

Service
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Service Manual



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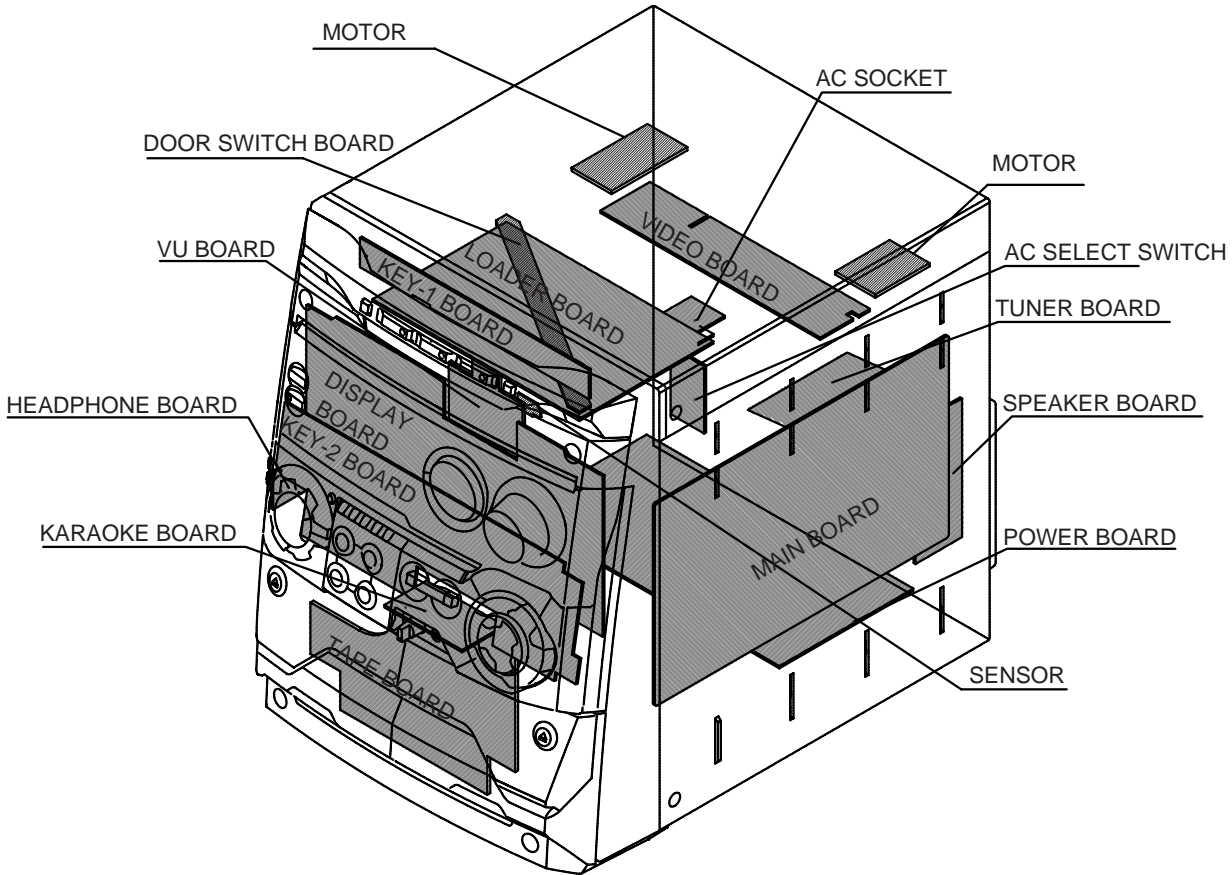
3140 785 32790

Version 1. 0



PHILIPS

LOCATION OF PC BOARDS



VERSION VARIATIONS:

Type /Versions:	FW-D550
	/21M
Features & Board in used:	
Karaoke	x
RDS	
Rotary Encoder (volume control)	x
Jog Shuttle	x
Voltage Selector	x
Aux Input	x
Digital Output	x
Headphone Socket	x
Line Output	
Standby - FTD Clock Display	x
Tuner board - ECO6 System	x

SPECIFICATIONS

AMPLIFIER SECTION

Output power	120 W Total power
Stereo mode (DIN)	60 W + 60 W RMS
Surround mode (1 kHz)	DIN OUT
Frequency Response	100 Hz - 20 kHz / - 3 dB
Signal-to-Noise Ratio	> 65dB (CCIR) Input Sensitivity
AUX/TV In	500 mV

Output Sensitivity	
Headphone	600 mV – 800 mV
Line Out	300 mV – 500 mV

TUNER SECTION

Tuning Range	FM 87.5 – 108 MHz (50 kHz steps)
.....	AM 531 – 1602 kHz (9 kHz steps)
.....	AM 530 – 1710 kHz (10 kHz steps)
26 dB Quieting Sensitivity	FM 20 dB
26 dB Quieting Sensitivity	AM 3162 mV/m
Image Rejection Radio	FM 25dB
.....	AM 28 dB
IF Rejection Ratio	FM 60 dB
.....	AM 24 dB
Signal-to-Noise Ratio	FM 60 dB
.....	AM 40 dB
AM Suppression Ratio	FM 30 dB
Harmonic Distortion	FM Mono 3 %
.....	FM Stereo 3 %
.....	AM 5 %
Frequency Response	FM 180 Hz – 10 kHz / ±6 dB
Stereo Separation	FM 26 dB (1 kHz)
Stereo Threshold	FM 23.5 dB

TAPE SECTION

Frequency Response	
Normal tape (type 1)	80 – 12500 Hz (8 dB)
Signal-to-Noise Ratio	
Normal tape (type 1)	≥ 45 dBA
Wow and flutter	£ 0.4% DIN

DVD SECTION

Laser Type	Semiconductor
Disc Diameter	12cm / 8cm
Video Decoding	MPEG-2 / MPEG-1
Video DAC	10 Bits
Signal System	PAL / NTSC
Video Format	4:3 / 16:9
Video S/N	56 dB (minimum)
Composite Video Output	1.0 Vp-p, 75 W
S-Video Output	Y - 1.0 Vp-p, 75 W
.....	C - 0.286 Vp-p, 75 W
Audio DAC	24 Bits / 96 kHz
Frequency Response	4 Hz - 20 kHz (44.1kHz)
.....	4 Hz - 22 kHz (48kHz)

.....	4 Hz - 44 kHz (96kHz)
Digital Output	
.....	SPDIF (Sony Philips digital interface) Coaxial
PCM	IEC 60958
Dolby Digital/DTS	IEC 60958, IEC 61937

MAIN UNIT

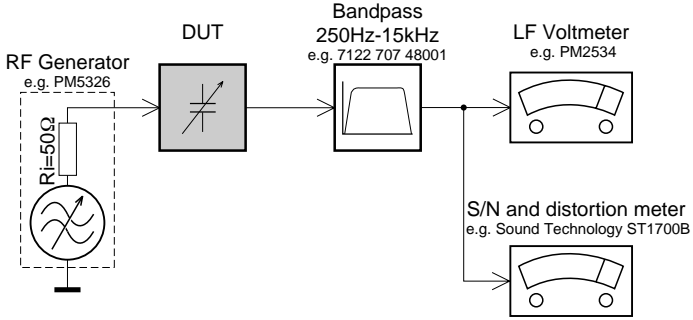
Power Supply Rating	230 V / 50 Hz
Power Consumption	
Active	160W
Standby	15W
Dimensions (w × h × d)	265 × 310 × 410 (mm)
.....	10.4 × 12.2 × 16.1 (inch)
Weight	5.46 kg / 12.04 pounds

SPEAKERS

Front speakers	
System	triple drive
Impedance	6 W
Speaker drivers	1 × 5.25" woofer,
.....	1 × 2' tweeter
Frequency response	80 Hz – 20 kHz
Dimensions (w × h × d)	
.....	210 × 313 × 234 (mm)
.....	8.3 × 12.3 × 9.2 (inch)
Weight	3.42 kg/each
.....	7.54 pounds/each

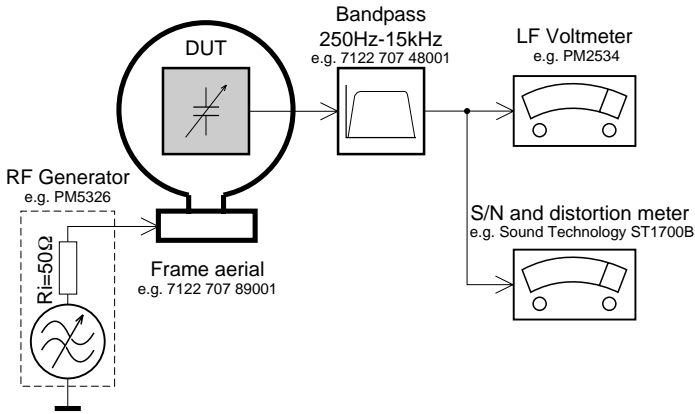
MEASUREMENT SETUP

Tuner FM



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

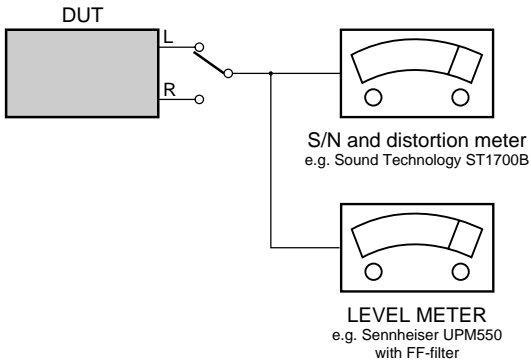
Tuner AM (MW,LW)



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).

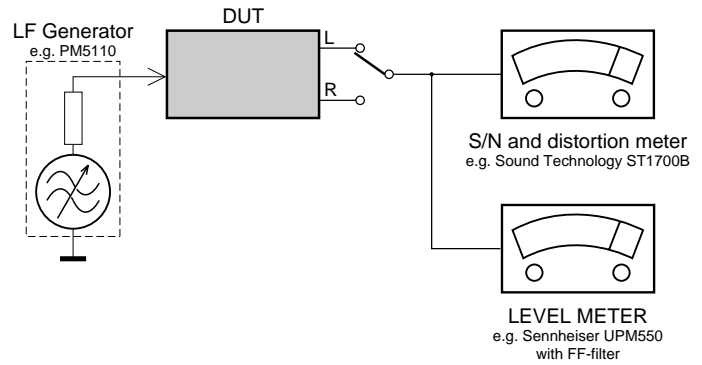
CD

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

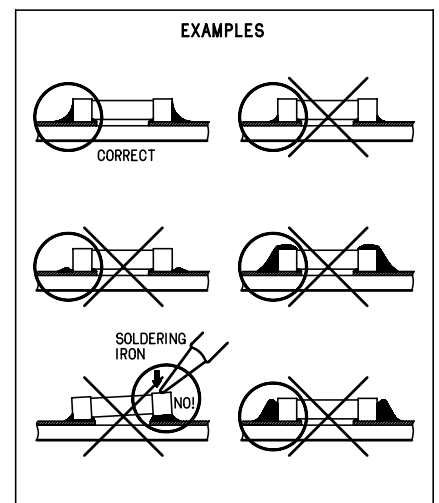
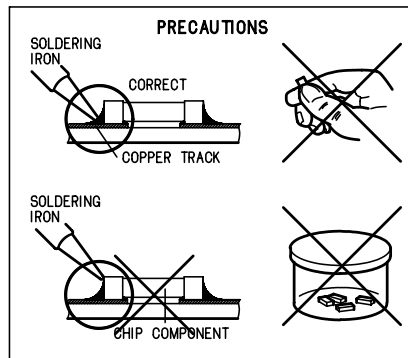
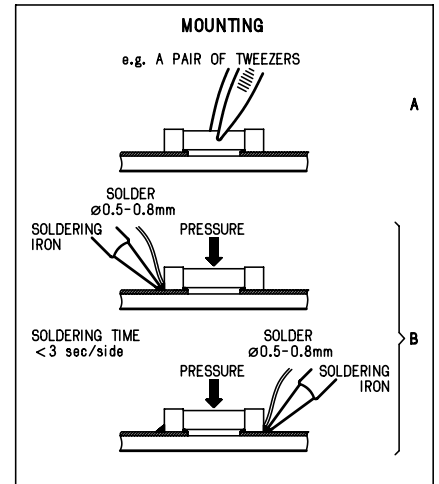
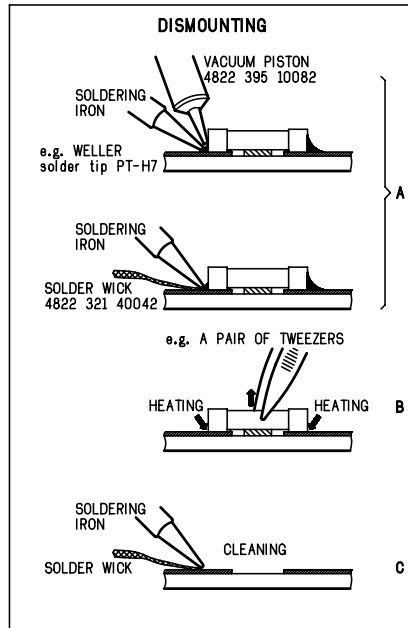
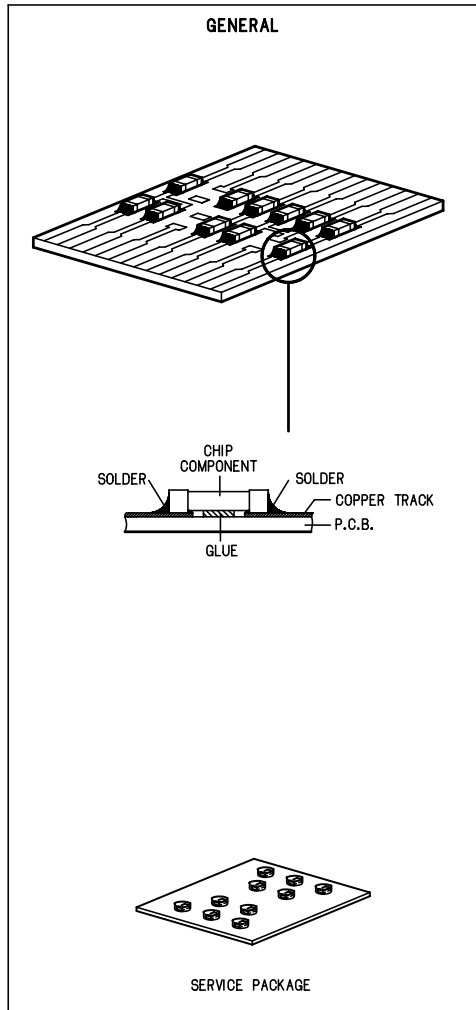
Compact Disc:

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.

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.

(F) ATTENTION

Tous les IC et beaucoup d'autres semi-conducteurs sont sensibles aux décharges statiques (ESD).

Leur longévité pourrait être considérablement écourtée par le fait qu'aucune précaution n'est prise à leur manipulation.

Lors de réparations, s'assurer de bien être relié au même potentiel que la masse de l'appareil et enfilez le bracelet serti d'une résistance de sécurité.

Veiller à ce que les composants ainsi que les outils que l'on utilise soient également à ce potentiel.

(D) WARNUNG

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

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.

(I) AVVERTIMENTO

Tutti IC e parecchi semi-conduttori sono sensibili alle scariche statiche (ESD).

La loro longevità potrebbe essere fortemente ridatta 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)

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

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

(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 utilisées 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.

(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 suojalukituksen ohitettaessa olet alttiina näkymättömälle laserisäteilylle. Älä katso säteeseen!

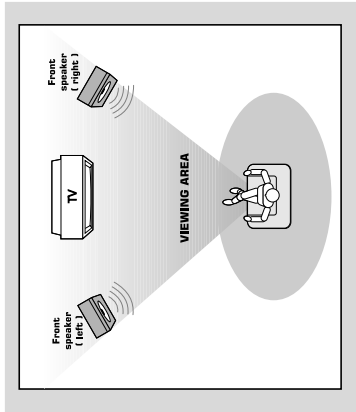
(DK) Advarse !

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

"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."

Connections

Step 1: Placing speakers

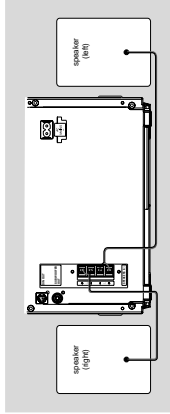


Place the front left and right speakers at equal distances from the TV set and at an angle of approximately 45 degrees from the listening position.

Notes:

- To avoid magnetic interference, do not position the front speakers too close to your TV set.
- Allow adequate ventilation around the DVD Mini Hi-Fi System.

Step 2: Connecting speakers



Connect the speaker wires to the **SPEAKERS (FRONT)** terminals, right speaker to "R", and left speaker to "L"; coloured (marked) wire to "+", and black (unmarked) wire to "-". Fully insert the stripped portion of the speaker wire into the terminal as shown.

Speakers	+	-
Front Left (L)	Black	White
Front Right (R)	Black	Red

Notes:

- For optimal sound performance, use the supplied speakers.
- Do not connect more than one speaker to any one pair of +/- speaker terminals.
- Do not connect speakers with an impedance lower than the speakers supplied. Please refer to the SPECIFICATIONS section of this manual.

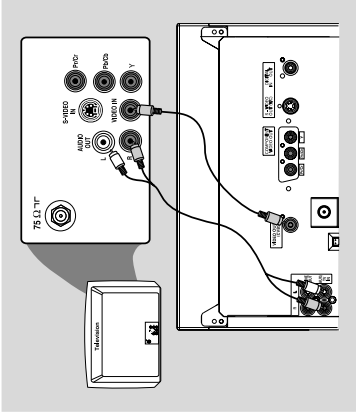
IMPORTANT!

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

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.

Connections

Step 3: Connecting TV set



IMPORTANT!

- You only need to make one video connection from the following options, according to the capabilities of your TV system.
 - S-Video or Component Video connection provides higher picture quality. These options must be available on your TV set.
 - Connect the system directly to the TV set.

Using Video In jack (CVBS)

Use the composite video cable (yellow) to connect the system's CVBS jack to the video input jack (or labeled as AV In, Video In, Composite or Baseband) on the TV set.

To listen to TV channels through this system, use the audio cables (white/red) to connect **AUX/TV IN (L/R)** jacks to the corresponding AUDIO OUT jacks on the TV set.

Deactivate Progressive Scan through **System Menu**. See page 31, Using the Setup Menu – Improving the image for progressive scan video output setting.

IMPORTANT!

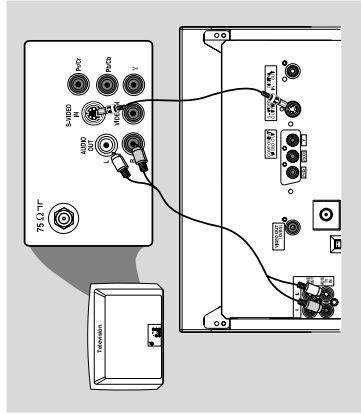
- If both S-Video and Component (Pr Pb Y) Video connections are used to connect to your TV set, the Video signal will automatically switch to S-Video when you power up the system. To set the VIDEO OUT (put) to 'Pr Pb Y', see page 31, Using the Setup Menu – Setting the video out.

Using component Video In jack (Pr Pb Y)

Use the component video cables (red/blue/green) to connect the system's Pr Pb Y jacks to the corresponding Component video input jacks (or labeled as Pr/Cr Pb/Cb Y or YUV) on the TV set.

To listen to TV channels through this system, use the audio cables (white/red) to connect **AUX/TV IN (L/R)** jacks to the corresponding AUDIO OUT jacks on the TV set.

If you are using a Progressive Scan TV set (TV must indicate Progressive Scan or ProScan capability), activate the **PROGRESSIVE SCAN** function through **SYSTEM MENU**.



IMPORTANT!

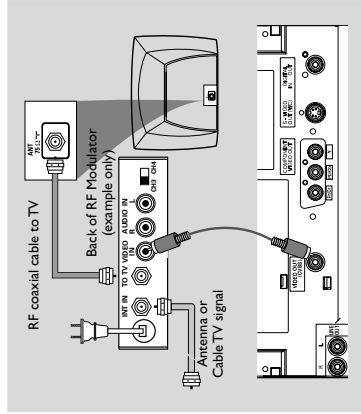
- If the picture is distorted, check the Video Output setting. Make sure it is set to 'S-Video'. Using the Setup Menu – Setting the video out.

Using S-Video In jack

Use the S-Video cable (not supplied) to connect the system's **S-VIDEO OUT** jack to the S-Video input jack (or labeled as Y/C or S-VHS) on the TV set.

To listen to TV channels through this system, use the audio cables (white/red) to connect **AUX/TV IN (L/R)** jacks to the corresponding **AUDIO OUT** jacks on the TV set.

Deactivate Progressive Scan through **System Menu**. See page 31, Using the Setup Menu – Improving the image for progressive scan video output setting.



IMPORTANT!

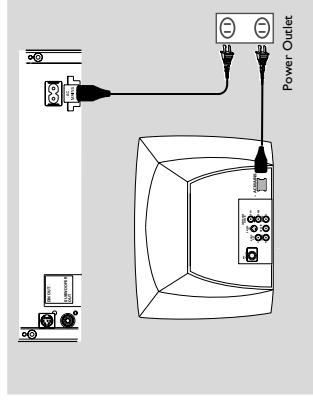
- If your TV set only has a single Antenna In jack (or labeled as 75 ohm or RF In), you will need a RF modulator in order to view the DVD playback via TV. See your electronics retailer or contact Philips for details on RF modulator availability and operations.

Using an accessory RF modulator

Use the composite cable (yellow) to connect the system's **CVBS** jack to the video input jack on the RF modulator.

Use the RF coaxial cable (not supplied) to connect the RF modulator to your TV's RF jack. Deactivate Progressive Scan through **System Menu**. See page 31, Using the Setup Menu – Improving the image for progressive scan video output setting.

Step 5: Connecting the power cord



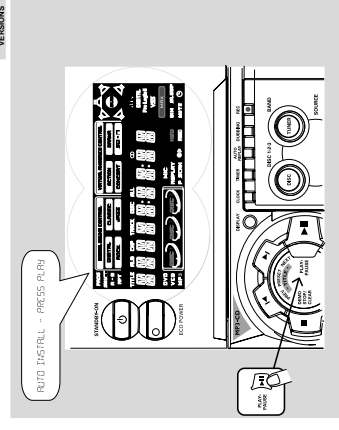
After everything is connected properly, plug in the AC power cord to the power outlet.

Never make or change any connection with the power switched on.

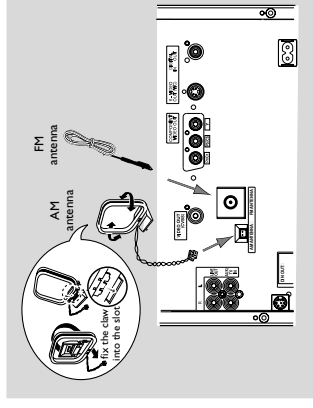
On the DVD Mini Hi-Fi System

'AUTO INSTALL - PRESS PLAY' may appear on the display panel. Press **▶/II** on the front panel to search and store all available radio stations or press **■** to exit (See page 35, Tuner Operations- Presetting radio stations).

If your system is equipped with a Voltage Selector, set the **VOLTAGE SELECTOR** to the local power line voltage.



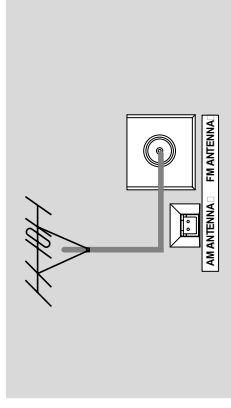
Step 4: Connecting FM/AM antennas



Connect the supplied AM loop antenna to the **AM** jack. Place the AM loop antenna on a shelf or attach it to a stand or wall.

Connect the supplied FM antenna to the **FM** jack. Extend the FM antenna and fix its end to the wall.

For better FM stereo reception, connect an outdoor FM antenna to the **FM ANTENNA** terminal.

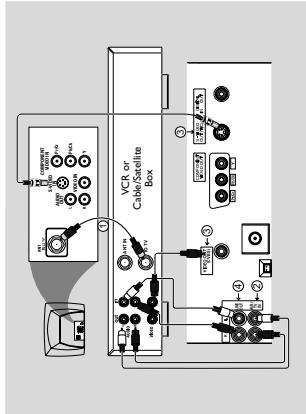


Notes:

- Adjust the position of the antennas for optimal reception.
- Position the antennas as far as possible from your TV set, VCR or other radiation sources to prevent unwanted interference.

Connections

Connecting a VCR or cable/satellite box



Viewing and listening to playback

- 1 Connect the VCR or Cable/Satellite Box to the TV system as shown.
- 2 Connect the system's AUX/TV IN (R/L) jacks to the AUDIO OUT jacks on the VCR or Cable/Satellite box.

Before starting operation, press **AUX/TV** on the remote control to select "AUX" in order to activate the input source.

Using the VCR for recording DVDs

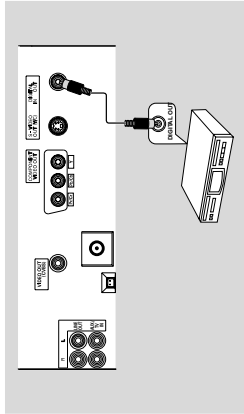
Some DVDs are copy-protected. You cannot record or dub protected discs using a VCR.

- 3 Connect the system's **CVBS** jack to the VIDEO IN jack on the VCR.
- 4 Connect the system's **LINE OUT (R/L)** jacks to the AUDIO IN jacks on the VCR. This will allow you to make analog stereo (two channel, right and left) recording.

To view DVD playback while recording

You must connect the system to your TV system using the S-VIDEO (as shown above) or the Component (Pr-Pb-Y) video connection.

Connecting digital audio equipment




Recording (digital)

Connect the system's DIGITAL OUT jack to the DIGITAL IN jack on a digital recording device (DTS-Digital Theater System compatible, with a Dolby Digital decoder, for example).





Before operation, set the DIGITAL OUTPUT according to the audio connection. (See page 31, Using the Setup Menu – Setting the digital output).

Functional Overview

Controls on the system


- ① **ECO POWER**
to switch the system on or to Eco Power Standby mode.
- ② **STANDBY ON** 
to switch the system on or to Standby mode.
- ③ **DISPLAY SCREEN**
to view the current status of the system.
- ④ **DISC TRAYS**
- ⑤ **DISC CHANGE**
to change disc(s).
- ⑥ **DISC 1 / DISC 2 / DISC 3**
to select a disc tray for playback.
- ⑦ **OPEN•CLOSE**
to open or close the disc tray.
- ⑧ **INTERACTIVE VU METER**
to show the VU (volume unit) meter in music or volume mode depending on the display mode selected.
- ⑨ **SENSOR**
- ⑩ **VOLUME**
point the remote control towards this sensor.
- to increase or decrease the volume.
- ⑪ **Tape Deck Operation**
- AUTO REPLAY**
to select continuous playback in either AUTO PLAY or ONCE mode only.
- DUBBING**
to dub a tape.
- REC**
to start recording on tape deck 2.
- ⑫ **VOCAL**
to fade out the original vocal from Karaoke or to switch between mono or stereo mode during audio disc playback.
- ⑬ **JOG CONTROL**
to select the desired sound effect for the selected sound feature.
- ⑭ **KEY CONTROL**
to change the tone level to suit your vocal range.
bto decrease the key tone level.
hto restore the key tone level to original setting.
.....to increase the key tone level.
- ⑮ **ECHO**
to adjust the echo level for karaoke after inserting the microphone.

⑮ SOUND

- to activate or deactivate the surround sound effect.
- ⑰ **MAX SOUND (MAX)**
to activate or deactivate the optimal mix of various sound features.
- ⑱ **MIC/LEVEL**
to connect microphone jack.
to adjust the mixing level for karaoke or microphone recording.
- ⑲  to open the tape deck door.
- ⑲ **TAPE DECK 1**
- ⑲ **TAPE DECK 2**
- ⑲ **SOURCE**
to select the following:
DISC (DISC 1•2•3)
to select disc tray 1, 2, or 3
TUNER (BAND)
to select waveband: FM or AM.
TAPE (TAPE 1-2)
to select tape deck 1 or 2.
- AUX/ITY**
to select a connected external source: TV/CDR or AUX (auxiliary) mode.
- ⑳ **Mode Selection**
- PLAY/PAUSE** 
for DISCto start or interrupt playback.
for TAPEto start playback.
for PLUG&PLAY ... (on the system only) to initiate plug & play mode.
- SEARCH•TUNING** 
(ALBUM - / +)
for DISCto search backward/forward.
for TAPEto rewind or fast forward.
for TUNERto tune to a lower or higher radio frequency.
- for CLOCK (in standby mode) to set the minute and hour.
- DEMO STOP/CLEAR** 
for DISCto stop playback or to clear a programme.
for DEMO (in Standby or ECO power mode) to activate/deactivate demonstration.
for PLUG&PLAY ... (on the system only) to exit plug&play mode.

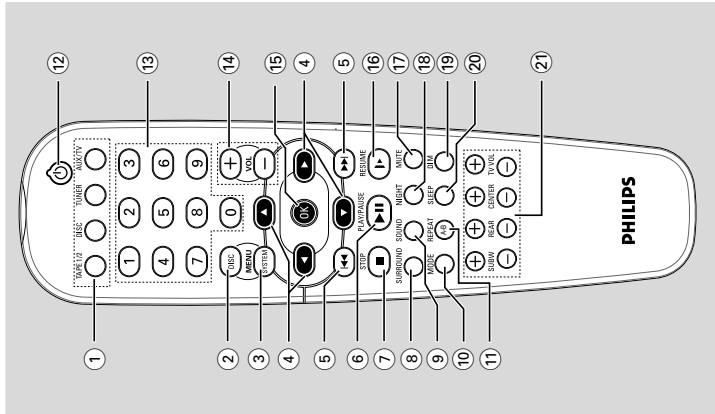
Functional Overview

PREV / PRESET / NEXT

- (TITLE - / +)
for DISCto select previous/next title, chapter and track during playback.
- for TUNERto select a preset radio station.
- for CLOCK (on the system only) to set the minute.
- ⑳  to connect headphones.
- ㉑ **SUBTITLE**
to select the preferred language for subtitle.
- ㉒ **LANGUAGE**
to select the preferred language for audio recorded.
- ㉓ **PROGRAM**
for DISCto programme disc tracks.
for TUNERto programme preset radio stations.
- ㉔ **DISPLAY**
to view the time, title or chapter information.
- ㉕ **CLOCK**
to view the clock, set the clock.
- ㉖ **TIMER**
to set the timer.

Functional Overview

Remote control



Notes:

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

- ⑤ ◀◀ / ▶▶ in Disc mode, press to skip to the previous/next chapter/track.
- in Disc mode, press and hold to fast reverse/forward the disc.
- in Tuner mode, to tune to a lower or higher radio frequency.
- ⑥ **PLAY/PAUSE ▶||** to start or interrupt disc playback.
- ⑦ **STOP ■** to stop playing the disc.
- ⑧ **SURROUND** to select multichannel surround (Dolby Digital, DTS and VSS) or stereo sound effect.
- ⑨ **SOUND** to select various sound effect: CONCERT, DRAMA, ACTION, SCI-FI, CLASSIC, JAZZ, ROCK or DIGITAL, MAX ON, MAX OFF.
- ⑩ **MODE** to select the REPEAT or SHUFFLE function.
- ⑪ **REPEAT A-B** to repeat a specific section on a disc.
- ⑫ **POWER ⏻** to switch to standby mode.
- ⑬ **Numeric Keypad (0-9)** to enter a track/title number of the disc.
- to enter a number of preset radio stations.
- ⑭ **VOL +/-** adjust the volume level.
- ⑮ **OK** to exit or confirm the selection.
- ⑯ **RESUME** to continue disc playback after interruption.
- ⑰ **MUTE** to interrupt or resume sound reproduction.
- ⑱ **NIGHT (Dolby Digital mode only)** to optimize the dynamic effect of the sound output.
- ⑲ **DIM** to select different brightness for the display.
- ⑳ **SLEEP** to set the sleep (auto-off) timer function.
- ㉑ **SUBW +/- (for subwoofer connection only)** to adjust the subwoofer's level.
- **REAR +/- (for 5.1 speaker connection only)** to adjust the rear speakers' level.
- **CENTER +/- (for 5.1 speaker connection only)** to adjust the center speaker's level.

- ① **SOURCE** to select the relevant active mode: TAPE, DISC, TUNER or AUX/TV.
- TUNER: toggles between FM and AM band.
- AUX/TV: toggles between AUX-ANA and AUX-DIG (Digital Input) mode.
- ② **DISC MENU (disc mode only)** to enter or exit the disc contents menu.
- ③ **SYSTEM MENU (disc mode only)** to enter or exit the system menu bar.
- ④ ◀ / ▶ / ◀◀ / ▶▶ in Tuner mode, to select a preset radio station number (◀ or ▶).

Preparations

IMPORTANT!

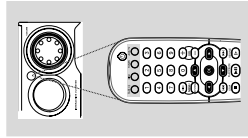
- Make sure to complete the preparation procedures before operating the system.

Step 1: Inserting batteries into the remote control



- 1 Open the battery compartment.
- 2 Place two batteries (Type R06 or AA) in the compartment with the correct polarity as indicated by "+" and "-" symbols.
- 3 Close the cover.

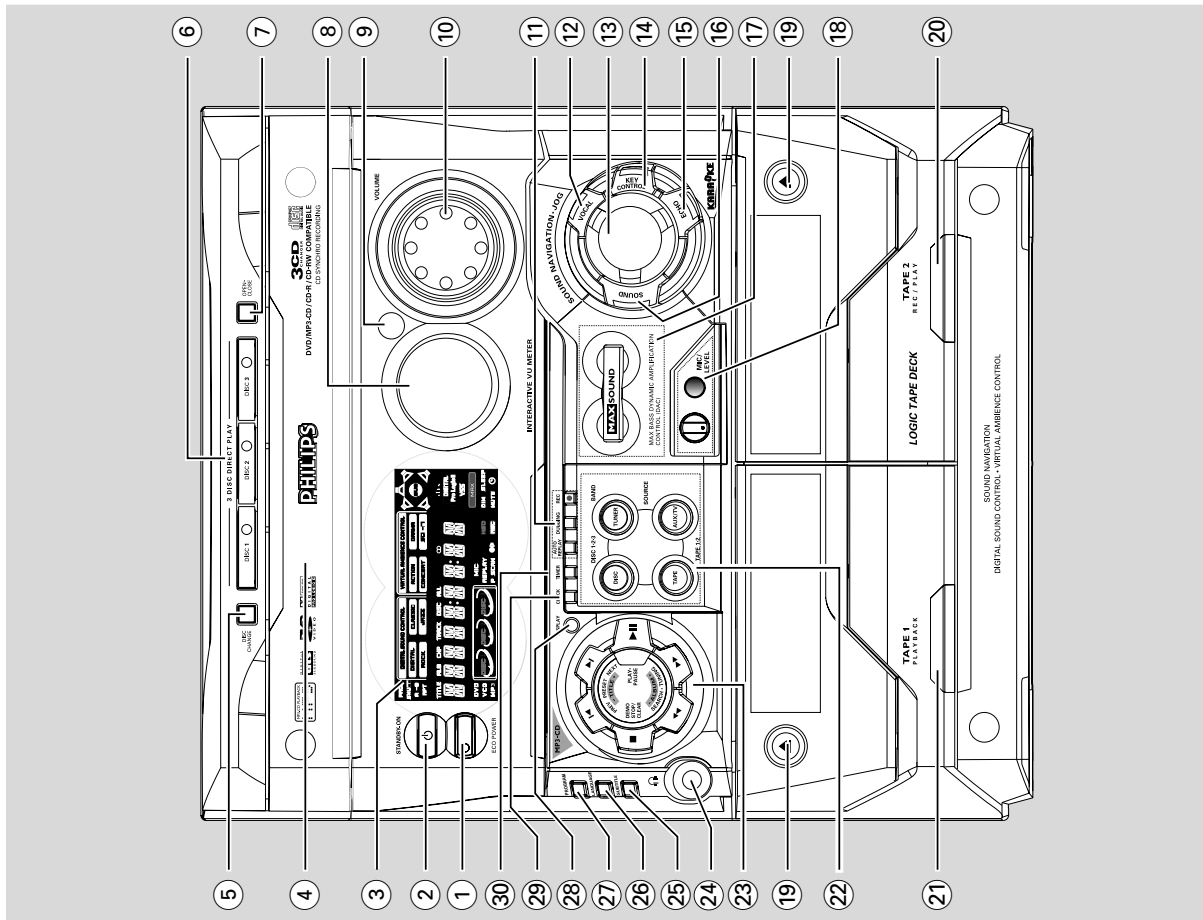
Using the remote control to operate the system



- 1 Point the remote control directly at the remote sensor (IR) on the front panel.
- 2 Select the source you wish to control by pressing one of the source select buttons on the remote control (for example TAPE, TUNER).
- 3 Then select the desired function (for example ►|| ◀◀ ▶▶).

