

Service
Service
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Service Manual



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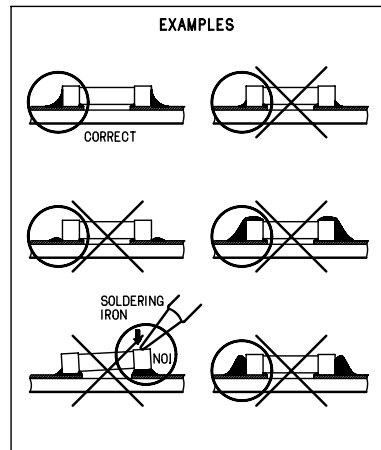
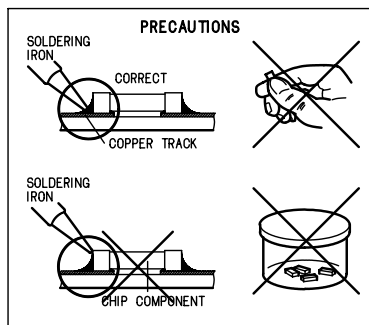
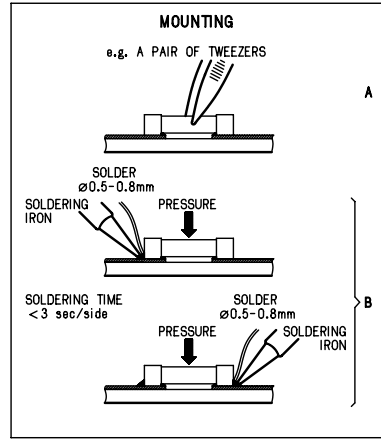
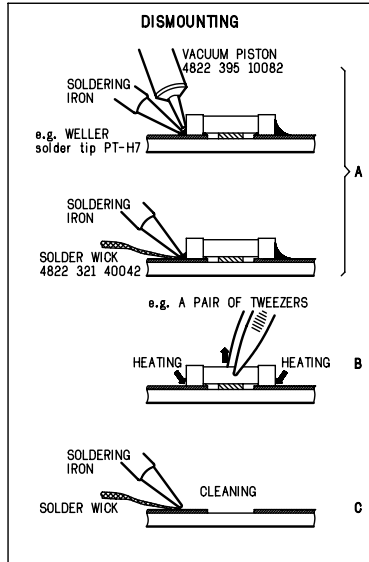
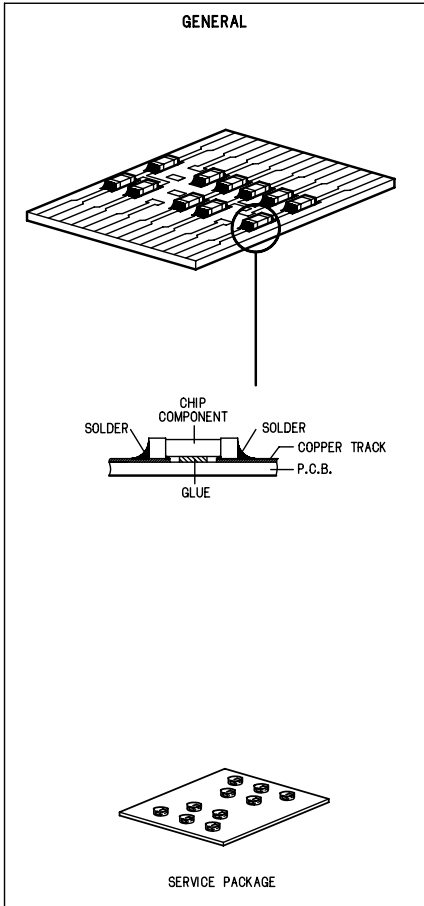
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Safety regulations require that the set be restored to its original condition and that parts which are identical with those specified be used.

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

i AVVERTIMENTO

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

©

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

SAFETY



f

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

d

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

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 spårren är urkopplad. Betrakta ej strålen.

©

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.

Advarsel !

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

β Varoitus !

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

f

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

TECHNICAL SPECIFICATIONS

GENERAL

| | |
|-----------------------|----------------------|
| Mains voltage | -/00 : 220 - 230 V |
| | -/17 : 120v |
| Mains frequency | -/00 : 50 Hz |
| | -/17 : 60 Hz |
| Battery | mains : 4.5 V |
| Power consumption | max. : 17 W |
| | standby : 3.4 W |
| Dimension (W x H x D) | : 170 x 190 x 190 mm |
| Weight | : 2.1 Kg |

AMPLIFIER

| | |
|--------------------|---------------------------------|
| Output power | mains : 2 x 0.8 W |
| Speaker impedance | : 2 x 8 ohm |
| Frequency response | : 100 Hz - 10 kHz (± 4 dB) |

TUNER - FM SECTION

| | |
|-----------------|--------------------------|
| Tuning range | : 87.5 - 108 MHz |
| IF frequency | : 10.7 MHz \pm 0.3 MHz |
| Sensitivity | : 3 μ V at 26dB S/N |
| Selectivity | : 24 dB at 300kHz |
| IF rejection | : 55 dB |
| Image rejection | : 26 dB |

TUNER - AM SECTION

| | |
|-----------------|----------------------------------|
| Tuning range | MW : 526.5 – 1606.5 kHz |
| | -/17 : 520 - 1722 kHz |
| IF frequency | : 468 kHz \pm 3 kHz |
| Sensitivity | MW : 69 dB μ V/m at 26dB S/N |
| Selectivity | M W : 20 dB |
| IF rejection | MW : 28 dB |
| Image rejection | MW : 32 dB |

COMPACT DISC

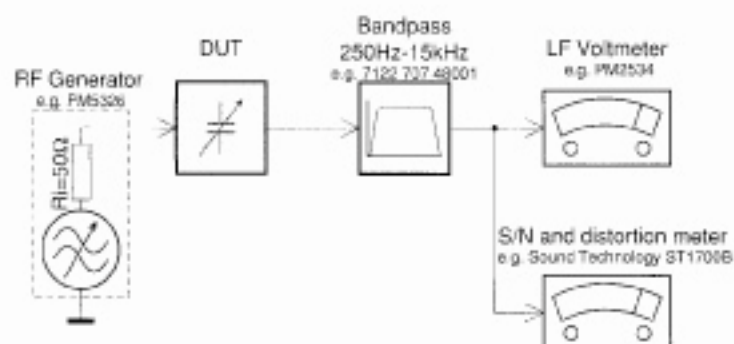
| | |
|--------------------|-------------------|
| Frequency response | : 125 Hz - 10 kHz |
| S/N ratio | : 60 dB |
| Channel difference | 1 kHz : 2 dB |
| Channel crosstalk | 1 kHz : 40 dB |
| Laser wavelength | : 780 \pm 20 nm |
| Laser light power | : < 0.5 mW |

SERVICE TOOLS

| | |
|---|----------------|
| Audio signal disc SBC 429..... | 4822 397 30184 |
| Playability test disc SBC 444..... | 4822 397 30245 |
| Test disc 5 (disc without errors) + | |
| Test disc 5A (disc with dropout errors, black spots and fingerprints) | |
| SBC 426/426A..... | 4822 397 30096 |
| Burn in test disc (65 min. 1kHz signal at -30 dB level without "pause")..... | 4822 397 30155 |
| Universal test cassette Fe SBC 420..... | 4822 397 30071 |

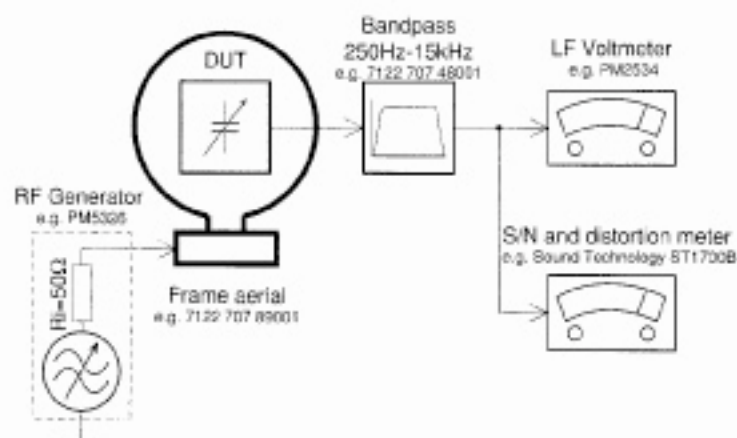
SERVICE MEASUREMENTS

Tuner FM



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

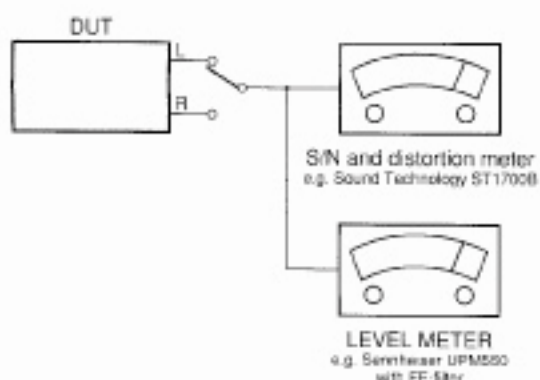
Tuner AM (MW,LW)



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).

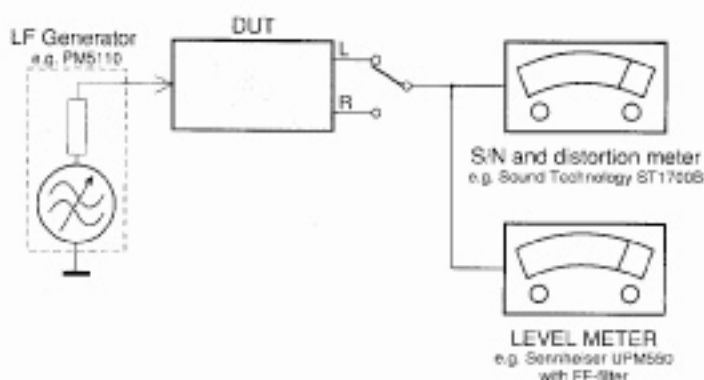
CD

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



RECORDER

Use Universal Test Cassette Fe SBC420 4822 397 30071



CONTROLS

•CD PLAYER

- 1 **STOP** 9
 - stops CD playback;
 - stops sleep function in CD mode;
 - stops the active CD alarm for 24 hours.
- 2 **PLAY/PAUSE 2;**
 - starts/ pauses CD playback.
- 3 **SEARCH** , S
 - skips CD tracks/ searches for a particular passage.

•GENERAL

- 4 **SLEEP**
 - activates and adjusts the sleep time.
- 5 **REPEAT ALARM/ BRIGHTNESS CONTROL**
 - changes the brightness of the display illumination;
 - switches off the alarm for a 9 minute period;
 - stops sleep function in CD, buzzer or radio mode.
- 6 **WEEKEND-SLEEPER**
 - deactivates alarm 1 and/ or 2 for the weekend.

7 Display

- shows the clock/ alarm time and status of the set.

8 ALARM 1 MODE/OFF or ALARM 2 MODE/OFF

- sets/ reviews/ switches off alarm 1 or 2.

•RADIO

9 ON/OFF

- switches the radio on/ off;
- stops sleep function in radio mode;
- stops the active radio alarm for 24 hours.

0 FM/AM (MW)

- selects the radio waveband.

