

Service
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Service Manual

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From week 714 onwards, the CD Mechanism was changed to Dayang M93. New CD & MCU Board was used to match with the new CDM.

Please refer chapter 1 to 9 for sets produced before week 713 and chapter 10 & chapter 11 for sets produced in or after week 714.

Revision ListP12-1



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Version 1.6



PHILIPS

SPECIFICATIONS

GENERAL:

Mains voltage : 127/240V -15%+10% Switchable for /98
 120V \pm 10% for /37
 230V \pm 10% for /05/12

Mains frequency : 50/60Hz

Clock accuracy : < 4 seconds per day

Dimension centre unit : 194(W)x269(H)x90(D) (mm)

Power consumption

Active : 20W

Standby : < 5.5W (DEMO mode)

ECO Power Standby : < 0.5W for /05/12/37

TUNER:

FM

Tuning range : 87.5-108MHz

Grid : 50kHz for /98/12/05
 100kHz for /98/55/37

IF frequency : 10.7MHz \pm 20kHz

Aerial input : 75 Ω coaxial /05/12/98
 300 Ω for /37

Sensitivity at 26dB S/N : < 22 μ f

Selectivity at 300kHz bandwidth : > 25dB

Image rejection : > 25dB [> 75dB]

IF rejection : > 60B [> 80dB]

Distortion at RF=1mV, dev. 75kHz : < 3%

-3dB Limiting point : < 23.5dBf

Crosstalk at RF=1mV, dev. 40kHz : > 18dB

MW

Tuning range : 531-1602kHz for /05/12/55/98
 530-1700kHz for /37/98

Grid : 9kHz for /05/12/55/98
 10kHz for /37/98

IF frequency : 450kHz \pm 1kHz

Aerial input : Frame aerial 18.1 μ H

Sensitivity at 26dB S/N : < 4.4mV/M

Selectivity at 300kHz bandwidth : > 18dB

IF rejection : > 45dB

Image rejection : > 28dB

Distortion at RF=50mV, M=80% : < 5%

AMPLIFIER:

Output power

L & R : 2 x 5.0W (4 Ω , 1kHz, 10% THD)
 : 2 x 4.5W (4 Ω , 1kHz, 10% THD) /98
 : 2 x 4.5W (FTC Power, 4 Ω , 1kHz, 10% THD
 63Hz-12.5kHz) /37

Frequency response within -3dB : 50Hz-16kHz

Digital Sound Control (DSC) : Jazz / Rock / Pop / Classic

Dynamic Bass Boost (DBB) : ON / OFF

Input sensitivity

Aux in (at 1kHz) : 500mV at 600 Ω

USB : Host

Output sensitivity

Headphone output at 32 Ω : 10mW \pm 2dB (Max. vol.)

COMPACT DISC:

Frequency response within \pm 3dB : 125Hz - 16kHz

Output level (in Vrms) : 500mV, $Z_{out} = 100\Omega$

Signal/Noise ratio (unw.) : > 65dB

Signal/Noise ratio (A-weighted): > 76dB

Distortion at 1kHz : < 0.02%

Channel unbalance (-40dB) : < \pm 2dB

Channel separation at 1kHz : > 30dB

Emphasis : 15/50 μ S (switched
 automatically by CD10)

THD Noise(1kHz,500mW) : < 1.0%

Volume attenuation(1kHz) : > 60dB

MP3 CD WMA:

MP3 : MPEG 1 (ISO/IEC 11172-3)
 Layer3

MP3-CD Bit Rate : 8-320 kbps

WMA-CD Bit Rate : 64-192 kbps

Sampling Rate : 8, 11.025, 12, 16, 22.05,
 24, 32, 44.1, 48 kHz

Format : ISO9660, Joliet,UDF

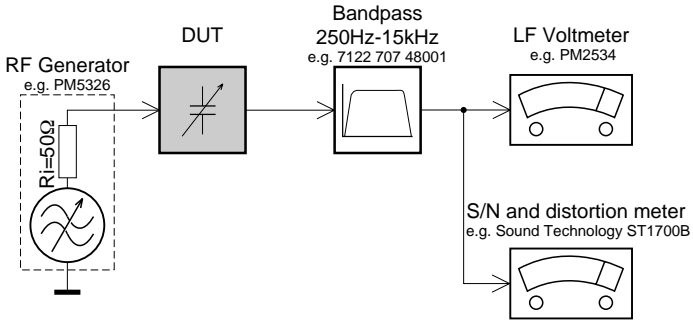
ID3 : V1 tag/V2 2.0/V2 3.0

Language Support : English

[...] Values indicated are for /05/12 only.

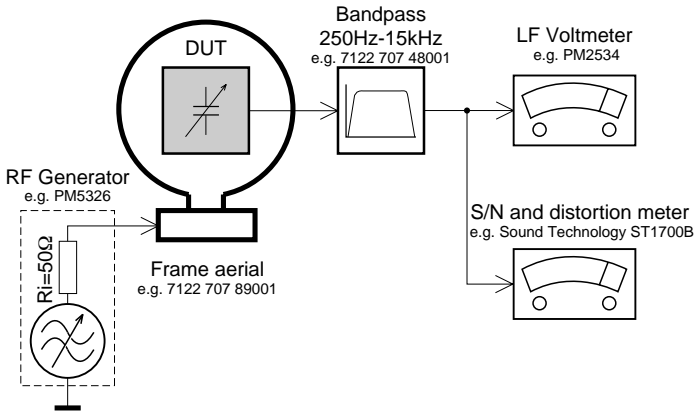
MEASUREMENT SETUP

Tuner FM



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

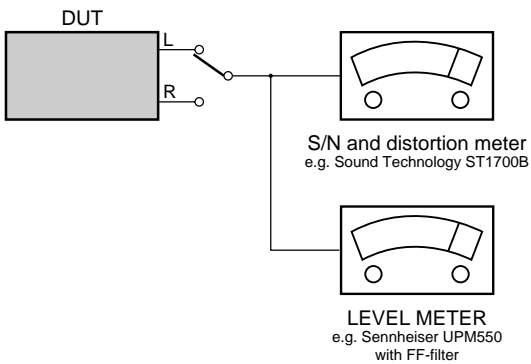
Tuner AM (MW,LW)



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).

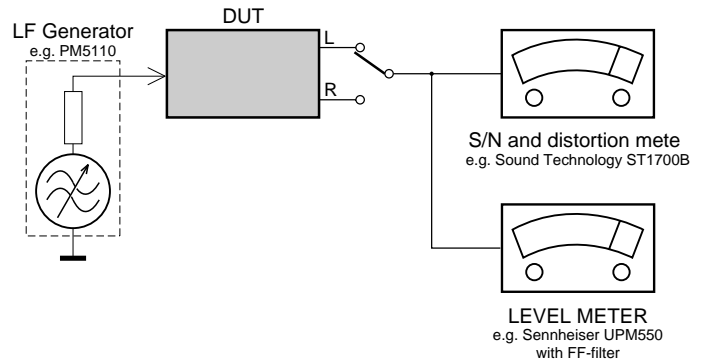
CD

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



Recorder

Use Universal Test Cassette **CrO2** SBC419 4822 397 30069
or Universal Test Cassette **Fe** SBC420 4822 397 30071



SERVICE AIDS

Service Tools:

Universal Torx driver holder	4822 395 91019
Torx bit T10 150mm	4822 395 50456
Torx driver set T6-T20	4822 395 50145
Torx driver T10 extended	4822 395 50423

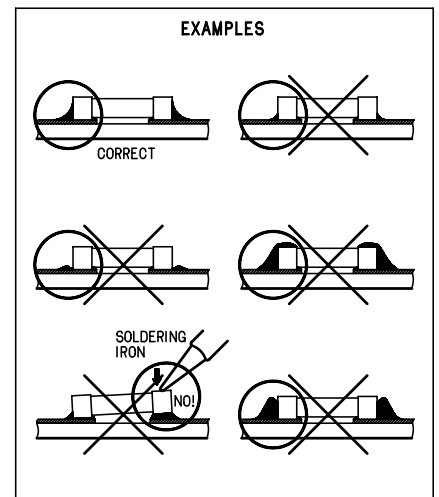
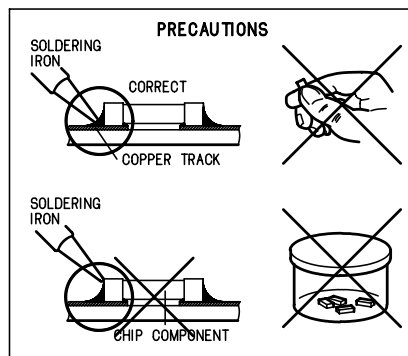
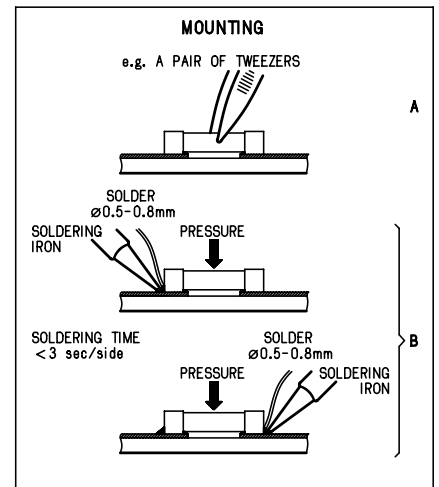
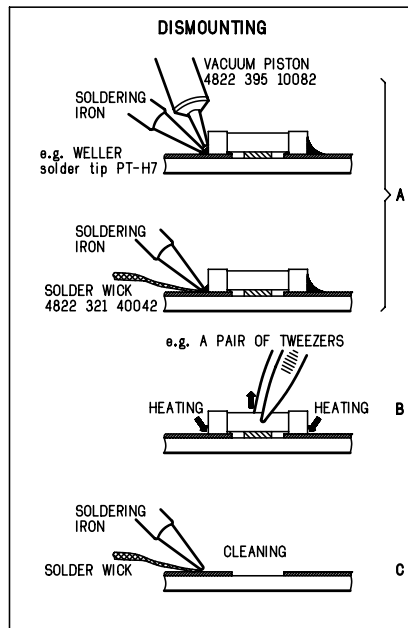
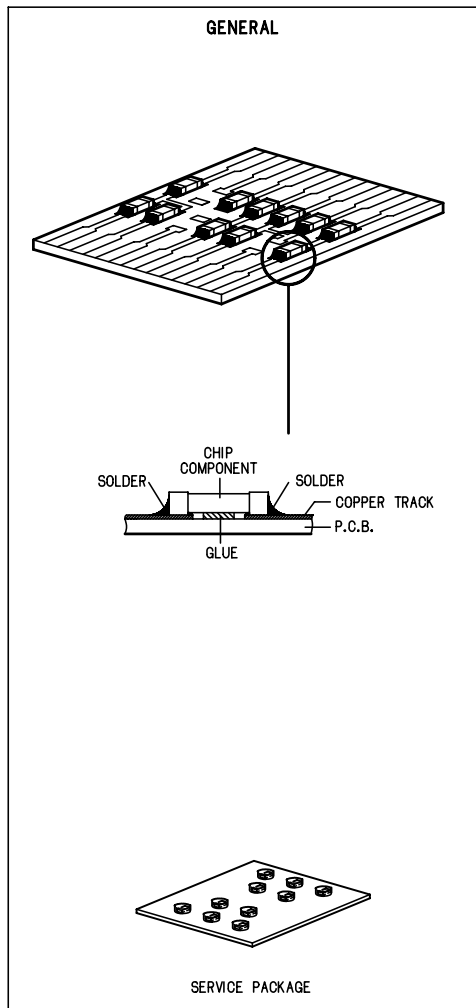
Compact Disc:

SBC426/426A Test disc 5 + 5A	4822 397 30096
SBC442 Audio Burn-in test disc 1kHz	4822 397 30155
SBC429 Audio Signals disc	4822 397 30184
Dolby Pro-logic Test Disc	4822 395 10216

ESD Equipment:

Anti-static table mat - large 1200x650x1.25mm ...	4822 466 10953
anti-static table mat - small 600x650x1.25mm	4822 466 10958
Anti-static wristband	4822 395 10223
Connectorbox (1M Ω)	4822 395 11307
Extension cable (to connect wristband to conn.box)	4822 320 11305
Connecting cable (to connect table mat to conn.box)	4822 320 11306
Earth cable (to Connect product to mat or box) --	4822 320 11308
Complete kit ESD3 (combining all above products)	4822 320 10671
Wristband tester	4822 344 13999

HANDLING CHIP COMPONENTS



(GB) WARNING

All ICs and many other semi-conductors 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 also 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 enfiler 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.

(GB)

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

(NL)

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

(F)

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

(D)

Bei jeder Reparatur sind die geltenden Sicherheitsvorschriften zu beachten. Der Originalzustand des Geräts darf nicht verändert werden; für Reparaturen sind Original-Ersatzteile zu verwenden.

(I)

Le norme di sicurezza esigono che l'apparecchio venga rimesso nelle condizioni originali e che siano utilizzati i pezzi di ricambio identici a quelli specificati.

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

ESD**(D) WARNUNG**

Alle ICs und viele andere Halbleiter sind empfindlich gegenüber elektrostatischen Entladungen (ESD).

Unvorsorgfältige Behandlung im Reparaturfall kann die Lebensdauer drastisch reduzieren.

Veranlassen Sie, dass Sie im Reparaturfall über ein Pulsarmband mit Widerstand verbunden sind mit dem gleichen Potential wie die Masse des Gerätes.

Bauteile und Hilfsmittel auch auf dieses gleiche Potential halten.

(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.

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

**(GB) Warning !**

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.

(SF) Varoitus !

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

(DK) Advarse !

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

INFORMATION ABOUT LEAD-FREE SOLDERING

Philips CE is producing lead-free sets from 1.1.2005 onwards.

IDENTIFICATION:

Regardless of special logo (not always indicated) one must treat all sets from 1 Jan 2005 onwards, according next rules:



Example S/N:



Bottom line of typeplate gives a 14-digit S/N. Digit 5&6 is the year, digit 7&8 is the week number, so in this case 2005 wk12

So from 0501 onwards = from 1 Jan 2005 onwards

Important note: In fact also products of year 2004 must be treated in this way as long as you avoid mixing solder-alloys (leaded/ lead-free). So best to always use SAC305 and the higher temperatures belong to this.

Due to lead-free technology some rules have to be respected by the workshop during a repair:

- Use only lead-free solder alloy Philips SAC305 with order code 0622 149 00106. If lead-free solder-paste is required, please contact the manufacturer of your solder-equipment. In general use of solder-paste within workshops should be avoided because paste is not easy to store and to handle.
- Use only adequate solder tools applicable for lead-free solder alloy. The solder tool must be able
 - To reach at least a solder-temperature of 400°C,
 - To stabilize the adjusted temperature at the solder-tip
 - To exchange solder-tips for different applications.
- Adjust your solder tool so that a temperature around 360°C – 380°C is reached and stabilized at the solder joint. Heating-time of the solder-joint should not exceed ~ 4 sec. Avoid temperatures above 400°C otherwise wear-out of tips will rise drastically and flux-fluid will be destroyed. To avoid wear-out of tips switch off un-used equipment, or reduce heat.
- Mix of lead-free solder alloy / parts with leaded solder alloy / parts is possible but PHILIPS recommends strongly to avoid mixed solder alloy types (leaded and lead-free).
If one cannot avoid or does not know whether product is lead-free, clean carefully the solder-joint from old solder alloy and re-solder with new solder alloy (SAC305).
- Use only original spare-parts listed in the Service-Manuals. Not listed standard-material (commodities) has to be purchased at external companies.
- Special information for BGA-ICs:
 - always use the 12nc-recognizable soldering temperature profile of the specific BGA (for de-soldering always use the lead-free temperature profile, in case of doubt)
 - lead free BGA-ICs will be delivered in so-called 'dry-packaging' (sealed pack including a silica gel pack) to protect the IC against moisture. After opening, dependent of MSL-level seen on indicator-label in the bag, the BGA-IC possibly still has to be baked dry. (MSL=Moisture Sensitivity Level). This will be communicated via AYS-website.
 - Do not re-use BGAs at all.
- For sets produced before 1.1.2005 (except products of 2004), containing leaded solder-alloy and components, all needed spare-parts will be available till the end of the service-period. For repair of such sets nothing changes.
- On our website www.atyourservice.ce.Philips.com you find more information to:
 - * BGA-de-/soldering (+ baking instructions)
 - * Heating-profiles of BGAs and other ICs used in Philips-sets

You will find this and more technical information within the "magazine", chapter "workshop news".

For additional questions please contact your local repair-helpdesk.

SERVICE INSTRUCTION

Safety regulations require that after a repair, the set must be returned in its original condition. Pay in particular attention to the following points:

- Route the wire trees correctly and fix them with the mounted cable clamps.
- Check the insulation of the AC Power lead for external damage.
- Check the strain relief of the AC Power cord for proper function.
- Check the electrical DC resistance between the AC Power Plug and the secondary side (only for sets which have a AC Power isolated power supply):
 1. Unplug the AC Power cord and connect a wire between the two pins of the AC Power plug.
 2. Set the AC Power switch to the "on" position (keep the AC Power cord unplugged!).
 3. Measure the resistance value between the pins of the AC Power plug and the metal shielding of the tuner or the aerial connection on the set. The reading should be larger than 4.5 Mohm (For U.S. it should be between 4.2 Mohm and 12 Mohm).
 4. Switch "off" the set, and remove the wire between the two pins of the AC Power plug.
- Check the cabinet for defects, to avoid touching of any inner parts by the customer.

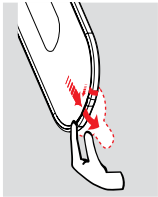
PREPARATIONS AND CONTROLS

Preparation

Using the remote control

IMPORTANT!

- Remove the protective plastic tab before using the remote control.
- Always point the remote control directly towards IR area.

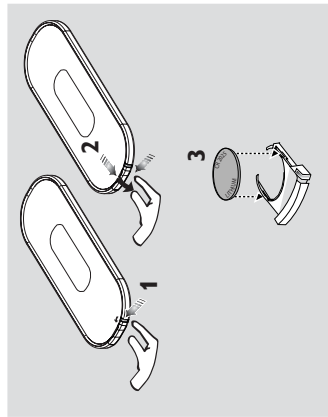


Notes for remote control:

- First select the source you wish to control by pressing one of the source select keys on the remote control (for example CD, TUNER).
- Then select the desired function (for example ► II, ◀ ◀ ►).

To replace the remote controls' battery

- 1 Press and hold ◀ as indicated.
- 2 Simultaneously, pull the battery tray at ►.
- 3 Remove the old battery and put a new CR2025 battery in place.
- 4 Put back the battery tray



CAUTION!

- Remove the battery if it is exhausted or will not be used for a long time.
- Batteries contain chemical substances, so they should be disposed of properly.

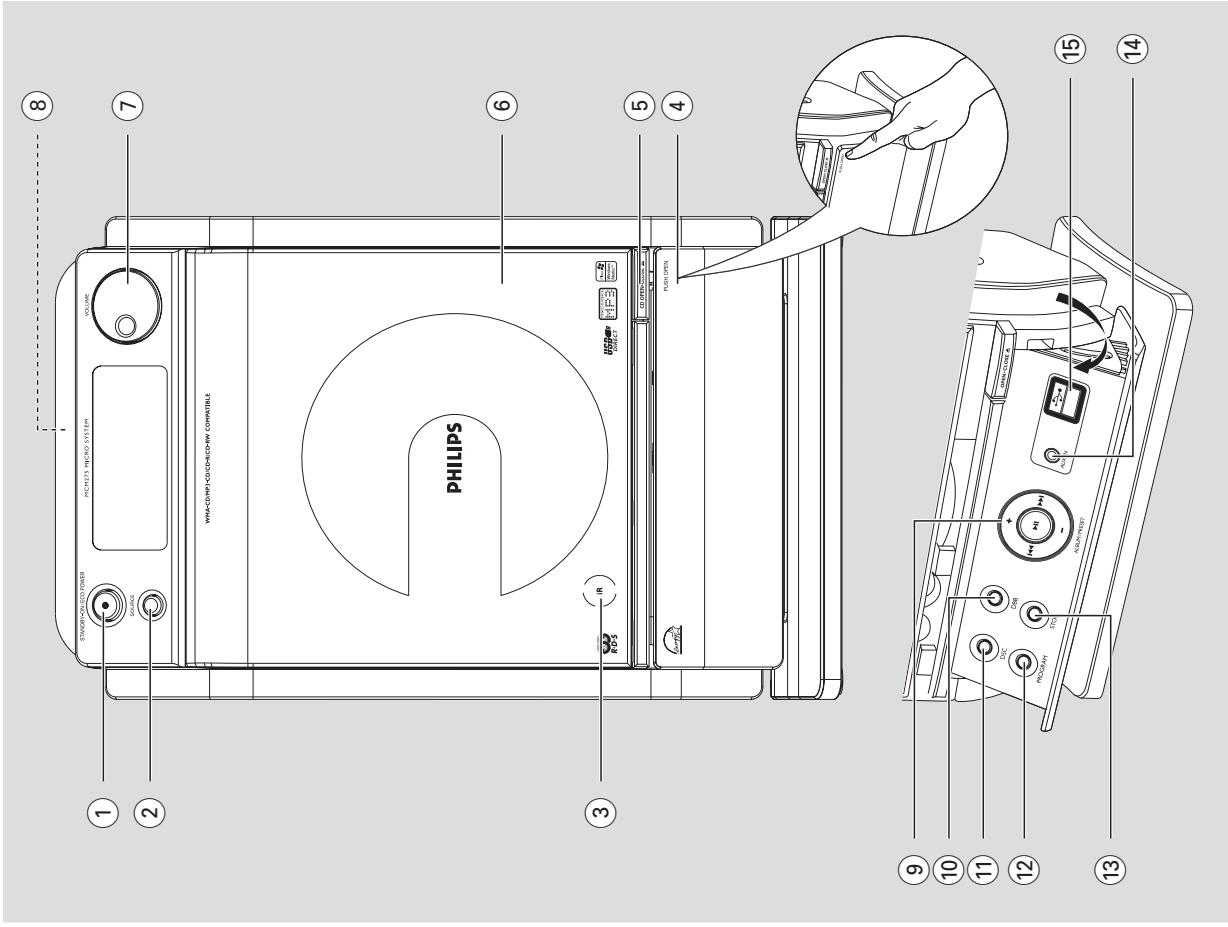
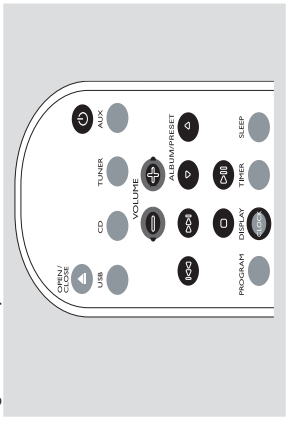
Setting the clock

After connecting MCMZ75 to the power supply, set the clock first.