CAUTION!

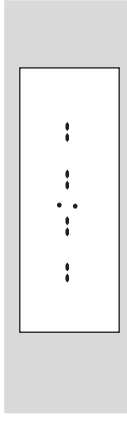
- Remove batteries if they are exhausted or will not be used for a long time.
- Do not use old and new or different types of batteries in combination.
- Batteries contain chemical substances, so they should be disposed of properly.



Step 2: Setting the clock

The clock can be set in either 12-hour or 24-hour mode ("PM 00:00" or "00:00" for example).

- 1 Go into Standby mode. If you have not set the clock, "--:--" will display until you set the clock.



- 2 Press **CLOCK** and "00:00" blinks on the display. The current time is flashing on the display. If you have not set the clock, "--:--" will appear on the display.
- 3 Press ◀ or ▶ on the system to set the hours.
- 4 Press ◀ or ▶ on the system to set the minutes.
- 5 Press **CLOCK** to confirm your setting, and then go into standby mode. The system will store the setting automatically.

To exit the setting without storing

Press ■ on the system to exit. "F.F.F.F.F.F." will appear on the display. Press **ECO POWER** to exit setting mode and go into **ECO POWER** mode. You can also press **DISC DISC1~3 DISC CHANGE, OPEN/CLOSE** to exit setting mode and go into disc mode. The system will also exit setting mode and go to tuner/AUX, tape mode when you press the corresponding source button.

Viewing the clock in any source mode

Press **DISPLAY** on the system to toggle between 12-hour and 24-hour modes. The time will be displayed for a few seconds.

Notes:

- The clock will be cancelled when the power cord is disconnected or if a power failure occurs.
- During clock setting, if no button is pressed within 30 seconds, the system will exit the setting mode and go into standby mode.

Preparations

Step 3: Setting the TV set

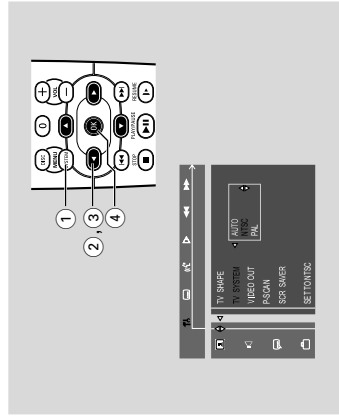
IMPORTANT!

- Make sure you have completed all the necessary connections. (See page 11-12, Connections – Connecting TV set)

- 1 Press **DISC (DISC 1-2-3)** on the front panel (or press **DISC** on the remote control).
- 2 Turn on the TV set and set to the correct Video-In channel. You should see the blue Philips DVD background screen on the TV set.
You may go to channel 1 on your TV set, then press the channel down button repeatedly until you see the Video In channel.
Or, you can use the TV remote control to select different video modes.
Or, set TV to channel 3 or 4 if you are using an RF modulator.

Selecting the color system that matches your TV set

This DVD Mini Hi-Fi System is compatible with both NTSC and PAL. For the playback of a DVD disc on this DVD Mini Hi-Fi System, the color systems of the DVD, TV set and DVD Mini Hi-Fi System should match.



- 1 In disc mode, stop playback and press **SYSTEM MENU**.

- 2 Select **TV** icon and press **▼**.

- 3 Press **◀ / ▶ / ▲ / ▼** keys on the remote control to toggle through the functions and select your preferred option.

Move to **TV** and press **▶**.
Move to "TV System" and press **▶**.

AUTO

- Select this if the connected TV set is compatible with both NTSC and PAL (multi system). The output format will be consistent with the video signal of the disc.

NTSC

- Select this if the connected TV set is NTSC system. It will change the video signal of a PAL video disc and output to NTSC system.

PAL

- Select this if the connected TV set is PAL system. It will change the video signal of an NTSC disc and output to PAL format.

- 4 Select an item and press **OK**

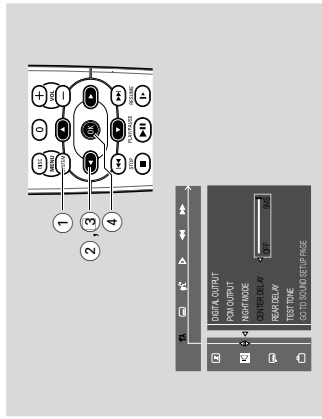
To remove the menu
Press **SYSTEM MENU**.

Step 4: Setting speakers

IMPORTANT!

- This function is only available when you have connected other 3.1-channel speakers.

You can adjust the delay time (center and rear only) for individual speakers to optimize the sound effect according to your surroundings and setup. Speaker settings are only active on effective in the case of Multi-channel audio output.



- 1 In disc mode, press **SYSTEM MENU**.

- 2 Select **TV** icon and press **▼**.

- 3 Press **◀ / ▶ / ▲ / ▼** keys on the remote control to select your preferred option.

Move to **TV** and press **▶**.
Move to "CNTR/REAR DELAY" and press **▶**.

- 4 Press **▶** to set CNTR/REAR DELAY values you want.

Use longer delay time if the surround speakers are closer to the listener than the front speakers.

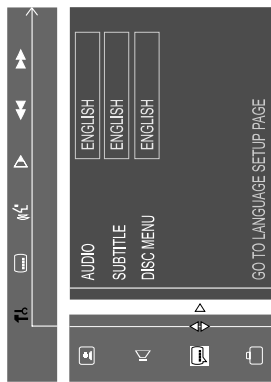
- 5 Press **OK** to confirm.

To remove the menu
Press **SYSTEM MENU**.

Preparations

Step 5: Setting language preference

You can select your preferred language settings so that this DVD Mini Hi-Fi System will automatically switch to the language for you whenever you load a disc. If the language selected is not available on the disc, the language set by default will be used instead. But the menu language of the DVD Mini Hi-Fi System cannot be changed once selected.



- 1 In disc mode, stop playback and press **SYSTEM MENU**.

- 2 Select **TV** icon and press **▼**.

- 3 Press **◀ / ▶ / ▲ / ▼** keys on the remote control to select your preferred option.

Move to **TV** and press **▶**.
Move to one of the following and press **▶**.

- Audio (disc's soundtrack)
- Subtitle (disc's subtitles)
- Menu (on screen menu)

- 4 Press **▶ / ▼** to select a language and press **OK**.

- 5 Repeat **steps 3~4** for other settings.

To remove the menu
Press **SYSTEM MENU**.

Troubleshooting

WARNING

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

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

Problem

Solution

No power.	<ul style="list-style-type: none">– Check if the AC power cord is properly connected.
"UNRECOVERABLE DISC" is displayed.	<ul style="list-style-type: none">– Check if the disc is inserted upside down.– Wait until the moisture condensed at the lens has cleared.– Replace or clean the disc, see "Maintenance".– Use a readable disc or correctly recorded format MP3-CD.
No picture.	<ul style="list-style-type: none">– Select the appropriate video input mode on the TV set.– Check if the TV set is switched on.– Check the video connection.– Check if the system is securely connected.
Distorted or poor picture.	<ul style="list-style-type: none">– Sometimes a slight picture distortion may appear. This is not a malfunction.– Clean the disc.– Connect the system to the S-video input of your TV set.
The aspect ratio of the screen The aspect ratio of the screen you have set the TV shape.	<ul style="list-style-type: none">– The aspect ratio is fixed on the DVD disc.– The aspect ratio may not be changed for some TV systems.
The DVD player does not start playback.	<ul style="list-style-type: none">– Insert a readable disc.– Check the disc type, color system and region code.– Clean the disc.– Place the disc with the playback side down.– Press SYSTEM MENU to turn off the setup menu.– Cancel the parental control rating function or change the rating level.– Moisture has condensed inside the system. Remove the disc and leave the system turned on for about an hour.
The system does not respond when the buttons are pressed.	<ul style="list-style-type: none">– Disconnect the power plug from the jack, and insert again.

Troubleshooting

The language for the sound or subtitle cannot be changed when playing a DVD.	<ul style="list-style-type: none">– Multi-language sound or subtitle is not recorded on the DVD.– Changing the language for the sound or subtitle is prohibited on the DVD.
No image is output when a function is selected.	<ul style="list-style-type: none">– Make sure the component is connected correctly.– Press the correct function button for the input source.
Sound cannot be heard or is of poor quality	<ul style="list-style-type: none">– Adjust the volume.– Disconnect the headphones.– Check that the speakers are connected correctly.– Check if the stripped speaker wire is clamped.– If the system is in pause, slow motion or fast forward/reverse mode, press ▶ to resume the normal play mode.– 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.
Poor radio reception.	<ul style="list-style-type: none">– If the signal is too weak, adjust the antenna or connect an external antenna for better reception.– Increase the distance between the MINI HiFi System and your TV set or VCR.
Recording or playback cannot be made	<ul style="list-style-type: none">– Clean deck parts, see "Maintenance".– Use only NORMAL tape.– Apply a piece of adhesive tape over the missing tab space.
The tape deck door cannot open	<ul style="list-style-type: none">– Remove and reconnect the AC power plug and switch on the system again.– Check the speaker connections and location.
Left and right sound outputs are reversed.	<ul style="list-style-type: none">– Check the speaker connections and location.
The remote control does not function.	<ul style="list-style-type: none">– Point the remote control at the remote control sensor of the unit.– Reduce the distance to the player.– Remove any possible obstacles.– Replace the batteries with new ones.– Check that the batteries are loaded correctly.– Press DJM again.
The display is dark.	<ul style="list-style-type: none">– Press DJM again.
The timer is not working	<ul style="list-style-type: none">– Set the clock correctly.– If recording is in progress, stop it
The Clock/Timer setting is erased	<ul style="list-style-type: none">– Power has been interrupted or the power cord has been disconnected. Reset the clock/timer.
The disc tray cannot open and "TRAY LOCKED" appears.	<ul style="list-style-type: none">– Press and hold SOURCE for about 2 seconds and then press ▶ again.

System, Region code, Tuner, etc. setting procedure

1) System Reset

- Press "SYSTEM" button on R/C. TV show "SETUP"
- Select the menu using the "▼" and "▶" button on R/C
- Go feature setup page to do system reset

2) Region Code Change

After replacement / repair of the MPEG board, the customer setting and the region code may lost. Changing the Region code will put the player back in the state which it has left the factory.

Region Code

1	USA
2	EU
3	AP
4	Australia, NZ, Latam
5	RUSSIA, INDIA
6	CHINA

TV System

1	NTSC
2	PAL
3	AUTO

Menu/ Audio Subtitle (AS) Language

1	English
2	English
3	English
4	English

AFS

001	LX3000D/LX3500D /MRD200
002	MX3600D/MX3800
003	LX3700D/LX3750W
005	MRD210
006	MX3660D
008	FW-D550

oem derivative

08

- region code = 1 digit
- tv system = 1 digit
- "as/menu lang" = 1 digit
- "AFS" = "architecture Feature Set" = 3 digits

This field is used to define the architecture / features sets for each product.

- "oem derivative" = 2 digit

This field is use to define the OEM set. This will affect the background display.

Hence in total, reprogramming will be done by way of the remote control. It should run as below :-

- Put the player in stop mode. No disc loaded.
- Press the following key on remote control:

For FW-D550 /21M (A/P) :

<PLAY> <159> <331> <008> <08> <PLAY>

* After the Region Code is changed it is necessary to reset the system so that the new Region Code will be fully effective. All customer setting will be lost.

* On top of the maximum number of times allowed for changing the region code is changed to 25.

* When the counter reach 25, you will not be able to further change the code until you reset the timer by the Region Code timer reset procedure

CAUTION !

This information is confidential and may not be distributed. Only a qualified service person should reprogram the Region Code.

3) Region code change timer reset

Press below key to reset the timer :

- In DISC source, stop mode and no disc in tray.
- Press R/C "Play -159-PLAY" to reset timer to 25

4) Tuner area change

- Press the "OPEN/CLOSE" button to open the set' s door
- Press "1" "5" "9" button by using R/C.
- TV Show "TUNER AREA"
- Select the tuner area you want by using the "▼" and "▶" button on R/C, then press "OK" to confirm. TV show " TUNER AREA CHANGED"

If you didn' t press it in five seconds, the system will remain original status.

AREA	BAND	FREQUENCY (Hz)		STEP(Hz)
A/P (21M)	FM	87.5M	108M	50K
	MW	531K	1602K	9K
		530K	1710K	10K
KOREA (33)	FM	87.5M	108M	50K
	MW	531K	1602K	9K
		530K	1710K	10K
AUSTRALIA (30)	FM	87.5M	108M	50K
	MW	531K	1602K	9K
		530K	1710K	10K

Note :-

Please refer to the above different tuner area.

5. Video Out Change

- Press "SYSTEM" on R/C button
- Select the menu using the "▼" and "▶" button on R/C
- Go picture setup page select Video out item.

6. Password Change

- Press "SYSTEM" on R/C button
 - Select the menu using the "▼" and "▶" button on R/C
 - Go feature setup page select "PASSWORD". TV show "ENTER CODE". Press 4 times of "STOP" button on R/C.
 - Select "PARENTAL" "8 ADULT" on TV.
 - Enter PASSWORD to "1234".
- * "1234" is a default password supplied.

7. Checking on the Software version

- Open the CD door.
- Press "123" and "OK" on the remote control.
- TV will show the version on screen.

8. Upgrading new software

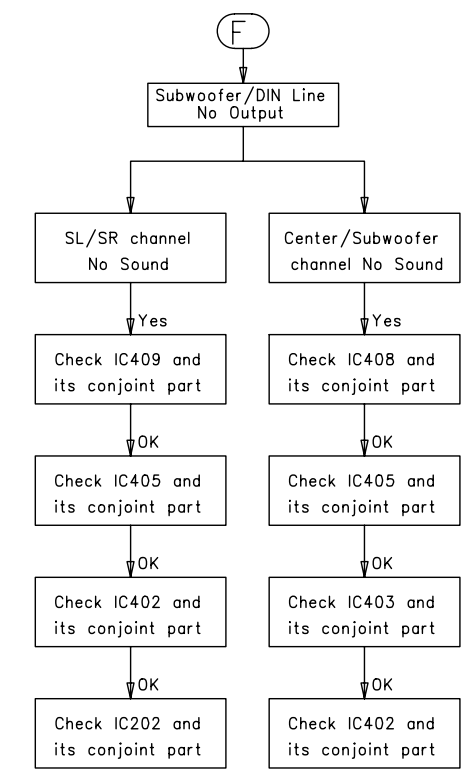
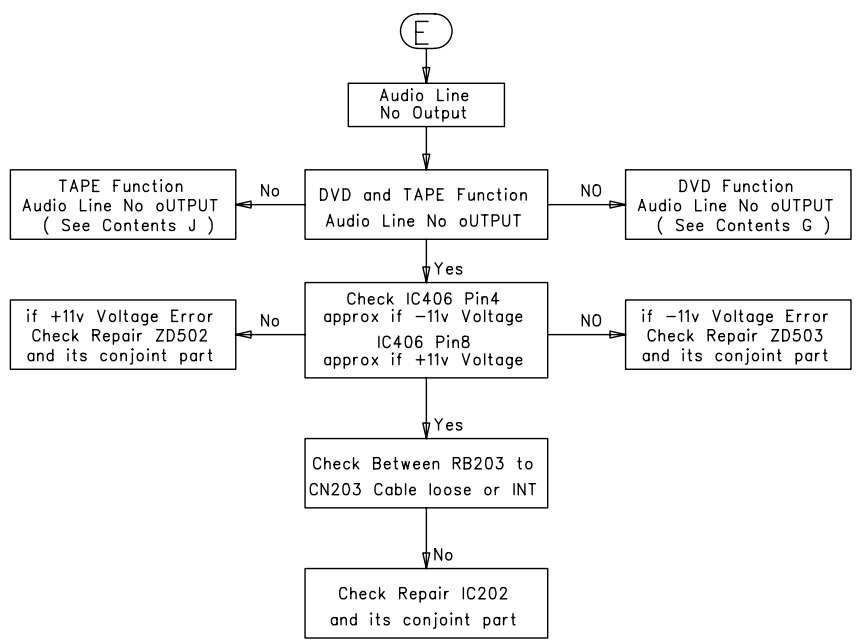
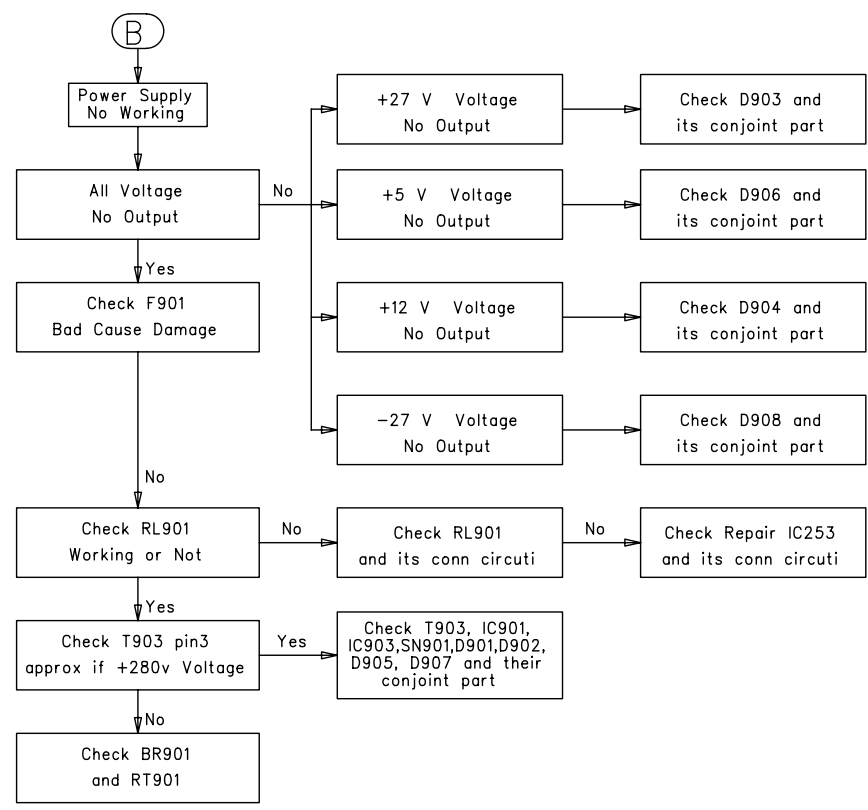
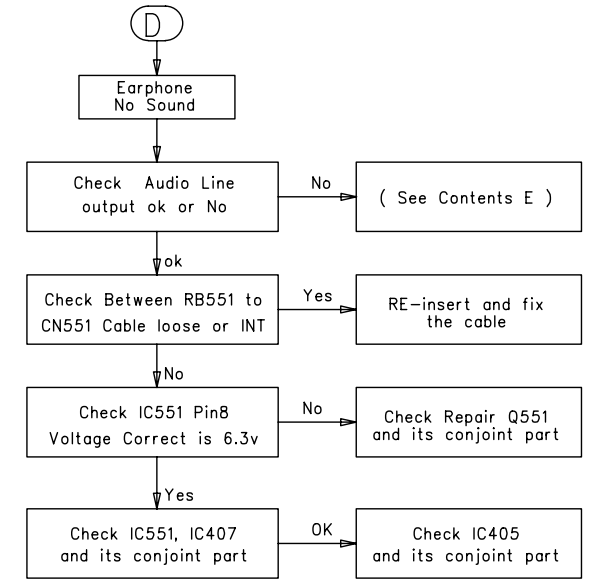
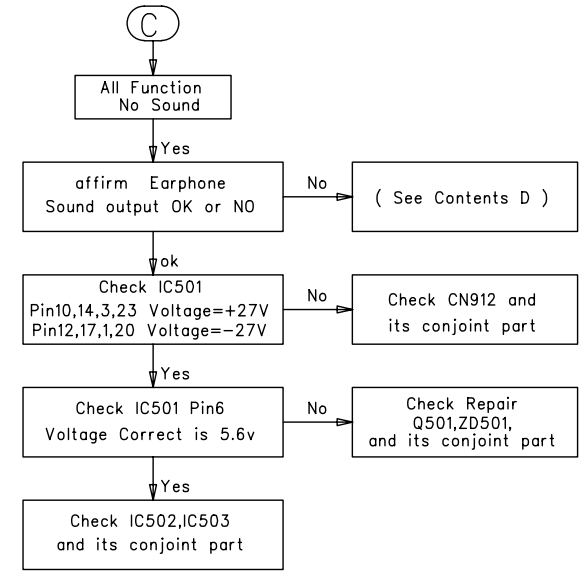
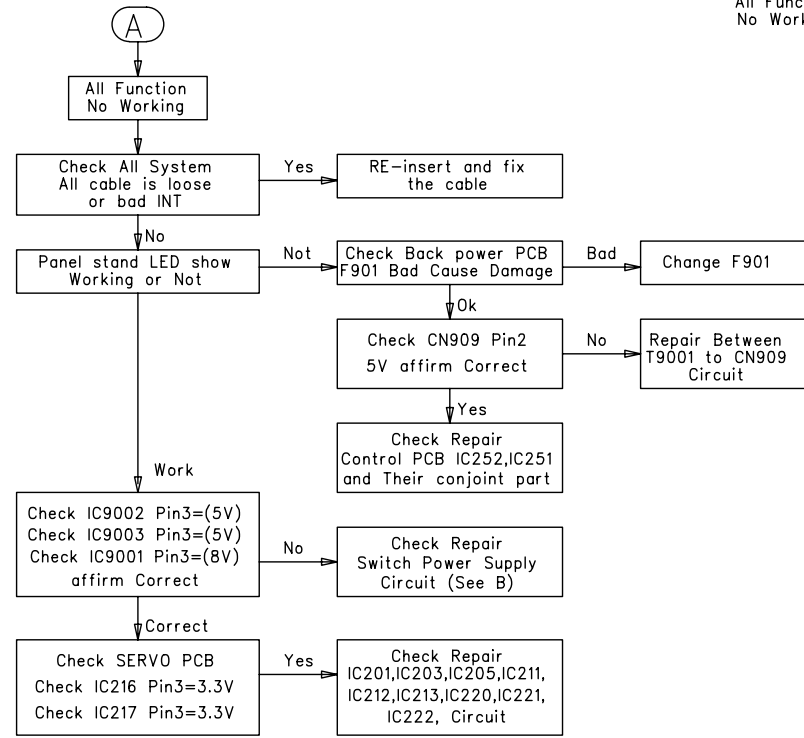
- Open the door, then insert the CD-R program disc.
- Close the door.
- TV will show:-
 - "disc loading"
 - "bank30.rom"
 - "writing" about 6 seconds.
 - "Done"

* The latest upgraded is in version VER1027.

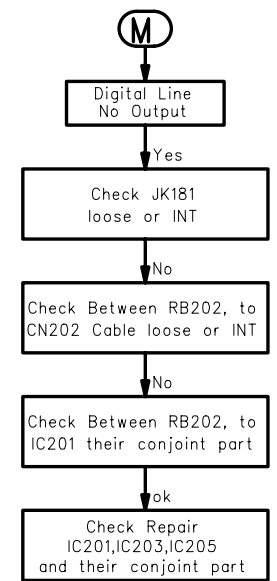
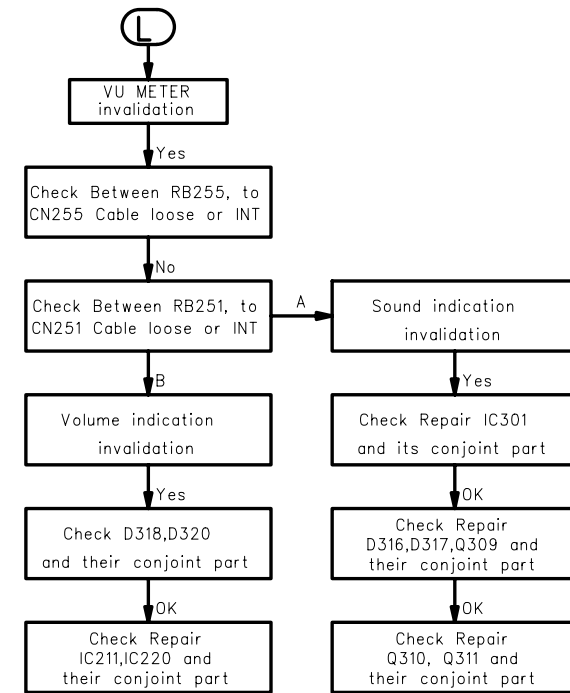
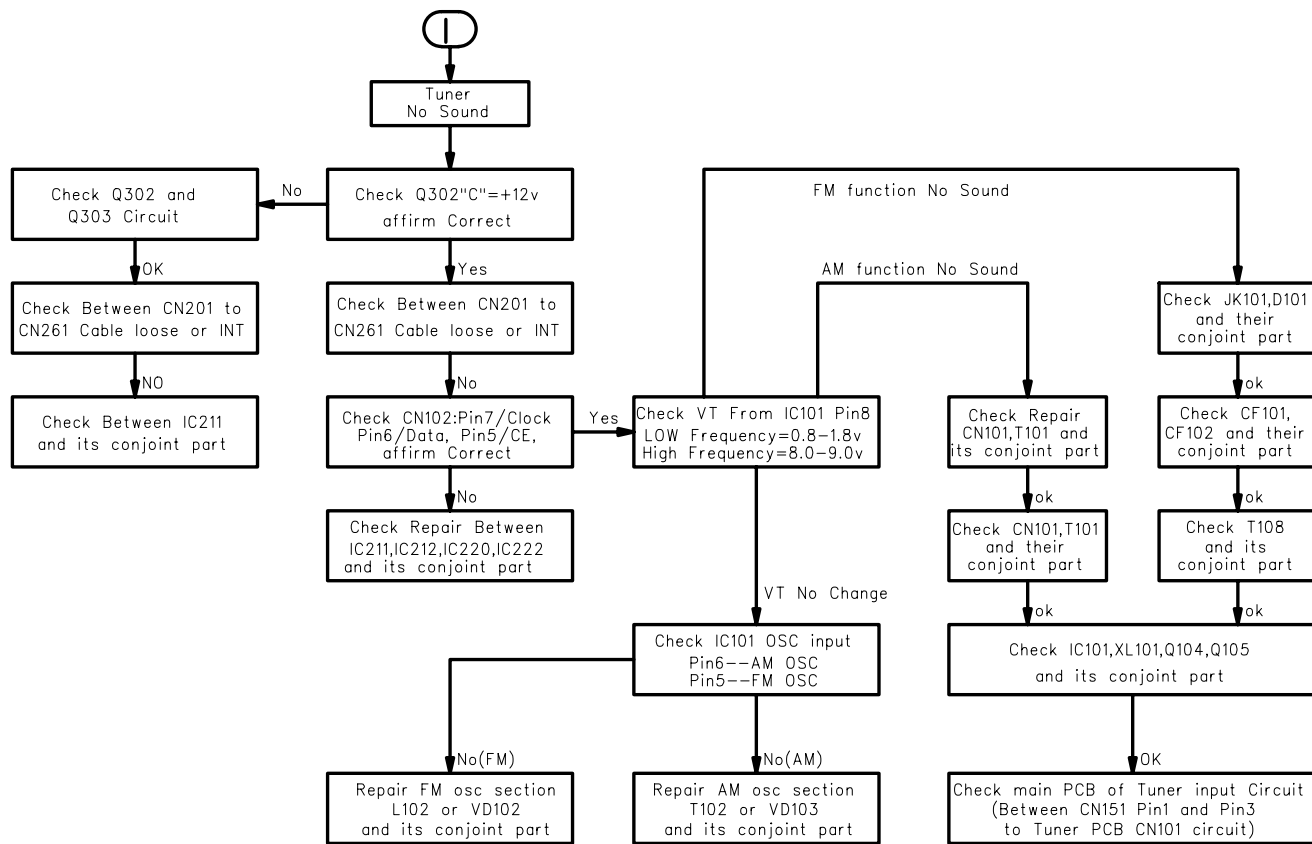
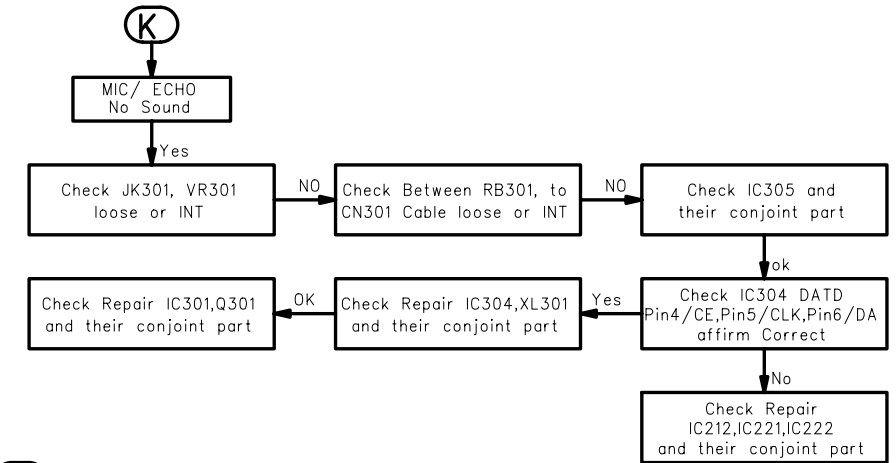
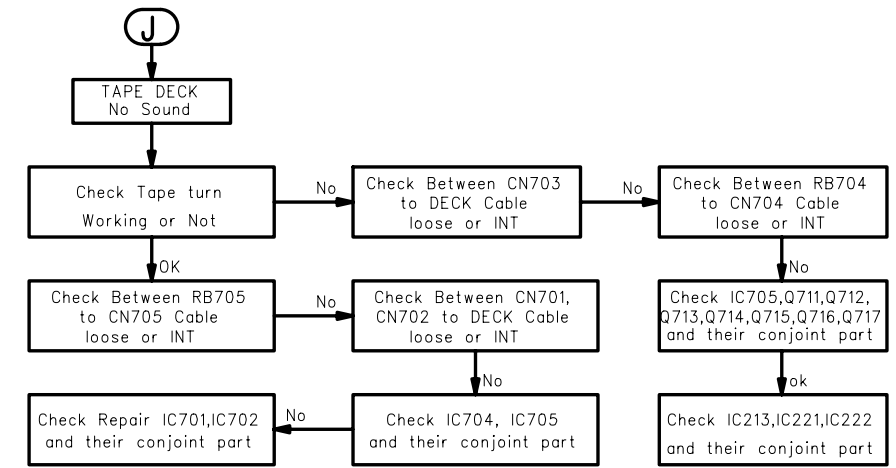
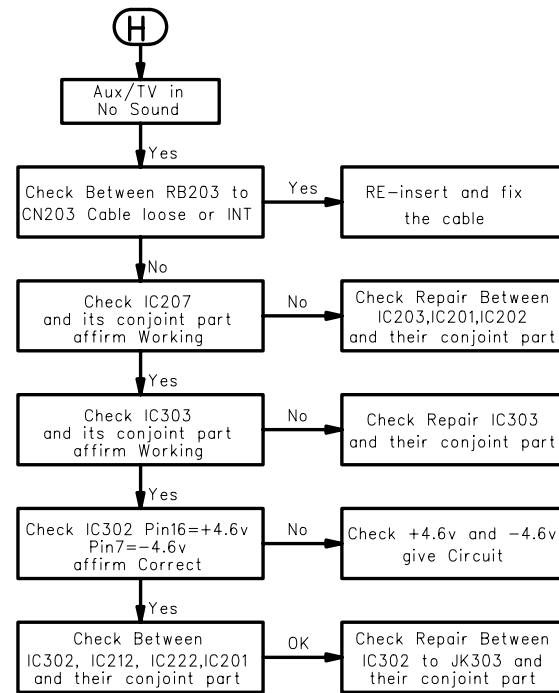
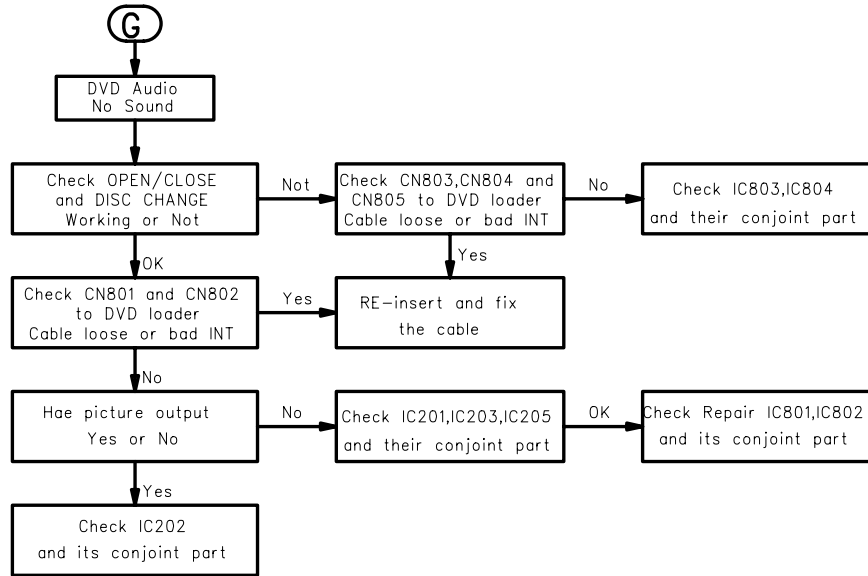
REPAIR INSTRUCTIONS

MAIN UNIT REPAIR CHART

- (A)
All Function
No Working
- (B)
Power Supply
No Working
- (C)
All Function
No Sound
- (D)
Earphone
No Sound
- (E)
Audio Line
No Output
- (F)
Subwoofer/DIN Line
No Output
- (G)
DVD Audio
No Sound
- (H)
Aux/TV in
No Sound
- (I)
Tuner
No Sound
- (J)
TAPE DECK
No Sound
- (K)
MIC/ ECHO
No Sound
- (L)
VU METER
invalidation
- (M)
Digital Line
No Output



REPAIR INSTRUCTIONS



DISMANTLING INSTRUCTIONS

Dismantling of the Cassette Cover

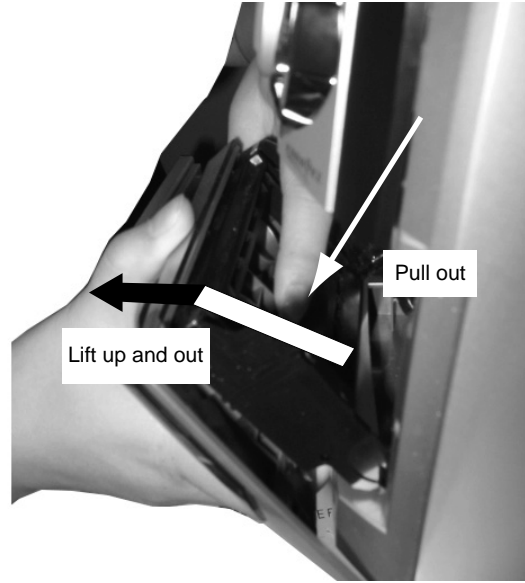


Figure 1

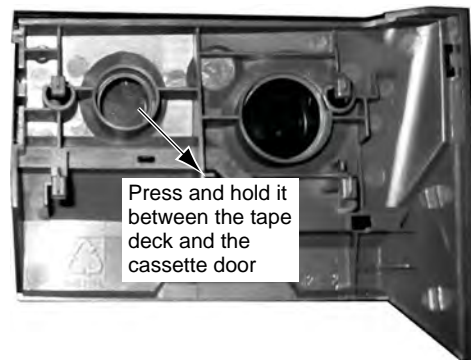


Figure 2

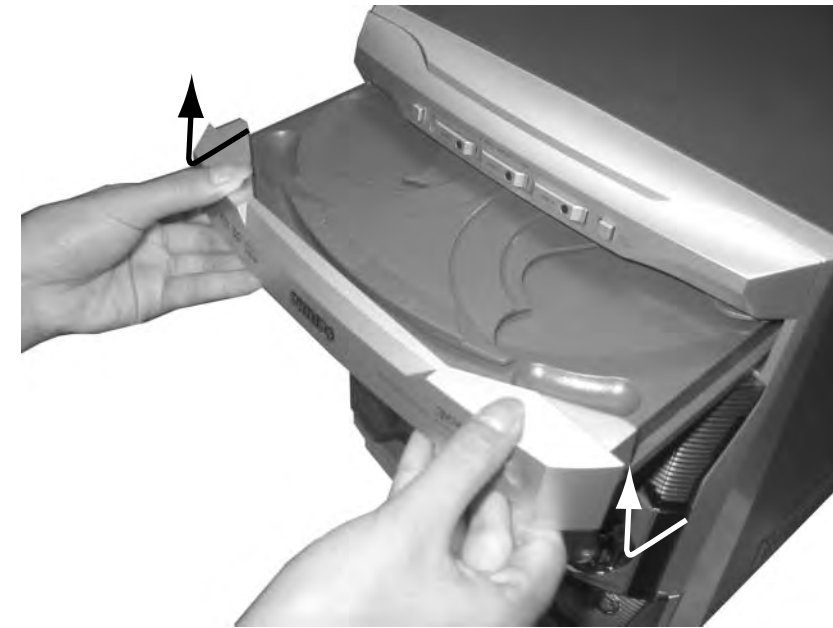


Figure 4

Dismantling the 3CDC Module

- 1) Loosen the 4 screws, slide Cover top (pos 255) towards the rear and remove it upwards.
- 2) Push the gear slowly towards the front as shown in figure 3 until the CDC tray starts to move out of the Front Cabinet. The CDC tray is now disengaged and can be pulled out completely.
- 3) Remove the Cover Tray as shown in figure 4.
- 4) Remove the Cover Tray as shown in figure 4.
- 5) Loosen 4 screws A to remove the CDC Module (pos 1105) as shown in figure 3.