•SETTING TIMES

- ! **ALARM 1, ALARM 2, TIME**
 - sets the respective alarm or clock time @ 7, 8

- adjusts clock/ alarm times;

- adjusts the gentle wake minimum and maximum volume level for alarm 1 or 2;

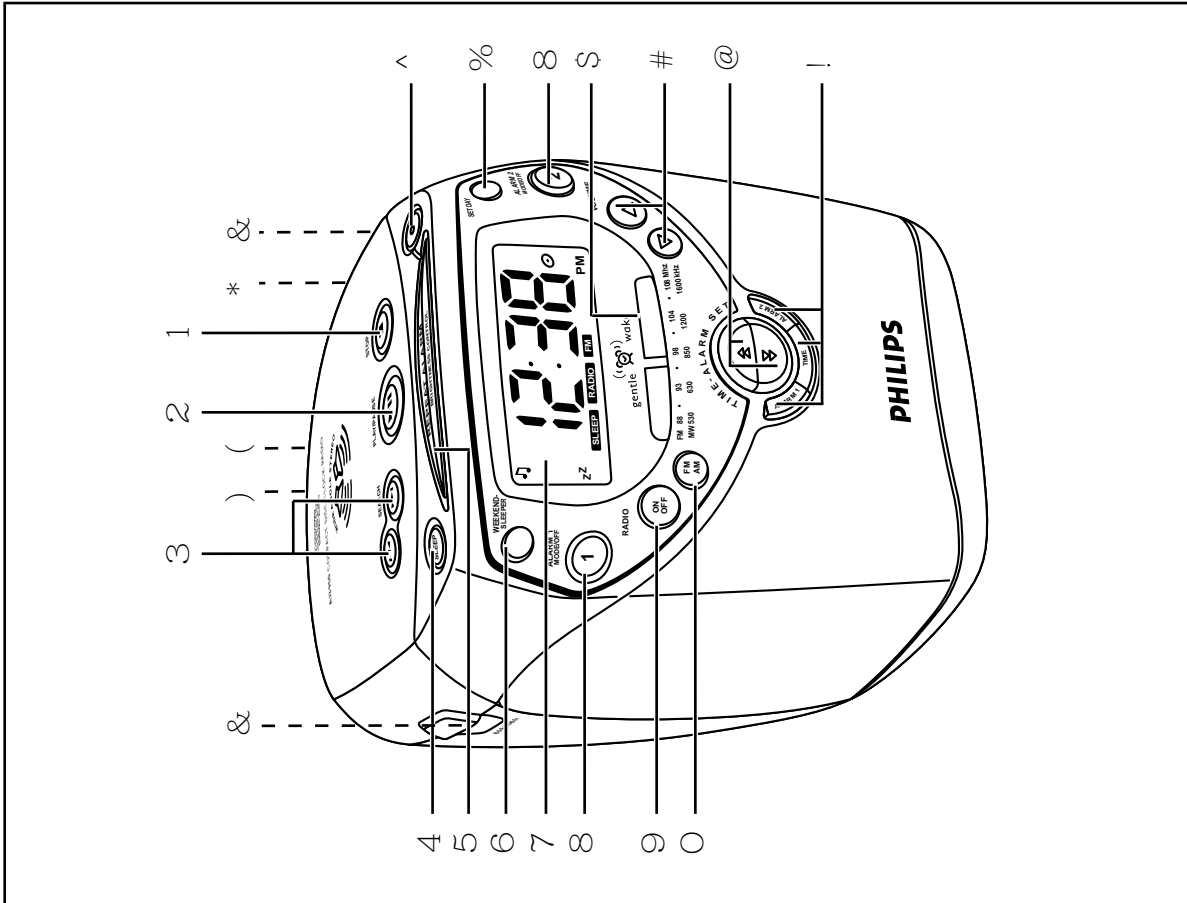
- selects a CD wake up track for alarm 1 or 2.

VOLUME S, 3

- adjusts the sound level.

S Frequency indicator

- shows the radio frequency of your selected waveband



% SET DAY

- sets the day for weekend sleeper activation.

^ 24 HR RESET

- stops the active buzzer, radio or CD alarms for 24 hours.

& LIFT TO OPEN

- opens/ closes CD door.

* TUNING

- tunes to a radio station.

(Pigtail

- aerial to improve FM reception.

) Mains lead

- for AC mains supply.

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

CAUTION

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

INSTALLATION

Mains Supply and Demo mode

- 1 Check if the power voltage, shown on the type plate on the bottom of the set, corresponds to your local mains supply. If it does not, consult your dealer or service centre.

- 2 Connect the mains plug into the wall socket. The mains supply is now switched on and the display will show the **PHILIPS demo mode**.

PHILIPS demo mode:
™ PH..IL..IPS scrolls across the display continuously.

- Press any control (with the exception of **REPEAT ALARM/ BRIGHTNESS CONTROL** on the set) to exit the demo mode.

- 3 To disconnect the set completely from the mains supply, withdraw the mains plug from the wall socket.

Standby power consumption (clock mode).....3 W

MEMORY BACKUP

The memory backup conveniently allows your day, alarm and clock time settings to be stored for up to 3 minutes when there is a mains interruption e.g. AC mains failure.

The complete CD clock radio and illumination will be switched off. As soon as the mains supply returns, the display will indicate the correct time.

- If mains supply returns after 3 minutes, the display will show the **PHILIPS demo mode** and you will need to re-enter the day, alarm and clock times.

BASIC FEATURES

Illumination brightness

- Press **REPEAT ALARM/ BRIGHTNES CONTROL** once or more.

™ The brightness of the display will change in this sequence:

LOW * MEDIUM * BRIGHT * LOW...

Volume

Press **VOLUME S** or **3** to adjust the volume level. The volume level **UO**: is indicated as a number from 0-32.

SETTING THE CLOCK AND ALARM TIMES

The time is displayed using the 24 hour clock.

- 1 Press **TIME, ALARM 1** or **ALARM 2** briefly until the respective clock or alarm time display flashes.
- 2 Press and hold down **7, 8** to adjust both the hours and minutes.
 - By pressing **7** or **8** respectively, the time increases/ decreases rapidly and continuously from minutes to hours. Release **7** or **8** when you have reached the correct setting.
 - If you need to adjust the time slowly, minute by minute, press **7** or **8** briefly and repeatedly.
- 3 Press **TIME, ALARM 1** or **ALARM 2** to confirm your respective time setting.

SETTING THE DAY

Setting the day enables you to set the **WEEKEND-SLEEPER** function. If you attempt to use the **WEEKEND-SLEEPER** prior to setting the day (Monday to Sunday, 1-7) **----** will show briefly in the display to remind you to set the day first.

- 1 Press **SET DAY**.
- 2 While the day display is shown, press **SET DAY** again once or more to select the day numbered from **DAY 1-7** (Monday-Sunday).
™ The display will revert to show the clock time.

CD PLAYBACK

- 1 To open the CD door, lift at the edge marked **LIFT TO OPEN**.
- 2 Insert a CD with the printed side facing up, and close the door.
- 3 Press **PLAY/ PAUSE 2**; to start playback.
™ The CD indicator **CD**: - - and the total number of tracks are shown, followed by the first track number before returning to clock time.
 - **door**: is shown if you have not closed the CD door/ open the CD door during playback.
 - **noCD** is shown if no CD has been inserted/ inserted incorrectly.

- **nFCd** is shown if the CD-R(W) is non-finalized
- **Err**: indicates a general error in operation of the set.

- 4 Adjust the sound with **VOLUME S** or **3**.
- 5 To interrupt, press **PLAY/ PAUSE 2**; .
 - The current track number shows briefly before returning to clock time. flashes during pause.
- 6 Press **PLAY/ PAUSE 2**; again to resume playback.
- 7 Press **STOP 9** to stop playback.
™ The display returns to clock time.

Selecting a different track during playback

The track number appears briefly in the display when you press **SEARCH** or **S** to skip tracks.

- Press **SEARCH S** once or more to skip to the next track(s).
- Press **SEARCH** more than once to skip to previous tracks.
- Press **SEARCH** once and playback will return to the beginning of the current track.

Finding a passage within a track

- 1 During playback, press and hold down **SEARCH** or **S**.
™ The CD is played at high speed and low volume; the display will show **CD**: and your current track number.
- 2 Release **SEARCH** or **S** when you recognize the passage you want.
™ Normal CD playback and standby clock time resumes.

RADIO

- 1 Press **ON/ OFF** to switch on the radio.
™ **t u** is displayed briefly followed by the clock time, and the last selected waveband.
- 2 Press **FM/ AM** if you wish to change waveband.
- 3 Adjust the sound using **VOLUME S** or **3**.
- 4 Adjust the **TUNING** wheel to tune to a radio station.

To improve reception:

- FM**: Extend pigtail at the back of the set fully for optimum reception.
- AM (MW)**: uses a built-in aerial. Direct the antenna by adjusting the position of your set.
- 5 Press **ON/ OFF** to switch off the radio.
™ and the waveband disappear from the display.

SETTING THE ALARM OPTIONS

General

Two different alarm times, **ALARM 1** or **2** can be set in the CD, radio or buzzer modes. This can be useful when for example you need to be woken up at a different time during the week and at the weekend.

- Remember to first set the **DAY**, clock and alarm time functions correctly!
- Make sure your selected alarm symbol is shown.

Viewing the Alarm Mode Options

- 1 Select your choice of alarm mode by pressing **ALARM 1** or **ALARM 2 MODE/OFF** once or more to find your respective mode.

™ The alarm mode display sequence is shown:

- **Lo:00** - default volume level for start of gentle wake alarm
- **H1:16** - default maximum volume level for gentle wake alarm
- Followed by the 3 different alarms: (buzzer) **k - AL**, or (radio) **m t u**, or CD mode **o** with CD and a track number 1 - 99.

- 2 Read the following chapters to adjust or select the respective modes.

Adjusting the Gentle Wake Volume

A sure way of getting up in the mornings, the **gentle wake** volume for the alarm begins from gentle volume e.g. **Lo:00** (low) and gradually increases to a higher volume e.g. **H1:11**.

The default volume range is **Lo:00** and **H1:16**. If you wish to change the default volume for the buzzer, radio or CD alarm:

- 1 In the standby mode, press **ALARM 1 MODE/OFF** or **ALARM 2 MODE/OFF** once.
- 2 As soon as **Lo:00** appears, press **7** or **8** once or more to adjust the starting volume of your alarm.
- 3 To set the maximum volume for your alarm, press **ALARM 1 MODE/OFF** or **ALARM 2 MODE/OFF** again to change to the **H1:16** display.
- 4 As soon as **H1:16** appears, press **7** or **8** until you reach the desired volume level (10 - 32).

Notes:

- The **H1** volume is always greater or equal to the

Lo volume: e.g.i. Lo:1.5, H1:1.9

e.g.ii. Lo:1.2, H1:1.2

- The starting volume is Lo:00, with a possible low volume range 00-32, and the maximum volume is H1:32, with a possible high volume range 10-32.
- The gentle wake volume settings do not affect normal CD and radio playback volume level.
- It is not possible to review the gentle wake volume range during the active alarm call as pressing **ALARM 1 MODE/OFF** or **ALARM 2 MODE/OFF** cancels the alarm completely.
- During the alarm call, if you press 7 or 8 the high volume stops increasing immediately.

Selecting Buzzer or Radio Alarm

- Press **ALARM 1 MODE/OFF** or **ALARM 2 MODE/OFF** repeatedly until the (buzzer) k AL or (radio) m t u display is shown.

Note:

If you have selected the radio alarm m t u, make sure you have tuned properly to a station.

CD Alarm Mode: Selecting a CD track

You can program and select a CD track number between 1-99, when the set is in the standby or radio playback mode. However, if the track number programmed does not exist on your CD, the CD will start playback from the first track during the alarm call.

- 1 Insert a CD into the CD compartment.
 - 2 Press **ALARM 1 MODE/OFF** or **ALARM 2 MODE/OFF** repeatedly until the CD and track number display is shown.
- See figure 3.
- 3 As soon as the CD alarm display appears, press 7 or 8 until the desired track number is shown.

™ The display returns to standby clock time.

- 4 To review your programmed track number, press **ALARM 1 MODE/OFF** or **ALARM 2 MODE/OFF** again repeatedly until the CD alarm display is shown.

Note:

- The buzzer alarm option will automatically replace the CD alarm if you have:

- inserted a CD incorrectly;
- inserted a damaged CD;
- forgotten to insert any CD;
- not closed the CD door properly.

SWITCHING OFF THE ALARM

There are three ways of switching off the alarm.

Unless you cancel the alarm completely, the

24 HOUR ALARM RESET will be automatically selected after 59 minutes, from the time your alarm time first goes off.

24 HOUR ALARM RESET

If you want the alarm mode to be stopped immediately but also wish to retain the same alarm setting for the following day:

- Press from 3 possible options according to your selected alarm:
 - a **24 HR RESET** to switch off the buzzer, radio or CD alarms
 - b **STOP 9** CD alarm only
 - c **ON/OFF** radio alarm only.
- ™ You will hear a beep tone confirming 24 hour reset activation.

CANCELING THE ALARM COMPLETELY

To cancel the set alarm time before it goes off, or during the alarm call:

- Press **ALARM 1 MODE/OFF** or **ALARM 2 MODE/OFF** once or more until the selected alarm indicator disappears from the display.
- ™ If you cancel the alarm during the alarm call, you will also hear a beep tone confirming the alarm has been cancelled.

REPEAT ALARM

This will repeat your alarm call at 9-minute intervals.

- During the alarm call, press **REPEAT ALARM/ BRIGHTNESS CONTROL**.
- Repeat if desired up to an hour.

Notes:

- The selected alarm mode k, m, or u indicators will flash throughout the repeat alarm duration.
- If you are using the CD alarm mode, CD playback resumes at the point interrupted by the repeat alarm. During the CD alarm, CD playback continues for up to an hour unless you cancel/ reset the alarm.

WEEKEND-SLEEPER

This feature deactivates the alarm every Saturday and Sunday and resumes the alarm function Monday to Friday. Make sure, however, that you have set the day first.

- See chapter on SETTING THE DAY.
- 1 Press **WEEKEND-SLEEPER** once or more until Z appears for one or both alarms.
 - 2 To cancel the weekend-sleeper function repeat step 1 until Z disappears from the display. See figure 4.

SLEEP

About Sleep

The CD clock radio has a built-in sleep timer which enables the set to be automatically switched off during radio or CD playback after a set period of time. There are four sleep times before the set turns itself off:

- 10, 30, 60, 90 minutes and off.
- The sleep function does not affect the operation of your alarm settings.

Setting Sleep

- 1 Press **PLAY/ PAUSE 2**, (CD) or **ON/OFF** (radio) to switch on the respective mode.
- For the CD mode, make sure you have inserted a disc first.
- 2 Select your sleep time by pressing **SLEEP** once or more until the desired sleep time is shown. See figure 5.

