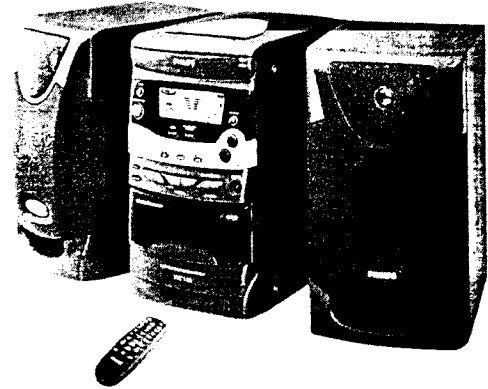


Service
Service
Service



Service Manual

COMPACT
disc
DIGITAL AUDIO

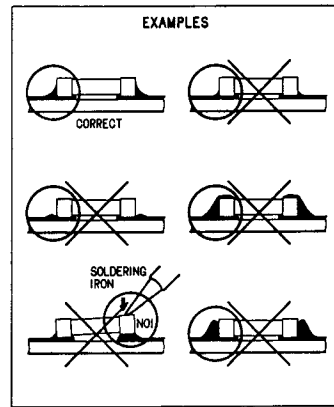
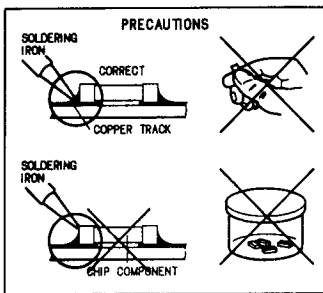
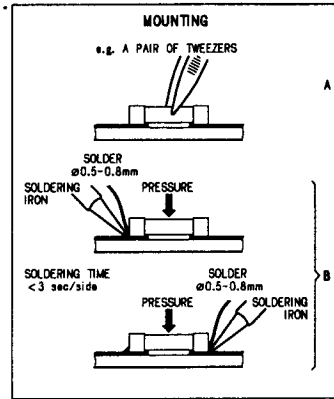
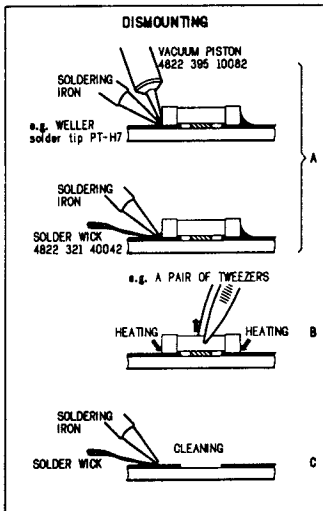
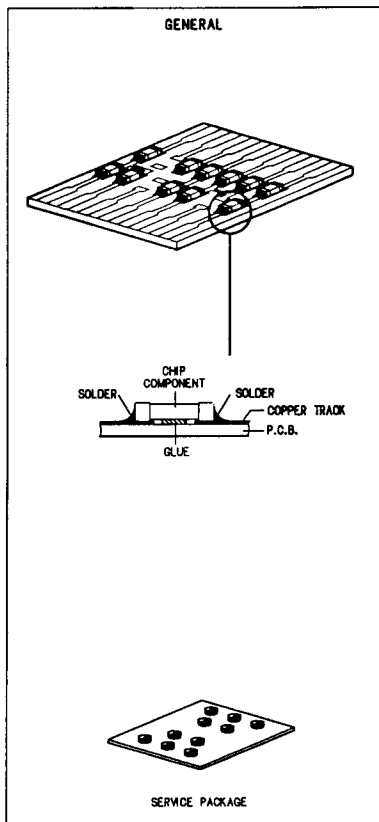
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**CLASS 1
LASER PRODUCT**

3122 110 03420



HANDLING CHIP COMPONENTS



(GB) WARNING

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

(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 sert d'une résistance de sécurité. Veiller à ce que les composants ainsi que les outils que l'on utilise soient également à ce potentiel.

- Anti-static table mat large 1200x650x1.25mm
- small 600x650x1.25mm
- Anti-static wrist band
- Connection box (1MΩ)
- Extendible cable (to connect wrist band to conn. box)
- Connecting cable (to connect table mat to conn. box)
- Earth cable (to connect any product to mat or box)
- Complete kit ESD3 (combining all above products)
- Wristband tester

(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.

- 4822 466 10953
- 4822 466 10958
- 4822 395 10223
- 4822 320 11307
- 4822 320 11305
- 4822 320 11306
- 4822 320 11308
- 4822 310 10671
- 4822 344 13999

(GB)

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

(S) Varning !

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

(DK) Advarsel !

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

(SF) Varoitus !

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

ESD



(NL) WAARSCHUWING

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

(I) AVVERTIMENTO

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

(GB) WARNING

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

(F) ATTENTION

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.

(D) WARNUNG

Bei jeder Reparatur sind die geltenden Sicherheitsvorschriften zu beachten. Der Originalzustand des Gerätes darf nicht verändert werden. Für Reparaturen sind Original-ersatzteile zu verwenden.

(NL) WAARSCHUWING

Veiligheidsbepalingen vereisen, dat het apparaat in zijn oorspronkelijke toestand wordt teruggebracht en dat onderdelen, identiek aan de gespecificeerde, worden toegepast.

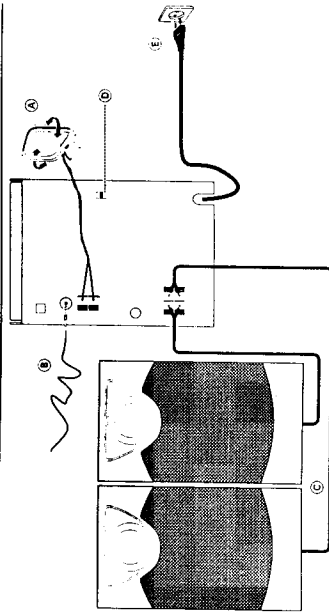
(I) AVVERTIMENTO

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.

CONNECTIONS AND CONTROLS

PREPARATIONS

Rear Connection



A. AM Antenna Connection

Connect the supplied loop antenna to the AM AERIAL terminal. Adjust the position of the AM loop antenna for the best reception.

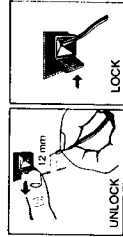
B. FM Wire Antenna Connection

Connect the supplied FM wire antenna to the FM 75 Ω terminal. Adjust the position of the FM antenna for the best reception.

Outdoor Antenna

For better FM stereo reception connect an outdoor FM antenna to the FM AERIAL, 75 Ω terminal using a 75 Ω antenna wire.

C. Speaker Connections



- Connect the right speaker to terminal R, with the red (white/black) wire to + and the black wire to -.
- Connect the left speaker to terminal L, with the red (white/black) wire to + and the black wire to -.
- Clip the stripped portion of the wire as shown.

D. Adjusting the Operating Voltage

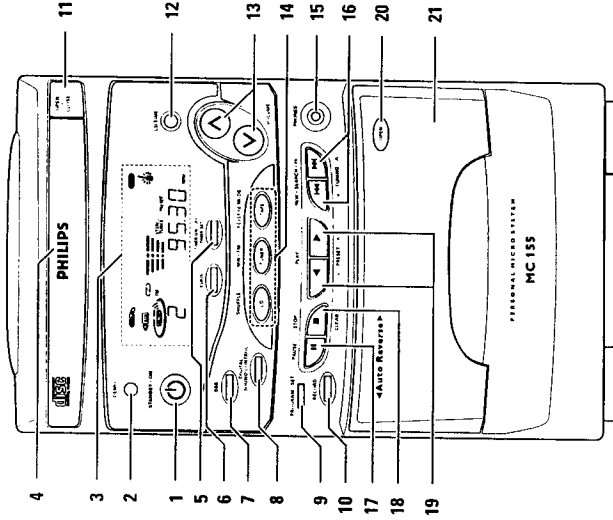
(for specific versions only)

Before connecting the AC power cord to a wall outlet, make sure that the voltage selector at the rear of the system is set to the local power line voltage. If not, reset the selector before connecting to the wall outlet.

E. AC Power Supply

After all other connections have been made, connect the AC power cord to the wall outlet.

CONTROLS



Front View

- STANDBY-ON**
 - to switch the set on or to standby mode.
- DEMO**
 - to display the various features offered by the system.
- DISPLAY**
 - to display the current setting of the set.
- CD TRAY**
 - to place CD in here.
- TIMER ON-OFF / TIMER SET**
 - to set the timer and to switch the timer on or off.
- CLOCK**
 - to display and set the clock
 - to switch on bass boost to enhance bass response or to switch off bass boost.
- DIGITAL SOUND CONTROL (DSC)**
 - to select the desired sound effect: OPTIMAL, JAZZ, CLASSIC, ROCK and POP.
- PROGRAM / SET**
 - to program CD tracks in CD mode
 - to program preset stations manually
- RECORD**
 - to start recording on tape deck
- OPEN/CLOSE**
 - to open or close the CD tray.
- CD TIME**
 - to display the current play time, current track remain play time and total remaining play time, in turn.
- VOLUME**
 - to adjust the volume level.

Remote Control Functions

- First select the source you wish to control by pressing one of the source selection keys on the remote control (e.g. CD, TUNER or TAPE).
 - Then select the desired function (PLAY, NEXT, etc.).
- Note:* Whenever a remote control button is pressed, the red LED on the set will flicker. This indicates the remote control signal is received by the set.

- ⓪ to switch the unit to standby mode.
- CD to select CD mode.
- TUNER to select TUNER mode.
- TAPE to select TAPE mode.
- VCR to select VCR mode.
- AUX not functional for this model.
- TV to select TV mode.
- DISPLAY to display CD time.
- DBB to switch on or off dynamic bass boost.
- DSC to select digital sound control: OPTIMAL, JAZZ, CLASSIC, ROCK or POP.
- MUTE to switch off the sound temporarily.
- SLEEP to switch the set to standby mode automatically at a preset time.
- SHUFFLE to play CD tracks at random.
- SIDE to select side A or B in TAPE mode.
- BRIGHTNESS not functional for this model.
- TV VOLUME +/- to adjust the TV (RC 5 code) volume.
- VOLUME +/- to adjust the volume.
- PLAY to start playback in CD or TAPE mode.
- STOP to stop playback in CD or TAPE mode.

14 SOURCE : to select the following

- CD/SHUFFLE to switch to CD mode. When in CD mode, to play all the tracks in random order.
- TUNER (BAND) to switch to TUNER mode. When in tuner mode, to select the waveband: FM or MW.
- TAPE/REVERSE MODE to switch to TAPE mode. When in TAPE mode, to select the different play mode.

15 PHONES

- Headphones jack.
- SEARCH to slip to the beginning of the current or previous/next track or to search backward/forward.
- TUNER (V TUNING ^) to tune to a lower or higher radio frequency.

16 REWIND / FAST FORWARD

- REWIND to rewind or fast forward the cassette for TAPE.
- PAUSE II to interrupt or resume CD play for CD.
- STOP ■ (CLEAR) to interrupt playback or recording for TAPE.
- PLAY to stop CD play or to clear a program for TAPE.
- PRESET ^ to start playback for CD.
- PRESET ^ to select a preset radio station in memory.
- PLAY to select and play tape side A or B for TAPE.
- OPEN to open the cassette compartment.

17 PAUSE II

- to interrupt or resume CD play for CD.
- to interrupt playback or recording for TAPE.
- to stop CD play or to clear a program for TAPE.
- to stop playback or recording for CD.
- to start playback for CD.
- to select a preset radio station in memory.
- to select and play tape side A or B for TAPE.
- to open the cassette compartment.

18 STOP ■ (CLEAR)

- to interrupt playback or recording for TAPE.
- to stop CD play or to clear a program for TAPE.
- to stop playback or recording for CD.
- to start playback for CD.
- to select a preset radio station in memory.
- to select and play tape side A or B for TAPE.
- to open the cassette compartment.

19 PLAY

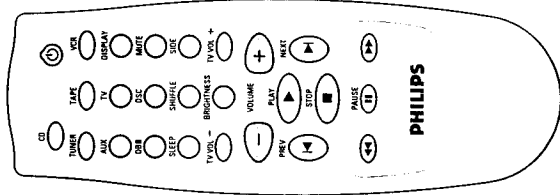
- to stop CD play or to clear a program for TAPE.
- to stop playback or recording for CD.
- to start playback for CD.
- to select a preset radio station in memory.
- to select and play tape side A or B for TAPE.
- to open the cassette compartment.

20 OPEN

- to open the cassette compartment.

21 CASSETTE DECK

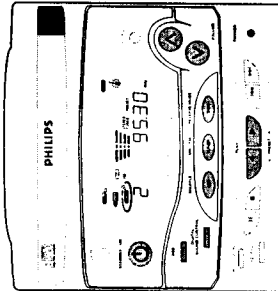
- PREV / NEXT ▶ to select a lower/higher tuner preset for TUNER station.
- CD to select CD track for CD.
- TV/VCR to select previous/next channel for TV/VCR.
- PAUSE II to interrupt play in CD or TAPE mode.
- REWIND / FAST FORWARD to select a lower/higher frequency for TUNER.
- SEARCH to search for a particular passage for CD.
- SEARCH to fast rewind/forward the cassette.



REMOTE CONTROL

- PREV / NEXT ▶ to select a lower/higher tuner preset for TUNER station.
- CD to select CD track for CD.
- TV/VCR to select previous/next channel for TV/VCR.
- PAUSE II to interrupt play in CD or TAPE mode.
- REWIND / FAST FORWARD to select a lower/higher frequency for TUNER.
- SEARCH to search for a particular passage for CD.
- SEARCH to fast rewind/forward the cassette.

OPERATING THE SYSTEM



Important:
Before you begin operating the system, complete the preparation procedures. The set is in the standby mode when the mains plug is connected to the wall socket and "CD" flashes on the display.

Switching the system ON

- Press **STANDBY-ON**, **CD**, **TUNER** or **TAPE** on the set (or **CD**, **TUNER** or **TAPE** on the remote control).

You can also switch on the system directly by pressing the **PRESET** Δ or ∇ for **TUNER** mode, **OPEN-CLOSE** button or **PLAY** \blacktriangleright for **CD** mode or **PLAY** \blacktriangleright for **TAPE** mode.

Switching the system to standby mode

- Press **STANDBY-ON** again (or \odot on the remote control).

Selecting the Sound Source

- Press either **CD**, **TUNER** or **TAPE** on the set or on the remote control.
- The display indicates the selected sound source.

Volume Adjustment

Press **VOLUME** Δ or ∇ (or press **VOLUME** $+$ or $-$ on the remote control) to increase or decrease the sound level.

For Personal Listening

Connect the headphones to the **PHONES** socket at the front of the set. The speakers will be muted.

Digital Sound Control (DSC)

- Press **DSC** on the set or remote control to select the desired special sound effect: **JAZZ** (J), **CLASSIC** (C), **ROCK** (R), **POP** (P) or **OPTIMAL** (O). The respective sound flag lights up except for **OPTIMAL** setting.
- The **DSC** button changes to green except for **OPTIMAL** setting.

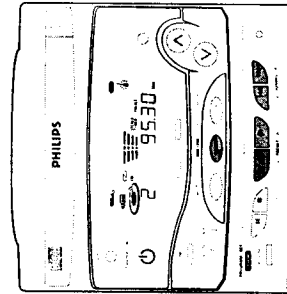
Dynamic Bass Boost (DBB)

- Press **DBB** on the set or remote control to enhance the bass response.
- The **DBB** flag (**DBB**) lights up and the **DBB** button changes to red colour.

Demo mode

The system has a demonstration mode that shows the various features offered by the system.

- Press **DEMO** to switch on the demonstration.
- The display will show "DEMO MODE" and followed by the various features.
- Press **DEMO** again or **STANDBY-ON** to stop the demonstration mode.
- "DEMO" is displayed and the set returns to standby mode.



Storing Preset Stations

You can store up to 20 stations in the FM Band and 10 stations in the AM Band in the memory. When a preset station is selected, the preset number appears next to the frequency on the display.

- You can only do manual programming in this set
- Press **TUNER** on the set or remote control to select **TUNER** mode.
 - Press **TUNER** (MW+FM) again to select the desired waveband: MW or FM.
 - Press **TUNING** Δ or ∇ for more than one second to tune to the desired frequency.
 - Press **PROGRAM/SET** for less than 1 second.
 - Press **PRESET** Δ or ∇ to select a preset number.
 - Press **PROGRAM/SET** again.
- The preset number flashes on the display.
 - The station and the preset number are stored and "STORE" is displayed.
 - Repeat the above procedure to store other preset stations.

Note:

When a power interruption occurs, the preset stations memory will remain for at least one hour before it is erased.

TUNER

Tuning to Preset Stations

- Press **PRESET** Δ or ∇ (or **PREV** \blacktriangleleft or **NEXT** \blacktriangleright on the remote control) to select the desired preset number.
- The preset number, frequency and waveband appear on the display.

Tuning to radio stations

- Press **TUNER** on the set or remote control to select **TUNER** mode.
- Press **TUNER** (MW+FM) for **TUNER** on the remote control to select the desired waveband: MW or FM.
- Press **TUNING** Δ or ∇ (\blacktriangleleft or \blacktriangleright on the remote control) for more than one second.
- The display will search the frequency until a station with sufficient signal strength is found.
- The **STEREO TUNED** or **TUNED** flag will light up.
- Repeat this procedure until the desired station is reached.

Tape Playback

- Press **TAPE** on the set or on the remote control to select **TAPE** mode.
- Load the cassette into the **tape deck**.
- Press **PLAY** \blacktriangleright on the set or remote control to start playback on side A.
- Press **PLAY** \blacktriangleleft (or first press **SIDE** then press **PLAY** \blacktriangleright) on the remote control to start playback on side B.
- Press **STOP** \blacksquare on the set or remote control to end playback.
- "STOP" scrolls across the display.

Fast Forward/Rewinding

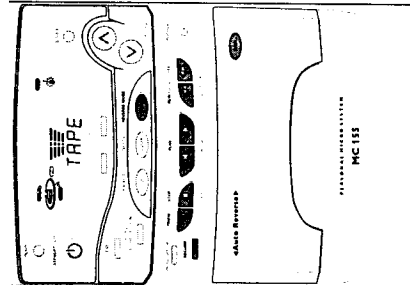
- You can rewind or fast forward the cassette by pressing \blacktriangleleft or \blacktriangleright on the remote control when the cassette is at the stop mode.
- "FF" or "RR" scrolls across the display depending on which button is pressed.
- The cassette will stop automatically at the end of the rewinding or fast forward.
- Press **STOP** \blacksquare to stop fast forwarding or rewinding.
- "STOP" scrolls across the display.

Fast Forward/Rewinding during playback

- Press and hold **SEARCH** \blacktriangleleft or \blacktriangleright (\blacktriangleleft or \blacktriangleright on the remote control) until the desired passage is located. Play returns to normal when **SEARCH** \blacktriangleleft or \blacktriangleright is released.

Loading a cassette

- Press **OPEN**.
- The cassette compartment door opens.
- Load the cassette with the open side downward and the full spool to the left.
- Close the cassette compartment door.
- The deck automatically selects the tape type (NORMAL or CHROME (CO)).



Changing the FM/MW tuning grid

The frequency step can be changed if necessary. In North and South America, the frequency step between adjacent channels in the FM/MW band is 100 kHz/10 kHz. In other parts of the world, it is 50 kHz/5 kHz. The frequency step preset in the factory is 9 kHz.

- For **FM Band**: change from 50 kHz to 100 kHz or vice versa.
- For **MW Band**: change from 9 kHz to 10 kHz or vice versa.

Changing of tuning grid will erase all previously stored preset stations.

Change to 9 kHz or 10 kHz

- Switch the unit to standby mode and disconnect the unit from the AC power supply (pull out the AC power cord).
- Keep **STANDBY** and **VOLUME** Δ depressed, while reconnecting the system to the AC power supply again.
- Display briefly shows "9 KHZ" or "10 KHZ".

Note:

GRID 9 indicates that the tuning grid is in step of 50 kHz in FM band and 9 kHz in MW band. GRID 10 indicates that the tuning grid is in step of 100 kHz in FM band and 10 kHz in MW band.

Continuous Playback

The **REVERSE MODE** (or **SIDE** on the remote control) enables you to select the different play modes.

- recording or playback on one side of the cassette in the normal or reverse direction.
- The cassette stops at the end of one side recording or playback on both sides of the cassette: first in one direction and then in the reverse direction. The cassette then starts continuous playback on both sides of the cassette up to a maximum of 3 times per side until you press **STOP** \blacksquare .

Recording

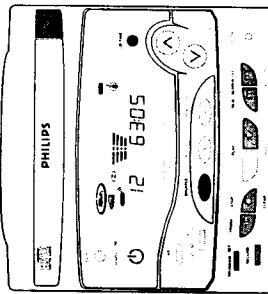
- Select **TUNER**.
- Load a blank cassette into **tape deck**.
- Press **RECORD** to start recording.
- "RECORD" is displayed.
- Press **PAUSE** \blacksquare on the set or remote control to interrupt the recording.
- "PAUSE" is displayed.
- Press **PAUSE** \blacksquare again to resume the recording.
- "RECORD" is displayed.
- Press **STOP** \blacksquare on the set or remote control to stop recording.
- "STOP" scrolls across the display.

Notes:

- Only REVERSE mode is available during recording.
- For **CD Synchronizer** recording see **Compact Disc** section on **CD Recording**.

CASSETTE DECK

COMPACT DISC



Loading the CD

- Press **CD** on the set or remote control to select CD mode.
- Press **OPEN-CLOSE** — The CD compartment slides out.
- Load a disc with the **printed side up**.
- Press **OPEN-CLOSE** to close the CD compartment. — The total number of tracks and the playing time of the disc will appear on the display.

Playing a Disc

- Press **PLAY** on the set or remote control to start playback.
 - **CD PLAY** scrolls across the display.
 - The track number and elapsed playing time of the current track appear on the display.
- To interrupt play, press **PAUSE II** on the set or remote control.
 - **PAUSE** is displayed briefly.
 - To resume play, press **PAUSE II** again or **PLAY** on the set or remote control.
- To stop play, press **STOP** on the set or remote control.
 - **STOP** scrolls across the display.

Note:

- The CD will play through once and then stop.

Warning!

- This set is designed for conventional CDs. Do not use any accessories like disc stabilizer rings or CD treatment sheets, etc., which may damage the CD mechanism.
- Do not load more than one disc into the tray.

In addition to the conventional 12-cm disc, 8-cm discs can be used without an adaptor.

Searching for a particular passage during play

- Press and hold **SEARCH** (or **PREV** or **NEXT**) on the remote control until the desired passage is located. During the search, the sound is played faster than normal at a reduced volume. Play returns to normal when **SEARCH** (or **PREV** or **NEXT**) is released.

Shuffle

SHUFFLE — playing all the tracks in random order. It can also be used during program mode.

To shuffle all the tracks

- Press **CD (SHUFFLE)** or **SHUFFLE** on the remote control.
 - **SHUFFLE** scrolls across the display.
 - The **SHUFFLE** flag and the track selected at random appear on the display.
 - The tracks will now be played in random order until you press **STOP** or all the tracks have been played once.
- Press **CD (SHUFFLE)** again to resume normal play.
 - The **SHUFFLE** flag disappears from the display.

Changing the display mode during play

You can change to a different type of time display when the CD is playing.

- Press **CD TIME** to **DISPLAY** on the remote control) to cycle to the various time display modes:
 - The display will show: **ELAPSED PLAYING TIME OF THE CURRENT TRACK** — **REMAINING REMAINING PLAYING TIME OF CD** —

Selecting a desired track

- Press **STOP** or **PREV** or **NEXT** on the remote control until the desired track appears on the display.
 - The selected track number and elapsed playing time appear on the display.
- Press **PLAY** on the set or remote control to start playback.
 - The selected track number and elapsed playing time appear on the display.

Selecting a desired track during playback

- Press **STOP** or **PREV** or **NEXT** on the remote control until the desired track appears on the display.
 - The selected track number and elapsed playing time appear on the display.
 - If you press **STOP** once it will skip to the beginning of the current track and play the track again.

Programming Tracks

Programming tracks of a loaded CD is possible when CD playback is stopped. The display will indicate the total tracks stored in the program. Up to 20 tracks can be stored in the memory in any order. When 20 tracks are stored and you attempt to store another track, the display will show **PROGRAM FULL**.

- Load the desired disc in the disc tray.
- Press **STOP** or **PREV** or **NEXT** on the remote control to select the desired track.
- Press **PROGRAMSET** to store the track.
- Repeat steps 2 to 3 to store other tracks.

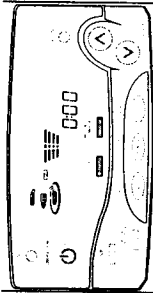
Playing the program

- Press **PLAY** on the set or remote control to start program playback.
 - **PROGRAM** scrolls across the display.
 - The track number and elapsed playing time of the current track appear on the display.
- Press **STOP** on the set or remote control to stop program playback.

Erasing the program (when playback is stopped)

- Press **STOP** on the set or remote control.
 - The last stored track is erased.
 - **ERASE** appears on the display.
- Press and hold **STOP** on the set or remote control for 2 seconds.
 - All the program tracks are erased.
 - **PROGRAM ERASE** appears on the display.

CLOCK / TIME SETTING



Setting the clock

The clock is in 24-hour mode, e.g. 0:00 or 23:59.

- Press **STANDBY-ON** to switch on the set.
- Press **CLOCK**.
 - The display will show "0:00" and "00" flashes.
- Set the hour with **←** or **→**.
- To set the minute, press **←** or **→**.
- Set the minute with **←** or **→**.
- Press **CLOCK** again to store the setting.
 - The clock starts running.

Note:

- When a power interruption occurs, the clock settings are erased.

Setting the Timer

- The timer will only activate when the set is in the standby mode. If the set is switched on, the timer function will not be activated.
- The system can switch on to **TUNER**, **CD**, **TAPE** or **REC** mode automatically at a preset time. It can serve as an alarm to wake you up.
- Before setting the timer, make sure the clock is set correctly.
- The timer works only once for each setting.
- The volume of the timer will be at the last setting before the set is switched to standby mode.

Timer Setting

- Press **STANDBY-ON** to switch on the set.
- Press **TIMER SET** and hold for 2 seconds.
 - The **TIMER** flag flashes.
- Press **←** or **→** to select the desired source.
 - The display will switch as follows: **TUNER** — **CD** — **TAPE** — **REC TU** — **TUNER** ...

If you select TUNER ...

- Select the desired waveband (MW or FM) first then press **PRESET** **▲** or **▼** to select the preset station.
- Then continue with steps 4 to 8.

If you select CD ...

- Track 1 will be selected and play back automatically at the preset time.
- Then, continue with steps 4 to 8.

If you select TAPE ...

- The cassette will playback automatically at the preset time.
- Then, continue with steps 4 to 8.

If you select REC TU ...

- A blank cassette has to be inserted into the cassette compartment.
- Press **PRESET** **▲** or **▼** to select the preset station to be recorded.
- Then, continue with steps 4 to 12.

