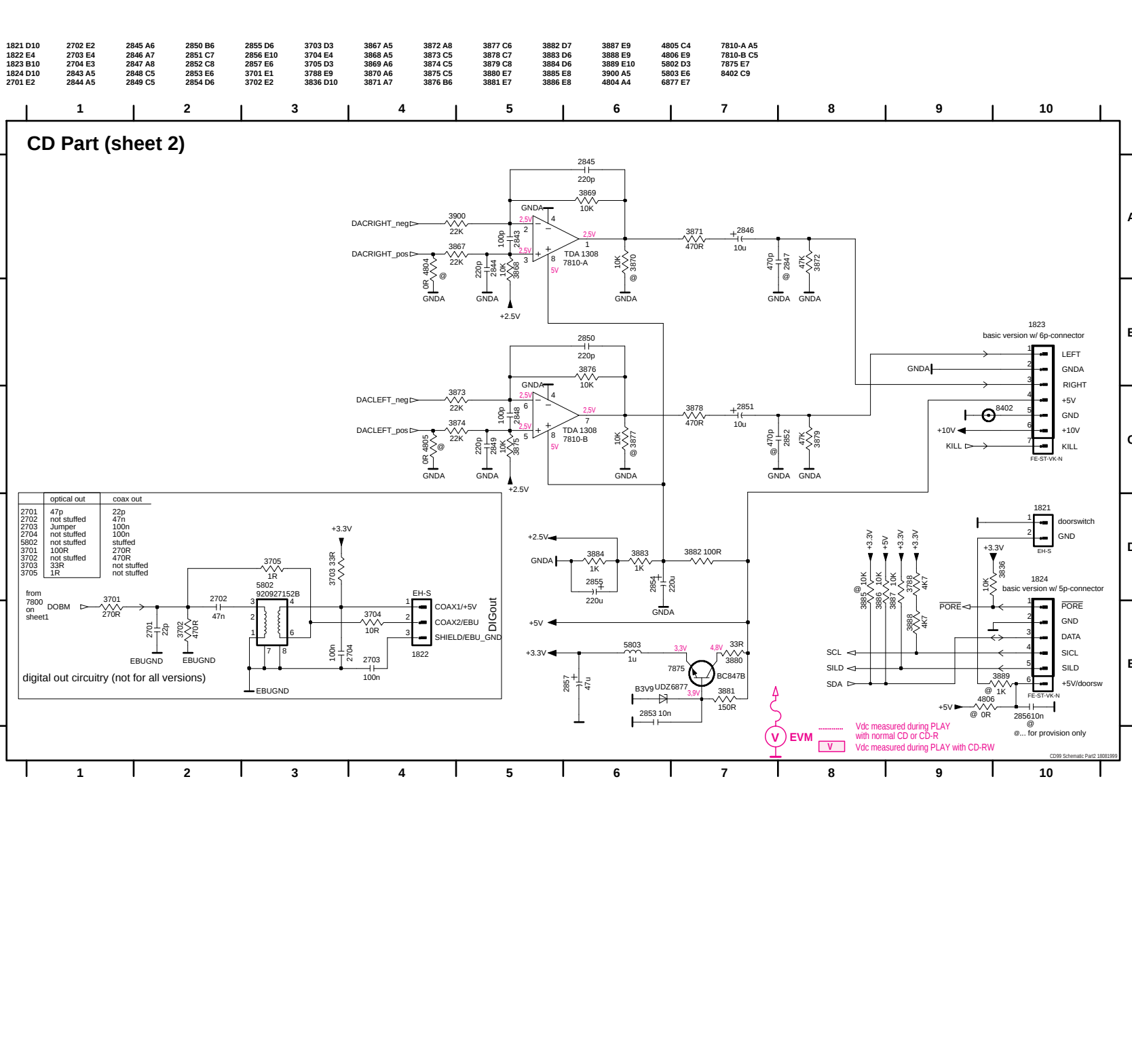


CD99 DA11 - CIRCUIT DIAGRAM

11-2



11-2



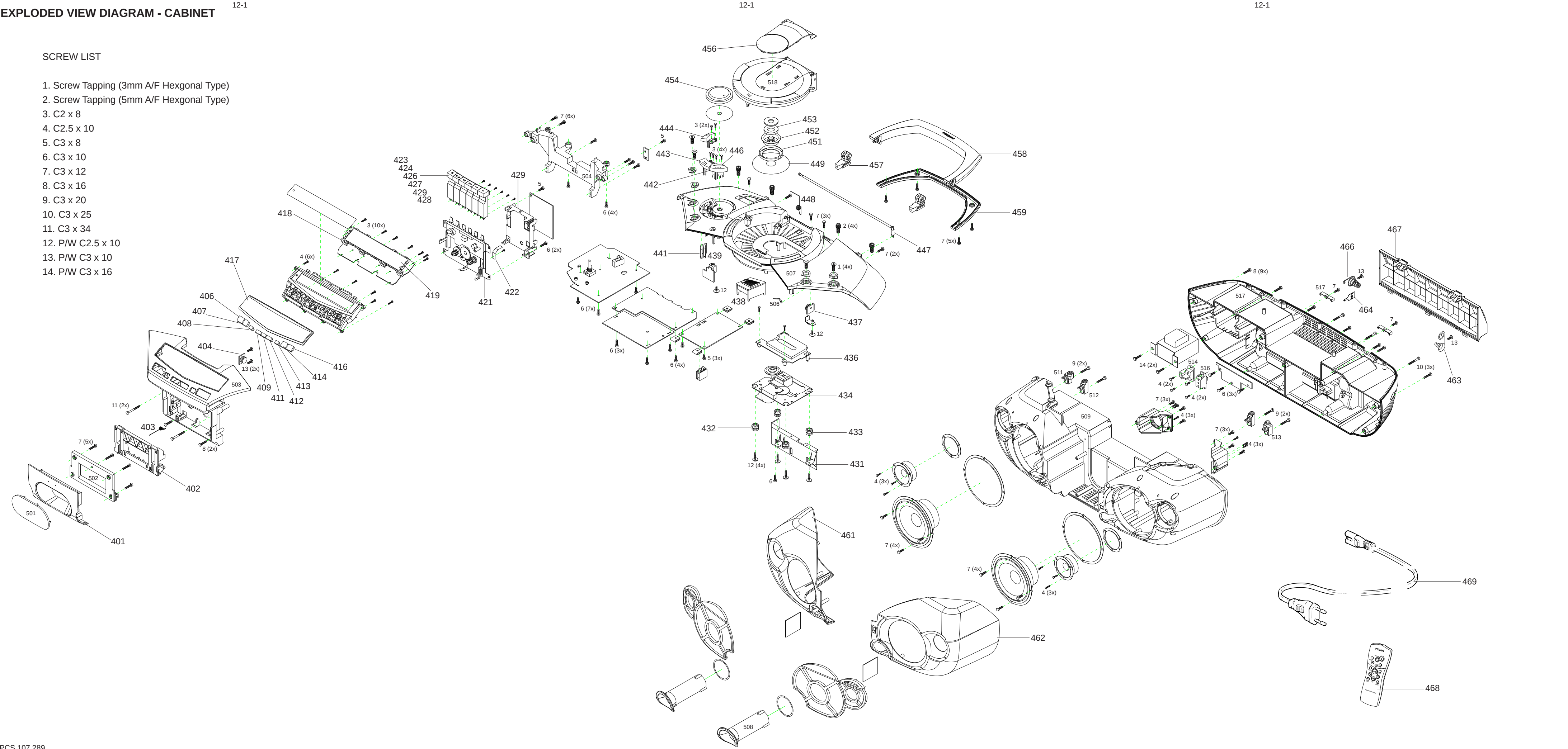
EXPLODED VIEW DIAGRAM - CABINET

12-1

12-1

SCREW LIST

- 1. Screw Tapping (3mm A/F Hexgonal Type)
- 2. Screw Tapping (5mm A/F Hexgonal Type)
- 3. C2 x 8
- 4. C2.5 x 10
- 5. C3 x 8
- 6. C3 x 10
- 7. C3 x 12
- 8. C3 x 16
- 9. C3 x 20
- 10. C3 x 25
- 11. C3 x 34
- 12. P/W C2.5 x 10
- 13. P/W C3 x 10
- 14. P/W C3 x 16



MECHANICAL PARTSLIST - CABINET

401	9965 000 08536	CASS DOOR COVER	442	9965 000 08527	BUTTON IS
402	3140 114 28570	DOOR-TECHNICAL	443	9965 000 08526	BUTTON DBB
403	9965 000 08508	CASS DOOR SPRING	444	9965 000 08528	BUTTON UHC
404	4822 529 10322	DAMPER ASSY	446	3140 114 31840	LENS-IS
406	9965 000 08478	CONTROL KNOB (PLAY)	447	9965 000 08516	ANTENNA
407	9965 000 08480	CONTROL KNOB (STOP)	448	9965 000 08507	CD SPRING
408	9965 000 08486	CONTROL KNOB (CD MODE)	449	4822 466 12255	CHUCKING PLATE
409	9965 000 08487	CONTROL KNOB (PREV)	451	9965 000 08479	CHUCKING RING
411	9965 000 08488	CONTROL KNOB (PROG)	452	4822 256 10586	CHUCKING PLATE HOLDER
412	9965 000 08489	CONTROL KNOB (NEXT)	453	9965 000 08515	MAGNET-ID
413	9965 000 08490	CONTROL KNOB (BAND)	454	9965 000 08501	VOL KNOB (FOR -/00/10/11/14/16/17)
414	9965 000 08484	CONTROL KNOB (PRESET)	454	9965 000 08586	VOL KNOB (FOR -/05)
416	9965 000 08485	CONTROL KNOB (RESET)	456	9965 000 08540	CD DOOR COVER
417	9965 000 08539	DISPLAY LENS	457	9965 000 08532	HANDLE BRACKET
418	9965 000 08492	BRACKET (BACKLIGHT)	458	9965 000 08537	HANDLE TOP