- 3 To cancel the sleep function you can either:
 - press **SLEEP** once or more until disappears from the display
 - press **REPEAT ALARM/ BRIGHTNESS CONTROL**
 - press **STOP 9** (CD only)
 - press **ON/OFF** (radio only).

MAINTENANCE

General (See figure 6)

- If you do not intend to use the CD clock radio for a long time, withdraw the power plug from the wall outlet.
- Do not expose the set or CDs 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.

CD player and CD handling

- The lens of the CD player should never be touched!
- Sudden changes in the surrounding temperature can cause condensation to form and the lens of your CD player to cloud over. Playing a 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 shut the CD door to keep the CD compartment dust-free. To clean, dust the compartment with a soft dry cloth.
- 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 replace the CD in 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.

Environmental information

All unnecessary packaging material has been omitted to make the packaging easy to separate into three 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 local regulations on the disposal of packing materials and old equipment.

TROUBLESHOOTING

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

Problem

Possible Cause
- Remedy

•RADIO

Occasional crackling sound during FM broadcast

Weak signal
- Extend pigtail fully

No sound

Volume not adjusted
- Adjust the volume

Continuous crackling/ hiss disturbance during AM (MW) broadcast

Electrical interference from TVs, computers, fluorescent lamps, etc.
- Move set away from other electrical equipment

No reaction to any operation of the buttons

Electrostatic discharge
- Disconnect the set from the power supply and reconnect the set after 5 minutes

•ALARM

The alarm does not function

Alarm time not set
- See chapter on SETTING THE CLOCK AND ALARM TIMES

•CD PLAYER

CD playback does not work

CD badly scratched or dirty
- Replace/ clean CD

Laser lens steamed up

- Wait until lens has acclimatized

Laser lens dirty

- Clean lens by playing a CD lens cleaning disc

CD-R(W) is non-finalized

- Use a finalized CD-R(W)

Alarm mode not selected

- See chapter on SETTING THE ALARM OPTIONS

Volume too low for radio/ CD/ buzzer alarm mode.

- See chapter on Adjusting the Gentle wake volume

•WEEKEND-SLEEPER

WEEKEND-SLEEPER does not function

Day selection not set/ incorrect

- See chapter on SETTING THE DAY

WEEKEND-SLEEPER not set

- Set WEEKEND-SLEEPER

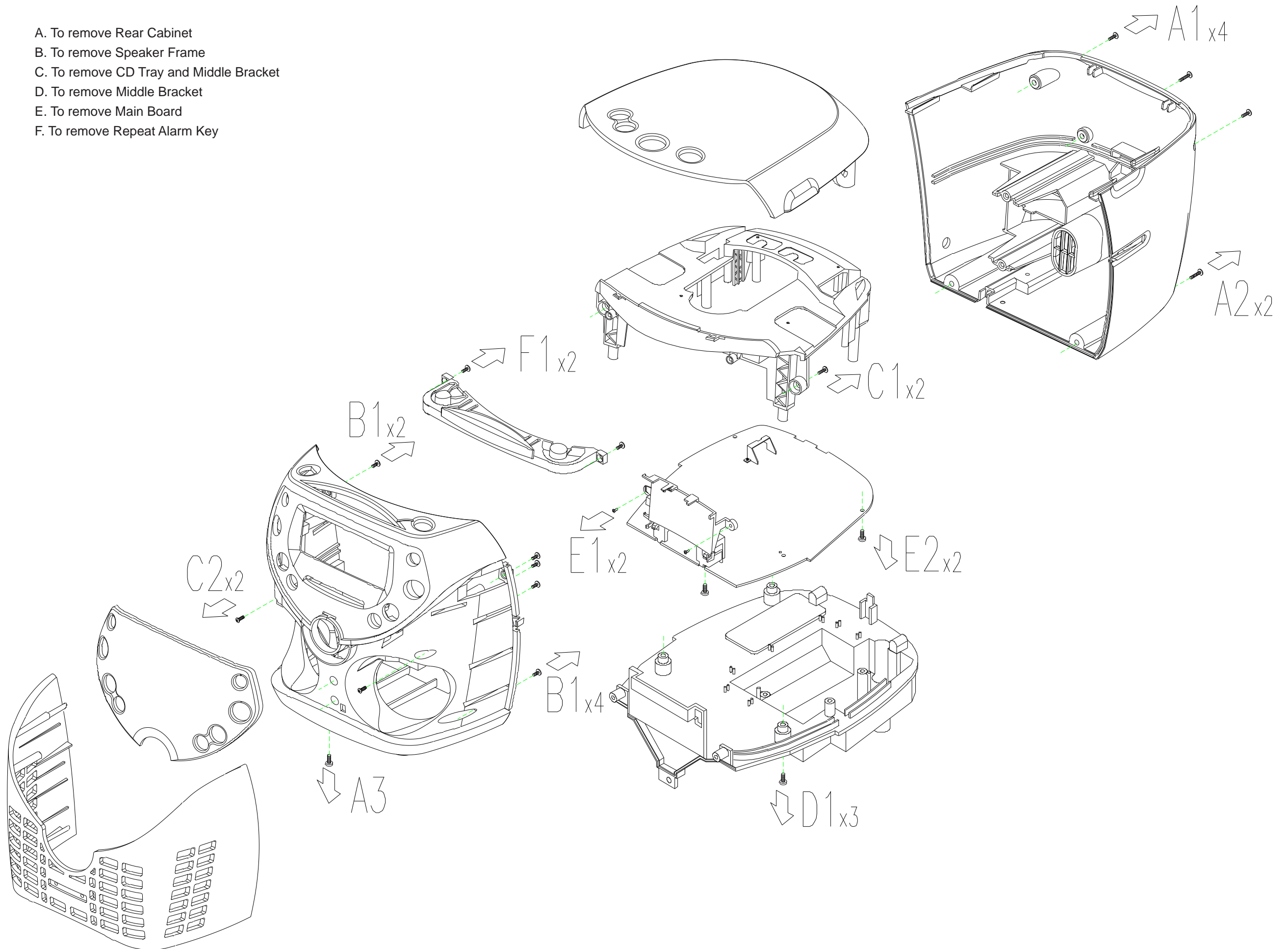
This product complies with the radio interference requirements of the European Union.

DISASSEMBLY DIAGRAM

4-1

4-1

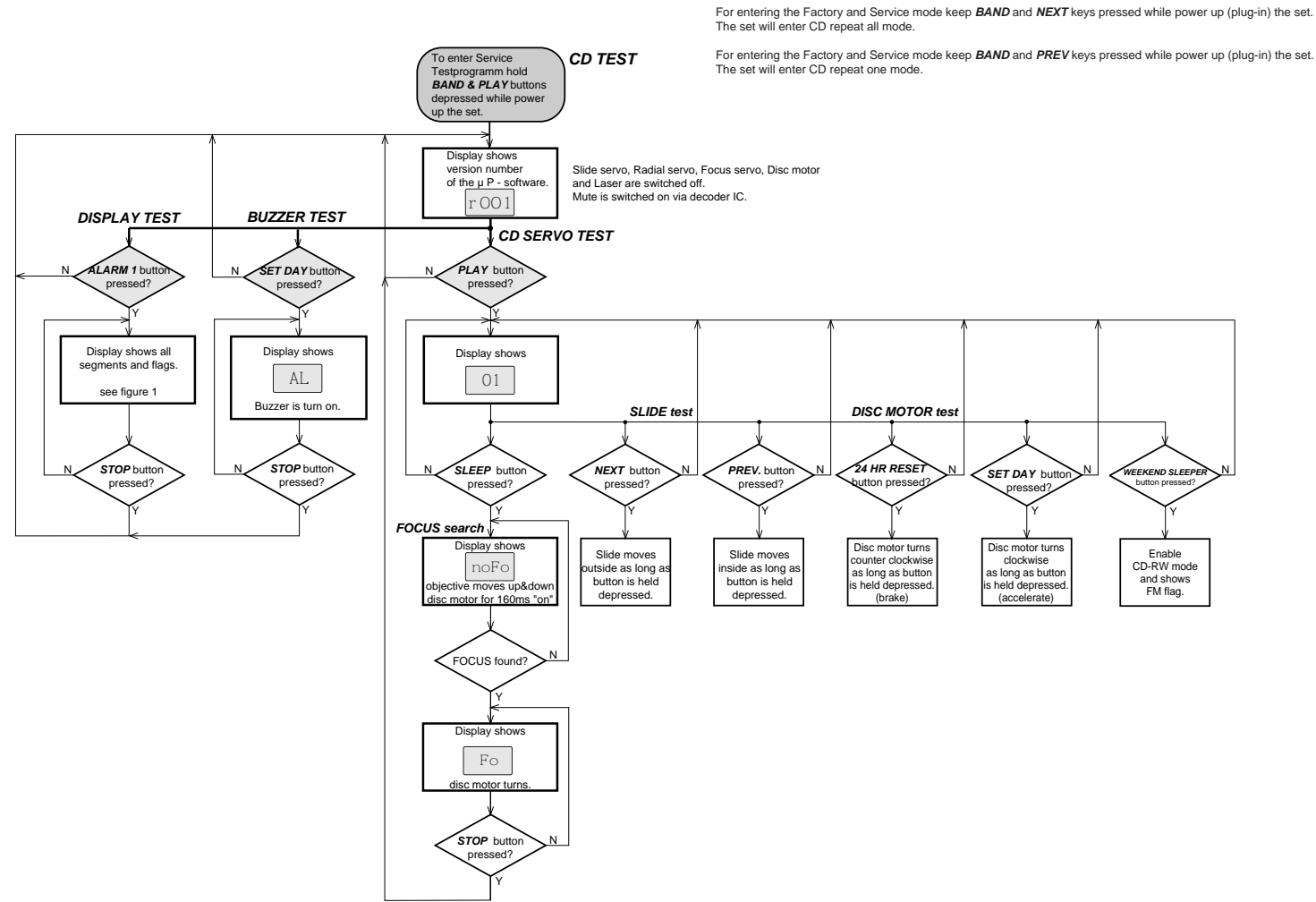
- A. To remove Rear Cabinet
- B. To remove Speaker Frame
- C. To remove CD Tray and Middle Bracket
- D. To remove Middle Bracket
- E. To remove Main Board
- F. To remove Repeat Alarm Key



- 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



Abbreviations and Pin-description of CD Ics

SERVO PROCESSOR SAA7325H

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

Abbreviations and Pin-description of CD Ics

SERVO PROCESSOR SAA7325H

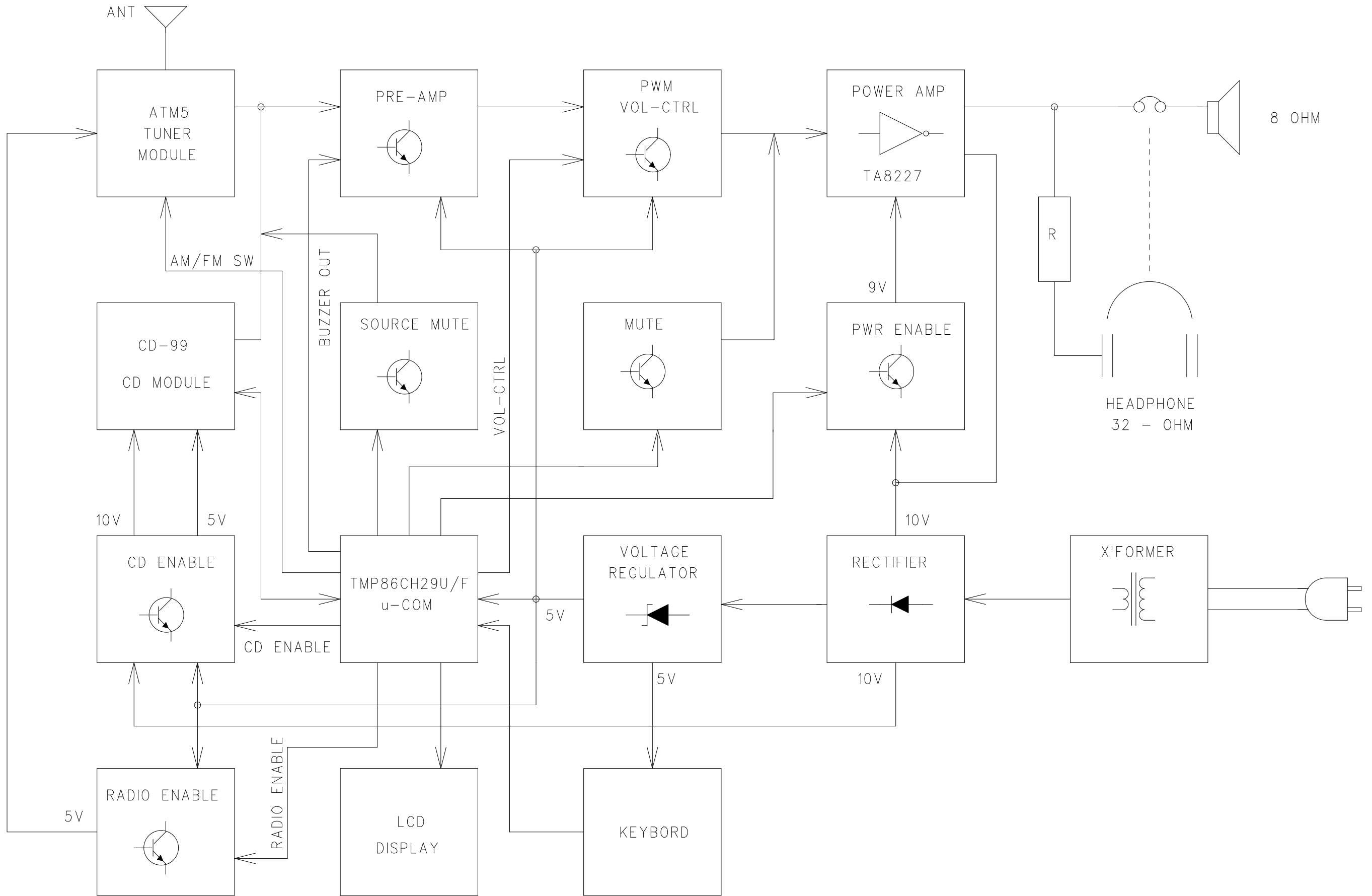
| SYMBOL | PIN | DESCRIPTION |
|---------------------|-------------------|---|
| RAB | 41 | microcontroller interface R/W and load control line input (4-wire bus mode) |
| SILD | 42 | microcontroller interface R/W and load control line input (4-wire bus mode) |
| STATUS | 43 | servo interrupt request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