- 1 Press and hold **STANDBY-ON/ECO POWER** to switch to Standby mode. The display shows the set time --:--:-- flashes by default if you have not set the clock.
- 2 In the standby mode, press and hold **DISPLAY/CLOCK** on the remote control. **SET CLOCK** scrolls on the display 24 Hr or 12 Hr appears for the initial clock setting. **To select 24-hour clock or 12-hour clock**, On the remote control, press **VOLUME +/-** once or more (or turn **VOLUME** on the set). On the remote control, press **DISPLAY/CLOCK** to confirm. The hours digits start flashing.
- 3 Hold down or press **VOLUME +/-** repeatedly to set the hours (or turn **VOLUME** on the set).
- 4 Press **DISPLAY/CLOCK** to confirm. The minutes digits start flashing.
- 5 Hold down or press **VOLUME +/-** repeatedly to set the minutes (or turn **VOLUME** on the set).
- 6 Press **DISPLAY/CLOCK** to confirm.
 - To exit without storing the clock setting press **STOP** ■

Helpful hints:

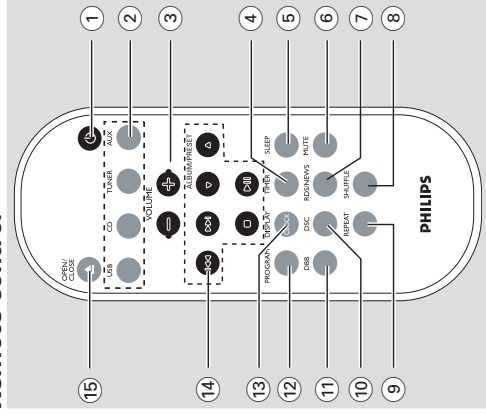
- The clock setting will be erased when the system is disconnected from the power supply.
- The set will exit from the clock setting mode if no button is pressed within 90 seconds.
- To set the clock automatically by using a time signal which is broadcast together with the RDS signal see chapter RDS: Automatic clock



Controls

- ① **STANDBY-ON/ ECO POWER**
press briefly to switch the set on or off (standby/ ECO POWER);
- **In standby or Eco Power mode:** press and hold to toggle between Standby and ECO POWER mode (power-saving mode)
- **Red indicator:** lights up red when the set is switched to ECO POWER mode
- ② **SOURCE**
– selects sound source **CD, USB, TUNER** or **AUX**
- **In standby or Eco Power mode:** switches the set on and selects sound source **CD, USB, TUNER** or **AUX**
- ③ **IR**
– sensor for the infrared remote control
- **Helpful hints:** Always point the remote control towards this sensor.
- ④ **PUSH OPEN**
– push to unfold or fold the control panel
- ⑤ **CD OPEN • CLOSE ▲**
– opens/closes the CD door
- ⑥ **CD door**
- ⑦ **VOLUME**
– adjusts the volume level
- **Clock/Timer:** adjusts the hours and minutes
- ⑧ **3.5 mm headphone socket**
– **Helpful hints:**
– Adjust the volume to a moderate level before you plug in the headphones.
– Connecting headphones will switch off the speakers.
- ⑨ **ALBUM/ PRESET +/-**
– **CD/USB:** selects albums (for MP3/WMA only)
- **TUNER:** selects a preset radio station
- **◀◀ / ▶▶**
– **CD/USB:** skips or searches CD tracks/titles backwards/forwards
- **Tuner:** tunes to radio stations
- **▶/||**
– **CD/USB:** starts or pauses playback
- ⑩ **DBB (Dynamic Bass Boost)**
– turns the bass enhancement on/off
- ⑪ **DSC (Digital Sound Control)**
– selects predefined sound settings: ROCK, JAZZ, POP, CLASSIC
- ⑫ **PROGRAM**
– **CD/USB:** programs tracks
- **Tuner:** programs preset radio stations
- ⑬ **STOP**
– **CD/USB:** stops playback; erase a program
- ⑭ **AUX-IN**
– connects to the AUDIO OUT jack on the external appliance
- ⑮ **External USB mass storage device**
– jack for the external USB mass storage device

Remote control



Notes for remote control:

- First select the source you wish to control by pressing one of the source select keys on the remote control (for example CD, TUNER).
- Then select the desired function (for example ▶ ||, ◀ ▶).
- ① **Standby/On/ECO POWER:**
– press briefly to switch the set on or off (standby/ ECO POWER);
- **In standby or Eco Power mode:** press and hold to toggle between Standby and ECO POWER mode (power-saving mode)
- ② **Source buttons**
USB
– selects **USB** source
- **In standby or Eco Power mode:** switches the set on and selects **USB** source.
- CD**
– selects **CD** source
- **In standby or Eco Power mode:** switches the set on and selects **CD** source.
- TUNER**
– selects **TUNER** source and toggles between the wavebands: FM and MW
- **In standby or Eco Power mode:** switches the set on and selects **TUNER** source

PREPARATIONS AND CONTROLS

Controls

- AUX**
– selects the audio input from an additional connected appliance
- **In standby or Eco Power mode:** switches the set on and selects the audio input from an additional connected appliance
- ③ **VOLUME +/-**
– adjusts the volume level
- **Clock/Timer:** adjusts the hours and minutes
- ④ **TIMER**
– displays the timer setting
- switches the timer on/off
- enters the timer setting mode (press and hold for more than 2 seconds)
- ⑤ **SLEEP**
– set the sleep timer
- ⑥ **MUTE**
– switches the sound off temporarily
- ⑦ **RDS/NEWS**
– **Tuner:** selects RDS (Radio Data System) information
- **CD/USB/AUX:** activates/deactivates news
- ⑧ **SHUFFLE**
– selects random playback
- ⑨ **REPEAT**
– selects continuous playback
- ⑩ **DSC (Digital Sound Control)**
– selects predefined sound settings: ROCK, JAZZ, POP, CLASSIC
- ⑪ **DBB (Dynamic Bass Boost)**
– turns the bass enhancement on/off
- ⑫ **PROGRAM**
– **CD/USB:** programs tracks
- **Tuner:** programs preset radio stations
- ⑬ **DISPLAY/CLOCK**
– **Clock:** - displays the set time
– **In standby mode:** enters the clock setting mode (press and hold for more than 2 seconds)
- **TUNER/Audio CD:** switches between clock display and playback display
- **MP3/WMA files:** displays disc information during playback

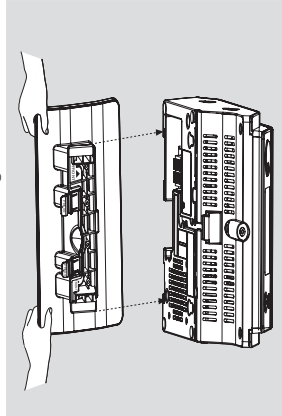
- 14 **◀◀ / ▶▶**
- **CD/USB:** skips or searches CD tracks backwards/forwards
- **Tuner:** tunes to radio stations
- **ALBUM/ PRESET ▲ / ▼**
- **CD/USB:** selects the next/previous album (for MP3/WMA only)
- **TUNER:** selects a preset station
- **▶ II**
- **CD/USB:** starts or pauses playback
- **■**
- **CD/USB:** stops playback; erase a program
- 15 **OPEN • CLOSE ▲**
- opens/closes the CD door

Placing MCM275

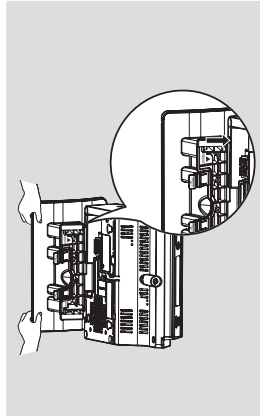
With the detachable stand and by-packed wall mounting kit, MCM275 allows you to place it in two ways: **on desktops with stand** or **on walls without stand.**

Mounting stand onto the set

- MCM275 is equipped with a stand. To mount the stand onto the set,
- 1 Put MCM275 on a flat and firm surface, rear side facing up
 - 2 As shown, align the stand to the slots at set's bottom, **▼ FRONT** facing down

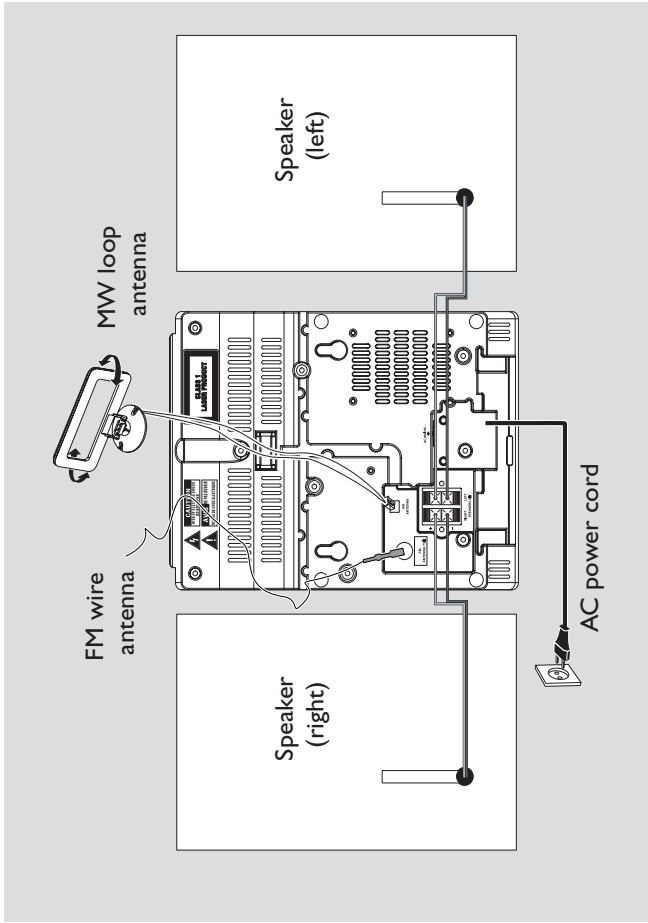


- 3 Push the stand down into the slots
When the stand is in place, you will hear a click



Mounting MCM275 onto walls

See **Appendix: How to mount your MCM275 onto walls** to learn more about wall mounting.



Rear connections

Warning:

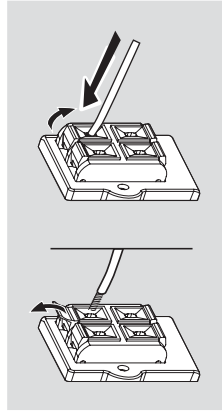
- Never make or change connections with the mains supply switched on.
- Install your set near the AC outlet and where the AC power plug can be reached easily.

(A) Speaker connections

Use the supplied speakers only. Using other speakers can damage the set or the sound quality will be negatively affected.

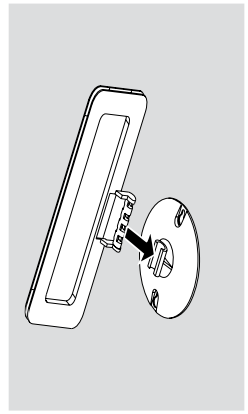
Connect the cable of the left speaker to **LEFT** (red and black) and the cable of the right speaker to **RIGHT** (red and black) as follows:

- a. Press the clip of the red terminal and fully insert the stripped portion of the colored (or marked) speaker cable into the socket, then release the clip
- b. Press the clip of the black terminal and fully insert the stripped portion of the black (or unmarked) speaker cable into the socket, then release the clip



(B) Antenna connections MW antenna

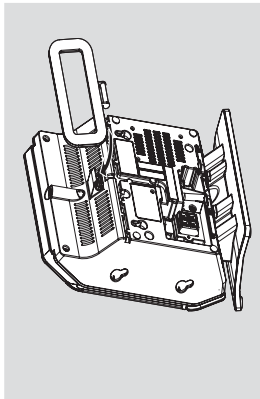
- 1 Assemble the loop antenna as shown:



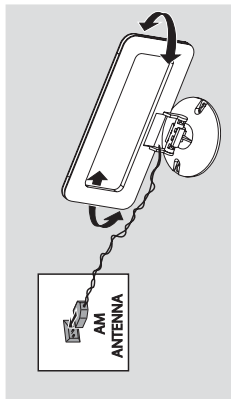
CONTROLS & INSTALLATIONS

Installation

Or
Insert the loop antenna into the slot on the set



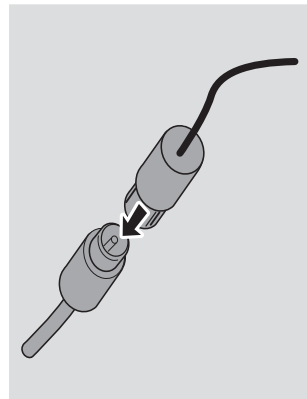
- 2 Fit the plug of the loop antenna to AM (MW) ANTENNA as shown below
- 3 Adjust the position of the antenna for optimal reception (as far away as possible from the TV, VCR or other radiation sources)



FM antenna

The wire antenna supplied can only be used to receive nearby stations. For better reception we recommend using a cable antenna system or an outdoor antenna.

- 1 Extend the wire antenna and fit it to FM ANTENNA as shown below



Note: If you are using a cable antenna system or an outdoor antenna, fit the antenna plug, instead of the wire antenna, to FM ANTENNA.

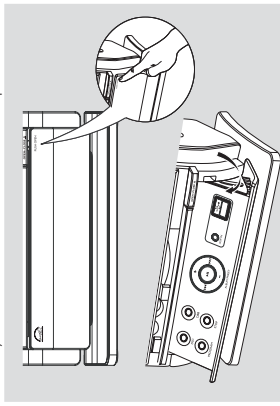
- 2 Move the antenna in different positions for optimal reception (as far away as possible from the TV, VCR or other radiation sources)
Fix the antenna's end to the wall

Connecting an additional appliance

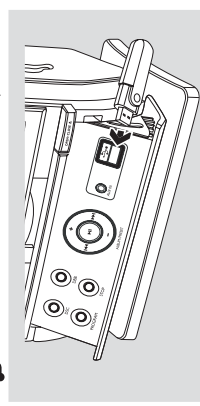
Connecting a USB device or memory card

By connecting a USB mass storage device (including USB flash memory, USB flash players or memory cards) to the Hi-Fi system, you can enjoy the device's stored music through the powerful speakers of Hi-Fi system.

- 1 Check you have unfolded the control panel



- 2 Insert the USB device's USB plug into the socket on the set's foldable control panel



or for the devices with USB cable:

- a. Insert one plug of the USB cable (not supplied) to the socket on the set's foldable control panel
- b. Insert the other plug of the USB cable to the USB output terminal of the USB device

or for the memory card:

- a. Insert the memory card into a card reader (not supplied)
- b. Use a USB cable (not supplied) to connect the card reader to the socket on the set's foldable control panel

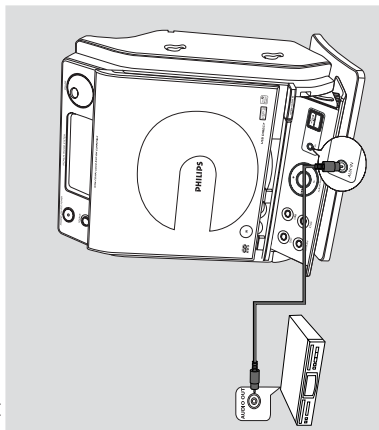
Connecting a non-USB device

It is possible to use an additional appliance, e.g. TV/VCR or CD recorder with the set. On MCM275, you can playback music from an external source.

- 1 Follow the Step 1 under **Connecting a USB device or memory card**

- 2 Insert one plug of the audio cable (not supplied) to the socket **AUX IN** on the set's foldable control panel

- 3 Connect the other end of the audio cable to the **AUDIO OUT** terminal of the additional appliance



- 4 Select **AUX** mode on the set

Helpful hints:

- Always refer to the owner's manual of other equipment for complete connection.

Installation

Using AC power

- 1 Make sure all the connections have been made before switching on the power supply

- 2 Connect the AC power cord to the wall socket. This switches on the power supply

When MCM275 is switched to standby, it is still consuming some power. **To disconnect the system from the power supply completely, remove the power plug from the wall socket.**

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

For users in the U.K.: please follow the instructions.

Warning!

To avoid overheating of the system, a safety circuit has been built in. Therefore, your system may switch to Standby mode automatically under extreme conditions. If this happens, let the system cool down before reusing it (not available for all versions).

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

CAUTION

Visible and invisible laser radiation. If the cover is open, do not look at the beam.

High voltage! Do not open. You run the risk of getting an electric shock.

The machine does not contain any user-serviceable parts.

Modification of the product could result in hazardous radiation of EMC or other unsafe operation.

WARNING

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

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

Problem	Solution
"CD EJECT" is displayed.	<p>Insert a disc.</p> <p>Wait until the moisture condensation at the lens has cleared.</p> <p>Replace or clean the disc, see "Maintenance".</p> <p>Use a finalised CD-RW or a correct MP3/WMA-CD format disc.</p>
Some files on the USB device are not displayed.	<p>Check if the number of folders exceeds 99 or the number of titles exceeds 999</p>
Radio reception is poor.	<p>If the signal is too weak, adjust the antenna or connect an external antenna for better reception.</p> <p>Increase the distance between the Micro HiFi System and your TV or VCR.</p>
The system does not react when buttons are pressed.	<p>Remove and reconnect the AC power plug and switch on the system again.</p>
Sound cannot be heard or is of poor quality.	<p>Adjust the volume.</p> <p>Disconnect the headphones.</p> <p>Check that the speakers are connected correctly.</p> <p>Check if the stripped speaker wire is clamped.</p> <p>Make sure the MP3-CD was recorded within 32~256 kbps bit rate with sampling frequencies at 48 kHz, 44.1 kHz or 32 kHz.</p>
The left and right sound outputs are reversed.	<p>Check the speaker connections and location.</p>

The remote control does not function properly.

Select the source (CD or TUNER, for example) before pressing the function button (▶|||, ◀, ▶▶).

Reduce the distance between the remote control and the system.

Insert the battery with its polarities (+/- signs) aligned as indicated.

Replace the battery.

Point the remote control directly toward IR sensor on the front of the system.

Check the set is switched off

Set the clock correctly.

Press TIMER to switch on the timer.

Power has been interrupted or the power cord has been disconnected. Reset the clock/timer.

The timer is not working.

The Clock/Timer setting is erased.

DISMANTLING INSTRUCTIONS

Dismantling the Rear Portion and PCBs

- 1) Press the 2 juts and pull out the Stand as shown in figure 1.

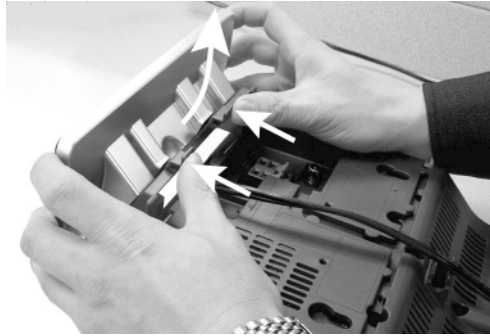


Figure 1

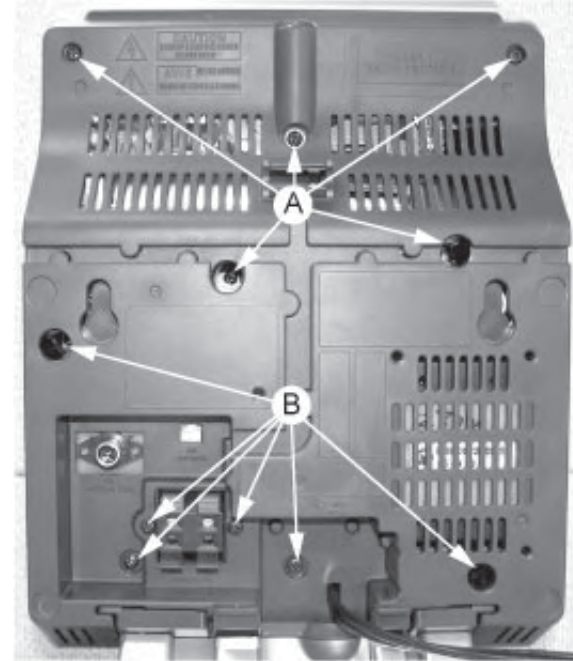


Figure 2

- 2) Loosen 5 screws A and 6 screws B to remove the Rear Cabinet as shown in figure 2.
- 3) Loosen 3 screws C to remove the SP & ANT Jack Board as shown in figure 3.
- 4) Loosen 5 screws D to remove the Power Module as shown in figure 3.

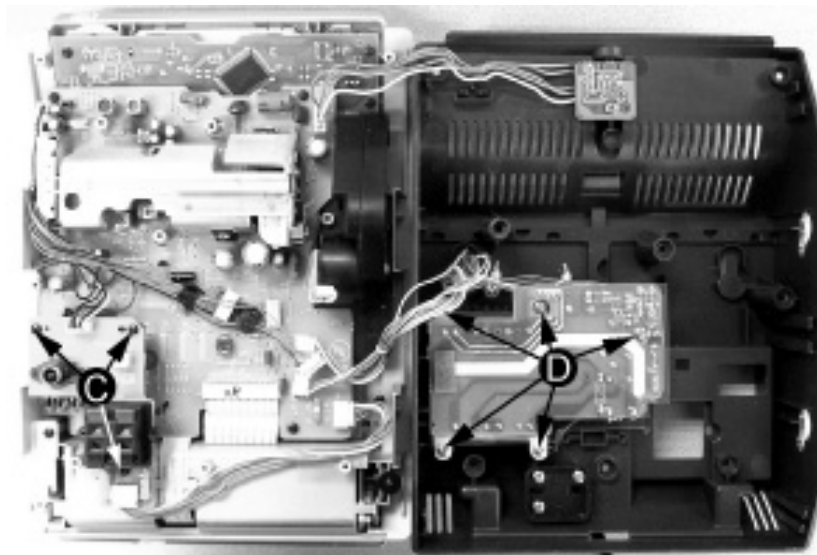


Figure 3

Dismantling the Rear Portion and PCBs

- 5) Loosen 2 screws E to remove the Bracket Jack Board as shown in Figure 4.
- 6) Loosen 3 screws F to remove the Main Board as shown in figure 5.

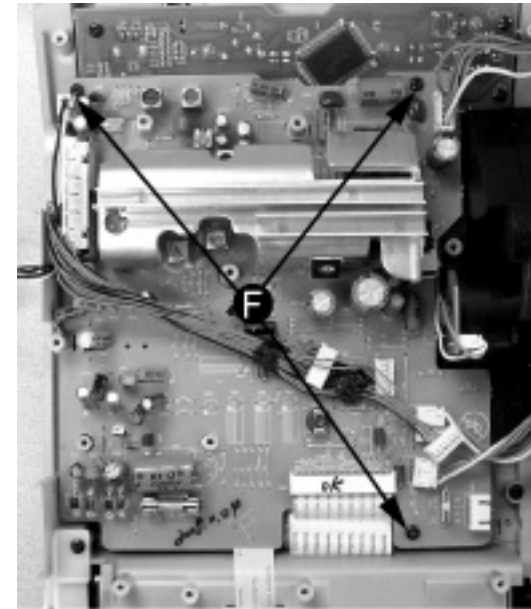


Figure 5



Figure 4

Dismantling of the Display Lens & the Volume knob

- 1) Use a flat head screw driver to give a push in the direction as shown in figure 6.



Figure 6

- 2) Place two small screw drivers in between the front cabinet & knob to give more leverage in pulling out the Volume Knob as shown in figure 7.



Figure 7

Dismantling of the CD Module & CD Door Carrier

- 1) Loosen 5 screws J mounting the Key Board to the Front Cabinet to remove the Key Board as shown in figure 8.
- 2) Loosen 4 screws H and 3 screws G to CD Module as shown in figure 8.
- 3) Loosen 2 screws I to remove the Servo Motor Mechanism as shown in figure 8.

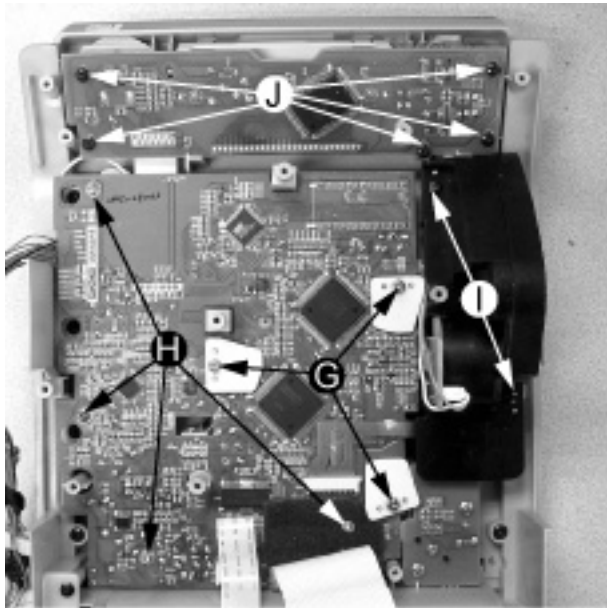


Figure 8

- 4) Loosen 4 screws K to remove the Right CD Door Carrier and 4 screws L to remove the Left CD Door Carrier as shown in figure 9.

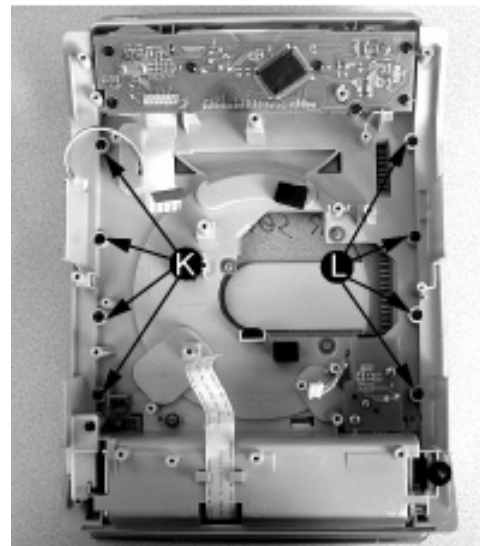
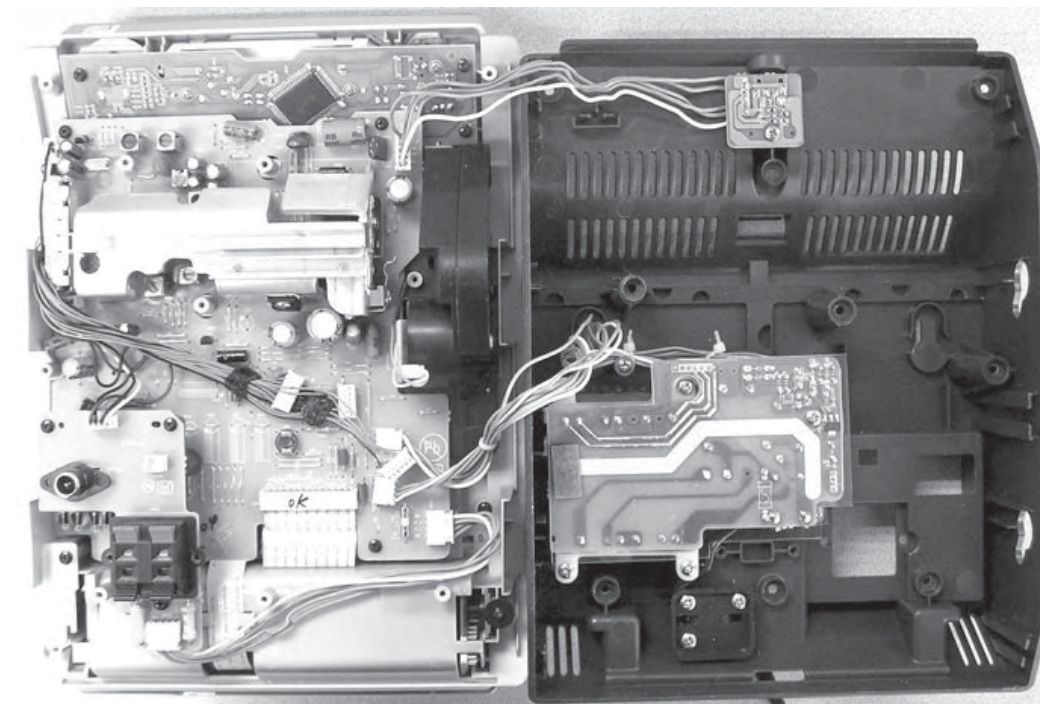


Figure 9

Service pos A



Service pos B



Note: After re-assembly, it is very important to ensure all wires are routed properly to ensure that they do not touch/obstruct all moving parts.