419	9965 000 08491	LENS (BACKLIGHT)	459	9965 000 08538	HANDLE BOTTOM
421	4822 691 10612	TAPE DECK MECHANISM	461	9965 000 08534	SPK CLOTH FRAME (L)
422	9965 000 08506	REC SPRING	462	9965 000 08535	SPK CLOTH FRAME (R) (FOR AZ2030)
423	9965 000 08494	CASS KNOB (PAUSE)	462	9965 000 08587	SPK CLOTH FRAME (R) (FOR AZ2035)
424	9965 000 08495	CASS KNOB (STOP)	463	9965 000 08509	COMP.SPRING (+,-)
426	9965 000 08496	CASS KNOB (F.F.)	464	9965 000 08514	CONTACT PLATE
427	9965 000 08497	CASS KNOB (REW)	466	9965 000 08510	COMP.SPRING (-)
428	9965 000 08498	CASS KNOB (PLAY)	467	9965 000 08533	DOOR BATTERY
429	9965 000 08493	CASS DOOR MTG.BKT	468	9965 000 04959	REMOTE RC331401/01 (FOR AZ2035)
429	9965 000 08499	CASS KNOB (REC.)	469	4822 321 10249	MAINS CORD (FOR -/00/11/14/16)
429	3140 114 20430	BRACKET ECO-MTF-SD	469	4822 321 10886	MAINS CORD (FOR -/05)
431	3140 114 33810	BRACKET ISOLATION	469	4822 321 10954	MAINS CORD (FOR -/10)
432	4822 529 10387	DAMPER RUBBER (40 DEG)	469	4822 321 11466	MAINS CORD (FOR -/17)
433	4822 529 10386	DAMPER RUBBER (30 DEG)		9965 000 08505	LED BRACKET
434	3103 309 05290	CD DA11N DRIVE ASSY		9965 000 08581	SENSOR BRACKET (FOR AZ2035)
436	4822 442 01905	LENS COVER		9965 000 08541	INSTR MANUAL (FOR -/00/05)
437	4822 529 10322	DAMPER ASSY		9965 000 08588	INSTR MANUAL (FOR -/10/11/16)
438	9965 000 08500	FUNCTION SWITCH		9965 000 08684	INSTR MANUAL (FOR -/14)
439	3140 114 31830	LENS-UHC		9965 000 08582	INSTR MANUAL (FOR -/17)
441	3140 114 31820	LENS-DBB			