Dismantling of the Cover Front Display and Cover Front Ornamental (pos 130)

- 1) Remove the Volume knobs as stated in Dismantling the Cover Front Display in Figure 5.

Notes: *There is nothing are sandwiched between the Front Cabinet (pos 101) and Cover Front Display (pos 129) but it has to be removed in order to reach the catches for the Cover Front Ornamental (pos 130) .*

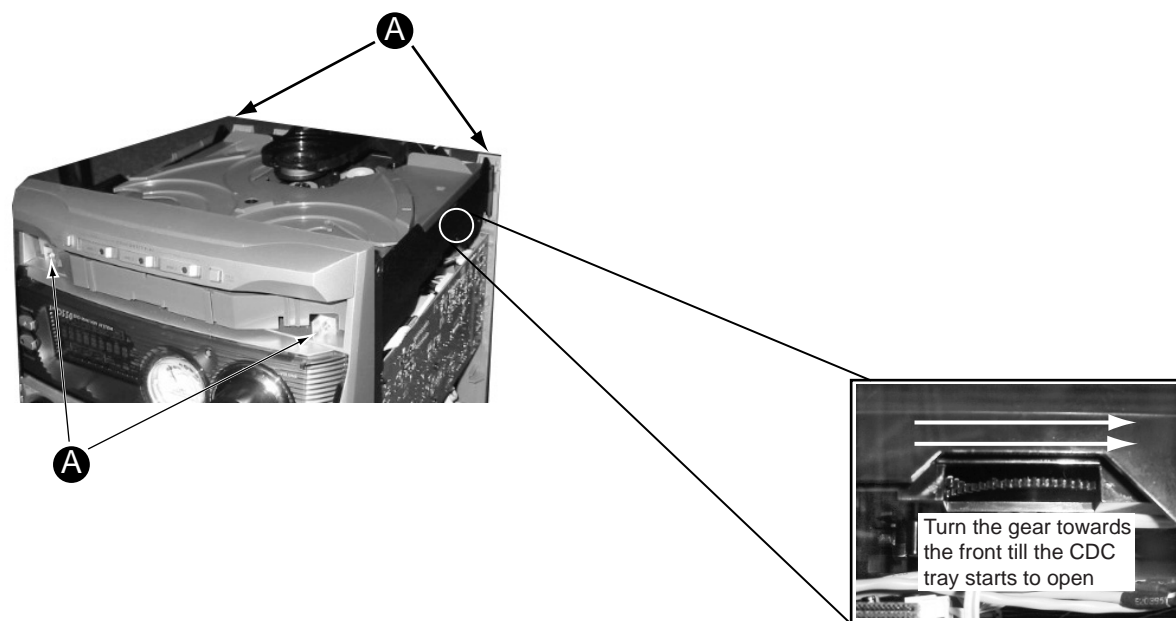


Figure 3

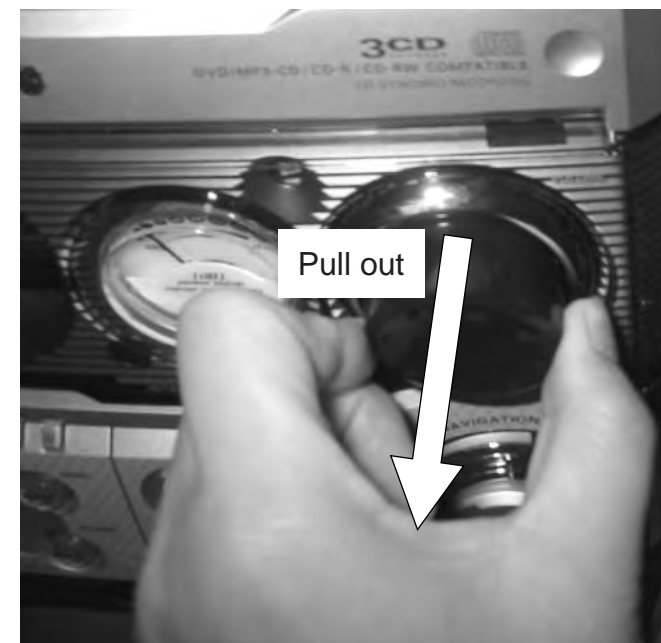


Figure 5

Detaching the Main board and Front Cabinet Assembly from the Bottom/Rear assembly

- 1) Release 2 catches ' B ' to free the Main board from the Front Cabinet Assembly as shown in figure 6.
- 2) Loosen 2 screws ' D ' at the bottom of the Front Cabinet on both sides of the set.
- 3) Release 2 catches ' C ' on both sides of the Front Cabinet and pull the Front Cabinet assembly out of the Bottom plate.

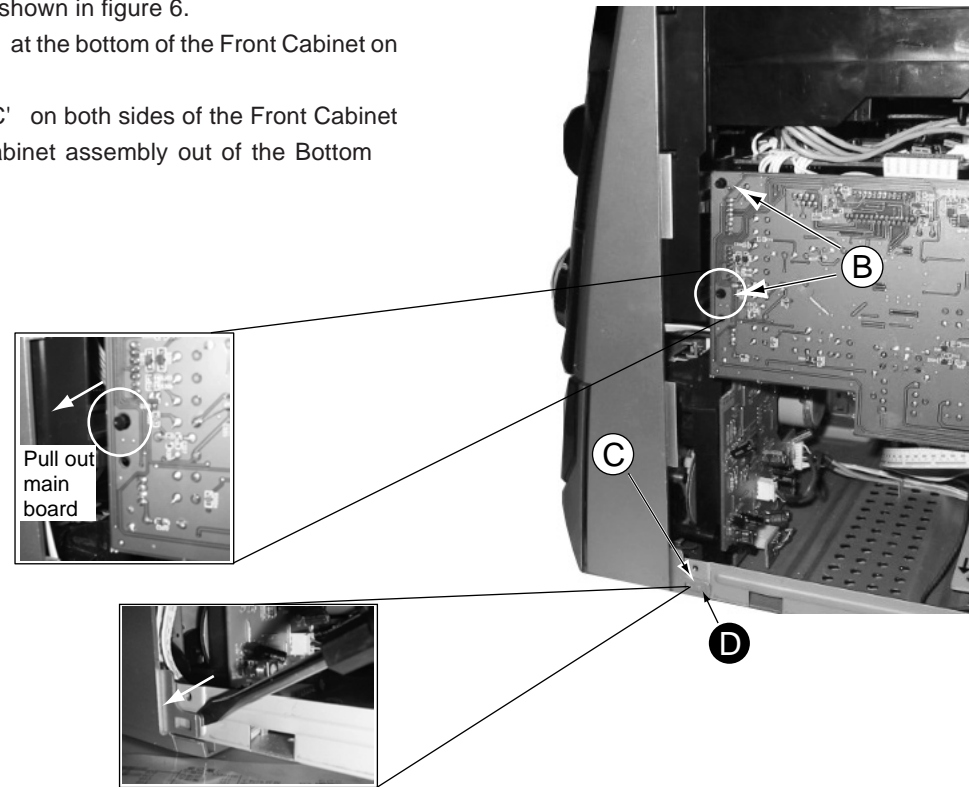


Figure 6

Dismantling of the Rear Panel

- 1) Loosen 8 screws ' J ' to remove the Rear Panel figure 11.
- 3) Release 2 catches ' K ' on both sides of the Rear Panel with the help of a minus screw driver and pull out the Rear Panel figure 11.

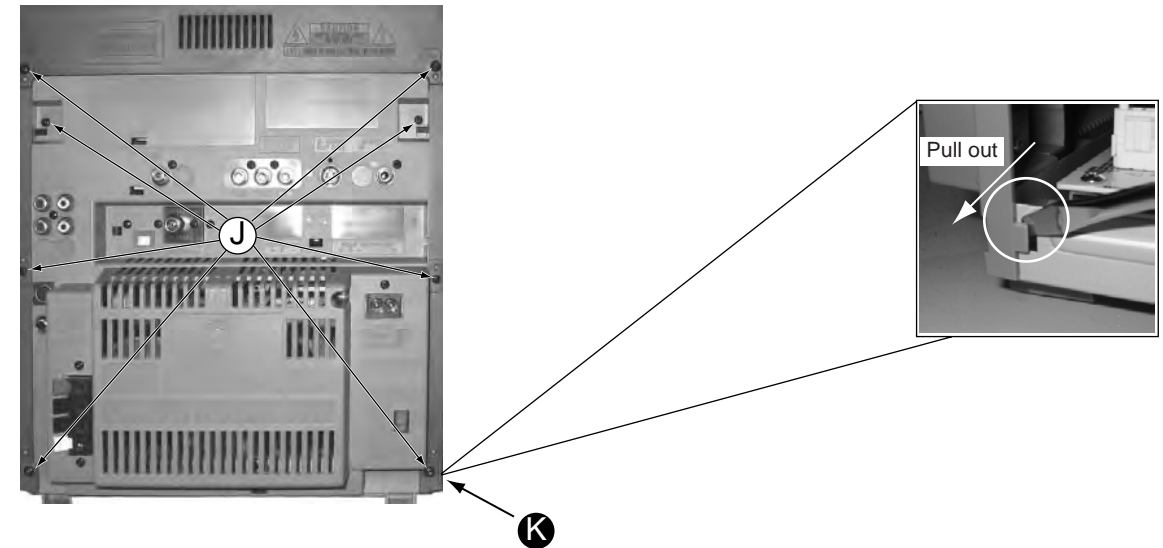


Figure 11

Dismantling of the Key Board , VFD Board, Tape Board and Cassette module

- 1) Loosen 5 screws ' E ' to remove the Bracket CDC Right as shown in figure 7.
- 2) Loosen 5 screws ' F ' to remove the KEY board figure 7.
- 3) Loosen 9 screws ' H ' to remove the VFD Board figure 9.
- 4) Loosen 1 screws ' G ' to remove the Tape Board figure 8.
- 5) Loosen 8 screws ' I ' to remove the Cassette Module figure 10.

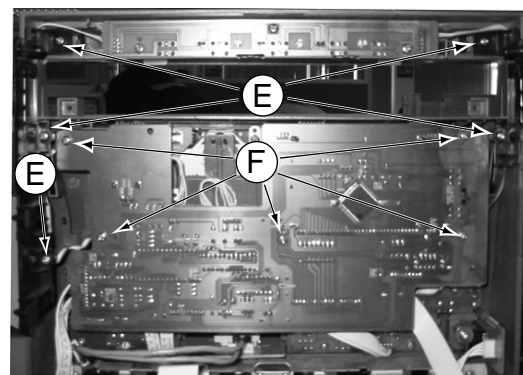


Figure 7

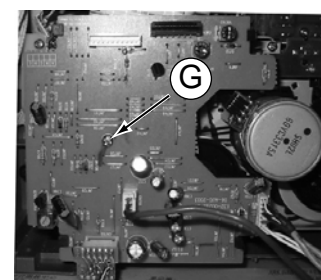


Figure 8

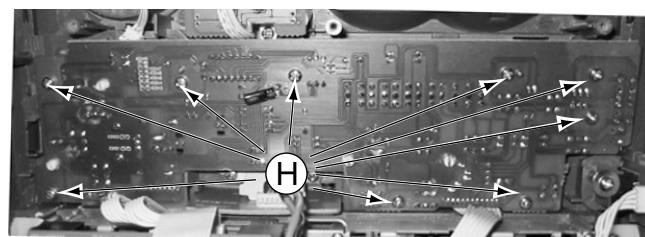


Figure 9

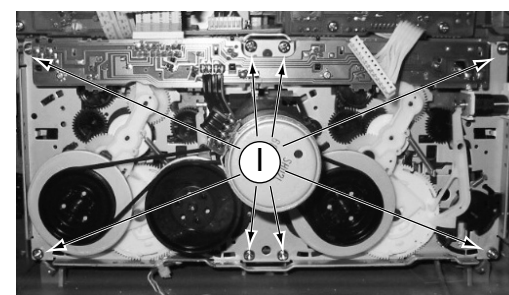


Figure 10

Dismantling of the Power Board

- 1) Loosen 4 screws ' L ' to remove the Power Board figure 12.

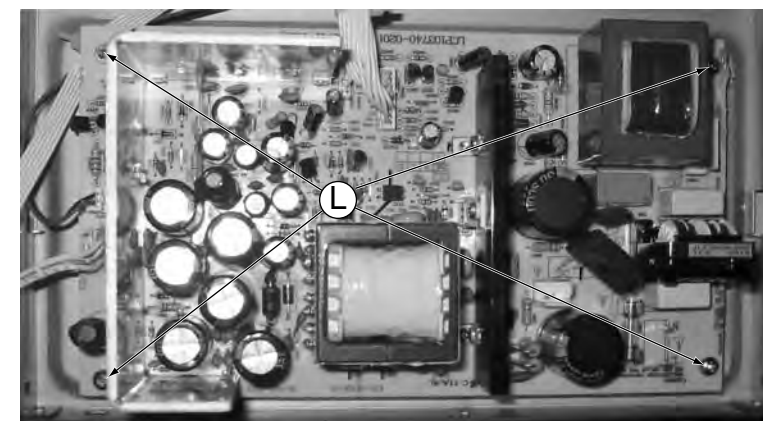


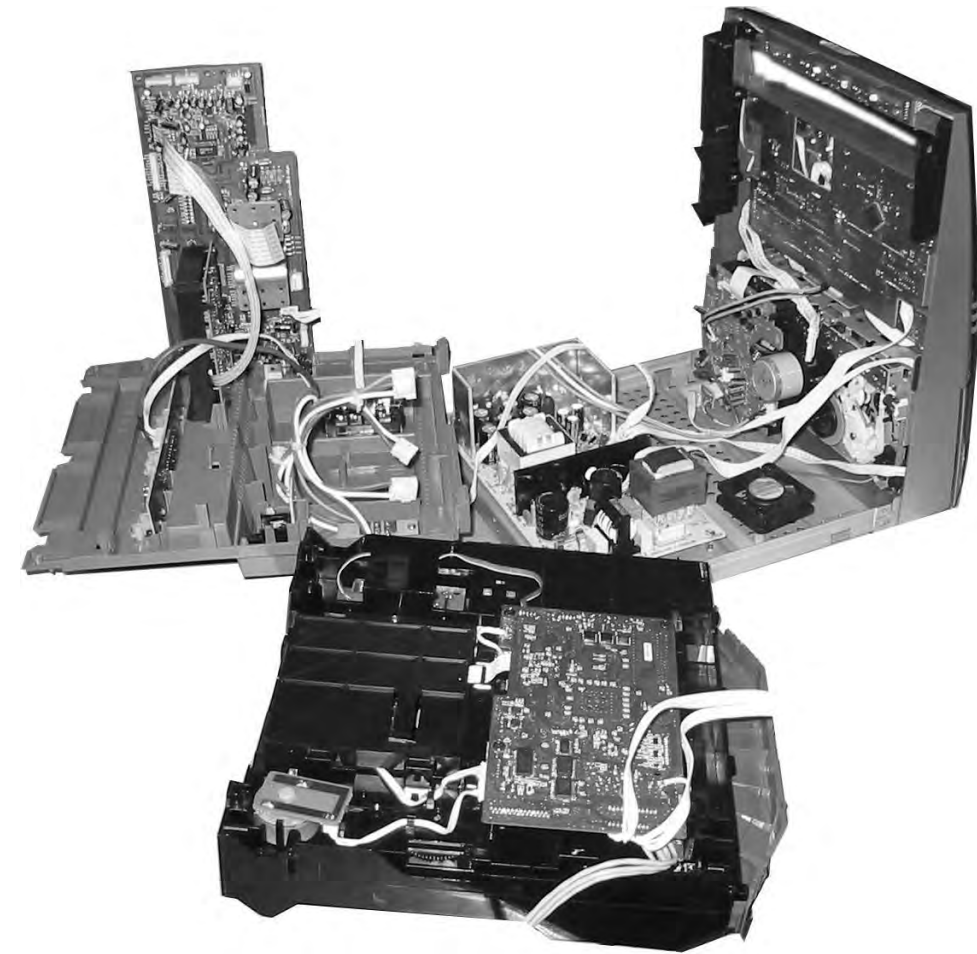
Figure 12

Service positions

Service position A

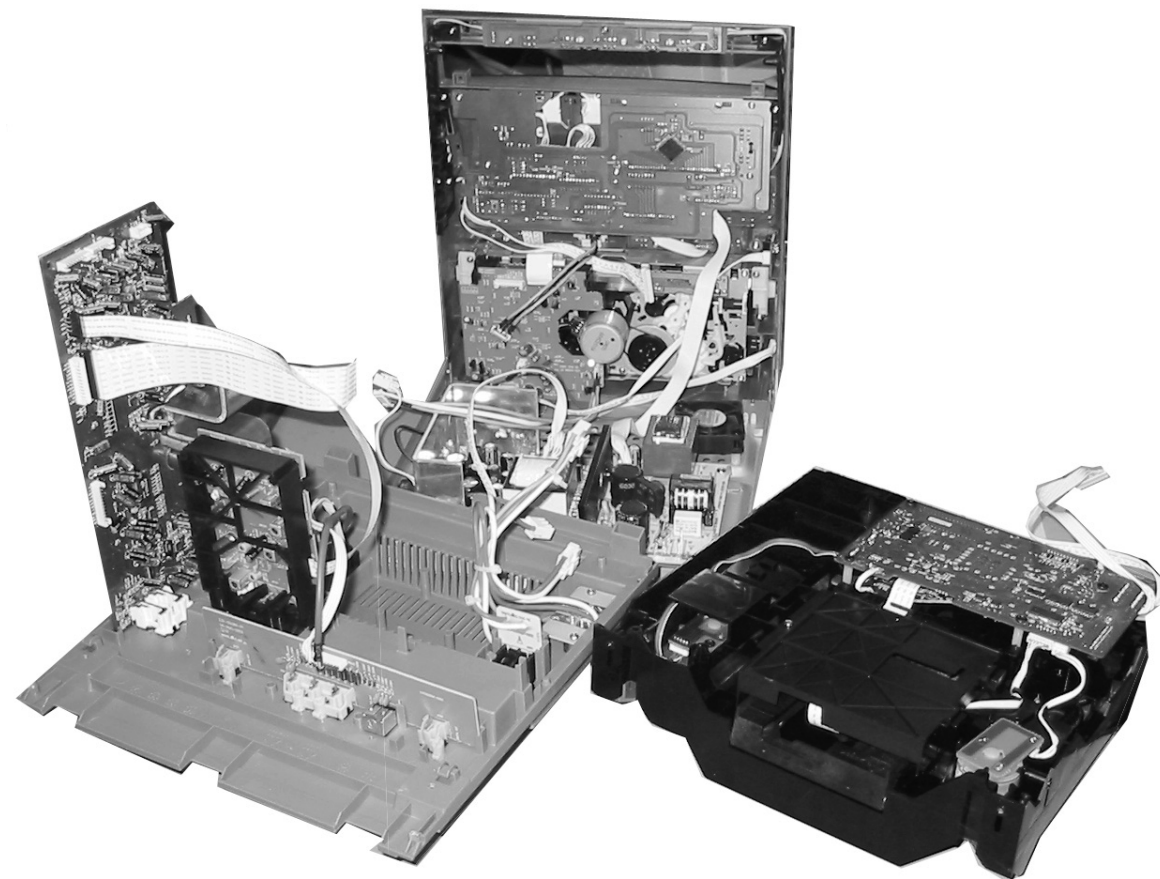


Service position B

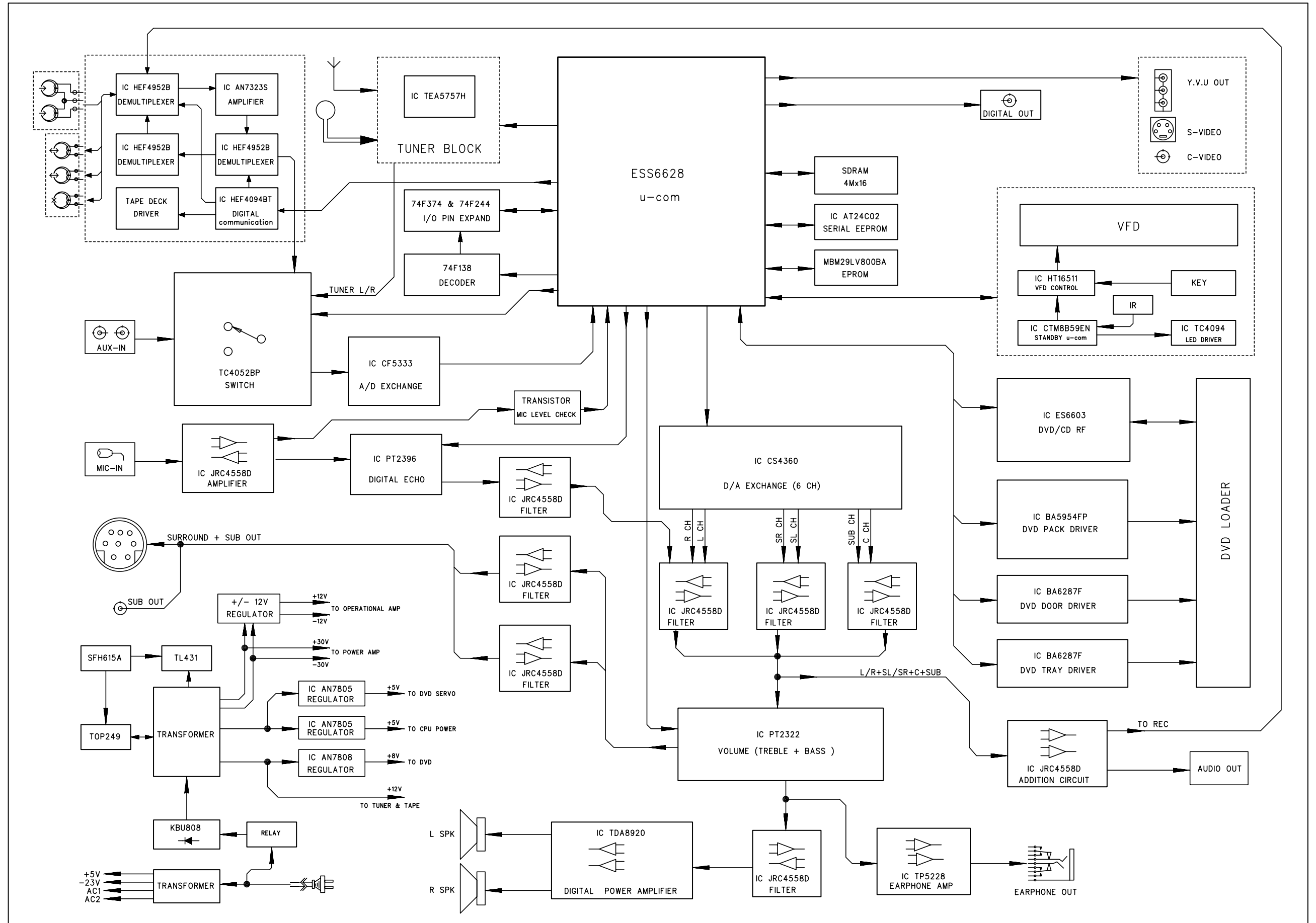


Note: After re-assembly, it is very important to ensure the wires are properly inserted into their respective sockets and routed not to touch or obstruct any moving parts.