4 Press TIMER SET to confirm your source selection.

- **TIMER** is displayed.
- The display will show "0:00" and "00" flashes.
- Press **←** or **→** to set the hour for the timer to start.
- Press **←** or **→** to switch to the minute mode.
- Press **←** or **→** to set the minutes for the timer to start.
- Press **←** or **→** to set the minutes for the timer to start.
- Press **TIMER SET** to store the start time.
 - **TIMER** is displayed.
 - The display will show "0:00" and "00" flashes.
- Press **←** or **→** to set the hour for the timer to stop.
- Press **←** or **→** to switch to the minute mode.
- Press **←** or **→** to set the minutes for the timer to stop.
- Press **TIMER SET** to store the stop time.
 - The **TIMER** is now set.
 - The **TIMER** flag remains lit.

To stop the TIMER

- Press **TIMER ON-OFF** on the set.
- The **TIMER** flag disappears from display.

To start the TIMER again

- Press **TIMER ON-OFF** on the set.
- The **TIMER** flag light up.

Note:

- The timer setting program will exit automatically after 5 seconds if there is no further action on the set.

OTHER FEATURES

Mute

This feature allows you to temporarily switch off the sound of the system without switching off the set when you require a moment of silence.

- Press **MUTE** on the remote control to switch off the sound.
- Load a blank cassette into tape deck.
- Press **MUTE** again on the remote control to switch on the sound.

Sleep

This feature allows you to select a time after which the system will switch to the standby mode automatically.

- Press **SLEEP** on the remote control repeatedly to cycle through the sleep time modes:
 - **SLEEP** and the **SLEEP** flag are displayed.
 - The timer for selection is as follows:
 - 20:15:15 — 00:15:15 — CD:15:15 — 05:15:15 — 30:15:15 — 45:15:15 — 55:15:15 — 07:15:15 — 20:15:15 ...
 - Select the sleep time you desire.

When the sleep timer is switched on, to check the remaining time before the set switches to standby mode

- Press **SLEEP** once.
- The remaining time will scroll through the display.

To switch off the sleep timer mode.

- Press **SLEEP** until "OFF" is displayed or **0**.

MAINTENANCE

Maintenance

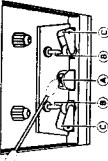
- Cleaning the Cabinet**
 - Use a soft cloth slightly moistened with a mild detergent solution. Do not use a solution containing alcohol, spirits, ammonia or abrasives.

Cleaning Discs

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

Cleaning the Heads and the Tape Paths

- To ensure good recording and playback quality, clean the head (A), the capstan (B), and pressure rollers (C) after every 50 hours of tape operation.



- Use a cotton swab slightly moistened with cleaning fluid or alcohol.

Demagnetizing the heads

- Use a demagnetizing cassette available at your dealer.

SPECIFICATIONS

AMPLIFIER

- Output power: 300 W (FM/PO)
- Power band width: 2 x 15 W RMS (±10% THD, 4Ω, 1 kHz)
- Frequency response: 20 - 20000 Hz
- Signal-to-noise ratio: ≥ 80 dB (IEC)
- Stereo separation: ≥ 55 dB (1 kHz)
- Loudspeakers: ≥ 4 Ω
- Headphones: 32 Ω - 1000 Ω

TUNER

- FM wave range: 87.5 - 108 MHz
- 9 MHz G-Grid
- 531 - 1602 kHz
- 531 - 1710 kHz
- Sensitivity at 75 Ω, 20 dB S/N ratio: FM mono: 7.5 μV
- FM Frequency response: 63 - 1500 Hz (±3 dB)
- Signal-to-noise ratio: ≥ 54 dB

CD PLAYER

- Frequency range: 20 - 20000 Hz
- Signal-to-noise ratio: ≥ 80 dB
- Channel separation: ≥ 60 dB
- Tonal harmonic distortion: ≤ 0.25%
- Frequency range: 80 - 15000 Hz (±3 dB)
- Normal tape (type I): 100 - 10000 Hz (±3 dB)
- Signal-to-noise ratio (without DAB): ≥ 50 dB
- Normal tape (type II): ≥ 45 dB
- Normal tape (type I): ≤ 0.25% DIN
- Wow and flutter: ≤ 0.25% DIN

MAIN UNIT

- Material/finish: Metal and polycarbonate
- Dimensions (W x H x D): 180 x 273 x 295 (mm)
- Weight: 5 kg approx.
- Speaker BOX: 160 x 270 x 290 (mm)
- Dimensions (W x H x D): 5 kg approx.
- Weight: 5 kg approx.
- Speaker woofer: 11.2 inch
- Speaker tweeter: 11.2 inch

TROUBLESHOOTING GUIDE

Warning! Under no circumstances should you try to repair the set yourself, as this will invalidate the warranty.

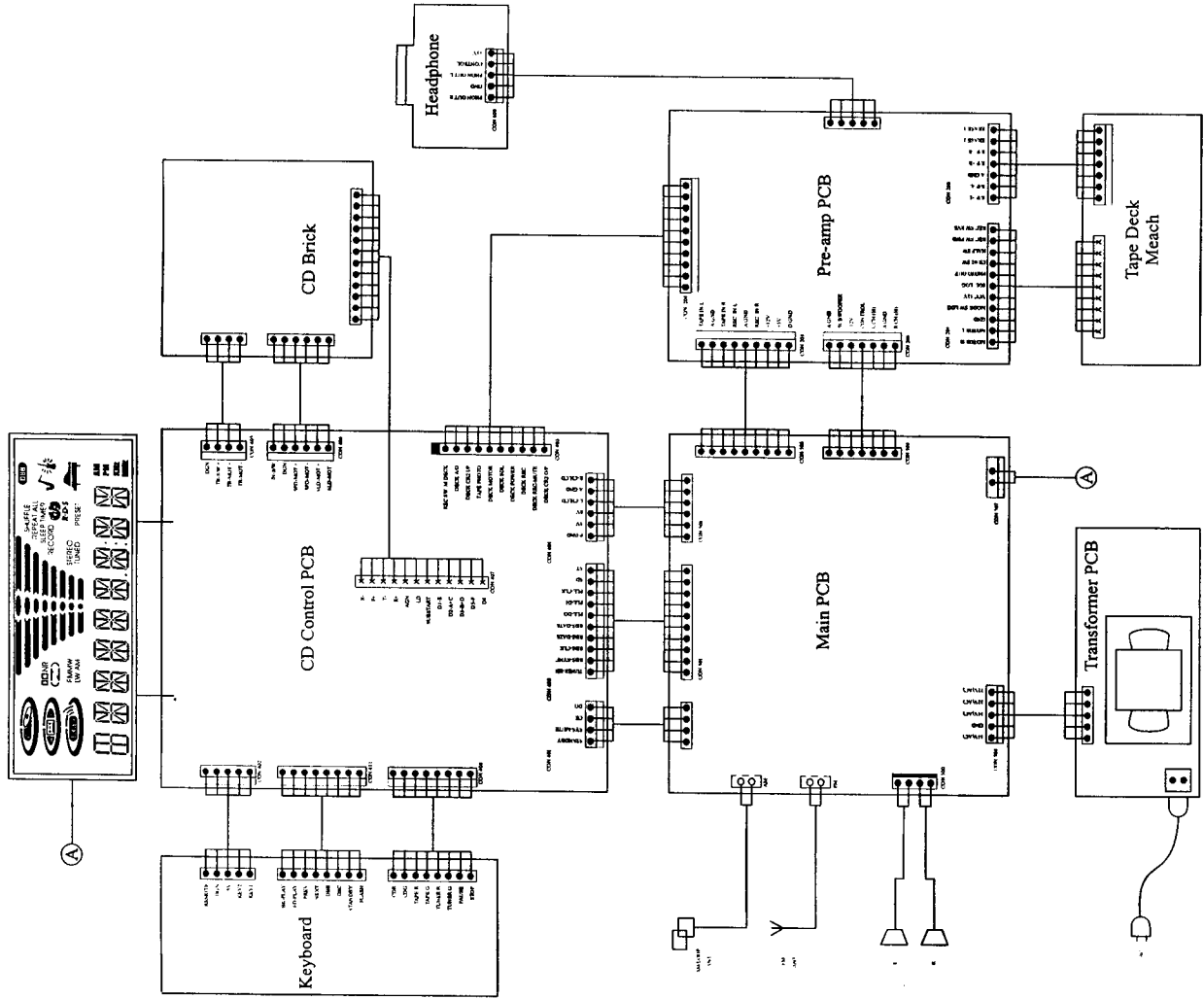
- If a fault occurs, check the points listed below before taking the set for repair.
- Should any problems persist after you have made these checks, consult your nearest dealer or service center.

SYMPTOM	POSSIBLE CAUSE	REMEDY
RADIO RECEPTION The STEREO indicator flashes. Severe hum or noise.	The signal is too weak. The signal strength is too weak. The TV or VCR is too close to the stereo system.	Adjust the antenna. Adjust the antenna. Separate the stereo system from the TV or VCR. Connect an external antenna for better reception.
CASSETTE DECK OPERATION Recording is not possible. Recording or playback cannot be made or there is a decrease in audio level. Excessive wow or flutter, or sound drop-out.	No cassette in the cassette deck. The protection tab has been broken. Dirty tape heads. Magnetic build-up in the record/playback head. Contamination of the capstans or pressure rollers.	Insert a blank cassette into the cassette deck. Put a piece of clear adhesive tape over the opening. See section on cassette deck maintenance. Use demagnetizing cassette. See section on cassette deck maintenance.
CD PLAYER OPERATION "NO CD" is displayed.	The disc is inserted upside down. Moisture condensation. There is no disc in the CD tray. The CD is dirty, badly scratched or warped.	Place CD with printed side up. Wait until lens has adjusted to normal room temperature. Insert a CD. Replace or clean the CD.
GENERAL Set not working.	Set does not react when buttons are pressed.	Press STANDBY-ON to switch the unit off, then switch it on again. Or, unplug the AC power plug from the wall outlet, then plug it in again.
No or poor sound.	Volume is not turned up. The headphones are connected. Speakers are not connected or are connected wrongly.	Adjust VOLUME. Disconnect the headphones. Check that the speakers are connected correctly. Make sure that the stripped speaker wires is clamped.
Reversed left and right sound. Lack of bass sound or apparently imprecise physical location of musical instruments.	Speakers are connected wrongly. Speakers are connected wrongly.	Check the speaker connections and speaker location. Check the speaker connection for proper phasing, red/black wires to red/black terminals.
Click blinking.	There was a power disruption.	Reset the clock.
Remote control has no effect on the set.	The distance to the system is too large. Batteries are inserted incorrectly. Batteries are exhausted.	Reduce the distance. Insert the batteries correctly. Replace the batteries.
Timer not working.	Wrong sound source is selected.	Select the sound source before pressing the function button (PLAY, PREV, NEXT, etc.).
"PROG. DIS. TO CD" is displayed.	Timer not switched on. Dubbing/recording is active. Demo mode is switched on.	Press TIMER ON+OFF on the set to switch on the timer. Stop dubbing/recording. Press STANDBY+ON or DEMO to switch off the demo.