SERVICE TEST PROGRAM

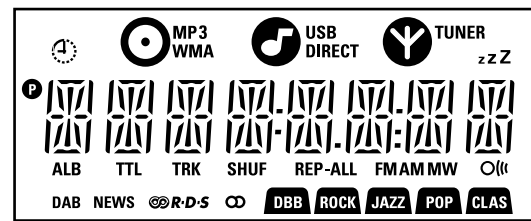
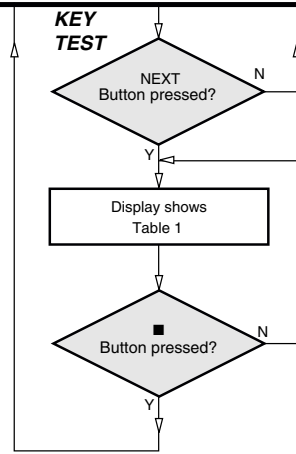
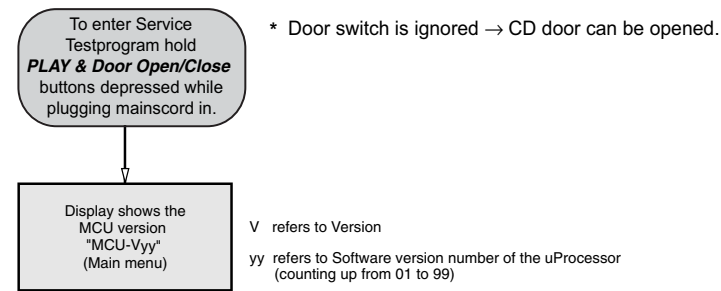
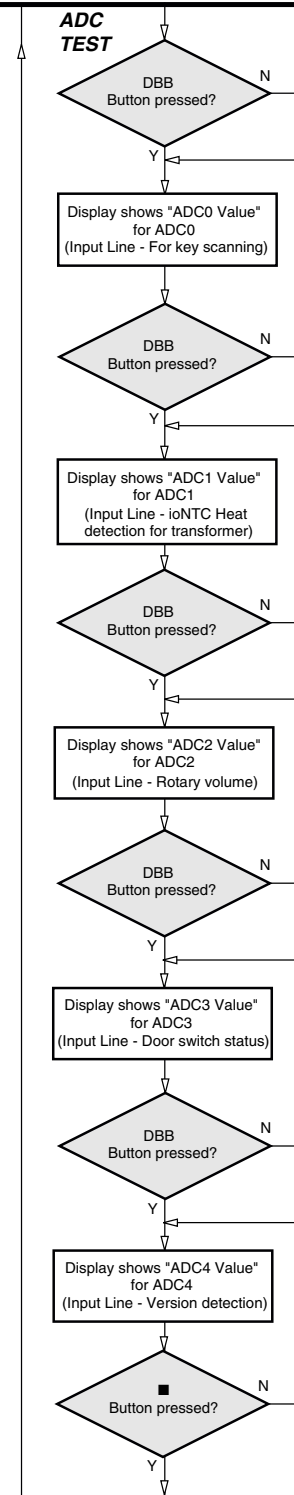
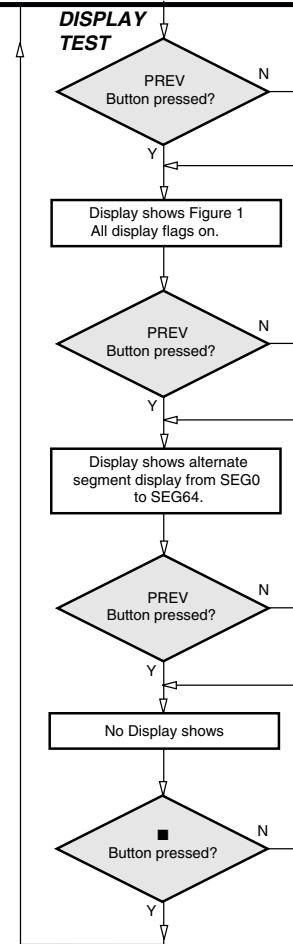
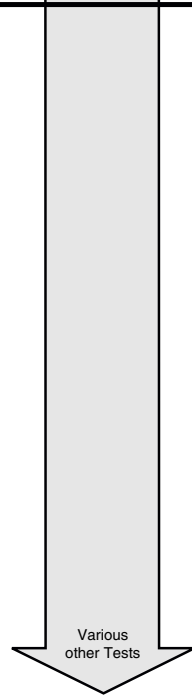


Figure 1



ADC Test is used for checking the ADC inputs to the microprocessor. The display shows an ADC value between 0 and 255 for an input signal between 0 and 5V.



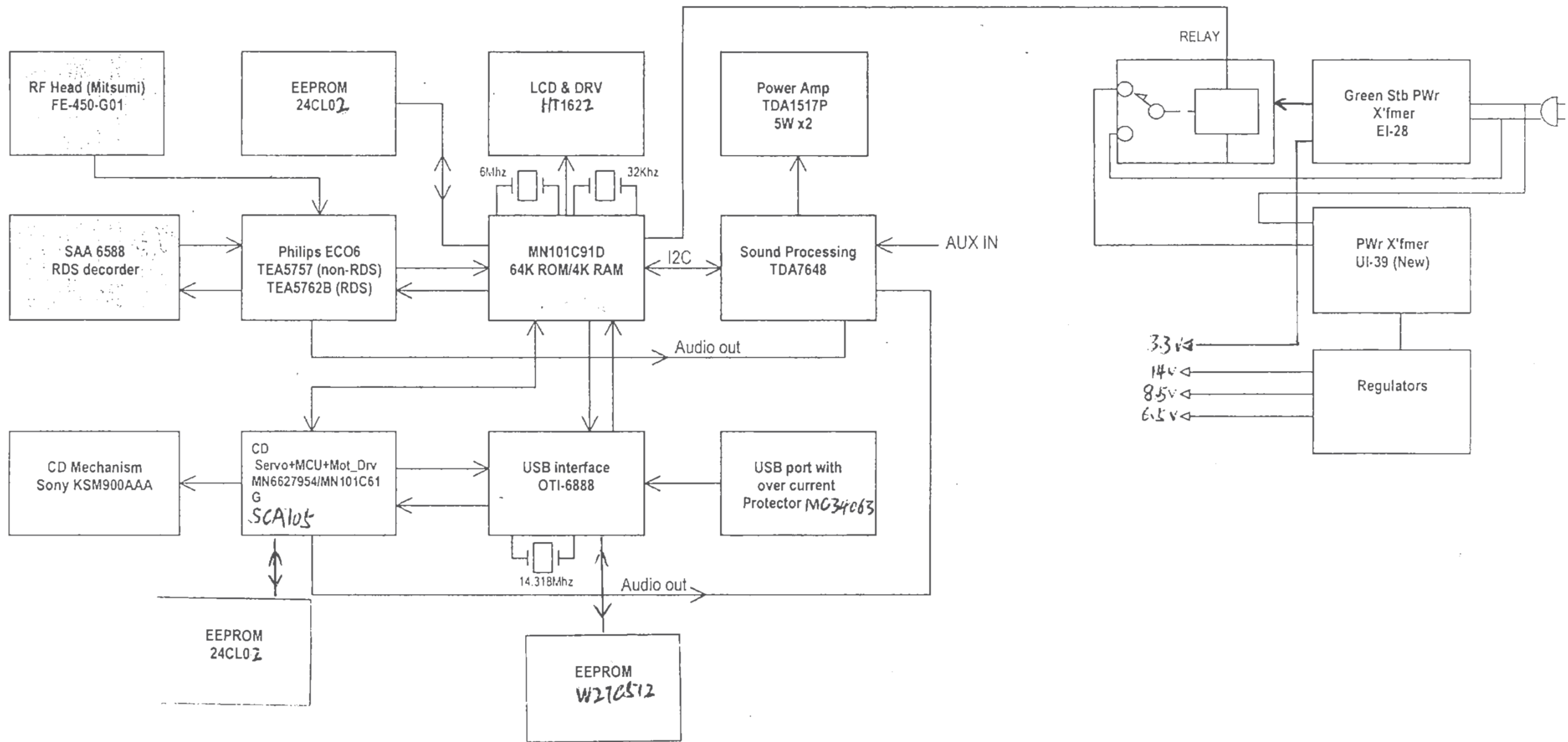
TEST	Activated with	ACTION
EEPROM CLEAR	PROGRAM ■ to Exit	A test pattern will be sent to the EEPROM. "EEP CLR" is displayed while the erase processing. Caution! All presets from the customer will be lost!!
LEAVE SERVICE TEST PROGRAM	Disconnect mains cord	

Key test table					
KeyNr	Setkey	KeyNr	Setkey	KeyNr	Set key
0	CD	10	RDS	20	PROGRAM
1	AUX	11	▶	21	SHUFFLE
2	TUNER	12	CLOCK/DISPLAY	22	NULL
3	SOURCE	13	ALBUM +	23	SLEEP
4	STANDBY/ON	14	ALBUM -	24	TIMER
5	OPEN/CLOSE	15	SKIP PREV	25	DBB
6	VOLUME DOWN	16	SKIP NEXT	26	DSC
7	VOLUME UP	17	NULL	27	MUTE
8	NULL	18	NULL	28	USB
9	NULL	19	REPEAT		

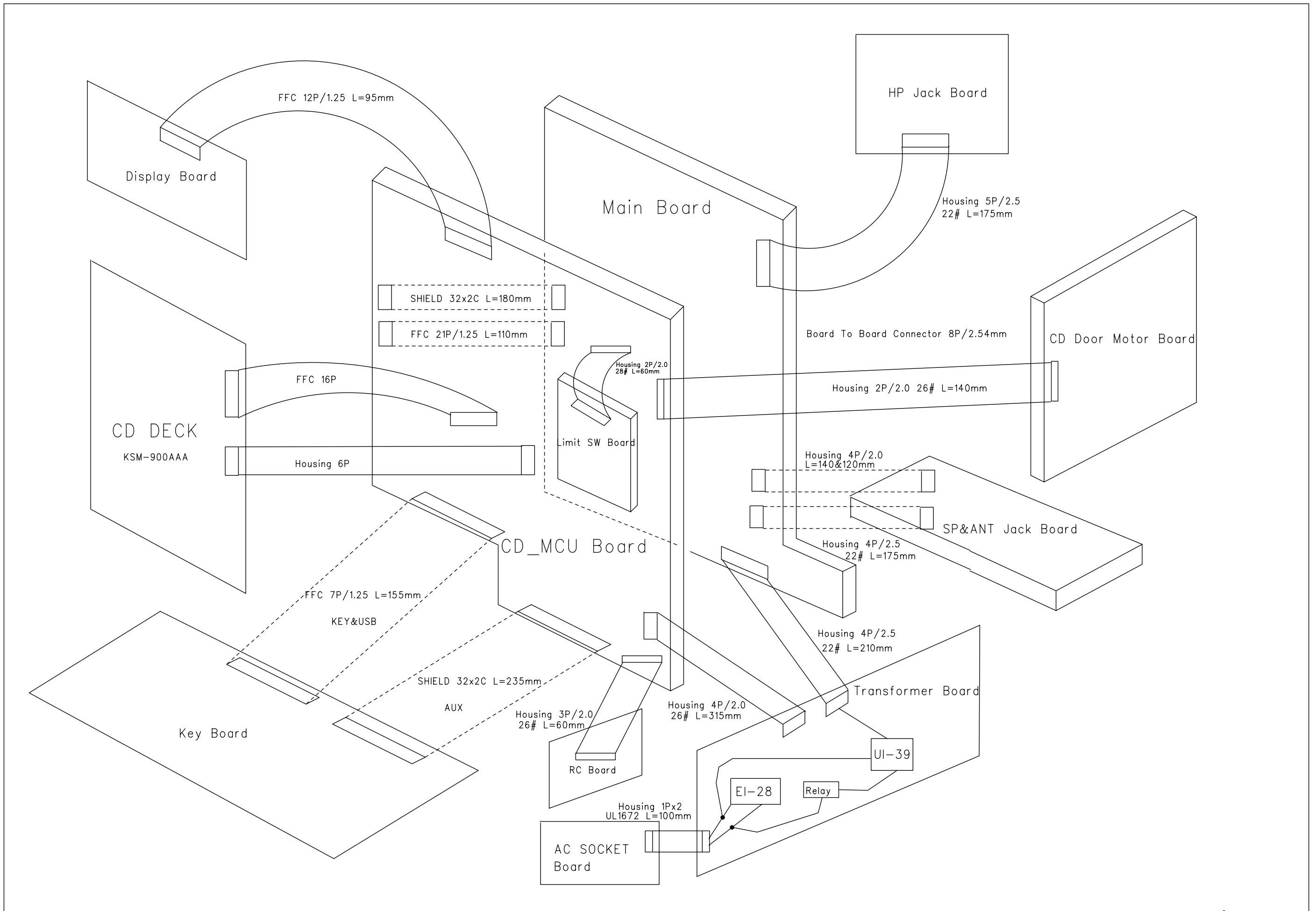
Table 1

SET BLOCK DIAGRAM

MCM270/275 Block Diagram



SET WIRING DIAGRAM



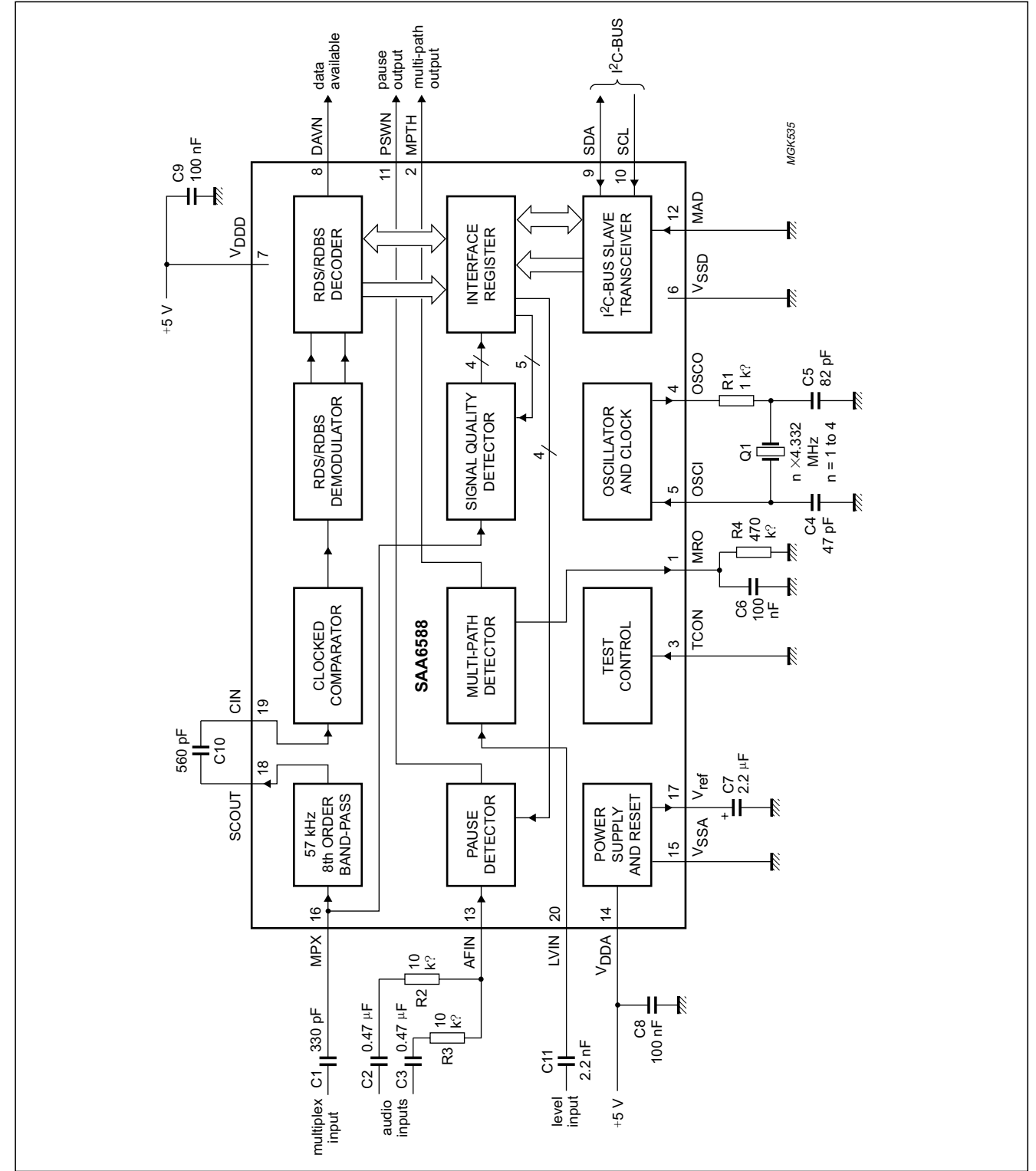
MAIN BOARD

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 Main Board(5757) Layout Bottom View 6-7
 Circuit Diagram - Main Board(5757) 6-8
 Main Board(5762) Layout Top View 6-9
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 Circuit Diagram - Main Board(5762) 6-11
 HP Jack Board 6-12
 Electrical Parts List 6-13

**BLOCK DIAGRAM - RDS/RBDS PRE-PROCESSOR
 SAA6588T**

BLOCK DIAGRAM

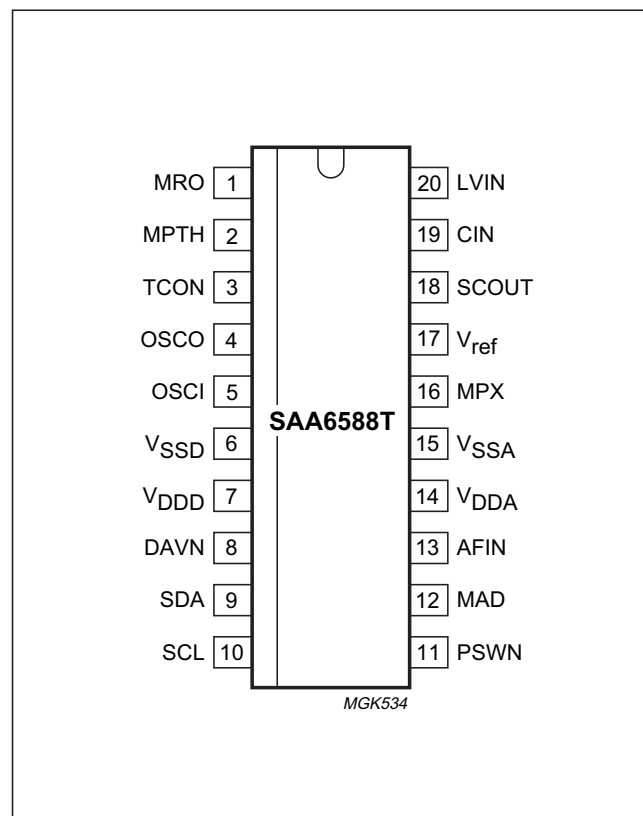


**PIN DESCRIPTION - RDS/RBDS PRE-PROCESSOR
SAA6588T**

PINNING

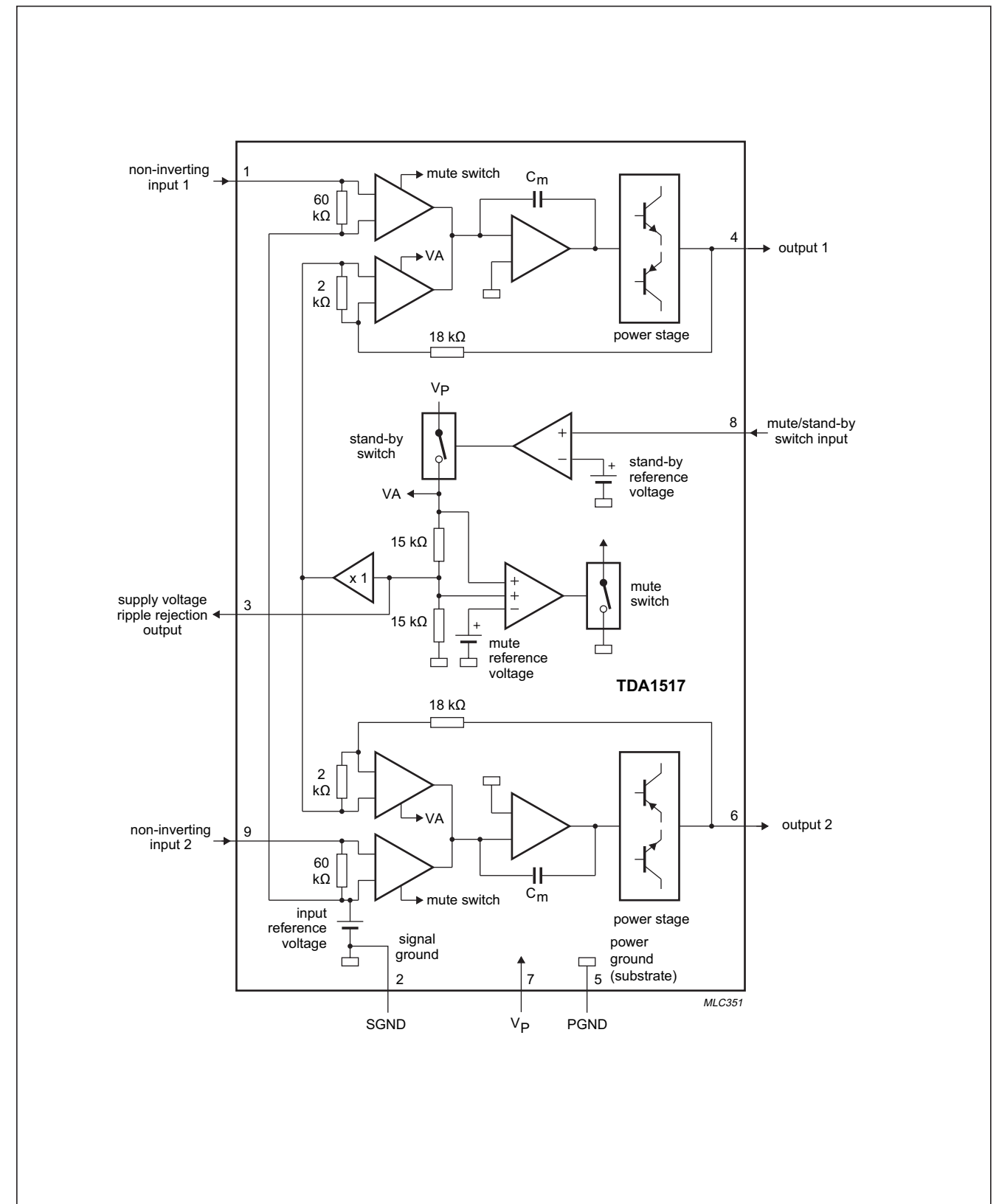
SYMBOL	PIN	DESCRIPTION
MRO	1	multi-path rectifier output
MPTH	2	multi-path detector output
TCON	3	test control input pin
OSCO	4	oscillator output
OSCI	5	oscillator input
V _{SSD}	6	digital ground (0 V)
V _{DDD}	7	digital supply voltage (5 V)
DAVN	8	data available output (active LOW)
SDA	9	I ² C-bus serial data I/O
SCL	10	I ² C-bus serial clock input

SYMBOL	PIN	DESCRIPTION
PSWN	11	pause switch output (active LOW)
MAD	12	slave address (LSB) input
AFIN	13	audio signal input
V _{DDA}	14	analog supply voltage (5 V)
V _{SSA}	15	analog ground (0 V)
MPX	16	multiplex input signal
V _{ref}	17	reference voltage output
SCOUT	18	band-pass filter output
CIN	19	comparator input
LVIN	20	level input