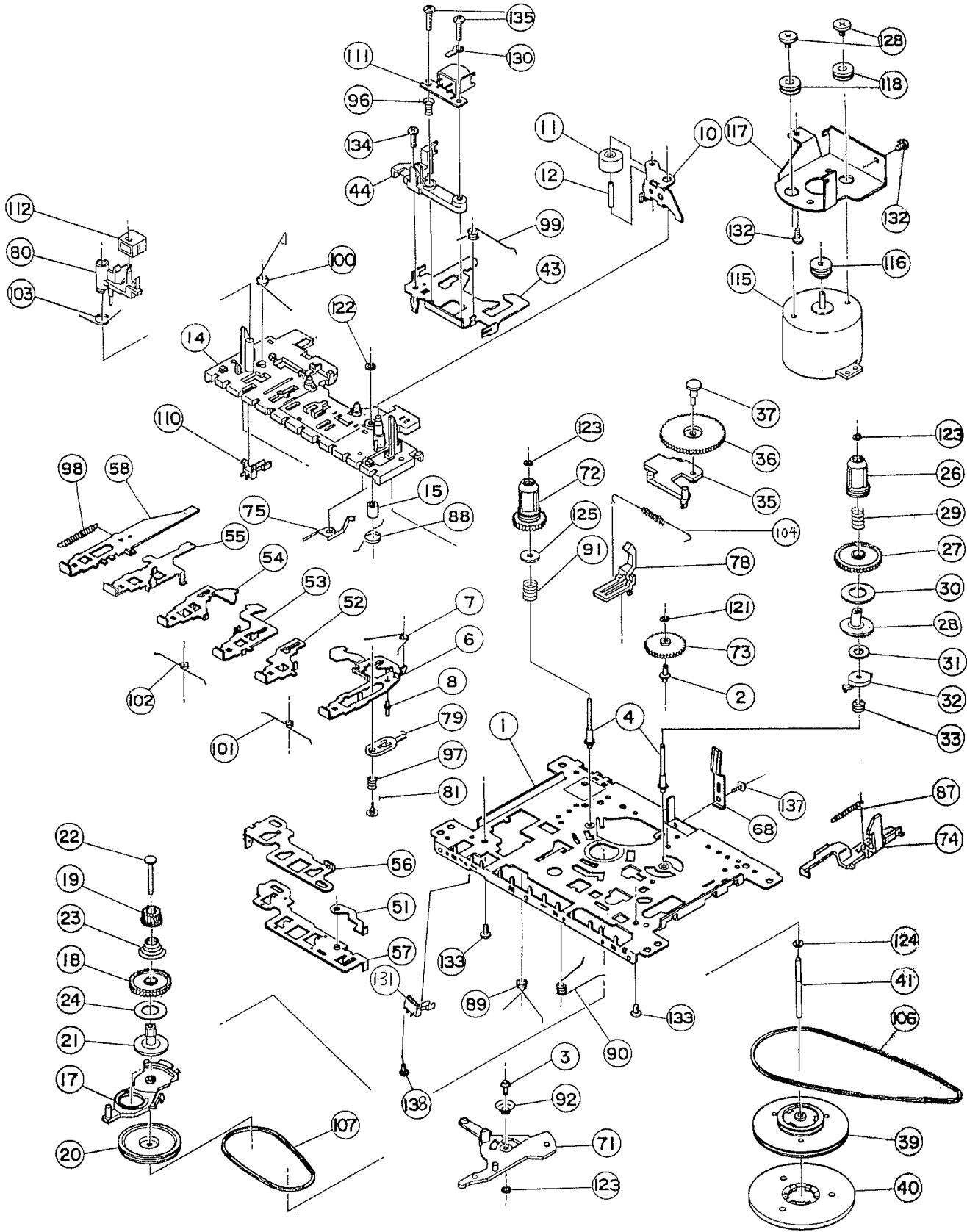
Note: Only these parts mentioned in the list are normal service parts.

MECHANICAL PARTSLIST - TAPE DECK

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

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

EXPLODED VIEW DIAGRAM - TAPE DECK



13-1

ELECTRICAL PARTSLIST - FRONT BOARD

- FILTER & INDUCTORS -

L201	9965 000 08562	INDUCTOR 2.2μH
L202	9965 000 08562	INDUCTOR 2.2μH
L203	9965 000 08558	INDUCTOR 100μH
X201	4822 242 73769	FILTER CST4,19MGW

- DIODES -

D201	9965 000 08563	ZENER DIODE 3.9V 1/2W
D202	5322 130 31504	DIODE BZX79-B3V3
D203	5322 130 34337	DIODE BAV99
LD201	4822 130 82978	LED LTL-16KPE-P
LD616	9965 000 08564	LED GREEN

LD617	9965 000 08564	LED GREEN
LD618	9965 000 08564	LED GREEN
LD619	9965 000 08564	LED GREEN

- IC & TRANSISTORS -

IC201	9965 000 08557	IC TMP86CH29F
IC202	9965 000 04931	IC M24C01-WMN6
Q201	4822 130 60511	TRANS BC847B
Q202	4822 130 60511	TRANS BC847B
Q203	4822 130 60511	TRANS BC847B