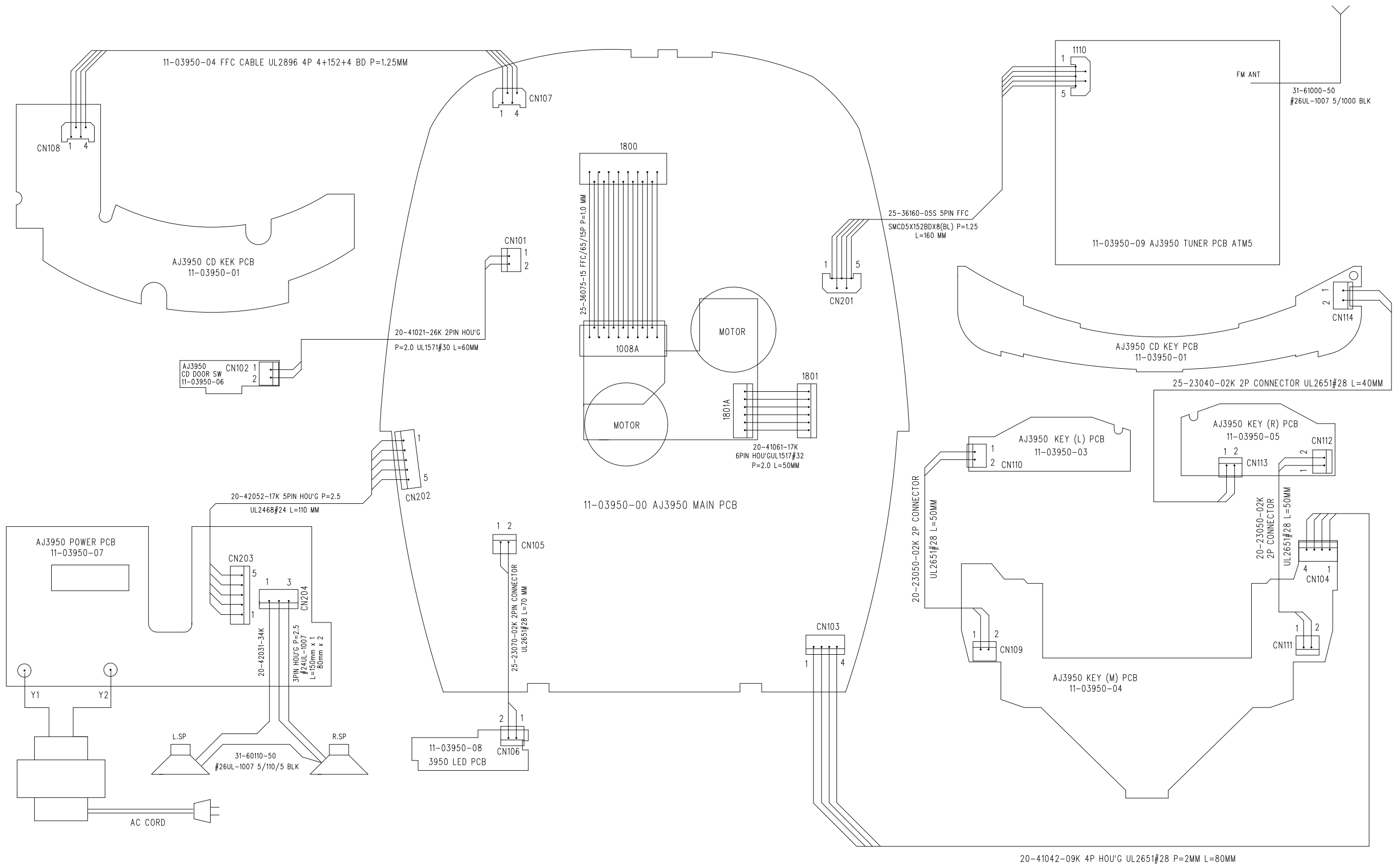
5-1



WIRING DIAGRAM

6-1

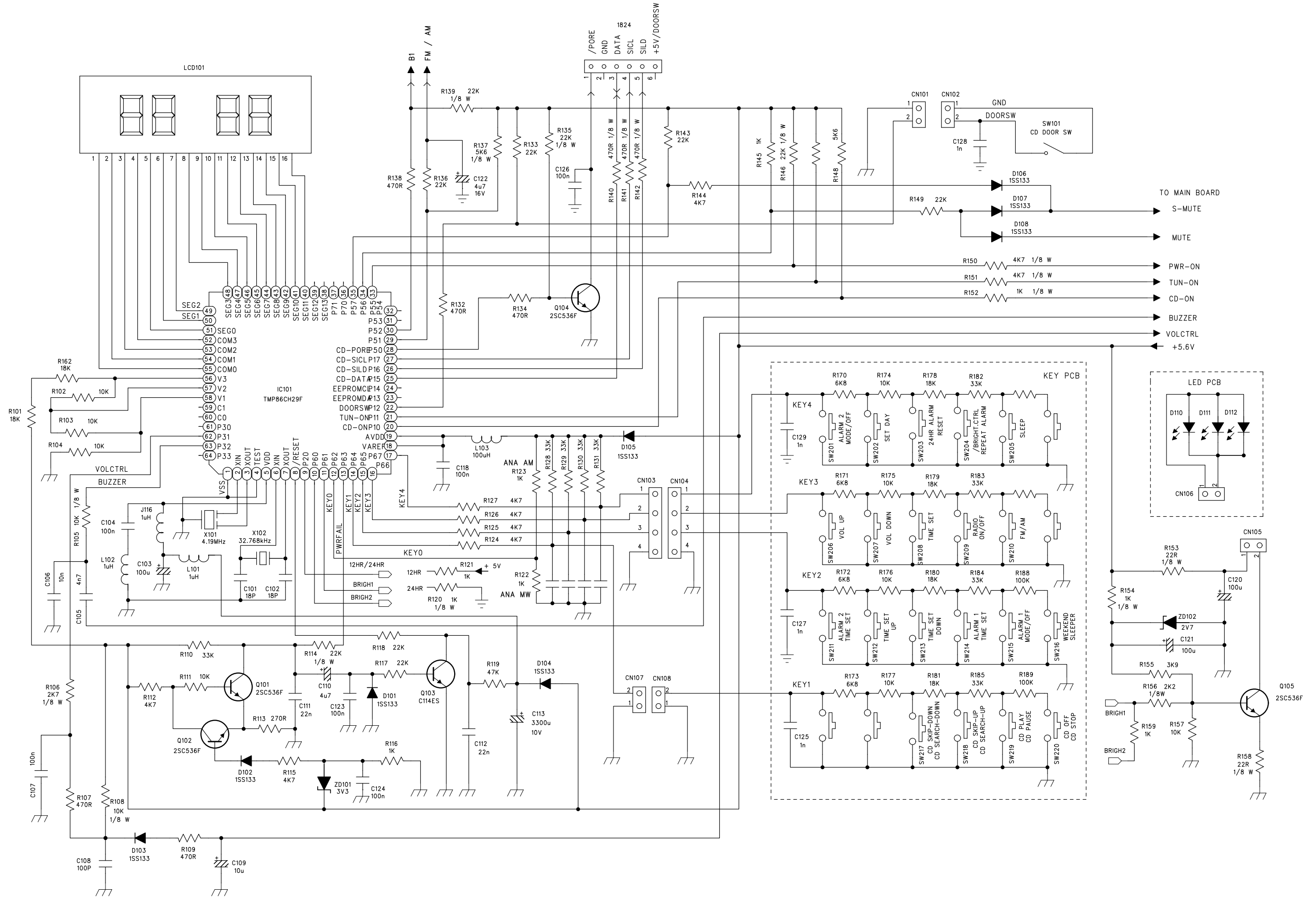
6-1



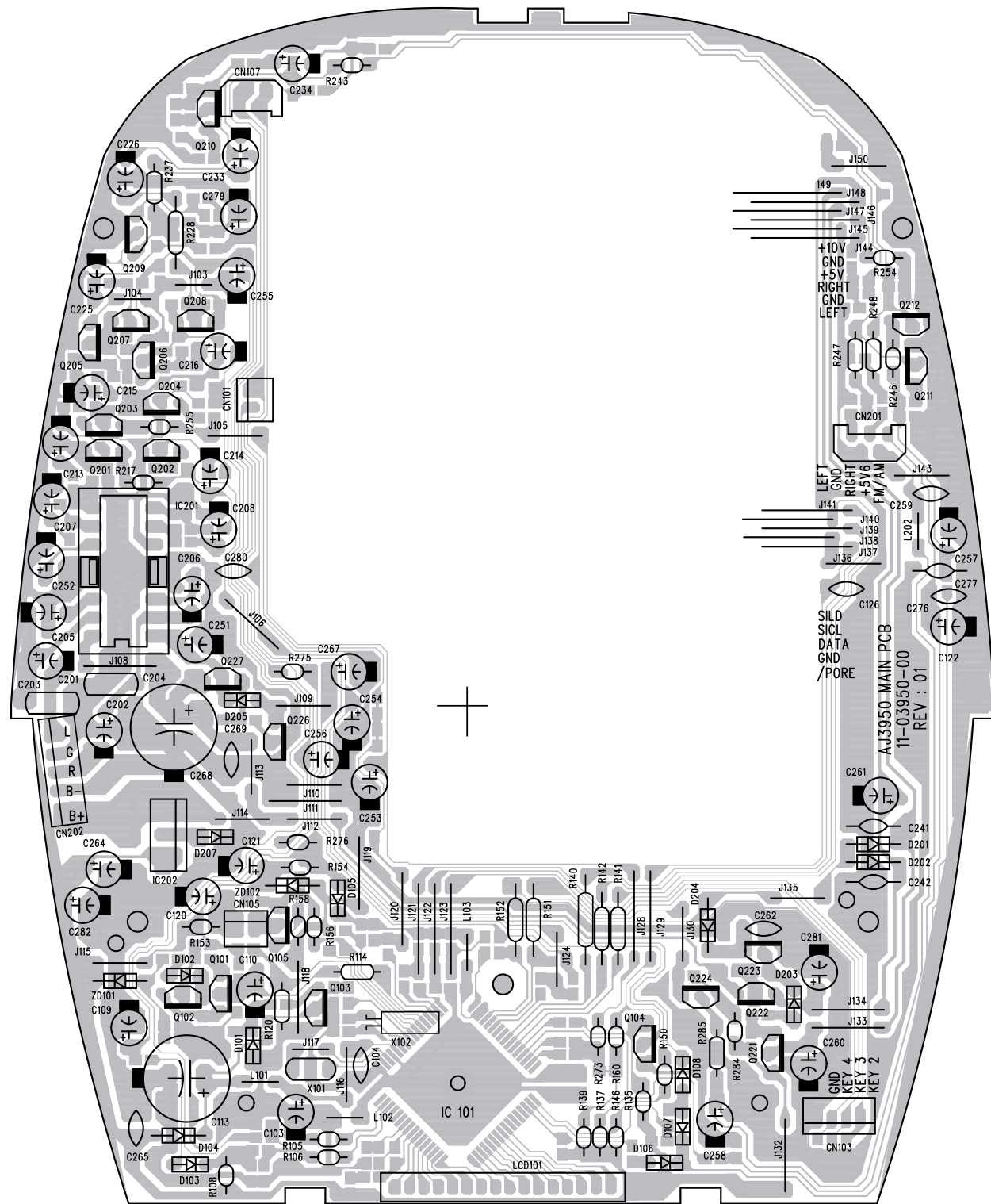
MAIN BOARD (Part 1) - CIRCUIT DIAGRAM

7-1

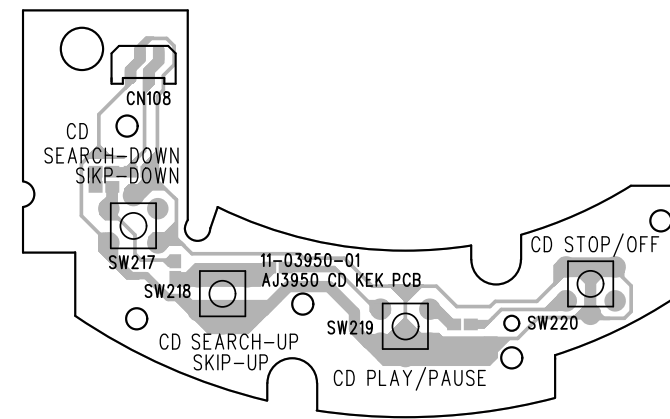
7-1



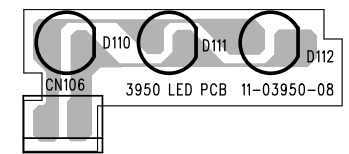
7-2
MAIN BOARD (Component Side View) - LAYOUT DIAGRAM



