

Service
Service
Service



Service Manual



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PHILIPS

TECHNICAL SPECIFICATION

General

| | |
|--------------------------|--------------|
| Dimensions (Dia x H) | : 106 x 28mm |
| Weight without batteries | : 145g |

Laser

| | |
|--------------|-------------------|
| Output power | : <5mW (3mW typ.) |
| Wavelength | : 780nm |

Shock resistance (ESP=off)

| | |
|-----------------|---------------|
| +X/-X direction | : $\geq 1.0g$ |
| +Y/-Y direction | : $\geq 1.0g$ |
| +Z/-Z direction | : $\geq 1.0g$ |

Power supply modes

| | |
|---------------------------------|-----------------|
| DC-in socket | : 2.9..6.5V |
| Primary batteries(2 x LR6) | : 1.7..3.6V |
| Voltage protection DC-in socket | : -14.0..+14.0V |

Battery lifetime

| BATTERY TYPE | CD MODE | CD MODE | MP3 MODE | MP3 MODE |
|------------------------------|-----------------------------|-----------------------------|-----------------------------|---------------------------|
| | ESP ON ESP OFF | ESP LP | ESP ON | ESP LP |
| Primary batteries 2 x LR6 | ≥ 2.8 h (3.5h typ.) | ≥ 3.8 h (5.3h typ.) | ≥ 2.5 h (3.5h typ.) | ≥ 4.9 h (7h typ.) |

Battery level detection

| DETECTION LEVEL | Primary batteries |
|-----------------|-------------------------------------------|
| Battery empty | 1.8V +100/-50mV |
| Battery week 1 | battery empty level + 0.9V \pm 100mV |
| Battery week 2 | battery empty level + 0.6V \pm 100mV |
| Battery week 3 | battery empty level + 0.3V \pm 100mV |

Current consumption MP3-playback

| OPERATION MODE | DC-IN SUPPLY (4.5V) | | BATT. SUPPLY (2.25V) | |
|------------------------------|---------------------|------------|----------------------|------------|
| | ESP ON | ESP LP | ESP ON | ESP LP |
| Play mode | 140mA typ. | 100mA typ. | 170mA typ. | 120mA typ. |
| Jump mode | 320mA typ. | | 400mA typ. | |
| Charge-mode | n/a | | n/a | |
| Stand- by (excl.recharge) | 30mA typ. | | 450 μ A typ. | |

Current consumption CD-playback

| OPERATION MODE | DC-IN SUPPLY (4.5V) | | BATT. SUPPLY (2.25V) | |
|------------------------------|---------------------|------------|----------------------|------------|
| | ESP ON/OFF | ESP LP | ESP ON/OFF | ESP LP |
| Play mode | 140mA typ. | 115mA typ. | 170mA typ. | 138mA typ. |
| Jump mode | 220mA typ. | | 300mA typ. | |
| Charge-mode | n/a | | n/a | |
| Stand- by (excl.recharge) | 30mA typ. | | 450 μ A typ. | |

Headphone out (measured with 16 Ω load, DBB/ESP off)

| | |
|-----------------------------------|------------------------------|
| Output power (THD=10%) | |
| all versions | : 10mW (+1/-3dB) |
| Frequency response CD (1mW) | : 100Hz-20kHz within 6dB |
| S/N ratio CD (unwght) | : ≥ 80 dB (83dB typ.) |
| S/N ratio CD (A-wght) | : ≥ 82 dB (85dB typ.) |
| THD+N CD (1kHz, 1mW) | : $\leq 1\%$ (0.2% typ.) |
| Channel crosstalk (1kHz, no load) | : ≤ -24 dB (-44dB typ.) |
| Channel unbalance (-40dB) | : ≤ 5 dB |
| Volume attenuation (1kHz) | : ≥ 60 dB |

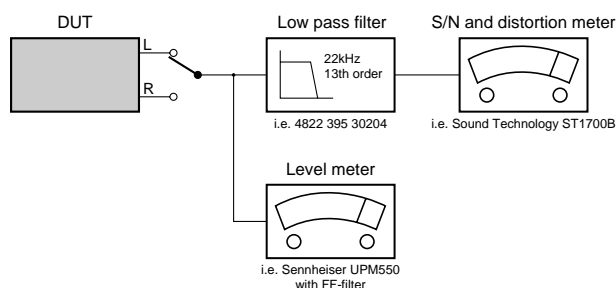
Dynamic Bass Boost DBB

| SOUND PRESET | Frequency response | | |
|--------------|--------------------|---------------|----------------|
| | 63kHz | 1kHz | 10kHz |
| TREBLE ON | 0dB \pm 2dB | 0dB \pm 2dB | +5dB \pm 2dB |
| DBB 1 | +5dB \pm 2dB | 0dB \pm 2dB | 0dB \pm 2dB |
| DBB 2 | +9dB \pm 2dB | 0dB \pm 2dB | 0dB \pm 2dB |