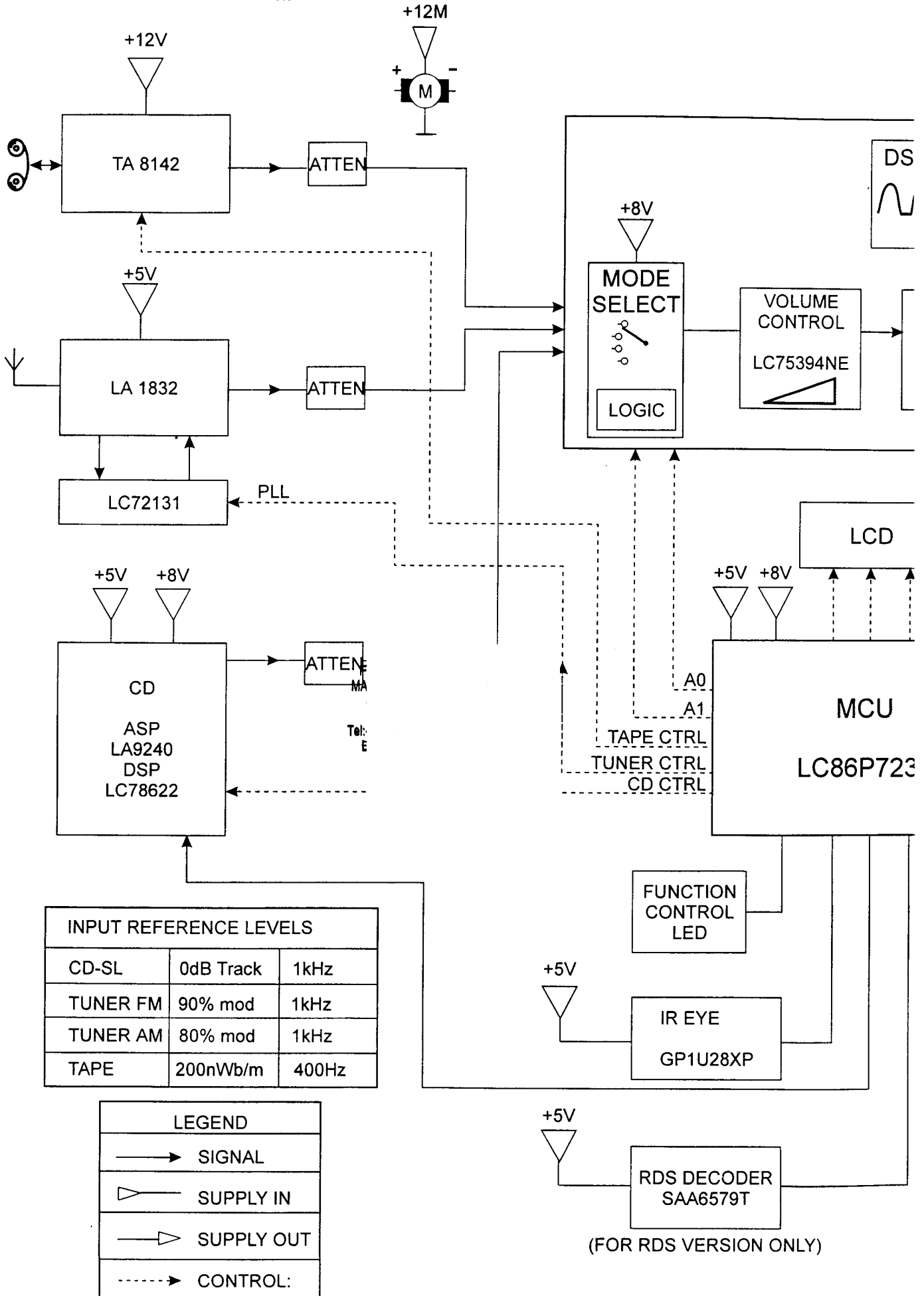
F
M/A

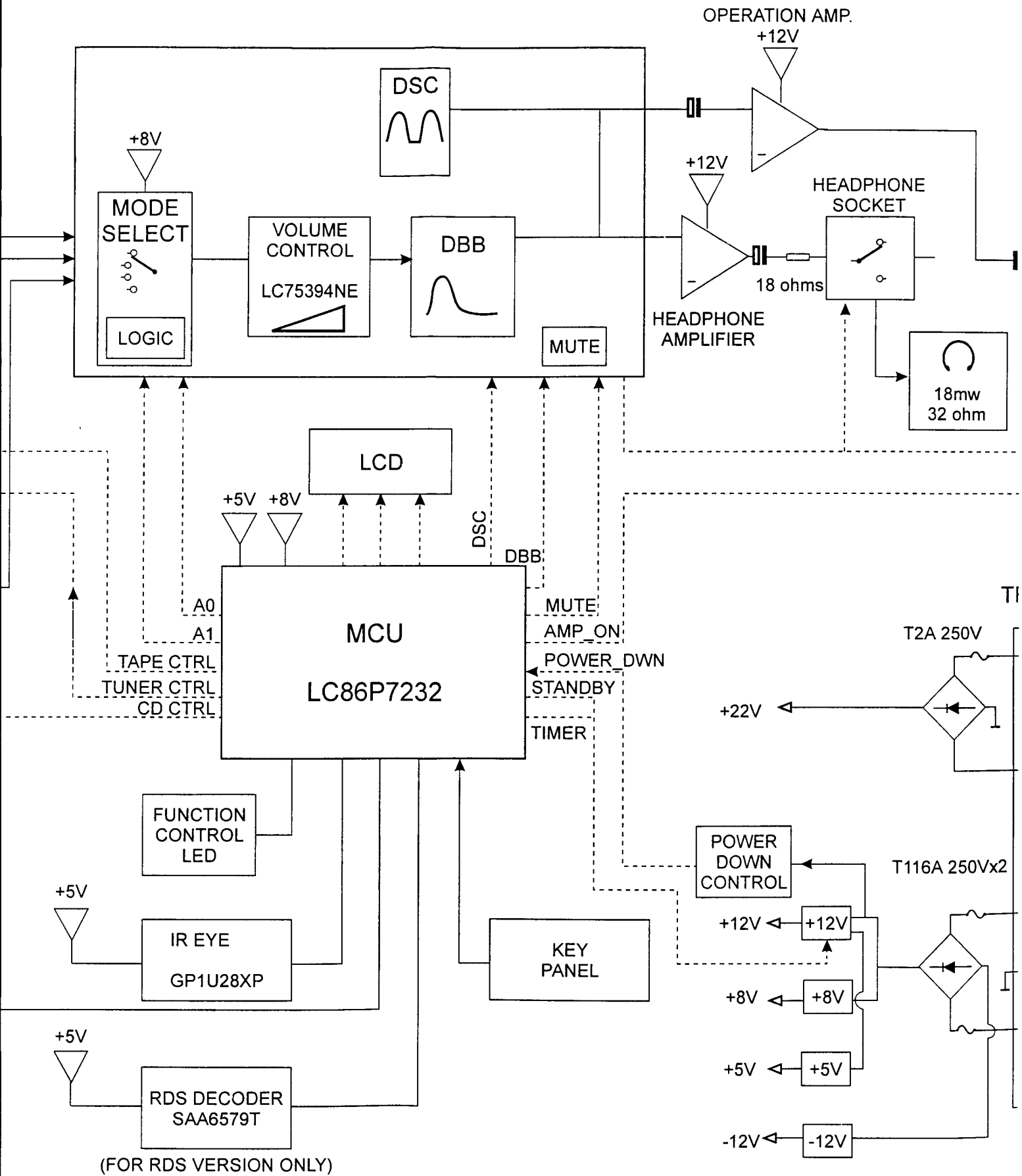
Tel: 1

WIRING DIAGRAM

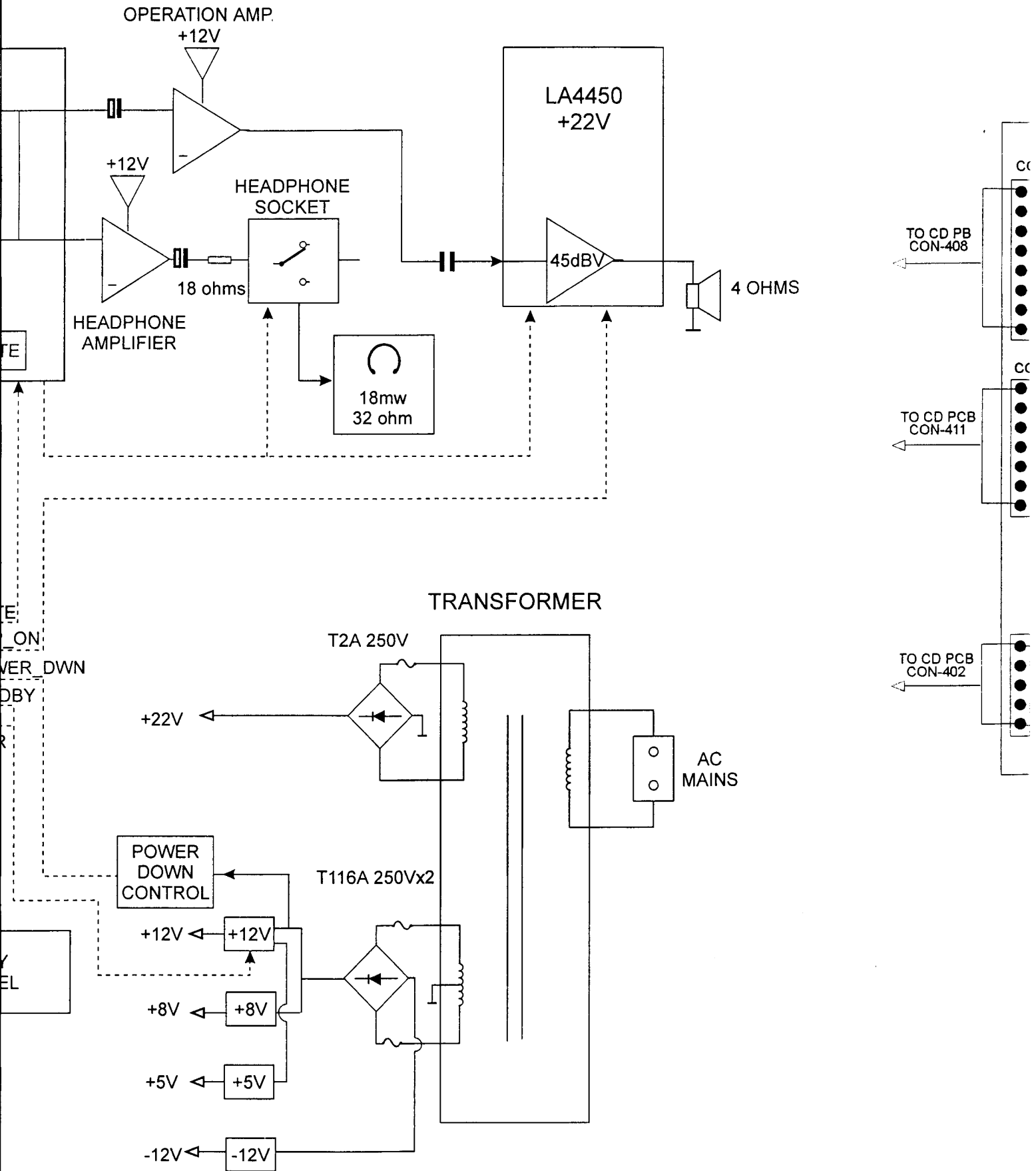


MASTER BLOCK DIAGRAM

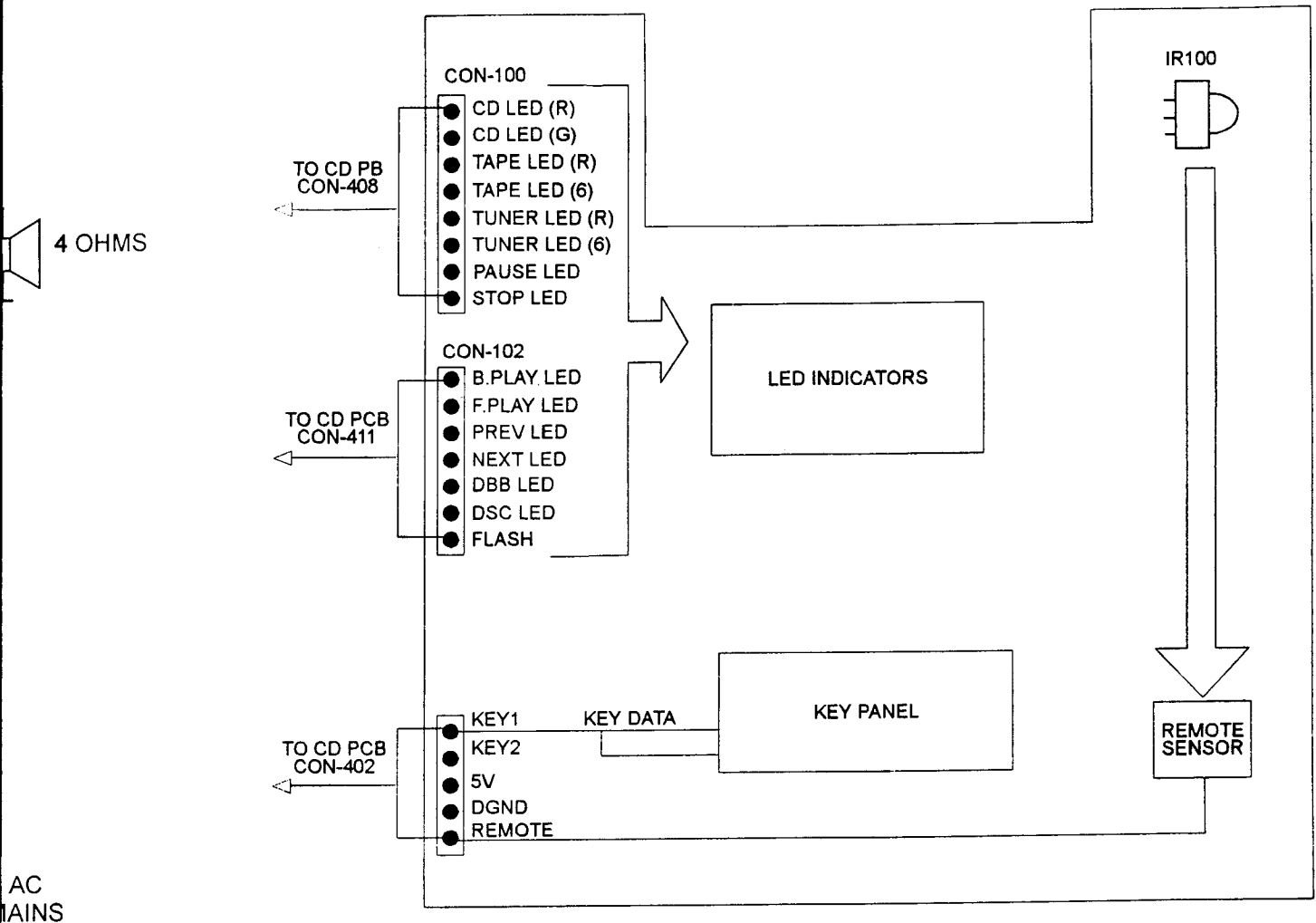




BLOCK DIAGF

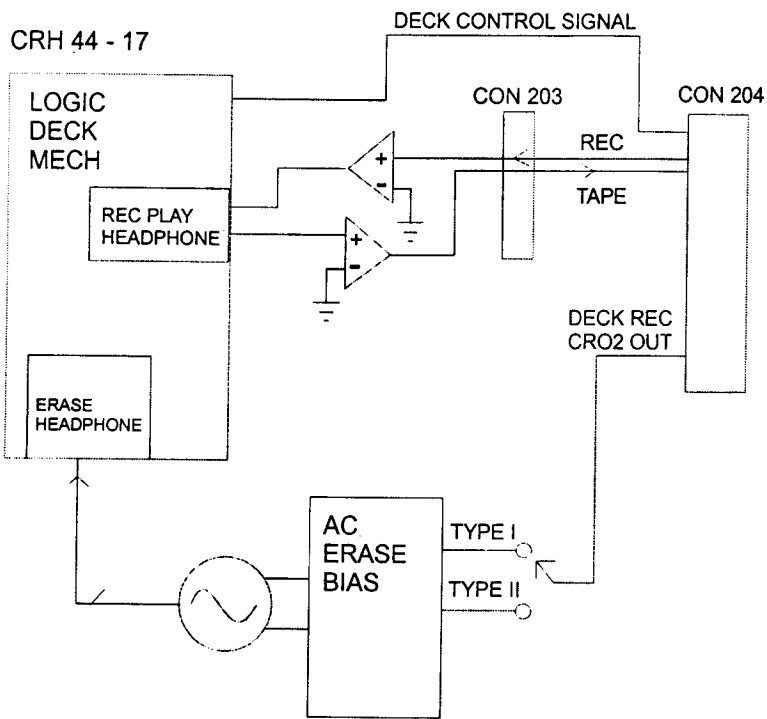


BLOCK DIAGRAM - PANEL BOARD

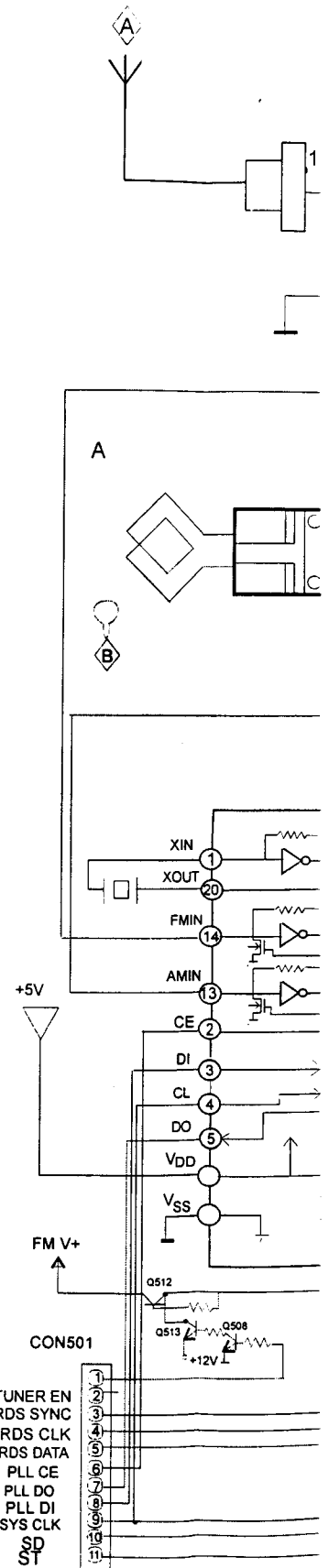
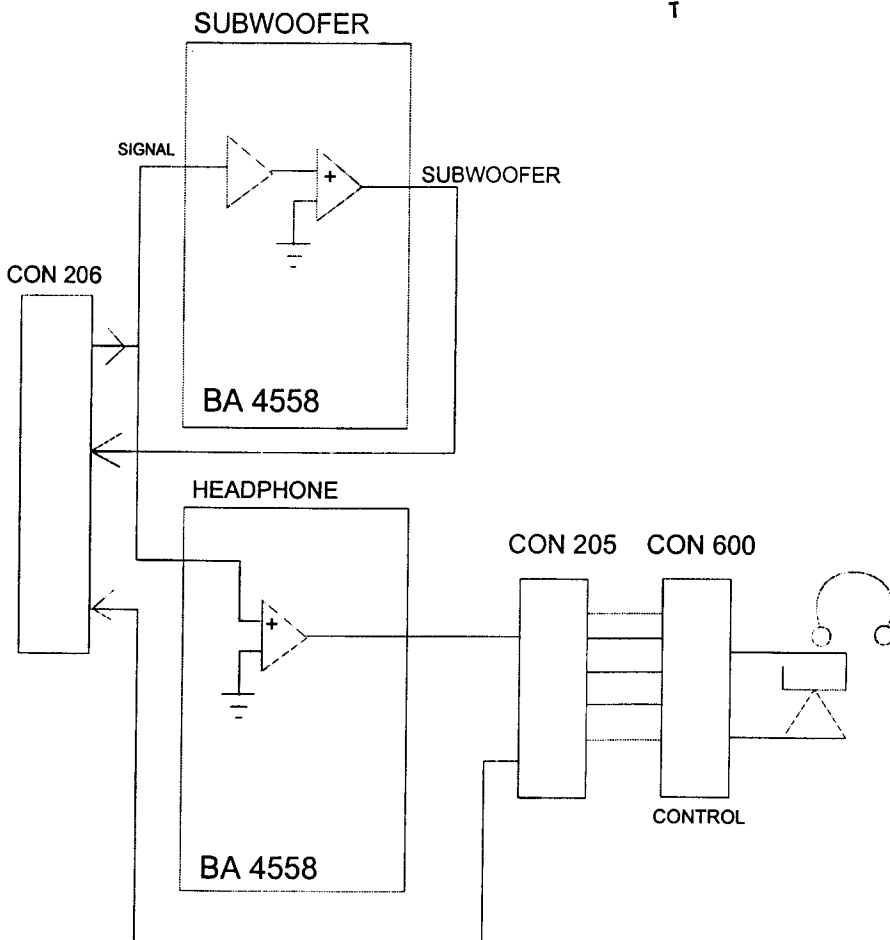


BLOCK DIAGRAM - PREAMP BOARD

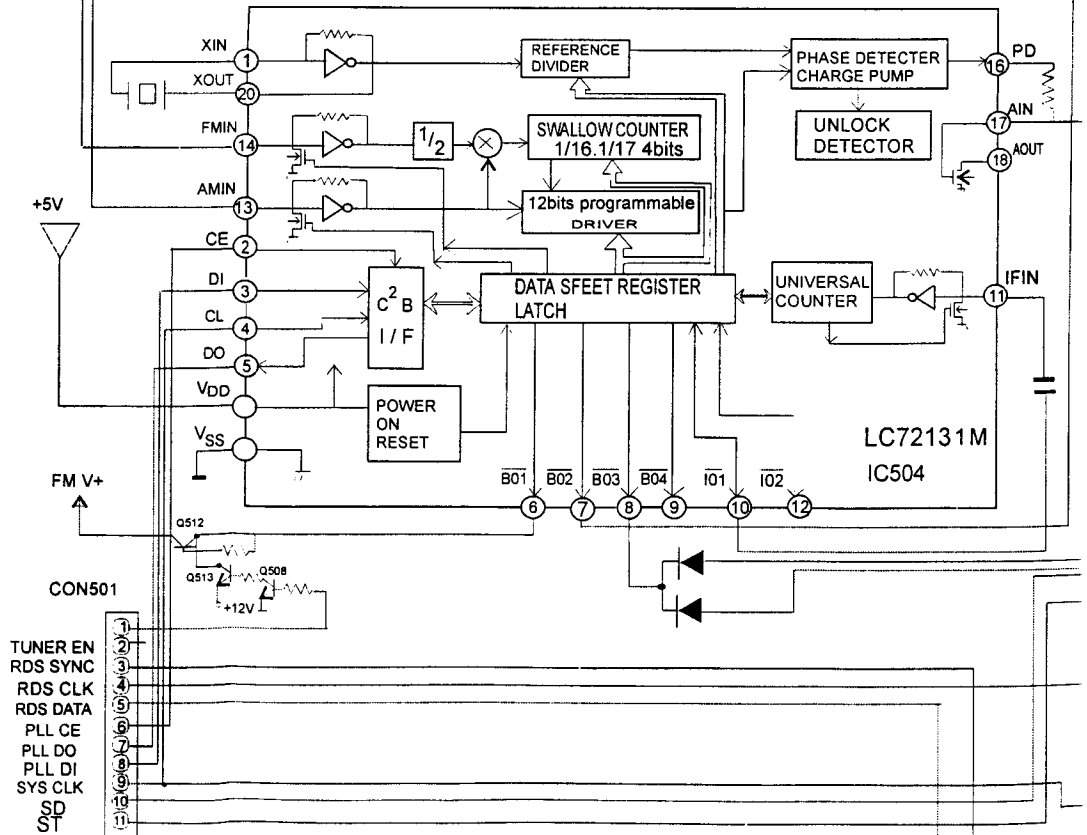
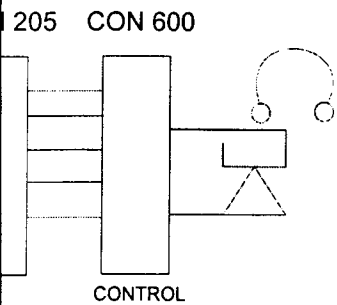
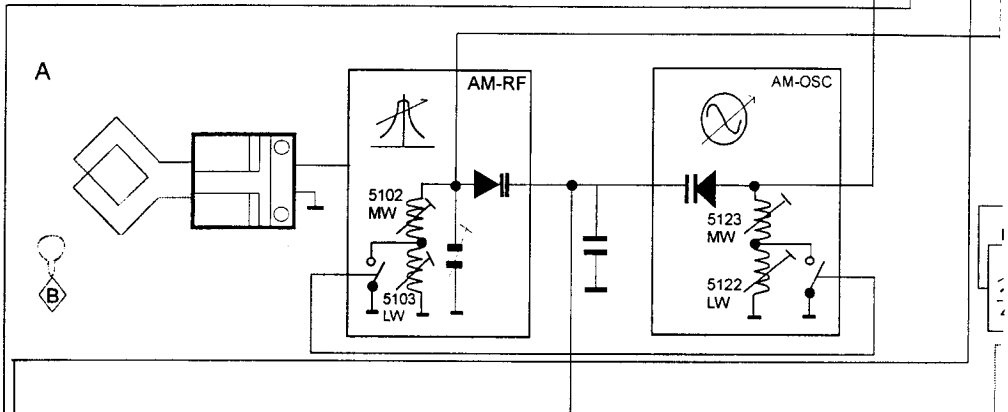
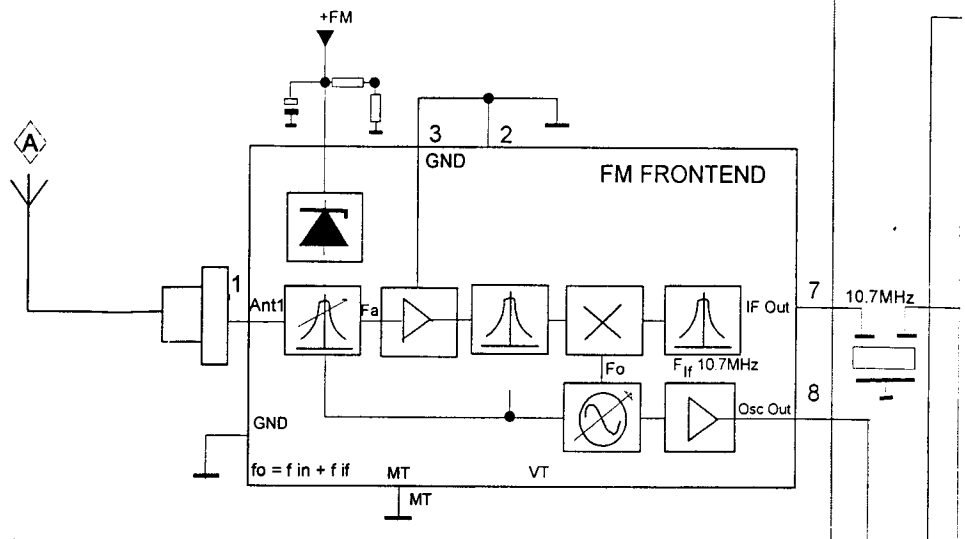
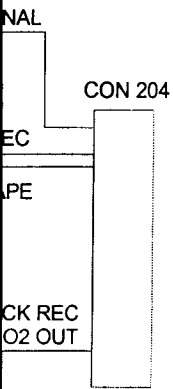
BLOCK DIAGRAM