Q204	4822 130 60511	TRANS BC847B
Q205	4822 130 60511	TRANS BC847B
Q206	4822 130 60511	TRANS BC847B

- MISCELLANEOUS -

SW201	4822 276 13443	PUSH SWITCH
SW202	4822 276 13443	PUSH SWITCH
SW203	4822 276 13443	PUSH SWITCH
SW204	4822 276 13443	PUSH SWITCH
SW205	4822 276 13443	PUSH SWITCH

SW206	4822 276 13443	PUSH SWITCH
SW207	4822 276 13443	PUSH SWITCH
SW208	4822 276 13443	PUSH SWITCH
SW209	4822 276 13443	PUSH SWITCH
	9965 000 08568	LCD DISPLAY 90719NK2-P

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

13-1

ELECTRICAL PARTSLIST - AF & POWER BOARD

- COILS -

5300	9965 000 08569	RF COIL 0.36μH
5301	9965 000 08569	RF COIL 0.36μH
5302	9965 000 08569	RF COIL 0.36μH
5303	9965 000 08569	RF COIL 0.36μH

- DIODES -

6300	4822 130 82079	DIODE D3SBA20
6312	4822 130 30621	DIODE 1N4148
6313	5322 130 31504	DIODE BZX79-B3V3
6314	9965 000 08563	ZENER DIODE 3.9V 1/2W
6315	4822 130 34174	DIODE BZX79-B4V7
6316	5322 130 34331	DIODE BAV70

6317	4822 130 83757	DIODE BAS216
6318	4822 130 83757	DIODE BAS216
6319	4822 130 83757	DIODE BAS216

- IC & TRANSISTORS -

7300	4822 130 41246	TRANS BC327-25
7301	4822 130 41246	TRANS BC327-25
7302	4822 130 41246	TRANS BC327-25
7303	4822 130 60373	TRANS BC856B
7304	4822 130 60511	TRANS BC847B

7305	9322 133 18682	IC AN7125P
7306	4822 130 40981	TRANS BC337-25
7307	4822 130 40981	TRANS BC337-25
7308	4822 130 41246	TRANS BC327-25
7309	4822 130 41246	TRANS BC327-25

7310	4822 130 60373	TRANS BC856B
7311	4822 130 60373	TRANS BC856B
7312	4822 130 41246	TRANS BC327-25
7313	4822 130 60373	TRANS BC856B
7314	4822 130 60511	TRANS BC847B

7315	4822 130 60511	TRANS BC847B
7316	4822 130 41246	TRANS BC327-25
7317	4822 130 41246	TRANS BC327-25
7318	4822 130 40981	TRANS BC337-25

- MISCELLANEOUS -

1310		4822 071 52502 FUSE 2.5A
1301		4822 071 53152 FUSE 3.15A

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

13-1

ELECTRICAL PARTSLIST - FEATURE BOARD

- RESISTOR -

VR601	9965 000 08543	VARIABLE RESISTOR
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- INDUCTORS -

L601	9965 000 08548	FIXED INDUCTOR 0.47μH
L602	9965 000 08548	FIXED INDUCTOR 0.47μH

- DIODES -

D601	4822 130 83757	DIODE BAS216
D602	4822 130 83757	DIODE BAS216
D603	4822 130 83757	DIODE BAS216
D604	4822 130 83757	DIODE BAS216
D605	4822 130 83757	DIODE BAS216

D606	4822 130 83757	DIODE BAS216
D608	4822 130 30621	DIODE 1N4148
D609	4822 130 30621	DIODE 1N4148
D610	4822 130 30621	DIODE 1N4148
D611	4822 130 30621	DIODE 1N4148

D612	4822 130 30621	DIODE 1N4148
D613	4822 130 30621	DIODE 1N4148
LED601	9965 000 08556	LED 3G4SC-8 GREEN
LED602	9965 000 08556	LED 3G4SC-8 GREEN
LED603	9965 000 08556	LED 3G4SC-8 GREEN

LED604	9965 000 08549	LED 304HD-7 ORANGE
LED605	9965 000 08549	LED 304HD-7 ORANGE

- IC & TRANSISTORS -

IC601	4822 209 10264	IC HEF4069UBP
IC602	5322 209 83125	IC LM324D
IC603	4822 209 60177	IC LM339D
Q601	4822 130 60511	TRANS BC847B
Q602	4822 130 60511	TRANS BC847B

Q603	4822 130 60511	TRANS BC847B
Q604	9965 000 04928	TRANS ON4986
Q605	9965 000 04928	TRANS ON4986
Q606	9965 000 04928	TRANS ON4986
Q607	9965 000 04928	TRANS ON4986

Q608	4822 130 60511	TRANS BC847B
Q609	4822 130 60511	TRANS BC847B
Q610	4822 130 60511	TRANS BC847B
Q611	4822 130 60511	TRANS BC847B
Q612	4822 130 60511	TRANS BC847B

Q613	4822 130 60511	TRANS BC847B
Q614	4822 130 60511	TRANS BC847B
Q615	4822 130 60511	TRANS BC847B
Q618	4822 130 60511	TRANS BC847B
Q619	4822 130 60511	TRANS BC847B

Q620	4822 130 60511	TRANS BC847B
Q621	4822 130 60511	TRANS BC847B
Q622	4822 130 60511	TRANS BC847B
Q623	4822 130 60511	TRANS BC847B
Q624	4822 130 60511	TRANS BC847B

- IC & TRANSISTORS -

Q625	4822 130 60511	TRANS BC847B
Q626	4822 130 60511	TRANS BC847B
Q627	4822 130 60511	TRANS BC847B
Q628	4822 130 60511	TRANS BC847B
Q629	4822 130 60373	TRANS BC856B