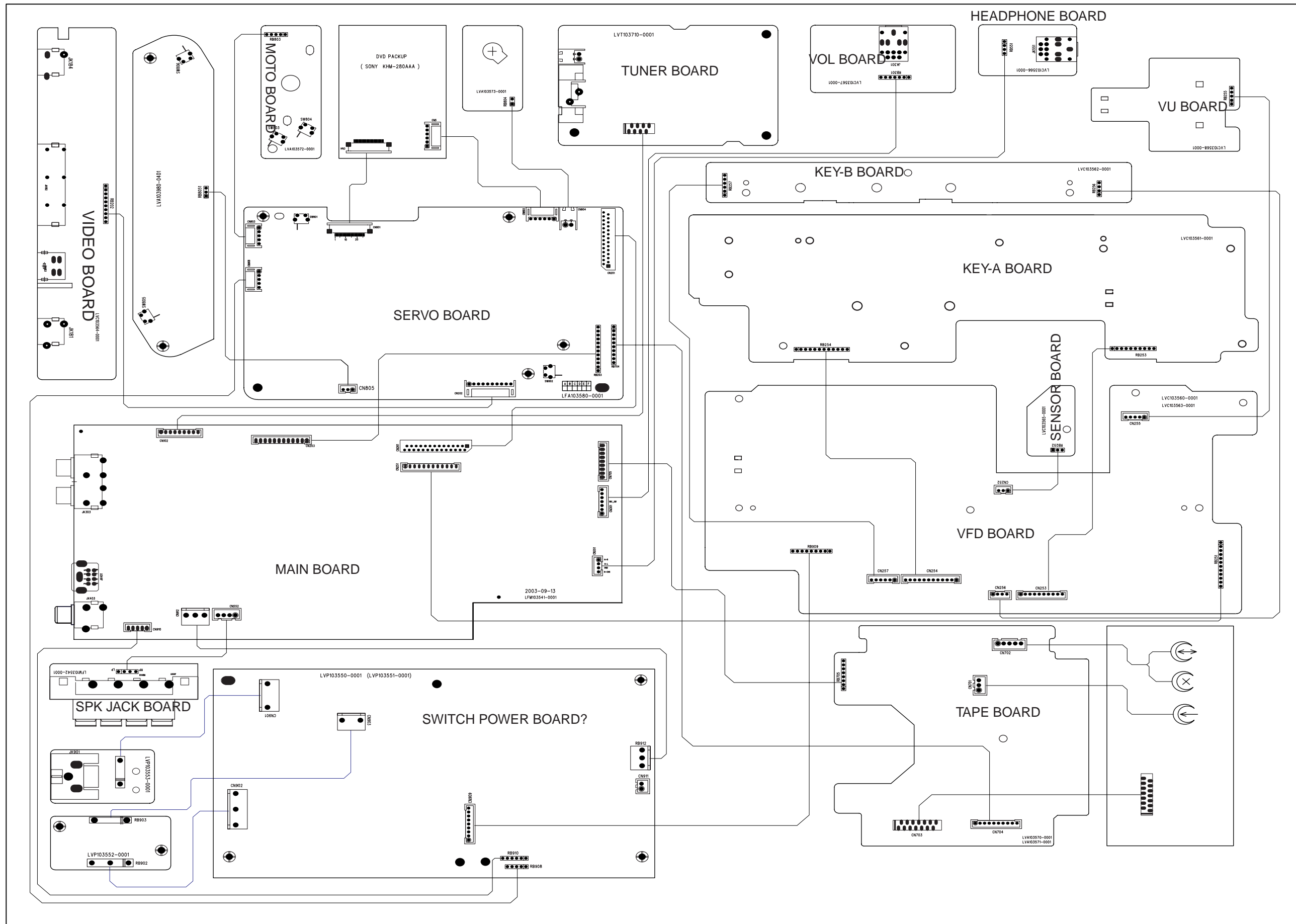
Service position C



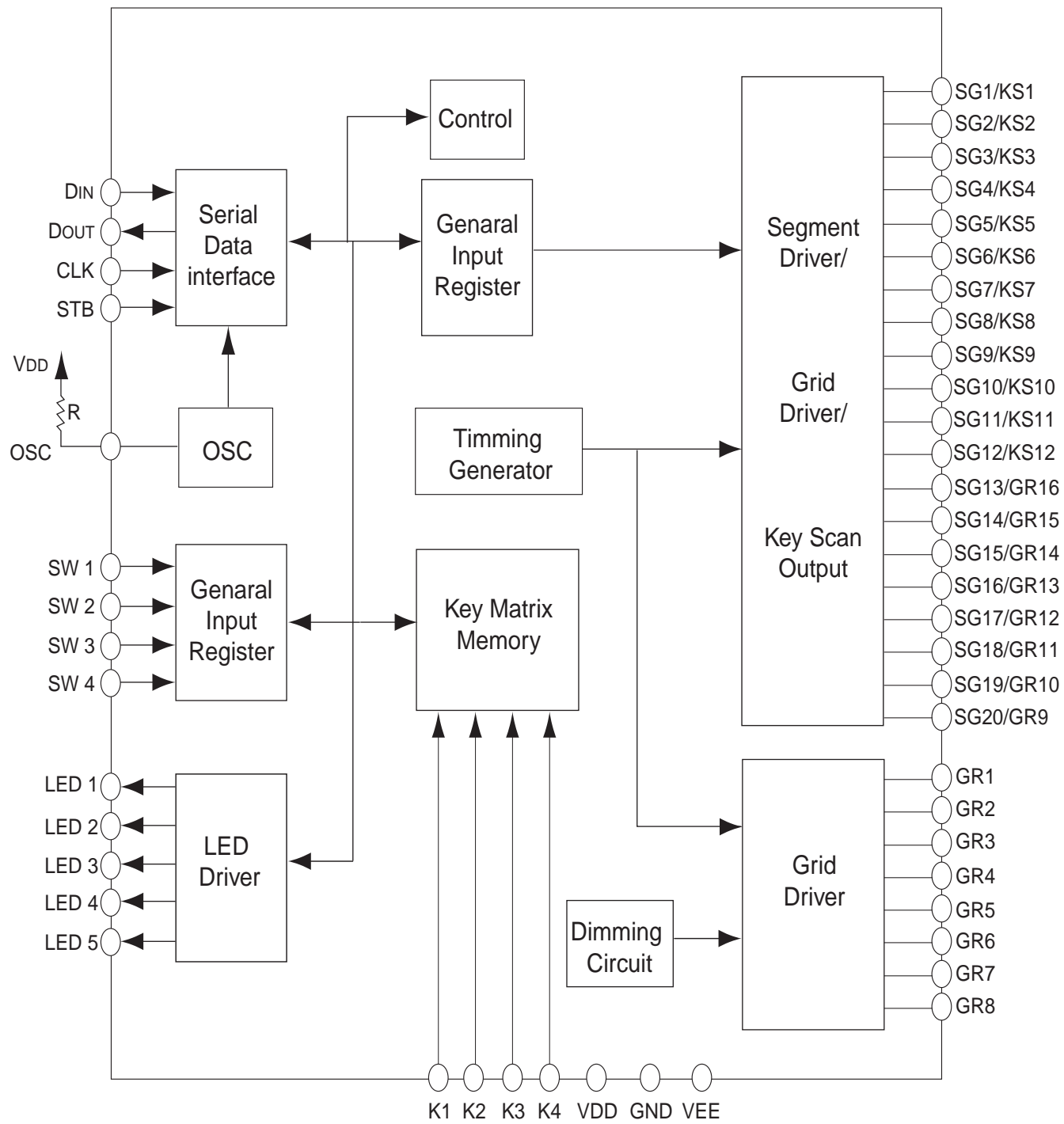
BLOCK DIAGRAM



WIRING DIAGRAM



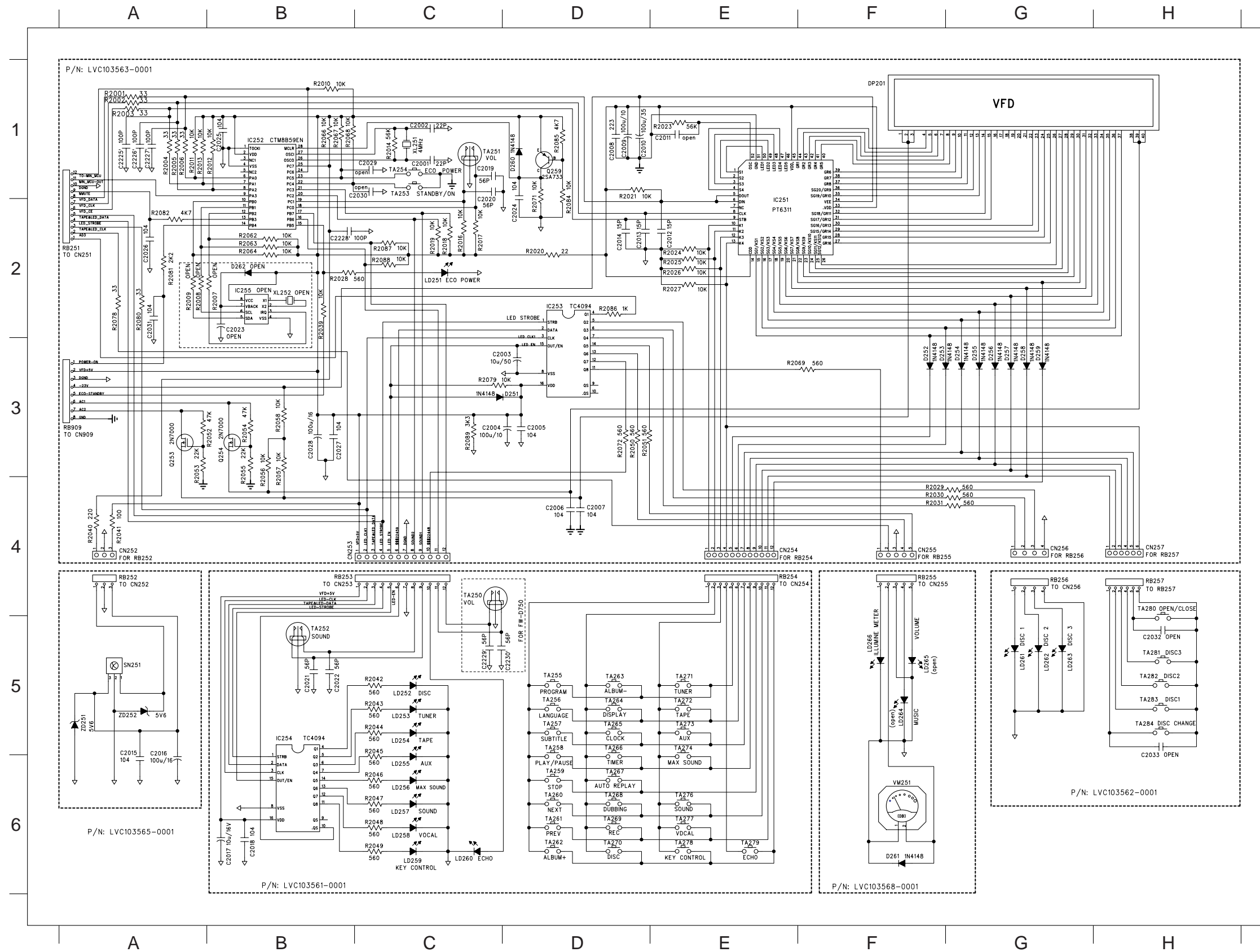
PT6 311 INTERNAL IC DIAGRAM



PT6 311 PIN DESCRIPTION

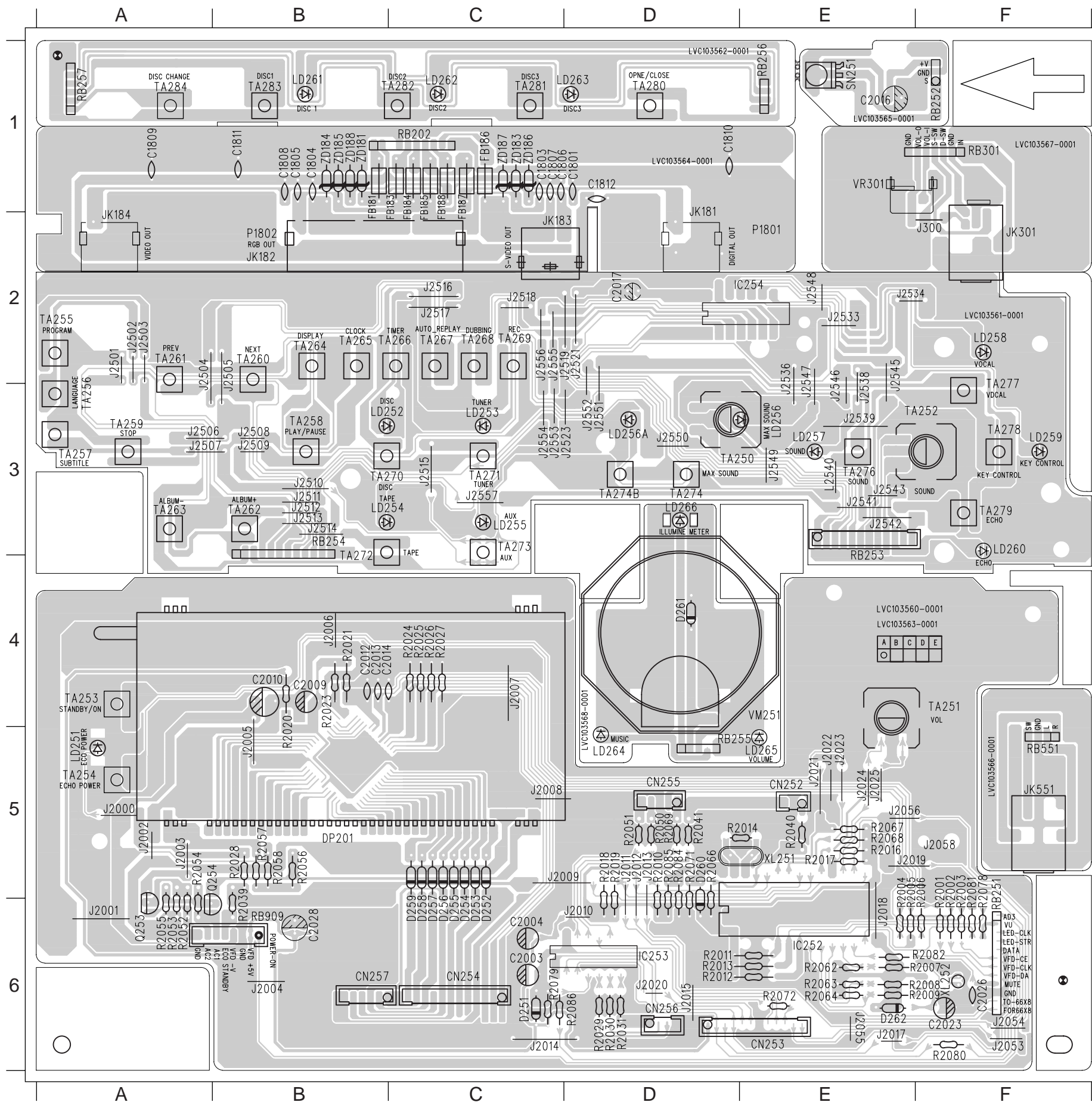
Pin Name	I/O	Description	Pin No.
SW 1 to SW 4	I	General Purpose Input Pins	1 to 4
DOUT	O	Data Output Pin (N-Channel, Open-Drain) This pin outputs serial data at the falling edge of the shift clock (starting from the lower bit).	5
DIN	I	Data Input Pin This pin inputs serial data at the rising edge of the shift clock (starting from the lower bit)	6
N C	-	No Connection	7
CLK	I	Clock Input Pin This pin reads serial data at the rising edge and outputs data at the falling edge.	8
STB	I	Serial Interface Strobe Pin The data input after the STB has fallen is processed as a command. When this pin is "HIGH", CLK is ignored.	9
K 1 to K 4	I	Key Data Input Pins The data inputted to these pins are latched at the end of the display cycle.	10 to 13
VDD	-	Logic Power Supply	14, 33, 45
SG 1/ K S1 to SG 12/ K S12	O	High-Voltage Segment Output Pins Also acts as the Key Source	15 to 26
SG 20/ GR 9 to SG 19/ GR 10 SG 18/ GR 11 to SG 13/ GR 16	O	High Voltage Segment/ Grid Output Pins	36 to 35 32 to 27
VEE	-	Pull-Down Level	34
GR 1 to GR 8	O	High-Voltage Grid Output Pins	44 to 37
LED 1 to LED 5	O	LED Output Pin	50 to 46
GND	-	Ground Pin	51
OSC	I	Oscillator Input Pin A resistor is connected to this pin to determine the oscillation frequency	52

CIRCUIT DIAGRAM - KEY BOARD



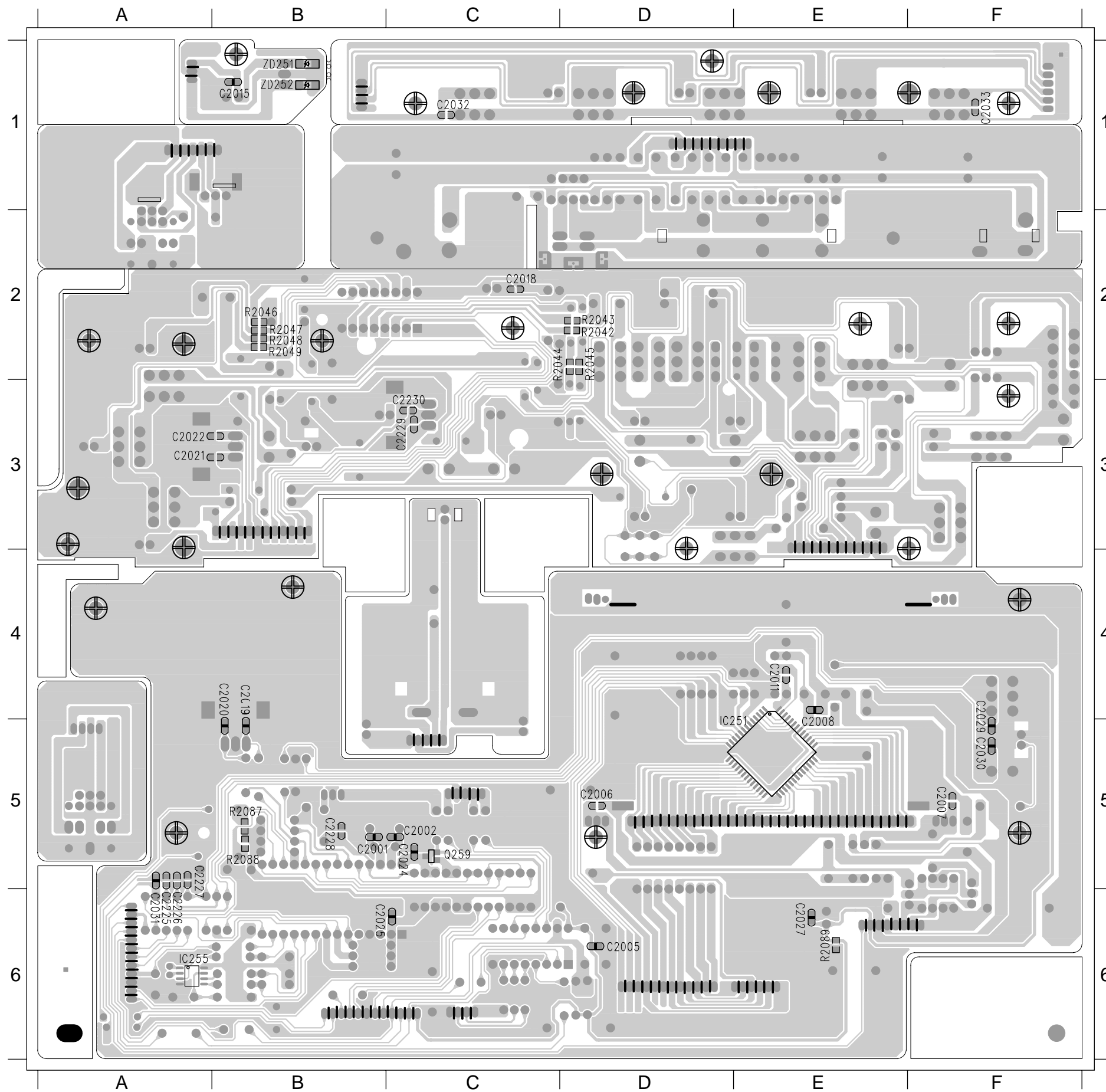
C2001	C1	Q259	D1	SN251	A5
C2002	C1	R2001	A1	TA251	C1
C2003	C3	R2002	A1	TA252	B5
C2004	C3	R2003	A1	TA253	C1
C2005	D3	R2004	A1	TA254	C1
C2006	D4	R2005	A1	TA255	D5
C2007	D4	R2006	A1	TA256	D5
C2008	D1	R2010	B1	TA257	D5
C2009	D1	R2011	A1	TA258	D5
C2010	D1	R2012	B1	TA259	D6
C2011	E1	R2013	A1	TA260	D6
C2012	E2	R2014	C1	TA261	D6
C2013	D2	R2016	C2	TA262	D6
C2014	D2	R2017	C2	TA263	D5
C2015	A5	R2018	C2	TA264	D5
C2016	A5	R2019	C2	TA265	D5
C2017	B6	R2020	D2	TA266	D5
C2018	B6	R2021	D1	TA267	D6
C2019	C1	R2023	E1	TA268	D6
C2020	C1	R2024	E2	TA269	D6
C2021	B5	R2025	E2	TA270	D6
C2022	B5	R2026	E2	TA271	E5
C2023	B2	R2027	E2	TA272	E5
C2024	D2	R2028	B2	TA273	E5
C2025	B1	R2029	F4	TA274	E5
C2026	A2	R2030	F4	TA276	E6
C2027	B3	R2031	F4	TA277	E6
C2028	B3	R2039	B2	TA278	E6
C2031	A2	R2040	A4	TA279	E6
C2032	H5	R2041	A4	TA280	H5
C2033	H5	R2042	C5	TA281	H5
C2225	A1	R2043	C5	TA282	H5
C2226	A1	R2044	C5	TA283	H5
C2227	A1	R2045	C5	TA284	H5
C2228	A1	R2046	C6	VM251	F6
CN252	A4	R2047	C6	XL251	C1
CN253	B4	R2048	C6	ZD251	A5
CN254	E4	R2049	C6	ZD252	A5
CN255	F4	R2050	D3		
CN256	G4	R2051	D3		
CN257	H4	R2052	A3		
D251	D3	R2053	A3		
D252	F3	R2054	B3		
D253	F3	R2055	B3		
D254	G3	R2056	B3		
D255	G3	R2057	B3		
D256	G3	R2058	B3		
D257	G3	R2062	B2		
D258	G3	R2063	B2		
D259	G3	R2064	B2		
D260	D1	R2066	B1		
D261	F6	R2067	B1		
DP201	F1	R2068	B1		
IC251	E2	R2069	F3		
IC252	B1	R2071	D2		
IC253	D2	R2072	D3		
IC254	B5	R2078	A2		
LD251	C2	R2079	C3		
LD252	C5	R2080	A2		
LD253	C5	R2081	A2		
LD254	C5	R2082	A2		
LD255	C6	R2084	D2		
LD256	C6	R2085	D1		
LD257	C6	R2088	C2		
LD258	C6	R2089	C		
LD259	C6	RB251	A2		
LD260	C6	RB252	A4		
LD261	G5	RB253	B4		
LD262	G5	RB254	E4		
LD263	G5	RB255	F4		
LD266	F5	RB256	G4		
Q253	A3	RB257	H4		
Q254	B3	RB909	A3		

PCB LAYOUT - KEY BOARD (TOP)



C1801	D1	J2024	E5	R2001	F6	TA257	A3
C1803	C1	J2025	E5	R2002	F6	TA258	B3
C1804	B1	J2053	F6	R2003	F6	TA259	A3
C1805	B1	J2054	F6	R2004	E6	TA260	B2
C1806	C1	J2055	E6	R2005	E6	TA261	A2
C1807	C1	J2056	E5	R2006	F6	TA262	B3
C1808	B1	J2058	F5	R2007	E6	TA263	A3
C1809	A1	J2501	A2	R2008	E6	TA264	B2
C1810	D1	J2502	A2	R2009	E6	TA265	B2
C1811	B1	J2503	A2	R2010	D5	TA266	C2
C1812	D1	J2504	A2	R2011	D6	TA267	C2
C2003	C6	J2505	B2	R2012	D6	TA268	C2
C2004	C6	J2506	A3	R2013	D6	TA269	C2
C2009	B4	J2507	A3	R2014	D5	TA270	C3
C2010	B4	J2508	B3	R2016	E5	TA271	C3
C2012	B4	J2509	B3	R2017	E5	TA272	B3
C2013	B4	J2510	B3	R2018	D5	TA273	C3
C2014	B4	J2511	B3	R2019	D5	TA274	D3
C2016	E1	J2512	B3	R2020	B4	TA274B	D3
C2017	D2	J2513	B3	R2021	B4	TA276	E3
C2023	F6	J2514	B3	R2023	B4	TA277	F3
C2026	F6	J2515	C3	R2024	C4	TA278	F3
C2028	B6	J2516	C2	R2025	C4	TA279	F3
CN252	E5	J2517	C2	R2026	C4	TA280	D1
CN253	B1	J2518	C2	R2027	C4	TA281	C1
CN254	C6	J2519	C2	R2028	B5	TA282	C1
CN255	D5	J2521	D2	R2029	D6	TA283	B1
CN256	D6	J2523	D3	R2030	D6	TA284	A1
CN257	B6	J2533	E2	R2031	D6	VM251	E4
D251	C6	J2534	E2	R2039	B6	XL251	E5
D252	C5	J2536	E2	R2040	E5	XL252	F6
D253	C5	J2538	E2	R2041	D5	ZD181	B1
D254	C5	J2539	E3	R2050	D5	ZD183	C1
D255	C5	J2541	E3	R2051	D5	ZD184	B1
D256	C5	J2542	E3	R2052	A6	ZD185	B1
D257	C5	J2543	E3	R2053	A6	ZD186	C1
D258	C5	J2545	E2	R2054	A6	ZD187	C1
D259	C5	J2546	E2	R2055	A6	ZD188	B1
D260	D5	J2547	E2	R2056	B5		
D261	D4	J2548	E2	R2057	B5		
D262	E6	J2549	E3	R2058	B5		
DP201	B5	J2550	D3	R2062	E6		
FB181	B1	J2551	D3	R2063	E6		
FB183	B1	J2552	D3	R2064	E6		
FB184	C1	J2553	C3	R2066	D5		
FB185	C1	J2554	C3	R2067	E5		
FB186	C1	J2555	C2	R2068	E5		
FB187	C1	J2556	C2	R2069	D5		
FB188	C1	J2557	C3	R2071	D5		
IC252	E6	JK181	D2	R2072	E6		
IC253	D6	JK182	B2	R2078	F6		
IC254	D2	JK183	C2	R2079	C6		
J300	F2	JK184	A2	R2080	F6		
J2000	A5	JK301	F2	R2081	F6		
J2001	A6	JK551	F5	R2082	E6		
J2002	A5	L2540	E3	R2084	D5		
J2003	A5	LD251	A5	R2085	D5		
J2004	B6	LD252	B3	R2086	C6		
J2005	B5	LD253	C3	RB202	C1		
J2006	B4	LD254	B3	RB251	F6		
J2007	C4	LD255	C3	RB253	E3		
J2008	C5	LD256	E3	RB254	B3		
J2009	C5	LD256A	D3	RB255	D5		
J2010	D6	LD257	E3	RB256	E1		
J2011	D5	LD258	F2	RB257	A1		
J2012	D5	LD259	F3	RB301	F1		
J2013	D5	LD260	F3	RB551	F5		
J2014	C6	LD261	B1	RB909	B6		
J2015	D6	LD262	C1	SN251	E1		
J2017	E6	LD263	D1	TA250	D3		
J2018	E5	LD264	D5	TA251	E4		
J2019	E5	LD265	E5	TA252	F3		
J2020	D6	LD266	D3	TA253	A4		
J2021	E5	P1802	B2	TA254	A5		
J2022	E5	Q253	A6	TA255	A2		
J2023	E5	Q254	A5	TA256	A3		

PCB LAYOUT - KEY BOARD (BOTTOM)



C2001	B5
C2002	C5
C2005	D6
C2006	D5
C2007	F5
C2008	E4
C2015	B1
C2018	C2
C2019	B5
C2020	B5
C2021	A3
C2022	A3
C2024	C5
C2025	C6
C2027	E6
C2029	F5
C2030	F5
C2031	A5
C2032	C1
C2033	F1
IC251	E5
Q259	C5
R2042	D2
R2043	D2
R2044	D2
R2045	D2
R2046	B2
R2047	B2
R2048	B2
R2049	B2
R2089	E6
ZD251	B1
ZD252	B1

ELECTRICAL PARTSLIST - KEY/VIDEO/SENSOR/PHONE/VOL/VU BOARD**- MISCELLANEOUS -**

DP201	9940 000 00012	VFD FW-D550
JK181	9965 000 17363	RCA JACK 1P W/GND P
JK182	9965 000 12609	RCA JACK R/G/B
JK183	9965 000 12607	DIN JACK, S-VIDEO OUT
JK184	9965 000 18044	JACK 1P W/GND
JK301	9965 000 22276	PHONE JACK D3.5 11P
JK551	9965 000 22276	PHONE JACK D3.5 11P
LD259	9940 000 00018	LED
LD260	9940 000 00018	LED
LD251	9940 000 00018	LED
LD252	9965 000 15933	LED
LD253	9965 000 15933	LED
LD254	9965 000 15933	LED
LD255	9965 000 15933	LED
LD256	9940 000 00018	LED
LD257	9940 000 00018	LED
LD258	9940 000 00018	LED
LD261	9940 000 00018	LED
LD262	9940 000 00018	LED
LD263	9940 000 00018	LED
LD266	9940 000 00025	LED 3D HI-LIGHT BLUE
RB251	9965 000 22278	FLAT CABLE 12PIN 200MM
RB252	9965 000 22279	FLAT CABLE 3P 100MM
RB253	9965 000 22280	FLAT CABLE 10PIN 100MM
RB254	9965 000 22281	FLAT CABLE 12PIN 100MM
RB255	9965 000 22282	FLAT CABLE 5P 100MM
SN251	9965 000 15935	IRT SENSOR RIM B38F
TA251	9965 000 22290	R-ENCODER
TA252	9965 000 22291	R-ENCODER
TA253	9965 000 22286	TACT SW 2PIN 50MA 12V
TA254	9965 000 22286	TACT SW 2PIN 50MA 12V
TA255	9965 000 22286	TACT SW 2PIN 50MA 12V
TA256	9965 000 22286	TACT SW 2PIN 50MA 12V
TA257	9965 000 22286	TACT SW 2PIN 50MA 12V
TA258	9965 000 22286	TACT SW 2PIN 50MA 12V
TA259	9965 000 22286	TACT SW 2PIN 50MA 12V

- MISCELLANEOUS -

TA260	9965 000 22286	TACT SW 2PIN 50MA 12V
TA261	9965 000 22286	TACT SW 2PIN 50MA 12V
TA262	9965 000 22286	TACT SW 2PIN 50MA 12V
TA263	9965 000 22286	TACT SW 2PIN 50MA 12V
TA264	9965 000 22286	TACT SW 2PIN 50MA 12V
TA265	9965 000 22286	TACT SW 2PIN 50MA 12V
TA266	9965 000 22286	TACT SW 2PIN 50MA 12V
TA267	9965 000 22286	TACT SW 2PIN 50MA 12V
TA268	9965 000 22286	TACT SW 2PIN 50MA 12V
TA269	9965 000 22286	TACT SW 2PIN 50MA 12V
TA270	9965 000 22286	TACT SW 2PIN 50MA 12V
TA271	9965 000 22286	TACT SW 2PIN 50MA 12V
TA272	9965 000 22286	TACT SW 2PIN 50MA 12V
TA273	9965 000 22286	TACT SW 2PIN 50MA 12V
TA274	9965 000 22286	TACT SW 2PIN 50MA 12V
TA276	9965 000 22286	TACT SW 2PIN 50MA 12V
TA277	9965 000 22286	TACT SW 2PIN 50MA 12V
TA278	9965 000 22286	TACT SW 2PIN 50MA 12V
TA279	9965 000 22286	TACT SW 2PIN 50MA 12V
TA280	9965 000 22286	TACT SW 2PIN 50MA 12V
TA281	9965 000 22286	TACT SW 2PIN 50MA 12V
TA282	9965 000 22286	TACT SW 2PIN 50MA 12V
TA283	9965 000 22286	TACT SW 2PIN 50MA 12V
TA284	9965 000 22286	TACT SW 2PIN 50MA 12V
VM251	9965 000 22292	DC VU METER 650R
VR301	9965 000 22296	CNTL ROTARY 50KΩ
FB181	9965 000 12470	BEAD FERITE 100Ω/at100MHZ
FB183	9965 000 12470	BEAD FERITE 100Ω/at100MHZ
FB184	9965 000 12470	BEAD FERITE 100Ω/at100MHZ
FB185	9965 000 12470	BEAD FERITE 100Ω/at100MHZ
FB186	9965 000 12470	BEAD FERITE 100Ω/at100MHZ
FB187	9965 000 12470	BEAD FERITE 100Ω/at100MHZ
FB188	9965 000 12470	BEAD FERITE 100Ω/at100MHZ

- COILS & FILTERS -**ELECTRICAL PARTSLIST - KEY/VIDEO/SENSOR/PHONE/VOL/VU BOARD****- COILS & FILTERS -**

XL251	9965 000 17405	CRYSTAL 4.00000MHZ
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- DIODES -

D251	4822 130 30621	1N4148
D252	4822 130 30621	1N4148
D253	4822 130 30621	1N4148
D254	4822 130 30621	1N4148
D255	4822 130 30621	1N4148
D256	4822 130 30621	1N4148
D257	4822 130 30621	1N4148
D258	4822 130 30621	1N4148
D259	4822 130 30621	1N4148
D260	4822 130 30621	1N4148
D261	4822 130 30621	1N4148
ZD181	4822 130 34233	BZX79-B5V1
ZD183	4822 130 34233	BZX79-B5V1
ZD184	4822 130 34233	BZX79-B5V1
ZD185	4822 130 34233	BZX79-B5V1
ZD186	4822 130 34233	BZX79-B5V1
ZD187	4822 130 34233	BZX79-B5V1
ZD188	4822 130 34233	BZX79-B5V1
ZD251	9965 000 19397	CHIP ZENER 5.6V 5% 0.5W
ZD252	9965 000 19397	CHIP ZENER 5.6V 5% 0.5W

- IC & TRANSISTORS -

IC251	9965 000 12550	IC PT6311
IC252	9940 000 00019	IC 28PIN CTM8B59EN PDIP
IC253	9965 000 22298	IC 16PIN CD4094B
IC254	9965 000 22298	IC 16PIN CD4094B
Q253	9965 000 16497	2N7000TA 60V/0.2A,
Q254	9965 000 16497	2N7000TA 60V/0.2A,
Q259	9965 000 14175	2SA733Q,P

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

TUNER BOARD

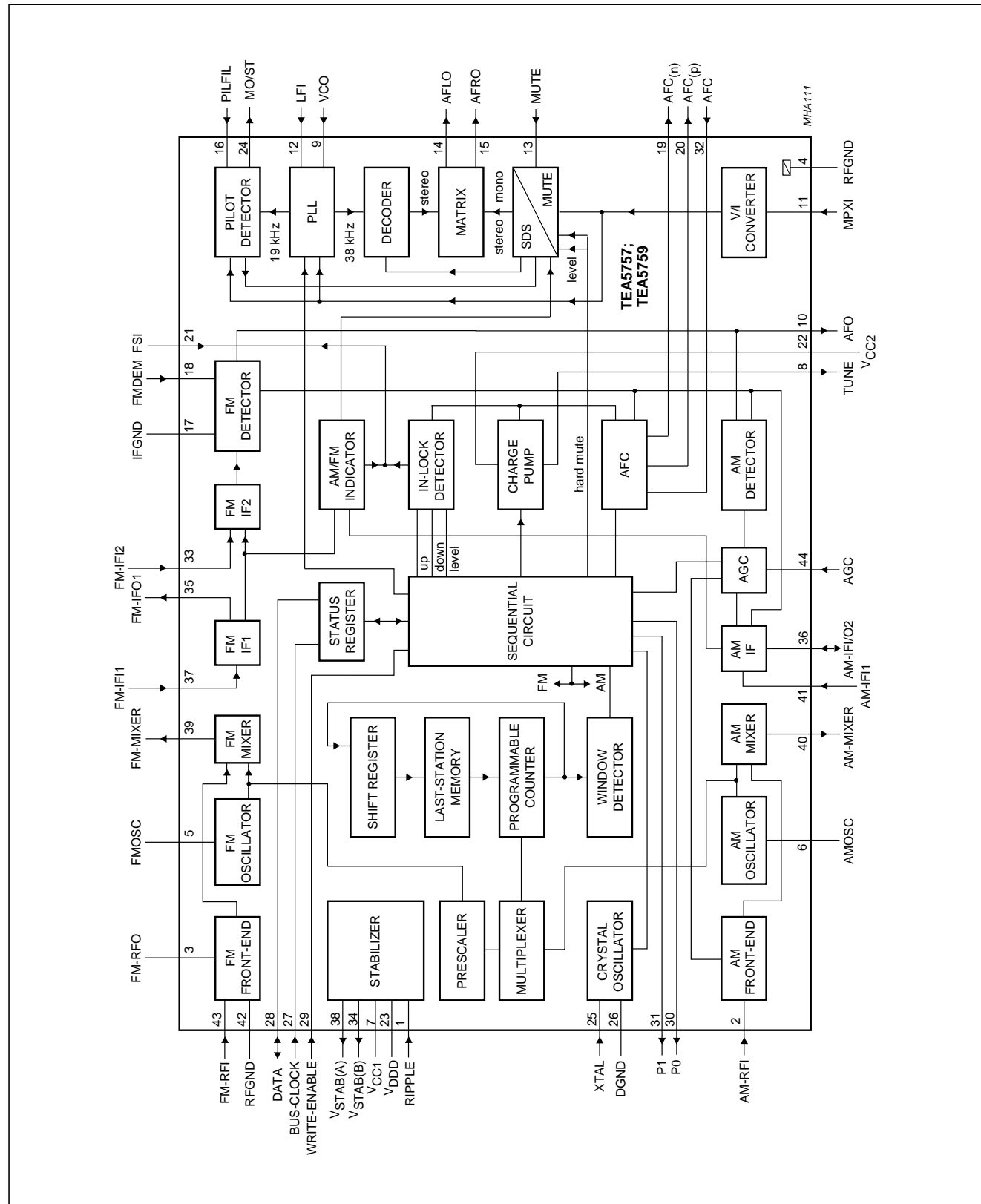
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TEA5757 INTERNAL IC DIAGRAM

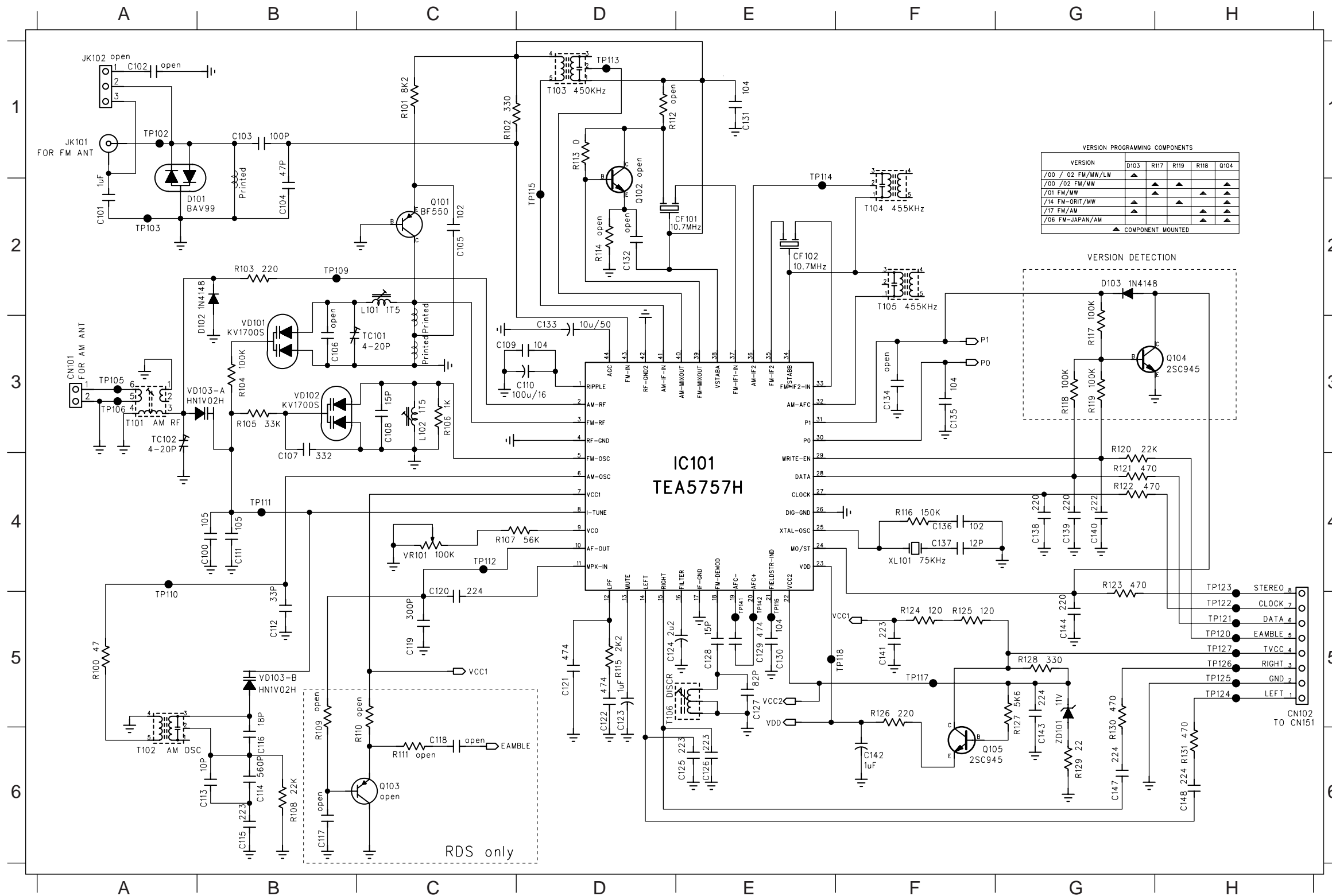
TEA5757 PIN DESCRIPTION

BLOCK DIAGRAM



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 kΩ)
MPXI	11	stereo decoder input (input impedance typical 150 kΩ)
LF1	12	loop-filter input
MUTE	13	mute input
AFLO	14	left channel output (output impedance typical 4.3 kΩ)
AFRO	15	right channel output (output impedance typical 4.3 kΩ)
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