**BLOCK DIAGRAM - POWER AMPLIFIER
TDA1517**

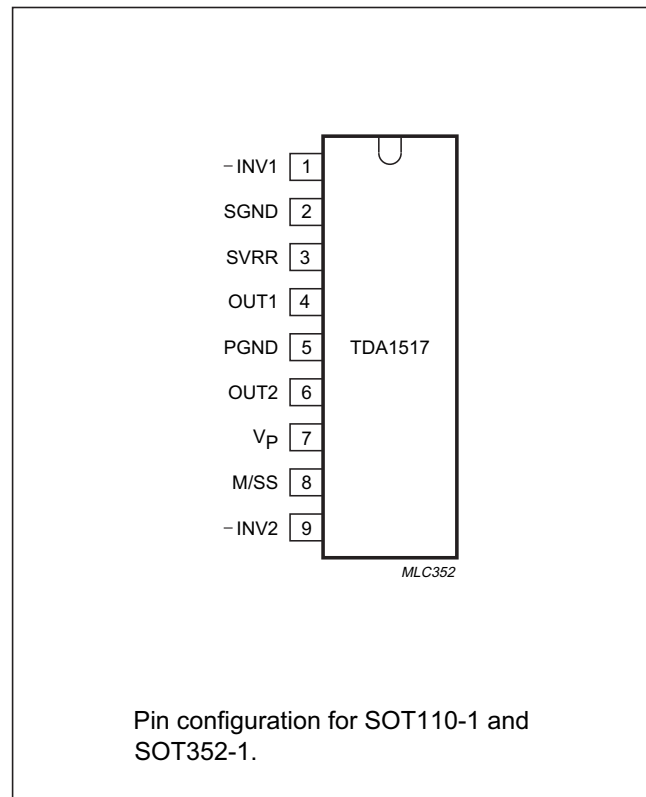
BLOCK DIAGRAM



**PIN DESCRIPTION - POWER AMPLIFIER
TDA1517**

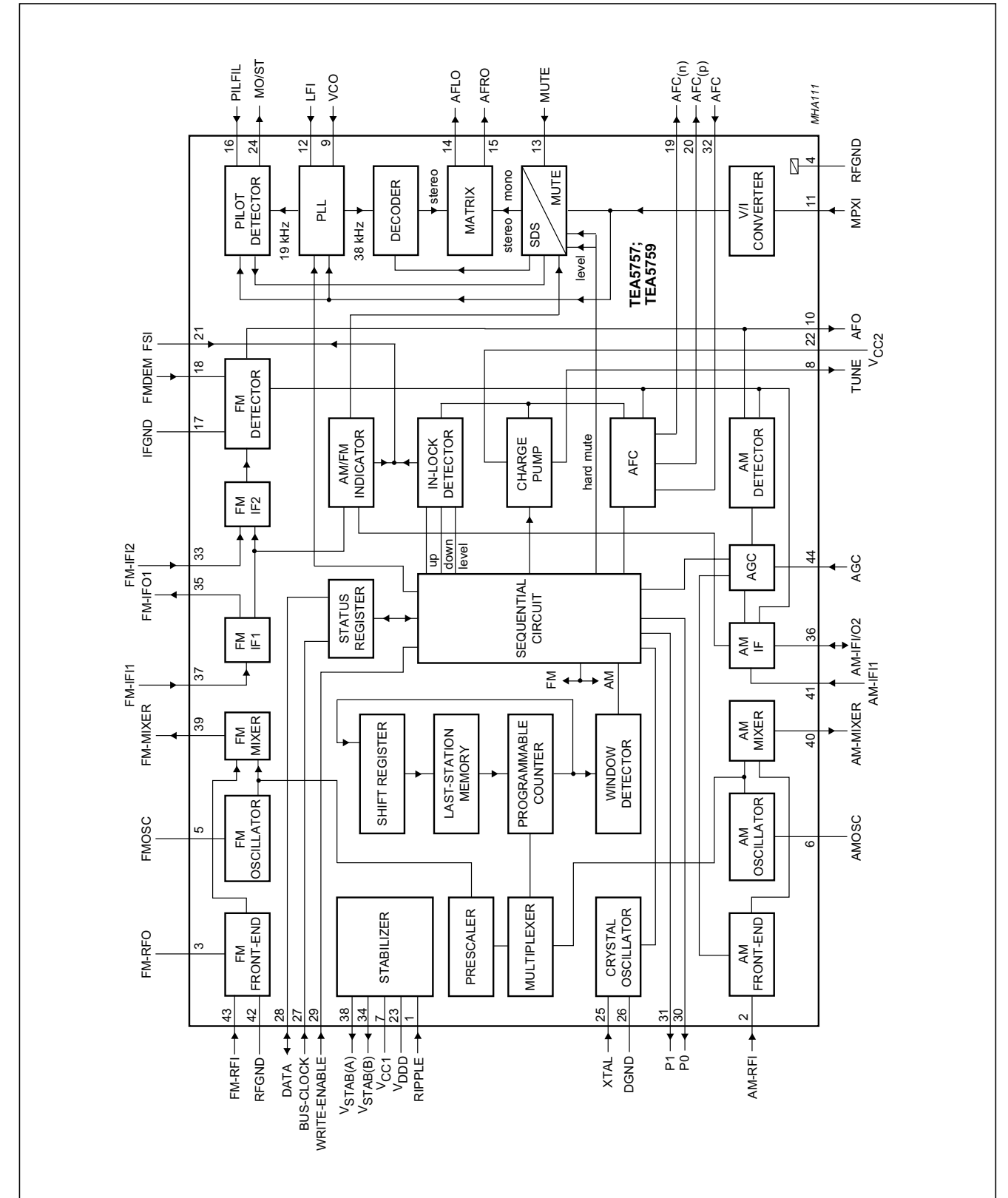
PINNING

SYMBOL	PIN	DESCRIPTION
?INV1	1	non-inverting input 1
SGND	2	signal ground
SVRR	3	supply voltage ripple rejection output
OUT1	4	output 1
PGND	5	power ground
OUT2	6	output 2
V _p	7	supply voltage
M/SS	8	mute/standby switch input
?INV2	9	non-inverting input 2



**BLOCK DIAGRAM - SELF TUNED RADIO
TEA5757**

BLOCK DIAGRAM

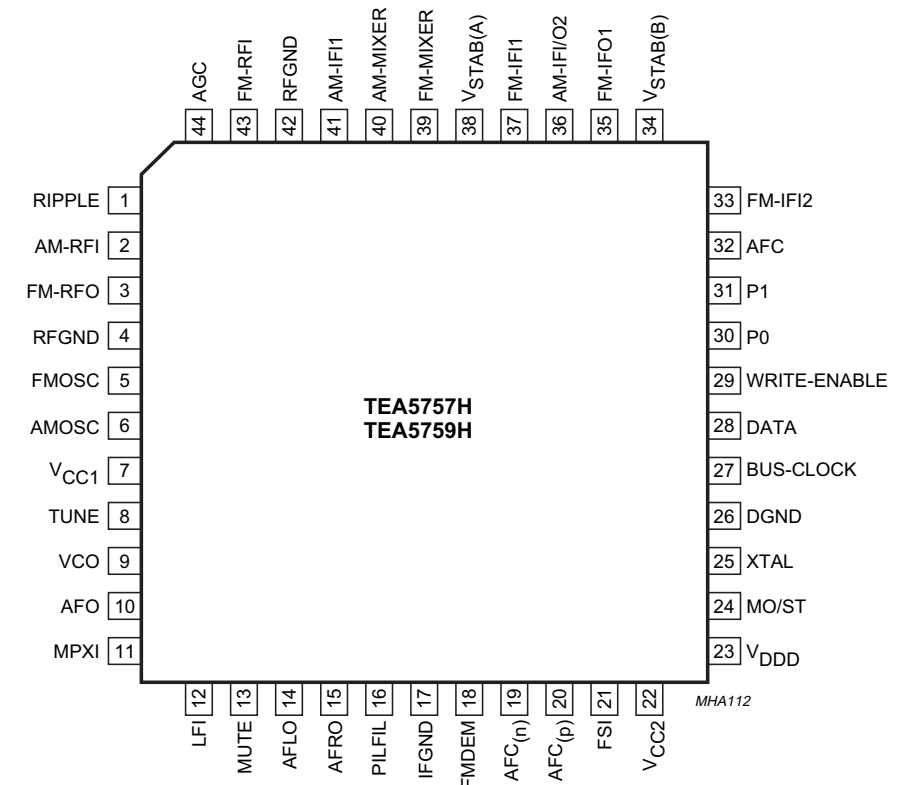


**PIN DESCRIPTION - SELF TUNED RADIO
TEA5757**
PINNING

SYMBOL	PIN	DESCRIPTION
RIPPLE	1	ripple capacitor input
AM-RFI	2	AMRF input
FM-RFO	3	parallel tuned FMRF circuit to ground
RFGND	4	RF ground and substrate
FMOSC	5	parallel tuned FM-oscillator circuit to ground
AMOSC	6	parallel tuned AM-oscillator circuit to ground
V _{CC1}	7	supply voltage
TUNE	8	tuning current output
VCO	9	voltage controlled oscillator input
AFO	10	AM/FM AF output (output impedance typical 5 k Ω)
MPXI	11	stereo decoder input (input impedance typical 150 k Ω)
LFI	12	loop-filter input
MUTE	13	mute input
AFLO	14	left channel output (output impedance typical 4.3 k Ω)
AFRO	15	right channel output (output impedance typical 4.3 k Ω)
PILFIL	16	pilot detector filter input
IFGND	17	ground of IF, detector and MPX stage
FMDEM	18	ceramic discriminator input
AFC _(n)	19	AFC negative output
AFC _(p)	20	AFC positive output
FSI	21	field-strength indicator
V _{CC2}	22	supply voltage for tuning
V _{DDD}	23	digital supply voltage
MO/ST	24	mono/stereo and tuning indication output
XTAL	25	crystal input
DGND	26	digital ground
BUS-CLOCK	27	bus-clock input
DATA	28	bus data input/output
WRITE-ENABLE	29	bus write-enable input
P0	30	programmable output port (P0)
P1	31	programmable output port (P1)
AFC	32	450 kHz LC-circuit
FM-IFI2	33	FMIF input 2 (input impedance typical 330 Ω)
V _{STAB(B)}	34	internal stabilized supply voltage (B)
FM-IFO1	35	FMIF output 1 (output impedance typical 330 Ω)
AM-IFI/O2	36	input/output to IF-Tank (IFT); output: current source
FM-IFI1	37	FMIF input 1 (input impedance typical 330 Ω)
V _{STAB(A)}	38	internal stabilized supply voltage (A)
FM-MIXER	39	ceramic filter output (output impedance typical 330 Ω)
AM-MIXER	40	open-collector output to IFT

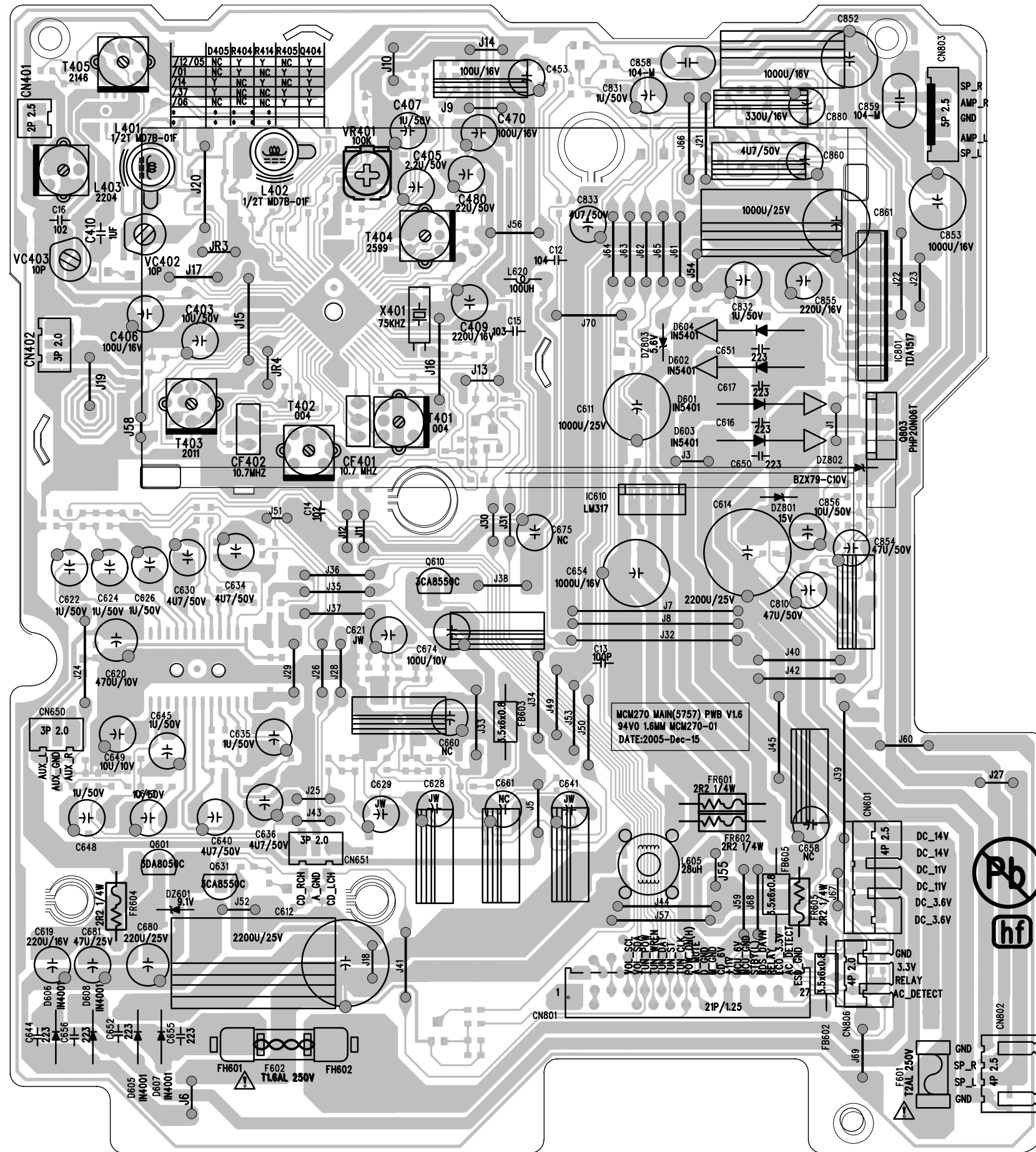
**PIN DESCRIPTION - SELF TUNED RADIO
TEA5757**

SYMBOL	PIN	DESCRIPTION
AM-IFI1	41	IFT or ceramic filter input (input impedance typical 3 k Ω)
RFGND	42	FMRF ground
FM-RFI	43	FMRF aerial input (input impedance typical 40 Ω)
AGC	44	AGC capacitor input

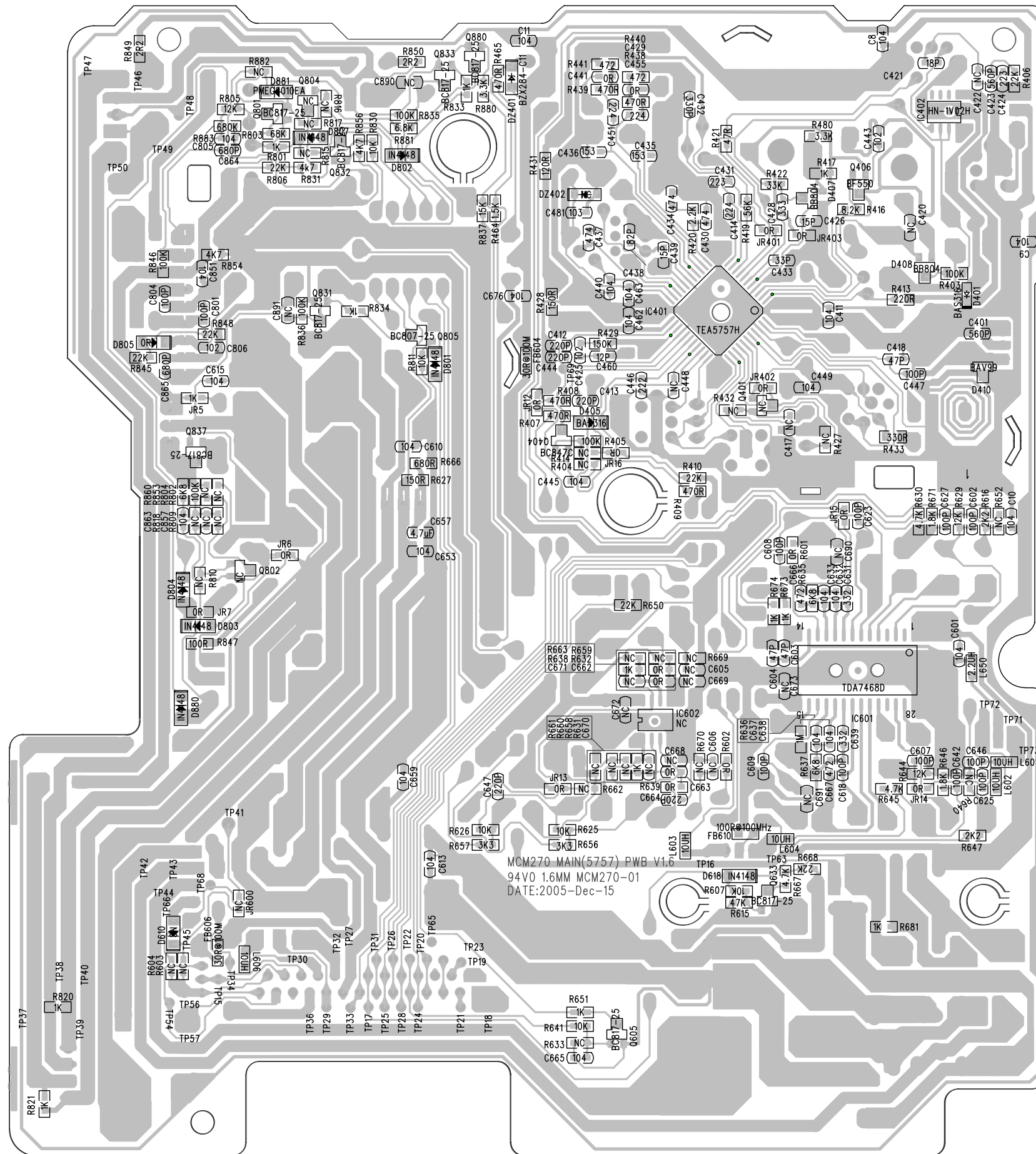


Pin configuration.

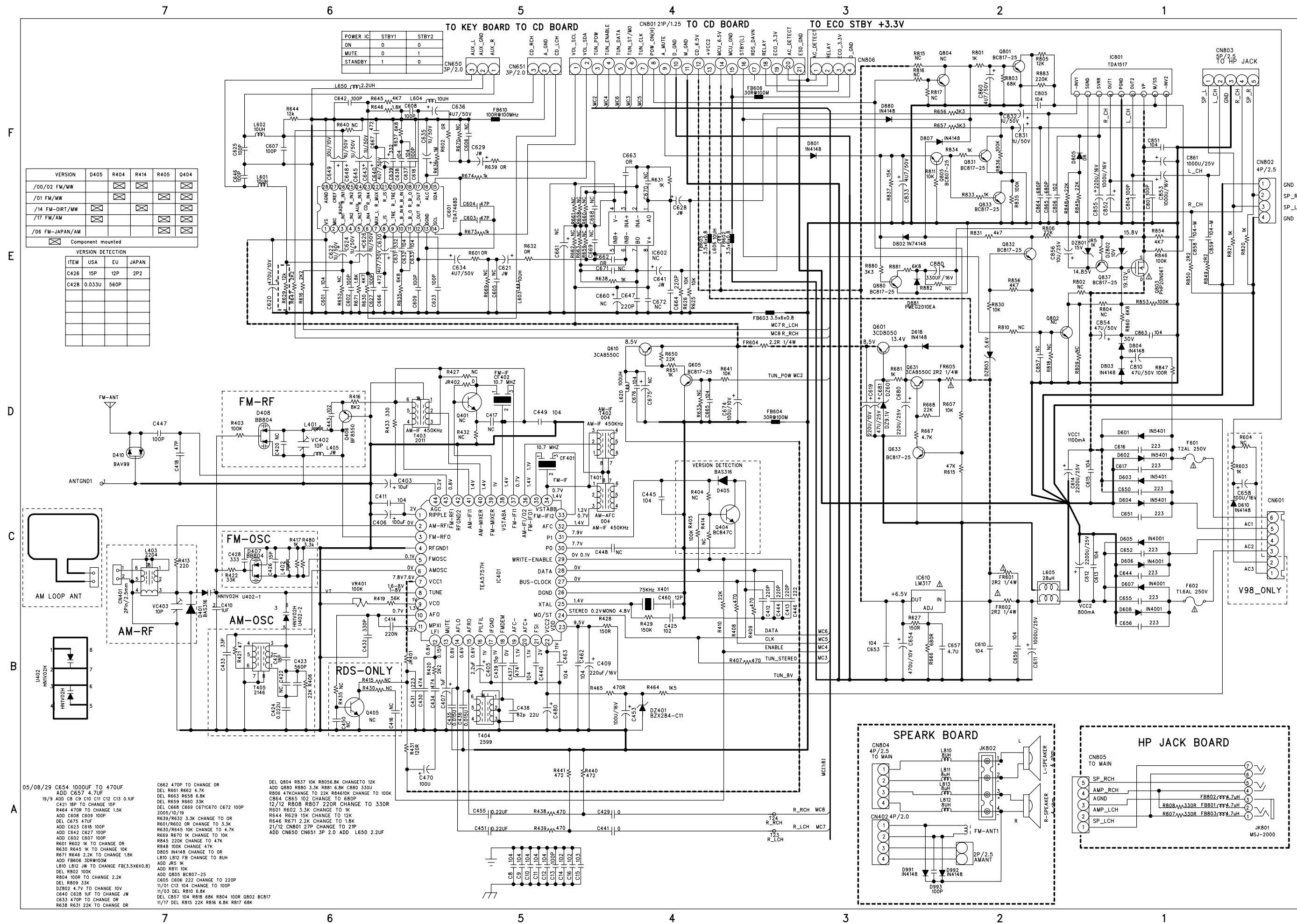
LAYOUT DIAGRAM - MAIN BOARD (5757) for /37/98
TOP SIDE



LAYOUT DIAGRAM - MAIN BOARD (5757) for /37/98
BOTTOM SIDE



CIRCUIT DIAGRAM - MAIN BOARD (5757) for /37/98

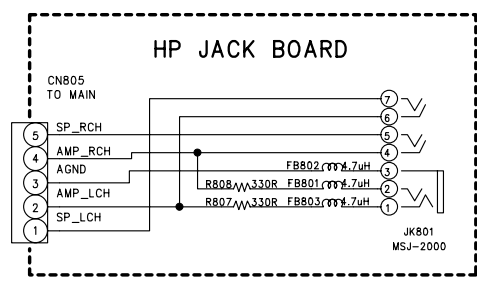
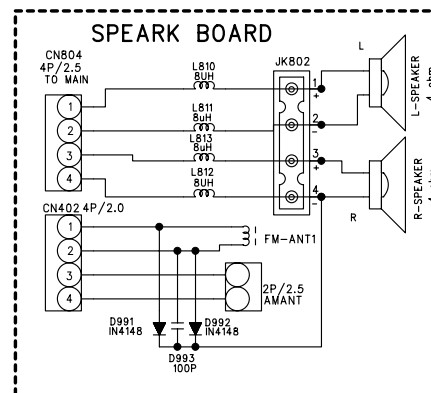


VERSION	D405	R404	R414	R405	Q404
/00/02 FM/MW		☒	☒		☒
/01 FM/MW		☒			
/14 FM-DIRT/MW	☒				
/17 FM/AM	☒				
/06 FM-JAPAN/AM					