Q630	9965 000 08547	TRANS KSC 2331-Y
Q631	5322 130 44647	TRANS BC368
Q632	5322 130 44647	TRANS BC368

- MISCELLANEOUS -

SW601	4822 277 11864	SLIDE SWITCH
SW602	4822 273 10366	ROTARY SWITCH

SW611	9965 000 08542	TACT SWITCH
SW612	9965 000 08542	TACT SWITCH
SW613	9965 000 08542	TACT SWITCH

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

ELECTRICAL PARTSLIST - MISC

- MISCELLANEOUS -

1306	2422 026 05076	HEADPHONE JACK
REV201	9965 000 04961	RECEIVER (FOR AZ2035)
	9965 000 08570	FFC CABLE 4P 170mm
	9965 000 08571	FFC CABLE 5P 210mm
	9965 000 08572	FFC CABLE 6P 220mm

	9965 000 08573	FFC CABLE 6P 230mm
	9965 000 08574	FFC CABLE 6P 320mm
	9965 000 08575	FFC CABLE 12P 120mm
	9965 000 08576	FFC CABLE 13P 100mm
	9965 000 08583	FFC CABLE 17P 100MM

	9965 000 08577	AC SOCKET (NOT FOR -/17)
	9965 000 08584	AC SOCKET (FOR -/17)
	9965 000 08578	TRANSF 230V (FOR -/00/05/10)
	3140 118 32640	TRANSF 120/230V (FOR -/11/16)
	9965 000 08585	TRANSF 120V (FOR -/17)

	4822 277 21794	VOLT SELECTOR (FOR -/11/16)
	9965 000 08579	SPEAKER 1.5" 6 OHM 8W
	9965 000 08580	SPEAKER 4" 8 OHM 12W

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

ELECTRICAL PARTSLIST - TUNER BOARD ECO6

- CAPACTORS -

2101 4822 126 13692 47pF 1% NP0 63V
 2103 5322 122 31647 1nF 10% X7R 63V
 2104 5322 122 32531 100pF 5% NP0 50V
 2106 2020 800 00191 3pF-11pF N450 100V
 2107 4822 121 51319 1μF 10% 63V

2110 5322 122 32531 100pF 5% NP0 50V
 2111 5322 122 32659 33pF 5% 50V
 2120 5322 122 32658 22pF 5% 50V
 2122 4822 122 33891 3,3nF 10% X7R 63V
 2123 2238 861 18391 390pF 1% 50V

2124 5322 122 32654 22nF 10% X7R 63V
 2125 2238 861 18561 560pF 1% 50V
 2126 5322 122 31863 330pF 5% 63V
 2127 4822 126 14076 220nF 25V
 2128 4822 124 40248 10μF 20% 63V

2129 4822 124 41584 100μF 20% 10V
 2130 4822 126 13482 470nF 80/20% 16V
 2131 4822 126 13482 470nF 80/20% 16V
 2132 4822 126 13482 470nF 80/20% 16V
 2133 4822 124 21913 1μF 20% 63V

2134 4822 126 13188 15nF 5% X7R 63V
 2135 4822 126 13188 15nF 5% X7R 63V
 2136 4822 126 14076 220nF 80/20% 25V
 2137 4822 126 14076 220nF 80/20% 25V
 2138 4822 124 22652 2,2μF 20% 50V

2139 4822 126 14236 15pF 5% 50V
 2140 4822 126 13695 82pF 1% NP0 63V
 2141 4822 126 13838 100nF 80/20% Y5V 50V
 2144 4822 126 13482 470nF 80/20% 16V
 2145 4822 122 33575 220pF 5% NP0 63V

2146 4822 122 33575 220pF 5% NP0 63V
 2147 4822 122 33575 220pF 5% NP0 63V
 2148 4822 122 33127 2,2nF 10% X7R 63V
 2150 4822 126 13838 100nF 80/20% Y5V 50V
 2152 4822 126 12105 33nF 5% X7R 50V

2153 4822 126 13486 15pF 2% NP0 63V
 2155 2020 800 00191 3pF-11pF N450 100V
 2159 5322 122 32659 33pF 5% 50V
 2163 4822 126 13838 100nF 80/20% Y5V 50V
 2164 4822 126 13482 470nF 80/20% 16V

2165 4822 126 13838 100nF 80/20% Y5V 50V
 2166 5322 122 31647 1nF 10% X7R 63V
 2167 4822 122 33926 12pF 50V
 2186 4822 124 40196 220μF 20% 16V
 2187 4822 122 33177 10nF 20% X7R 50V

- CAPACTORS -

2188 4822 122 33177 10nF 20% X7R 50V
 2189 4822 126 14076 220nF 80/20% 25V
 2190 4822 124 81151 22μF 50V
 2191 4822 124 81151 22μF 50V
 2192 5322 122 31647 1nF 10% X7R 63V

2193 5322 122 31647 1nF 10% X7R 63V
 2194 5322 122 31647 1nF 10% X7R 63V
 2195 4822 124 81151 22μF 50V
 2196 4822 122 33177 10nF 20% X7R 50V
 2197 4822 122 33177 10nF 20% X7R 50V

- RESISTORS -

3101 4822 051 20333 33K 5% 0,1W
 3102 4822 117 10837 100K 1% 0,1W
 3103 4822 051 20822 8K2 5% 0,1W
 3104 4822 117 13577 330R 1% 1,25W
 3105 4822 117 11503 220R 1% 0,1W

3106 4822 051 20229 22R 5% 0,1W
 3107 4822 051 20475 4M7 5% 0,1W
 3108 4822 117 11449 2K2 5% 0,1W
 3109 4822 117 11449 2K2 5% 0,1W
 3123 4822 051 20472 4K7 5% 0,1W

3125 4822 117 10833 10K 1% 0,1W
 3128 4822 117 11449 2K2 5% 0,1W
 3132 4822 051 20479 47R 5% 0,1W
 3134 4822 051 20223 22K 5% 0,1W
 3137 4822 116 83933 15K 1% 0,1W