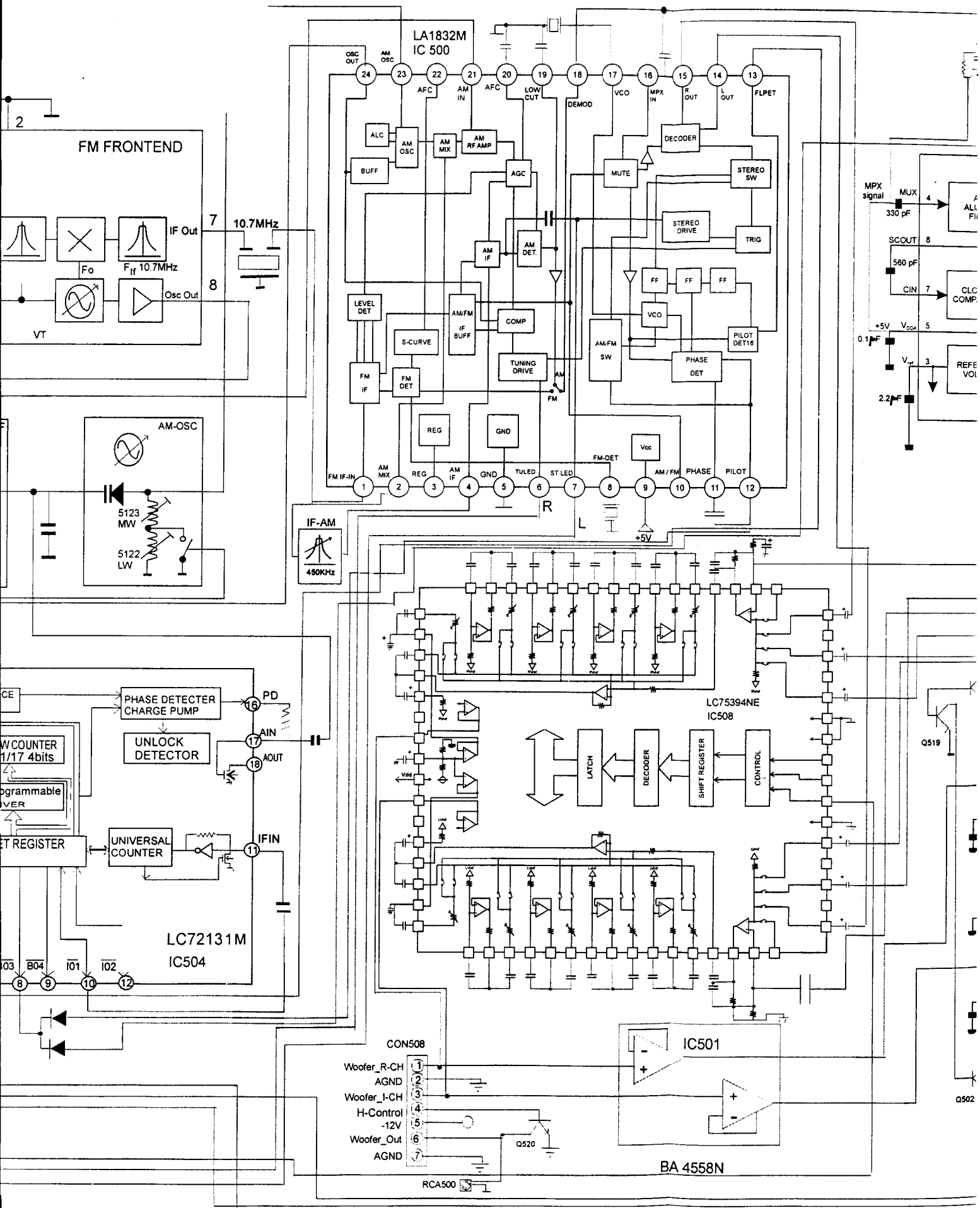


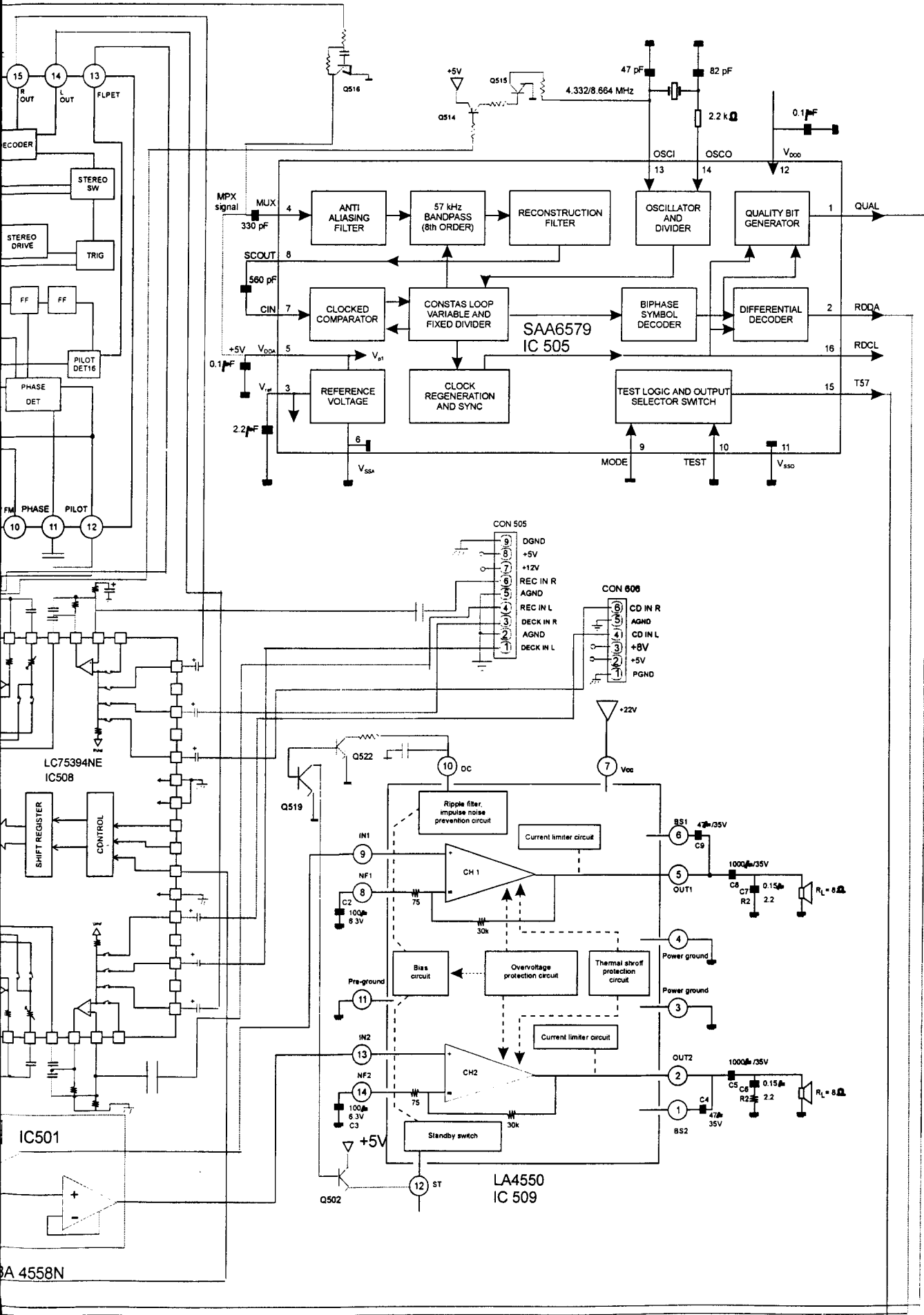
N
T



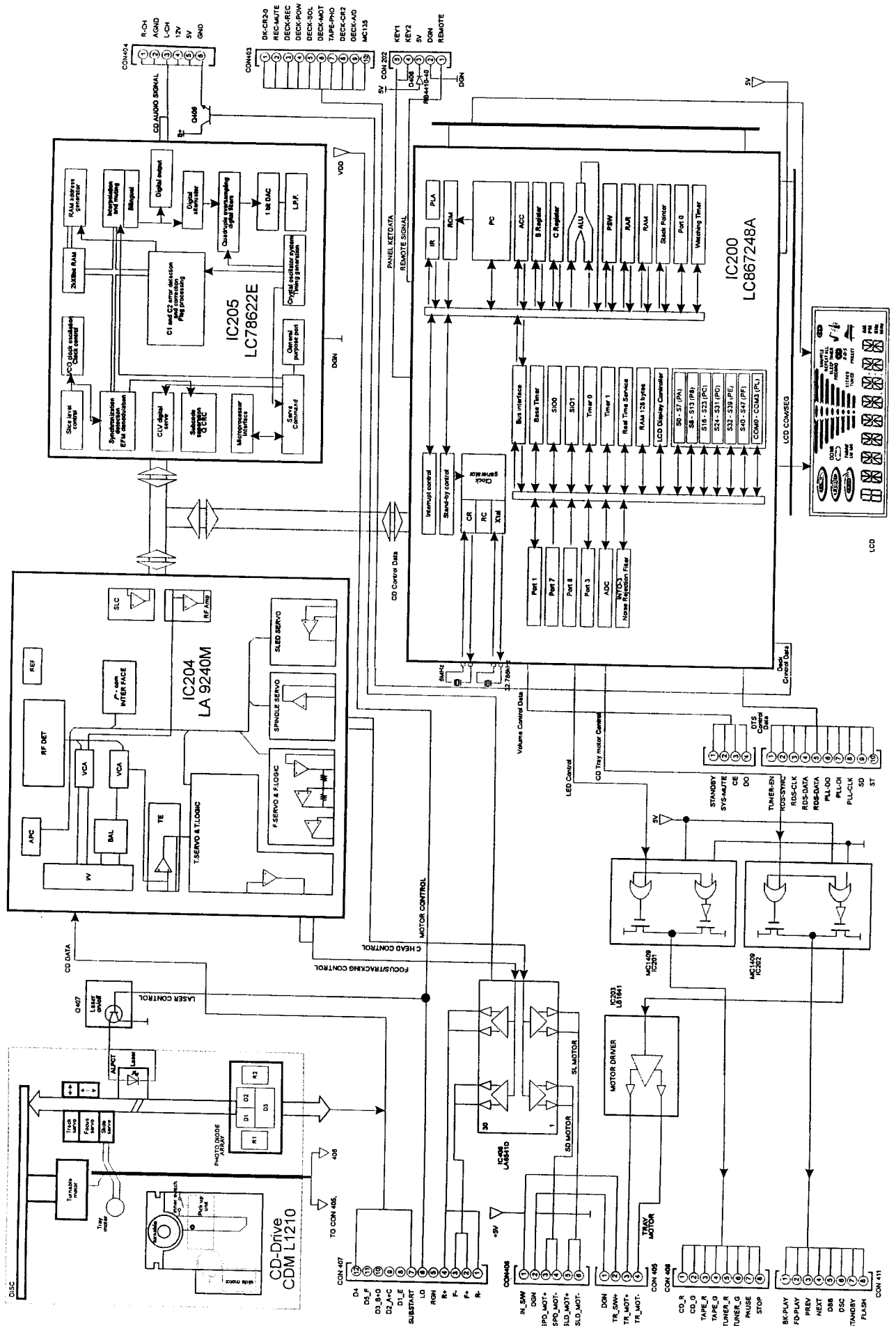
BLOCK DIAGRAM - MAIN BOARD



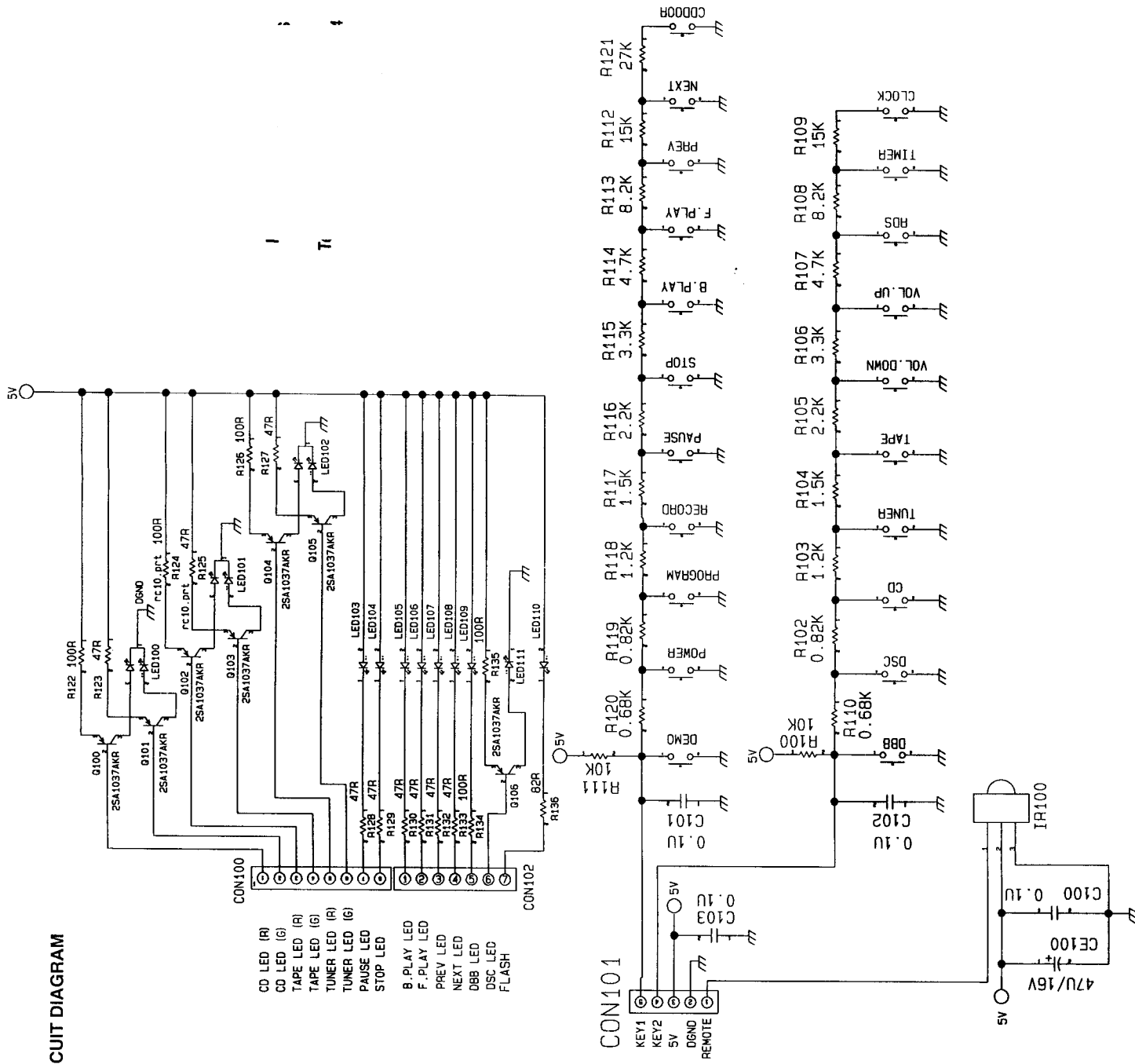




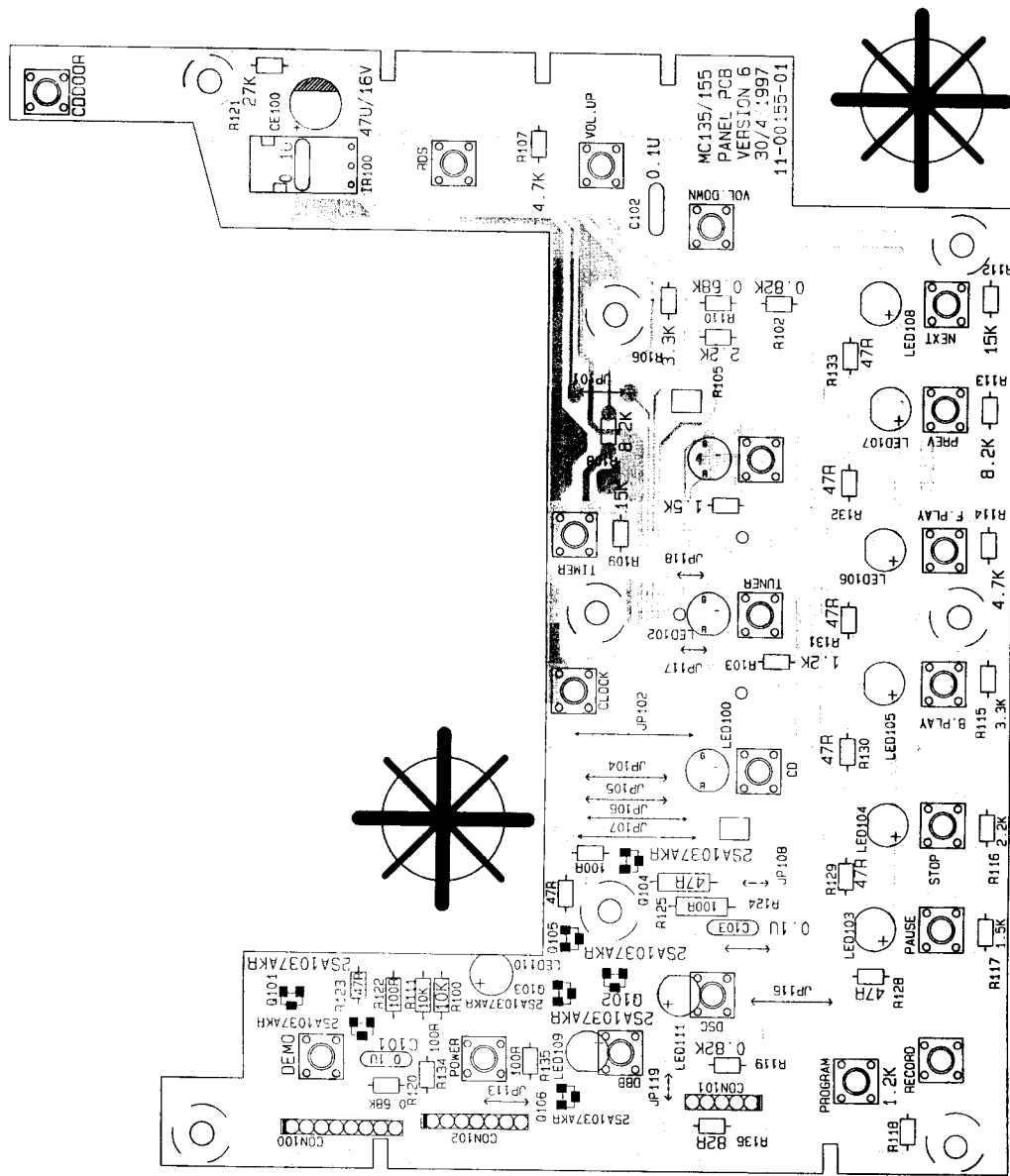
BLOCK DIAGRAM - CD BOARD



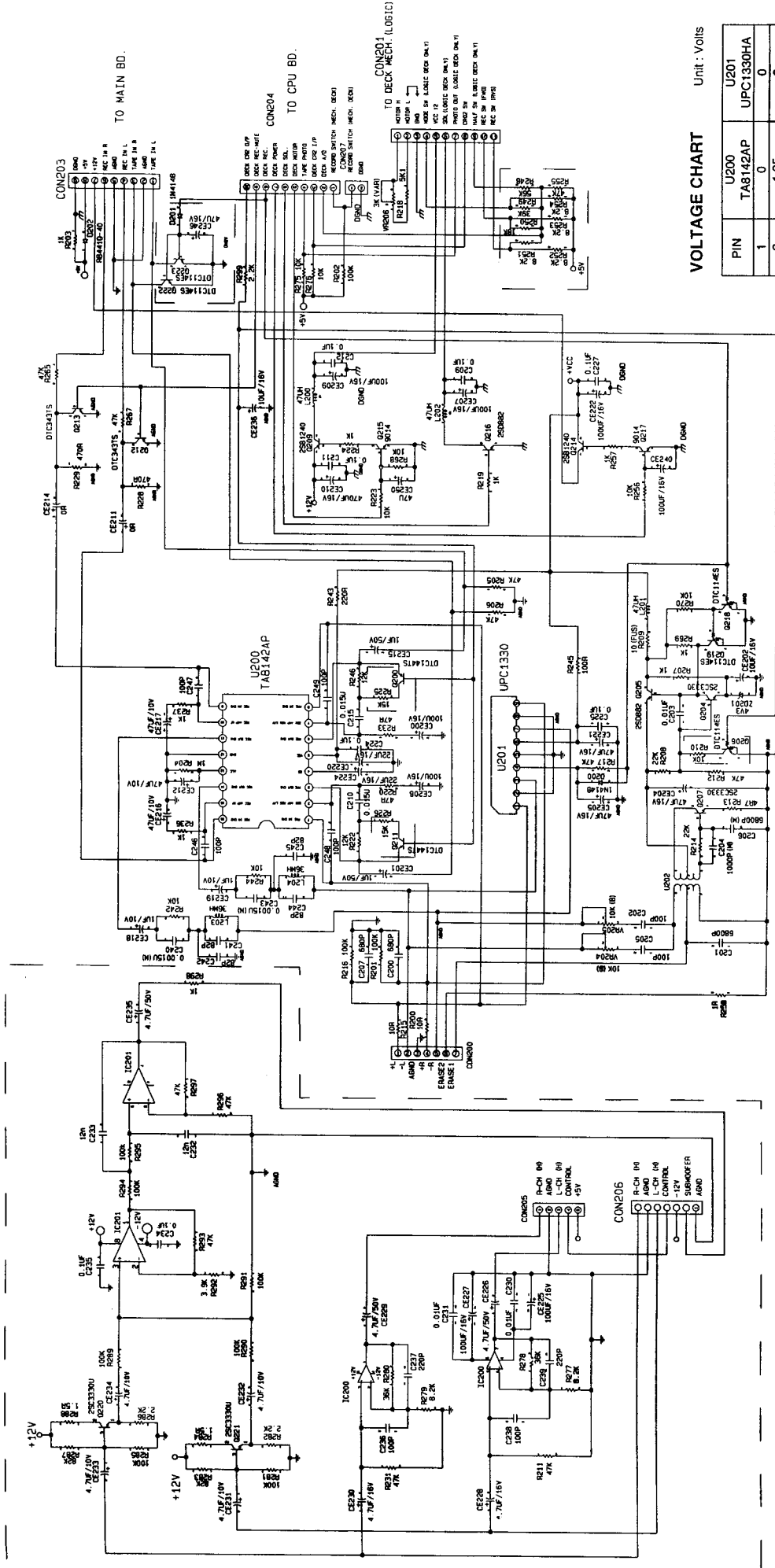
PANEL BOARD - CIRCUIT DIAGRAM



PANEL BOARD - LAYOUT DIAGRAM



PREAMP BOARD - CIRCUIT DIAGRAM



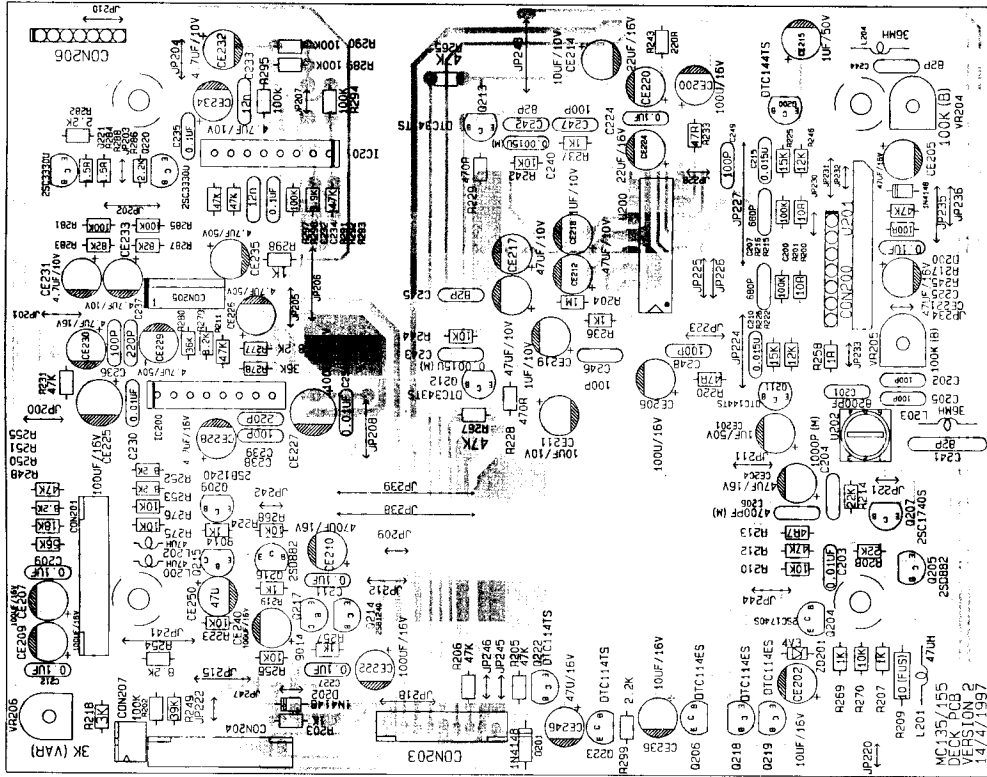
VOLTAGE CHART Unit : Volts

PIN	IC200 BA4558N	IC201 BA4558N
1	0.05	0.06
2	0	0
3	0	0
4	-12.09	-12.06
5	0	0.06
6	0	0
7	0.05	0.06
8	12.35	12.45

VOLTAGE CHART Unit : Volts

PIN	U200 TAB142AP	U201 UPC1330HA
1	0	0
2	1.25	0
3	2.05	0
4	1.43	0
5	10.21	0
6	2.05	11.69
7	1.25	0
8	0	0
9	0	0
10	1.25	0
11	2.21	0
12	0	0
13	0	0
14	2.22	0
15	1.25	0
16	0	0

PREAMP BOARD - LAYOUT DIAGRAM



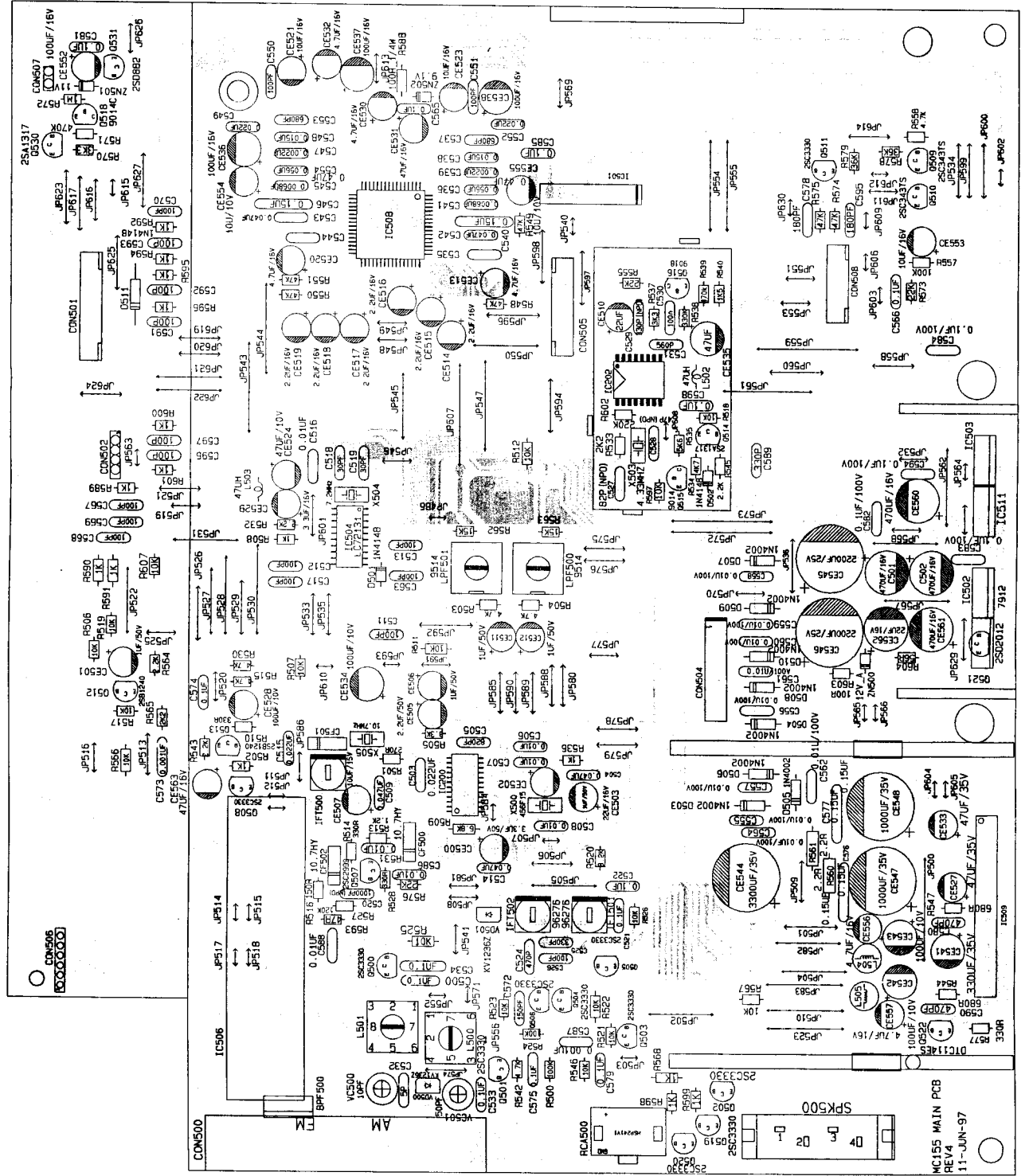
CASSETTE ADJUSTMENT

Adjustment	Cassette	SK	Deck 1	Measure on	Read on	Adjust with	Adjust to
Azimuth	10kHz SBC420*	TAPE	Forward Play	Speaker	mV meter	Left hand Screw R/P head	max.
			Reverse Play	Speaker	mV meter	Right hand Screw R/P head	max.
Motor Speed	3150KHz SBC420*	TAPE	Play	Speaker	W&F Meter	VR206	**a
Bias Frequency Alignment	/	TAPE	Record	Pin 6 of U202	Frequency Counter	U202	110 ± 2KHz

* SBC420 : 4822 397 30071

**a The maximum permissible speed deviation is ± 2%.
Moreover, the wow and flutter value can be read.
This value should not exceed 0.3%.

MAIN BOARD - LAYOUT DIAGRAM



VOLTAGE CHART

PIN	IC500		IC504	
	FM	AM	FM	AM
1	2.1	5	2.6	0
2	2.1	2.1	0	0
3	2.1	2.1	0	0
4	2.1	2.1	0	0
5	0	5	1	13
6	5	5	4	0
7	5	5	4	0
8	2.8	3.4	5	0.1
9	5	5	5	5
10	5	5	0	0
11	3.8	1.5	0	0
12	3.8	0	0	0
13	3.5	0	2.5	0
14	1.2	2.5	0	0
15	1.2	5	1	1.2
16	2.4	0	1	1.2
17	2.4	0.9	3.2	1
18	0	1.9	0	0
19	0.2	0.9	2.6	0
20	2.9	2.1	0	0
21	2.9	2.1	0	0
22	2.9	2.1	0	0
23	5	5	0	0
24	3.6	3.6	0	0

PIN	IC508		IC509	
	VOLTS	PIN	VOLTS	PIN
1	3.51	17	2.05	33
2	4.65	18	2.05	38
3	2.74	19	2.05	35
4	3.5	20	2.05	37
5	4.65	21	2.05	37
6	2.74	22	0	38
7	3.5	23	0	39
8	4.65	24	0	40
9	2.74	25	0	41
10	3.5	26	0	42
11	4.65	27	0	43
12	4.5	28	2.05	44
13	2.45	29	0	45
14	4.65	30	2.05	46
15	4.65	31	0	47
16	2.05	32	2.05	48

PIN	IC505		IC509	
	VOLTS	PIN	VOLTS	PIN
1	0	2.4	23.8	0
2	0	2.6	13.6	0
3	0	2.51	0	0
4	-12.07	2.37	0	0
5	0	5.03	13.8	0
6	0	0	23.9	0
7	0	2.29	26.9	0
8	13.04	2.55	1.22	0
9	0	0	0	0
10	0	0	25.7	0
11	0	0	0	0
12	5.03	2.22	0	0
13	2.29	0	0	0
14	2.63	1.22	0	0
15	2.51	2.51	0	0
16	2.51	2.51	0	0

Service Service Service

Product Service Group CE Audio

Service Information

Already published Service Information :

(GB)

To adapt the service manual the following sheets have been added/changed.

(NL)

Voor het aanpassen van de service manual zijn de onderstaande pagina's toegevoegd/gewijzigd.

(F)

Afin de pouvoir adapter le "manual service" les feuillets suivants ont été soit modifiés, soit ajoutés.

(D)

Zür anpassung des service Manual sind die nachstehenden Seiten hinzugefügt/geändert.

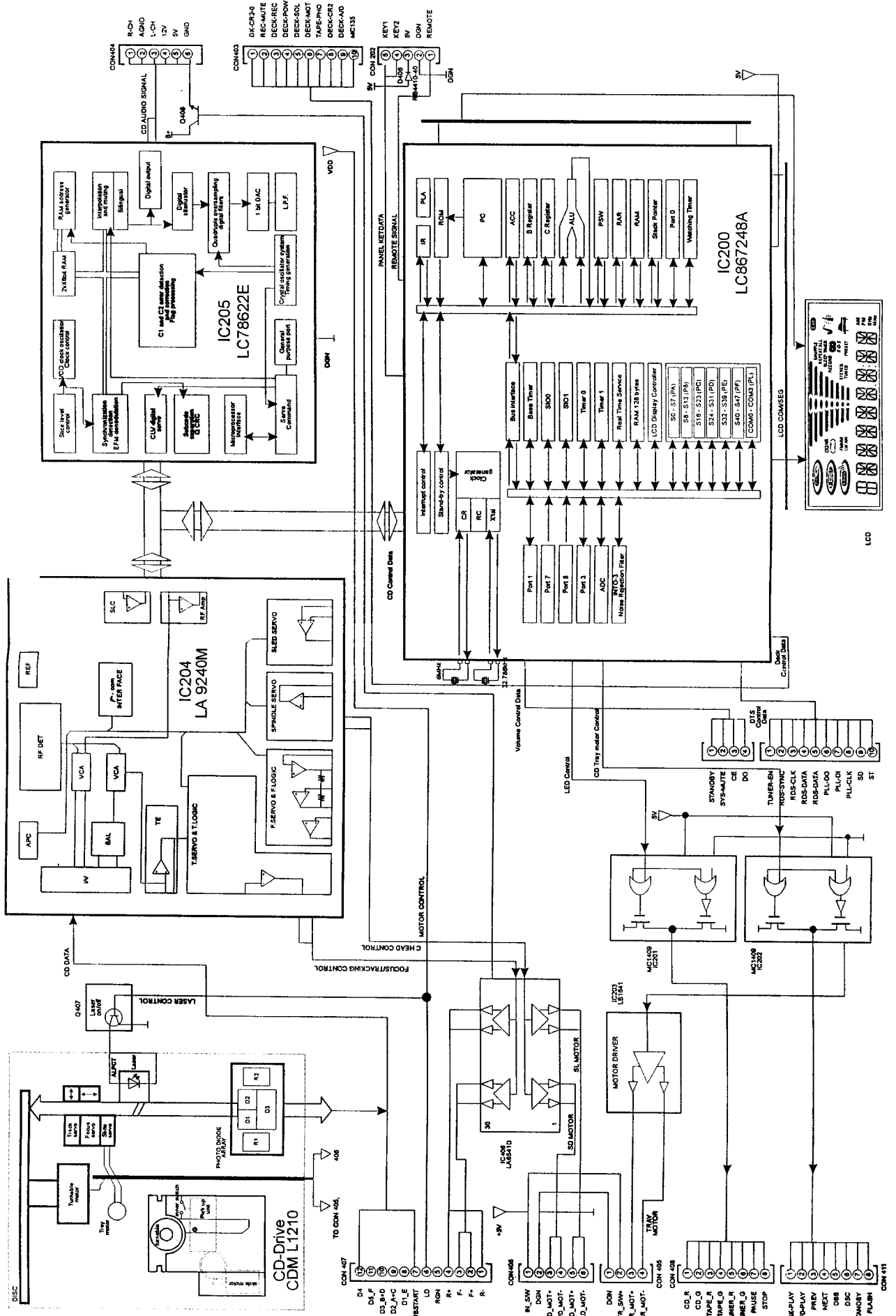
(I)

Le seguenti pagine sono state cambiate/aggiunte allo scopo di adattare il Manuale di Servizio.

Enclosed are additional and updated informations.

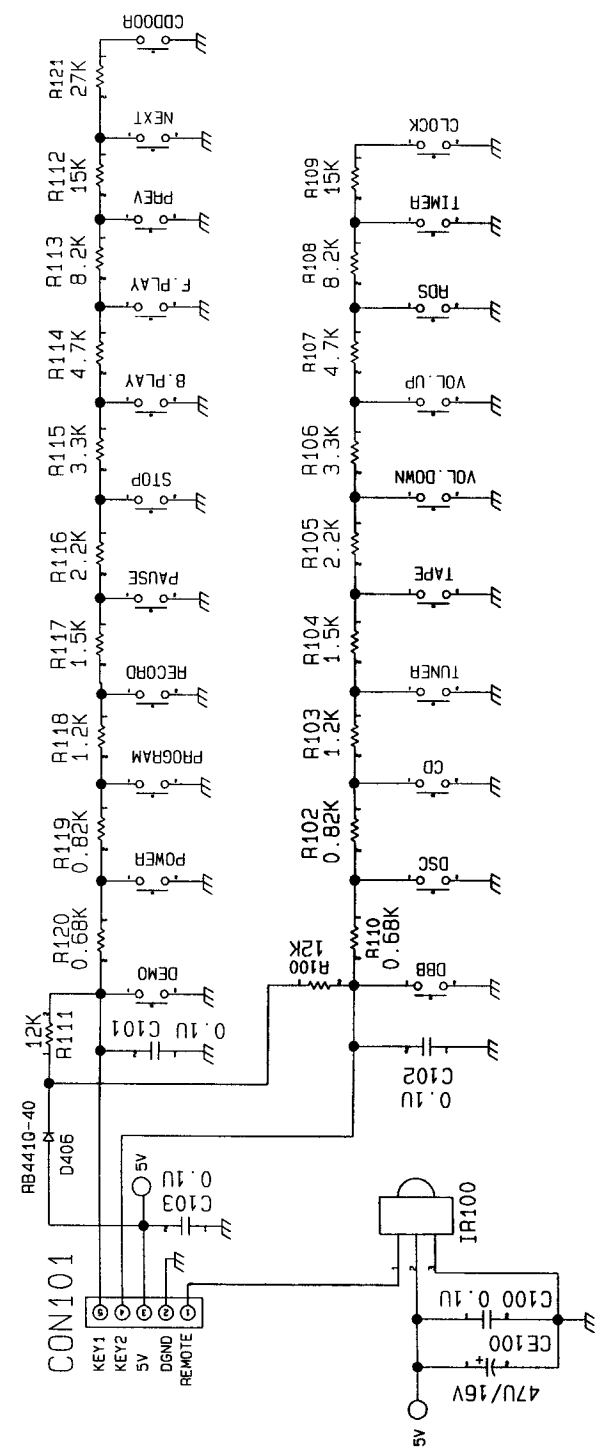
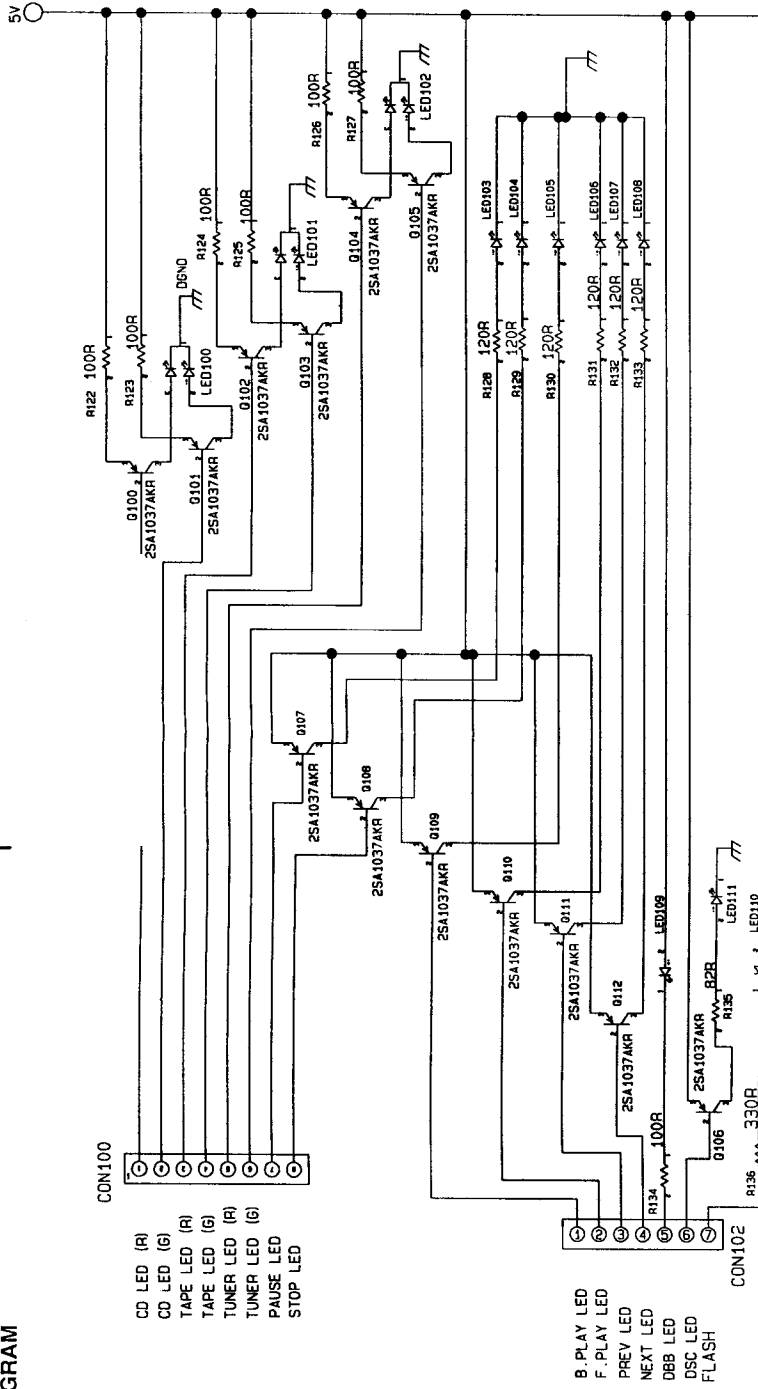
Description	PCS number	Reason
Panel board - Circuit Diagram	PCS 87 372	Correction of drawing
Panel board - Layout Diagram	PCS 87 373	Correction of drawing
Electrical partslist	PCS 87 384	Correction of partslist