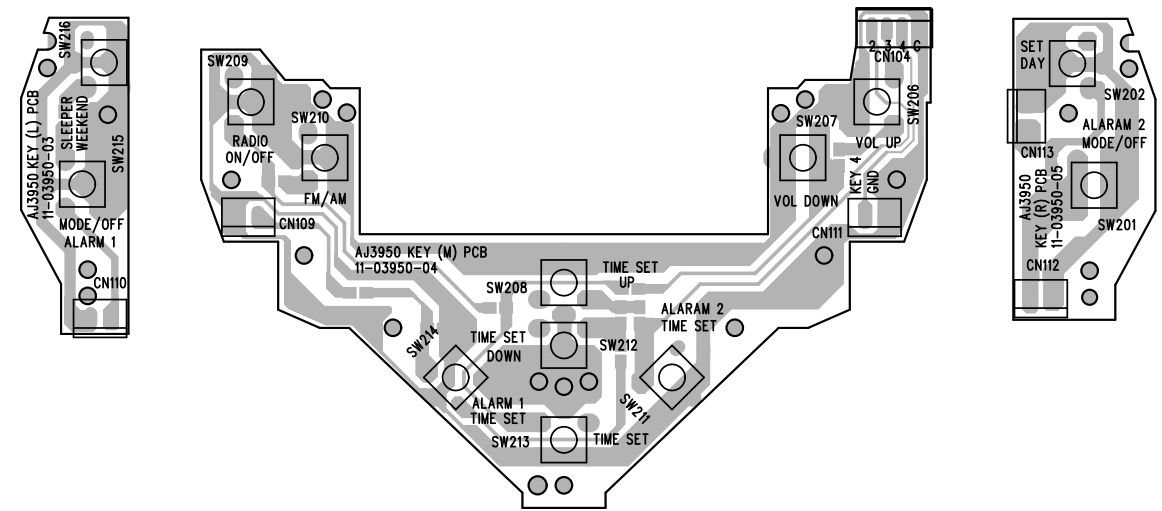
7-2
CD KEYBOARD - LAYOUT DIAGRAM



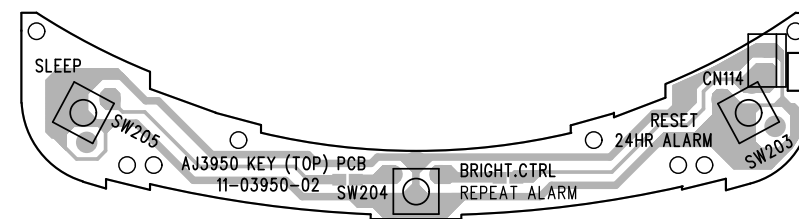
7-2
LED BOARD - LAYOUT DIAGRAM



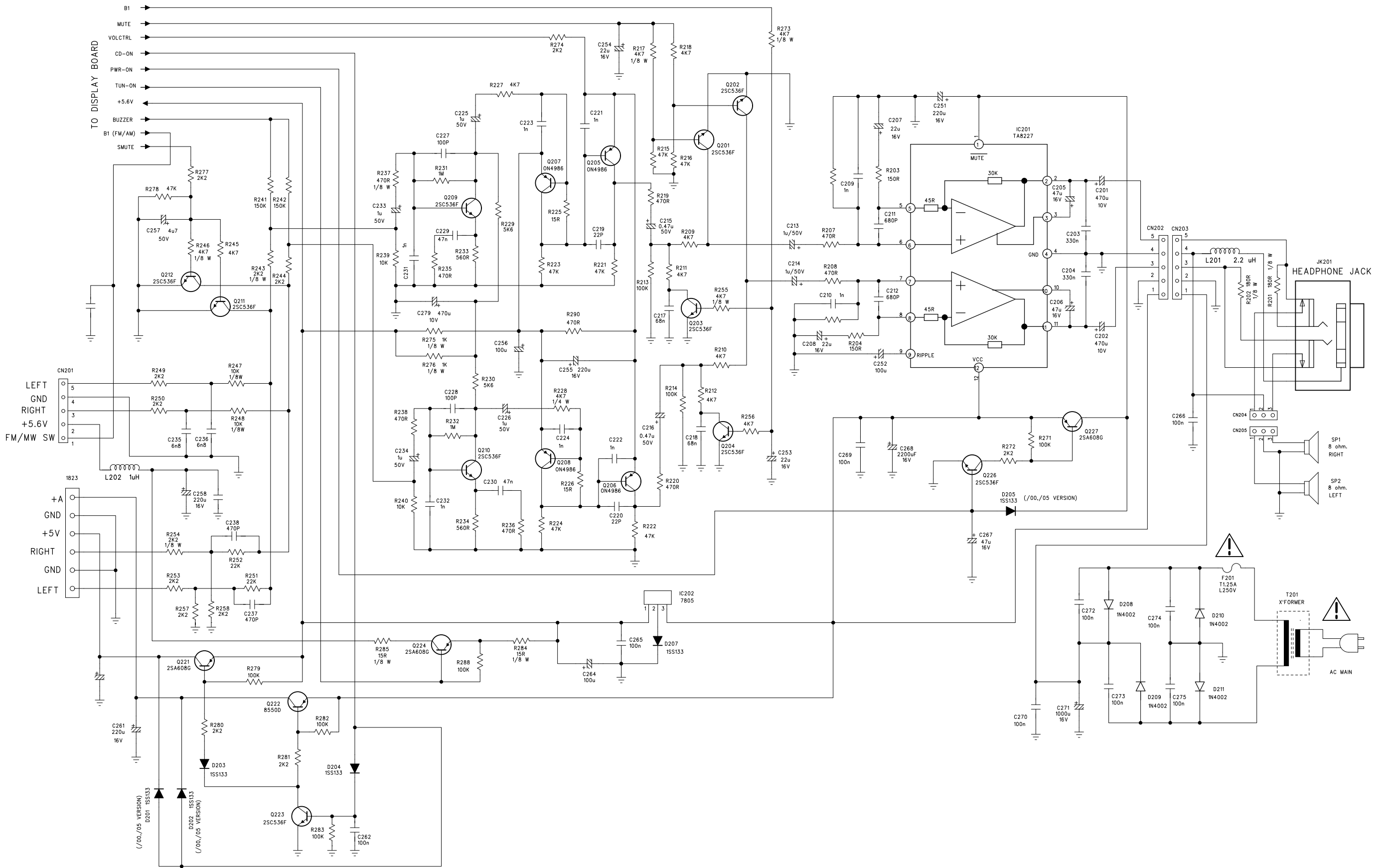
KEYBOARD - LAYOUT DIAGRAM



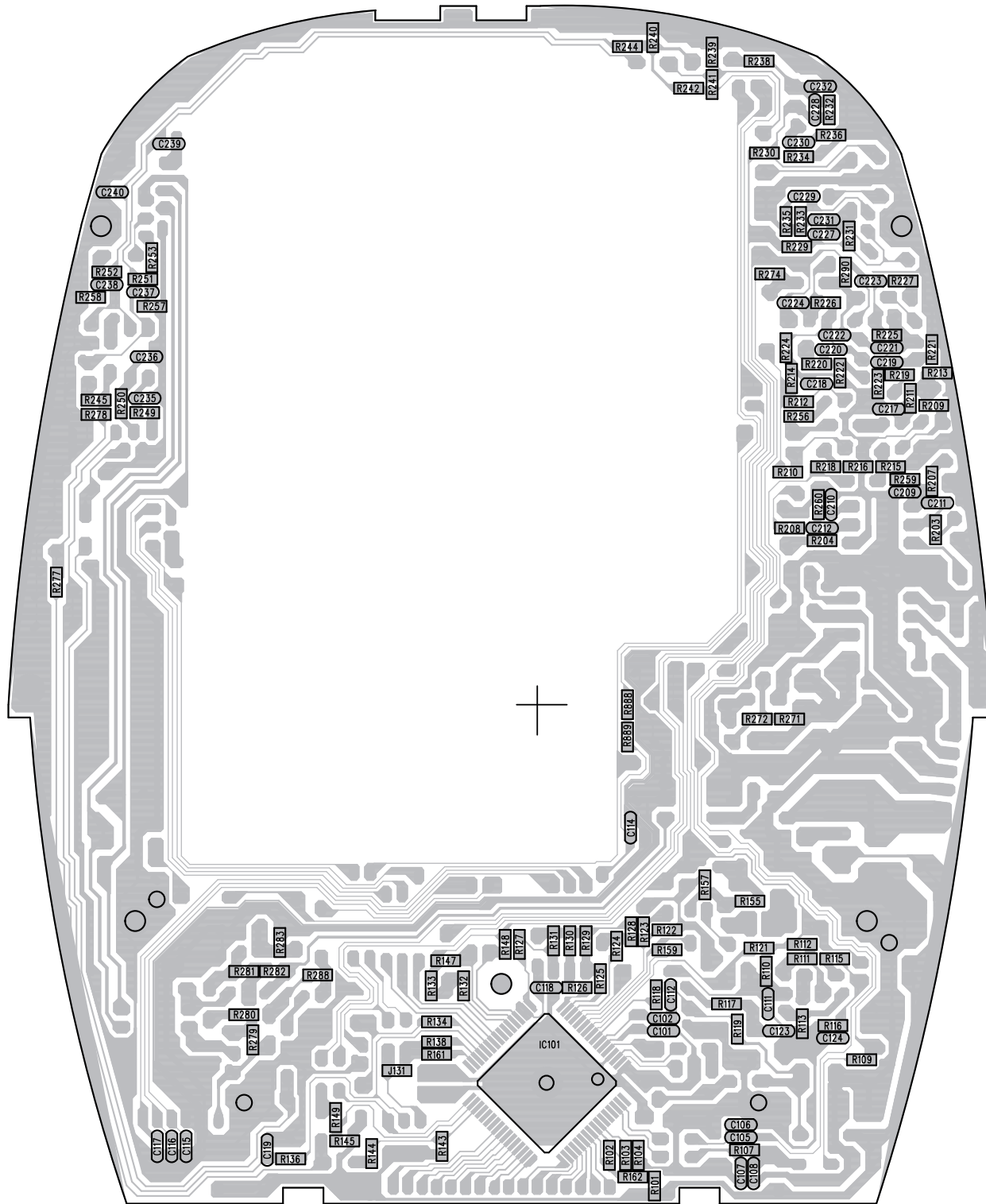
KEYBOARD (TOP) - LAYOUT DIAGRAM



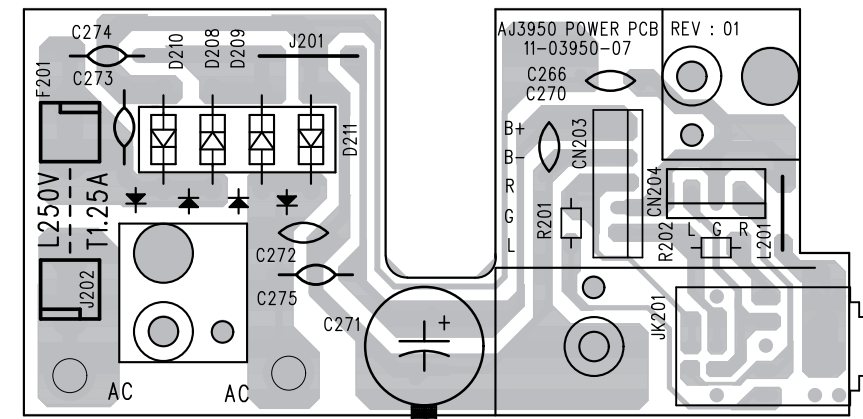
MAIN BOARD (Part 2) - CIRCUIT DIAGRAM



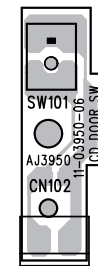
MAIN BOARD (Copper Side View) - LAYOUT DIAGRAM