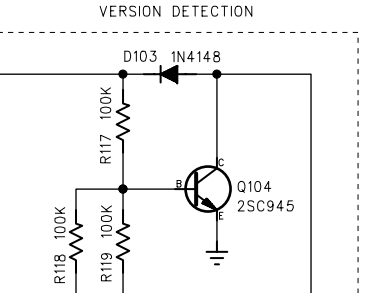
CIRCUIT DIAGRAM - TUNER BOARD



VERSION PROGRAMMING COMPONENTS

VERSION	D103	R117	R119	R118	Q104
/00 / 02 FM/MW/LW	▲	▲	▲	▲	▲
/00 /02 FM/MW	▲	▲	▲	▲	▲
/01 FM/MW	▲	▲	▲	▲	▲
/14 FM-DRIT/MW	▲	▲	▲	▲	▲
/17 FM/AM	▲	▲	▲	▲	▲
/06 FM-JAPAN/AM	▲	▲	▲	▲	▲

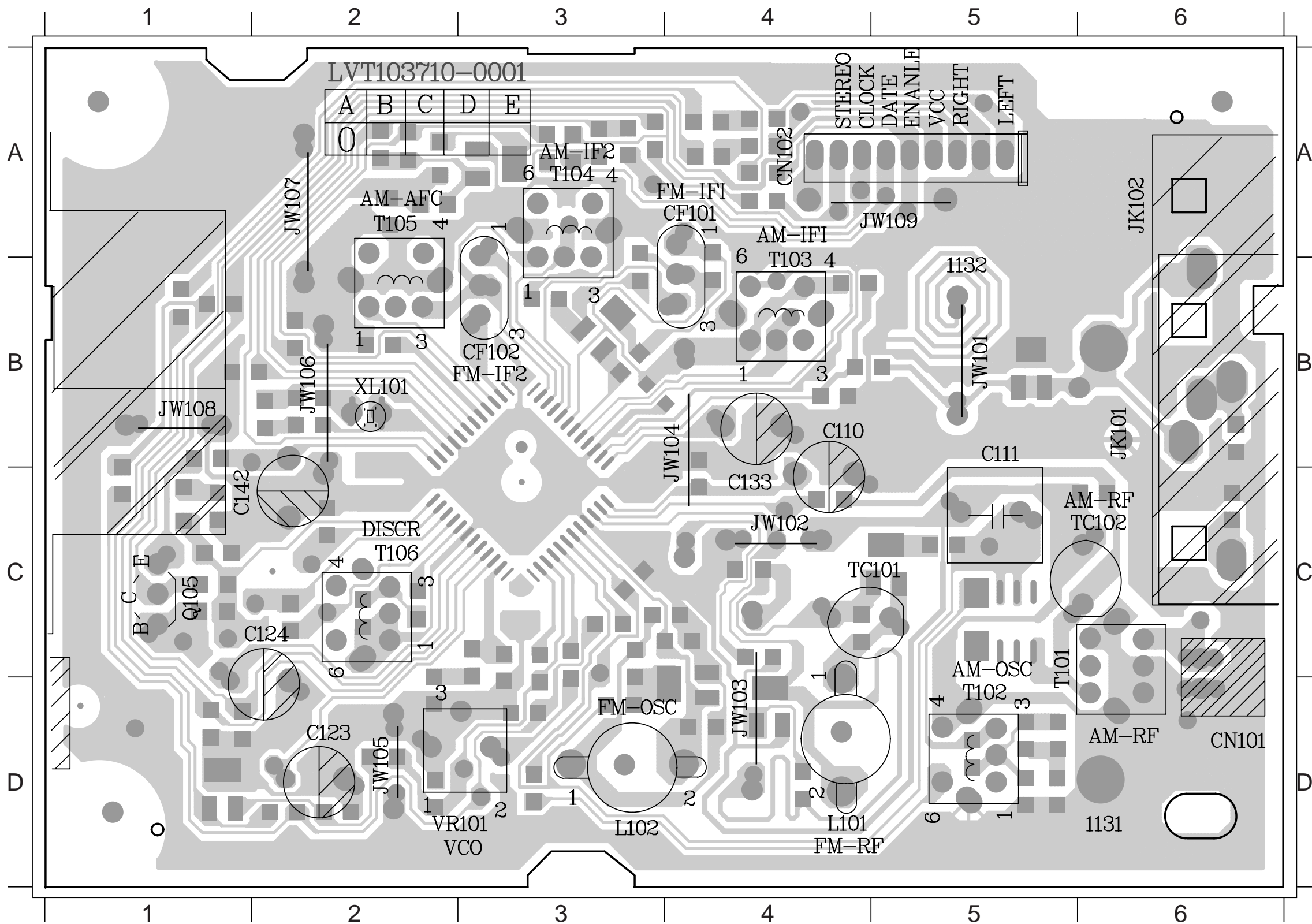
▲ COMPONENT MOUNTED



- C100 B4 R108 B6
- C101 A2 R113 D1
- C103 B1 R115 D5
- C104 B2 R116 F4
- C105 C2 R117 G3
- C107 B4 R118 G3
- C108 C3 R120 G4
- C109 C3 R121 G4
- C110 D3 R122 G4
- C111 B4 R123 G4
- C112 B5 R124 F5
- C113 B6 R125 F5
- C114 B6 R126 F5
- C115 B6 R127 G5
- C116 B6 R128 G5
- C119 C5 R129 G6
- C120 C4 R130 G6
- C121 D5 R131 H6
- C122 D5 T101 A3
- C123 D5 T102 A6
- C124 D5 T103 D1
- C125 E6 T104 F2
- C126 E6 T105 F2
- C127 E5 T106 D5
- C128 E5 TC101 C3
- C129 E5 TC102 A3
- C130 E5 VD101 B3
- C131 E1 VD102 B3
- C133 D3 VD103-A B3
- C135 F3 VD103-B B5
- C136 F4 VR101 C4
- C137 F4 XL101 F4
- C138 G4 ZD101 G6
- C139 G4
- C140 G4
- C141 F5
- C142 F6
- C143 G6
- C144 G5
- C147 G6
- C148 H6
- CF101 E2
- CF102 E2
- CN101 A3
- CN102 H5
- D101 A2
- D102 B2
- IC101 E4
- L101 C2
- L102 C3
- JK101 A1
- Q101 C2
- Q104 H3
- Q105 F6
- R100 A5
- R101 C1
- R102 C1
- R103 B2
- R104 B3
- R105 B3
- R106 C3
- R107 C4

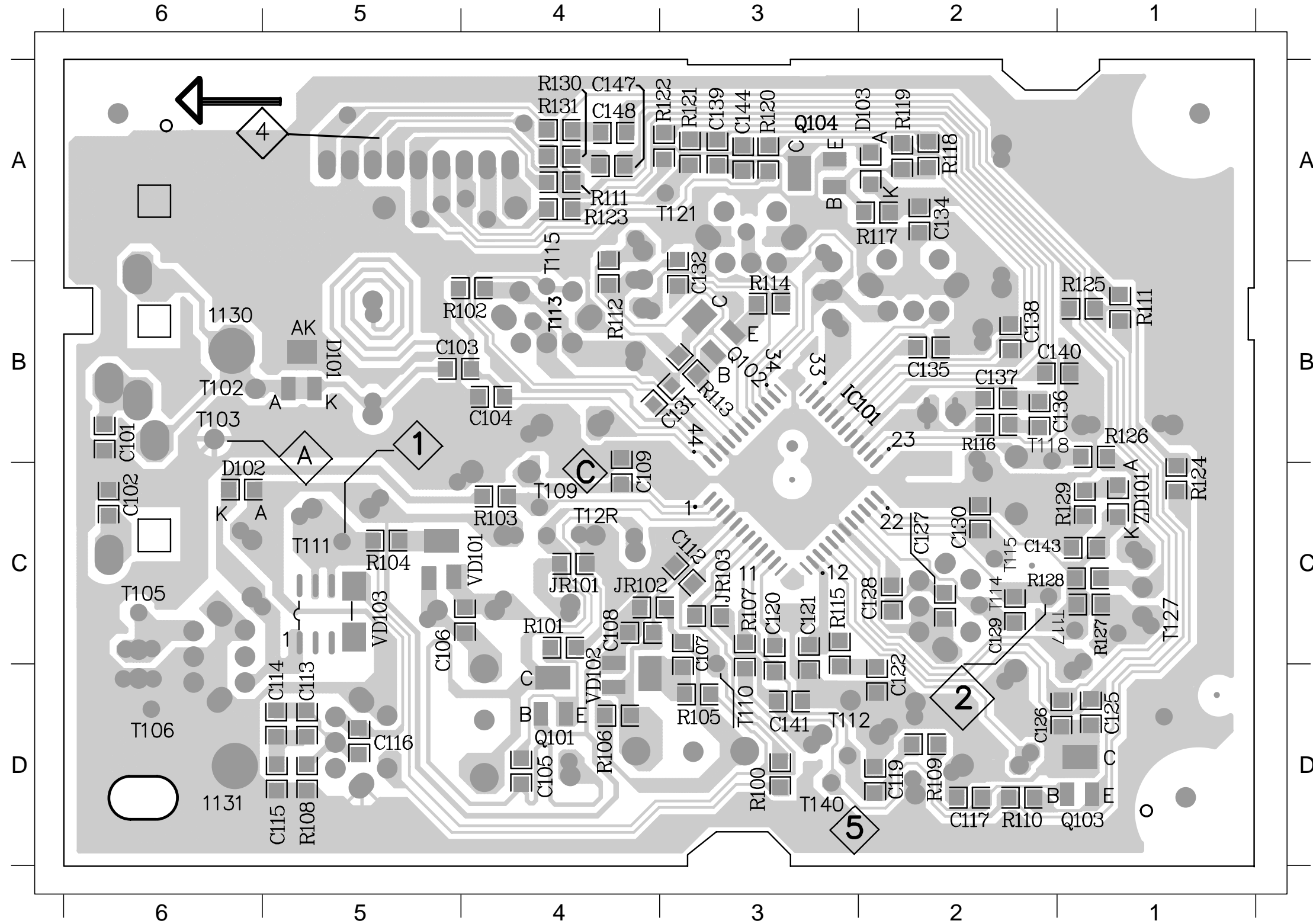
PCBLAYOUT-TUNER BOARD(TOP)

C110	B4	C142	C1	JK101	B6	JW104	B4	JW109	A5	T102	D5	TC101	C4
C111	C5	CF101	A4	JK102	A6	JW105	D2	L101	D4	T103	B4	TC102	C6
C123	D2	CF102	B3	JW101	B5	JW106	B2	L102	D3	T104	A3	VR101	D2
C124	C2	CN101	D6	JW102	C4	JW107	A2	Q105	C1	T105	A2	XL101	B2
C133	B4	CN102	A4	JW103	D4	JW108	B1	T101	C5	T106	C2		



PCB LAYOUT - TUNER BOARD (BOTTOM)

C101	B6	C115	D5	C129	C2	C143	C2	Q101	D4	R108	D5	R124	C1	T105	C6
C103	B5	C116	D5	C130	C2	C144	A3	Q104	A3	R113	B3	R125	B1	T106	D6
C104	B4	C119	D2	C131	B3	C147	A4	R100	D3	R115	C3	R126	B1	VD102	D4
C105	D4	C120	C3	C135	B2	C148	A4	R101	C4	R116	B2	R127	C1	VD103	C5
C107	C3	C121	C3	C136	B2	D101	B5	R102	B5	R117	A2	R128	C1	ZD101	C1
C108	C4	C122	D2	C137	B2	D102	C6	R103	C4	R118	A2	R129	C1		
C109	C4	C125	D1	C138	B2	IC101	B2	R104	C5	R120	A3	R130	A4		
C112	C3	C126	D2	C139	A3	JR101	C4	R105	D3	R121	A3	R131	A4		
C113	D5	C127	C2	C140	B2	JR102	C4	R106	D4	R122	A3	T102	B6		
C114	D5	C128	C2	C141	D3	JR103	C3	R107	C3	R123	A4	T103	B6		



ELECTRICAL PARTSLIST - TUNER BOARD**- MISCELLANEOUS -**

JK101 9965 000 17361 FEMALE TYPE ID1.44MM

- CAPACITORS -

TC101 9965 000 15866 COND TRIM 4.2 - 20 PF N450

TC102 9965 000 15866 COND TRIM 4.2 - 20 PF N450

- RESISTORS -

VR101 9965 000 22264 CNTL TRIMMER 100KΩ

- COILS & FILTERS -

CF101 9965 000 17368 10.7 MHZ

CF102 9965 000 17368 10.7 MHZ

L101 9965 000 22251 MOULDED COIL 63.5PF 3%

L102 9965 000 22251 MOULDED COIL 63.5PF 3%

T101 9965 000 22252 RF COIL 295μH 8% (796KHZ)

T102 9965 000 22253 OSC COIL AM 120μH (796 KHZ)

T103 9965 000 22254 AM IFT 455KHZ 180PF

T104 9965 000 22255 AM IFT 455KHZ 180PF

T105 9965 000 22255 AM IFT 455KHZ 180PF

T106 9965 000 22256 RF COIL 2.45μH 5% (7.96KHZ)

XL101 9965 000 22260 CRYSTAL 75KHZ 20PPM

- DIODES -

D101 9965 000 22261 DIODE CHIP BAV99

D102 9965 000 19409 DIODE CHIP BAV16W/IN4148W

VD101 9965 000 22262 CHIP VAR.CAP DIODE KV1700S

VD102 9965 000 22262 CHIP VAR.CAP DIODE KV1700S

ZD101 9965 000 22263 CHIP ZENER 11V 5% 0.5W

- IC & TRANSISTORS -

IC101 9965 000 22265 IC 44PIN TEA5757H QFP44

- IC & TRANSISTORS -

Q101 9965 000 22272 XISTR PNP BF550

Q104 9965 000 20268 XISTR NPN 2SC1623

Q105 4822 130 41198 2SC945P

VD103 9965 000 22273 IC 8 PIN HN1V02H TAPING

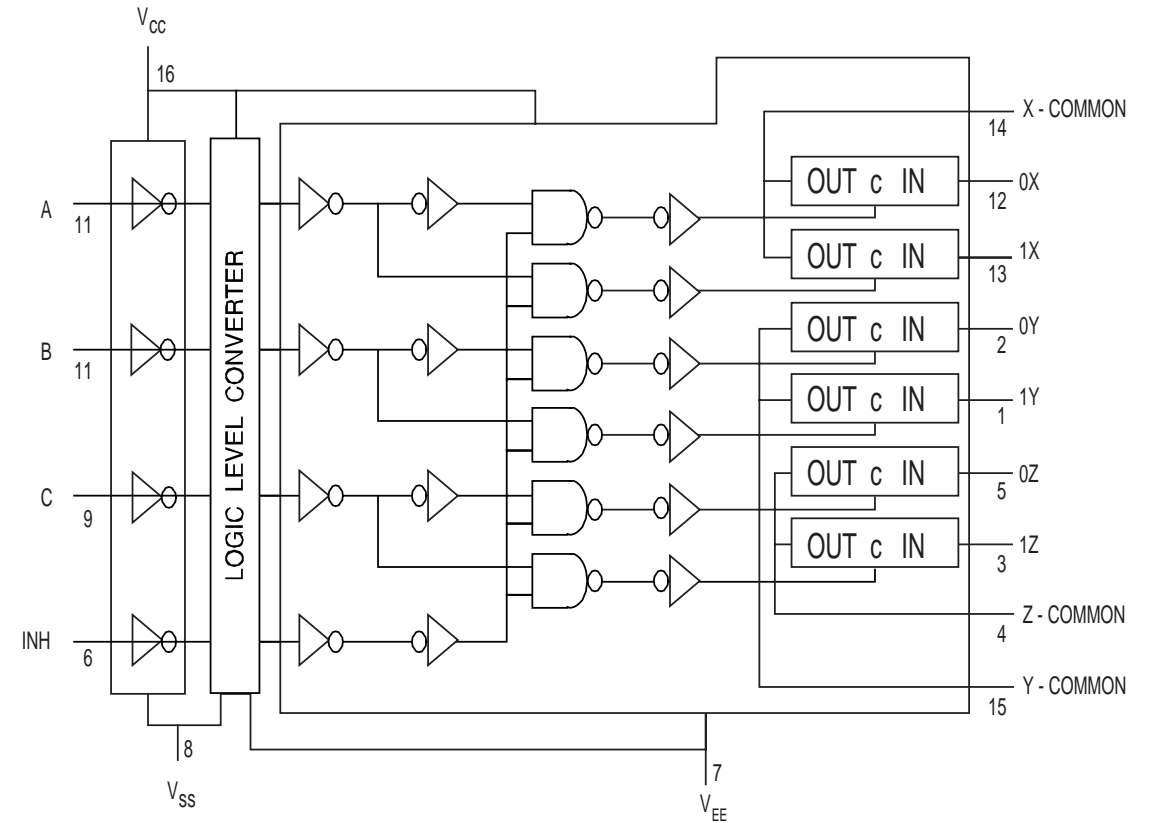
Note: Only these parts mentioned in the list are normal service parts.

MAIN BOARD

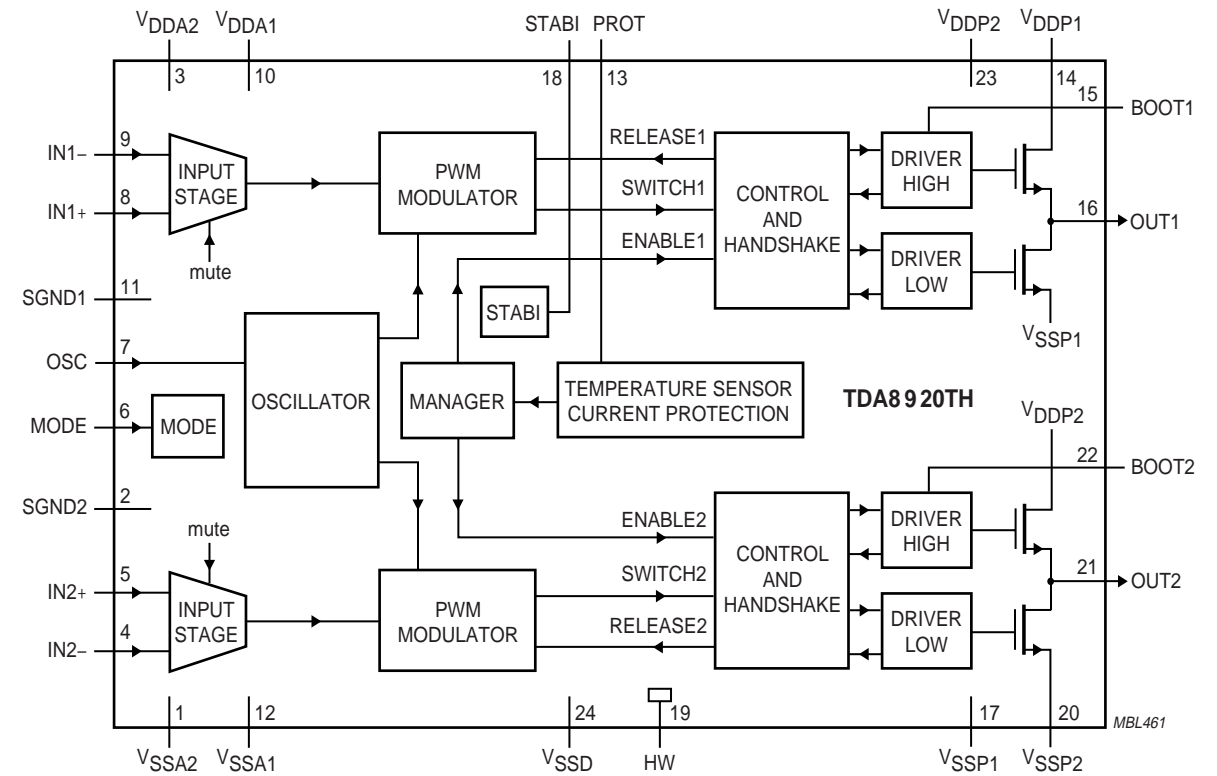
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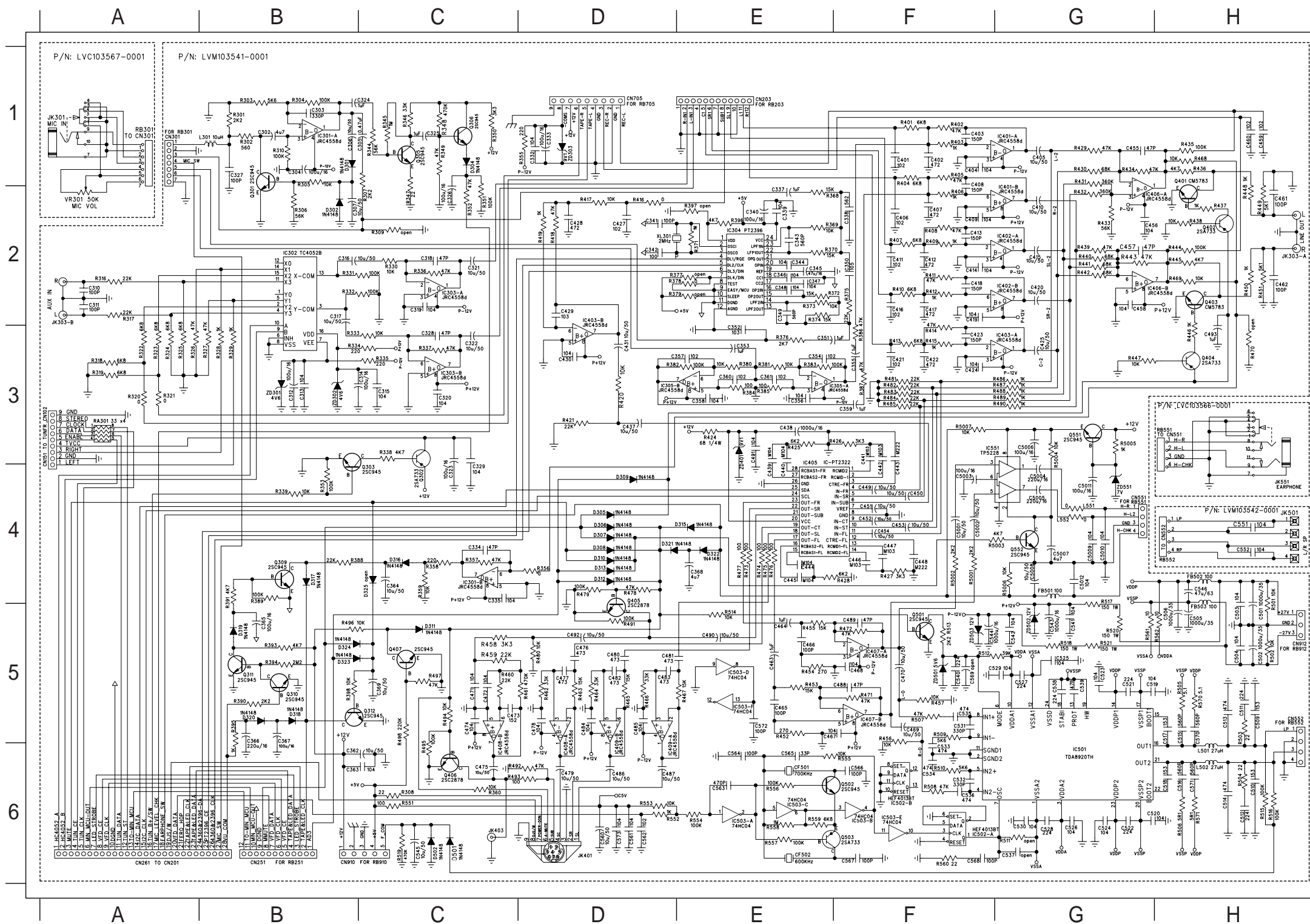
TC4053 INTERNAL IC DIAGRAM



TDA8920 INTERNAL IC DIAGRAM



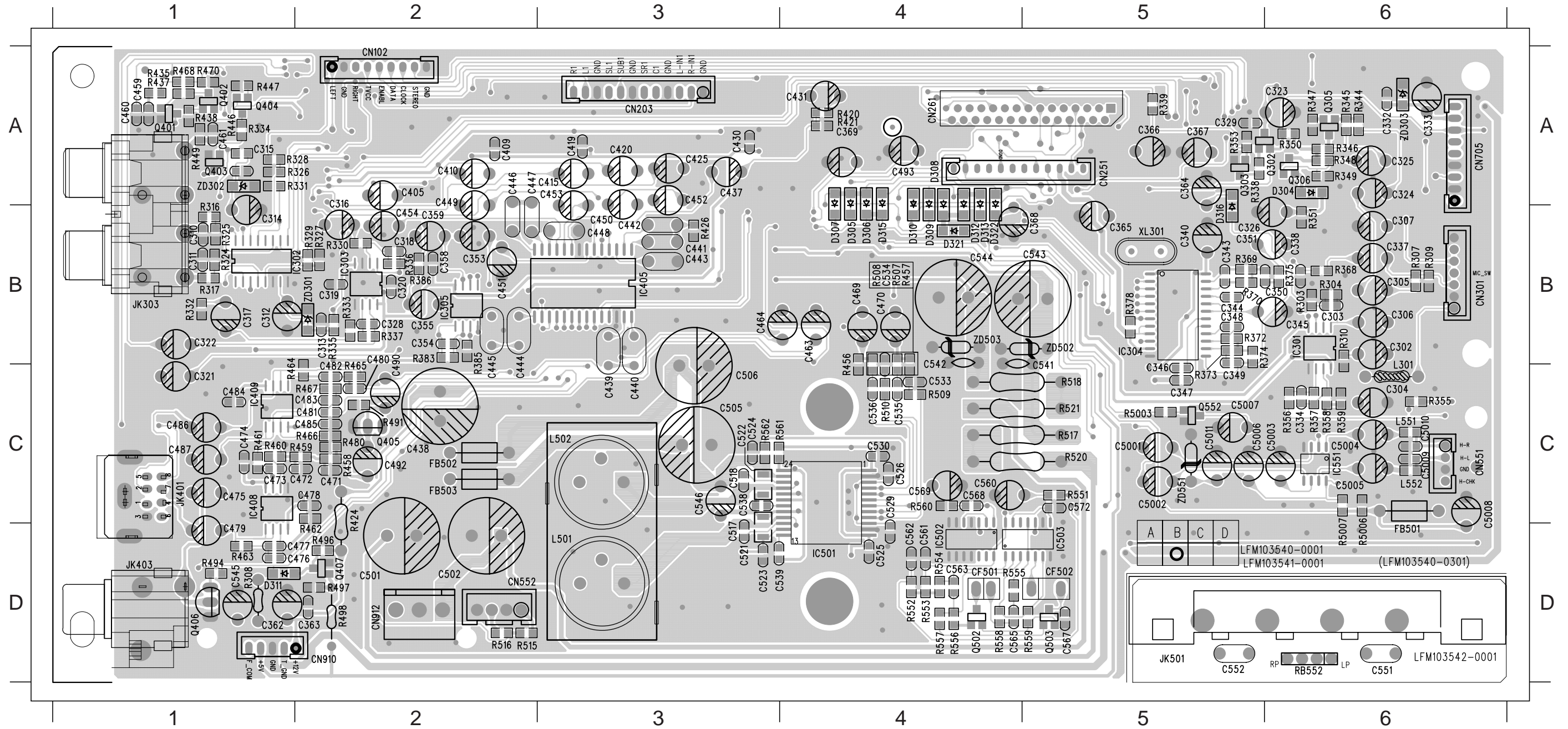
CIRCUIT DIAGRAM - MAIN BOARD



C302	B1	C438	E3	C542	G5	IC503-B	F6	R378	E2	R480	D5
C303	B1	C439	E3	C543	G5	IC503-C	E6	R380	E3	R481	F3
C304	B1	C440	E3	C544	F5	IC503-D	E5	R381	E3	R482	F3
C305	B2	C441	F3	C545	C6	IC503-E	F6	R382	E3	R483	F3
C306	B1	C442	F3	C546	H4	IC503-F	E5	R383	E3	R484	F3
C307	B2	C443	F3	C551	H4	IC551	F3	R384	E3	R485	F3
C310	A2	C444	E4	C552	H4	JK303-A	H2	R385	E3	R486	G3
C311	A2	C445	E4	C560	D6	JK401	D6	R386	F3	R487	G3
C312	B3	C446	F4	C561	D6	JK403	C6	R387	F3	R488	G3
C313	B3	C447	F4	C562	D6	JK501	H4	R388	B4	R489	G3
C314	C3	C448	F4	C563	E6	L301	B1	R389	B4	R490	G3
C315	C3	C449	F4	C564	E6	L501	H6	R390	B5	R491	D5
C316	B2	C450	F4	C565	E6	L502	H6	R391	B4	R492	D6
C317	B2	C451	F4	C566	F6	L551	G4	R393	B5	R493	D6
C318	C2	C452	F4	C567	F6	L552	G4	R394	B5	R494	C5
C319	C2	C453	F4	C568	F6	Q301	B1	R395	B5	R495	C6
C320	C3	C454	F4	C570	H5	Q302	C4	R396	E2	R496	B5
C321	C2	C455	G1	C571	H5	Q303	C4	R398	B5	R497	C5
C322	C3	C456	G2	C572	E5	Q305	C1	R401	F1	R498	C5
C323	C3	C457	G2	C573	D6	Q306	C1	R402	F1	R501	H5
C324	B1	C458	G2	C5001	F4	Q309	B4	R403	F1	R502	H5
C325	C1	C459	H1	C5002	F4	Q310	B5	R404	F1	R503	H5
C326	C1	C460	H1	C5003	F4	Q311	B5	R405	F1	R504	H6
C327	B1	C461	H2	C5004	G4	Q312	C5	R406	F2	R505	H5
C328	C3	C462	H2	C5005	G4	Q401	H1	R407	F2	R506	H6
C329	C3	C463	E5	C5006	G3	Q402	H2	R408	F2	R507	F5
C332	D1	C464	E5	C5007	G4	Q403	H2	R409	F2	R508	F6
C333	D1	C465	E5	C5008	G4	Q404	H3	R410	F2	R509	F5
C334	C4	C466	E5	C5009	G4	Q405	D5	R411	F2	R510	F6
C335	C4	C467	F5	C5010	G4	Q406	C6	R412	F2	R512	F5
C337	E2	C468	F5	C5011	G4	Q408	C5	R413	F3	R513	F5
C338	F2	C469	F5	C5012	G4	Q501	F5	R414	F3	R514	E5
C339	E2	C470	F5	CF501	E6	Q502	F6	R415	F3	R515	H6
C340	E2	C471	C5	CF502	E6	Q503	F6	R416	D2	R516	H6
C341	D2	C472	C5	CN203	E1	Q551	G3	R417	D2	R517	G5
C342	D2	C473	C5	CN251	B6	Q552	G4	R418	D2	R518	G5
C343	E2	C474	C5	CN261	A6	R301	B1	R419	D2	R519	C6
C344	E2	C475	C6	CN301	A1	R302	B1	R420	D3	R520	G5
C345	E2	C476	D5	CN551	G4	R303	B1	R421	D3	R521	G5
C346	E2	C477	D5	CN552	H5	R304	B1	R424	E3	R521	C6
C347	E2	C478	D5	CN705	D1	R305	B1	R425	E3	R552	D6
C348	E2	C479	D6	CN910	C6	R306	B2	R426	F3	R553	D6
C349	E2	C480	D5	CN912	H5	R307	C1	R427	F4	R554	E6
C350	F2	C481	E5	D301	B1	R308	C6	R428	E4	R555	E6
C351	E3	C482	D5	D302	B2	R310	B1	R429	G1	R556	E6
C352	E3	C483	D5	D304	C1	R316	A2	R430	G1	R557	E6
C353	E3	C484	D5	D305	D4	R317	A2	R431	G1	R558	E6
C354	E3	C485	D5	D306	D4	R318	A3	R432	G2	R559	E6
C355	F3	C486	D6	D307	D4	R319	A3	R433	G2	R560	F6
C356	E3	C487	D6	D308	D4	R320	A3	R434	G1	R561	G5
C357	E3	C488	F5	D309	D4	R321	A3	R435	H1	R562	H5
C358	E3	C489	F5	D310	D4	R322	A3	R436	H1	R570	H5
C359	F3	C490	E5	D311	C5	R323	A3	R437	H2	R571	H5
C360	E3	C491	E3	D312	D4	R324	A3	R438	H2	R5001	F4
C361	E3	C492	D5	D313	D4	R325	A3	R439	G2	R5002	F4
C362	C6	C493	H3	D315	E4	R326	A3	R440	G2	R5003	F4
C363	C6	C501	H5	D316	C4	R327	B3	R441	G2	R5004	G3
C364	C4	C502	H5	D317	B4	R328	B3	R442	G2	R5005	G3
C365	B5	C503	H5	D318	B5	R329	B3	R443	G2	R5006	G4
C366	B5	C504	H5	D319	B5	R330	C2	R444	H2	R5007	F3
C367	B5	C505	H5	D320	B5	R331	B2	R445	H2	RA301	A3
C368	E4	C506	H5	D321	D4	R332	B2	R446	H3	RB552	H4
C369	C5	C509	H5	D322	E4	R333	C3	R447	G3	XL301	E2
C401	F1	C510	H6	D323	B5	R334	C3	R448	H2	ZD301	B3
C402	F1	C511	H5	D324	B5	R335	C3	R449	H2	ZD302	B3
C403	F1	C512	H6	D501	C6	R336	C2	R450	H2	ZD303	D1
C404	F1	C513	H6	D502	C6	R337	C3	R451	H2	ZD401	E3
C405	G1	C514	H6	FB501	G4	R338	C3	R452	E5	ZD501	F5
C406	F2	C515	H5	FB502	H4	R339	B4	R453	E5	ZD502	G5
C407	F2	C516	H6	FB503	H5	R344	C1	R454	E5	ZD503	F5
C408	F1	C517	H5	IC301-A	B1	R345	C1	R455	E5	ZD551	G4
C409	F2	C518	H6	IC301-B	C4	R346	C1	R456	F5		
C410	G2	C519	G5	IC302	B2	R347	C1	R457	F6		
C411	F2	C520	H6	IC303-A	C2	R348	C1	R458	C5		
C412	F2	C521	G5	IC303-B	C3	R349	C1	R459	C5		
C413	F2	C522	G6	IC304	E2	R350	C1	R460	C5		
C414	F2	C523	G5	IC305-A	E3	R351	C1	R461	D5		
C415	G2	C524	G6	IC305-B	D3	R352	C2	R462	D5		
C416	F2	C525	G5	IC401-A	G1	R353	B4	R463	D5		
C417	F2	C526	G6	IC401-B	G2	R355	D1	R464	D5		
C418	F2	C527	G5	IC402-A	G2	R356	D4	R465	D5		
C419	F2	C528	G6	IC402-B	G2	R357	C4	R466	D5		
C420	G2	C529	G5	IC403-A	G3	R358	C4	R467	E5		
C421	F3	C530	G6	IC403-B	D2	R359	C4	R468	H1		
C422	F3	C531	F5	IC405	E3	R360	C6	R469	H2		
C423	F3	C532	F6	IC406-A	G2	R368	E2	R471	F5		
C424	F3	C533	F6	IC406-B	G2	R369	E2	R472	F5		
C425	G3	C534	F6	IC407-A	F5	R370	E2	R473	E4		
C427	D2	C535	F5	IC407-B	F5	R371	E2	R474	E4		
C428	D2	C536	F6	IC408-A	D5	R372	E2	R475	E4		
C429	D2	C538	G5	IC409-A	D5	R373	E2	R476	E4		
C430	D3	C539	G5	IC409-B	D5	R374	E2	R477	E5		
C431	D3	C540	F5	IC501	G6	R375	F2	R478	C5		
C437	D3	C541	G5	IC503-A	E6	R376	E3	R479	C5		