BLOCK DIAGRAM - CD BOARD

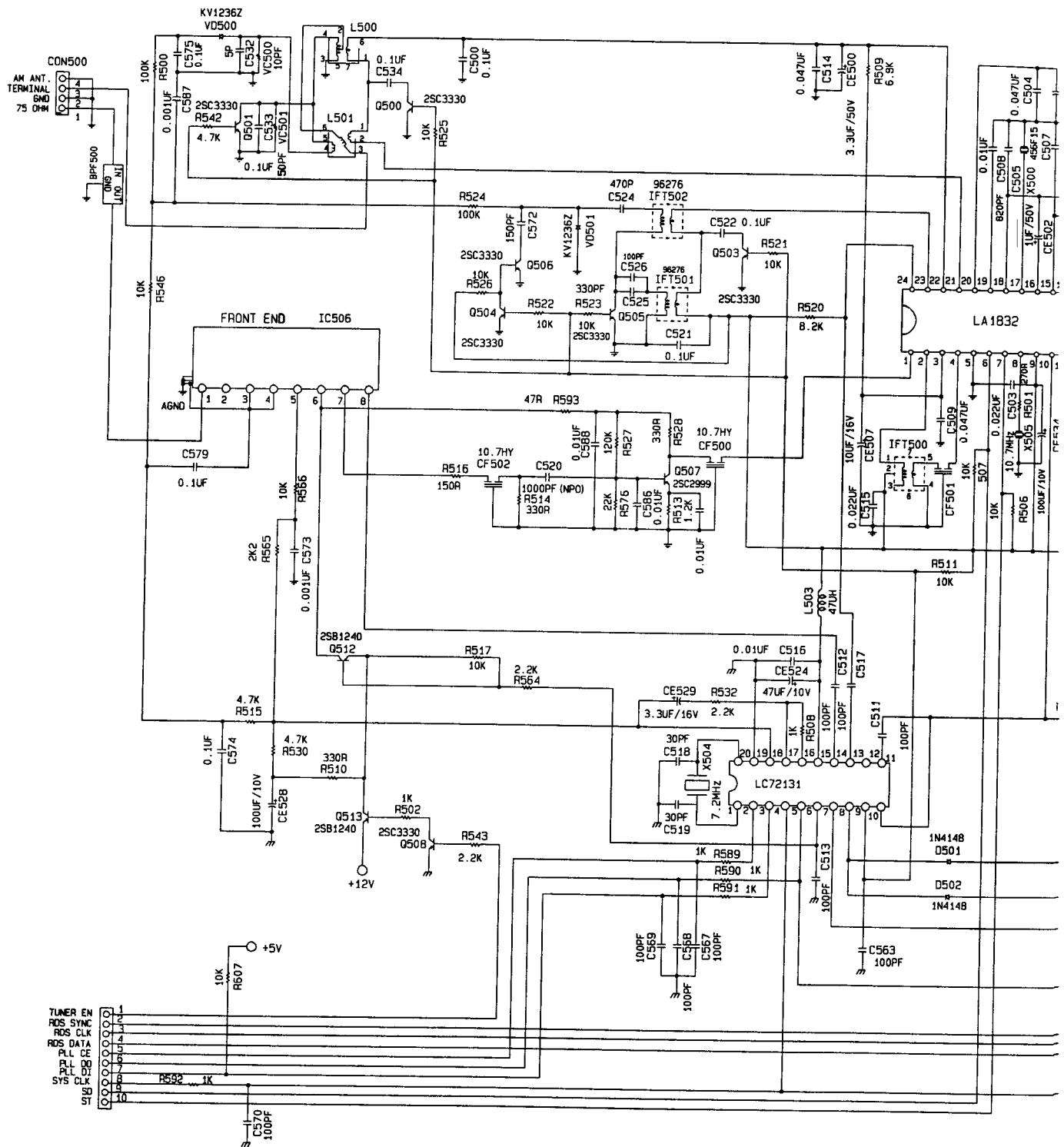


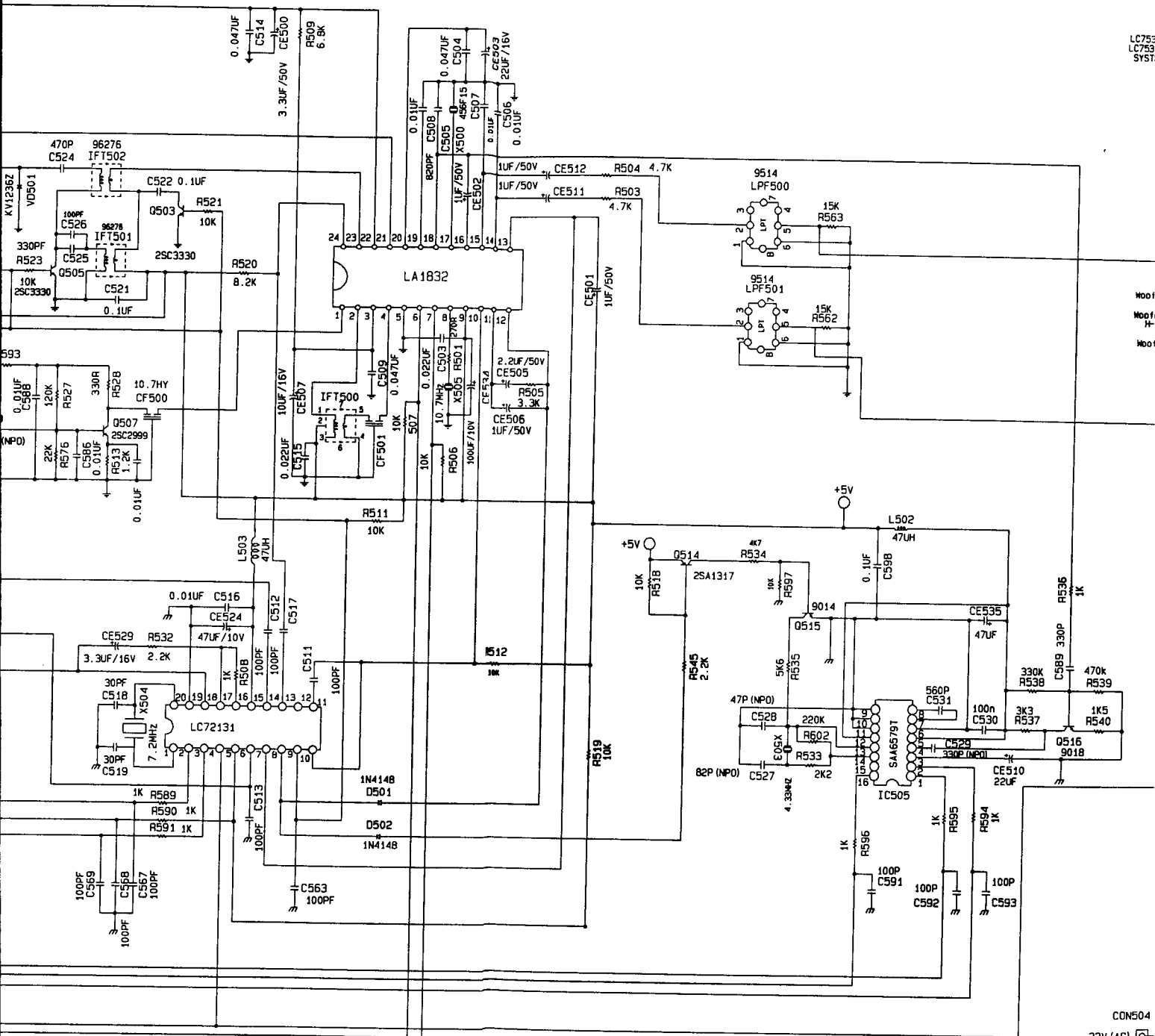
PANEL BOARD - CIRCUIT DIAGRAM

1



MAIN BOARD - CIRCUIT DIAGRAM

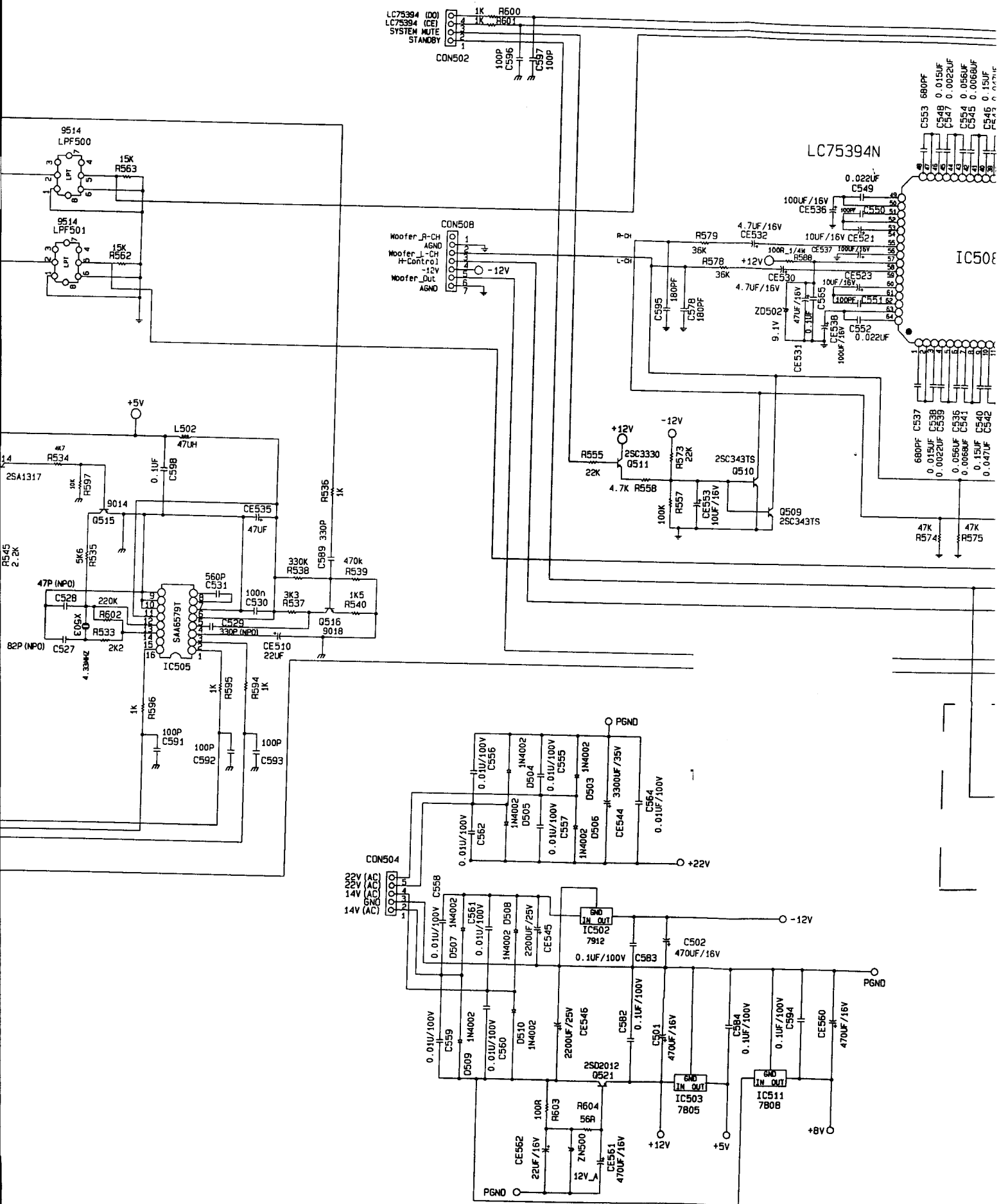


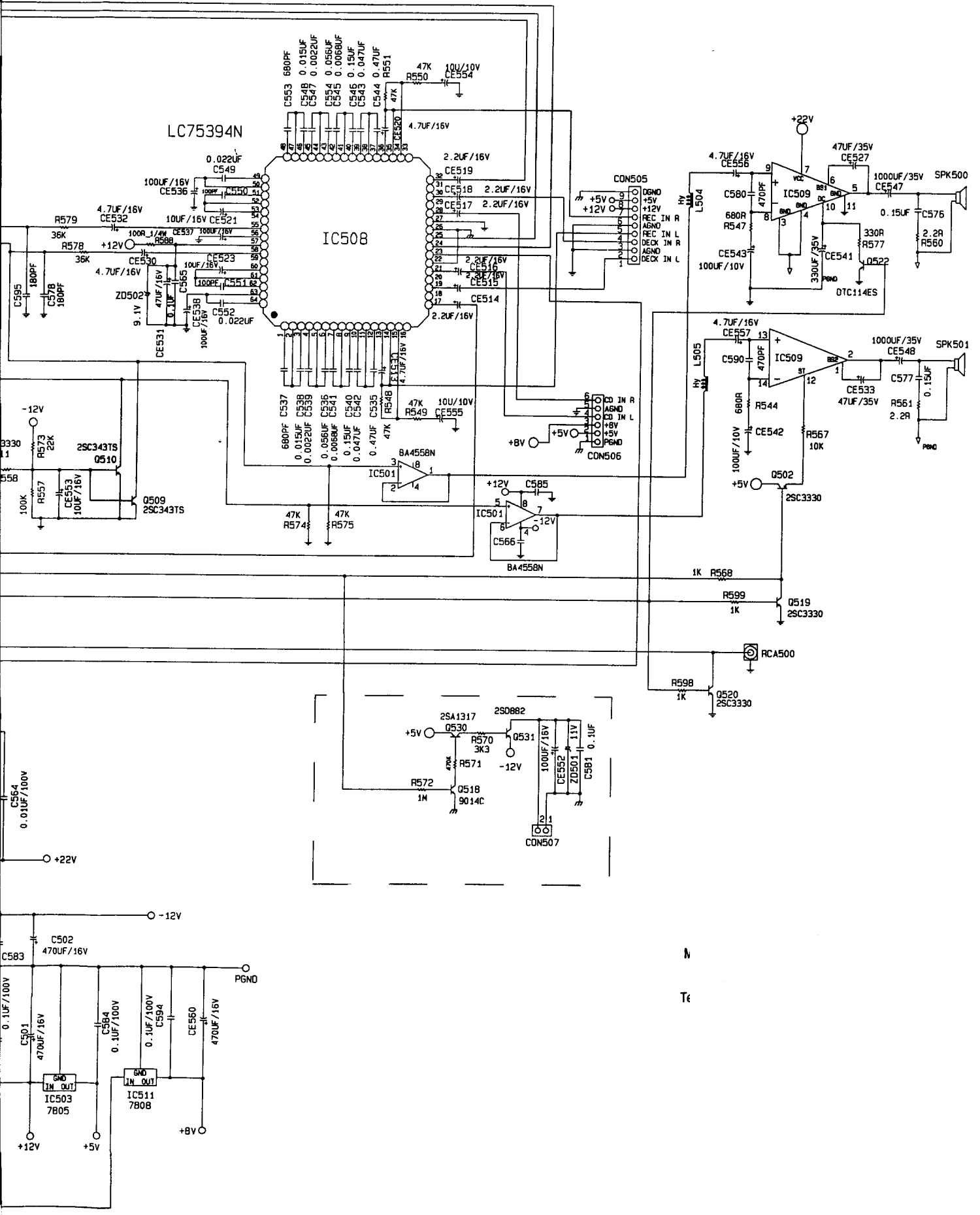


LC753
LC753
5Y5T1

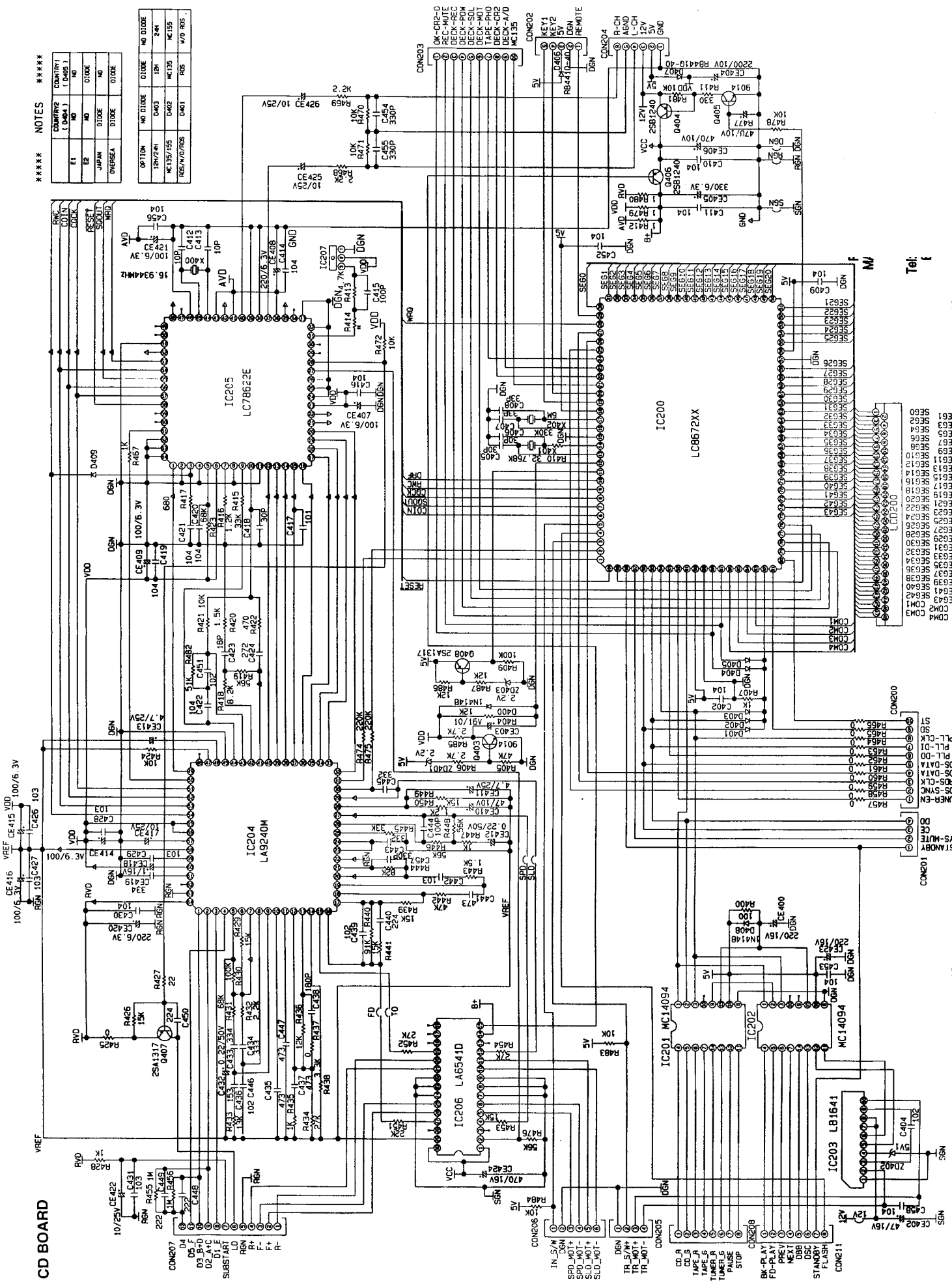
Woo1
Woo1
H-
Moo1

CON504
22V (AC)
22V (AC)
14V (AC)
14V (AC)
GND
GND





CD BOARD



***** NOTES *****

COUNTRY1 (D401)	COUNTRY2 (D402)	NO. DIODE	NO. DIODE
NO	NO	244	244
DIODE	DIODE	MC135	MC135
DIODE	DIODE	D401	R5E
DIODE	DIODE	R5E	W/O R5E

OPTION	NO. DIODE	NO. DIODE
28K/24K	D403	244
MC135/135	D402	MC135
R5E/W/O R5E	D401	R5E

Tel: 1

VOLTAGE CHART

IC200 LC86P7248							
PIN	VOLTS	PIN	VOLTS	PIN	VOLTS	PIN	VOLTS
1	0	26	2.5	51	2.2	76	0
2	0	27	2.48	52	2.2	77	0
3	0	28	0	53	2.2	78	0
4	4.62	29	4.62	54	2.2	79	0
5	4.92	30	2.2	55	2.2	80	4.94
6	0	31	2.2	56	4.62	81	0.45
7	0	32	2.2	57	0	82	0.45
8	4.62	33	2.2	58	2.27	83	2.25
9	0	34	2.2	59	2.22	84	2.25
10	0	35	2.2	60	2.27	85	2.25
11	4.9	36	2.2	61	2.25	86	2.27
12	4.6	37	2.2	62	2.22	87	4.45
13	0.2	38	2.2	63	2.2	88	0
14	2.43	39	2.2	64	2.23	89	0
15	0	40	2.2	65	2.2	90	4.62
16	1.09	41	2.2	66	2.2	91	0
17	2.38	42	2.2	67	2.2	92	0
18	4.62	43	2.2	68	2.2	93	4.94
19	4.32	44	2.2	69	2.2	94	0
20	4.32	45	2.2	70	2.2	95	0
21	0	46	2.2	71	2.2	96	0
22	4.87	47	2.2	72	2.2	97	4.62
23	4.87	48	2.2	73	2.2	98	4.62
24	4.87	49	2.2	74	2.28	99	4.58
25	2.2	50	2.2	75	2.2	100	4.62

PIN	IC201 MC14094	IC202 MC14094
1	0	0
2	0	4.97
3	0	0
4	1.23	4.97
5	4.97	3.6
6	4.97	3.6
7	1.46	0.07
8	0	0
9	4.97	0
10	4.97	0
11	3.6	4.1
12	3.6	4.1
13	1.48	4.97
14	4.97	4.97
15	/	/
16	4.97	4.97

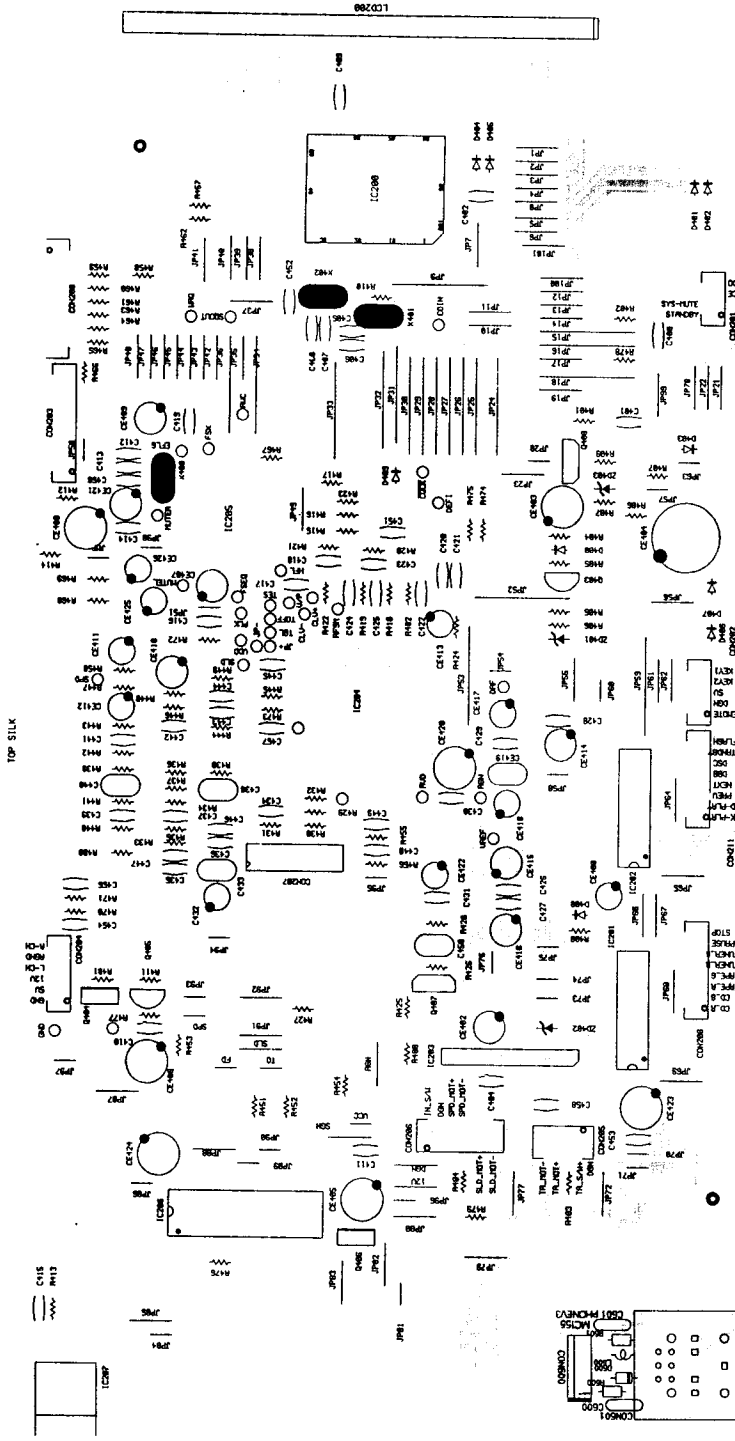
IC204 LA9240M							
PIN	VOLTS	PIN	VOLTS	PIN	VOLTS	PIN	VOLTS
1	2.46	17	2.48	33	0	49	0
2	2.46	18	2.48	34	4.88	50	2.45
3	2.49	19	2.48	35	4.88	51	4.62
4	2.49	20	2.48	36	0.04	52	0
5	2.28	21	2.48	37	0	53	0
6	2.48	22	0	38	0	54	0
7	2.49	23	2.4	39	0	55	4.88
8	2.36	24	2.4	40	0	56	4.88
9	2.36	25	2.43	41	1.56	57	2.45
10	2.28	26	2.48	42	2.38	58	2.48
11	2.47	27	2.48	43	2.5	59	0.87
12	2.39	28	2.44	44	2.47	60	0.93
13	2.48	29	2.49	45	0	61	2.17
14	2.48	30	2.3	46	2.45	62	4.16
15	2.48	31	2.24	47	2.48	63	0
16	2.5	32	0	48	0	64	4.93