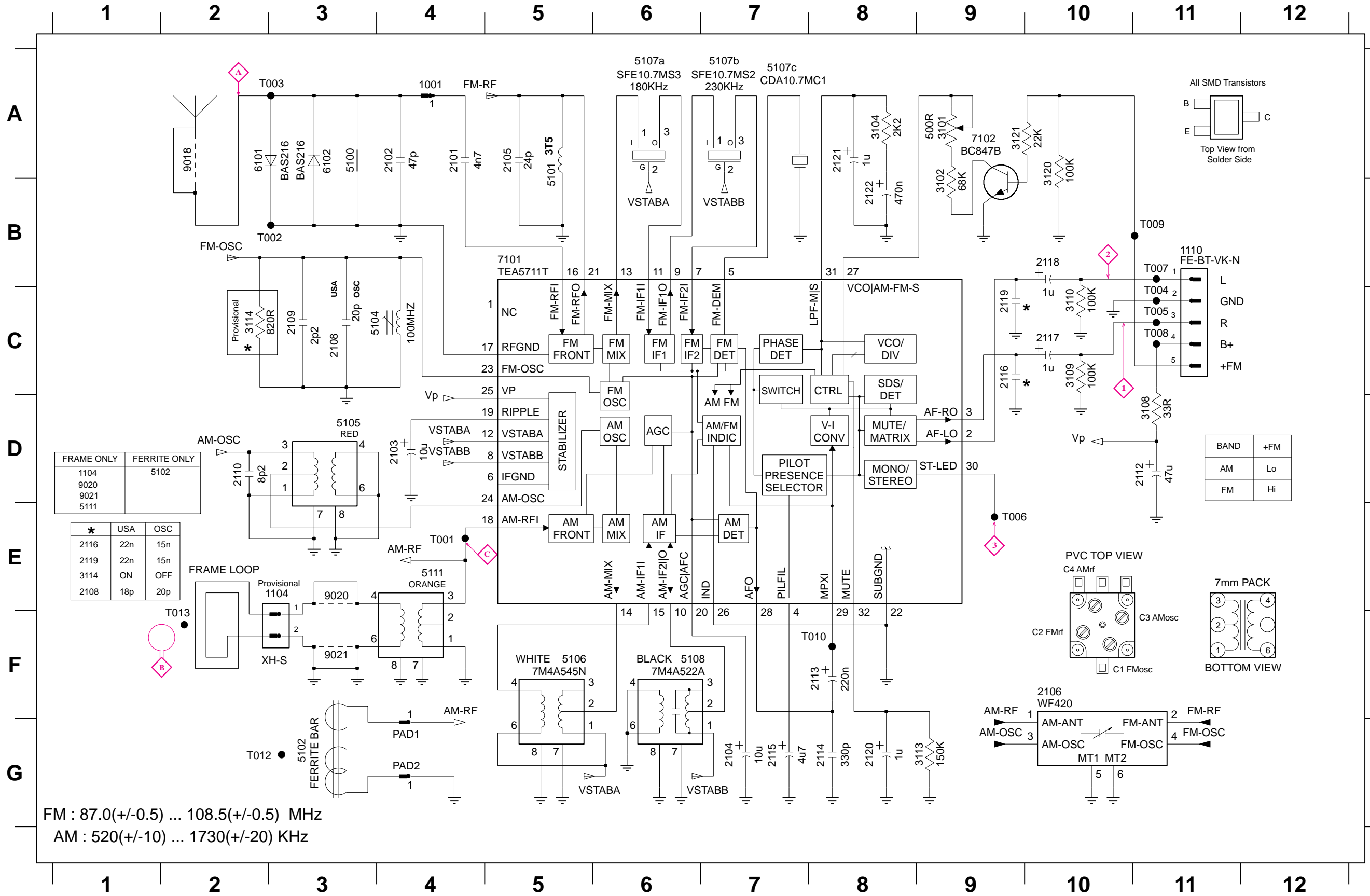
POWER BOARD - LAYOUT DIAGRAM



CD DOOR SWITCH - LAYOUT DIAGRAM



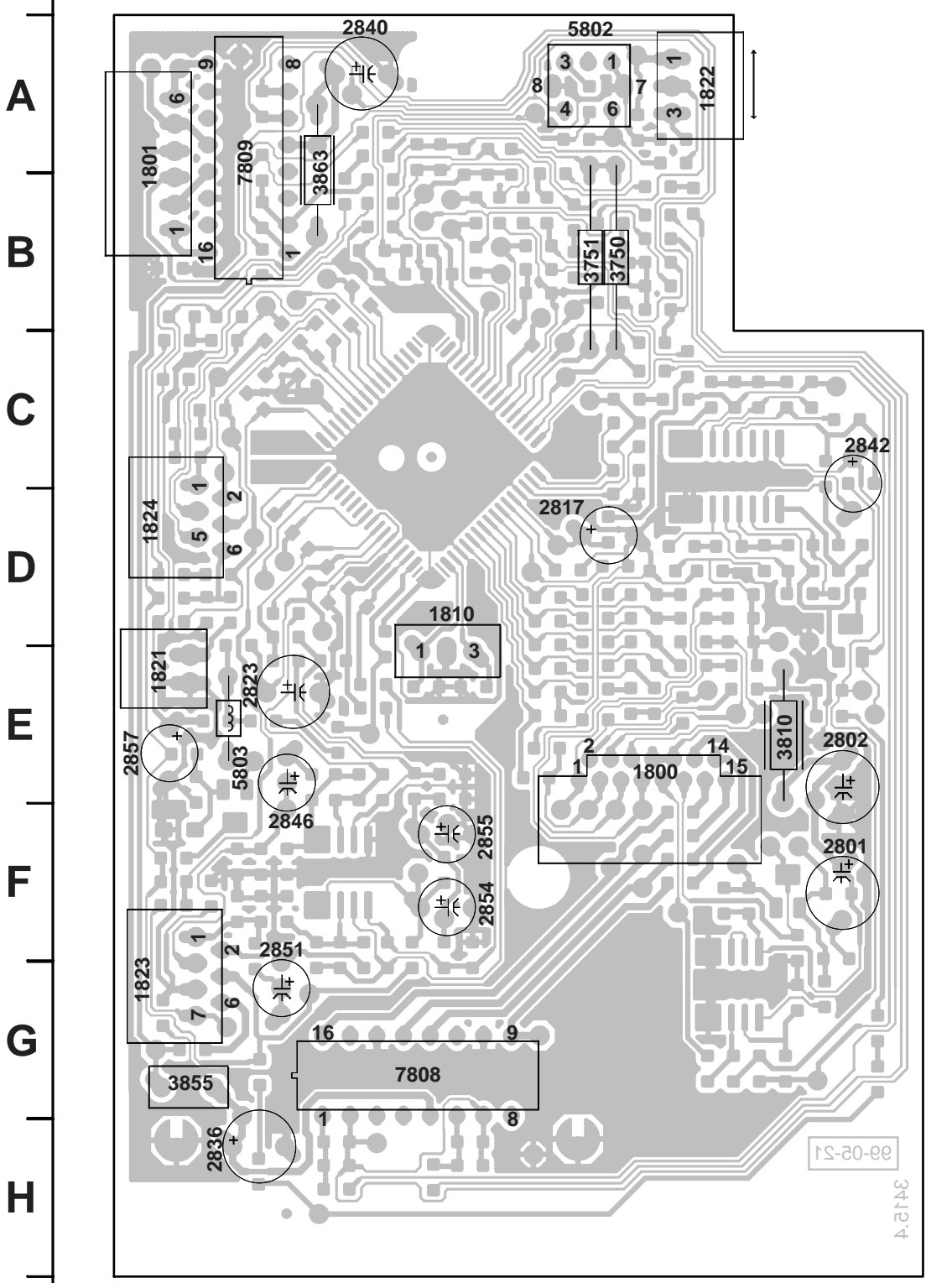
TUNER BOARD ATM5 - CIRCUIT DIAGRAM



- 1001 A4
- 1104 E3
- 1110 B11
- 2101 A4
- 2102 A4
- 2103 D4
- 2104 G7
- 2105 A5
- 2106 F10
- 2108 C3
- 2109 C3
- 2110 D2
- 2112 D11
- 2113 F8
- 2114 G8
- 2115 G7
- 2116 C9
- 2117 C10
- 2118 B10
- 2119 C9
- 2120 G8
- 2121 A8
- 2122 B8
- 3101 A9
- 3102 B9
- 3104 A8
- 3108 D11
- 3109 C10
- 3110 C10
- 3113 G9
- 3114 C2
- 3120 A10
- 3121 A9
- 5100 A3
- 5101 A5
- 5102 G3
- 5104 C4
- 5105 D3
- 5106 F5
- 5107a A6
- 5107b A7
- 5107c A7
- 5108 F7
- 5111 E4
- 6101 A2
- 6102 A3
- 7101 B5
- 7102 A9
- 9018 A2
- 9020 E3
- 9021 F3
- T001 E4
- T002 B3
- T003 A3
- T004 B11
- T005 C11
- T006 E9
- T007 B11
- T008 C11
- T009 B11
- T010 F8
- T012 G2
- T013 F2

FM : 87.0(+/-0.5) ... 108.5(+/-0.5) MHz
 AM : 520(+/-10) ... 1730(+/-20) KHz

CD99 Board component side view

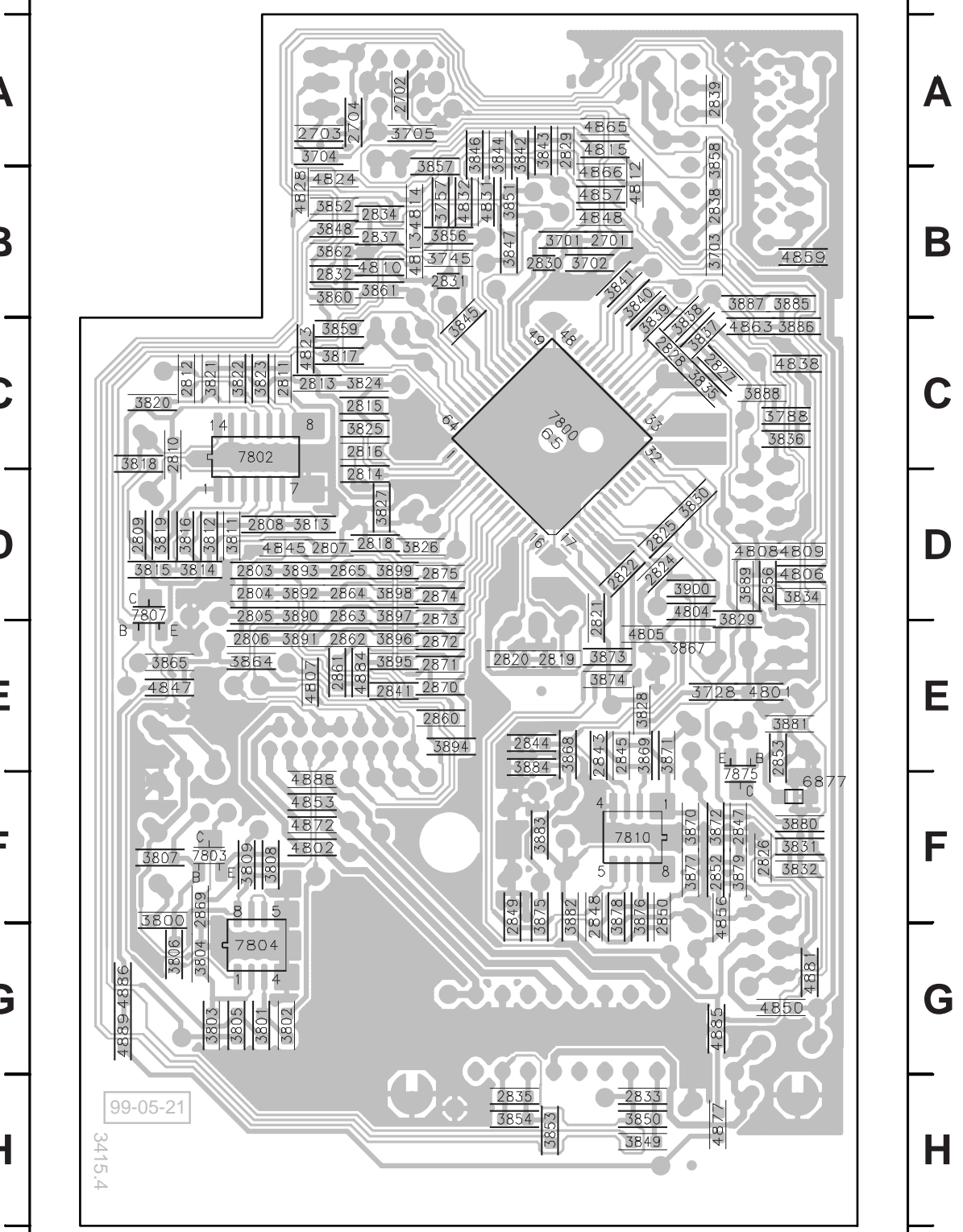


This assembly drawing shows a summary of all possible versions. For components used in a specific version see schematic diagram respectively partslist.