3141 4822 117 11148 56K 1% 0,1W
 3142 4822 100 12159 100K 30%
 3145 4822 117 11449 2K2 5% 0,1W
 3152 4822 051 20471 470R 5% 0,1W
 3153 4822 051 20471 470R 5% 0,1W

3155 4822 051 20479 47R 5% 0,1W
 3158 4822 051 20471 470R 5% 0,1W
 3159 4822 051 20471 470R 5% 0,1W
 3160 4822 051 20471 470R 5% 0,1W
 3161 4822 051 20223 22K 5% 0,1W

3166 4822 051 20479 47R 5% 0,1W
 3167 4822 051 20479 47R 5% 0,1W
 3169 4822 051 20154 150K 5% 0,1W
 3170 4822 117 10837 100K 1% 0,1W
 3180 4822 117 10833 10K 1% 0,1W

ELECTRICAL PARTSLIST - TUNER BOARD ECO6

- RESISTORS -

3181 4822 051 10102 1K 2% 0,25W
 3186 4822 117 11448 180R 1% 0,1W
 3187 4822 051 10102 1K 2% 0,25W
 3188 4822 117 11449 2K2 5% 0,1W
 3189 4822 051 20223 22K 5% 0,1W

3190 4822 117 10833 10K 1% 0,1W
 3191 4822 051 20472 4K7 5% 0,1W
 3192 4822 051 20105 1M 5% 0,1W
 3193 4822 117 11449 2K2 5% 0,1W
 3194 4822 117 10837 100K 1% 0,1W

3195 4822 051 20474 470K 5% 0,1W
 3196 4822 117 10833 10K 1% 0,1W
 4104 4822 051 20008 Jumper
 4105 4822 051 20008 Jumper
 4106 4822 051 20008 Jumper

4107 4822 051 20008 Jumper
 4108 4822 051 20008 Jumper
 4109 4822 051 20008 Jumper
 4110 4822 051 20008 Jumper

- COILS & FILTERS -

5104 4822 157 11269 Coil MW ANT
 5104 2422 535 91074 Ind Fxd 185μH 5%
 5105 4822 157 11271 Coil LW ANT
 5109 4822 242 70665 Filter SFE10,7MS3-A
 5110 4822 242 70665 Filter SFE10,7MS3-A

5111 2422 549 44023 Ind Var 450kHz
 5112 4822 157 70302 Coil F7MCS-12216N
 5114 4822 157 70302 Coil F7MCS-12216N
 5119 4822 157 11443 Coil 2,4μH
 5121 4822 242 10261 Crystal 75kHz

5122 2422 549 44108 Ind Var 796kHz
 5123 2422 549 44108 Ind Var 796kHz
 5130 4822 157 11843 Coil MD7B-01F
 5131 4822 157 11843 Coil MD7B-01F

- DIODES -

6103 5322 130 34337 Diode BAV99
 6105 4822 130 83075 Diode HN1V02H-B
 6120 4822 130 83757 Diode BAS216
 6130 4822 130 82833 Diode 1SV228
 6131 4822 130 82833 Diode 1SV228

6181 5322 130 34337 Diode BAV99
 6182 4822 130 83757 Diode BAS216
 6183 9340 386 90115 Diode BZX284-C11

- IC & TRANSISTORS -

7101 4822 209 90924 IC TEA5757H/V1
 7102 4822 130 42131 Trans BF550
 7104 4822 130 40855 Trans BC337
 7105 4822 130 40855 Trans BC337
 7109 4822 130 60373 Trans BC856B

7111 5322 130 42755 Trans BC847C
 7122 5322 130 42755 Trans BC847C
 7124 5322 130 42755 Trans BC847C
 7180 4822 130 60373 Trans BC856B
 7181 5322 130 42755 Trans BC847C

7182 5322 130 42755 Trans BC847C
 7183 5322 130 42755 Trans BC847C

- MISCELLANEOUS -

1106 3140 114 50050 Ferrite Bar (For -/00/05)
 1106 4822 526 10176 Ferrite Bar (For -/01/17)
 1121 4822 267 10733 Connector 4P
 1122 4822 267 10954 Connector 5P

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

ELECTRICAL PARTSLIST - CD99 DA11

- CAPACITORS -

2801	482212441751	47µF 20% 50V
2802	482212441751	47µF 20% 50V
2803	482212613695	82pF 1% NP0 63V
2804	482212613695	82pF 1% NP0 63V
2805	482212613695	82pF 1% NP0 63V

2806	482212613695	82pF 1% NP0 63V
2807	482212613691	27pF 1% NP0 63V
2808	532212233538	150pF 2% NP0 63V
2809	482212613691	27pF 1% NP0 63V
2810	482212613691	27pF 1% NP0 63V

2811	532212232659	33pF 5% 50V
2812	532212232448	10pF 5% NP0 63V
2813	482212233127	2,2nF 10% X7R 63V
2814	482212613751	47nF 10% X7R 63V
2815	482212613692	47pF 1% NP0 63V

2816	532212232654	22nF 10% X7R 63V
2817	482212440769	4,7µF 20% 100V
2818	482212613751	47nF 10% X7R 63V
2821	482212614585	100nF 10% X7R 50V
2822	482212613344	1,5nF 5% 63V

2823	482212442383	220µF 20% 4V
2824	482212613751	47nF 10% X7R 63V
2825	482212613344	1,5nF 5% 63V
2826	482212613751	47nF 10% X7R 63V
2827	532212231647	1nF 10% X7R 63V

2828	482212613692	47pF 1% NP0 63V
2829	482212613751	47nF 10% X7R 63V
2830	482212614043	1µF +80-20% Y5V 16V
2831	482212614043	1µF +80-20% Y5V 16V
2832	532212233538	150pF 2% NP0 63V