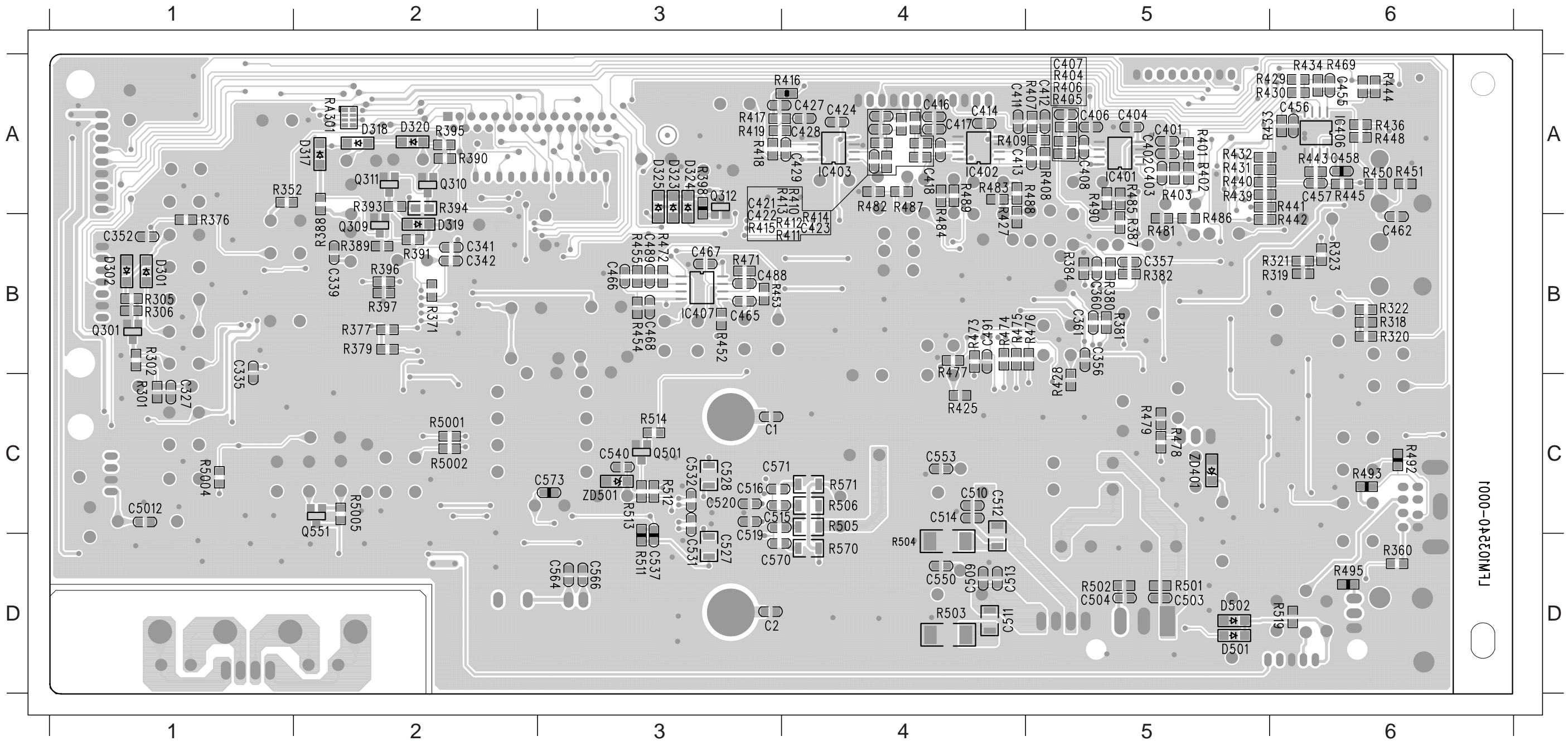
PCB LAYOUT - MAIN BOARD (TOP)

C302	B6	C326	B5	C359	B2	C441	B3	C472	C2	C506	B3	C546	C3	C5010	C6	D315	B4	L301	C6	R308	D1	R345	A6	R385	B2	R466	C2	R553	D4
C303	B6	C328	B2	C362	D1	C442	B3	C473	C1	C517	D3	C551	D6	C5011	C5	D316	B5	L501	D3	R309	B6	R346	A6	R386	B2	R467	C2	R554	D4
C304	C6	C329	A5	C363	D2	C443	B3	C474	C1	C518	C3	C552	D5	CF501	D4	D321	B4	L502	C3	R310	B6	R347	A6	R420	A4	R468	A1	R555	D4
C305	B6	C332	A6	C364	A5	C444	B2	C475	C1	C521	D3	C560	C4	CF502	D5	FB501	C6	L551	C6	R316	B1	R348	A6	R421	A4	R470	A1	R556	D4
C306	B6	C333	A6	C365	B5	C445	B2	C476	D1	C522	C3	C561	D4	CN102	A2	FB502	C2	L552	C6	R317	B1	R349	A6	R424	C2	R480	C2	R557	D4
C307	B6	C334	C6	C366	A5	C446	A2	C477	D1	C523	D3	C562	D4	CN203	A3	FB503	C2	Q302	A5	R324	B1	R350	A6	R426	B3	R491	C2	R558	D4
C310	B1	C337	B6	C367	A5	C447	A2	C478	C2	C524	C3	C563	D4	CN251	A5	IC301	B6	Q303	A5	R325	B1	R351	B6	R435	A1	R494	D1	R559	D5
C311	B1	C338	B6	C368	B5	C448	B3	C479	D1	C525	D4	C564	D4	CN261	A4	IC302	B1	Q305	A6	R326	A1	R353	A5	R437	A1	R496	D2	R560	C4
C312	B1	C340	B5	C369	B5	C449	A2	C480	C2	C526	C4	C565	D5	CN301	B6	IC303	B2	Q306	A6	R327	B2	R355	C6	R438	A1	R497	D2	R561	C3
C313	B2	C343	B5	C405	A2	C450	A3	C481	C2	C529	D4	C566	C4	CN551	C6	IC304	B5	Q401	A1	R328	A1	R356	C6	R446	A1	R498	D2	R562	C3
C314	B1	C344	B5	C409	A2	C451	B2	C482	C2	C530	C4	C569	C4	CN552	D2	IC305	B2	Q402	A1	R329	B2	R357	C6	R447	A1	R507	B4	R5003	C5
C315	A1	C345	B6	C410	A2	C452	A3	C483	C2	C533	C4	C572	C5	CN705	A6	IC405	B3	Q403	A1	R330	B2	R358	C6	R449	A1	R508	B4	R5006	C6
C316	B2	C346	C5	C415	A3	C453	A3	C484	C1	C534	B4	C5001	C5	CN910	D1	IC408	C1	Q404	A1	R331	A1	R359	C6	R456	B4	R509	C4	R5007	C6
C317	B1	C347	C5	C419	A3	C454	B2	C485	C2	C535	C4	C5002	C5	CN912	D2	IC409	C1	Q405	C2	R332	B1	R368	B6	R457	B4	R510	C4	RB552	D6
C318	B2	C348	B5	C420	A3	C459	A1	C486	C1	C536	C4	C5003	C6	D304	A6	IC501	D4	Q406	D1	R333	B2	R369	B5	R458	C2	R515	D2	XL301	B5
C319	B2	C349	B5	C425	A3	C460	A1	C487	C1	C538	C3	C5004	C6	D305	B4	IC502	D4	Q407	D2	R334	A1	R370	B5	R459	C2	R516	D2	ZD301	B2
C320	B2	C350	B6	C430	A3	C461	A1	C490	C2	C539	D3	C5005	C6	D306	B4	IC503	D5	Q502	D4	R335	B2	R372	B5	R460	C1	R517	C5	ZD302	A1
C321	C1	C351	B5	C431	A4	C463	B4	C492	C2	C541	C5	C5006	C5	D307	B4	IC551	C6	Q503	D5	R336	B2	R373	B5	R461	C1	R518	C5	ZD303	A6
C322	B1	C353	B2	C437	A3	C464	B4	C493	A4	C542	C4	C5006	D6	D308	A4	JK303	B1	Q552	C5	R337	B2	R374	B5	R462	C2	R520	C5	ZD502	B5
C323	A6	C354	B2	C438	C2	C469	B4	C501	D2	C543	B4	C5007	C5	D309	B4	JK401	C1	R303	B6	R338	A5	R375	B6	R463	D1	R521	C5	ZD503	B4
C324	A6	C355	B2	C439	B3	C470	B4	C502	D2	C544	B4	C5008	C6	D310	B4	JK403	D1	R304	B6	R339	A5	R378	B5	R464	C2	R551	C5	ZD551	C5
C325	A6	C358	B2	C440	B3	C471	C2	C505	C3	C545	D1	C5009	C6	D311	D1	JK501	D5	R307	B6	R344	A6	R383	B2	R465	C2	R552	D4		



PCB LAYOUT - MAIN BOARD (BOTTOM)

C1	C3	C406	A5	C429	A4	C510	C4	C564	D3	IC401	A5	R318	B6	R387	B5	R406	A5	R428	B5	R450	A6	R481	B5	R505	C4
C2	D3	C407	A5	C455	A6	C511	D4	C566	D3	IC402	A4	R319	B6	R388	B2	R407	A5	R429	A6	R451	A6	R482	A4	R506	C4
C327	C1	C408	A5	C456	A6	C512	C4	C570	D3	IC403	A4	R320	B6	R389	A2	R408	A5	R430	A6	R452	B3	R483	A4	R511	D3
C335	B1	C411	A4	C457	A6	C513	D4	C571	C3	IC406	A6	R321	B6	R390	A2	R409	A4	R431	A5	R453	B3	R484	A4	R512	C3
C339	B2	C412	A5	C458	A6	C514	C4	C573	D3	IC407	B3	R322	B6	R391	B2	R410	A4	R432	A5	R454	B3	R485	A5	R513	C3
C341	B2	C413	A5	C462	B6	C515	C4	C5012	C1	Q301	B1	R323	B6	R393	A2	R411	A4	R433	A6	R455	B3	R486	B5	R514	C3
C342	B2	C414	A4	C465	B3	C516	C3	D301	B1	Q309	A2	R352	A1	R394	A2	R412	A4	R434	A6	R469	A6	R487	A4	R519	D6
C352	B1	C416	A4	C466	B3	C519	C3	D302	B1	Q310	A2	R360	D6	R395	A2	R413	A4	R436	A6	R471	B3	R488	A4	R570	D4
C356	B5	C417	A4	C467	B3	C520	C3	D317	A2	Q311	A2	R371	B2	R396	B4	R414	A4	R439	A5	R472	B3	R489	A4	R571	C4
C357	B5	C418	A4	C468	B3	C527	D3	D318	A2	Q312	A3	R376	B1	R397	B2	R415	A4	R440	A5	R473	B4	R492	C6	R5002	C2
C360	B5	C421	A4	C488	B3	C528	C3	D319	B2	Q501	C3	R377	B2	R398	A3	R416	A4	R441	A6	R474	B4	R493	C6	R5004	C1
C361	B5	C422	A4	C489	B3	C531	D3	D320	A2	Q551	C2	R379	B2	R401	A5	R417	A3	R442	B6	R475	B4	R495	D6	R5005	C2
C401	A5	C423	A4	C491	B4	C532	C3	D323	A3	R301	C1	R380	B5	R402	A5	R418	A3	R443	A6	R476	B5	R501	D5	RA301	A2
C402	A5	C424	A4	C503	D5	C540	C3	D324	A3	R302	B1	R381	B5	R403	A5	R419	A3	R444	A6	R477	B4	R502	D5	ZD401	C5
C403	A5	C427	A4	C504	D5	C550	D4	D501	D5	R305	B1	R382	B5	R404	A5	R425	C4	R445	A6	R478	C5	R503	D4	ZD501	C3
C404	A5	C428	A4	C509	D4	C553	C4	D502	D5	R306	B1	R384	B5	R405	A5	R427	B4	R448	A6	R479	C5	R504	D4		



ELECTRICAL PARTSLIST - MAIN BOARD**- MISCELLANEOUS -**

CF501 9965 000 22218 RESONATOR 2 PIN 700KHZ
 CF502 9965 000 22217 RESONATOR 2 PIN 600KHZ
 JK303 9965 000 22219 RCA JACK 4P
 JK401 9965 000 22220 DIN JACK 8PIN
 JK403 4822 267 41238 RCA JACK 1P

JK501 9940 000 00017 SPK JACK
 RB552 9940 000 00014 FLAT CABLE 4P 160MM

- RESISTORS -

RA301 Δ 9965 000 12486 RES ARRAY 4* 3 Ω 1/10W 5%

- COILS & FILTERS -

FB501 9965 000 12470 BEAD FERITE 100 Ω /at100MHZ
 FB502 9965 000 12470 BEAD FERITE 100 Ω /at100MHZ
 FB503 9965 000 12470 BEAD FERITE 100 Ω /at100MHZ
 L301 9965 000 15871 INDUCTOR 10 μ H 10%
 L501 9965 000 22223 INDUCTOR 27 μ H 20% 4.3A

L502 9965 000 22223 INDUCTOR 27 μ H 20% 4.3A
 XL301 9965 000 22224 CRYSTAL 2MHZ 30PPM

- DIODES -

D301 9965 000 19409 DIODE BAV16W/IN4148W
 D302 9965 000 19409 DIODE BAV16W/IN4148W
 D304 9965 000 19409 DIODE BAV16W/IN4148W
 D305 9965 000 19409 DIODE BAV16W/IN4148W
 D306 9965 000 19409 DIODE BAV16W/IN4148W

D307 9965 000 19409 DIODE BAV16W/IN4148W
 D308 9965 000 19409 DIODE BAV16W/IN4148W
 D309 9965 000 19409 DIODE BAV16W/IN4148W
 D310 9965 000 19409 DIODE BAV16W/IN4148W
 D313 9965 000 19409 DIODE BAV16W/IN4148W

D315 9965 000 19409 DIODE BAV16W/IN4148W
 D316 9965 000 19409 DIODE BAV16W/IN4148W

- DIODES -

D317 9965 000 19409 DIODE BAV16W/IN4148W
 D318 9965 000 19409 DIODE BAV16W/IN4148W
 D319 9965 000 19409 DIODE BAV16W/IN4148W
 D320 9965 000 19409 DIODE BAV16W/IN4148W
 D321 9965 000 19409 DIODE BAV16W/IN4148W

D322 9965 000 19409 DIODE BAV16W/IN4148W
 D323 9965 000 19409 DIODE BAV16W/IN4148W
 D324 9965 000 19409 DIODE BAV16W/IN4148W
 D501 9965 000 19409 DIODE BAV16W/IN4148W
 D502 9965 000 19409 DIODE BAV16W/IN4148W

ZD301 9965 000 22225 DIODE ZENR 4.7-4.9V 0.5W
 ZD302 9965 000 22225 DIODE ZENR 4.7-4.9V 0.5W
 ZD303 9965 000 19432 CHIP ZENER 9.1V 5% 0.5W
 ZD401 9965 000 19432 CHIP ZENER 9.1V 5% 0.5W
 ZD501 9965 000 19397 CHIP ZENER 5.6V 5% 0.5W

ZD502 9965 000 17375 11.9-12.4V 0.5W
 ZD503 9965 000 17375 11.9-12.4V 0.5W
 ZD551 4822 130 80272 MTZJ7.5C

- IC & TRANSISTORS -

IC301 9965 000 15886 IC RC4558D
 IC302 9965 000 12510 TC4052BFN CHIP
 IC303 9965 000 15886 IC RC4558D
 IC304 9965 000 22226 IC 24 PIN PT2396S
 IC305 9965 000 15886 IC RC4558D

IC401 9965 000 15886 IC RC4558D
 IC402 9965 000 15886 IC RC4558D
 IC403 9965 000 15886 IC RC4558D
 IC405 9965 000 22227 IC 28PIN PT2322-S
 IC406 9965 000 15886 IC RC4558D

IC407 9965 000 15886 IC RC4558D
 IC408 9965 000 15886 IC RC4558D
 IC409 9965 000 15886 IC RC4558D
 IC501 9965 000 22228 IC 24PIN TDA8920TH
 IC502 9965 000 22229 IC 14 PIN HEF4013BT

ELECTRICAL PARTSLIST - MAIN BOARD**- COILS & FILTERS -**

IC503 9965 000 22230 IC 14 PIN 74LVC04AD
 IC551 9965 000 17384 IC TP5228
 Q301 9965 000 20268 XISTR NPN 2SC1623
 Q302 9965 000 14175 2SA733Q,P
 Q303 9965 000 20268 XISTR NPN 2SC1623

Q305 9965 000 20268 XISTR NPN 2SC1623
 Q306 9965 000 20268 XISTR NPN 2SC1623
 Q309 9965 000 20268 XISTR NPN 2SC1623
 Q310 9965 000 20268 XISTR NPN 2SC1623
 Q311 9965 000 20268 XISTR NPN 2SC1623

Q312 9965 000 20268 XISTR NPN 2SC1623
 Q401 9965 000 20286 NPN CM5783GR HFE:200-400
 Q402 9965 000 14175 2SA733Q,P
 Q403 9965 000 20286 NPN CM5783GR HFE:200-400
 Q404 9965 000 14175 2SA733Q,P

Q405 4822 130 43818 2SC2878-A
 Q406 4822 130 43818 2SC2878-A
 Q407 9965 000 20268 XISTR NPN 2SC1623
 Q501 9965 000 20268 XISTR NPN 2SC1623
 Q502 9965 000 20268 XISTR NPN 2SC1623

Q503 9965 000 14175 2SA733Q,P
 Q551 9965 000 20268 XISTR NPN 2SC1623
 Q552 9965 000 20268 XISTR NPN 2SC1623

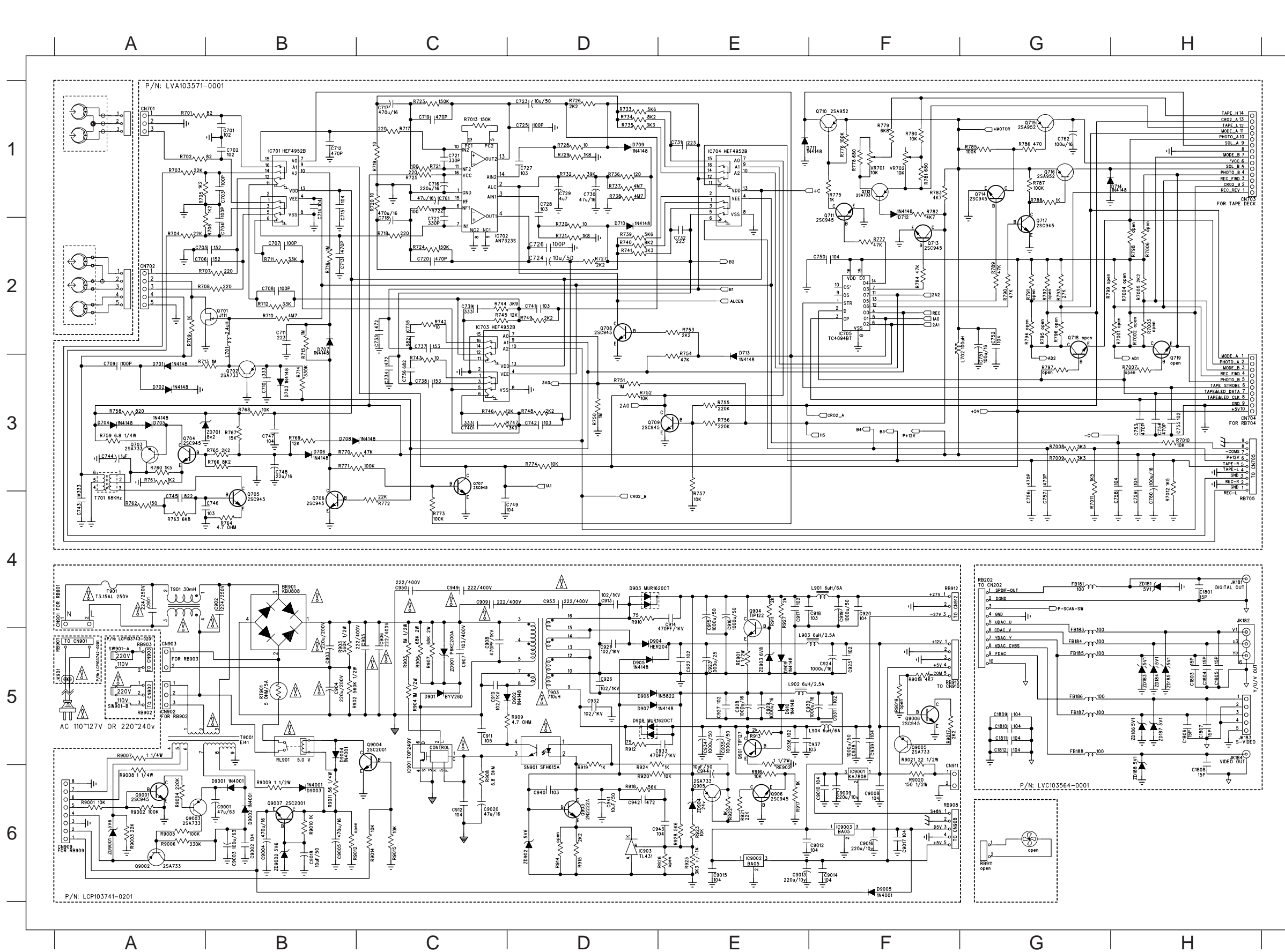
Note: Only these parts mentioned in the list are normal service parts.

TAPE BOARD

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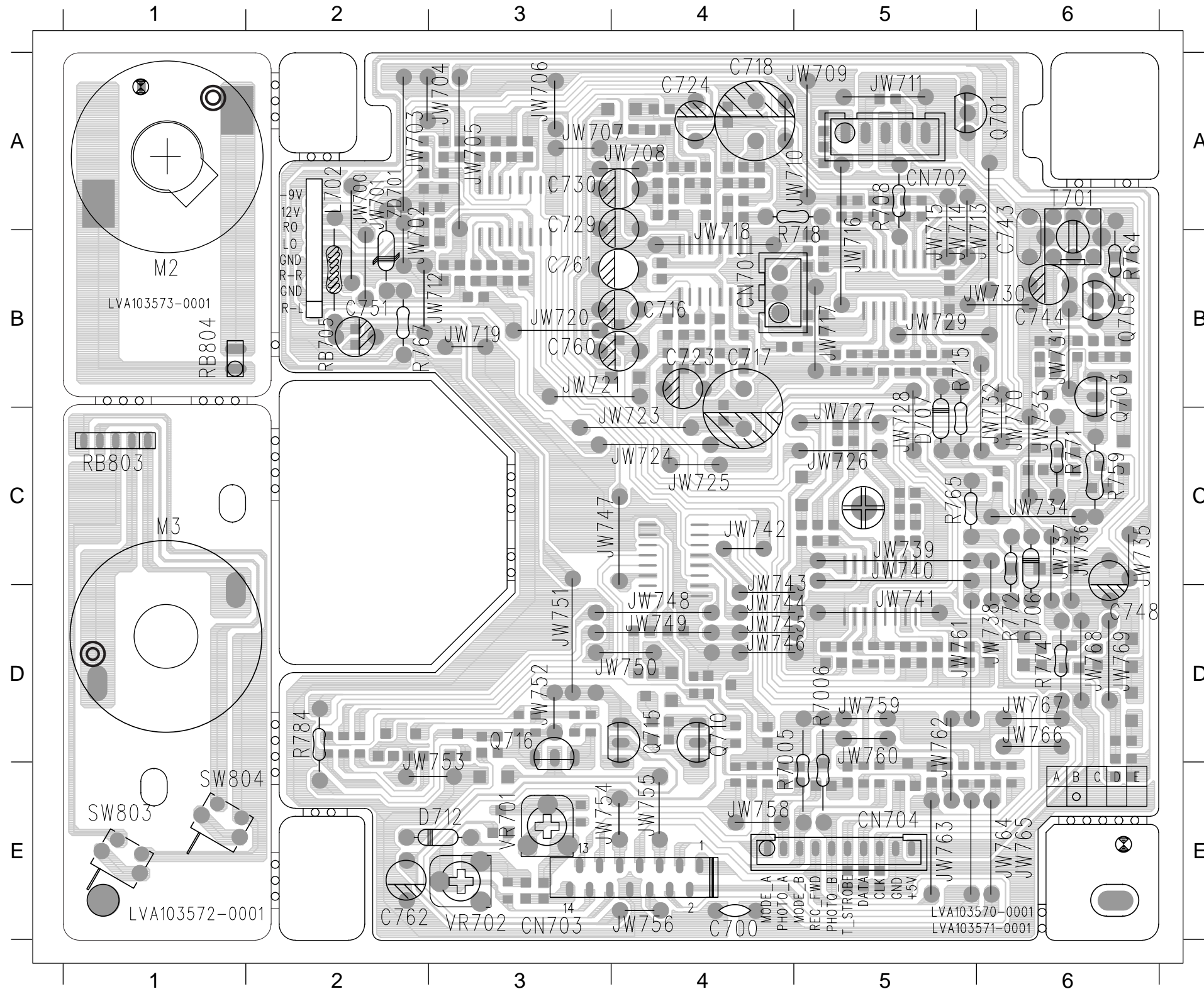
CIRCUIT DIAGRAM-TAPE BOARD



C701	B1	Q701	B2	R771	B3
C702	B1	Q702	B3	R772	C4
C703	B1	Q703	A3	R773	C4
C704	B2	Q704	A3	R774	D3
C705	B2	Q705	B4	R775	F1
C706	B2	Q706	B4	R776	F1
C707	B2	Q707	C3	R777	F2
C708	B2	Q708	D2	R778	F1
C709	A3	Q709	E3	R779	F1
C710	B3	Q710	F1	R780	F1
C711	B2	Q711	F1	R781	F1
C712	B1	Q712	F1	R782	F1
C713	B2	Q713	F2	R783	F1
C714	B1	Q714	G1	R784	F2
C715	B1	Q715	G1	R785	G1
C716	C1	Q716	G1	R786	G1
C717	C1	Q717	G2	R787	G1
C718	C2	R701	A1	R788	G1
C719	C1	R702	A1	R789	G2
C720	C2	R703	A1	R790	G2
C721	C1	R704	A2	R793	G2
C722	C2	R705	A1	R7005	H2
C723	D1	R706	B2	R7008	G3
C724	D2	R707	B2	R7009	G3
C725	D1	R708	B2	R7010	H3
C726	D2	R709	A2	R7011	G4
C727	D1	R710	B2	R7012	H3
C728	D1	R711	B2	R7013	C1
C729	D1	R712	B2	RB705	H3
C730	D1	R713	B2	T701	A3
C731	E1	R714	B3	VR701	F1
C732	E2	R715	B2	VR702	F1
C733	C2	R716	B2	ZD701	B3
C734	C3	R717	C1		
C735	C2	R718	C2		
C736	C3	R719	C1		
C737	C2	R720	C1		
C738	C3	R721	C1		
C739	C2	R722	C1		
C740	C3	R723	C1		
C741	D2	R724	C2		
C742	D3	R725	C1		
C743	A4	R726	D1		
C744	A3	R727	D2		
C745	A4	R728	D1		
C746	B4	R729	D1		
C747	B3	R730	D2		
C748	B3	R731	D2		
C749	C4	R732	D1		
C750	F2	R733	D1		
C751	G2	R734	D1		
C752	G2	R735	D1		
C753	H3	R736	D1		
C754	H3	R737	D1		
C755	H3	R738	D1		
C756	G3	R739	D2		
C757	G3	R740	D2		
C758	H3	R741	D2		
C759	H3	R742	C2		
C760	H3	R743	C3		
C761	C1	R744	C2		
C762	G1	R745	C2		
C763	A1	R746	C3		
C764	H1	R747	C3		
C765	H3	R748	D3		
C766	H3	R749	D2		
D701	A3	R750	D3		
D702	A3	R751	D3		
D703	B3	R752	D3		
D704	A3	R753	E2		
D705	A3	R754	E3		
D706	B3	R755	E3		
D707	B2	R756	E3		
D708	B3	R757	E3		
D709	D1	R758	A3		
D710	D2	R759	A3		
D711	E1	R760	A3		
D712	F1	R761	A3		
D713	E3	R762	A4		
D714	G1	R763	A4		
IC701	B1	R764	B4		
IC702	C2	R765	B3		
IC703	C2	R766	B3		
IC704	E1	R767	B3		
IC705	F2	R768	B3		
L701	B2	R769	B3		
L702	F2	R770	B3		

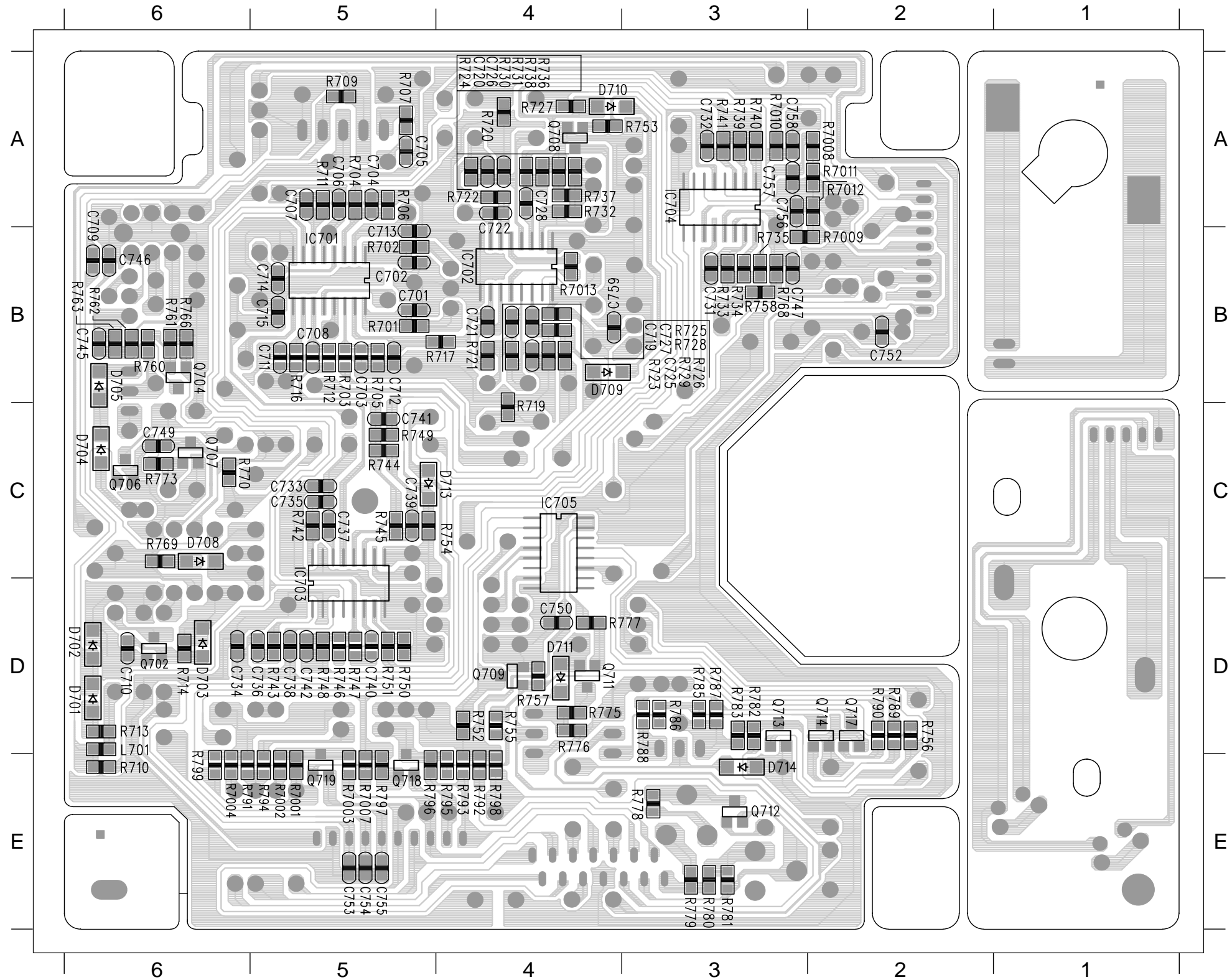
PCB LAYOUT - TAPE BOARD (TOP)

C716	B3	C761	B3	JW703	A2	JW715	B5	JW728	C5	JW740	C5	JW752	D3	JW765	E6	Q715	D4	R784	D2
C717	B4	C762	E2	JW704	A3	JW716	B5	JW729	B5	JW741	D5	JW753	E2	JW766	D6	Q716	D3	R7005	D5
C718	A4	CN701	B4	JW705	A3	JW717	B5	JW730	B6	JW742	C4	JW754	E4	JW767	D6	R708	A5	RB705	B2
C723	B4	CN702	A5	JW706	A3	JW718	B4	JW731	B6	JW743	D4	JW755	E4	JW768	D6	R715	C5	RB803	C1
C724	A4	CN703	E3	JW707	A3	JW719	B3	JW732	C6	JW744	D4	JW756	E4	JW769	D6	R718	A4	RB804	B1
C729	A3	CN704	E5	JW708	A3	JW720	B3	JW733	C6	JW745	D4	JW758	E4	L702	A2	R759	C6	SW803	E1
C730	A3	D706	C6	JW709	A5	JW721	B3	JW734	C6	JW746	D4	JW759	D5	M2	B1	R764	B6	SW804	E1
C743	A6	D707	C5	JW710	A5	JW723	C4	JW735	C6	JW747	C4	JW760	D5	M3	C1	R765	C5	T701	A6
C744	B6	D712	E3	JW711	A5	JW724	C4	JW736	C6	JW748	D4	JW761	D5	Q701	A5	R767	B2	VR701	E3
C748	C6	JW700	A2	JW712	B2	JW725	C4	JW737	C6	JW749	D4	JW762	D5	Q703	B6	R771	C6	VR702	E3
C751	B2	JW701	A2	JW713	A6	JW726	C5	JW738	C6	JW750	D4	JW763	E5	Q705	B6	R772	C6	ZD701	A2
C760	B3	JW702	B2	JW714	B5	JW727	C5	JW739	C5	JW751	D3	JW764	E6	Q710	D4	R774	D6		



PCB LAYOUT - TAPE BOARD (BOTTOM)