CD99 Layout stage .4 990817

| | | | | | |
|------|----|------|----|------|----|
| 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 | F5 |
| 2855 | E3 | 3857 | B3 | 6877 | E5 |
| 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 Board copper side view



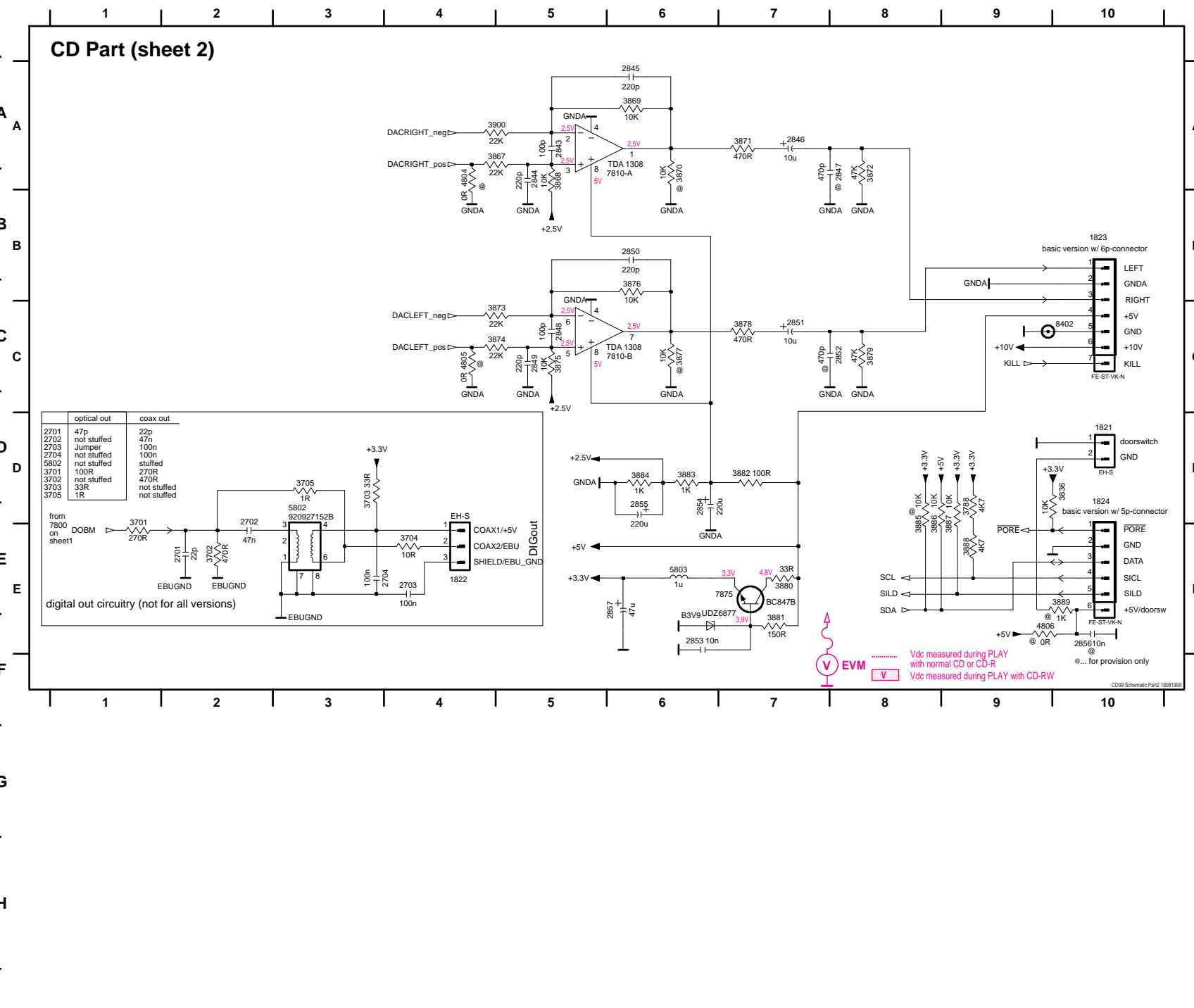
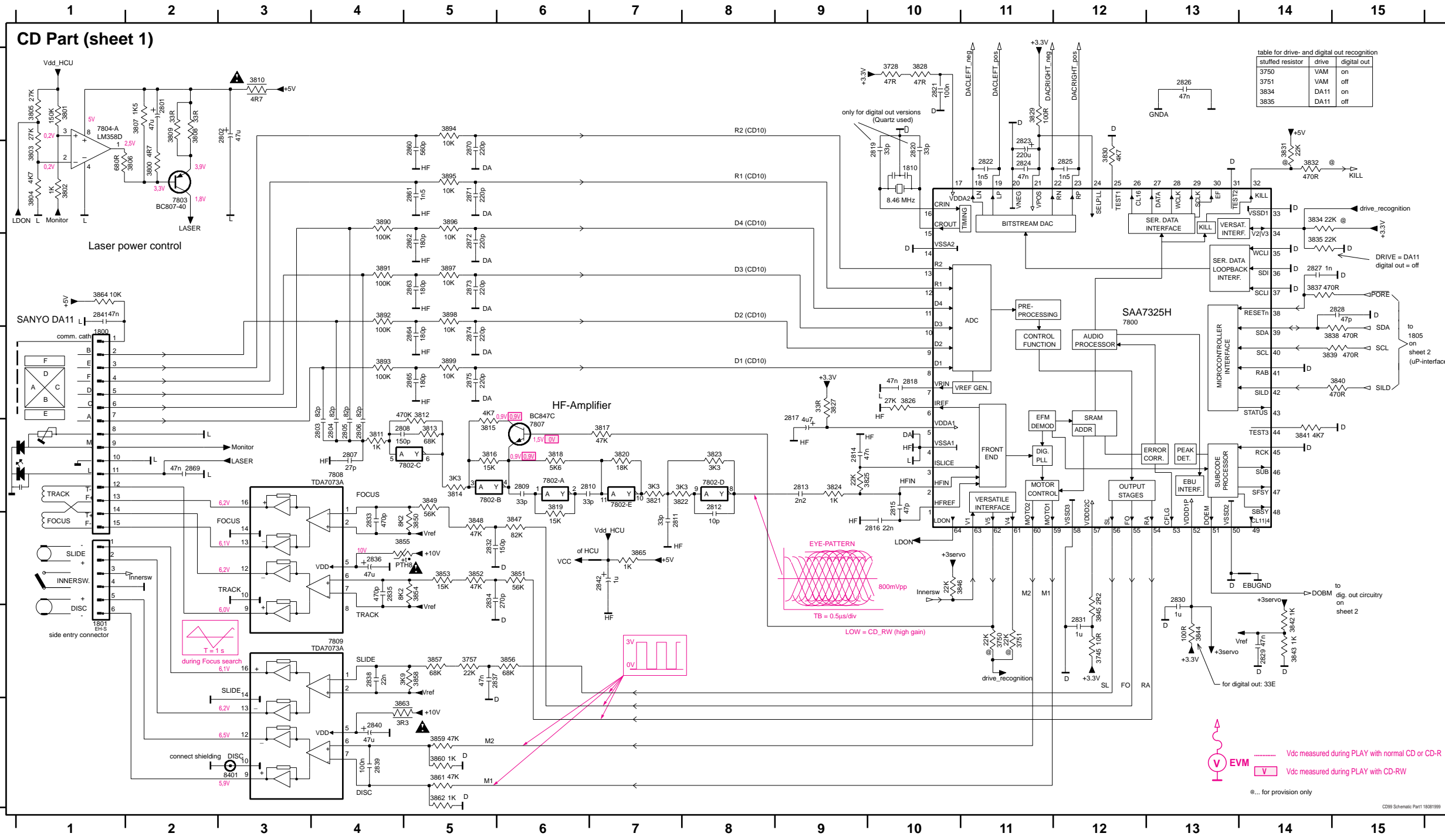
This assembly drawing shows a summary of all possible versions. For components used in a specific version see schematic diagram respectively partslist.

CD99 Layout stage .4 990817

CD99 DA11 - CIRCUIT DIAGRAM

| | | | | | | | | | | | | | | | | | | | | | | |
|---------|---------|----------|----------|----------|---------|---------|---------|----------|----------|---------|---------|----------|----------|----------|----------|----------|---------|---------|-----------|-----------|-----------|---------|
| 1800 D1 | 2806 E4 | 2813 E9 | 2820 B10 | 2827 C14 | 2834 F5 | 2841 C1 | 2848 D5 | 2855 D5 | 2875 D5 | 3801 A1 | 3808 A2 | 3815 E5 | 3822 E7 | 3829 A11 | 3836 D14 | 3843 G12 | 3852 F5 | 3859 H5 | 3890 B4 | 3897 C5 | 7802-D E8 | 7808 E4 |
| 1801 D1 | 2807 E4 | 2814 E9 | 2821 B11 | 2828 C14 | 2835 F4 | 2842 C1 | 2849 D5 | 2869 E2 | 2728 A10 | 3802 F7 | 3809 A2 | 3816 E5 | 3823 E8 | 3830 B12 | 3837 D14 | 3844 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 | 2843 C1 | 2850 D5 | 2870 B5 | 3817 E7 | 3824 E9 | 3831 A3 | 3838 E9 | 3845 F6 | 3852 B14 | 3859 D15 | 3866 F6 | 3875 F5 | 3882 H5 | 3892 C4 | 3899 D5 | 7802-F F8 | 8401 H3 |
| 2802 A3 | 2809 E6 | 2816 F10 | 2823 B11 | 2830 F13 | 2837 G5 | 2844 B5 | 2871 B5 | 2878 G11 | 3804 B1 | 3811 E4 | 3818 E6 | 3825 E9 | 3832 B14 | 3839 E14 | 3846 F5 | 3855 F4 | 3862 H5 | 3893 D4 | 7800 D12 | 7803 B2 | | |
| 2803 E4 | 2810 E6 | 2817 D9 | 2824 B11 | 2831 G12 | 2838 G4 | 2845 C3 | 2872 C5 | 3751 G11 | 3805 A1 | 3812 D5 | 3819 E6 | 3826 D10 | 3833 B14 | 3840 E5 | 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 | 2846 D5 | 2873 C5 | 3757 G5 | 3806 B2 | 3813 E5 | 3820 E7 | 3827 D9 | 3834 C14 | 3841 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 | 2847 D5 | 2874 D5 | 3800 B2 | 3807 A2 | 3814 E5 | 3821 E7 | 3828 A10 | 3835 C14 | 3842 G13 | 3851 F6 | 3858 G5 | 3865 F7 | 3896 B5 | 7802-C E5 | 7807 E6 | | |

| | | | | | | | | | | | | |
|----------|---------|---------|---------|----------|----------|---------|---------|---------|---------|----------|---------|-----------|
| 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 E8 | 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 | |