2833	532212232268	470pF 10% 50V
2834	482212233216	270pF 5% NP0 50V
2835	532212232268	470pF 10% 50V
2836	482212441751	47µF 20% 50V
2837	482212613751	47nF 10% X7R 63V

2838	532212232654	22nF 10% X7R 63V
2839	482212614585	100nF 10% X7R 50V
2840	482212441751	47µF 20% 50V
2841	482212613751	47nF 10% X7R 63V
2842	482212421913	1µF 20% 63V

2843	532212232531	100pF 5% NP0 50V
2844	482212233575	220pF 5% NP0 63V
2845	482212233575	220pF 5% NP0 63V
2846	482212440248	10µF 20% 63V
2848	532212232531	100pF 5% NP0 50V

2849	482212233575	220pF 5% NP0 63V
2850	482212233575	220pF 5% NP0 63V
2851	482212440248	10µF 20% 63V
2853	482212233177	10nF 20% X7R 50V
2854	482212411912	220µF 20% 6,3V

- CAPACITORS -

2855	482212411912	220µF 20% 6,3V
2857	482212412362	47µF 4V 20%
2860	532211680853	560pF 5% NP0 63V
2861	532212231865	1,5nF 10% X7R 63V
2862	482212610326	180pF 5%NP0 63V

2863	482212610326	180pF 5%NP0 63V
2864	482212610326	180pF 5%NP0 63V
2865	482212610326	180pF 5%NP0 63V
2869	482212613751	47nF 10% X7R 63V
2870	482212233575	220pF 5% NP0 63V

2871	482212233575	220pF 5% NP0 63V
2872	482212233575	220pF 5% NP0 63V
2873	482212233575	220pF 5% NP0 63V
2874	482212233575	220pF 5% NP0 63V
2875	482212233575	220pF 5% NP0 63V

- RESISTORS -

3728	482205120479	47R 5% 0,1W
3745	482205120109	10R 5% 0,1W
3757	482205120223	22K 5% 0,1W
3788	482205120472	4K7 5% 0,1W
3800	482205120478	4R70 5% 0,1W

3801	482205120154	150K 5% 0,1W
3802	482205110102	1K 2% 0,25W
3803	482205120273	27K 5% 0,1W
3804	482205120472	4K7 5% 0,1W
3805	482205120273	27K 5% 0,1W

3806	482211710361	680R 1% 0,1W
3807	482211711139	1K5 1% 0,1W
3808	482205120339	33R 5% 0,1W
3809	482205120339	33R 5% 0,1W
3810	482205210478	4R7 5% 0,33W

3811	482205110102	1K 2% 0,25W
3812	482205120474	470K 5% 0,1W
3813	482205120683	68K 5% 0,1W
3814	482205120332	3K3 5% 0,1W
3815	482205120472	4K7 5% 0,1W

3816	482211683933	15K 1% 0,1W
3817	482211710834	47K 1% 0,1W
3818	482205120562	5K6 5% 0,1W
3819	482211683933	15K 1% 0,1W
3820	482211710965	18K 1% 0,1W

3821	482205120332	3K3 5% 0,1W
3822	482205120332	3K3 5% 0,1W
3823	482205120332	3K3 5% 0,1W
3824	482205110102	1K 2% 0,25W
3825	482205120223	22K 5% 0,1W

ELECTRICAL PARTSLIST - CD99 DA11

- RESISTORS -

3826	482205120273	27K 5% 0,1W
3827	482205120339	33R 5% 0,1W
3828	482205120479	47R 5% 0,1W
3829	482205120101	100R 5% 0,1W
3830	482205120472	4K7 5% 0,1W

3835	482205120223	22K 5% 0,1W
3836	482211710833	10K 1% 0,1W
3837	482205120471	470R 5% 0,1W
3838	482205120471	470R 5% 0,1W
3839	482205120471	470R 5% 0,1W

3840	482205120471	470R 5% 0,1W
3841	482205120472	4K7 5% 0,1W
3842	482205110102	1K 2% 0,25W
3843	482205110102	1K 2% 0,25W
3844	482205120101	100R 5% 0,1W

3845	482205120228	2R2 5% 0,1W
3846	482205120223	22K 5% 0,1W
3847	482211711149	82K 1% 0,1W
3848	482211710834	47K 1% 0,1W
3849	482211711148	56K 1% 0,1W

3850	482205120822	8K2 5% 0,1W
3851	482211711148	56K 1% 0,1W
3852	482211710834	47K 1% 0,1W
3853	482211683933	15K 1% 0,1W
3854	482205120822	8K2 5% 0,1W

3855	482211640227	4R6 25% 12V
3856	482205120683	68K 5% 0,1W
3857	482205120683	68K 5% 0,1W
3858	482205120392	3K9 5% 0,1W
3859	482211710834	47K 1% 0,1W

3860	482205110102	1K 2% 0,25W
3861	482211710834	47K 1% 0,1W
3862	482205110102	1K 2% 0,25W
3863	482205210338	3R3 5% 0,33W
3864	482211710833	10K 1% 0,1W

3865	482205110102	1K 2% 0,25W
3867	482205120223	22K 5% 0,1W
3868	482211710833	10K 1% 0,1W
3869	482211710833	10K 1% 0,1W
3871	482205120471	470R 5% 0,1W

3872	482211710834	47K 1% 0,1W
3873	482205120223	22K 5% 0,1W
3874	482205120223	22K 5% 0,1W
3875	482211710833	10K 1% 0,1W
3876	482211710833	10K 1% 0,1W

3878	482205120471	470R 5% 0,1W
3879	482211710834	47K 1% 0,1W
3880	482205120339	33R 5% 0,1W
3881	482211710353	150R 1% 0,1W
3882	482205120101	100R 5% 0,1W

- RESISTORS -

3883	482205110102	1K 2% 0,25W
3884	482205110102	1K 2% 0,25W
3886	482211710833	10K 1% 0,1W
3887	482211710833	10K 1% 0,1W
3888	482205120472	4K7 5% 0,1W