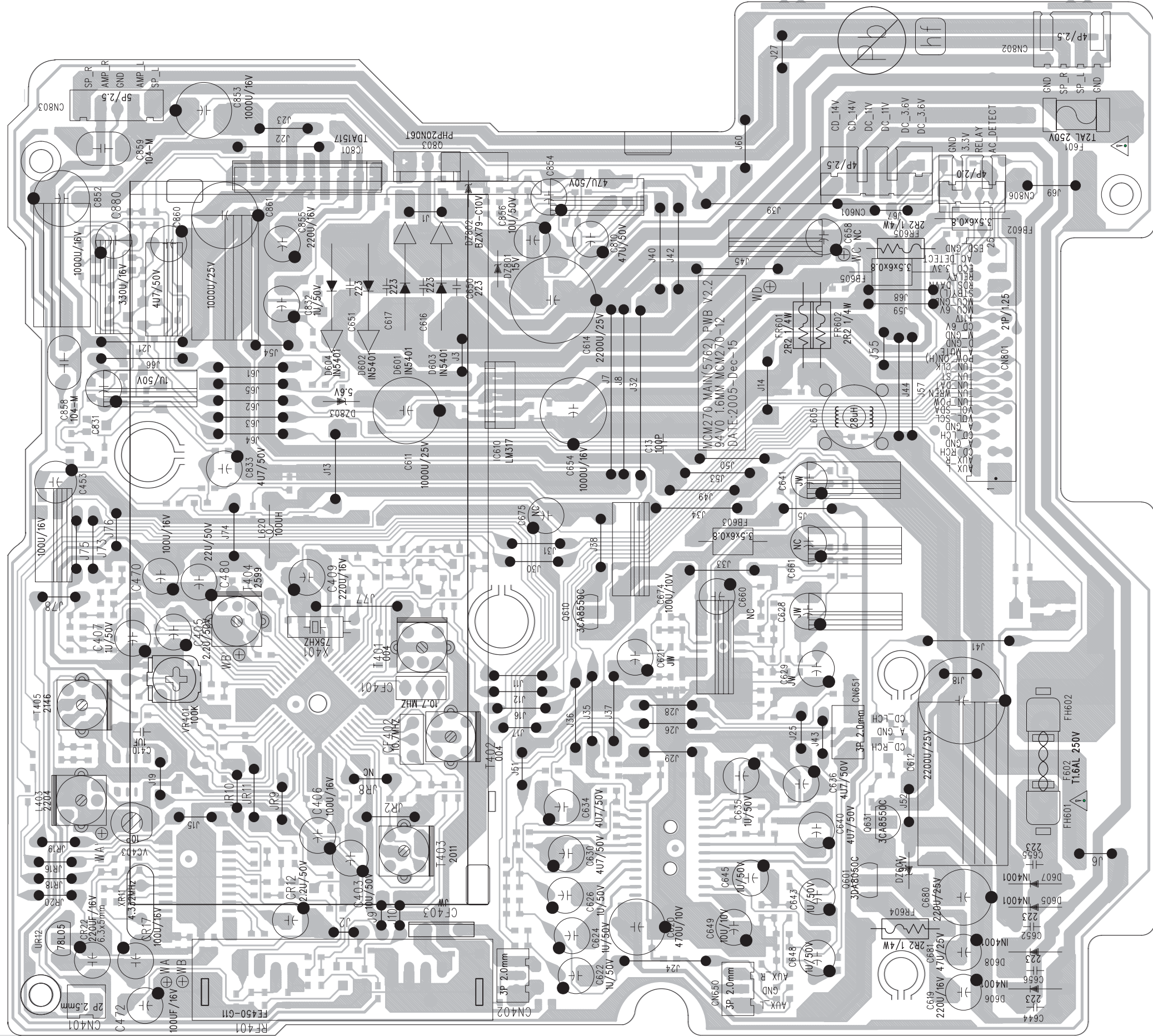
☒ Component mounted

VERSION DETECTION	USA	EU	JAPAN
C426	15P	12P	2P2
C428	0.033U	560P	

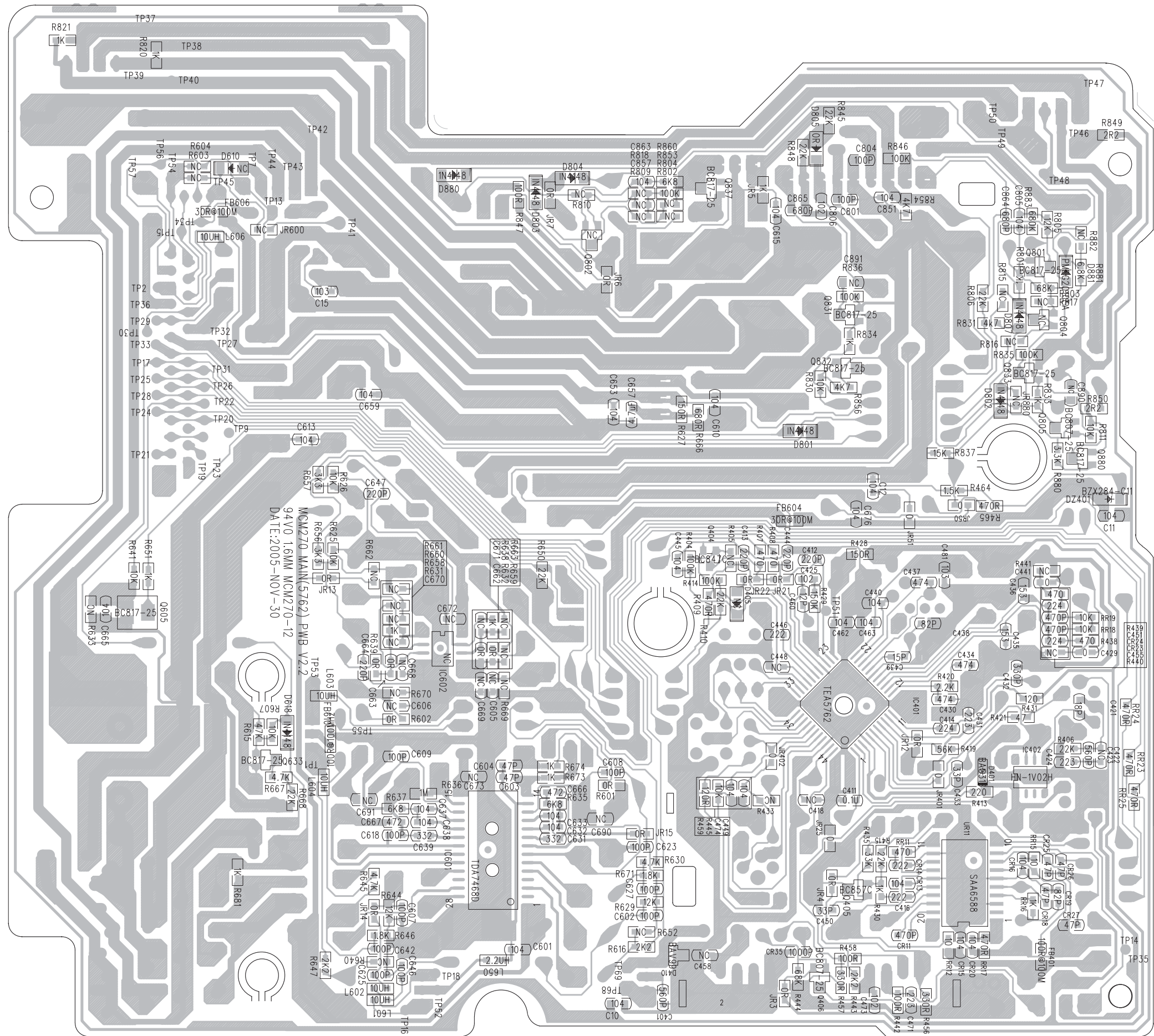
- 05/08/29 C654 1000UF TO 470UF
ADD C657 4.7UF
19/9 ADD C8 C9 C10 C11 C12 C13 0.1UF
C421 18P TO CHANGE 15P
R464 470R TO CHANGE 10K
ADD C608 C609 100P
DEL C675 47UF
ADD C623 C618 100P
ADD C642 C627 100P
ADD C602 C607 100P
R601 R602 K TO CHANGE OR
R630 R645 K TO CHANGE 10K
R648 100K CHANGE 47K
R605 IN4148 CHANGE TO OR
L810 L812 JN TO CHANGE FB(3.5X6X0.8)
L814 R802 100K
R804 100R TO CHANGE 2.2K
DEL R809 33K
D2802 4.7V TO CHANGE 10V
C640 C628 JN TO CHANGE JW
C633 470P TO CHANGE OR
R636 R631 22K TO CHANGE OR
- C662 470P TO CHANGE OR
DEL R661 R662 4.7K
DEL R663 R668 6.8K
DEL R659 R660 33K
DEL C668 C669 C670C670 C672 100P
2005/10/19
R639/R632 3.3K CHANGE TO 1K
R601/R602 OR CHANGE TO 3.3K
R630/R645 10K CHANGE TO 4.7K
R669 R670 K CHANGE TO 10K
R645 220K CHANGE TO 47K
R848 100K CHANGE 47K
D805 IN4148 CHANGE TO OR
L810 L812 FB CHANGE TO 8UH
ADD J85 J8
ADD R811 10K
ADD Q805 BC807-25
C605 C606 222 CHANGE TO 220P
11/01 C13 104 CHANGE TO 100P
11/03 DEL R810 6.8K
DEL C857 104 R818 6.8K R804 100R Q802 BC817
11/17 DEL R815 22K R816 6.8K R817 6.8K
- DEL Q804 R837 10K R8056.8K CHANGETO 12K
ADD Q880 R880 3.3K R881 6.8K C880 330U
R886 47K CHANGE TO 22K R8480K CHANGE TO 100K
C864 C865 102 CHANGE TO 680P
12/12 R808 R807 220R CHANGE TO 330R
R601 R602 3.3K CHANGE TO 1K
R644 R629 15K CHANGE TO 12K
R646 R671 2.2K CHANGE TO 1.8K
R601 R602 3.3K CHANGE TO 21P
21/12 CN801 21P CHANGE TO 21P
ADD CN650 CN651 3P 2.0 ADD L650 2.2UF



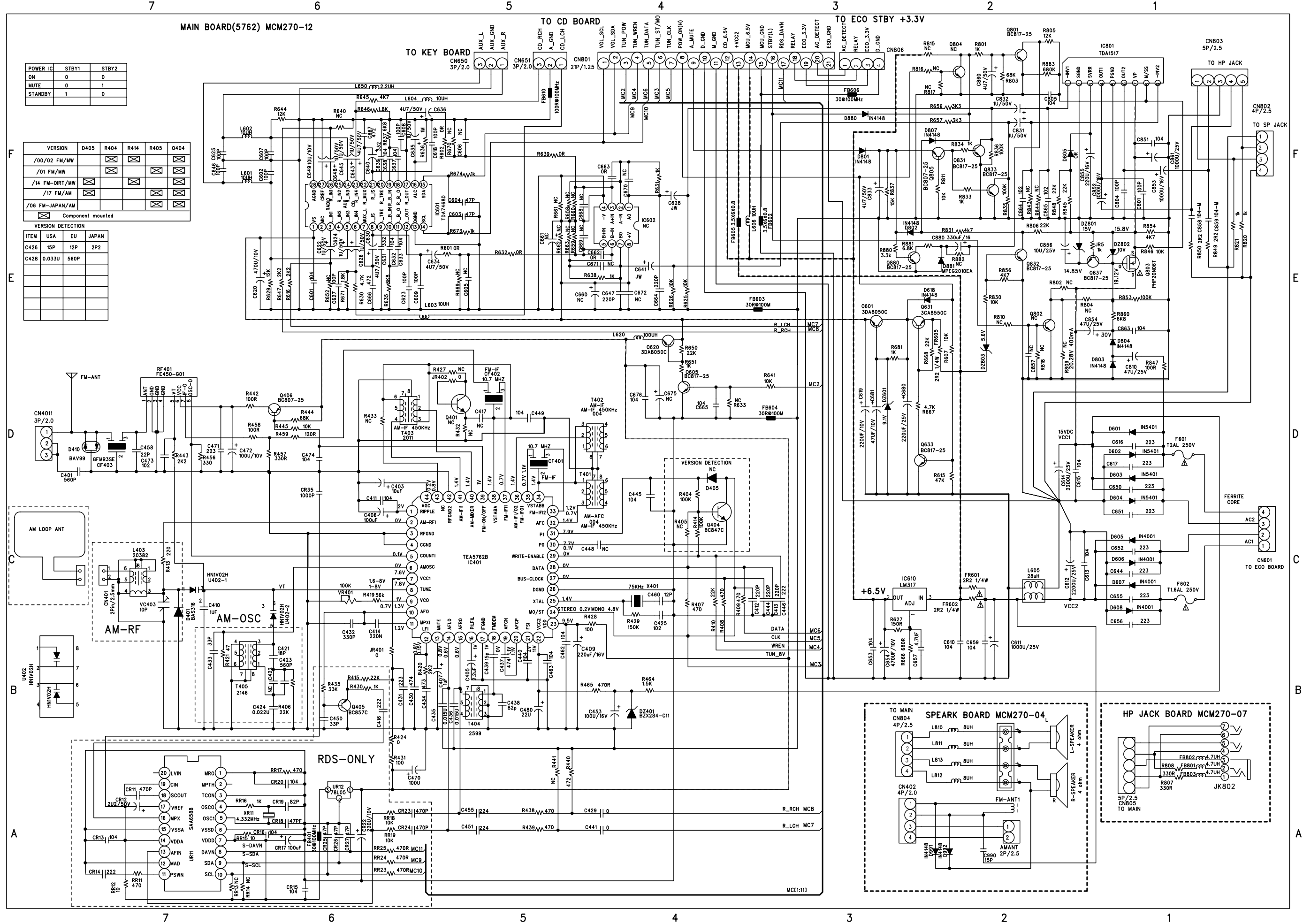
LAYOUT DIAGRAM - MAIN BOARD (5762) for /05/12
TOP SIDE



LAYOUT DIAGRAM - MAIN BOARD (5762) for /05/12
BOTTOM SIDE



CIRCUIT DIAGRAM - MAIN BOARD (5762) for /05/12

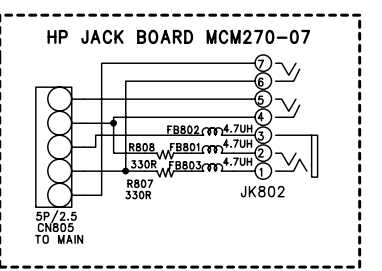
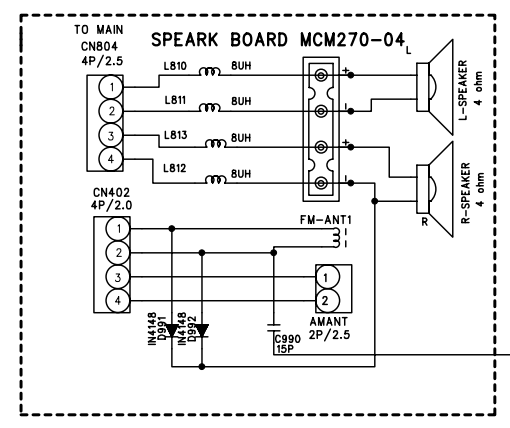
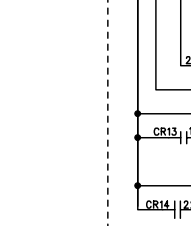
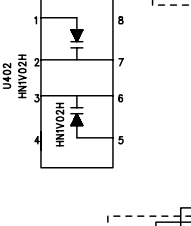
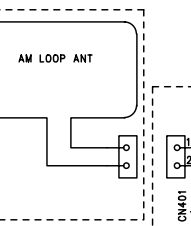
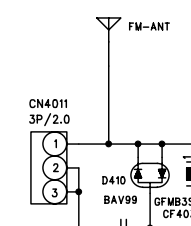


POWER IC	STBY1	STBY2
ON	0	0
MUTE	0	1
STANDBY	1	0

VERSION	D405	R404	R414	R405	Q404
/00/02 FM/MW		☒	☒	☒	☒
/01 FM/MW	☒				
/14 FM-ORT/MW	☒				
/17 FM/AM	☒				
/06 FM-JAPAN/AM					☒

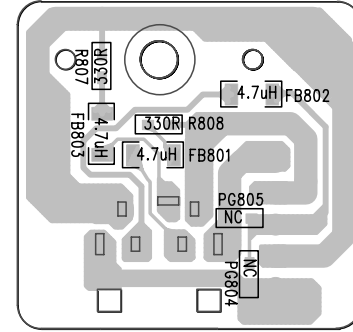
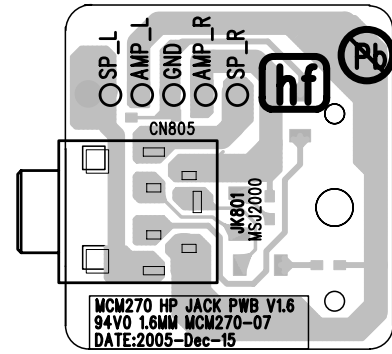
☒ Component mounted

VERSION DETECTION			
ITEM	USA	EU	JAPAN
C426	15P	12P	2P2
C428	0.033u	560P	

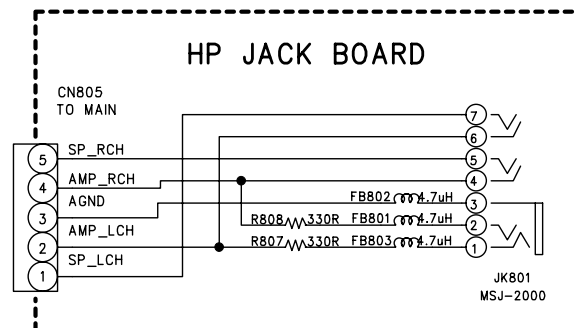


LAYOUT DIAGRAM - HP JACK BOARD
TOP SIDE



LAYOUT DIAGRAM - HP JACK BOARD
BOTTOM SIDE



CIRCUIT DIAGRAM - HP JACK BOARD



ELECTRICAL PARTS LIST - MAIN BOARD

C858	9940 000 04216	CAP MMF HMFS 0.1μF 50V
C859	9940 000 04216	CAP MMF HMFS 0.1μF 50V
CF401	9940 000 02097	FM CER. FILTER 10M7HA00-B0
CF402	9940 000 02097	FM CER. FILTER 10M7HA00-B0
D407	9940 000 04434	VARIABLE DIODE BB804 /98
D408	9940 000 04434	VARIABLE DIODE BB804 /98
D410	9940 000 03334	SW DIODE BAV99
D618	9940 000 03599	DIODE RLS4148 LL-34
D801	9940 000 03599	DIODE RLS4148 LL-34
D802	9940 000 03599	DIODE RLS4148 LL-34
D803	9940 000 03599	DIODE RLS4148 LL-34
D804	9940 000 03599	DIODE RLS4148 LL-34
D807	9940 000 03599	DIODE RLS4148 LL-34
D880	9940 000 03599	DIODE RLS4148 LL-34
D881	9940 000 04422	SCHOTTKY PMEG2010
DZ601	9940 000 04222	ZENER DIODE 9.1V
F601	 9940 000 04229	FUSE PTU 2A 250V
F602	 9940 000 04228	FUSE S506 T1.6AL 250V
FB602	9940 000 04215	FILTER BEAD RH3.5X6X0.8
FB603	9940 000 04215	FILTER BEAD RH3.5X6X0.8
FB605	9940 000 04215	FILTER BEAD RH3.5X6X0.8
FR601	9940 000 04221	FUSE RES 2.2R 1/4W
FR602	9940 000 04221	FUSE RES 2.2R 1/4W
FR604	9940 000 04221	FUSE RES 2.2R 1/4W
FR605	9940 000 04221	FUSE RES 2.2R 1/4W
IC401	9940 000 04235	IC TEA5762H/V1
IC401	9940 000 04428	IC TEA5757H/V1 /98
IC402	9940 000 02096	CAP DIODE HN-1V02H
IC601	9940 000 03304	IC TDA7468D SOUND
IC610	9940 000 04225	IC LM317P
IC801	9940 000 04219	IC TDA1517
JK801	9940 000 03318	HP JACK D3.6MM
L401	9940 000 04429	BOBBIN COIL 1 1/2T /98
L402	9940 000 04429	BOBBIN COIL 1 1/2T /98
L403	9940 000 01212	AM IFT (BLACK) 7MM
L605	9940 000 03311	28μH CORE 6TURNS 715R
L620	9940 000 04226	RAD AXIAL IND. 100μH 3.5R
Q406	9940 000 04427	TRANSISTOR BF550 /98
Q601	9940 000 02707	TRANSISTOR, 3DA8050
Q610	9940 000 02642	TRANSISTOR, 3CA8550

Q631	9940 000 02642	TRANSISTOR, 3CA8550
Q803	9940 000 04218	TRANS PHP20N06T
RF401	9940 000 04237	FM MODULE FE450-G11.
T401	9940 000 04518	AM IFT 7MM C712KC-004
T402	9940 000 04518	AM IFT 7MM C712KC-004
T403	9940 000 01213	AM IFT 7MM
T404	9940 000 04519	FM IFT 7MM KS2599
T405	9940 000 04517	AM OSC 7MM 7M1A2146
UR11	9940 000 04239	IC SAA6588T
UR12	9940 000 04241	IC 78L05 REGULATOR
VC403	9940 000 01615	TRIMMER CAP 10PF N450
VR401	9940 000 04232	VAR RES 100K 3P 1/10W
X401	9940 000 04231	CRYSTAL 75KHZ DT381
XR11	9940 000 04238	CRYSTAL 4.332MHZ

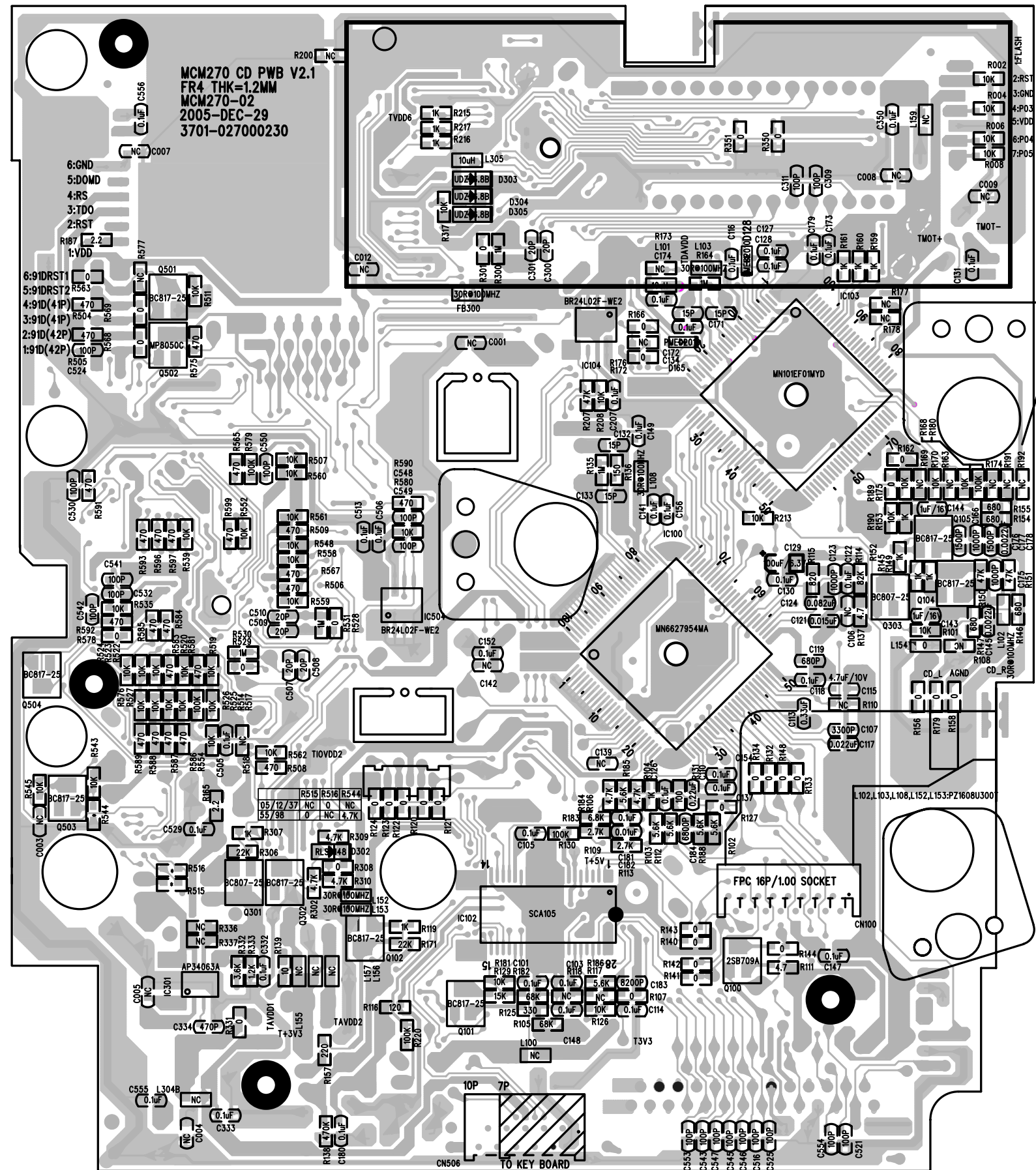
Note: Only these parts mentioned in the list are normal service parts.