Measurement setup CD

Use Audio Signal disc SBC429

4822 397 30184



Feature Overview

| FEATURES OF CD-PORTABLE/MP3 | ACT300 (all versions) |
|---------------------------------------|--------------------------|
| TUNER FM / MW | - / - |
| CD-REWRITABLE COMPATIBILITY | ● |
| ELECTRONIC SKIP PROTECTION CDDA / MP3 | 180s / 495s |
| ESP DRAM SIZE | 64Mbit |
| HOLD / RESUME FUNCTION | ● / ● |
| DBB STAGES | 2 |
| ACOUSTIC FEEDBACK | ● |
| PROGRAM MEMORY | 99 |
| RECHARGE FUNCTION NiCd / NiMH | - / - |
| CORD REMOTE CONTROL PREPARED | ● |
| DISPLAY BACKLIGHT | - |
| LINE / DIGITAL OUTPUT | - / - |

CONNECTIONS AND CONTROLS

controls

controls

front view

- ① display
- ② - adjusts the volume (down)
- ③ + adjusts the volume (up)
- ④ ⏮ skips backward and searches backward
- ⑤ ⏭ skips forward and searches forward
- ⑥ ◀ mp3-cd only: selects the previous album or skips backward
- ⑦ ▶ mp3-cd only: selects the next album or skips forward
adjusts eq (bass and treble)
- ⑧ ⏸ switches the set on, starts playback and interrupts playback
- ⑨ ■ stops playback and switches the set off

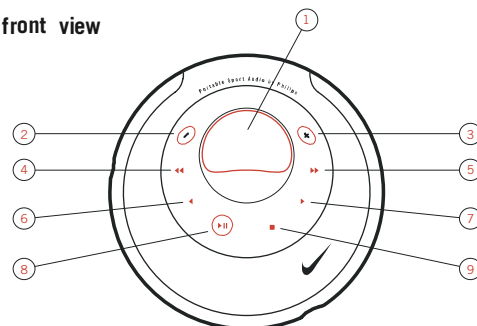
rear view

- ① **hold/resume/off**
hold locks all buttons
resume stores the last position played
off switches resume and hold off
- ② **esp**
electronic skip protection prevents music interruptions caused by shocks
- ③ **eq**
selects the bass and treble adjustment
- ④ **mode**
selects playback options such as **shuffle** and **repeat**
- ⑤ 3.5 mm line out to connect the headphones the remote control this set to the audio input of your stereo equipment
- ⑥ opens the cd lid
- ⑦ battery compartment
- ⑧ **DC** to connect the external power supply

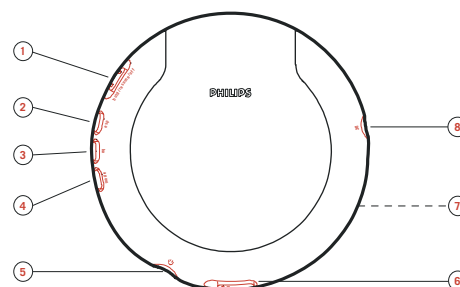
caution

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

front view



rear view



the model number is located inside the cd door and the serial number is located inside the battery compartment .

ACCESSORIES

| ACCESSORIES FOR MP3 | ACT300 | | | |
|---------------------------------------------------------|--------|-----|-----|-----|
| | /00C | /01 | /11 | /17 |
| AY 3170/00 AC/DC Adaptor 3140 118 33630 | X | | | |
| AY 3170/02 AC/DC Adaptor 3140 118 32020 | | X | | |
| AY 3170/17 AC/DC Adaptor 3140 118 33640 | | | | X |
| SBC HJ020/77E Stereo Headphone 9082 100 00787 | X | X | X | X |
| AY3773 Remote control 3140 118 51170 | X | X | X | X |
| AY3287 Handstrap 3140 113 10571 | X | X | X | X |

general information

how to make a cd-rom with mp3 files

use your computer's cd burner to record ("burn") the music files from your hard disc to a cd-rom. use either ISO 9660 disc format or UDF. some cd burner software like e. g. "DirectCD" support the UDF format.

make sure that the file names of the mp3 files end with .mp3.

supported formats

this set supports:

- disc format: ISO 9660, joliet, multisession, UDF, enhanced music cd, mixed mode cd
- mp3 bit rate: 32-320 kbps and variable bit rate
- total number of music files and albums: around 350 (with a typical file name length of 20 characters)

note: the number of music files that can be played depends on the length of the file names. with short file names more files will be supported.

all trademarks used are owned by their respective owners.