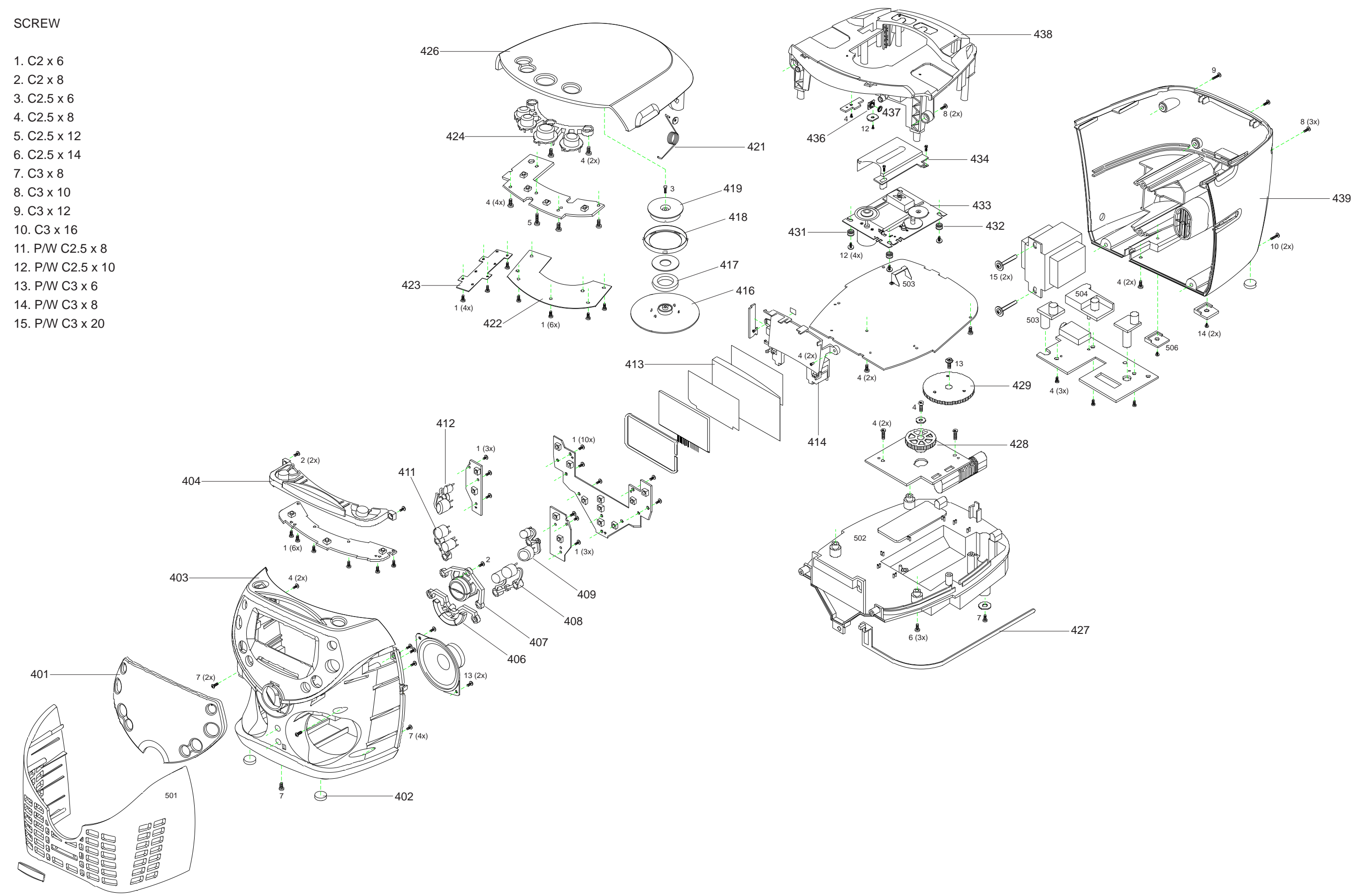


EXPLODED VIEW DIAGRAM - CABINET

11-1

SCREW

- 1. C2 x 6
- 2. C2 x 8
- 3. C2.5 x 6
- 4. C2.5 x 8
- 5. C2.5 x 12
- 6. C2.5 x 14
- 7. C3 x 8
- 8. C3 x 10
- 9. C3 x 12
- 10. C3 x 16
- 11. P/W C2.5 x 8
- 12. P/W C2.5 x 10
- 13. P/W C3 x 6
- 14. P/W C3 x 8
- 15. P/W C3 x 20



11-1

MECHANICAL PARTSLIST - CABINET

11-1

- 401 9965 000 07661 Display Lens (For AJ3950/00)
- 401 9965 000 07714 Display Lens (For AJ3950/17)
- 401 9965 000 07851 Display Lens (For AJ3951/AJ3952)
- 402 9965 000 07688 Rubber Foot
- 403 9965 000 07678 Front Cabinet (For AJ3950)
- 403 9965 000 07856 Front Cabinet (For AJ3951)
- 403 9965 000 07864 Front Cabinet (For AJ3952)
- 404 9965 000 07669 Repeat Alarm Key (For AJ3950)
- 404 9965 000 07853 Repeat Alarm Key (For AJ3951/AJ3952)
- 406 9965 000 07676 Time/Alarm Set Key (For AJ3950)
- 406 9965 000 07855 Time/Alarm Set Key (For AJ3951)
- 406 9965 000 07863 Time/Alarm Set Key (For AJ3952)
- 407 9965 000 07675 Alarm Up/Down Key
- 408 9965 000 07674 Volume Up/Down Key
- 409 9965 000 07672 Set Day & Alarm 2 Key
- 411 9965 000 07673 Radio On/Off & Band Switch Key
- 412 9965 000 07671 Weekend Sleeper & Alarm 1 KEY
- 413 9965 000 07660 LCD Light Guide
- 414 9965 000 07664 LCD Bracket
- 416 9965 000 07677 Stabilizer
- 417 9965 000 07683 Magnet
- 418 9965 000 07666 Stabilizer Ring
- 419 9965 000 07665 Stabilizer Bracket
- 421 9965 000 07685 CD Door Spring
- 422 9965 000 07687 CD Door Inlay (B) (For AJ3950)
- 422 9965 000 07861 CD Door Inlay (D) (For AJ3951/AJ3952)
- 423 9965 000 07686 CD Door Inlay (A) (For AJ3950)
- 423 9965 000 07860 CD Door Inlay (C) (For AJ3951/AJ3952)
- 424 9965 000 07670 CD (Play/Stop/FF/Rew) Keys (For AJ3950)
- 424 9965 000 07854 CD (Play/Stop/FF/Rew) Keys (For AJ3951/AJ3952)
- 426 9965 000 07684 CD Door (For AJ3950)
- 426 9965 000 07859 CD Door (For AJ3951)
- 426 9965 000 07867 CD Door (For AJ3952)
- 427 9965 000 07662 Dial Pointer
- 428 9965 000 07663 Tuning Gear
- 429 9965 000 07668 Tuning Knob (For AJ3950)
- 429 9965 000 07852 Tuning Knob (For AJ3951/AJ3952)
- 431 4822 529 10433 CD Damper (Front)
- 432 4822 529 10432 CD Damper (Rear)
- 433 3103 309 05290 CD DA11N Drive Assy
- 434 9965 000 07667 CD Drive Cover
- 436 9965 000 07682 CD Door Gear Holder
- 437 9965 000 07681 CD Door Gear
- 438 9965 000 07679 CD Tray (For AJ3950)
- 438 9965 000 07857 CD Tray (For AJ3951)
- 438 9965 000 07865 CD Tray (For AJ3952)
- 439 9965 000 07680 Rear Cabinet (For AJ3950)
- 439 9965 000 07858 Rear Cabinet (For AJ3951)
- 439 9965 000 07866 Rear Cabinet (For AJ3952)
- 9965 000 07689 Instr Manual (For AJ3950/00)
- 9965 000 07715 Instr Manual (For AJ3950/17)
- 9965 000 07862 Instr Manual (For AJ3951/AJ3952)

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

ELECTRICAL PARTSLIST - MAIN BOARD**- COILS, CRYSTAL & FILTER -**

| | | |
|------|----------------|-------------------------|
| J116 | 9965 000 05605 | Inductor 1µH |
| L101 | 9965 000 05605 | Inductor 1µH |
| L102 | 9965 000 05605 | Inductor 1µH |
| L103 | 9965 000 05604 | Axial Inductor 100µH |
| L202 | 9965 000 05605 | Inductor 1µH |
| X101 | 4822 242 11034 | Filter DCRHTL4.19 |
| X102 | 4822 242 10795 | Crystal DMC-AT32.768kHz |

- DIODES -

| | | |
|-------|----------------|-----------------------|
| D101 | 4822 130 32778 | Diode 1SS133 |
| D102 | 4822 130 32778 | Diode 1SS133 |
| D103 | 4822 130 32778 | Diode 1SS133 |
| D104 | 4822 130 32778 | Diode 1SS133 |
| D105 | 4822 130 32778 | Diode 1SS133 |
| D106 | 4822 130 32778 | Diode 1SS133 |
| D107 | 4822 130 32778 | Diode 1SS133 |
| D108 | 4822 130 32778 | Diode 1SS133 |
| D203 | 4822 130 32778 | Diode 1SS133 |
| D204 | 4822 130 32778 | Diode 1SS133 |
| D207 | 4822 130 32778 | Diode 1SS133 |
| ZD101 | 9965 000 07692 | Zener Diode 3.3V 0.5W |
| ZD102 | 9965 000 07693 | Zener Diode 2.7V 0.5W |

- IC & TRANSISTORS -

| | | |
|-------|----------------|-----------------------|
| IC101 | 9965 000 07694 | IC TMP86CH29F-1A90 |
| IC201 | 4822 209 31544 | IC TA8227P |
| IC202 | 4822 209 83824 | IC NJM7805FA |
| Q101 | 9965 000 05370 | Trans 2SC536NF-NPA-AT |
| Q102 | 9965 000 05370 | Trans 2SC536NF-NPA-AT |
| Q103 | 4822 130 62782 | Trans DTC114ESTP |
| Q104 | 9965 000 05370 | Trans 2SC536NF-NPA-AT |
| Q105 | 9965 000 05370 | Trans 2SC536NF-NPA-AT |
| Q201 | 9965 000 05370 | Trans 2SC536NF-NPA-AT |
| Q202 | 9965 000 05370 | Trans 2SC536NF-NPA-AT |
| Q203 | 9965 000 05370 | Trans 2SC536NF-NPA-AT |
| Q204 | 9965 000 05370 | Trans 2SC536NF-NPA-AT |
| Q205 | 4822 130 44568 | Trans BC557B |
| Q206 | 4822 130 44568 | Trans BC557B |
| Q207 | 4822 130 44568 | Trans BC557B |
| Q208 | 4822 130 44568 | Trans BC557B |
| Q209 | 9965 000 05370 | Trans 2SC536NF-NPA-AT |
| Q210 | 9965 000 05370 | Trans 2SC536NF-NPA-AT |
| Q211 | 9965 000 05370 | Trans 2SC536NF-NPA-AT |
| Q212 | 9965 000 05370 | Trans 2SC536NF-NPA-AT |
| Q221 | 9965 000 07691 | Trans 2SA608NG-NPA-AT |
| Q222 | 4822 130 63423 | Trans 8550C |
| Q223 | 9965 000 05370 | Trans 2SA608NG-NPA-AT |
| Q224 | 9965 000 07691 | Trans 2SA608NG-NPA-AT |
| Q226 | 9965 000 05370 | Trans 2SC536NF-NPA-AT |

- IC & TRANSISTORS -

| | | |
|------|----------------|-----------------------|
| Q227 | 9965 000 07691 | Trans 2SA608NG-NPA-AT |
|------|----------------|-----------------------|

- MISCELLANEOUS -

| | | |
|--------|----------------|-----------------------|
| LCD101 | 9965 000 07697 | LCD Display 90673TT-P |
| | 9965 000 07695 | Flexible Foil 5P |
| | 9965 000 07696 | Flexible Foil 4P |

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

ELECTRICAL PARTSLIST - KEYBOARD**- LED -**

D110 4822 130 10668 LED L-934SGC (Green)
 D111 4822 130 10668 LED L-934SGC (Green)
 D112 4822 130 10668 LED L-934SGC (Green)

- MISCELLANEOUS -

SW201 9965 000 05597 Tact Switch
 SW202 9965 000 05597 Tact Switch
 SW203 9965 000 07690 Tact Switch
 SW204 9965 000 05597 Tact Switch
 SW205 9965 000 07690 Tact Switch

SW206 9965 000 07690 Tact Switch
 SW207 9965 000 05597 Tact Switch
 SW208 9965 000 05597 Tact Switch
 SW209 9965 000 05597 Tact Switch
 SW210 9965 000 05597 Tact Switch

SW211 9965 000 05597 Tact Switch
 SW212 9965 000 05597 Tact Switch
 SW213 9965 000 05597 Tact Switch
 SW214 9965 000 05597 Tact Switch
 SW215 9965 000 05597 Tact Switch

SW216 9965 000 05597 Tact Switch
 SW217 9965 000 05597 Tact Switch
 SW218 9965 000 05597 Tact Switch
 SW219 9965 000 05597 Tact Switch
 SW220 9965 000 05597 Tact Switch

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


ELECTRICAL PARTSLIST - POWER BOARD**- COIL -**

L201 4822 157 50963 Coil 2,2µH

- DIODES -

D208 5322 130 30684 Diode 1N4002RL
 D209 5322 130 30684 Diode 1N4002RL
 D210 5322 130 30684 Diode 1N4002RL
 D211 5322 130 30684 Diode 1N4002RL

- MISCELLANEOUS -

F201  9965 000 07701 Fuse 5T-1.25A 250V

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

ELECTRICAL PARTSLIST - TUNER BOARD**- CAPACITOR -**

2106 9965 000 07711 PVC 160/82+20X2

- RESISTOR -

3101 9965 000 07713 Semi-fixed VR50K

- COILS & FILTERS -

5101 9965 000 07707 FM Coil
 5102 9965 000 07705 MW Ant Coil
 5104 9965 000 07706 FM Coil
 5105 9965 000 07702 Ferrite Bead AFNRS-A8993GO
 5106 9965 000 07704 Coil IFT AM

5017A 9965 000 07708 Filter SFE10.7MS3-Z
 5017B 9965 000 07709 Filter SFE10.7MS2-Z
 5017C 9965 000 07710 Filter CDS10.7MC6-Z
 5108 9965 000 07703 Coil IFT AM

- DIODES -

6101 4822 130 83757 Diode BAS216
 6102 4822 130 83757 Diode BAS216

- IC & TRANSISTORS -


7101 4822 209 32746 IC TEA5711T/N2
 7102 4822 130 60511 Trans BC847B


- MISCELLANEOUS -

1201 9965 000 07712 Ferrite Bar 5x13x55mm

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

ELECTRICAL PARTSLIST - MISCELLANEOUS**- MISCELLANEOUS -**

JK201 9965 000 07698 3.5 Stereo Jack EJS5-0735G-01
 SP1 9965 000 07699 Speaker 2" 8 Ohm 2W
 SP2 9965 000 07699 Speaker 2" 8 Ohm 2W
 SW101 9965 000 07525 CD Door Switch
 T201  9965 000 07700 Transformer (For -/00)

T201  9965 000 07716 Transformer (For -/17)

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 |
|------|--------------|---------------|

- 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.