C701	B5	C719	B4	C738	D5	C757	A3	IC702	B4	Q714	D2	R716	B5	R732	A4	R747	D5	R763	B6	R785	D3
C702	B5	C720	A4	C739	C5	C758	A3	IC703	C5	Q717	D2	R717	B5	R733	B3	R748	D5	R766	B6	R786	D3
C703	B5	C721	B4	C740	D5	C759	B4	IC704	A3	R701	B5	R719	B4	R734	B3	R749	C5	R768	B3	R787	D3
C704	A5	C722	A4	C741	C5	D701	D6	IC705	C4	R702	B5	R720	A4	R735	B3	R750	D5	R769	C6	R788	D3
C705	A5	C725	B4	C742	D5	D702	D6	L701	D6	R703	B5	R721	B4	R736	A4	R751	D5	R770	C6	R789	D2
C706	A5	C726	A4	C745	B6	D703	D6	Q702	D6	R704	A5	R722	A4	R737	A4	R752	D4	R773	C6	R790	D2
C707	A5	C727	B4	C746	B6	D704	C6	Q703	B6	R705	B5	R723	B4	R738	A4	R753	A4	R775	D4	R793	E4
C708	B5	C728	A4	C747	B3	D705	B6	Q704	B6	R706	A5	R724	A4	R739	A3	R754	C5	R776	D4	R7008	A2
C709	B6	C731	B3	C749	C6	D708	C6	Q706	C6	R707	A5	R725	B4	R740	A3	R755	D4	R777	D4	R7009	B2
C710	D6	C732	A3	C750	D4	D709	B4	Q707	C6	R709	A5	R726	B4	R741	A3	R756	D2	R778	E3	R7010	A3
C711	B5	C733	C5	C752	B2	D710	A4	Q708	A4	R710	E6	R727	A4	R742	C5	R757	D4	R779	E3	R7011	A2
C712	B5	C734	D6	C753	E5	D711	D4	Q709	D4	R711	A5	R728	B4	R743	D5	R758	B3	R780	E3	R7012	A2
C713	B5	C735	C5	C754	E5	D713	C5	Q711	D4	R712	B5	R729	B4	R744	C5	R760	B6	R781	E3	R7013	B4
C714	B5	C736	D5	C755	E5	D714	E3	Q712	E3	R713	D6	R730	A4	R745	C5	R761	B6	R782	D3		
C715	B5	C737	C5	C756	A3	IC701	B5	Q713	D3	R714	D6	R731	A4	R746	D5	R762	B6	R783	D3		



ELECTRICAL PARTSLIST - TAPE+MOTO1+MOTO2 BOARD**- MISCELLANEOUS -**

M2 △ 9965 000 22299 MOTOR DC 6V RF-500TB
M3 △ 9965 000 22299 MOTOR DC 6V RF-500TB
RB803 9940 000 00016 FLAT CABLE 5P 220MM
RB804 9965 000 22301 FLAT CABLE 2P 120MM
SW803 9965 000 22244 TACT SW DIA1.7MM

SW804 9965 000 22244 TACT SW DIA1.7MM
VR701 9965 000 22302 CNTL TRIMR 10KB 30%
VR702 9965 000 22302 CNTL TRIMR 10KB 30%

- COILS & FILTERS -

L701 9965 000 18025 2.4μH 5%
L702 9965 000 15931 INDUCTOR 100μH 10%
T701 9965 000 22303 OSC COIL REC OSC 3MH

- DIODES -

D701 9965 000 19409 DIODE CHIP BAV16W/IN4148W
D702 9965 000 19409 DIODE CHIP BAV16W/IN4148W
D703 9965 000 19409 DIODE CHIP BAV16W/IN4148W
D704 9965 000 19409 DIODE CHIP BAV16W/IN4148W
D705 9965 000 19409 DIODE CHIP BAV16W/IN4148W

D706 4822 130 30621 1N4148
D707 4822 130 30621 1N4148
D708 9965 000 19409 DIODE CHIP BAV16W/IN4148W
D709 9965 000 19409 DIODE CHIP BAV16W/IN4148W
D710 9965 000 19409 DIODE CHIP BAV16W/IN4148W

D711 9965 000 19409 DIODE CHIP BAV16W/IN4148W
D712 4822 130 30621 1N4148
D713 9965 000 19409 DIODE CHIP BAV16W/IN4148W
D714 9965 000 19409 DIODE CHIP BAV16W/IN4148W
ZD701 9965 000 22305 DIODE ZENR 7.8-8.4V 0.5W

- IC & TRANSISTORS -

IC703 4822 209 32919 HEF4952BT
IC704 4822 209 32919 HEF4952BT
IC705 9940 000 00015 IC 16PIN TC4094BFN
Q701 9965 000 16497 2N7000TA 60V/0.2A,
Q702 9965 000 14175 2SA733Q,P

Q703 4822 130 63876 2SA733R
Q704 9965 000 20268 XISTR NPN 2SC1623
Q705 4822 130 41198 2SC945P
Q706 9965 000 20268 XISTR NPN 2SC1623
Q707 9965 000 20268 XISTR NPN 2SC1623

Q708 9965 000 20268 XISTR NPN 2SC1623
Q709 9965 000 20268 XISTR NPN 2SC1623
Q710 4822 130 10211 2SA952
Q711 9965 000 20268 XISTR NPN 2SC1623
Q712 9965 000 14175 2SA733Q,P

Q713 9965 000 20268 XISTR NPN 2SC1623
Q714 9965 000 20268 XISTR NPN 2SC1623
Q715 4822 130 10211 2SA952
Q716 4822 130 10211 2SA952
Q717 9965 000 20268 XISTR NPN 2SC1623

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

- IC & TRANSISTORS -

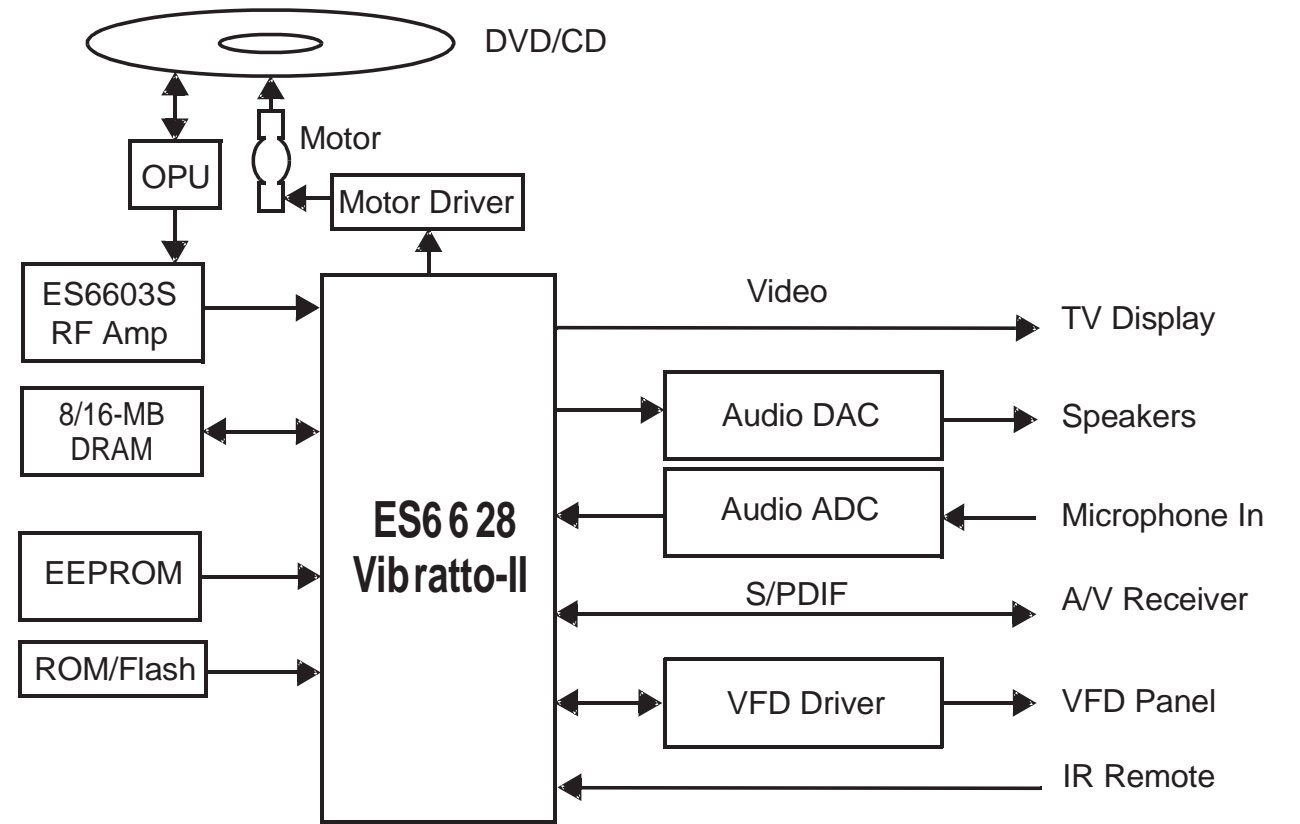
IC701 4822 209 32919 HEF4952BT
IC702 9322 140 00668 IC SM AN7323S (MATJ)

SERVO & DOOR SWITCH BOARD

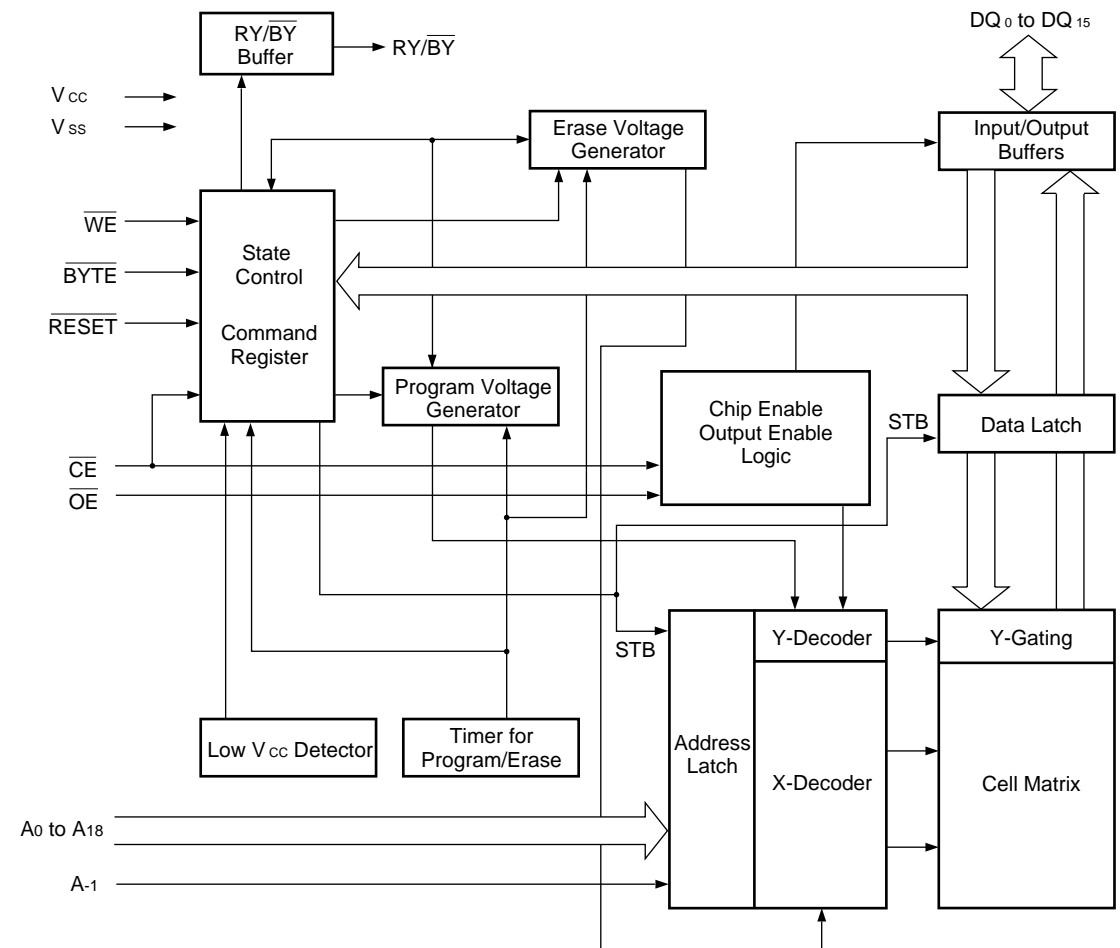
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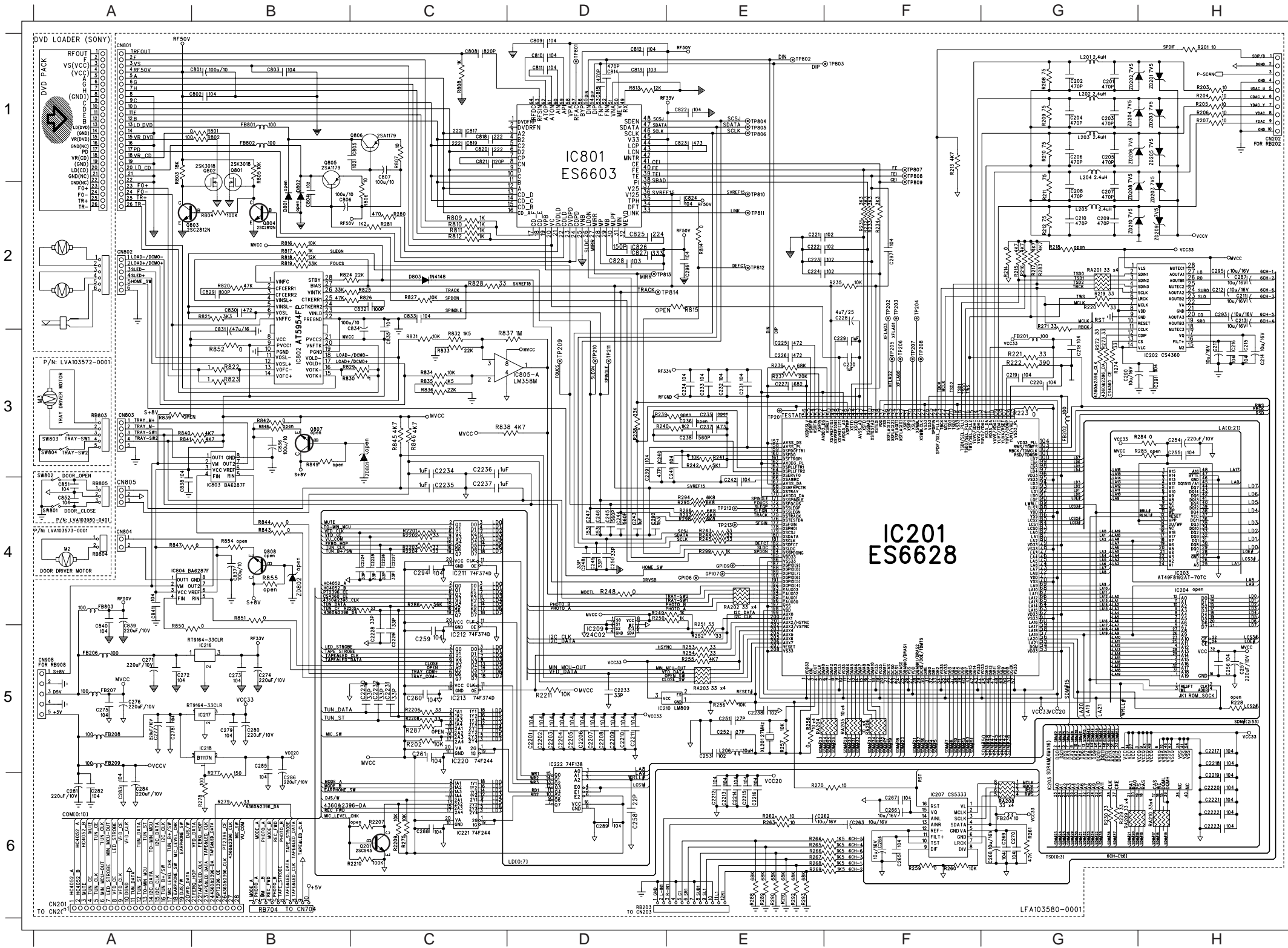
ES6 6 28 INTERNAL IC DIAGRAM



MBM29 LV8 00 INTERNAL IC DIAGRAM



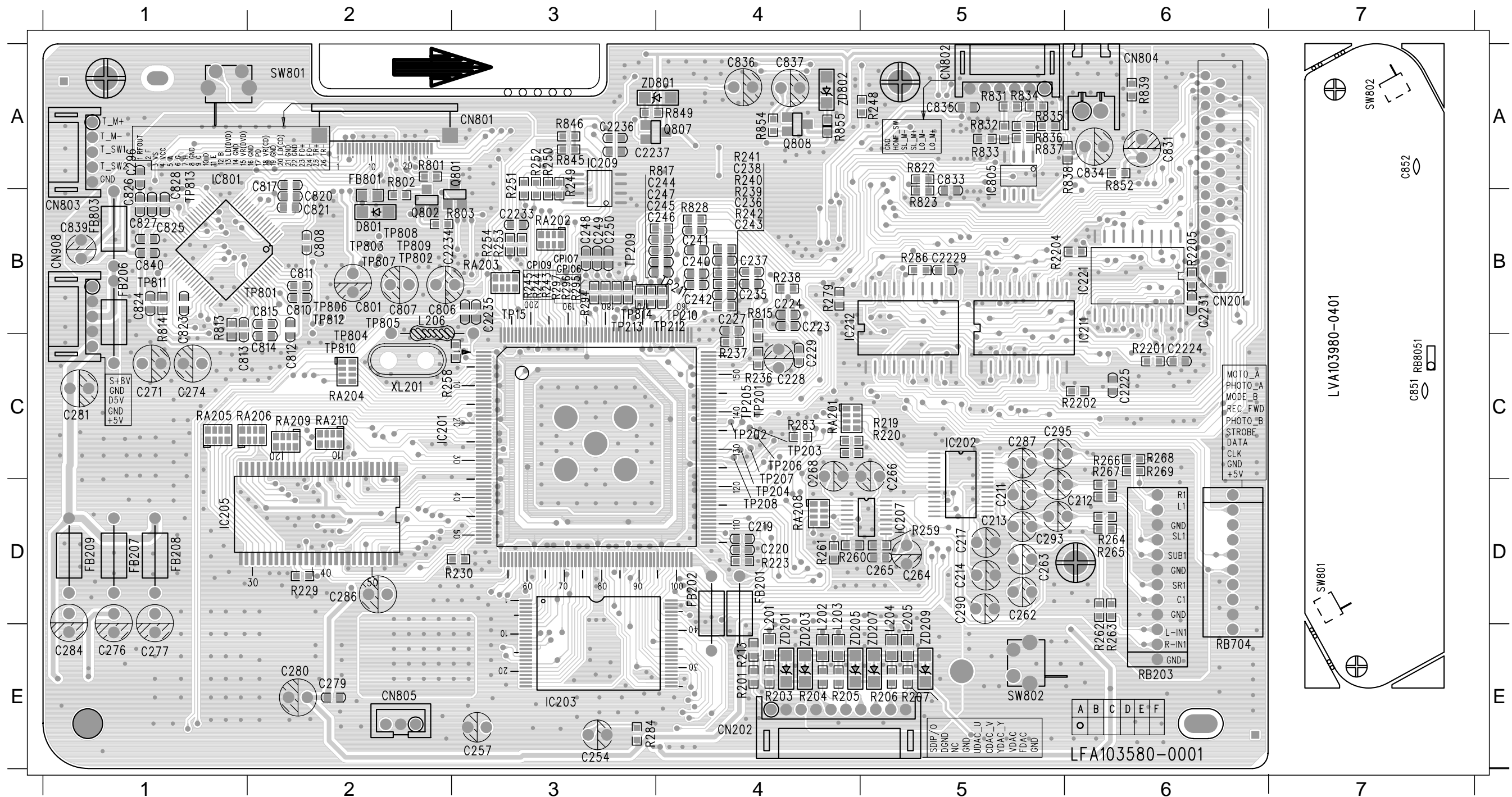
CIRCUIT DIAGRAM - SERVO & DOOR SW BOARD



C201	G1	C805	C1	IC205	G6	R279	B6
C202	G1	C806	B2	IC207	F6	R280	C2
C203	G1	C807	C1	IC209	D5	R281	C2
C204	G1	C808	C1	IC210	E5	R283	G2
C205	G1	C809	D1	IC211	C4	R284	H3
C206	G1	C810	D1	IC212	C4	R286	C4
C207	G2	C811	D1	IC213	C5	R288	E6
C208	G2	C812	D1	IC216	B5	R289	E6
C209	G2	C813	D1	IC217	B5	R290	E6
C210	G2	C814	D1	IC218	B5	R291	E6
C211	H2	C815	D1	IC220	C5	R292	E6
C212	H2	C817	C1	IC221	C6	R293	E6
C213	H2	C818	C1	IC222	D5	R294	E4
C214	H3	C819	C1	IC801	D1	R295	E4
C215	H3	C820	C1	IC802	B3	R296	E4
C216	H3	C821	C1	IC803	B3	R297	E4
C217	H3	C822	E1	IC804	B4	R298	E4
C218	G3	C823	E1	IC805	D3	R299	E4
C219	G3	C824	E2	L201	G1	R801	B1
C220	G3	C825	D2	L202	G1	R802	B1
C221	F2	C826	D2	L203	G1	R803	A1
C222	F2	C827	D2	L204	G1	R804	B2
C223	F2	C828	D2	L205	G2	R805	B1
C224	F2	C829	B2	L206	E5	R806	C2
C225	E3	C830	B2	Q201	C6	R807	C1
C226	E3	C831	B3	Q801	B1	R808	C1
C227	E3	C832	C2	Q802	B1	R809	C2
C228	F2	C833	C2	Q803	B2	R810	C2
C229	F3	C834	C3	Q804	B2	R811	C2
C230	F3	C835	C3	Q805	B2	R812	C2
C231	E3	C836	B3	Q806	C1	R813	D1
C232	E3	C837	B4	R201	H1	R814	E2
C233	E3	C838	A4	R202	C5	R816	B2
C234	E3	C839	A4	R203	H1	R817	B2
C237	E3	C840	A4	R204	H1	R818	B2
C238	E3	C841	A4	R205	H1	R819	B2
C239	D3	C2201	D5	R206	H1	R821	B2
C240	D3	C2202	D5	R207	H1	R822	B3
C241	E3	C2203	D5	R208	G1	R824	C2
C242	E4	C2204	D5	R209	G1	R823	B3
C243	D4	C2205	D5	R210	G1	R824	C2
C244	D4	C2206	D5	R211	G2	R825	C2
C245	D4	C2207	D5	R212	G2	R826	C2
C246	D4	C2208	D5	R213	F1	R827	C2
C247	D4	C2209	D5	R214	G2	R828	C2
C248	D4	C2210	D5	R215	G2	R829	C3
C249	D4	C2211	D5	R216	G2	R830	C3
C250	D4	C2212	E6	R217	G2	R832	C3
C251	E5	C2213	E6	R219	G2	R833	C3
C252	E5	C2214	E6	R220	G2	R834	C3
C253	E5	C2215	E6	R221	G3	R835	C3
C254	H3	C2216	E6	R222	G3	R835	C3
C255	H3	C2217	H5	R223	G3	R836	C3
C256	H5	C2218	H5	R229	G6	R837	D3
C257	H5	C2219	H6	R230	G6	R838	D3
C258	D6	C2220	H6	R231	F2	R840	B3
C259	C5	C2221	H6	R232	F2	R841	B3
C260	C5	C2222	H6	R233	F2	R842	B3
C261	C5	C2223	H6	R234	F2	R843	B4
C262	E6	C2224	C4	R235	F2	R844	B4
C263	F6	C2225	C4	R236	E3	R846	C3
C264	F6	C2226	C4	R237	E3	R847	B4
C265	F6	C2227	C4	R238	D3	R850	B5
C266	F6	C2228	C5	R240	E3	R851	B4
C267	F6	C2229	C5	R241	E3	R852	B3
C268	G6	C2230	C5	R242	E3	R2201	C4
C269	G6	C2231	C5	R243	E4	R2202	C4
C270	G6	C2232	C5	R244	E4	R2203	C4
C271	A5	C2233	D5	R245	E4	R2204	C4
C272	A5	C2234	C3	R248	D4	R2205	C4
C273	B5	C2235	C4	R249	E4	R2206	C5
C274	B5	C2236	C3	R250	E4	R2208	C5
C275	A5	C2237	C4	R251	E5	R2209	C6
C276	A5	C2238	E5	R252	E5	R2210	C6
C277	A5	CN201	A6	R253	E5	R2211	D5
C278	A5	CN202	H1	R254	E5	RA201	G2
C279	B5	CN801	A1	R255	E5	RA202	E4
C280	B5	CN802	A2	R256	E5	RA203	E5
C281	A6	CN803	A3	R257	E5	RA204	F5
C282	A6	CN804	A4	R258	E5	RA205	F5
C283	A6	CN805	A4	R259	F6	RA206	F5
C284	A6	CN908	A5	R260	F6	RA208	G6
C285	B5	D803	C2	R261	G6	RA209	H6
C286	B5	FB201	G3	R262	E6	RA210	H6
C287	H2	FB202	G3	R263	E6	RB203	D6
C288	C6	FB204	G6	R264	F6	RB704	B6
C289	D6	FB206	A5	R265	F6	RB803	A3
C290	H3	FB207	A5	R266	F6	RB804	A4
C291	H3	FB208	A5	R267	F6	XL201	E5
C292	D4	FB209	A5	R268	F6	ZD201	H1
C293	H2	FB801	B1	R269	F6	ZD202	H1
C294	C4	FB802	B1	R270	F6	ZD203	H1
C295	H2	FB803	A4	R271	G2	ZD204	H1
C296	E2	GP106	E4	R272	G3	ZD205	H1
C297	F2	GP107	E4	R273	G3	ZD206	H1
C801	B1	GP109	E4	R274	G3	ZD207	H2
C802	B1	IC201	F4	R275	C6	ZD208	H2
C803	B1	IC202	H3	R277	B6	ZD209	H2
C804	B2	IC203	H4	R278	B6	ZD210	H2

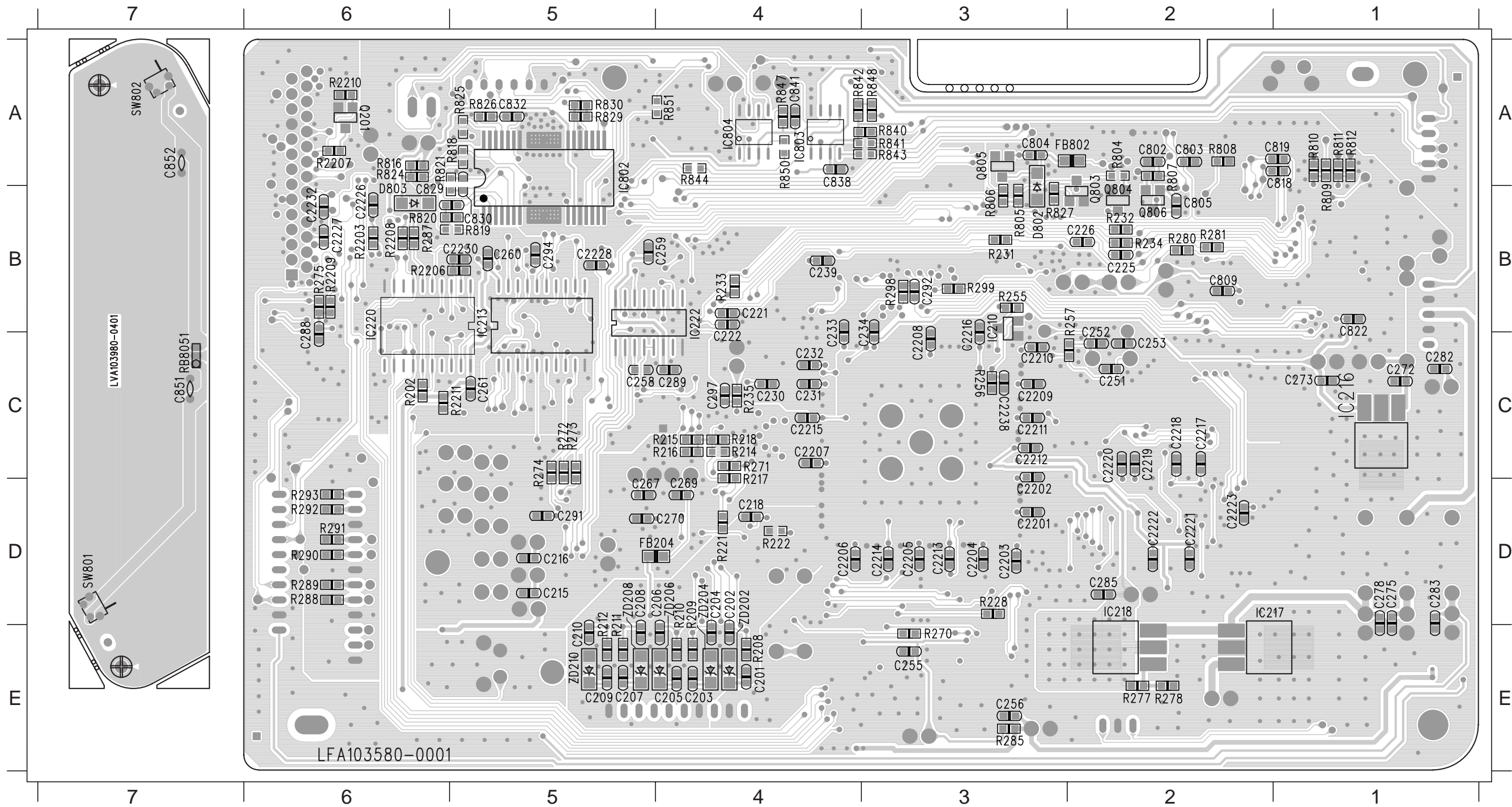
PCB LAYOUT - SERVO & DOOR SW BOARD (TOP)

C211	D5	C242	B4	C268	C4	C806	B3	C827	B1	C2233	B3	FB206	B1	IC805	A5	R219	C4	R250	A3	R269	C6	R822	A5	R2202	C6	SW801	D7
C212	C6	C243	B4	C271	C1	C807	B2	C828	B1	C2234	B2	FB207	D1	L201	E4	R220	C4	R251	A3	R279	B4	R823	B5	R2204	B6	SW801	A2
C213	D5	C244	B4	C274	C1	C808	B2	C831	A6	C2235	B3	FB208	D1	L202	E4	R223	D4	R252	A3	R283	C4	R828	B4	R2205	B6	SW802	A7
C214	D5	C245	B4	C276	E1	C810	B2	C833	A5	C2236	A3	FB209	D1	L203	E4	R229	D2	R253	B3	R284	E3	R831	A5	R2211	C5	SW802	E5
C217	D5	C246	B4	C277	E1	C811	B2	C834	A6	C2237	A3	FB801	B2	L204	E5	R230	D3	R254	B3	R286	B5	R832	A5	RA201	C4	XL201	C2
C219	D4	C247	B4	C279	E2	C812	C2	C835	A5	C2238	C3	FB803	B1	L205	E5	R236	C4	R258	C3	R294	B3	R833	A5	RA202	B3	ZD201	E4
C220	D4	C248	B3	C280	E2	C813	C1	C836	A4	CN201	B6	IC201	C3	L206	B2	R237	C4	R259	D5	R295	B4	R834	A5	RA203	B3	ZD203	E4
C223	B4	C249	B3	C281	C1	C814	C2	C837	A4	CN202	E4	IC202	C5	Q801	B3	R238	B4	R260	D4	R296	B3	R835	A5	RA204	C2	ZD205	E4
C224	B4	C250	B3	C284	E1	C815	B2	C839	B1	CN801	A3	IC203	E3	Q802	B2	R240	B4	R261	D4	R297	B3	R836	A5	RA205	C1	ZD207	E5
C227	B4	C254	E3	C286	D2	C817	A2	C840	B1	CN802	A5	IC205	D1	R201	E4	R241	B4	R262	D6	R298	B3	R837	A5	RA206	C1	ZD209	E5
C228	C4	C257	E3	C287	C5	C820	B2	C851	C7	CN803	B1	IC207	D5	R203	E4	R242	B4	R263	D6	R801	A2	R838	A6	RA208	D4	ZD801	A3
C229	C4	C262	D5	C290	D5	C821	B2	C852	A7	CN804	A6	IC209	A3	R204	E4	R243	B3	R264	D6	R802	B2	R845	A3	RA209	C2	ZD802	A4
C237	B4	C263	D5	C293	D6	C823	B1	C2224	C6	CN805	E2	IC211	C6	R205	E4	R244	B3	R265	D6	R803	B2	R846	A3	RA210	C2		
C238	B4	C264	D5	C295	C5	C824	B1	C2225	C6	CN908	B1	IC212	C4	R206	E5	R245	B3	R266	C6	R813	C1	R852	A6	RB203	E6		
C240	B4	C265	D5	C296	A1	C825	B1	C2229	B5	FB201	D4	IC221	B6	R207	E5	R248	A4	R267	C6	R814	B1	R854	A4	RB704	E6		
C241	B4	C266	C5	C801	B2	C826	B1	C2231	B6	FB202	D4	IC801	A1	R213	E4	R249	A3	R268	C6	R817	B4	R2201	C6	RB8051	C7		



PCB LAYOUT - SERVO & DOOR SW BOARD (BOTTOM)

C201	E4	C218	D4	C252	C2	C273	C1	C802	A2	C841	A4	C2212	C3	C2226	B6	IC218	E2	R208	E4	R232	B2	R275	B6	R299	B3	R819	B6	R843	A3	ZD206	E4
C202	E4	C221	B4	C253	C2	C275	D1	C803	A2	C2201	D3	C2213	D3	C2227	B6	IC220	B6	R209	E4	R233	B4	R277	E2	R804	A2	R820	B6	R844	A4	ZD208	E5
C203	E4	C222	B4	C255	E3	C278	D1	C804	A3	C2202	C3	C2214	D3	C2228	B5	IC222	B4	R210	E4	R234	B2	R278	E2	R805	B3	R821	A6	R847	A4	ZD210	E5
C204	E4	C225	B2	C256	E3	C282	C1	C805	B2	C2203	D3	C2215	C4	C2230	B6	IC802	A5	R211	E5	R235	C4	R280	B2	R806	B3	R824	A6	R850	A4		
C205	E4	C226	B2	C258	C5	C283	D1	C809	B2	C2204	D3	C2216	B3	C2232	B6	IC803	A4	R212	E5	R255	B3	R281	B2	R807	A2	R825	A5	R851	A4		
C206	E4	C230	C4	C259	B5	C285	D2	C818	A1	C2205	D3	C2217	C2	D803	B6	IC804	A4	R214	C4	R256	C3	R287	B6	R808	A2	R826	A5	R2203	B6		
C207	E5	C231	C4	C260	B5	C288	B6	C819	A1	C2206	D4	C2218	C2	FB204	D5	Q201	A6	R215	C4	R257	C2	R288	D6	R809	A1	R827	B3	R2206	B6		
C208	E5	C232	C4	C261	C5	C289	C4	C822	B1	C2207	C4	C2219	C2	FB802	A2	Q803	B2	R216	C4	R270	E3	R289	D6	R810	A1	R829	A5	R2208	B6		
C209	E5	C233	B4	C267	D5	C291	D5	C829	B6	C2208	C3	C2220	C2	IC210	B3	Q804	B2	R217	C4	R271	C4	R290	D6	R811	A1	R830	A5	R2209	B6		
C210	E5	C234	B3	C269	D4	C292	B3	C830	B5	C2209	C3	C2221	D2	IC213	B5	Q805	A3	R221	D4	R272	C5	R291	D6	R812	A1	R840	A3	R2210	A6		
C215	D5	C239	B4	C270	D5	C294	B5	C832	A5	C2210	C3	C2222	D2	IC216	C1	Q806	B2	R222	D4	R273	C5	R292	D6	R816	A6	R841	A3	ZD202	E4		
C216	D5	C251	C2	C272	C1	C297	C4	C838	A4	C2211	C3	C2223	D2	IC217	E2	R202	C6	R231	B3	R274	C5	R293	D6	R818	A5	R842	A4	ZD204	E4		



ELECTRICAL PARTSLIST - SERVO BOARD**- MISCELLANEOUS -**

RB704 9965 000 22243 FLAT CABLE 10PIN 220MM

- RESISTORS -RA201 Δ 9965 000 12486 RES ARRAY 4* 33 Ω 1/10W 5%RA202 Δ 9965 000 12486 RES ARRAY 4* 33 Ω 1/10W 5%RA203 Δ 9965 000 12486 RES ARRAY 4* 33 Ω 1/10W 5%RA204 Δ 9965 000 12487 RES ARRAY 4* 10 Ω 1/10W 5%RA205 Δ 9965 000 12487 RES ARRAY 4* 10 Ω 1/10W 5%RA206 Δ 9965 000 12487 RES ARRAY 4* 10 Ω 1/10W 5%RA208 Δ 9965 000 12486 RES ARRAY 4* 33 Ω 1/10W 5%RA209 Δ 9965 000 12486 RES ARRAY 4* 33 Ω 1/10W 5%RA210 Δ 9965 000 12486 RES ARRAY 4* 33 Ω 1/10W 5%**- COILS & FILTERS -**FB201 9965 000 12470 BEAD FERITE 100 Ω /AT100MHZFB202 9965 000 12470 BEAD FERITE 100 Ω /AT100MHZFB204 9965 000 19426 CHIP INDUCTOR 10 μ H 10%FB206 9965 000 12470 BEAD FERITE 100 Ω /AT100MHZFB207 9965 000 12470 BEAD FERITE 100 Ω /AT100MHZFB208 9965 000 12470 BEAD FERITE 100 Ω /AT100MHZFB209 9965 000 12470 BEAD FERITE 100 Ω /AT100MHZFB801 9965 000 12471 BEAD FERITE 600 Ω AT100MHZFB802 9965 000 12471 BEAD FERITE 600 Ω AT100MHZFB803 9965 000 12470 BEAD FERITE 100 Ω /AT100MHZL201 9965 000 18025 2.4 μ H 5%L202 9965 000 18025 2.4 μ H 5%L203 9965 000 18025 2.4 μ H 5%L204 9965 000 18025 2.4 μ H 5%L205 9965 000 18025 2.4 μ H 5%L206 9965 000 15871 INDUCTOR 10 μ H 10%

XL201 9965 000 17371 27.0000MHZ HC-49US +/-20PPM

- DIODES -**- DIODES -**

D803 9965 000 19409 DIODE BAV16W/IN4148W

ZD201 9965 000 19431 CHIP ZENER 7.5V 5% 0.5W

ZD202 9965 000 19431 CHIP ZENER 7.5V 5% 0.5W

ZD203 9965 000 19431 CHIP ZENER 7.5V 5% 0.5W

ZD204 9965 000 19431 CHIP ZENER 7.5V 5% 0.5W

ZD205 9965 000 19431 CHIP ZENER 7.5V 5% 0.5W

ZD206 9965 000 19431 CHIP ZENER 7.5V 5% 0.5W

ZD207 9965 000 19431 CHIP ZENER 7.5V 5% 0.5W

ZD208 9965 000 19431 CHIP ZENER 7.5V 5% 0.5W

ZD209 9965 000 19431 CHIP ZENER 7.5V 5% 0.5W

ZD210 9965 000 19431 CHIP ZENER 7.5V 5% 0.5W

- IC & TRANSISTORS -

IC201 9965 000 21180 IC 208 PIN ES6628F PQFP

IC202 9965 000 12490 CS4360KZ

IC203 9940 000 00021 IC MBM29LV800BA W/S.W.