PIN	IC203 LB1641
1	0
2	0.54
3	0.73
4	0.22
5	4.08
6	4.1
7	7.8
8	7.8
9	0.73
10	0.54

IC205 LC78622E							
PIN	VOLTS	PIN	VOLTS	PIN	VOLTS	PIN	VOLTS
1	0	17	4.87	33	0	49	0
2	0	18	4.87	34	0	50	2.43
3	0	19	0	35	4.87	51	0
4	0	20	0	36	4.91	52	2.43
5	0	21	2.41	37	2.13	53	0
6	1.55	22	0	38	0	54	0
7	4.87	23	4.87	39	0	55	0
8	0.07	24	0	40	2.14	56	0
9	0	25	0	41	4.91	57	4.61
10	2.44	26	0	42	4.87	58	4.61
11	2.5	27	0	43	4.91	59	0
12	0	28	4.87	44	2.78	60	3.2
13	0	29	0	45	1.9	61	2.66
14	4.85	30	4.8	46	0	62	0
15	0	31	0	47	0.11	63	0
16	0.03	32	0	48	2.2	64	0

IC206 LA6541D			
PIN	VOLTS	PIN	VOLTS
1	7.77	16	4.9
2	0	17	4.72
3	2.45	18	2.45
4	2.48	19	2.48
5	3.14	20	3.19
6	3.14	21	3.19
7	0	22	0
8	0	23	0
9	0	24	0
10	3.14	25	3.12
11	3.14	26	3.12
12	2.48	27	2.48
13	2.45	28	2.45
14	4.93	29	2.48
15	7.14	30	7.77

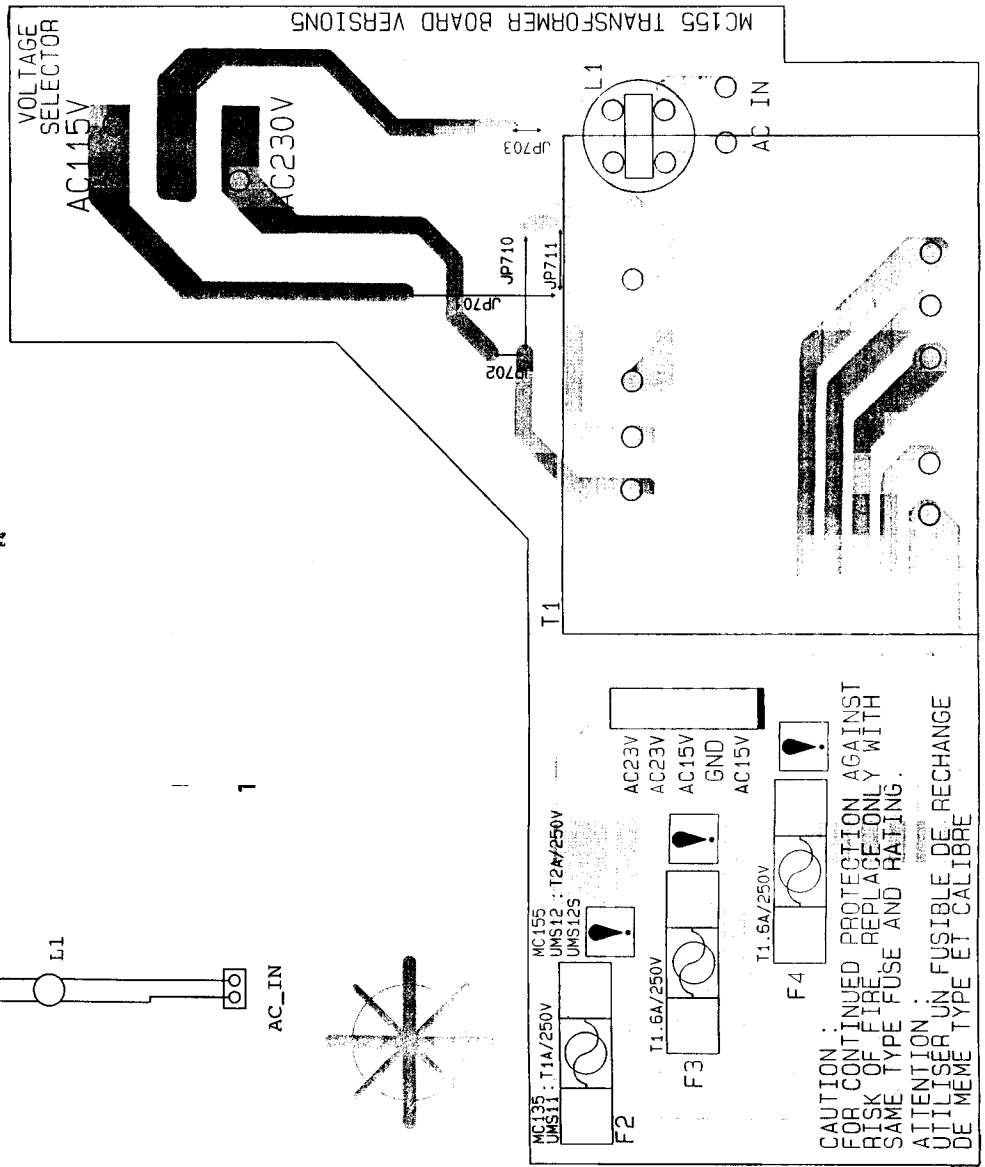
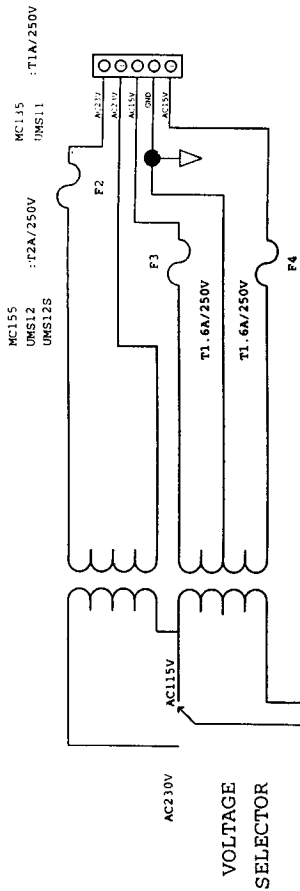
CD BOARD - LAYOUT DIAGRAM



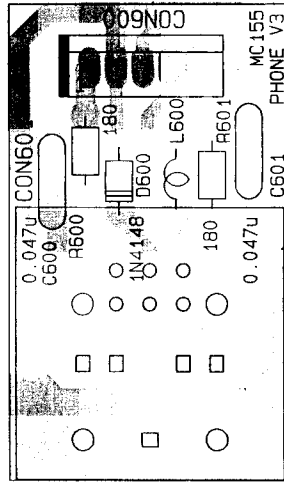
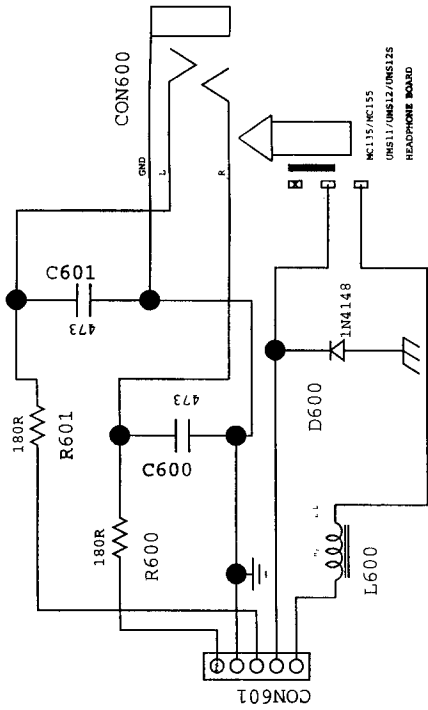
MEASUREMENT	INSTRUMENT	CONNECT TO	SHORT CIRCUIT ⁽¹⁾	VALUE
RF PLL VCO	Frequency counter	⊕ - PCK Grnd - D-GND	1. PDO to VREF	2.5 MHz ± 1 kHz
E/F BALANCE ⁽²⁾	DC Voltmeter	⊕ TE and ⊖ VREF (via low pass filter)	1. RWC to D-GND 2. TOFF to VDD	0 ± 50mV
TRACKING OFFSET ⁽²⁾	DC Voltmeter	⊕ TO and ⊖ VREF (via low pass filter)	1. RWC to D-GND 2. D-MUTE of LA6541 to D-GND	0 ± 150mV
FOCUS OFFSET	DC Voltmeter	⊕ FD and ⊖ VREF		0 ± 150mV

⁽¹⁾ Via a 10 ohm resistor. when the measurement is completed, disconnect all the short circuit bridge.
⁽²⁾ Play track 1 of Philips Audio Signal Disc 1 (4822 397 30184)

TRANSFORMER BOARD

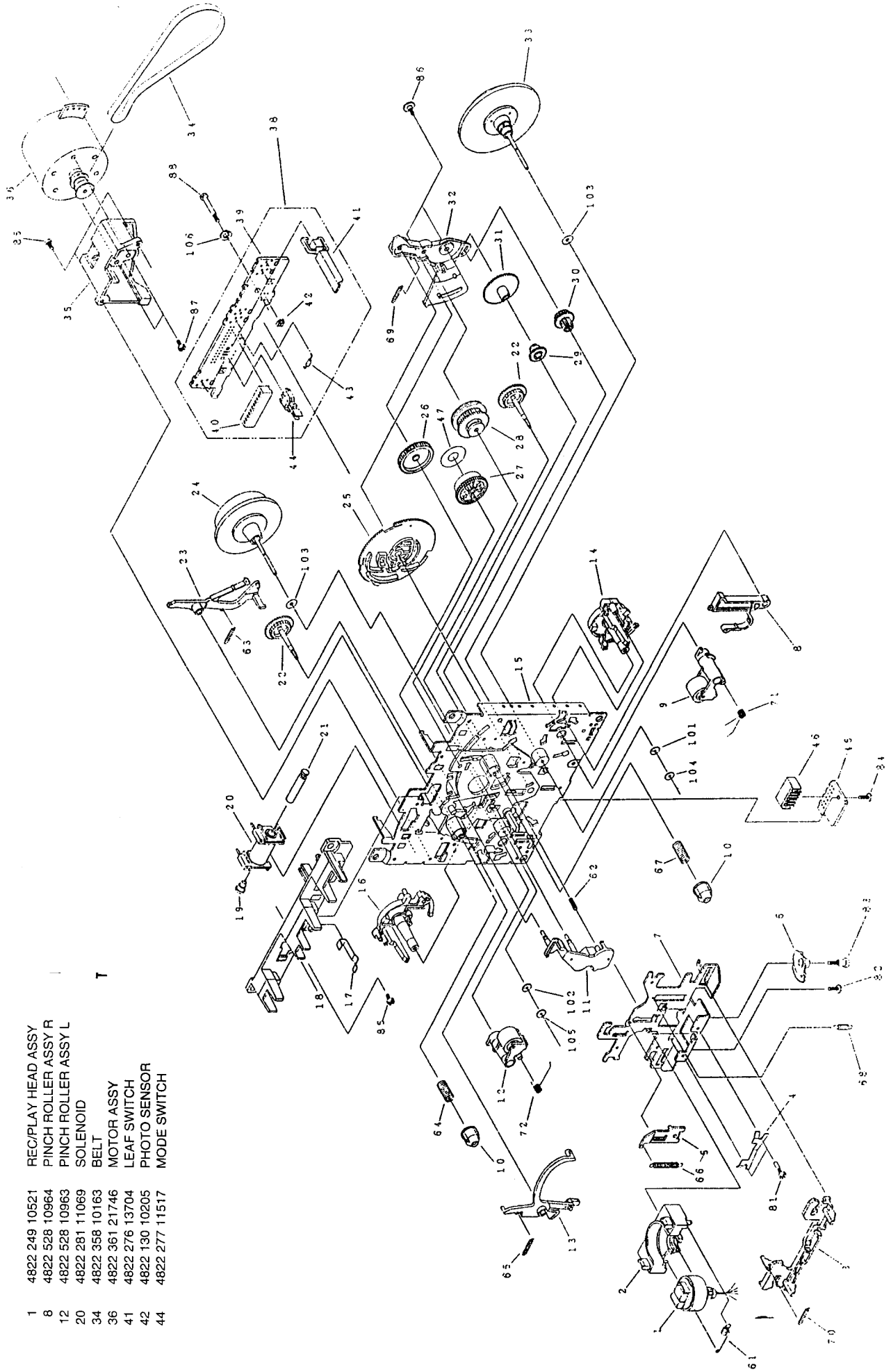


HEADPHONE JACK BOARD



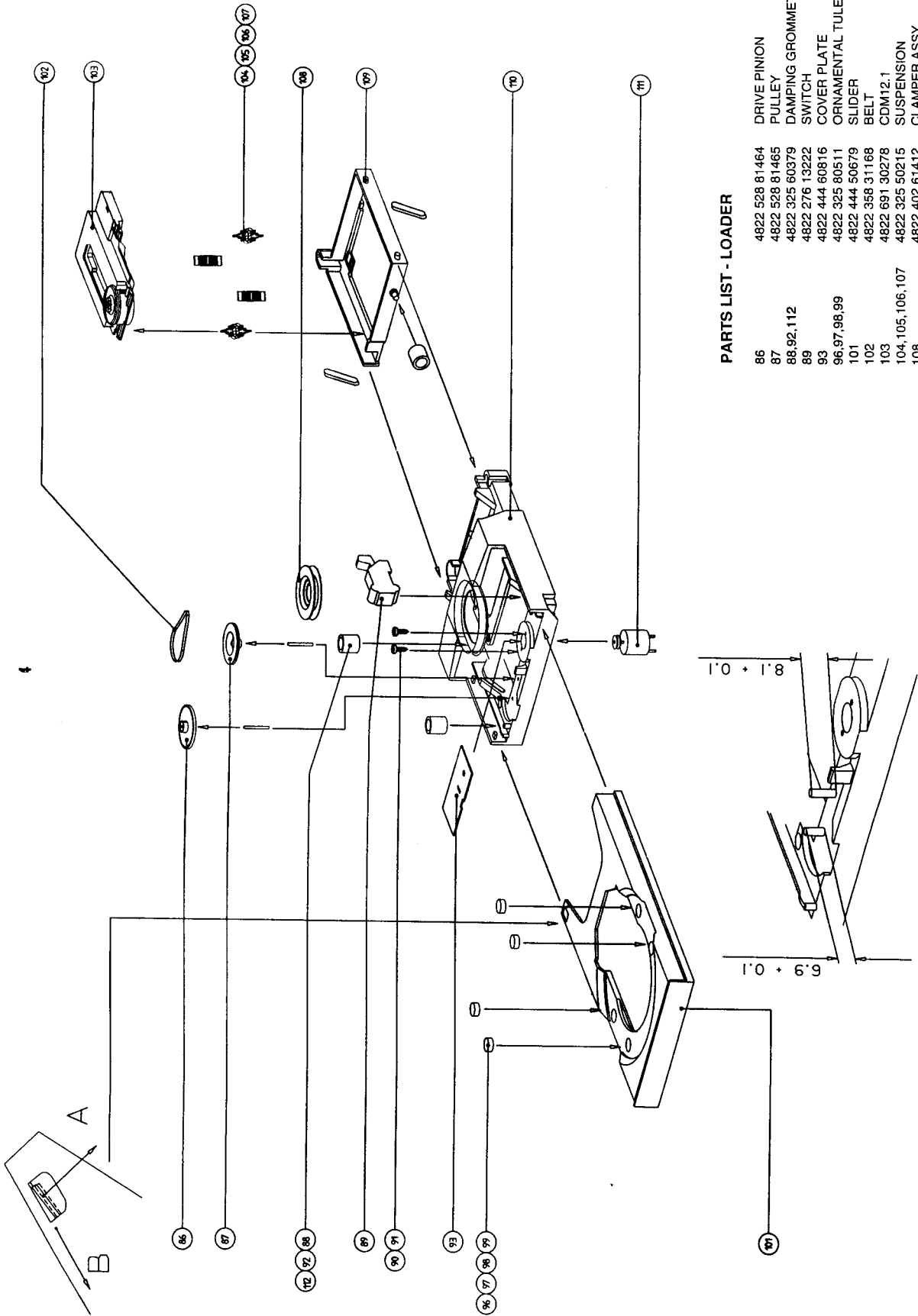
EXPLODED VIEW DIAGRAM - TAPE DECK

- | | | |
|----|----------------|---------------------|
| 1 | 4822 249 10521 | REC/PLAY HEAD ASSY |
| 8 | 4822 528 10964 | PINCH ROLLER ASSY R |
| 12 | 4822 528 10963 | PINCH ROLLER ASSY L |
| 20 | 4822 281 11069 | SOLENOID |
| 34 | 4822 358 10163 | BELT |
| 36 | 4822 361 21746 | MOTOR ASSY |
| 41 | 4822 276 13704 | LEAF SWITCH |
| 42 | 4822 130 10205 | PHOTO SENSOR |
| 44 | 4822 277 11517 | MODE SWITCH |



EXPLODED VIEW DIAGRAM - CD LOADER

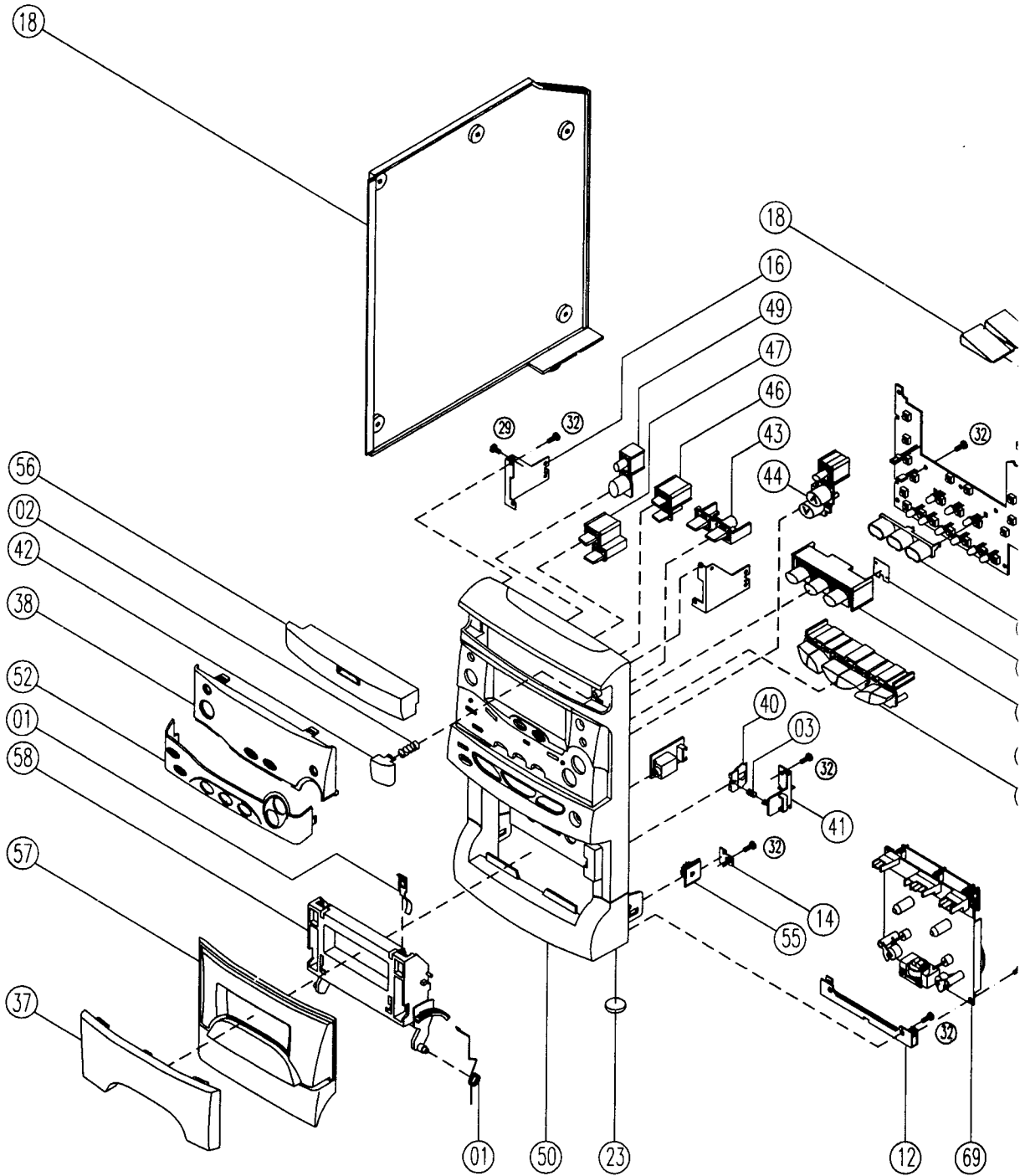
DETAIL 1



PARTS LIST - LOADER

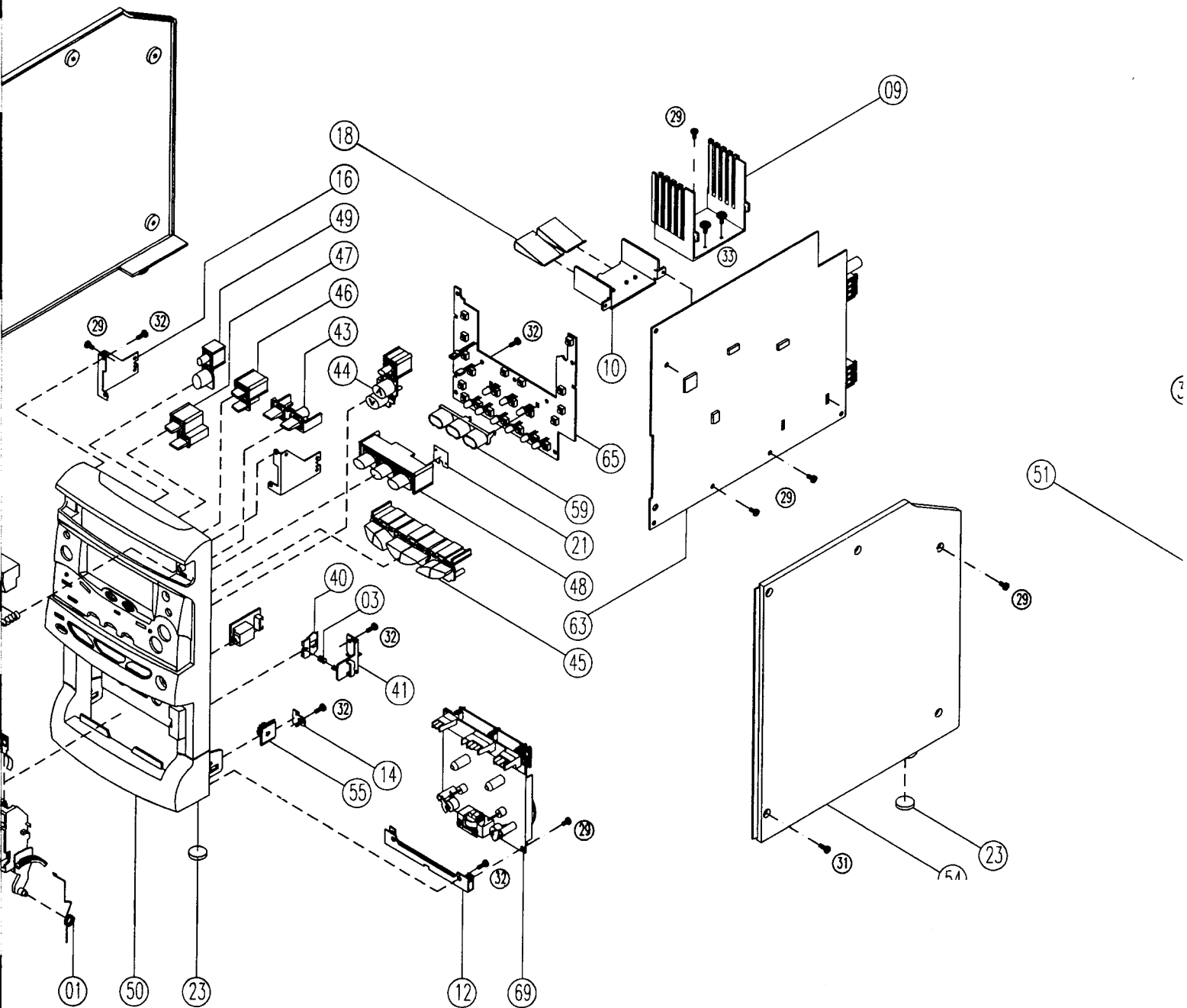
86	4822 528 81464	DRIVE PINION
87	4822 528 81465	PULLEY
88,92,112	4822 325 60379	DAMPING GROMMET
89	4822 276 13222	SWITCH
93	4822 444 60816	COVER PLATE
96,97,98,99	4822 325 80511	ORNAMENTAL TUBE
101	4822 444 50679	SLIDER
102	4822 358 31168	BELT
103	4822 691 30278	CDM12.1
104,105,106,107	4822 325 50215	SUSPENSION
108	4822 402 61412	CLAMPER ASSY
109	4822 464 50895	SUBCHASSIS
111	4822 361 21492	MOTOR