CD & MCU BOARD

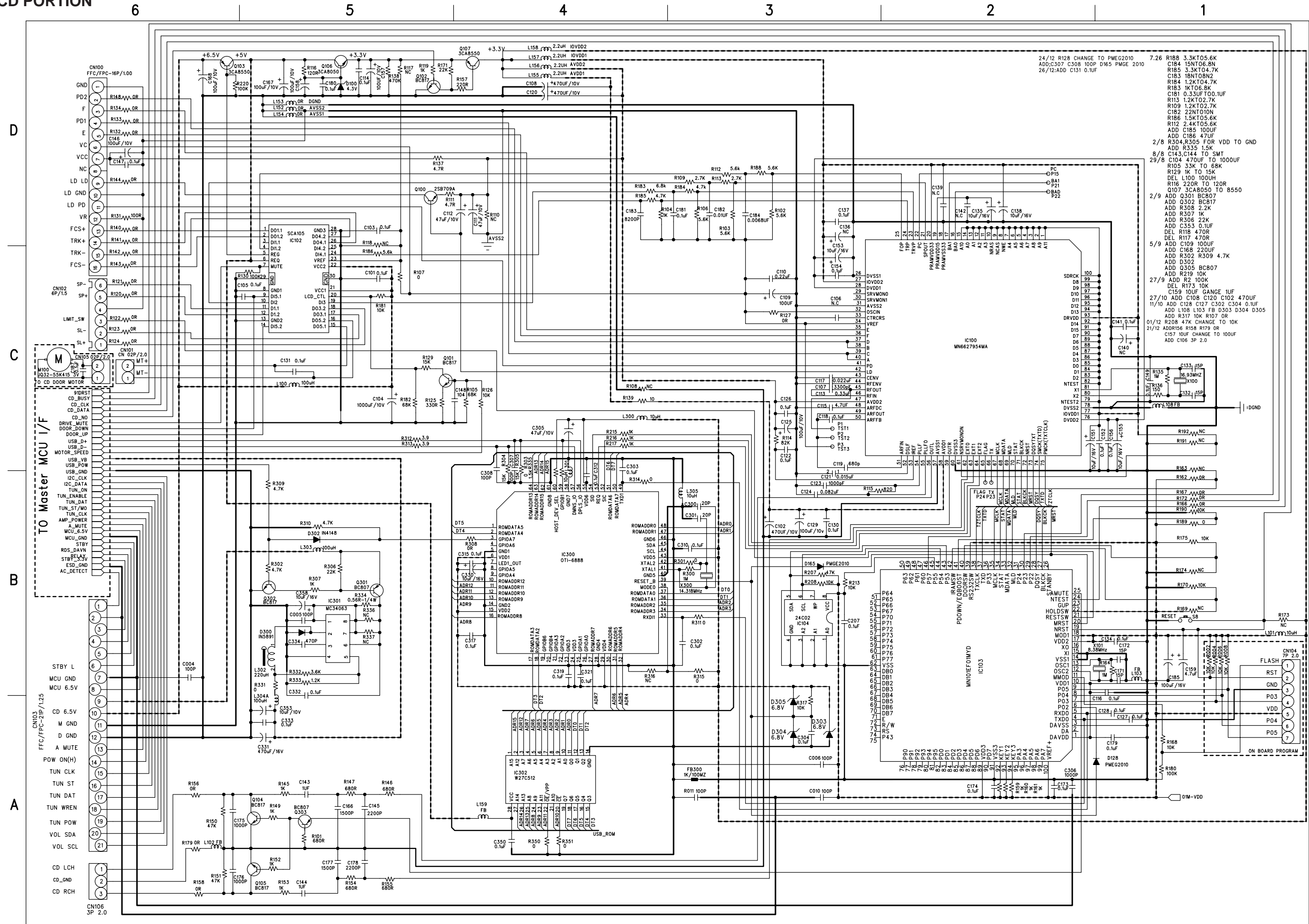
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Circuit Diagram - MCU Part	7-5
Layout Diagram - SW Board	7-6
Electrical Parts List	7-6

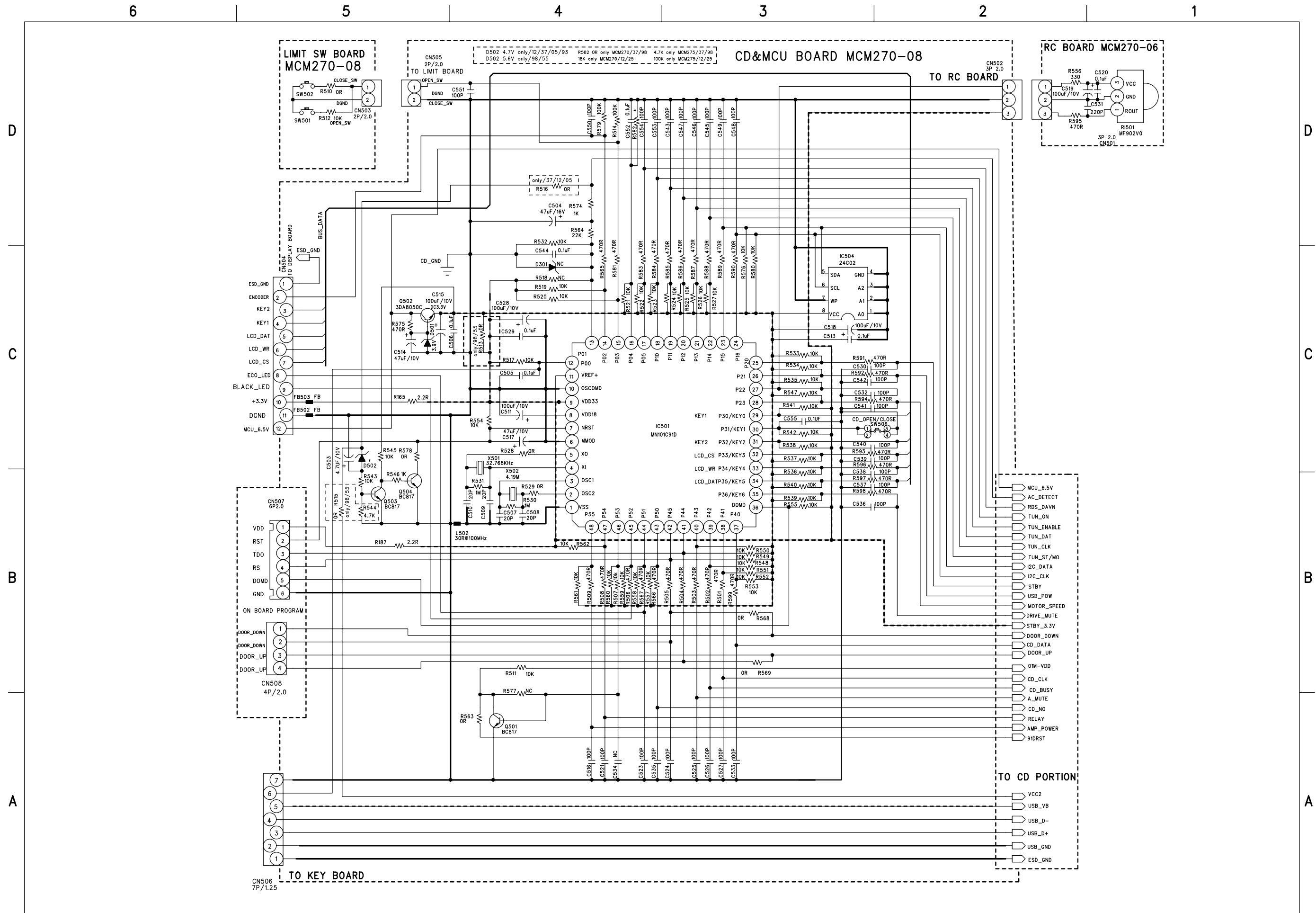
LAYOUT DIAGRAM - CD&MCU BOARD
BOTTOM SIDE



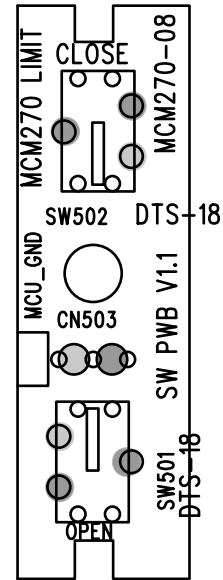
CIRCUIT DIAGRAM - CD&MCU BOARD CD PORTION



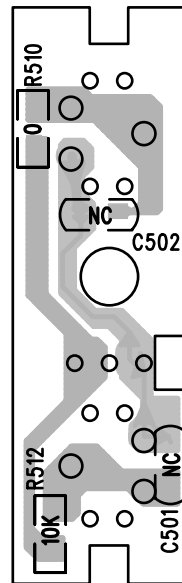
CIRCUIT DIAGRAM - CD&MCU BOARD MCU PORTION



LAYOUT DIAGRAM - SW BOARD
TOP SIDE



LAYOUT DIAGRAM - SW BOARD
BOTTOM SIDE



ELECTRICAL PARTS LIST - CD/MCU BOARD

C129	9940 000 04274	TANT. CAP 100μF 4V
D302	9940 000 03599	DIODE RLS4148 LL-34
D303	9940 000 04285	ZENER DIODE UDZS6.8B UMD2
D304	9940 000 04285	ZENER DIODE UDZS6.8B UMD2
D305	9940 000 04285	ZENER DIODE UDZS6.8B UMD2
IC100	9940 000 04277	IC MN6627954MA DSP
IC102	9940 000 04278	IC SCA105 MOTOR DRIVER
IC103	9940 000 04276	IC MN101EF01MYD MCU
IC104	9940 000 02671	IC, BR24L02F-WE2
IC300	9940 000 04287	IC OTI-6888G USB DECODER
IC301	9940 000 04286	IC AP34063A CONVERTER
IC302	9940 000 04288	IC W27C512-45Z EPROM
IC501	9940 000 04268	IC MN101CF91D MCU
IC504	9940 000 02671	IC, BR24L02F-WE2
L100A	9940 000 04279	RADIAL IND. 1.2R 2.2μH
L155A	9940 000 04279	RADIAL IND. 1.2R 2.2μH
L156A	9940 000 04279	RADIAL IND. 1.2R 2.2μH
L157A	9940 000 04279	RADIAL IND. 1.2R 2.2μH
L302	9940 000 04289	TOROIDAL COIL 220μH
Q100	9940 000 04275	TRANSISTOR 2SB709A
Q103	9940 000 02642	TRANSISTOR, 3CA8550
Q106	9940 000 04224	TRANSISTOR 3DA8050
Q107	9940 000 02642	TRANSISTOR, 3CA8550
Q502	9940 000 03588	TRANSISTOR MPS8050S
SW501	9940 000 04283	DETECT SWITCH DTS-18 1P1T
SW502	9940 000 04283	DETECT SWITCH DTS-18 1P1T
SW708	9940 000 04259	SWITCH TACT
X100	9940 000 04273	CER RESONATOR 16.93MHZ
X101	9940 000 03343	CRYSTAL 8.38MHZ
X300	9940 000 04284	X'TAL 14.318MHZ
X502	9940 000 04266	X'TAL 4.194304MHZ 30PF

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

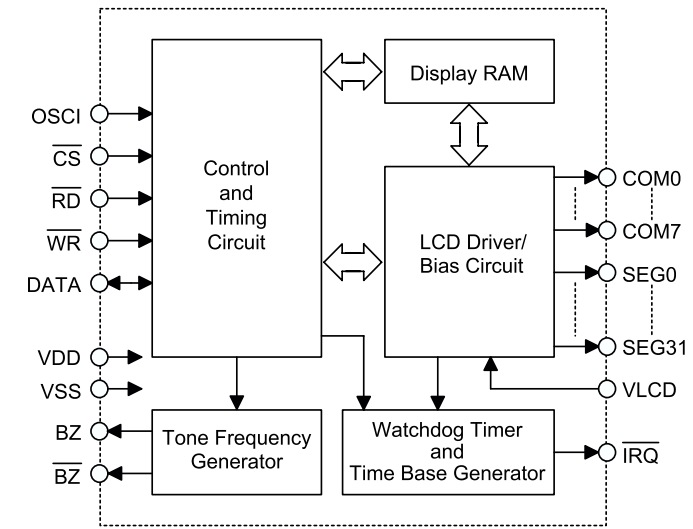
AC POWER BOARD

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 Display Board 8-5
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 Speaker & Ant Board 8-7
 Electrical Parts List 8-8

**IC BLOCK DIAGRAM - LCD DRIVER
HT1622**

Block Diagram

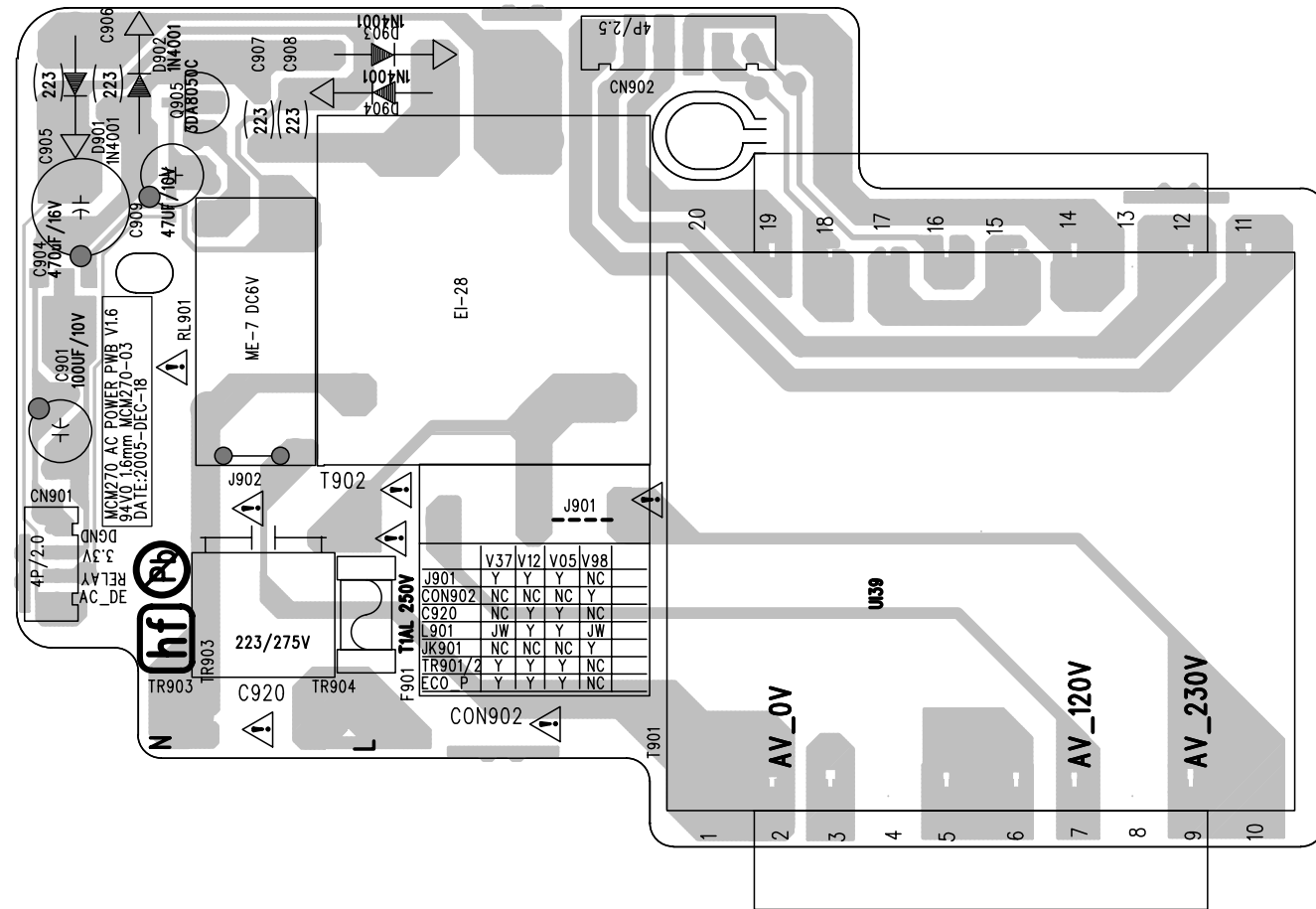


**PIN DESCRIPTION - LCD DRIVER
HT1622**

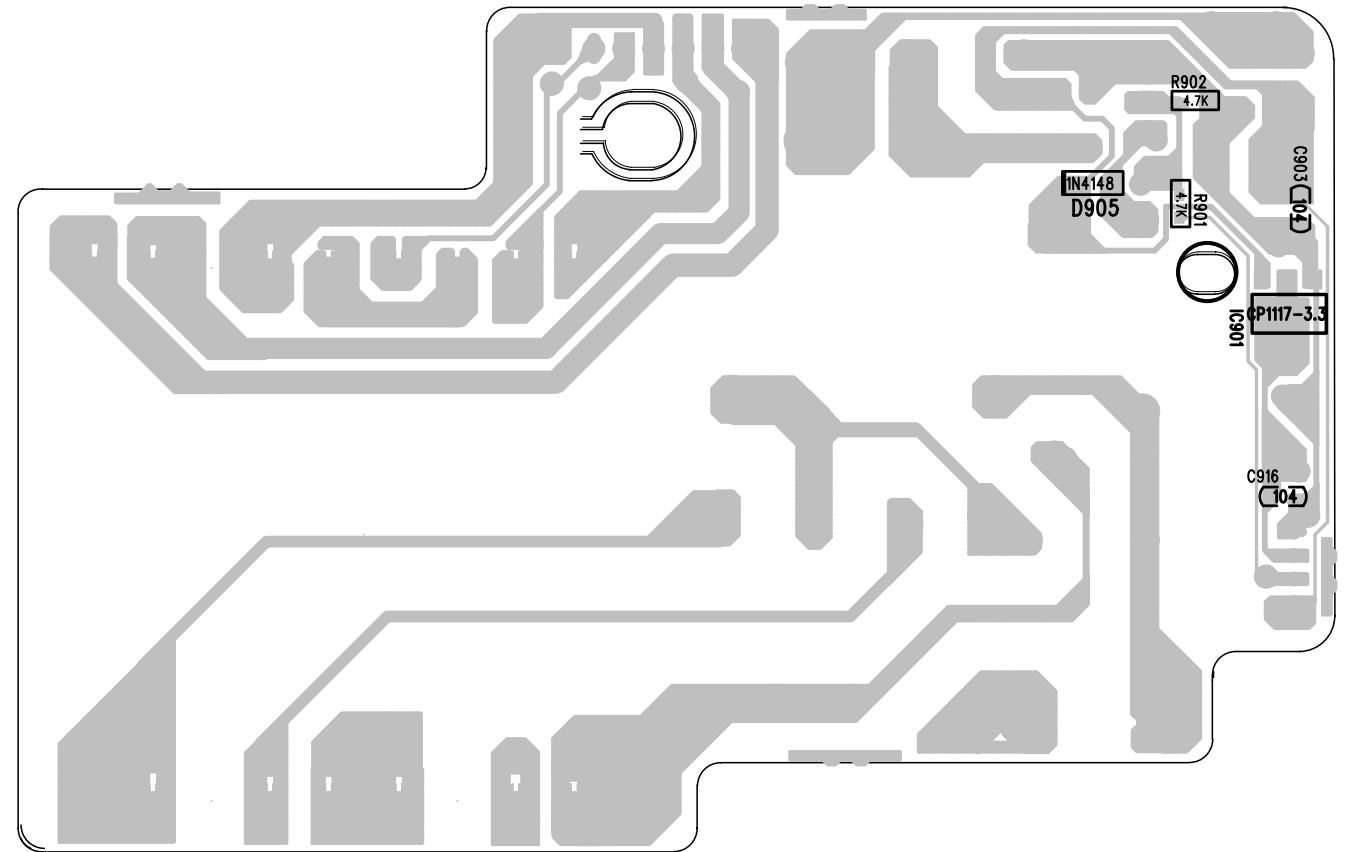
Pad Description

Pad No.	Pad Name	I/O	Description
1	\overline{CS}	I	Chip selection input with Pull-high resistor. When the \overline{CS} is logic high, the data and command read from or written to the HT1622 are disabled. The serial interface circuit is also reset. But if \overline{CS} is at logic low level and is input to the \overline{CS} pad, the data and command transmission between the host controller and the HT1622 are all enabled.
2	\overline{RD}	I	READ clock input with Pull-high resistor. Data in the RAM of the HT1622 are clocked out on the rising edge of the \overline{RD} signal. The clocked out data will appear on the data line. The host controller can use the next falling edge to latch the clocked out data.
3	\overline{WR}	I	WRITE clock input with Pull-high resistor. Data on the DATA line are latched into the HT1622 on the rising edge of the \overline{WR} signal.
4	DATA	I/O	Serial data input/output with Pull-high resistor
5	VSS	—	Negative power supply, ground
6	OSCI	I	If the system clock comes from an external clock source, the external clock source should be connected to the OSCI pad.
7	VDD	—	Positive power supply
8	VLCD	I	LCD operating voltage input pad
9	\overline{IRQ}	O	Time base or Watchdog Timer overflow flag, NMOS open drain output
10, 11	BZ, \overline{BZ}	O	2kHz or 4kHz tone frequency output pair
12~14	T1~T3	I	Not connected
15~22	COM0~COM7	O	LCD common outputs
23~54	SEG0~SEG31	O	LCD segment outputs

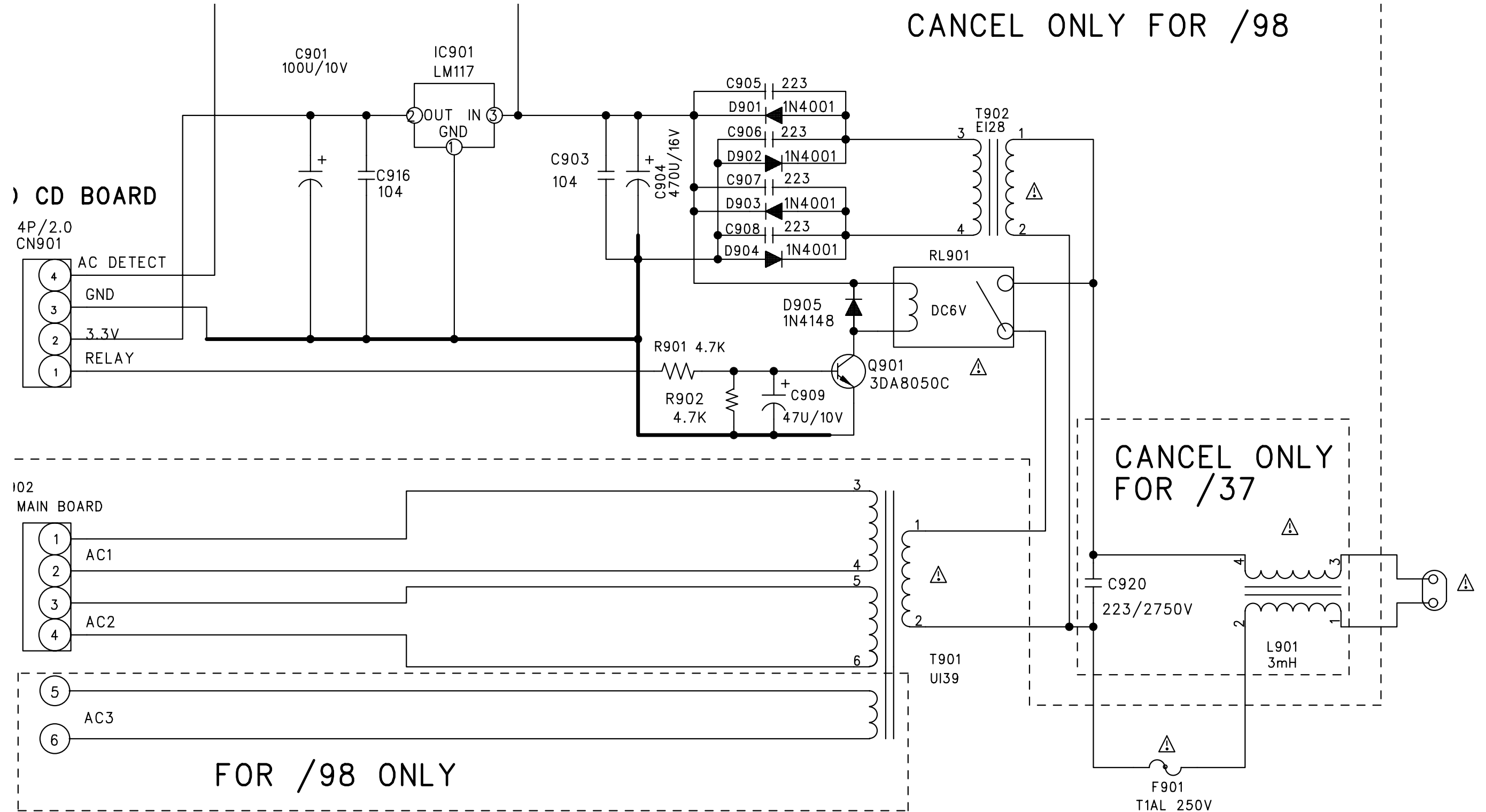
LAYOUT DIAGRAM - AC POWER BOARD
TOP SIDE



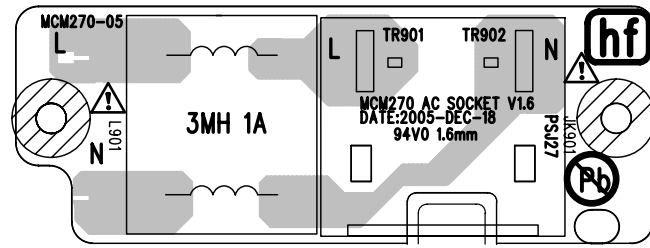
LAYOUT DIAGRAM - AC POWER BOARD
BOTTOM SIDE



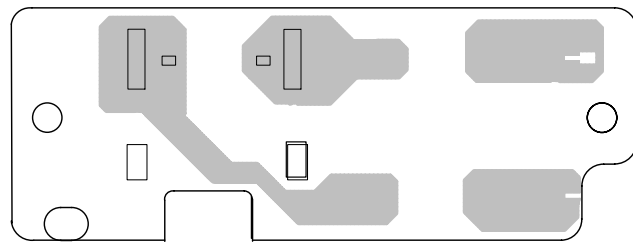
CIRCUIT DIAGRAM - AC POWER BOARD



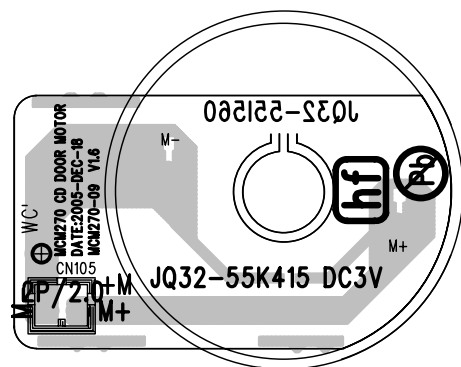
LAYOUT DIAGRAM - AC SOCKET BOARD
TOP SIDE



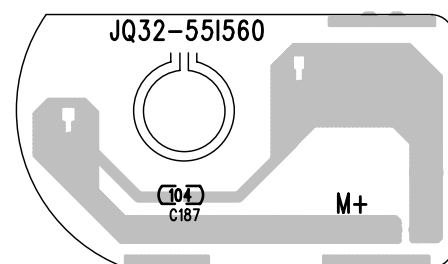
LAYOUT DIAGRAM - AC SOCKET BOARD
BOTTOM SIDE



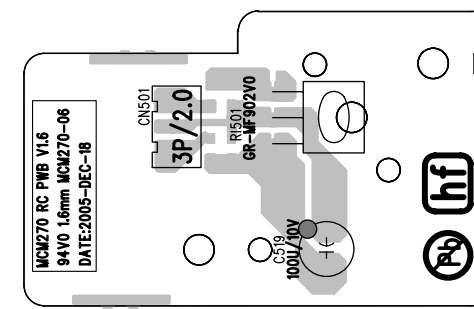
LAYOUT DIAGRAM - DOOR MOTOR BOARD
TOP SIDE