IC205 9940 000 00029 IC SD41621HGT-6

IC207 9322 190 52668 IC SM CS5333-KZ

IC209 9965 000 15884 IC AT24C02N-10SI-2.7

IC210 9965 000 15890 IC IMP809 SOT23 2.93V

IC211 9965 000 20293 IC 20 PIN 74F374D

IC212 9965 000 20293 IC 20 PIN 74F374D

IC213 9965 000 20293 IC 20 PIN 74F374D

IC216 9965 000 15887 IC RT9164-33CLR

IC217 9965 000 15887 IC RT9164-33CLR

IC218 9965 000 19385 IC 4P B1117N-2.85

IC220 9965 000 22246 IC 20PIN 74F244

IC221 9965 000 22246 IC 20PIN 74F244

IC222 9965 000 22247 IC 16 PIN N74F138D

IC801 9965 000 21182 IC 64 PIN ES6603S LQFP

IC802 9322 187 63668 IC SM BA5954FP

IC803 9965 000 15917 IC BA6287FE 2R

IC804 9965 000 15917 IC BA6287FE 2R

IC805 9965 000 20290 IC 8 PIN LM358MX NS

Q201 9965 000 20268 XISTR NPN 2SC1623

ELECTRICAL PARTSLIST - SERVO BOARD**- IC & TRANSISTORS -**

Q801 3141 018 51690 TRA SM 2SK3018

Q802 3141 018 51690 TRA SM 2SK3018

Q803 9965 000 19393 XISTR NPN 2SC2812N 2204

Q804 9965 000 19393 XISTR NPN 2SC2812N 2204

Q805 9965 000 19394 XISTR PNP 2SA1179N 2204

Q806 9965 000 19394 XISTR PNP 2SA1179N 2204

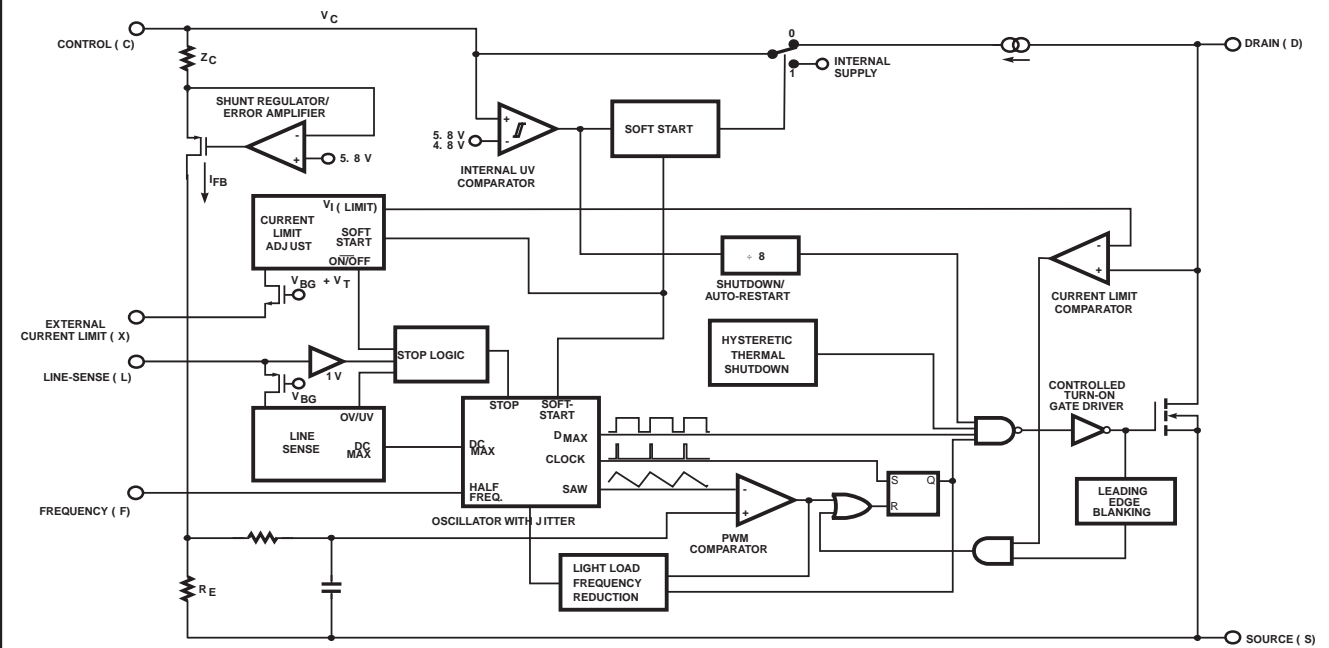
Note: Only these parts mentioned in the list are normal service parts.

POWER BOARD

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TOP249 INTERNAL IC DIAGRAM



VOLTAGE

IC901 (TOP249)										
PIN	1	2	3	4	5	6				
VOLTAGE	0	40	-1.5	-1.5	0	83				

IC903 (TL431)										
PIN	1	2	3							
VOLTAGE	2.4	0	5							

IC9001 (L7808)										
PIN	1	2	3							
VOLTAGE	12	0	7.9							

IC9002 (BA05T)										
PIN	1	2	3							
VOLTAGE	6.9	0	5							

IC9003 (BA05T)										
PIN	1	2	3							
VOLTAGE	6.9	0	5							

Q901 (TIP127)			
PIN	1	2	3
VOLTAGE	-3.8	-28.2	-12.3

Q903 (2N2222A)			
PIN	1	2	3
VOLTAGE	5.1	5.7	19.8

Q904 (TLP122)			
PIN	1	2	3
VOLTAGE	7.2	27.7	7

Q905 (2SA733)			
PIN	1	2	3
VOLTAGE	7.2	27.7	7

Q905 (2SA733)			
PIN	1	2	3
VOLTAGE	25.4	27.8	27.2

Q906 (2SC945)			
PIN	1	2	3
VOLTAGE	-0.67	-0.67	0

Q9001 (2SC945)			
PIN	1	2	3
VOLTAGE	0.06	42	0.05

Q9002 (2SA733)			
PIN	1	2	3
VOLTAGE	-32.2	-41.9	-32.6

Q9003 (2SA733)			
PIN	1	2	3
VOLTAGE	43	-26.8	42.2

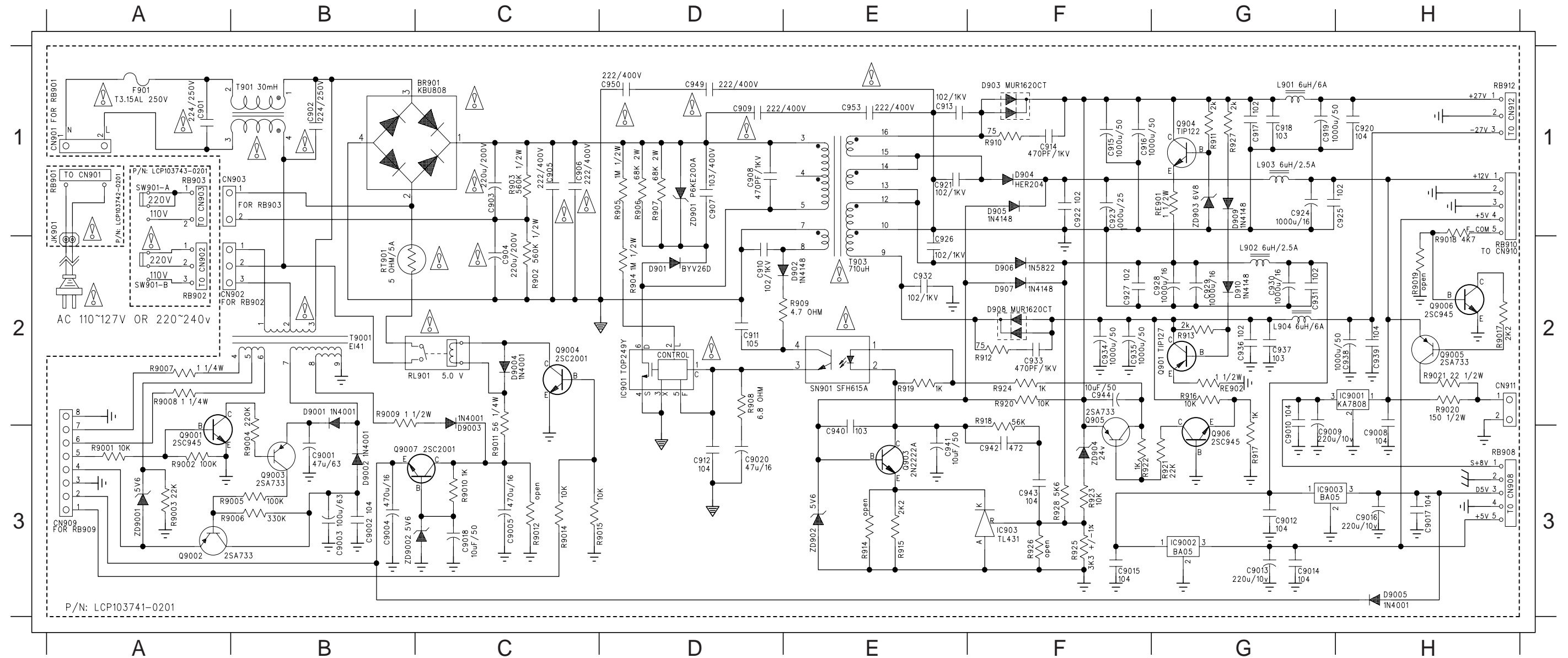
Q9004 (2SC2001)			
PIN	1	2	3
VOLTAGE	0.06	0.2	0.74

Q9005 (2SA733)			
PIN	1	2	3
VOLTAGE	12.15	12.15	13.35

Q9006 (2SC945)			
PIN	1	2	3
VOLTAGE	0	13.25	0

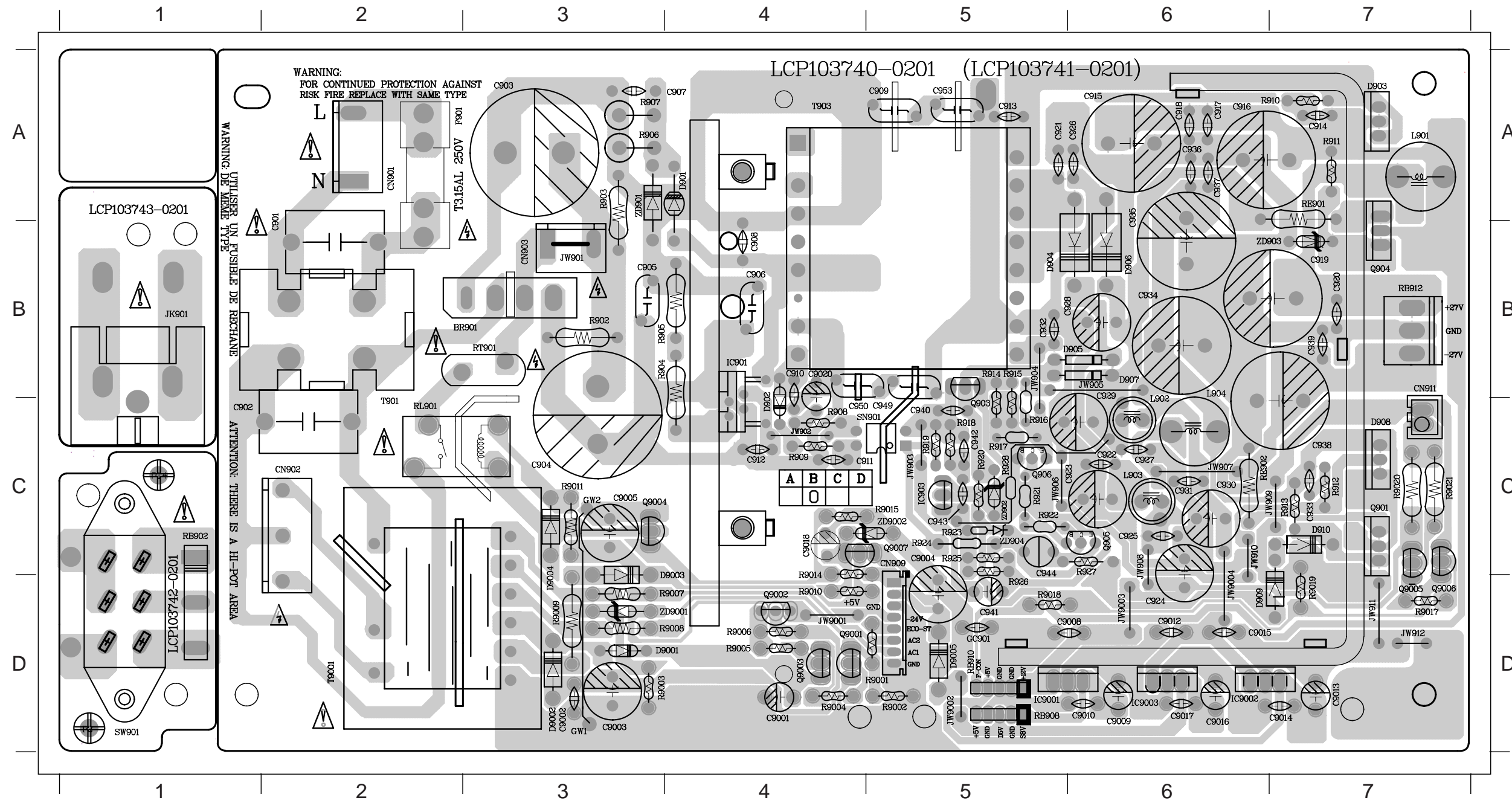
CIRCUIT DIAGRAM-POWER BOARD

BR901	C1	C915	F1	C930	G2	C949	D1	C9015	F3	D906	F2	IC903	F3	Q9005	H2	R915	E3	R9003	A3	R9021	H2	T903	E2
C901	A1	C916	F1	C931	G2	C950	D1	C9016	H3	D907	F2	JK901	A2	Q9006	H2	R916	G2	R9004	B3	RB901	A1	T9001	B2
C902	B1	C917	G1	C932	E2	C951	D3	C9017	H3	D908	F2	L901	G1	Q9007	C3	R917	G3	R9005	B3	RB902	A2	ZD901	D1
C903	C1	C918	G1	C933	F2	C953	E1	C9018	C3	D909	G1	L902	G2	R902	C2	R918	F3	R9006	B3	RB903	A1	ZD902	E3
C904	C2	C919	G1	C934	F2	C9001	B3	C9020	D3	D910	G2	L903	G1	R903	C1	R919	E2	R9007	A2	RB908	H3	ZD903	G1
C905	C1	C920	H1	C935	F2	C9002	B3	CN901	A1	D9001	B2	L904	G2	R904	D2	R920	F2	R9008	A2	RB910	H1	ZD904	F3
C906	C1	C921	E1	C936	G2	C9003	B3	CN902	A2	D9002	B3	Q901	G2	R905	D1	R921	G3	R9009	B2	RB912	H1	ZD9001	A3
C907	D1	C922	F1	C937	G2	C9004	B3	CN903	B1	D9003	C2	Q903	E3	R906	D1	R922	F3	R9010	C3	RE901	G1	ZD9002	C3
C908	D1	C923	F1	C938	H2	C9005	C3	CN909	A3	D9004	C2	Q904	G1	R907	D1	R923	F3	R9011	C2	RE902	G2		
C909	D1	C924	G1	C939	H2	C9008	H3	CN911	H2	D9005	H3	Q905	F2	R908	D2	R924	F2	R9014	C3	RL901	B2		
C910	D2	C925	G1	C940	E3	C9009	G3	D901	D2	F901	A1	Q906	G3	R909	E2	R925	F3	R9015	C3	RT901	B2		
C911	D2	C926	E2	C941	E3	C9010	G3	D902	E2	IC9001	H2	Q9001	A3	R910	F1	R927	G1	R9017	H2	SN901	E2		
C912	D3	C927	F2	C942	F3	C9012	G3	D903	F1	IC9002	G3	Q9002	A3	R911	G1	R928	F3	R9018	H1	SW901-A	A1		
C913	E1	C928	G2	C943	F3	C9013	G3	D904	F1	IC9003	G3	Q9003	B3	R912	F2	R9001	A3	R9019	H2	SW901-B	A2		
C914	F1	C929	G2	C944	F2	C9014	G3	D905	F1	IC901	D2	Q9004	C2	R913	G2	R9002	A3	R9020	H2	T901	B1		



PCB LAYOUT - POWER BOARD

BR901	B3	C915	A6	C930	C6	C949	B5	C9015	D6	D907	B6	JK901	B1	JW9002	D5	Q9004	C3	R913	C7	R928	C5	R9018	D5	T903	A4
C901	A2	C916	A6	C931	C6	C950	B4	C9016	D6	D908	C7	JW901	B3	JW9003	D6	Q9005	C7	R914	B5	R9001	D5	R9019	D7	T9001	D2
C902	C2	C917	A6	C932	B5	C953	A5	C9017	D6	D909	D7	JW902	C4	JW9004	D6	Q9006	C7	R915	B5	R9002	D5	R9020	C7	ZD901	A3
C903	A3	C918	A6	C933	C7	C9001	D4	C9018	C4	D910	C7	JW903	C5	L901	A7	Q9007	C5	R916	C5	R9003	D3	R9021	C7	ZD902	C5
C904	C3	C919	B7	C934	B6	C9002	D3	CN901	A2	D9001	D3	JW904	B5	L902	C6	R902	B3	R917	C5	R9004	D4	RB902	C1	ZD903	B7
C905	B3	C920	B7	C935	B6	C9003	D3	CN902	C2	D9002	D3	JW905	B6	L903	C6	R903	A3	R918	C5	R9005	D4	RB908	D5	ZD904	C5
C906	B4	C921	A5	C936	A6	C9004	D5	CN903	B3	D9003	D3	JW906	C5	L904	C6	R904	B4	R919	C5	R9006	D4	RB910	D5	ZD9001	D3
C907	A3	C922	C6	C937	A6	C9005	C3	CN909	C5	D9004	C3	JW907	C6	Q901	C7	R905	B4	R920	C5	R9007	D3	RB912	B7	ZD9002	C5
C908	B4	C923	C6	C938	C7	C9006	D5	CN911	C7	D9005	D5	JW908	E6	Q903	C5	R906	A3	R921	C5	R9008	D3	RE901	A7		
C909	A5	C924	D6	C939	B7	C9008	D5	D901	A4	F901	A2	JW908	C6	Q904	B7	R907	A3	R922	C5	R9009	D3	RE902	C6		
C910	B4	C925	C6	C940	C5	C9009	D6	D902	B4	IC901	B4	JW909	C7	Q905	C6	R908	C4	R923	C5	R9010	D4	RL901	C2		
C911	C4	C926	A6	C941	D5	C9010	D6	D903	A7	IC903	C5	JW910	C6	Q906	C5	R909	C4	R924	C5	R9011	C3	RT901	B3		
C912	C4	C927	C6	C942	C5	C9012	D6	D904	B6	IC9001	D5	JW911	D7	Q9001	D4	R910	A7	R925	C5	R9014	C4	SN901	C5		
C913	A5	C928	B6	C943	C5	C9013	D7	D905	B6	IC9002	D6	JW912	D7	Q9002	D4	R911	A7	R926	D5	R9015	C4	SW901	D1		
C914	A7	C929	C6	C944	C5	C9014	D7	D906	C7	IC9003	D6	JW9001	D4	Q9003	D4	R912	C7	R927	C6	R9017	D7	T901	C2		



ELECTRICAL PARTSLIST - POWER BOARD**- MISCELLANEOUS -**

JK901	△	9965 000 22231	SOCKET MAINS 94V0
RB908		9965 000 22232	FLAT CABLE 5PIN 300MM
RB910		9965 000 22232	FLAT CABLE 5PIN 300MM
RB912		9965 000 22233	FLAT CABLE 3P 120MM
RL901		9965 000 22234	RELAY 5VDC 40MA
RT901		9965 000 17394	5R 5A
SN901		9965 000 15769	PHOTO COUPLER SFH615A-3
SW901		9965 000 16339	SW SLIDE 6 PIN SL14-22AH
T9001	△	9965 000 22235	PWR TRANS. EI-41 120V/230V
T901		9965 000 17395	1.7A L1:86TS L2:86TS
T903	△	9965 000 22236	PWR TRANS EI-42 710μH 10%
BR901		9965 000 14176	KBU808 8A 800V SEP
F901		9965 000 17388	FUSE 3.15A 250V SLOW

- CAPACITORS -

C901		9965 000 16687	0.22μF 275V X2P 20%
C902		9965 000 16687	0.22μF 275V X2P 20%
C905	△	9965 000 20259	SAFETY 0.0022μF 250V 20%
C906	△	9965 000 20259	SAFETY 0.0022μF 250V 20%
C909	△	9965 000 20259	SAFETY 0.0022μF 250V 20%
C949	△	9965 000 20259	SAFETY 0.0022μF 250V 20%
C950	△	9965 000 20259	SAFETY 0.0022μF 250V 20%
C953	△	9965 000 20259	SAFETY 0.0022μF 250V 20%

- COILS & FILTERS -

L901		9965 000 16693	6μH 10.5TS 6A
L902		9965 000 16694	6μH 13.5TS 2UEW
L903		9965 000 16694	6μH 13.5TS 2UEW
L904		9965 000 16693	6μH 10.5TS 6A

- DIODES -

D901		4822 130 11044	BYV26D
D902		4822 130 30621	1N4148
D903		9965 000 14186	MUR1620CT 8A 200V

- DIODES -

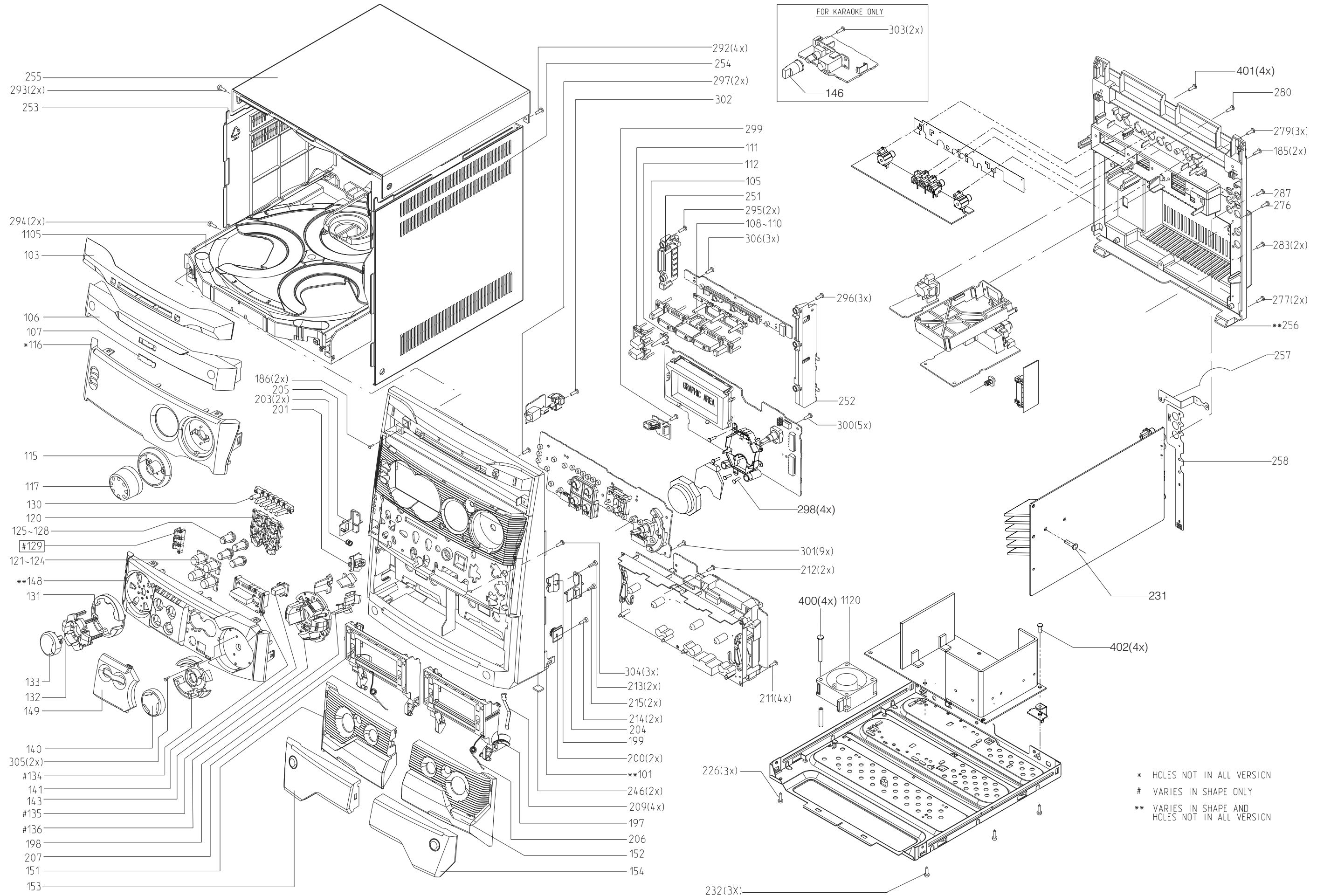
D904		9965 000 14187	HER204 2A/300V 50NS
D905		4822 130 30621	1N4148
D906		5322 130 32677	1N5822
D907		4822 130 30621	1N4148
D908		9965 000 14186	MUR1620CT 8A 200V
D909		4822 130 30621	1N4148
D910		4822 130 30621	1N4148
D9001		4822 130 31438	1N4001G
D9002		4822 130 31438	1N4001G
D9003		4822 130 31438	1N4001G
D9004		4822 130 31438	1N4001G
D9005		4822 130 31438	1N4001G
ZD901		9965 000 22238	DIODE P6KE200A 190-220V
ZD902		9965 000 15944	DIODE ZENR 5.6-5.9V 0.5W
ZD903		4822 130 80272	MTZJ7.5C
ZD9001		9965 000 15944	DIODE ZENR 5.6-5.9V 0.5W
ZD9002		9965 000 15944	DIODE ZENR 5.6-5.9V 0.5W

- IC & TRANSISTORS -

IC901		9965 000 14189	TOP249Y 250W
IC903		9965 000 17387	IC TL431
IC9001		9965 000 15945	IC 7808 8V 1A
IC9002		9965 000 12512	BA05T ROHM
IC9003		9965 000 12512	BA05T ROHM
Q901		9965 000 22242	XISTR PNP TIP127
Q903		9965 000 17396	PN2222A FAIRCHILD
Q904		9965 000 20581	XISTR NPN TIP122 SGS-TH
Q905		4822 130 63876	2SA733R
Q906		4822 130 41198	2SC945P
Q9001		4822 130 41198	2SC945P
Q9002		4822 130 63876	2SA733R
Q9003		4822 130 63876	2SA733R
Q9005		4822 130 63876	2SA733R
Q9006		4822 130 41198	2SC945P
Q9007		4822 130 41651	2SC2001L

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

MECHANICAL EXPLODED VIEW



* HOLES NOT IN ALL VERSION
 # VARIES IN SHAPE ONLY
 ** VARIES IN SHAPE AND HOLES NOT IN ALL VERSION

MECHANICAL & ACCESSORIES PARTSLIST**SCREW LISTS - MAIN UNIT**

101	9965 000 22155	FRONT CAB.	203	9965 000 22203	SPRING PUSH	185	D3x12
103	9965 000 22166	WINDOW DISC-CONTROL	204	9965 000 22181	BRACKET RIGHT	186	D3x12
105	9965 000 22121	BUTTON SET CDC SELECT	205	9965 000 22182	BRACKET LEFT	211	D3x12
106	9965 000 22158	COVER LOADER CDC	206	9965 000 22200	SPRING TWIST (R)	212	D3x12
108	3139 114 72050	LIGHTGUIDE CDC SELECT1	207	9965 000 22201	SPRING TWIST (L)	213	D3x12
109	3139 114 72060	LIGHTGUIDE CDC SELECT2	209	9965 000 22205	SPRING-CASSETTE	214	M3x12
110	3139 114 72070	LIGHTGUIDE CDC SELECT3	246	9965 000 22119	FOOT RUBBER	215	M3x12
111	9965 000 22125	BUTTON STDBY/ECO POWER	251	9965 000 22185	BRACKET CDC RIGHT	226	M3x6
115	9965 000 22160	COVER RING VOLUME/VU	252	9965 000 22184	BRACKET CDC LEFT	231	M3x6
116	9965 000 22171	WINDOW DISPLAY	253	9965 000 22179	PANEL LEFT	232	M3x6
117	9965 000 22138	KNOB VOLUME ROTARY	254	9965 000 22180	PANEL RIGHT	276	M3x6
120	9965 000 22144	FRAME BUTTON SOURCE SEL	255	9965 000 22165	COVER TOP	277	M3x10
121	9965 000 22128	BUTTON CAP SOURCE-CD	256	9965 000 22156	PANEL REAR	279	D3x12
122	9965 000 22129	BUTTON CAP SOURCE-TUNER	1104	9965 000 22214	TAPE DECK	280	D3x12
123	9965 000 22130	BUTTON CAP SOURCE-TAPE	1105	9965 000 22116	3 DVD CHANGER	283	D3x12
124	9965 000 22131	BUTTON CAP SOURCE-AUX	1120	9940 000 00026	FAN KD1205PHS2 DV 12V	287	D3x12
125	9965 000 22195	LIGHTGUIDE SOURCE-DISC		9940 000 00013	FFC CABLE 28PIN 160MM	292	M3x12
126	9965 000 22196	LIGHTGUIDE SOURCE-TUNER		9940 000 00028	LOUDSPEAKER BOX 4R	293	M3x12
127	9965 000 22197	LIGHTGUIDE SOURCE-TAPE		9965 000 14632	FM ANTENNA	294	M3x10
128	9965 000 22198	LIGHTGUIDE SOURCE-AUX		9965 000 14633	LOOP ANTENNA	295	D3x12
129	9965 000 22142	BUTTON PROG/LANG./SUB.		9965 000 14636	RCA CABLE 1200MM	296	D3x12
130	9965 000 22143	BUTTON DIS/CLK/T/AR/D/REC	△	9940 000 00044	MAINS CORD	297	D2x8
131	9965 000 22161	COVER RING FUNC. CONTROL		9965 000 20234	RCA CABLE 1500MM	298	D3x10
132	9965 000 22127	BUTTON FUNCTION CONTROL		9965 000 20577	RCA CABLE 1500MM	299	D3x10
133	9965 000 22133	CAP FUNCTION CONTROL		9965 000 22207	FFC CABLE 14PIN 80MM	300	D3x12
134	9965 000 22159	COVER RING S/V/C/ECHO		9965 000 22208	FFC CABLE 26PIN 180MM	301	D3x12
135	9965 000 22126	BUTTON S/V/C/ECHO		9965 000 22215	REMOTE CONTROL	302	D3x12
140	9965 000 22139	KNOB JOG-ROTARY				303	D3x10
141	9965 000 22132	BUTTON MAX				304	D3x12
146	9965 000 22137	KNOB-KARAOKE				305	D2x8
148	9965 000 22157	COVER CONTROL				306	D3x12
149	9965 000 22164	COVER CONTROL MAX KOK				400	T3xL38xP0.5
151	9965 000 22162	COVER CASSETTE LEFT				401	T3x8
152	9965 000 22163	COVER CASSETTE RIGHT				402	M3x6
153	9965 000 22174	LENS CASSETTE-LEFT					
154	9965 000 22175	LENS CASSETTE RIGHT					
197	9965 000 22173	DOOR CASSETTE-RIGHT					
198	9965 000 22172	DOOR CASSETTE LEFT					
199	9965 000 22141	PUSH CATCH RIGHT					
200	9965 000 22120	DAMPER-ASSY-MODULE-0.8					
201	9965 000 22140	PUSH CATCH-LEFT					

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