EXPLODED VIEW DIAGRAM - MAIN ASSEMBLY



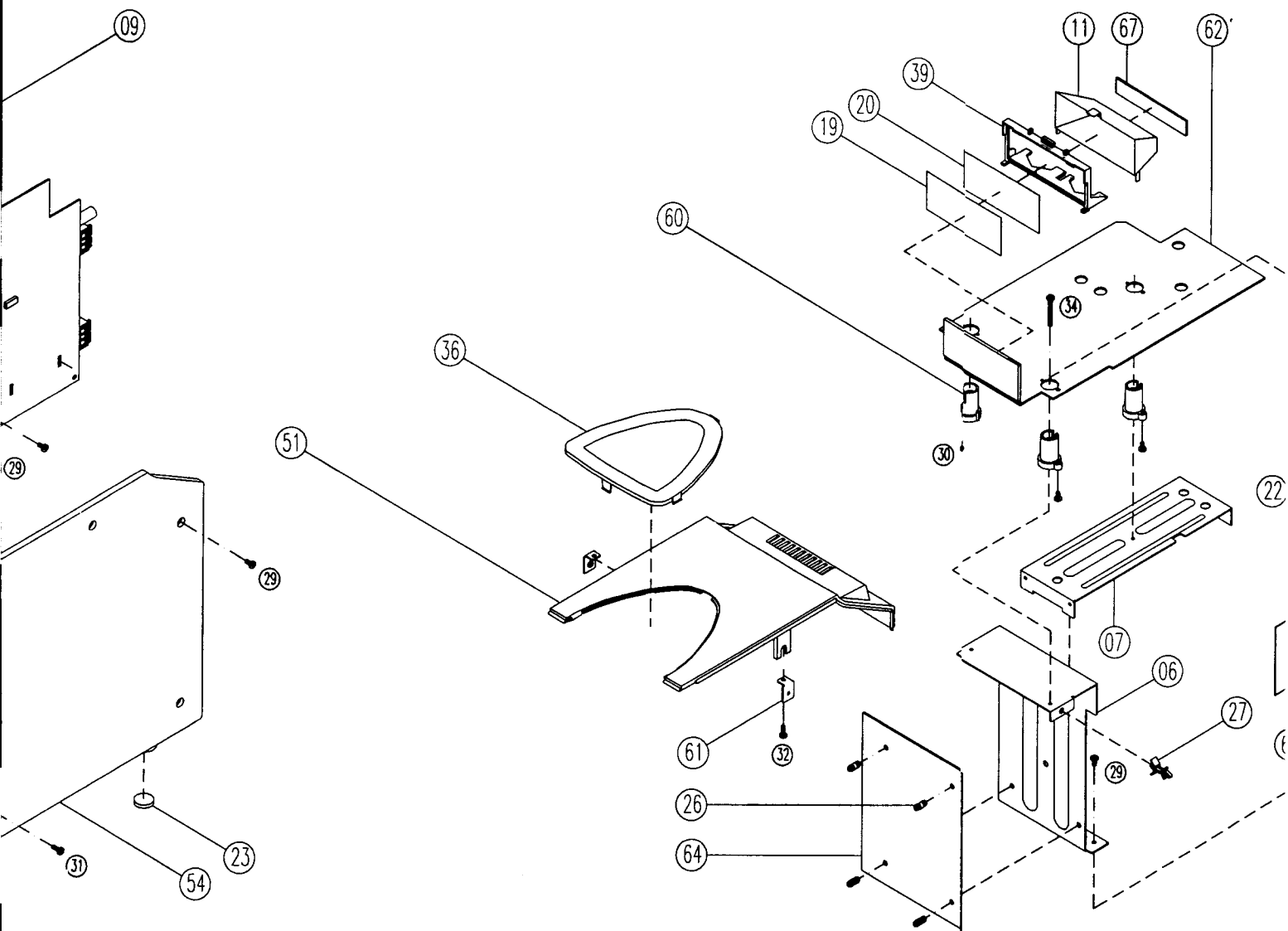
MECHANICAL PARTS LIST

1	4822 492 11455	CASS. TORSI
2	4822 492 11456	COMPRESS S
3	4822 492 11457	COMPRESS S
8	4822 492 11458	CASSETTE T
26	4822 462 10964	RUBBER FOC
28	4822 325 60282	STRAIN RELI
37	4822 450 10383	CASSETTE W
38	4822 450 10382	CD WINDOW
38	4822 450 10384	DISPLAY LEN
40	4822 402 10795	LATCHING C



MECHANICAL PARTS LIST

1	4822 492 11455	CASS. TORSION SPRING	41	4822 256 10392	LATCHING CAM
2	4822 492 11456	COMPRESS SPRING-CD OPEN	42	4822 410 11322	CD OPEN BUTTC
3	4822 492 11457	COMPRESS SPRING-EJECT CAM	43	4822 410 11323	CLOCK/TIMER B
8	4822 492 11458	CASSETTE TAPE SPRING	44	4822 410 11324	RDS/VOLUME BU
26	4822 462 10964	RUBBER FOOT 16X3	45	4822 410 11325	PLAY/F.F/REWIND
28	4822 325 60282	STRAIN RELIEF SR-4N-4	46	4822 410 11326	RECORD/PROGFI
37	4822 450 10383	CASSETTE WINDOW	47	4822 410 11327	DBB/DSC BUTTC
38	4822 450 10382	CD WINDOW	48	4822 410 11328	SOURCE BUTTC
38	4822 450 10384	DISPLAY LENS	49	4822 410 11329	POWER/DEMO E
40	4822 402 10795	LATCHING CAM	50	4822 459 04697	FRONT CABINET

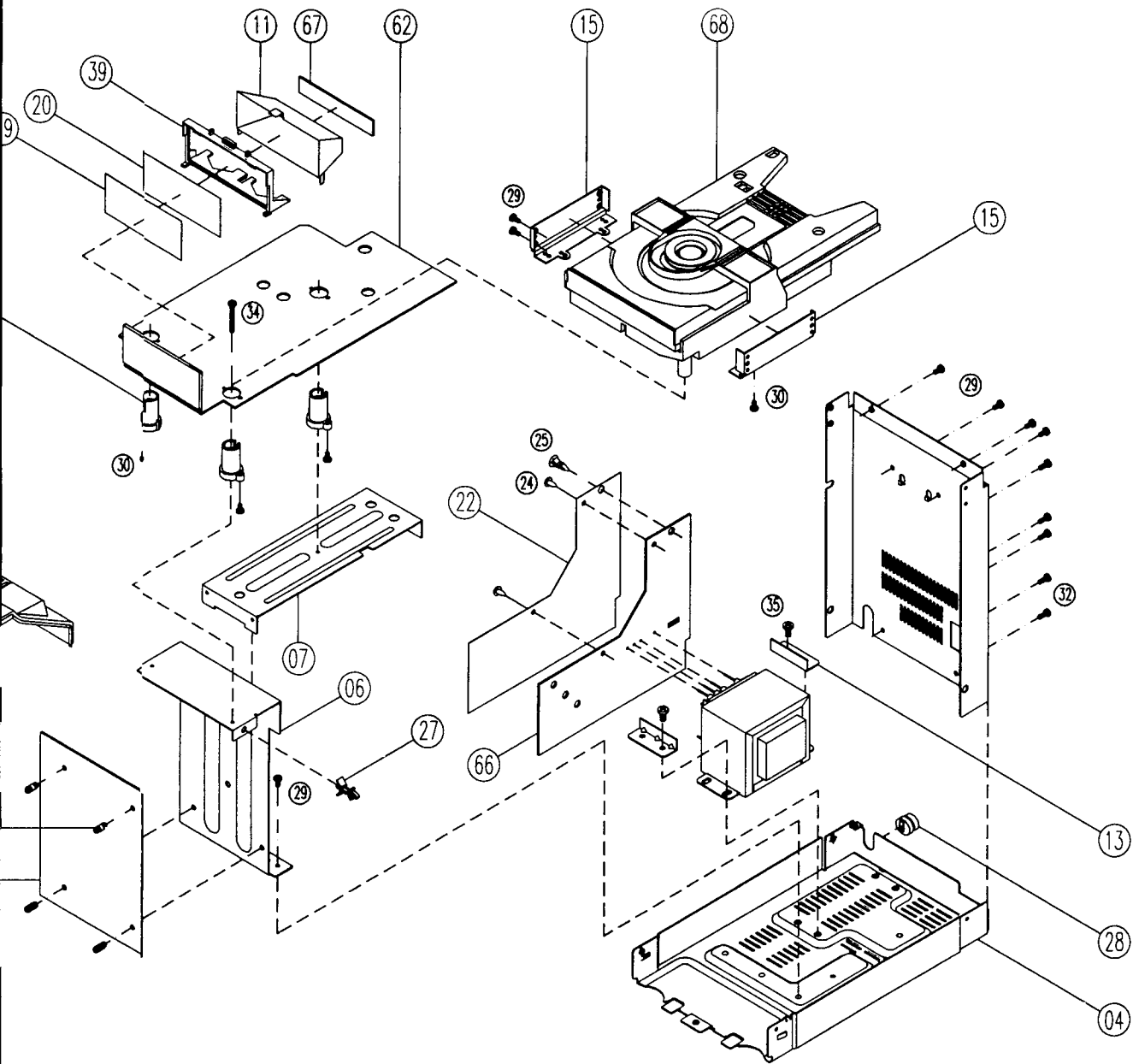


41 4822 256 10392 LATCHING CAM HOLDER
 42 4822 410 11322 CD OPEN BUTTON
 43 4822 410 11323 CLOCK/TIMER BUTTON
 44 4822 410 11324 RDS/VOLUME BUTTON
 45 4822 410 11325 PLAY/F.F/REWIND BUTTON

46 4822 410 11326 RECORD/PROGRAM BUTTON
 47 4822 410 11327 DBB/DSC BUTTON
 48 4822 410 11328 SOURCE BUTTON
 49 4822 410 11329 POWER/DEMO BUTTON
 50 4822 459 04697 FRONT CABINET

51 4822 442 01047 TOP CABINET
 52 4822 426 10515 CONTROL PANEL
 55 4822 529 10322 DAMPER ASSY
 56 4822 443 10775 CD DOOR
 57 4822 443 10776 CASSETTE DOOR

58 4822 443 10777 TECHNICAL DOOR
 60 4822 256 10393 CD MECHANISM HOLDER
 69 4822 691 10623 MECHANISM CRH44-17



OTHERS AND ACCESSORIES

- 2 442 01047 TOP CABINET
- 2 426 10515 CONTROL PANEL
- 2 529 10322 DAMPER ASSY
- 2 443 10775 CD DOOR
- 2 443 10776 CASSETTE DOOR
- 2 443 10777 TECHNICAL DOOR
- 2 256 10393 CD MECHANISM HOLDER
- 2 691 10623 MECHANISM CRH44-17

- 4822 459 11086 PHILIPS NAME PLATE
- 4822 736 15585 INSTRUCTION BOOK (/22/25)
- 4822 736 15655 INSTRUCTION BOOK (/21/30)
- 4822 445 10679 SPEAKER BOX SET
- 4822 303 14066 FM AERIAL
- 4822 219 10341 REMOTE CONTROL RC078
- 4822 303 14064 AM LOOP ANT.

ELECTRICAL PARTSLIST

PANEL BOARD



LED100	4822 130 10976	LED L-59EGW RED/GRN
LED101	4822 130 10976	LED L-59EGW RED/GRN
LED102	4822 130 10976	LED L-59EGW RED/GRN
LED103	4822 130 10977	LED L-53SGT GREEN
LED104	4822 130 10977	LED L-53SGT GREEN

LED105	4822 130 10977	LED L-53SGT GREEN
LED106	4822 130 10977	LED L-53SGT GREEN
LED107	4822 130 10977	LED L-53SGT GREEN
LED108	4822 130 10977	LED L-53SGT GREEN
LED109	4822 130 10978	LED L-113SRC RED

LED110	4822 130 10979	LED L-1034ID RED
LED111	4822 130 10981	LED L-113SGC GREEN



Q100	4822 130 10982	2SA1037AK-R
Q101	4822 130 10982	2SA1037AK-R
Q102	4822 130 10982	2SA1037AK-R
Q103	4822 130 10982	2SA1037AK-R
Q104	4822 130 10982	2SA1037AK-R

Q105	4822 130 10982	2SA1037AK-R
Q106	4822 130 10982	2SA1037AK-R

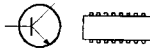
- MISCELLANEOUS -

	4822 276 13893	TACT SWITCH
IR100	4822 130 10165	IR RECEIVER GP1U28XP

PREAMP BOARD



D202	4822 130 10869	RB441Q
D200	4822 130 30621	1N4148
ZD201	4822 130 10968	ZENER 4.3V 0.5W



Q200	4822 130 61188	DTC144TS
Q204	4822 130 10696	2SC3330U
Q205	4822 130 42306	2SD882Q
Q206	4822 130 60588	DTC114ES
Q207	4822 130 10696	2SC3330U

Q209	4822 130 10974	2SB1240Q
Q211	4822 130 61188	DTC144TS
Q212	4822 130 10985	DTC343TS
Q213	4822 130 10985	DTC343TS
Q214	4822 130 10974	2SB1240Q

Q215	4822 130 60644	9014C
Q216	4822 130 42306	2SD882Q
Q217	4822 130 60644	9014C
Q218	4822 130 60588	DTC114ES
Q219	4822 130 60588	DTC114ES

U200	4822 209 32082	TA8142AP
U201	4822 209 61667	UPC1330HA
IC200	4822 209 32659	BA4558

- MISCELLANEOUS -

VR206	4822 101 11801	TRIM VR 3K
R209	4822 117 12801	FUSIBLE RES 10R 0.25W
L200	4822 157 11371	47UH
L201	4822 157 11371	47UH
L202	4822 157 11371	47UH
L203	4822 157 11364	36MH
L204	4822 157 11364	36MH
U202	4822 157 11365	BIAS OSC COIL

I

T

ELECTRICAL PARTSLIST

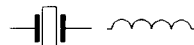
MAIN BOARD



D501	4822 130 30621	1N4148
D502	4822 130 30621	1N4148
D503	5322 130 30684	1N4002RL
D504	5322 130 30684	1N4002RL
D505	5322 130 30684	1N4002RL
D506	5322 130 30684	1N4002RL
D507	5322 130 30684	1N4002RL
D508	5322 130 30684	1N4002RL
D509	5322 130 30684	1N4002RL
D510	5322 130 30684	1N4002RL
VD500	4822 130 81197	KV1236Z
VD501	4822 130 81197	KV1236Z
Z502	4822 130 10971	ZENER 9.1V / 0.5W
ZN500	4822 130 10972	ZENER 12V / 0.5W
ZN501	4822 130 10973	ZENER 11V / 0.5W



Q502	4822 130 10696	2SC3330U
Q507	4822 130 61931	2SC2999D/E
Q508	4822 130 10696	2SC3330U
Q509	4822 130 10985	DTC343TS
Q510	4822 130 10985	DTC343TS
Q511	4822 130 10696	2SC3330U
Q512	4822 130 10974	2SB1240Q
Q513	4822 130 10974	2SB1240Q
Q514	4822 130 10697	2SA1317U
Q515	4822 130 60644	9014C
Q516	4822 130 10975	9018G
Q518	4822 130 60644	9014C
Q519	4822 130 10696	2SC3330U
Q521	4822 130 63585	2SD2012
Q522	4822 130 60588	DTC114ES
Q530	4822 130 10697	2SA1317U
Q531	4822 130 42306	2SD882Q
IC500	4822 209 15777	LA1832M
IC501	4822 209 32659	BA4558
IC502	4822 209 73954	NJM7912A
IC503	4822 209 83824	NJM7805FA
IC504	4822 209 15778	LC72131M
IC505	4822 209 31981	SAA6579T
IC506	4822 210 10782	ENV17297G1
IC508	4822 209 15784	LC75394NE
IC509	4822 209 15785	LA4450
IC511	4822 209 32676	NJM7808FA



BPF500	4822 153 70066	B.P.F. GFMB3
CF500	4822 242 80258	SFE10,7MS2-A-TF21
CF502	4822 242 80258	SFE10,7MS2-A-TF21
CF501	4822 242 10789	AHCFM2-450BL
IFT500	4822 157 11373	IFT YEL
IFT502	4822 157 11363	OSC COIL RED
L500	4822 157 11369	AM ANT. COIL
L502	4822 157 11371	47UH
L503	4822 157 11371	47UH
L504	4822 157 11362	CB6-300
L505	4822 157 11362	CB6-300
LPF500	4822 157 11374	MPX FILTER
LPF501	4822 157 11374	MPX FILTER
X500	4822 242 81248	CSB456F15
X503	4822 242 10791	CRYSTAL 4.332MHZ
X504	4822 242 10792	CRYSTAL 7.2MHZ
X505	4822 242 10793	CDA10.7MG43-A

- MISCELLANEOUS -

R588	4822 117 12799	FUSIBLE RST 100R 0.25W
VC500	4822 125 11099	TRIM CAP 10PF
CON500	4822 265 11047	ANTENNA SOCKET
SPK500	4822 265 11048	SPEAKER SOCKET

ELECTRICAL PARTSLIST

CD BOARD



D400	4822 130 30621	1N4148
D401	4822 130 30621	1N4148
D406	4822 130 10869	RB441Q
D407	4822 130 10869	RB441Q
D408	4822 130 30621	1N4148
D409	4822 130 30621	1N4148
D410	4822 130 30621	1N4148
D600	4822 130 30621	1N4148
ZD401	4822 130 10621	ZENER MTZJ2.2B
ZD402	4822 130 10967	ZENER 5.1V / 0.5W
ZD403	4822 130 10621	ZENER MTZJ2.2B



IC200	4822 209 15787	LC867248
IC203	4822 209 30193	LB1641
IC204	4822 209 15227	LA9240M
IC205	4822 209 15773	LC78622E
IC206	4822 209 15786	LA6541D
Q403	4822 130 60644	9014C
Q404	4822 130 10974	2SB1240Q
Q405	4822 130 60644	9014C
Q406	4822 130 10974	2SB1240Q
Q407	4822 130 10697	2SA1317U
Q408	4822 130 10697	2SA1317U

- MISCELLANEOUS -

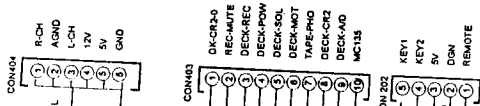
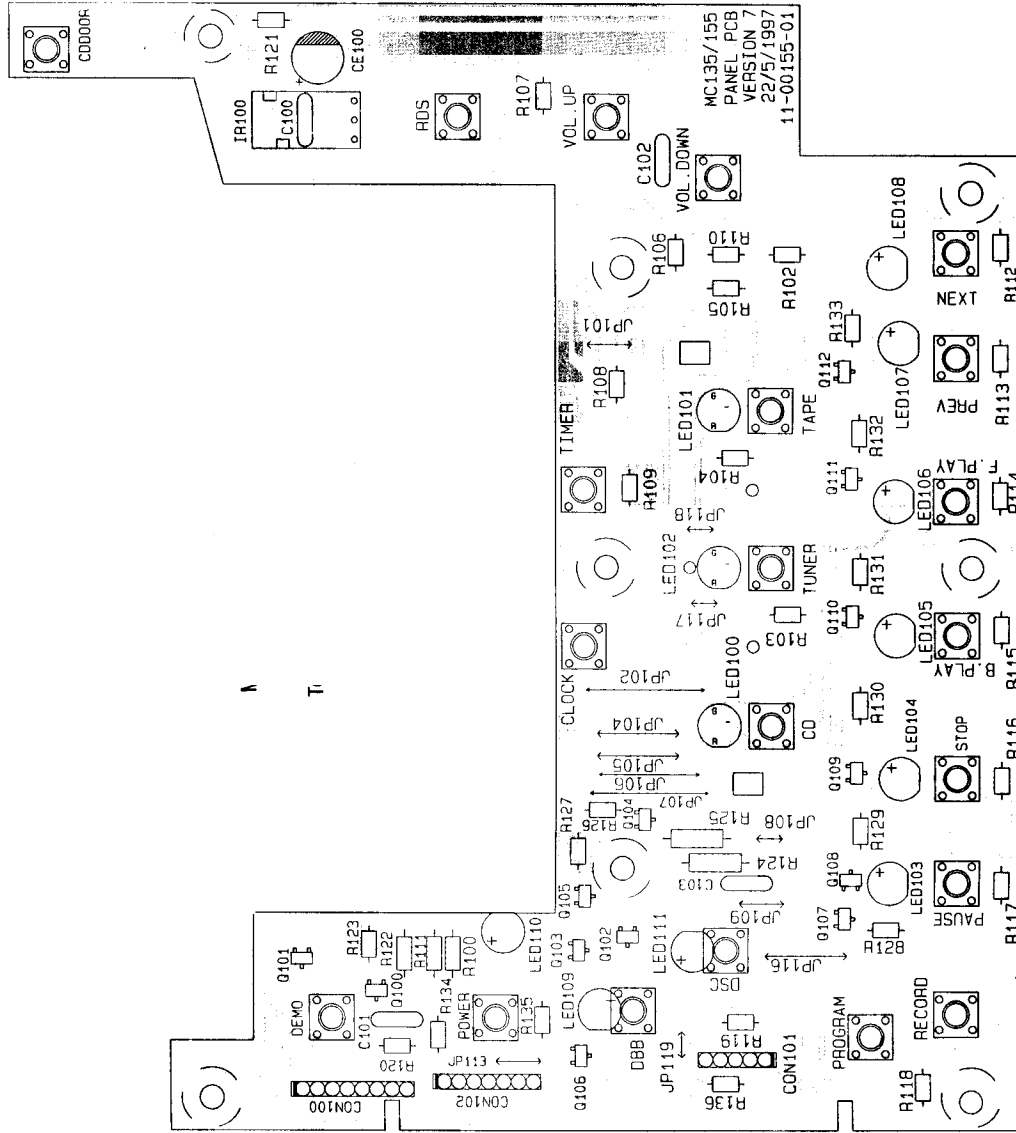
LCD200	4822 135 00138	HLC7112-012410
L401	4822 157 11371	47UH
X400	4822 242 10794	16.9344MHZ 49U
X401	4822 242 10795	DMC-AT32.768KHZ
X402	4822 242 71508	CSA6,00MG

POWER BOARD AND MISCELLANEOUS

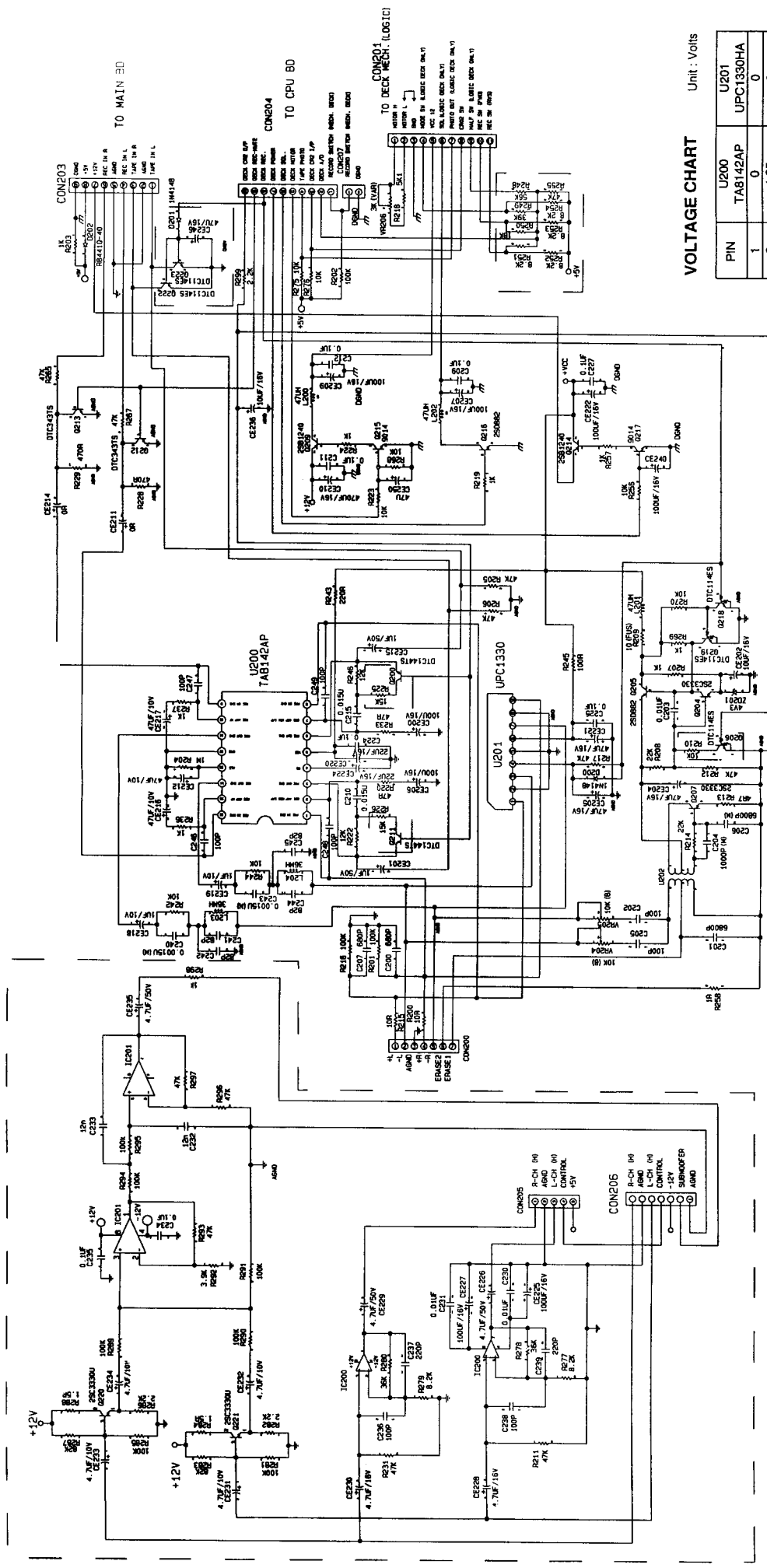
- MISCELLANEOUS -

CON601	4822 265 11049	HEADPHONE JACK
L301	4822 134 10099	LAMP 5.5V 100MA
L302	4822 134 10099	LAMP 5.5V 100MA
L303	4822 134 10099	LAMP 5.5V 100MA
L304	4822 134 10099	LAMP 5.5V 100MA
L1	△ 4822 157 11372	LINE FILTER
	△ 4822 146 10842	TRANSFORMER 230V
	△ 4822 146 10865	TRANSFORMER 120/230V
	△ 4822 146 10864	TRANSFORMER 240V
	△ 4822 273 10342	VOLTAGE SWITCH
F2	△ 4822 252 11258	FUSE 2A 250V
F3	△ 4822 252 11252	FUSE 1.6A 250V
F4	△ 4822 252 11252	FUSE 1.6A 250V