3889	482205110102	1K 2% 0,25W
3890	482211710837	100K 1% 0,1W
3891	482211710837	100K 1% 0,1W
3892	482211710837	100K 1% 0,1W
3893	482211710837	100K 1% 0,1W

3894	482211710833	10K 1% 0,1W
3895	482211710833	10K 1% 0,1W
3896	482211710833	10K 1% 0,1W
3897	482211710833	10K 1% 0,1W
3898	482211710833	10K 1% 0,1W

3899	482211710833	10K 1% 0,1W
3900	482205120223	22K 5% 0,1W
4801	482205120008	Jumper
4802	482205120008	Jumper
4807	482205120008	Jumper

4808	482205120008	Jumper
4809	482205120008	Jumper
4810	482205120008	Jumper
4812	482205120008	Jumper
4813	482205120008	Jumper

4814	482205120008	Jumper
4815	482205120008	Jumper
4823	482205120008	Jumper
4824	482205120008	Jumper
4828	482205120008	Jumper

4831	482205120008	Jumper
4832	482205120008	Jumper
4838	482205120008	Jumper
4845	482205120008	Jumper
4847	482205120008	Jumper

4848	482205120008	Jumper
4850	482205120008	Jumper
4853	482205120008	Jumper
4856	482205120008	Jumper
4857	482205120008	Jumper

4859	482205120008	Jumper
4863	482205120008	Jumper
4865	482205120008	Jumper
4866	482205120008	Jumper
4872	482205120008	Jumper

4877	482205120008	Jumper
4881	482205120008	Jumper
4884	482205120008	Jumper
4885	482205120008	Jumper
4886	482205120008	Jumper

ELECTRICAL PARTSLIST - CD99 DA11**- RESISTORS -**

4888	482205120008	Jumper
4889	482205120008	Jumper

- COILS & FILTERS -

1810	482224273557	Filter CST8,46MTW-TF01
5803	482215711231	Coil LAN02TB1R0J

- DIODES -

6877	482213011564	Diode UDZ3.9B
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- IC & TRANSISTORS -

7800	482220917324	IC SAA7325H
7802	532220911517	IC PC74HCU04T
7803	532213060123	Trans BC807-40
7804	532220982941	IC LM358D
7807	532213042755	Trans BC847C
7808	482220932852	IC TDA7073A/N2
7809	482220932852	IC TDA7073A/N2
7810	482220933165	IC TDA1308T/N1
7875	482213060511	Trans BC847B

- MISCELLANEOUS -

1800	482226510925	Connector 15P
1823	482226511207	Connector 6P
1824	482226511207	Connector 6P
8000	482232012178	Flexible Foil 15P

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

ELECTRICAL PARTSLIST - RECORDER BOARD**- CAPACITORS -**

2703	482212481151	22µF	50V	
2704	482212481151	22µF	50V	
2706	482212440433	47µF	20%	25V
2707	482212440196	220µF	20%	16V
2708	482212440433	47µF	20%	25V
2709	482212440433	47µF	20%	25V
2710	482212441584	100µF	20%	10V
2711	482212481151	22µF	50V	
2712	482212612878	1,5nF	10%	16V
2714	482212612878	1,5nF	10%	16V
2715	482212151387	10nF	20%	16V
2716	482212612882	100nF	+80-20%	50V
2719	482212613098	5,6nF	20%	16V
2721	482212612878	1,5nF	10%	16V
2722	482212151387	10nF	20%	16V
2723	482212612882	100nF	+80-20%	50V
2726	482212613098	5,6nF	20%	16V
2727	482212612878	1,5nF	10%	16V
2728	482212611714	4,7nF	20%	
2729	482212611714	4,7nF	20%	
2730	202030090561	1,2nF	10%	
2732	482212210577	3,3nF	10%	16V
2733	482212151387	10nF	20%	16V
2738	482212151387	10nF	20%	16V
2739	482212151387	10nF	20%	16V
2750	482212613098	5,6nF	20%	16V
2751	482212613098	5,6nF	20%	16V

- RESISTORS -

3701	482211652175	100R	5%	0,5W
3703	482211683868	150R	5%	0,5W
3704	482211683872	220R	5%	0,5W
3706	482211652272	330K	5%	0,5W
3707	482211652285	470K	5%	0,5W
3710	482211652264	27K	5%	0,5W
3712	482211652238	12K	5%	0,5W
3713	482211683868	150R	5%	0,5W
3714	482211683872	220R	5%	0,5W
3716	482211652272	330K	5%	0,5W
3719	482211652264	27K	5%	0,5W
3720	482211652238	12K	5%	0,5W
3722	482211652257	22K	5%	0,5W
3723	482211652257	22K	5%	0,5W
3726	482211652256	2K2	5%	0,5W

- RESISTORS -

3727	482211652256	2K2	5%	0,5W
3730	482211683868	150R	5%	0,5W
3731	482211652291	56K	5%	0,5W
3732	319801101590	15R	5%	0,5W
3733	482211130893	4M7	5%	0,2W
3734	482205021003	10K	1%	0,6W
3743	482211683883	470R	5%	0,5W
3744	482211683883	470R	5%	0,5W
3747	482211683868	150R	5%	0,5W
3748	482211683883	470R	5%	0,5W
3749	482211683883	470R	5%	0,5W
3761	482211652289	5K6	5%	0,5W
3762	482211652289	5K6	5%	0,5W

- COIL -

5701	482215710371	Coil 100kHz
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- DIODE -

6704	482213030621	Diode 1N4148
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- IC & TRANSISTORS -

7702	482213040981	Trans BC337-25
7705	482220917498	IC AN7323
1707	482227711504	Push Switch

- MISCELLANEOUS -

1725	482226511207	Connector 6P
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Note : Only these parts mentioned in the list are normal service parts.