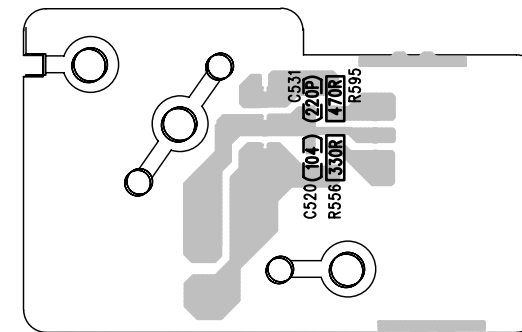
LAYOUT DIAGRAM - DOOR MOTOR BOARD
BOTTOM SIDE



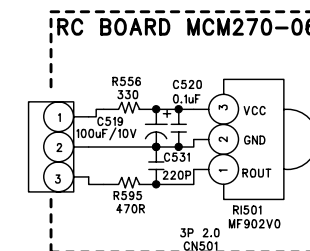
LAYOUT DIAGRAM - RC BOARD
TOP SIDE



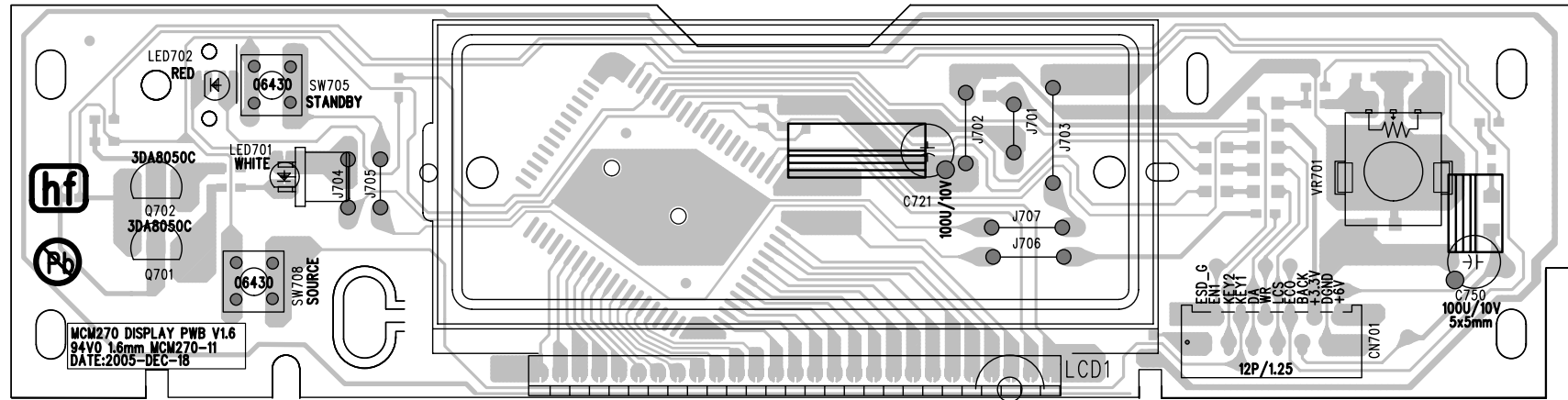
LAYOUT DIAGRAM - RC BOARD
BOTTOM SIDE



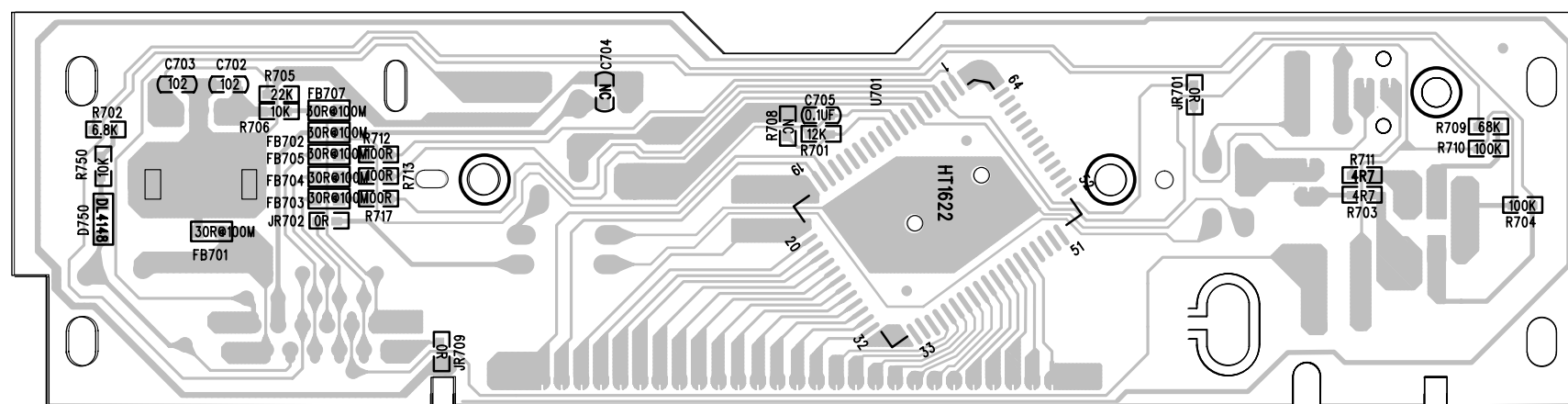
CIRCUIT DIAGRAM - RC BOARD



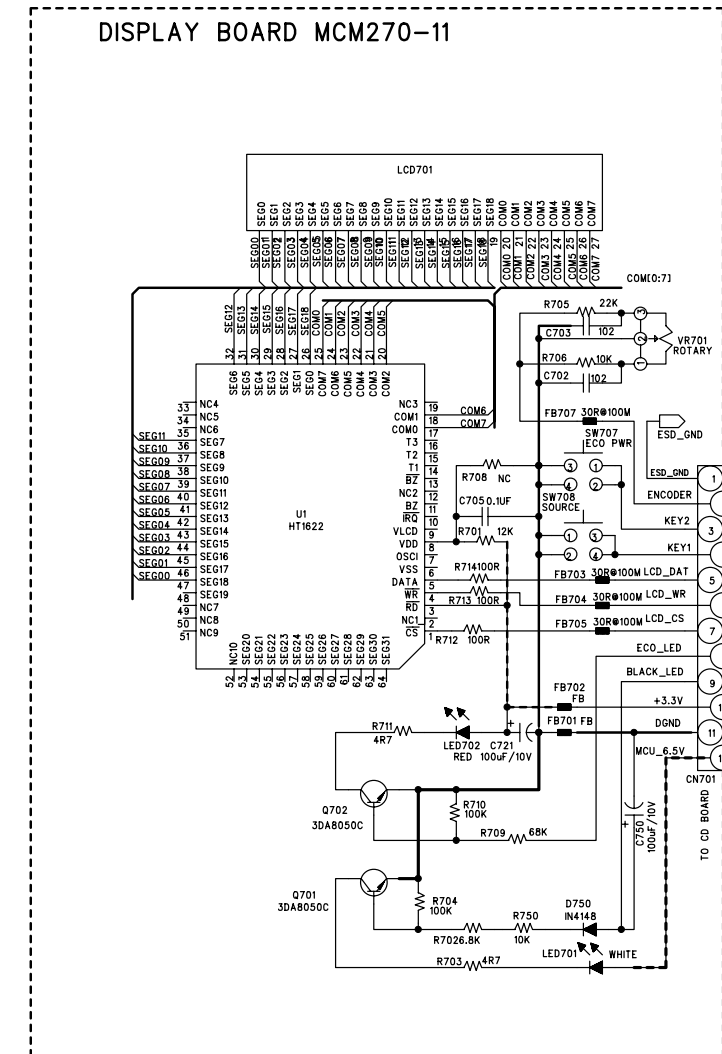
LAYOUT DIAGRAM - DISPLAY BOARD
TOP SIDE



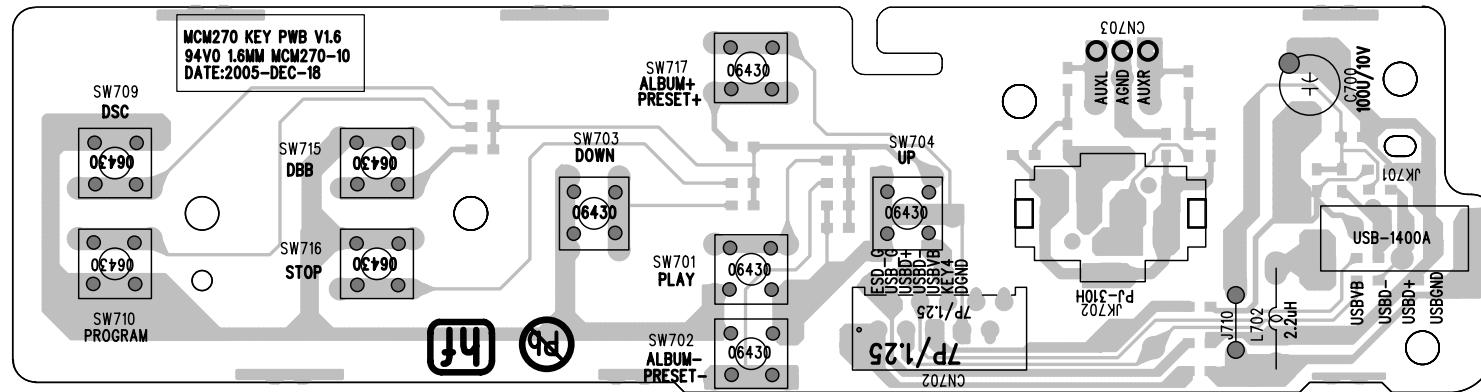
LAYOUT DIAGRAM - DISPLAY BOARD
BOTTOM SIDE



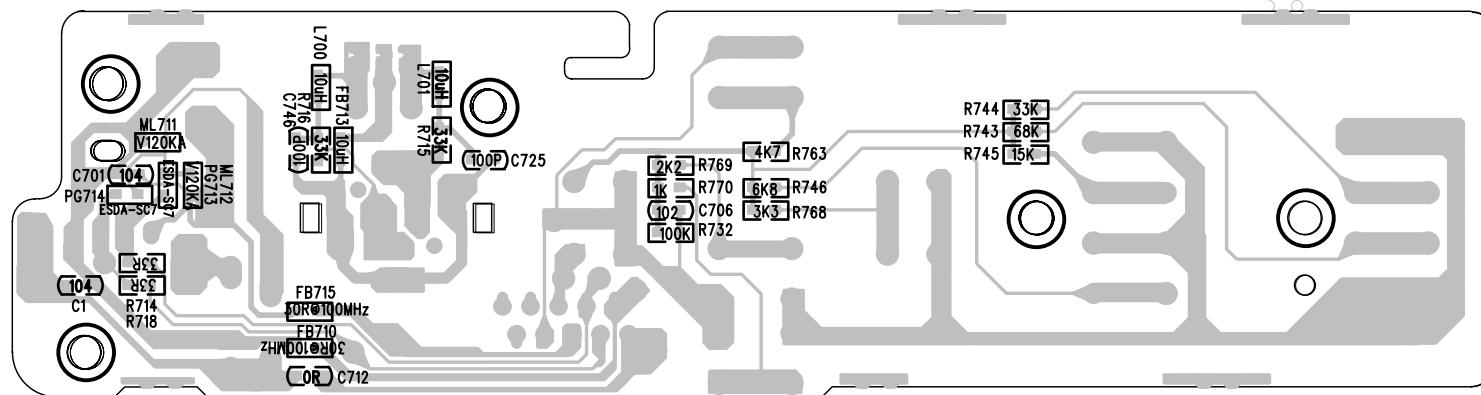
CIRCUIT DIAGRAM - DISPLAY BOARD



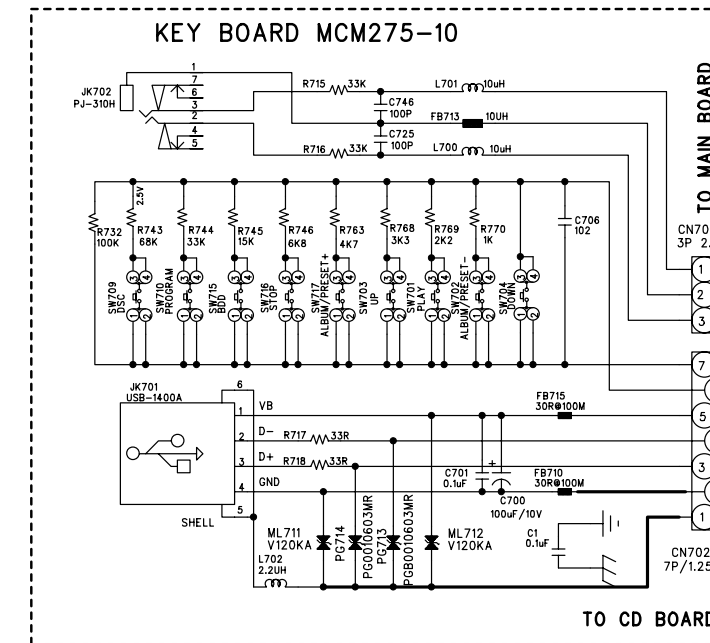
LAYOUT DIAGRAM - KEY BOARD
TOP SIDE



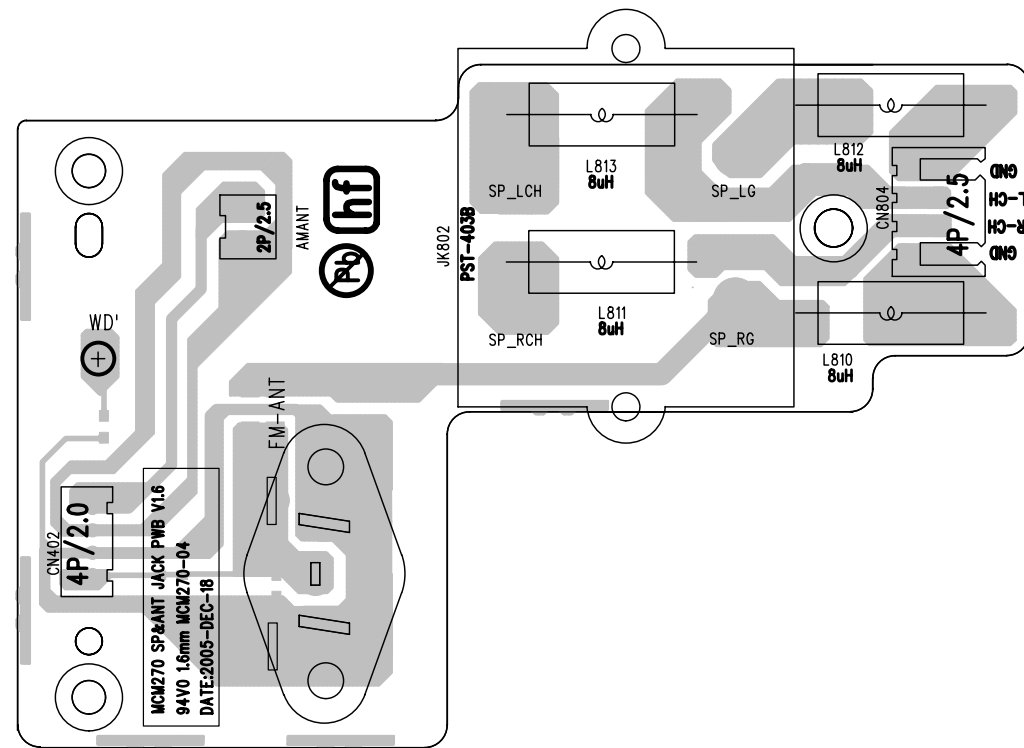
LAYOUT DIAGRAM - KEY BOARD
BOTTOM SIDE



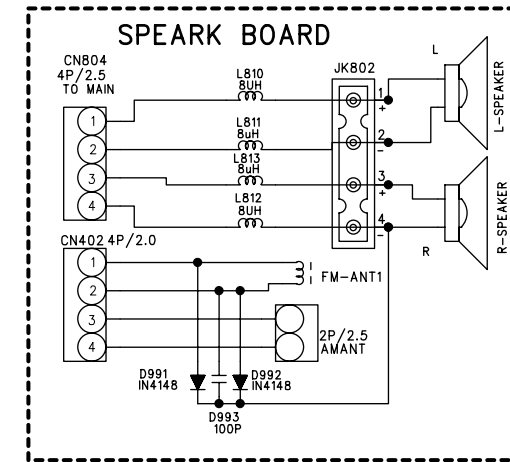
CIRCUIT DIAGRAM - KEY BOARD



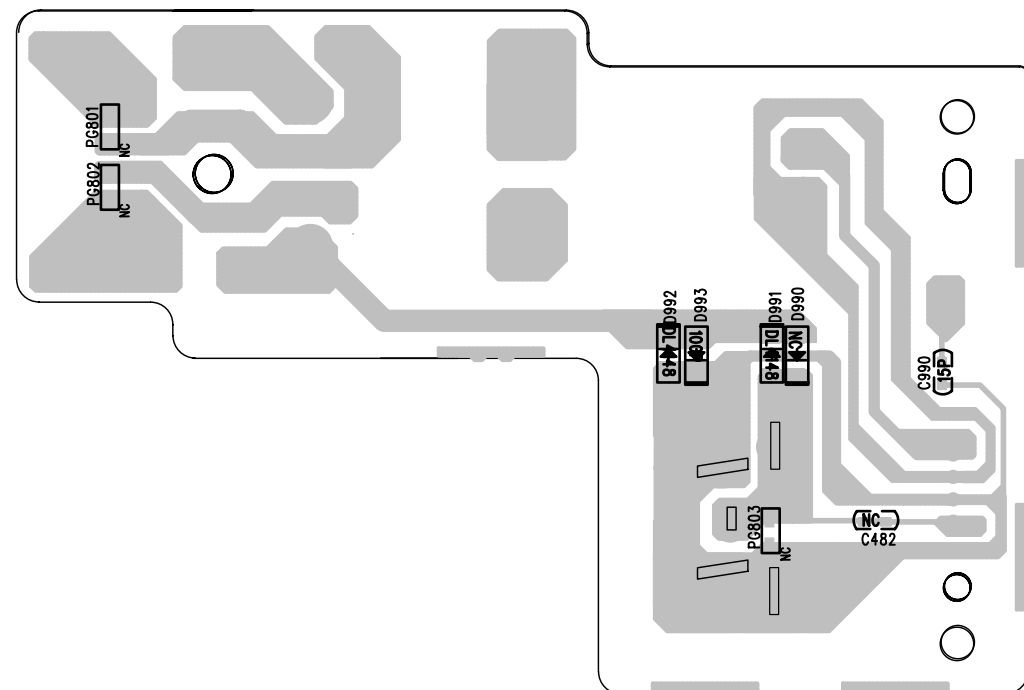
LAYOUT DIAGRAM - SP & ANT BOARD
TOP SIDE



CIRCUIT DIAGRAM - SP & ANT BOARD



LAYOUT DIAGRAM - SP & ANT BOARD
BOTTOM SIDE



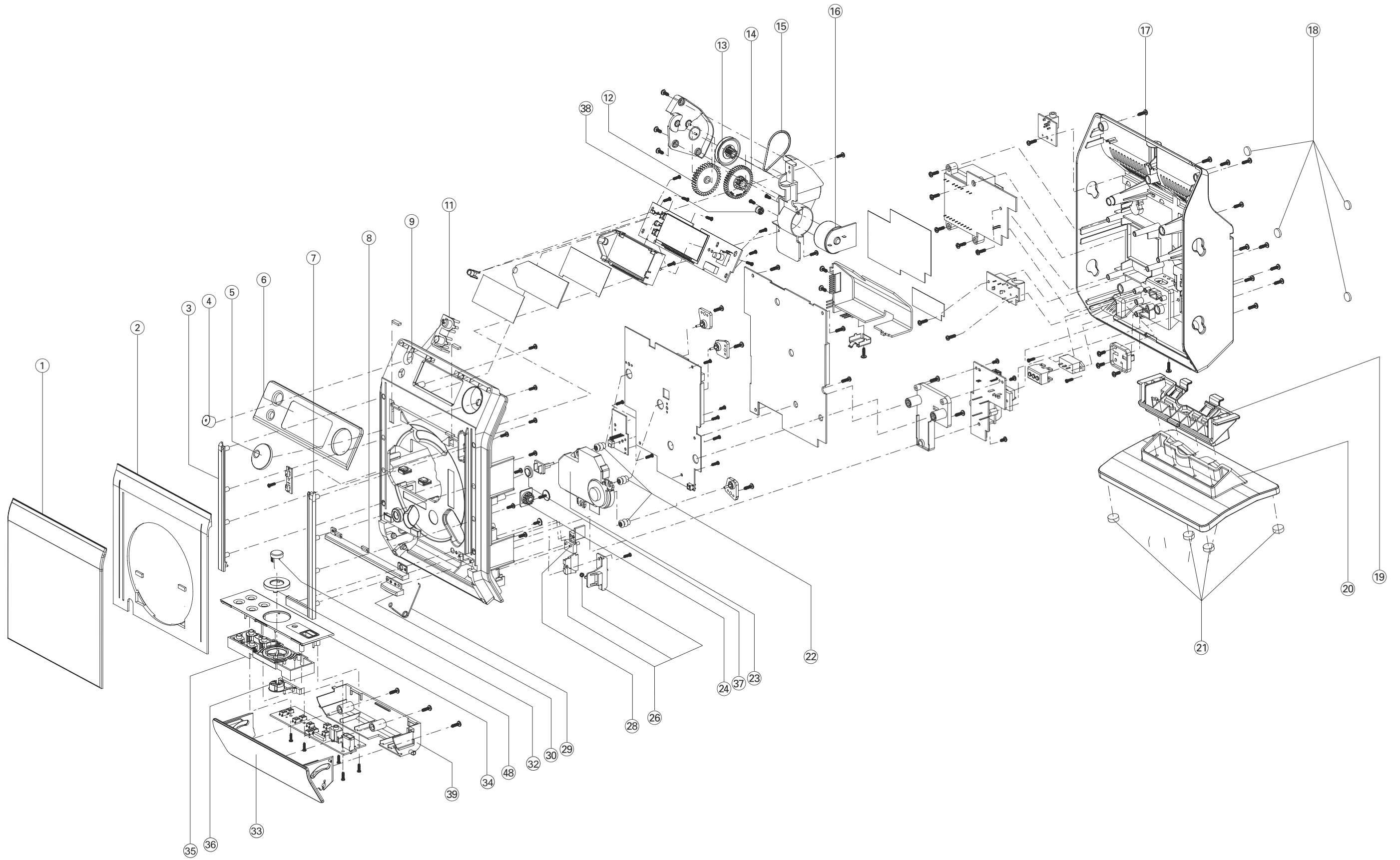
ELECTRICAL PARTS LIST - AC POWER BOARD

D750	9940 000 03599	DIODE RLS4148 LL-34
D905	9940 000 03599	DIODE RLS4148 LL-34
D991	9940 000 03599	DIODE RLS4148 LL-34
D992	9940 000 03599	DIODE RLS4148 LL-34
FMANT	9940 000 04249	RCA JACK RCA-125
IC701	9940 000 04256	IC HT1622 LCD DRIVER
IC901	9940 000 02672	IC, CP1117-3.3 REGULATOR
JK701	9940 000 04263	USB JACK USB-1400A 4P
JK702	9940 000 04261	D3.5 STEREO JACK WHITE
JK802	9940 000 04248	SPEAKER TERMINAL PST-403B-01
L810	9940 000 04247	RADIAL AXIAL IND. 8.0μH 60MR
L811	9940 000 04247	RADIAL AXIAL IND. 8.0μH 60MR
L812	9940 000 04247	RADIAL AXIAL IND. 8.0μH 60MR
L813	9940 000 04247	RADIAL AXIAL IND. 8.0μH 60MR
L901	9940 000 02657	AC LINE FILTER 3MH 1A
LCD701	9940 000 04257	LCD DISPLAY 1/8 DUTY 1/4 STN
LED701	9940 000 04254	LED 4MM WHITE
LED702	9940 000 02115	LED 3MM 3R4HD-7(RE D)
M100	9940 000 04253	DC MOTOR JQ32-55K415 DC3V
ML711	9940 000 04264	MULT. VAR. 10.6-15.4V
ML712	9940 000 04264	MULT. VAR. 10.6-15.4V
PG713	9940 000 04265	PULSE GUARD
PG714	9940 000 04265	PULSE GUARD
Q701	9940 000 02707	TRANSISTOR, 3DA8050
Q702	9940 000 02707	TRANSISTOR, 3DA8050
Q905	9940 000 02707	TRANSISTOR, 3DA8050
RI501	9965 100 01366	IR SENSOR FM-6038TM2-5AN
RL901	9940 000 04246	RELAY ME-7-006-HSL DC6V AC10A
SW701	9940 000 04259	SWITCH TACT
SW702	9940 000 04259	SWITCH TACT
SW703	9940 000 04259	SWITCH TACT
SW704	9940 000 04259	SWITCH TACT
SW705	9940 000 04259	SWITCH TACT
SW709	9940 000 04259	SWITCH TACT
SW710	9940 000 04259	SWITCH TACT
SW715	9940 000 04259	SWITCH TACT
SW716	9940 000 04259	SWITCH TACT
SW717	9940 000 04259	SWITCH TACT
	9940 000 04432	VOL SEL SW 110/220V /98
	9940 000 04433	AC POWER SOCKET 2P /98