PANEL BOARD - LAYOUT DIAGRAM



PREAMP BOARD - CIRCUIT DIAGRAM



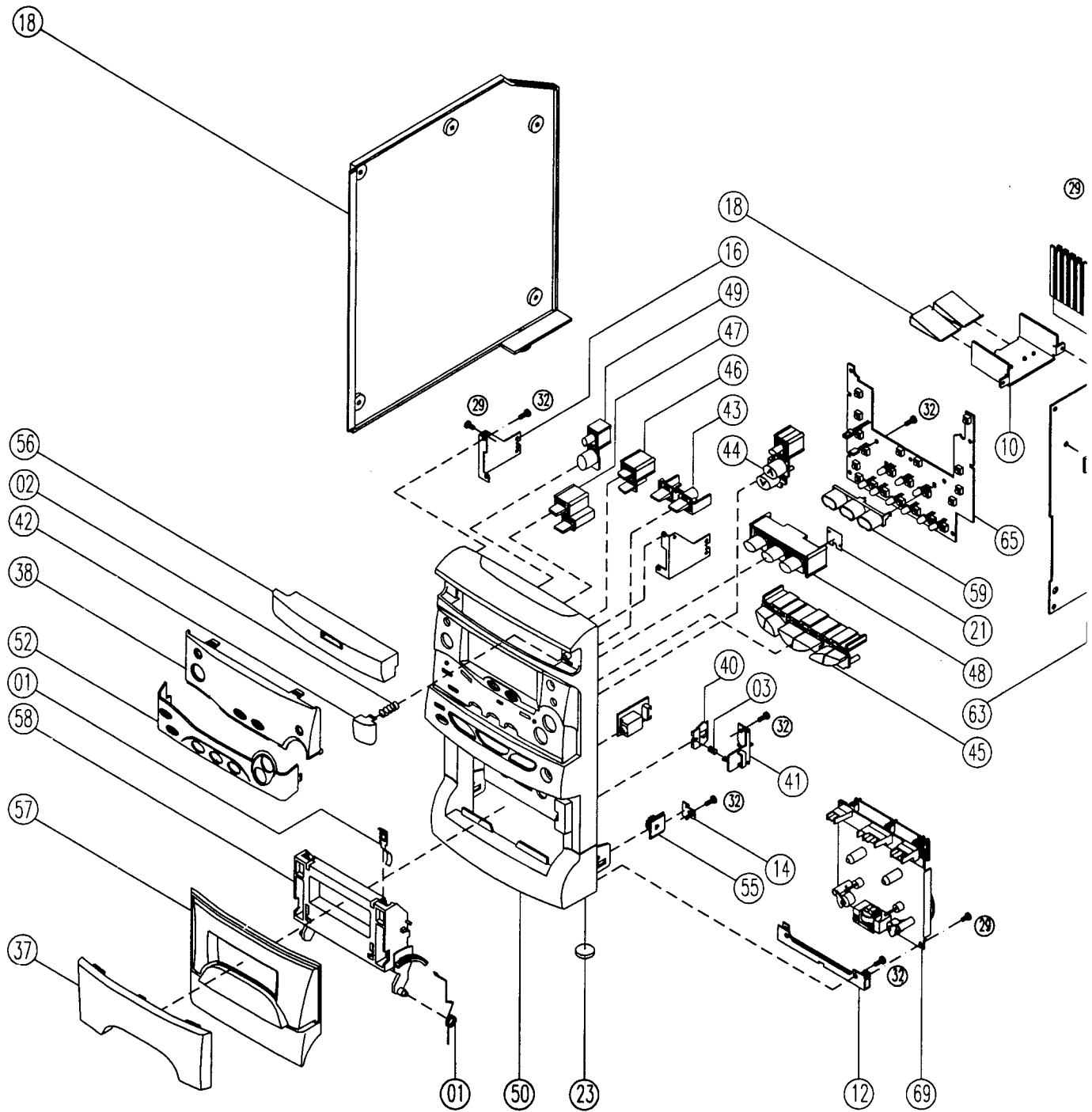
VOLTAGE CHART Unit: Volts

PIN	IC200 BA4558N	IC201 BA4558N
1	0.05	0.06
2	0	0
3	0	0
4	-12.09	-12.08
5	0	0.06
6	0	0
7	0.05	0.06
8	12.35	12.45

VOLTAGE CHART Unit: Volts

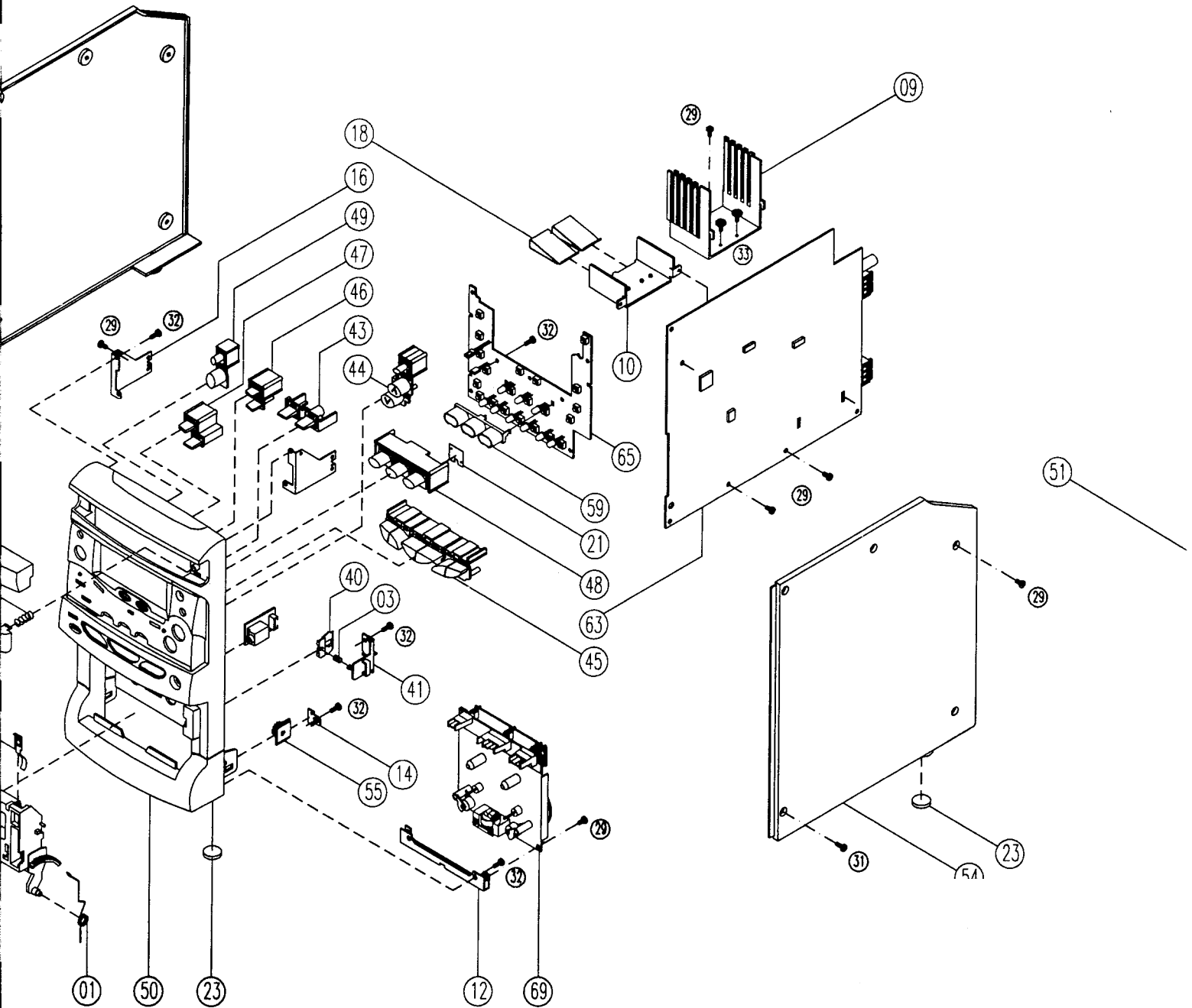
PIN	U200 TAB142AP	U201 UPC1330HA
1	0	0
2	1.25	0
3	2.05	0
4	1.43	0
5	10.21	0
6	2.05	11.69
7	1.25	0
8	0	0
9	0	0
10	1.25	0
11	2.21	0
12	0	0
13	0	0
14	2.22	0
15	1.25	0
16	0	0

EXPLODED VIEW DIAGRAM - MAIN ASSEMBLY



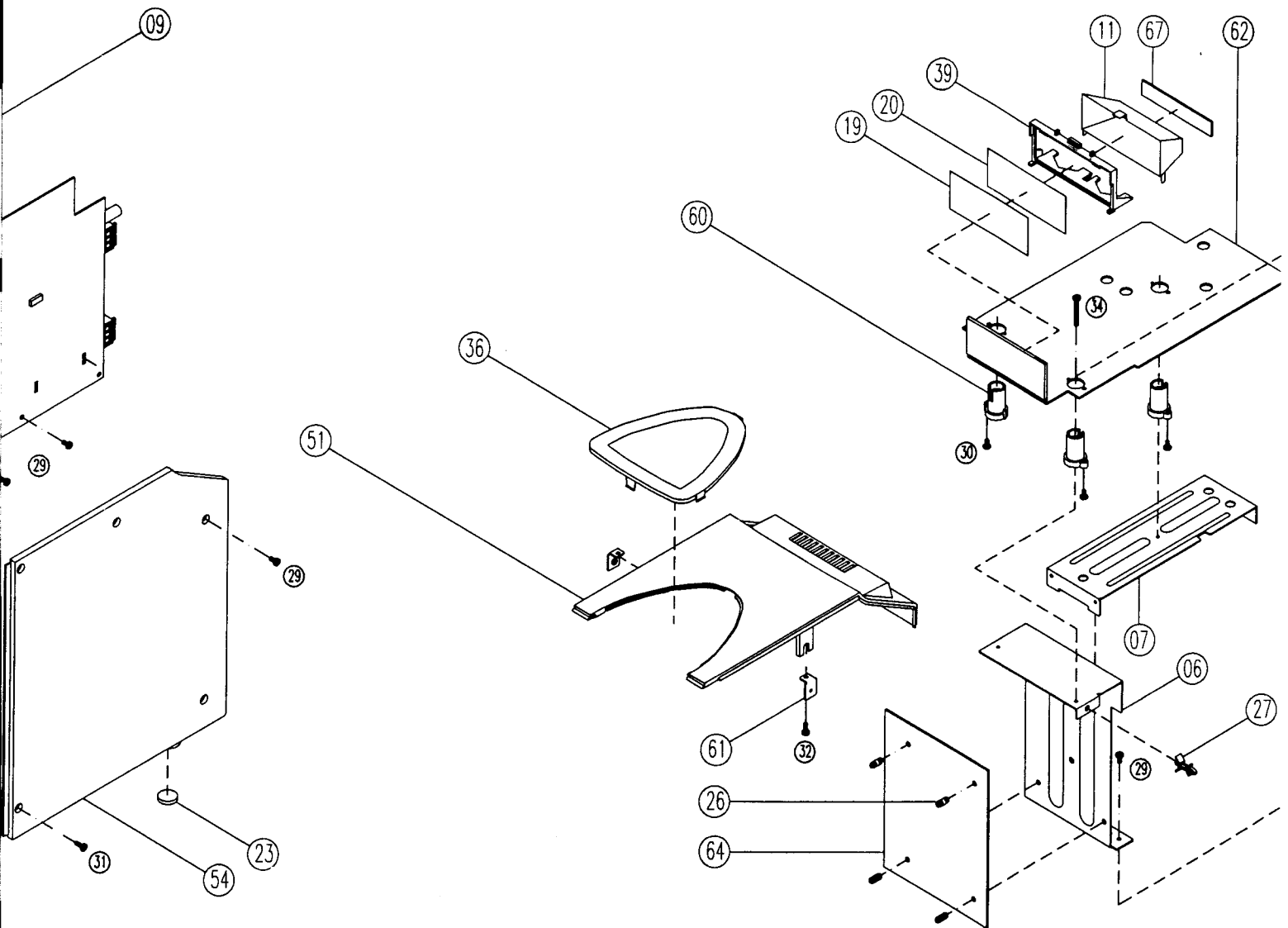
MECHANICAL PARTS LIST

1	4822 492 11455	CASS. TORSION SPRING
2	4822 492 11456	COMPRESS SPRING-CD O
3	4822 492 11457	COMPRESS SPRING-EJEC
8	4822 492 11458	CASSETTE TAPE SPRING
26	4822 462 10964	RUBBER FOOT 16X3
28	4822 325 60282	STRAIN RELIEF SR-4N-4
37	4822 450 10383	CASSETTE WINDOW
38	4822 450 10382	CD WINDOW
38	4822 450 10384	DISPLAY LENS
40	4822 402 10795	LATCHING CAM



MECHANICAL PARTS LIST

1	4822 492 11455	CASS. TORSION SPRING	41	4822 256 10392	LATCHING CAM
2	4822 492 11456	COMPRESS SPRING-CD OPEN	42	4822 410 11322	CD OPEN BUT
3	4822 492 11457	COMPRESS SPRING-EJECT CAM	43	4822 410 11323	CLOCK/TIMER
8	4822 492 11458	CASSETTE TAPE SPRING	44	4822 410 11324	RDS/VOLUME I
26	4822 462 10964	RUBBER FOOT 16X3	45	4822 410 11325	PLAY/F.F/REW
28	4822 325 60282	STRAIN RELIEF SR-4N-4	46	4822 410 11326	RECORD/PROG
37	4822 450 10383	CASSETTE WINDOW	47	4822 410 11327	DBB/DSC BUT
38	4822 450 10382	CD WINDOW	48	4822 410 11328	SOURCE BUTT
38	4822 450 10384	DISPLAY LENS	49	4822 410 11329	POWER/DEMO
40	4822 402 10795	LATCHING CAM	50	4822 459 04697	FRONT CABINE

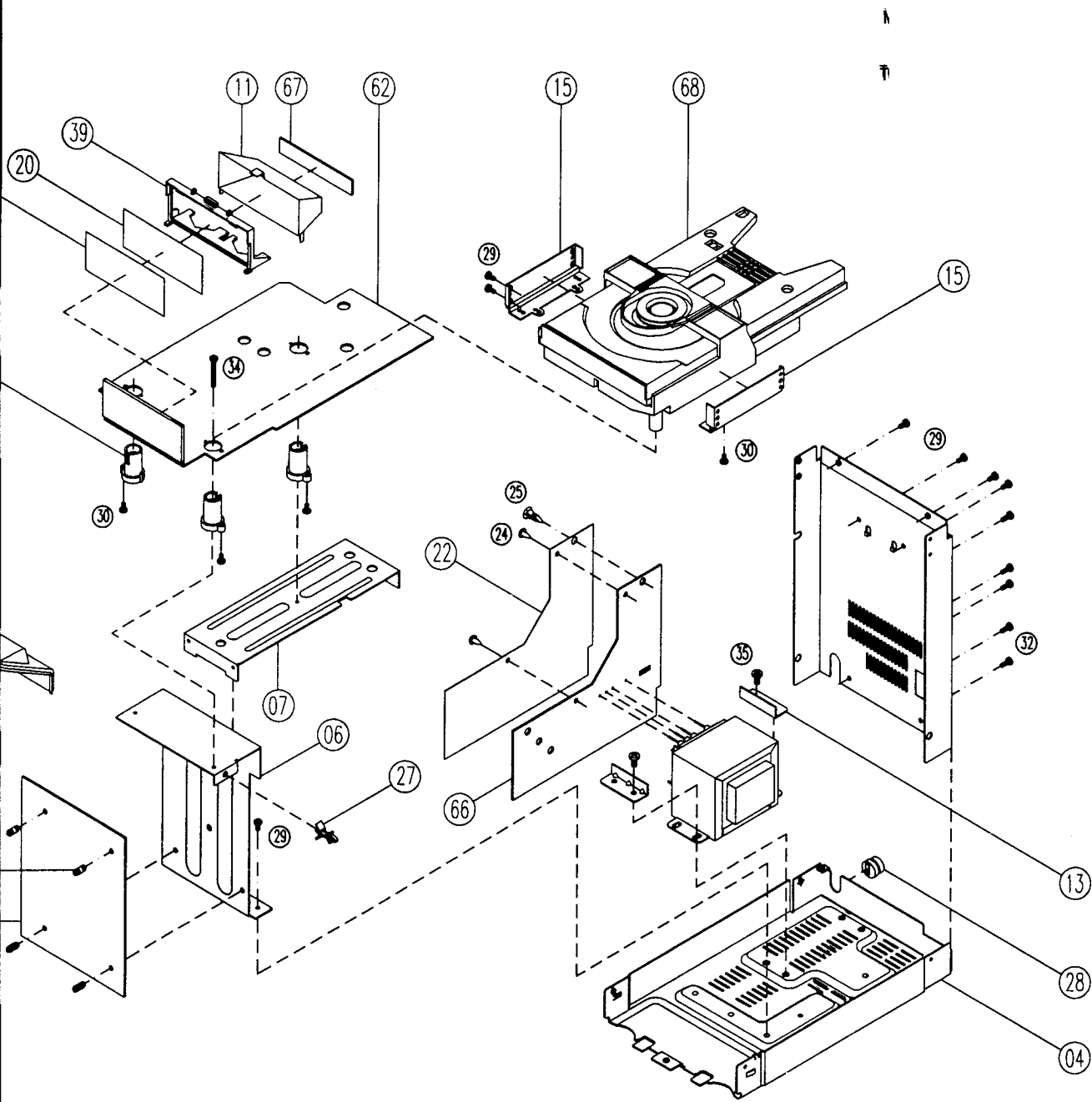


- 41 4822 256 10392 LATCHING CAM HOLDER
- 42 4822 410 11322 CD OPEN BUTTON
- 43 4822 410 11323 CLOCK/TIMER BUTTON
- 44 4822 410 11324 RDS/VOLUME BUTTON
- 45 4822 410 11325 PLAY/F.F./REWIND BUTTON

- 46 4822 410 11326 RECORD/PROGRAM BUTTON
- 47 4822 410 11327 DBB/DSC BUTTON
- 48 4822 410 11328 SOURCE BUTTON
- 49 4822 410 11329 POWER/DEMO BUTTON
- 50 4822 459 04697 FRONT CABINET

- 51 4822 442 01047 TOP CABINET
- 52 4822 426 10515 CONTROL PANEL
- 55 4822 529 10322 DAMPER ASSY
- 56 4822 443 10775 CD DOOR
- 57 4822 443 10776 CASSETTE DOOR

- 58 4822 443 10777 TECHNICAL DOOR
- 60 4822 256 10393 CD MECHANISM HOLDER
- 69 4822 691 10623 MECHANISM CRH44-17



OTHERS AND ACCESSORIES

- 442 01047 TOP CABINET
- 426 10515 CONTROL PANEL
- 529 10322 DAMPER ASSY
- 443 10775 CD DOOR
- 443 10776 CASSETTE DOOR
- 443 10777 TECHNICAL DOOR
- 456 10393 CD MECHANISM HOLDER
- 491 10623 MECHANISM CRH44-17

- 4822 459 11086 PHILIPS NAME PLATE
- 4822 736 15585 INSTRUCTION BOOK (/22/25)
- 4822 736 15655 INSTRUCTION BOOK (/21/30)
- 4822 445 10679 SPEAKER BOX SET
- 4822 303 14066 FM AERIAL
- 4822 219 10341 REMOTE CONTROL RC078
- 4822 303 14064 AM LOOP ANT.

ELECTRICAL PARTSLIST

PANEL BOARD



LED100	4822 130 10976	LED L-59EGW RED/GRN
LED101	4822 130 10976	LED L-59EGW RED/GRN
LED102	4822 130 10976	LED L-59EGW RED/GRN
LED103	4822 130 10977	LED L-53SGT GREEN
LED104	4822 130 10977	LED L-53SGT GREEN

LED105	4822 130 10977	LED L-53SGT GREEN
LED106	4822 130 10977	LED L-53SGT GREEN
LED107	4822 130 10977	LED L-53SGT GREEN
LED108	4822 130 10977	LED L-53SGT GREEN
LED109	4822 130 10978	LED L-113SRC RED

LED110	4822 130 10979	LED L-1034ID RED
LED111	4822 130 10981	LED L-113SGC GREEN



Q100	4822 130 10982	2SA1037AK-R
Q101	4822 130 10982	2SA1037AK-R
Q102	4822 130 10982	2SA1037AK-R
Q103	4822 130 10982	2SA1037AK-R
Q104	4822 130 10982	2SA1037AK-R

Q105	4822 130 10982	2SA1037AK-R
Q106	4822 130 10982	2SA1037AK-R
Q107	4822 130 10982	2SA1037AK-R
Q108	4822 130 10982	2SA1037AK-R
Q109	4822 130 10982	2SA1037AK-R

Q110	4822 130 10982	2SA1037AK-R
Q111	4822 130 10982	2SA1037AK-R
Q112	4822 130 10982	2SA1037AK-R

- MISCELLANEOUS -

	4822 276 13893	TACT SWITCH
IR100	4822 130 10165	IR RECEIVER GP1U28XP

PREAMP BOARD



D202	4822 130 10869	RB441Q
D200	4822 130 30621	1N4148
ZD201	4822 130 10968	ZENER 4.3V 0.5W



Q200	4822 130 61188	DTC144TS
Q204	4822 130 10696	2SC3330U
Q205	4822 130 42306	2SD882Q
Q206	4822 130 60588	DTC114ES
Q207	4822 130 10696	2SC3330U

Q209	4822 130 10974	2SB1240Q
Q211	4822 130 61188	DTC144TS
Q212	4822 130 10985	DTC343TS
Q213	4822 130 10985	DTC343TS
Q214	4822 130 10974	2SB1240Q

Q215	4822 130 60644	9014C
Q216	4822 130 42306	2SD882Q
Q217	4822 130 60644	9014C
Q218	4822 130 60588	DTC114ES
Q219	4822 130 60588	DTC114ES

U200	4822 209 32082	TA8142AP
U201	4822 209 61667	UPC1330HA
IC200	4822 209 32659	BA4558

- MISCELLANEOUS -

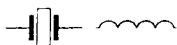
VR206	4822 101 11801	TRIM VR 3K
R209	4822 117 12801	FUSIBLE RES 10R 0.25W
L200	4822 157 11371	47UH
L201	4822 157 11371	47UH
L202	4822 157 11371	47UH
L203	4822 157 11364	36MH
L204	4822 157 11364	36MH
U202	4822 157 11365	BIAS OSC COIL

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Tc

ELECTRICAL PARTSLIST

MAIN BOARD



BPF500	4822 153 70066	B.P.F. GFMB3
CF500	4822 242 80258	SFE10,7MS2-A-TF21
CF502	4822 242 80258	SFE10,7MS2-A-TF21
CF501	4822 242 10789	AHCFM2-450BL
IFT500	4822 157 11373	IFT YEL

IFT502	4822 157 11363	OSC COIL RED
L500	4822 157 11369	AM ANT. COIL
L502	4822 157 11371	47UH
L503	4822 157 11371	47UH
L504	4822 157 11362	CB6-300

L505	4822 157 11362	CB6-300
LPF500	4822 157 11374	MPX FILTER
LPF501	4822 157 11374	MPX FILTER
X500	4822 242 81248	CSB456F15
X503	4822 242 10791	CRYSTAL 4.332MHZ

X504	4822 242 10792	CRYSTAL 7.2MHZ
X505	4822 242 10793	CDA10.7MG43-A



D501	4822 130 30621	1N4148
D502	4822 130 30621	1N4148
D503	5322 130 30684	1N4002RL
D504	5322 130 30684	1N4002RL
D505	5322 130 30684	1N4002RL

D506	5322 130 30684	1N4002RL
D507	5322 130 30684	1N4002RL
D508	5322 130 30684	1N4002RL
D509	5322 130 30684	1N4002RL
D510	5322 130 30684	1N4002RL

D511	4822 130 30621	1N4148
D701	4822 130 30621	1N4148
D702	4822 130 30621	1N4148
D703	4822 130 30621	1N4148
D704	4822 130 30621	1N4148

D705	4822 130 30621	1N4148
D706	4822 130 30621	1N4148
VD500	4822 130 81197	KV1236Z
VD501	4822 130 81197	KV1236Z
Z502	4822 130 10971	ZENER 9.1V / 0.5W

ZN500	4822 130 10972	ZENER 12V / 0.5W
ZN501	4822 130 10973	ZENER 11V / 0.5W



Q502	4822 130 10696	2SC3330U
Q507	4822 130 61931	2SC2999D/E
Q508	4822 130 10696	2SC3330U
Q509	4822 130 10985	DTC343TS
Q510	4822 130 10985	DTC343TS

Q511	4822 130 10696	2SC3330U
Q512	4822 130 10974	2SB1240Q
Q513	4822 130 10974	2SB1240Q
Q514	4822 130 10697	2SA1317U
Q515	4822 130 60644	9014C

Q516	4822 130 10975	9018G
Q518	4822 130 60644	9014C
Q519	4822 130 10696	2SC3330U
Q521	4822 130 63585	2SD2012
Q522	4822 130 60588	DTC114ES

Q530	4822 130 10697	2SA1317U
Q531	4822 130 42306	2SD882Q
IC500	4822 209 15777	LA1832M
IC501	4822 209 32659	BA4558
IC502	4822 209 73954	NJM7912A

IC503	4822 209 83824	NJM7805FA
IC504	4822 209 15778	LC72131M
IC505	4822 209 31981	SAA6579T
IC506	4822 210 10782	ENV17297G1
IC508	4822 209 15784	LC75394NE

IC509	4822 209 15785	LA4450
IC511	4822 209 32676	NJM7808FA

- MISCELLANEOUS -

R588	4822 117 12799	FUSIBLE RST 100R 0.25W
VC500	4822 125 11099	TRIM CAP 10PF
CON500	4822 265 11047	ANTENNA SOCKET
SPK500	4822 265 11048	SPEAKER SOCKET

M

Te

ELEC

CD B



D40C
D401
D40E
D407
D40E

D40E
D41C
D60C
ZD4C
ZD4C

ZD4C



IC20
IC20
IC20
IC20
IC20

Q403
Q404
Q405
Q406
Q407

Q408

- MIS

LCD2
L401
X400
X401
X402

ELECTRICAL PARTSLIST

CD BOARD



D400	4822 130 30621	1N4148
D401	4822 130 30621	1N4148
D406	4822 130 10869	RB441Q
D407	4822 130 10869	RB441Q
D408	4822 130 30621	1N4148
D409	4822 130 30621	1N4148
D410	4822 130 30621	1N4148
D600	4822 130 30621	1N4148
ZD401	4822 130 10621	ZENER MTZJ2.2B
ZD402	4822 130 10967	ZENER 5.1V / 0.5W
ZD403	4822 130 10621	ZENER MTZJ2.2B



IC200	4822 209 15787	LC867248
IC203	4822 209 30193	LB1641
IC204	4822 209 15227	LA9240M
IC205	4822 209 15773	LC78622E
IC206	4822 209 15786	LA6541D
Q403	4822 130 60644	9014C
Q404	4822 130 10974	2SB1240Q
Q405	4822 130 60644	9014C
Q406	4822 130 10974	2SB1240Q
Q407	4822 130 10697	2SA1317U
Q408	4822 130 10697	2SA1317U

- MISCELLANEOUS -

LCD200	4822 135 00138	HLC7112-012410
L401	4822 157 11371	47UH
X400	4822 242 10794	16.9344MHZ 49U
X401	4822 242 10795	DMC-AT32.768KHZ
X402	4822 242 71508	CSA6,00MG

POWER BOARD AND MISCELLANEOUS

- MISCELLANEOUS -

CON601	4822 265 11049	HEADPHONE JACK
L301	4822 134 10099	LAMP 5.5V 100MA
L302	4822 134 10099	LAMP 5.5V 100MA
L303	4822 134 10099	LAMP 5.5V 100MA
L304	4822 134 10099	LAMP 5.5V 100MA
L1	△ 4822 157 11372	LINE FILTER
	△ 4822 146 10842	TRANSFORMER 230V
	△ 4822 146 10865	TRANSFORMER 120/230V
	△ 4822 146 10864	TRANSFORMER 240V
	△ 4822 273 10342	VOLTAGE SWITCH
F2	△ 4822 252 11258	FUSE 2A 250V
F3	△ 4822 252 11252	FUSE 1.6A 250V
F4	△ 4822 252 11252	FUSE 1.6A 250V