VR701	9940 000 04258	ROTARY ENCODER
	9940 000 04251	EC TERMINAL 1P
F901	⚠ 9940 000 04243	FUSE PTU 1A 250V 3.9X10.5MM /37/98
RL901	⚠ 9940 000 04246	RELAY DC6V AC10A /05/12/37
T901	⚠ 9940 000 04244	POWER TRASFO AC230V /05/12
T902	⚠ 9940 000 04245	POWER TRASFO AC230V /05/12
T901	⚠ 9940 000 04431	POWER TRASFO AC115/230V /98

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

SET MECHANICAL EXPLODED VIEW





MECHANICAL & ACCESSORIES PART SLIST

1	9940 000 04295	LENS-CD DOOR /05/12
1	9940 000 04417	LENS-CD DOOR /37/98
2	9940 000 04294	DOOR-CD
3	9940 000 04296	HOLDER CD DOOR CARRIER (L)
4	9940 000 04302	COVER POWER BUTTON
5	9940 000 04305	KNOB-VOLUME
6	9940 000 04299	LENS DISPLAY /12/05
6	9940 000 04418	LENS DISPLAY /37/98
7	9940 000 04297	HOLDER CD DOOR CARRIER (R)
8	9940 000 04306	LENS BAR
9	9940 000 04293	CABINET FRONT
11	9940 000 04303	BUTTON POWER/SOURCE
12	9940 000 04319	GEAR WHEEL C
13	9940 000 04317	GEAR WHEEL A
14	9940 000 04318	GEAR WHEEL B
15	9940 000 04325	BELT MOTOR
17	9940 000 04292	CABINET REAR
17	9940 000 04416	CABINET REAR /37
17	9940 000 04435	CABINET REAR /98
18	9940 000 04327	RUBBER A (DIA.10X2)
19	9940 000 06480	STAND PORTION
21	9940 000 04326	RUBBER FOOT (DIA.12X4)
22	9940 000 04323	CD DAMPER (BLACK) 20DEG
23	9940 000 04282	CD MECHANISM KSM900AAA
24	9940 000 01664	DAMPER GEAR ASSEMBLY
26	9940 000 05312	CATCH ASSEMBLY
28	9940 000 04304	BRACKET OPEN/CLOSE BUTTON
29	9940 000 04324	SPRING CONTROL PANEL
30	9940 000 04307	BUTTON OPEN/CLOSE
31	9940 000 04315	COVER PLAY BUTTON
32	9940 000 04309	BUTTON FW/FF
33	9940 000 04419	PANEL FUNCTION /55/93/98/BK
33	9965 100 06479	PANEL FUNCTION /05/12/37
34	9940 000 04313	COVER FUNCTION PANEL
35	9940 000 04311	BUTTON FUNCTION
36	9940 000 04308	BUTTON PLAY
37	9940 000 04333	IR LENS
38	9940 000 04316	PULLEY SERVO MOTOR
39	9940 000 04314	BRACKET FUNCTION PANEL

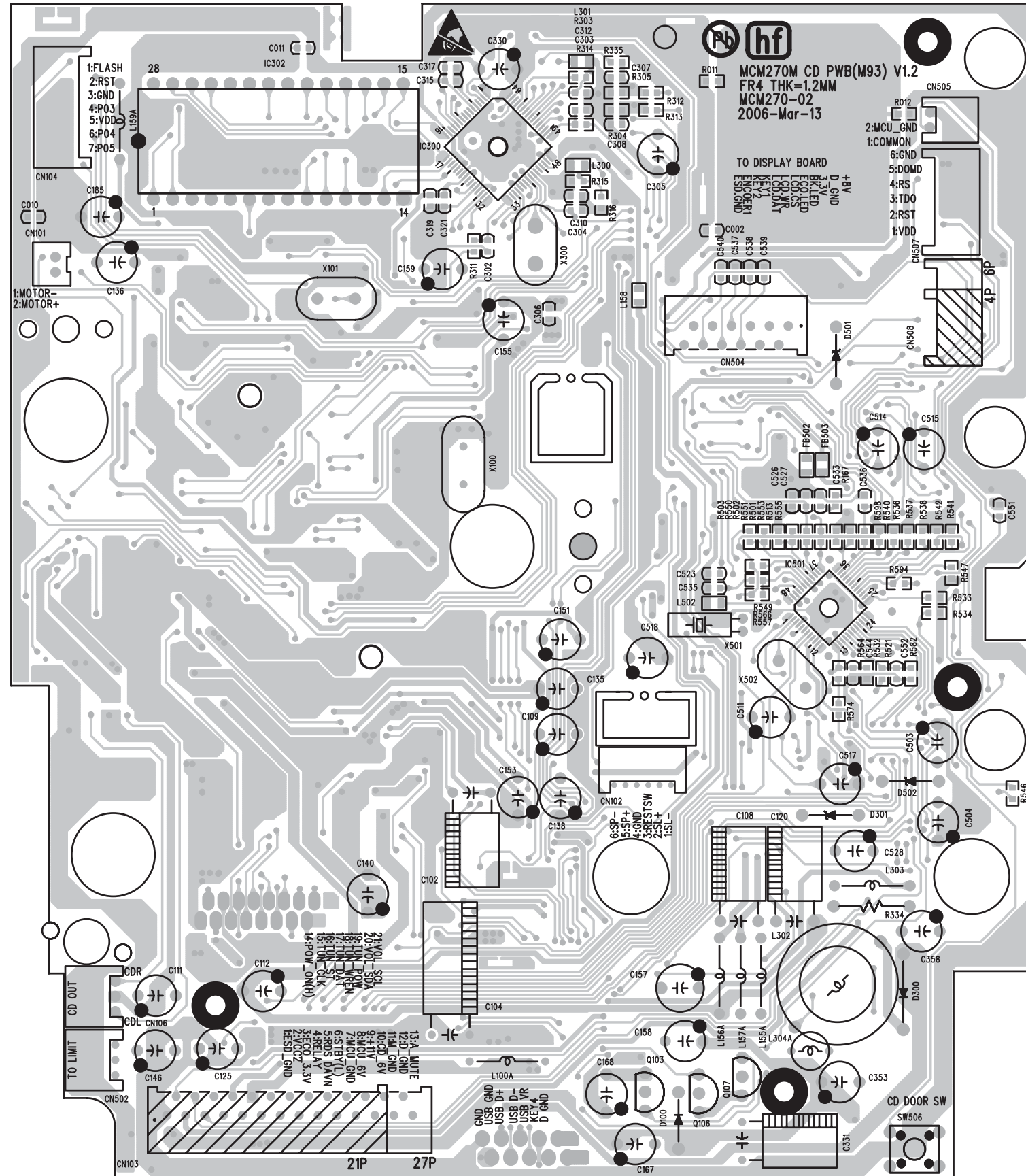
Note: Only these parts mentioned in the list are normal service parts.

ELECTRICAL PARTSLIST - MISCELLANEOUS

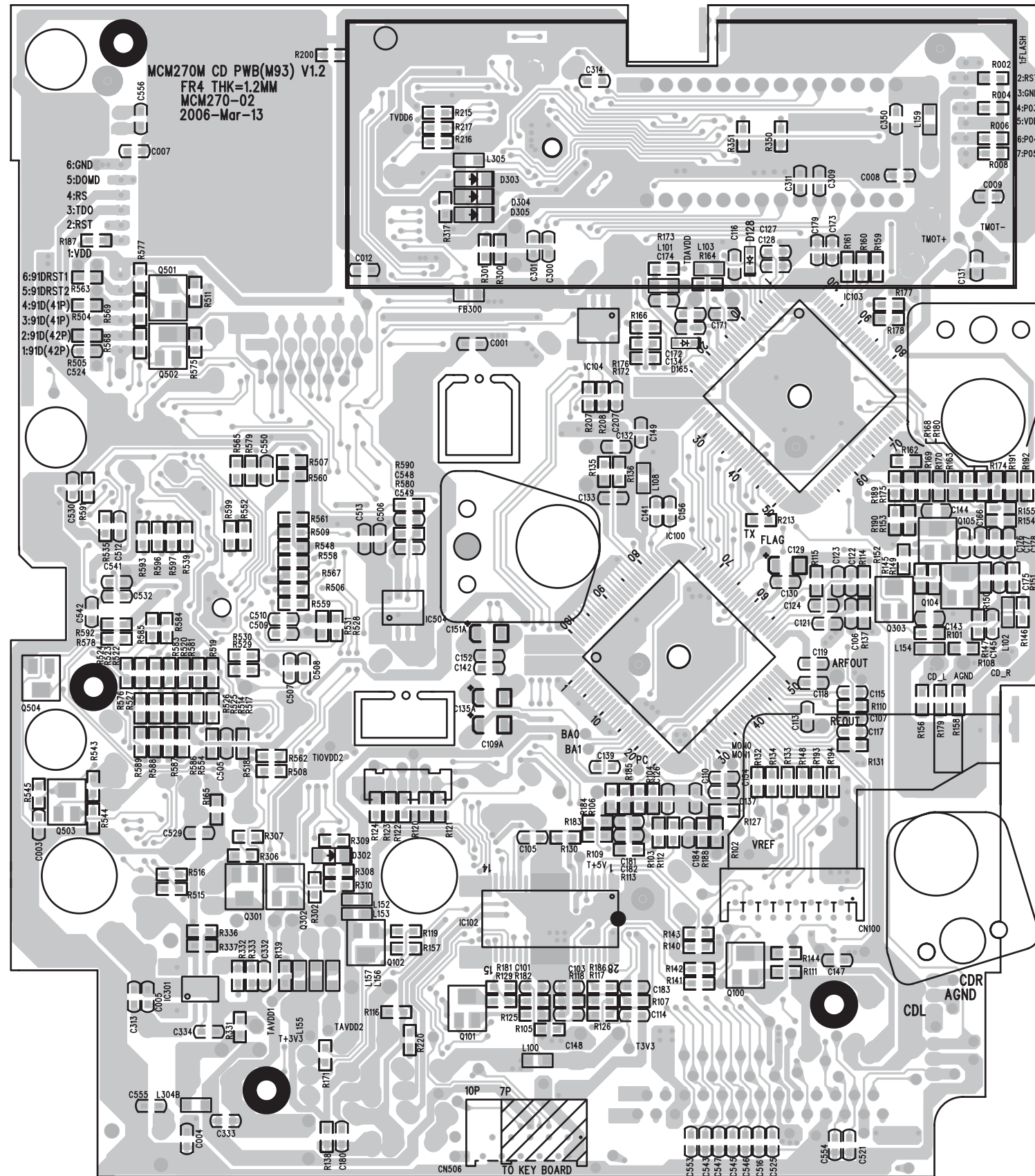
T901		9940 000 04521	TRASFO AC120V 60HZ /37
T902		9940 000 04522	TRASFO AC120V 60HZ /37
		9940 000 01675	POWER AC WIRE VDE 230V /12
		9940 000 02082	AC CORD 1.5M 2.5A 250V /98
		9940 000 02223	POWER AC WIRE BSI /05
		9940 000 04262	FFC 7P P1.25MM L155MM /37/98
		9940 000 04262	FFC 7P P1.25MM L155MM /37
		9940 000 04271	FFC 12PIN P1.25MM L95MM
		9940 000 04281	FFC 21P P1.25MM L110MM
		9940 000 04413	MAIN PWB ASSEMBLY /37
		9940 000 04414	AC POWER ASSEMBLY /37
20		9940 000 04415	CD/MCU PWB ASSEMBLY /37

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

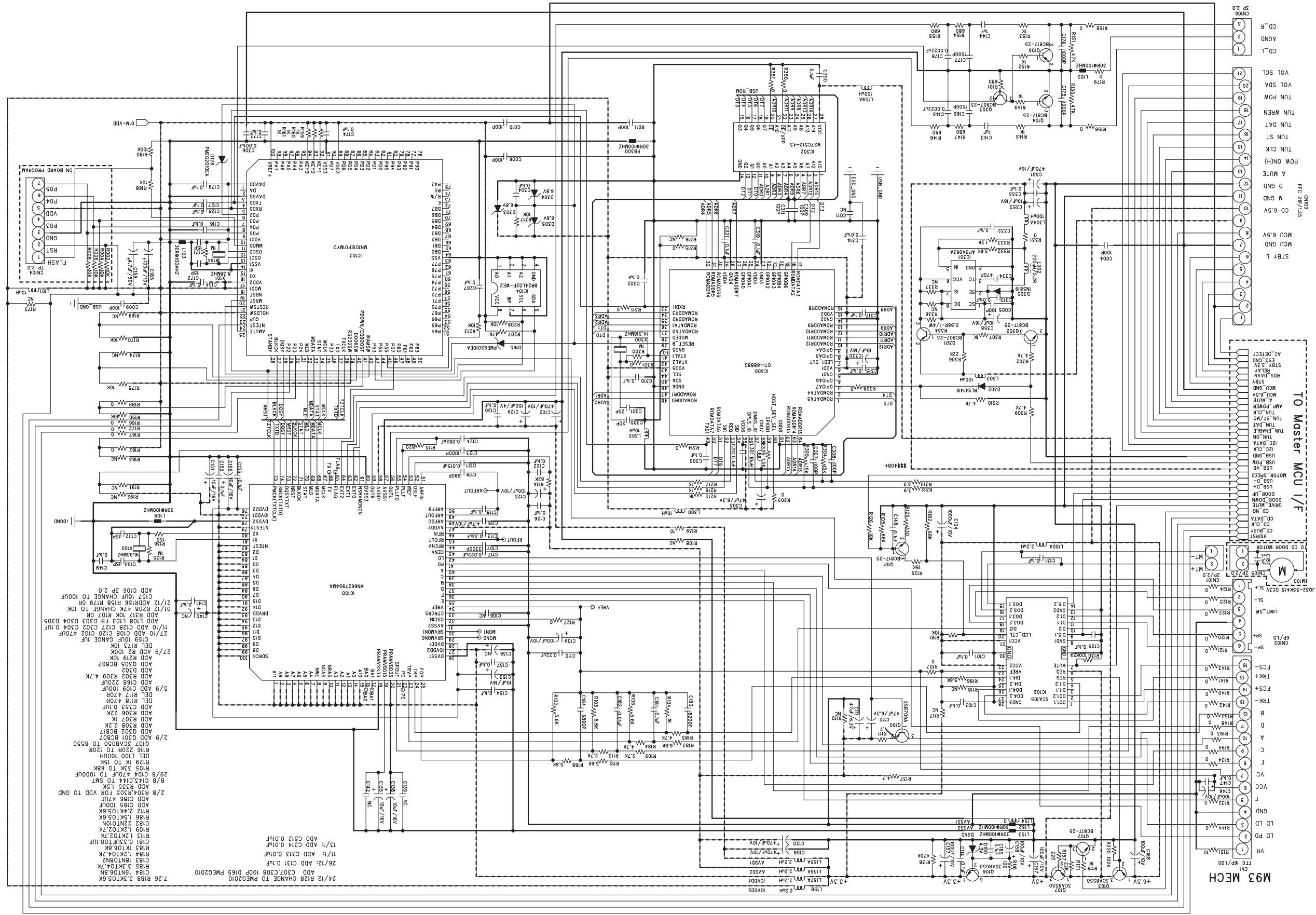
LAYOUT DIAGRAM - CD&MCU BOARD
TOP VIEW



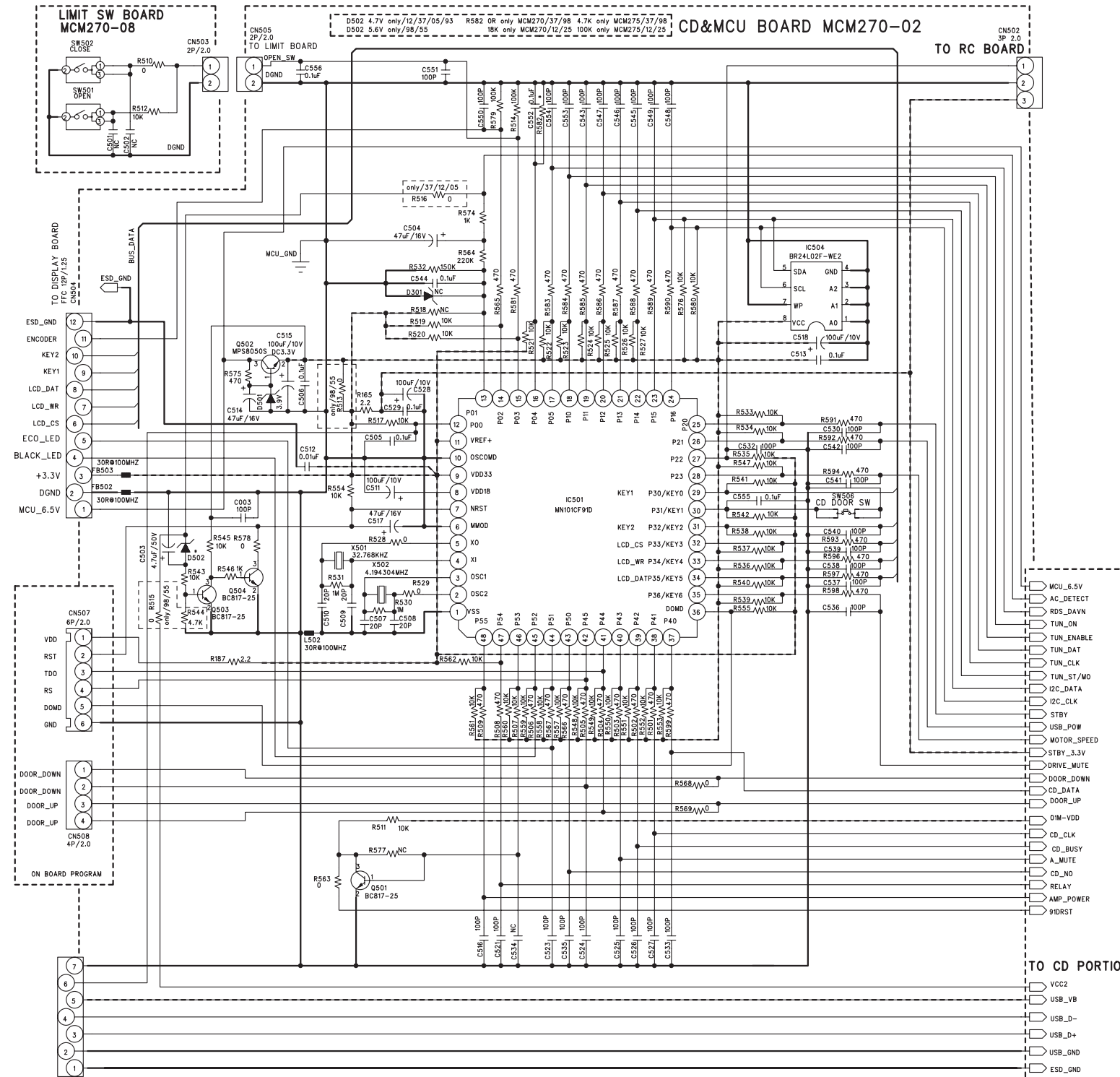
LAYOUT DIAGRAM - CD&MCU BOARD BOTTOM VIEW



CIRCUIT DIAGRAM - CD&MCU BOARD CD PORTION



CIRCUIT DIAGRAM - CD&MCU BOARD MCU PORTION



- TO KEY BOARD**
- | | | | |
|------------|--|------------------------------|--------------------------------|
| CN506 | 05/07/04 R538 R539 3.3K TO OR, DEL R530 R531 | ADD R532 4.7K | 12/08 ADD C503 0504 |
| FFC 7P/128 | 7/27 DEL L502 L503 | ADD D301 3.3V | ADD: R543 R545 10K |
| | 2/8 ADD L702 2.2UH | DEL R518 10K | ADD: R578 OR R546 1K |
| | 3/8: FB711/712 CHANGE TO ML711/712 | C544 100P CHANGE TO 0.1UF | ADD: R568 R569 OR |
| | 3/8: FB713/714 CHANGE TO PG713/714 | R564 NC TO 22K | R507 OR CHANGE TO 10K |
| | 3/8: C712 CHANGE TO OR | 9/10 R532 2.2K CHANGE TO 10K | 21/12 ADD CN703 3P 2.0 |
| | 31/8 R512 10K CHANGE TO OR | DEL R507 470R | CN702 CN506 10P CHANGE 7P |
| | DEL R582 470R | R702 33K CHANGE TO 6.8K | 24/12 ADD R65 R187 2.2R |
| | DEL C542 100P | ADD R707 10K | 26/12: ADD C555 0.1UF |
| | 2/9 DEL R564 22K | ADD C707 100UF/10 | 18/1: R564 22K TO 220K |
| | ADD CN508 4P/2.0 | ADD D750 4148 | R532 10K TO 150K |
| | 18/9 ADD R715 R716 33K | 11/10 DEL L503 | 21/1: R535 Change to STBY-3.3V |
| | ADD R717 R718 33R | ADD C504 47UF R574 1K | |

ELECTRICAL PARTS LIST - CD & MCU BOARD (ONLY FOR CDM DAYANG M93)

D128	994000004422	SCHOTTKY, PMEG2010
D165	994000004422	SCHOTTKY, PMEG2010
D302	996510000271	DIODE RLS4148 LL-34
D303	994000004285	ZENER DIODE UDZS6.8B UMD2
D304	994000004285	ZENER DIODE UDZS6.8B UMD2
D305	994000004285	ZENER DIODE UDZS6.8B UMD2
IC100	996500041888	IC MN6627954MA DSP
IC102	994000004278	IC SCA105 MOTOR DRIVER
IC103	996500041890	IC MN101E01J TA MASKING
IC104	994000005674	IC BR24L02F-WE2
IC300	994000004287	IC OTI-6888G USB DECODER
IC301	994000004286	IC AP34063A CONVERTER
IC302	994000004288	IC W27C512-45Z EPROM
IC501	996510006486	IC MN101CF91D MCU TQFP048
IC504	994000005674	IC BR24L02F-WE2
L100A	994000004279	RADIAL IND. 1.2R 2.2UH +/-5%
L155A	994000004279	RADIAL IND. 1.2R 2.2UH +/-5%
L156A	994000004279	RADIAL IND. 1.2R 2.2UH +/-5%
L157A	994000004279	RADIAL IND. 1.2R 2.2UH +/-5%
L158	996510006487	IND.MULTILAYER 2.2UH,210MA,10%
L159A	994000004226	RAD AXIAL IND. 100UH 3.5R
L302	994000004289	TOROIDAL COIL 220UH +/-10%
L303	994000004226	RAD AXIAL IND. 100UH 3.5R
L304A	996510006488	INDUCTOR 10UH+/-10% 0.1R
Q100	994000004275	TRANSISTOR 2SB709A
Q103	994000004223	TRANSISTOR 3CA8550 HFE=120-220
Q106	994000004224	TRANSISTOR 3DA8050 HFE=120-200
Q107	994000004223	TRANSISTOR 3CA8550 HFE=120-220
Q502	994000004267	TRANSISTOR MPS8050S
SW501	994000004283	DETECT SWITCH DTS-18 1P1T
SW502	994000004283	DETECT SWITCH DTS-18 1P1T
SW506	994000004259	SWITCH TACT TSA-06430-150
X100	994000004273	CER RESONATOR 16.93MHZ +/-0.5%
X101	996510000295	XTAL 8.38MHZ +/-20PPM CAP=20PF
X501	994000005671	XTAL 32.768KHZ +/-20PPM 12PF
X502	994000004266	X'TAL 4.194304MHZ 30PF

ELECTRICAL PARTS LIST - MISCELLANEOUS

20	996510006731	CD/MCU BOARD MCM275(M93) /37
23	996510006482	CD MECHANISM CMS-M93BGPJ
DI_CD	994000004271	FFC 12PIN P1.25MM L95MM
KB_CD	996510006481	FFC 7P P1.25MM L155MM D TYPE
MA_CD	994000004281	FFC 21P P1.25MM L110MM C TYPE

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

REVISION LIST

1.0 Manual 3141 785 30330

Initial Service Manual released.

1.1 Manual 3141 785 30331

In this version, Mechanical & Accessories Partslist (Page 9-2) has been updated, the Plastic Wall Plug is added to Mechanical and Accessories Parts List as below.

9940 000 04798 Plastic Wall Plug

1.2 Manual 3141 785 30332

In this version, Set Exploded View (Page 9-1) and Mechanical & Accessories Partslist (Page 9-2) have been updated, the Catch Assembly has been added to Mechanical and Accessories Parts List as below .

26 9940 000 05312 Catch Assembly

and replace 9940 000 03371 Hook-Cassette Door, 9940 000 03384 Spring Torsion Left and 9940 000 04298 Bracket - Cassette Recloser in Partslist.

1.3 Manual 3141 785 30333

In this version, Set Exploded View (Page 9-1) and Mechanical & Accessories Partslist (Page 9-2) have been updated, the Stand Portion has been added to Mechanical and Accessories Parts List as below .

19 9965 100 06480 STAND PORTION

and replace 19 9940 000 04322 Stand Cover, 20 9940 000 04321 Stand Base in Partslist.

1.4 Manual 3141 785 30334

In this version, Chapter 10 CD & MCU Board for new CDM Dayang M93 has been added.

1.5 Manual 3141 785 30335

In this version, Page 44 has been updated.

RI501 9965 100 01366 IR SENSOR FM-6038TM2-5AN

1.6 Manual 3141 785 30336

In this version, Page 9-1 & Page 9-2 have been updated.

1) In Page 9-1: Item No. 33 & Item No.34 exchanged.

2) In Page 9-2: Pos. No. 33 ---->12nc changed.

33 9940 000 04419 PANEL FUNCTION /55/93/98/BK

33 9965 100 06479 PANEL FUNCTION /05/12/37

34 9940 000 04313 COVER FUNCTION PANEL