INSTRUCTION FOR USE

general information

firmware upgrade

occasionally, philips releases new software ("firmware") for your set.

- 1 connect the mains adapter to **DC** on the set and to the wall socket (see "mains adapter").
- 2 keep mode pressed for 3 seconds.
the type of your set and the current version of the firmware are displayed. Upgrade? is displayed.
- 3 press ■.
- 4 visit the homepage <http://www.nike-philips.com>. check if there is a firmware file for your set and if the firmware version is higher than the current version of your set. download the file and burn it on a cd-rom.
- 5 insert the cd-rom into the set and keep mode pressed for 3 seconds.
Upgrade? is displayed.
- 6 press ►||.
Upgrading is displayed and upgrading starts. this may take some minutes. after upgrading is finished, Upgrade complete is scrolled.
Wrong upgrade file is scrolled: your set already has the latest firmware or the downloaded file does not correspond to your set.
Upgrade file defect is scrolled: the upgrade file has been damaged during the download or when burning the cd-rom. download the file again, burn a new cd-rom and try again.
No upgrade file is scrolled: no upgrade file was found on the inserted cd-rom.

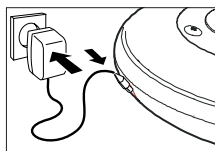
note: if upgrading is interrupted accidentally, repeat step 6 until upgrading is completed successfully.

power supply / headphones

power adapter (supplied or optionally available)

use only the AY 3170 power adapter (4.5 V/300 mA direct current, positive pole to the center pin). any other product may damage the set.

- 1 make sure the local voltage corresponds to the adapter's voltage. if your power adapter is equipped with a voltage selector, set this selector to the local power voltage if necessary.
- 2 connect the power adapter to **DC** on the set and to the wall outlet.

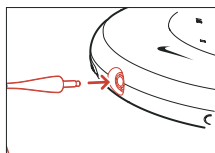


note: always disconnect the adapter if you are not using it.

headphones (HJ020)

connect the supplied headphones to ☞.

note: ☞ can also be used for connecting this psa to your hifi system. adjust the volume and sound on the psa and your hifi system.



use your head when using headphones

hearing safety

do not play your headphones at a high volume. hearing experts advise that continuous use at high volume can permanently damage your hearing.

traffic safety

do not use headphones while driving a vehicle. it may create a hazard and it is illegal in many countries. even if your headphones are an open-air type designed to let you hear outside sounds, do not turn up the volume so high that you cannot hear what is going on around you.

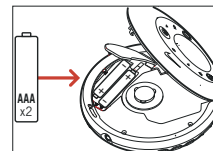
power supply

batteries (supplied or optionally available)

inserting batteries

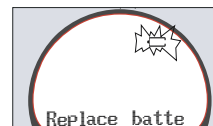
open the battery compartment and insert 2 alkaline batteries of type **AAA (RO3, UM4)**.

do not use old and new or different types of batteries in combination.



indication of empty batteries

replace the batteries or connect the mains adapter as soon as ☐ blinks and Replace batteries is scrolled.



remove batteries if they are empty or if the set will not be used for a long time.

batteries contain chemical substances, so they should be disposed of properly.

average playing time of batteries under normal conditions:

| | alkaline batteries |
|-------------------------|-----------------------|
| esp on | 3.5 hours |
| esp and powersaving on: | |
| audio disc | 5 hours |
| mp3-cd | 7 hours |

note: to switch on powersaving, press esp repeatedly during playback until ESP is shown (see "esp and powersaving").

basic functions

playing a disc

with this set you can play

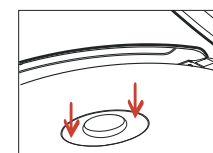
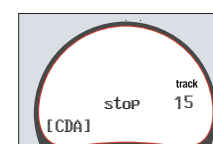
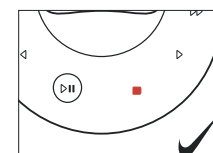
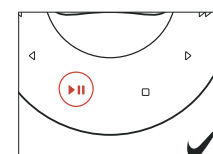
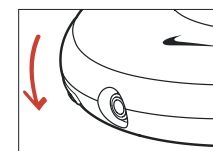
- 8cm audio discs pre-recorded audio cds
- 8cm audio discs finalized audio cdrs and cdrws
- 8cm mp3-cds (cd-roms with mp3 files)

- 1 push the ☞ slider to open the cd lid.
- 2 insert a disc, printed side up, by pressing gently on the disc's center so that it fits onto the hub. close the lid by pressing it down.
- 3 press ►|| to start playback.
Reading CD is displayed. playback starts.
the track type (CD or MP3), the current track number and the elapsed playing time are displayed. for an mp3 track, the album number is also displayed and the filename is scrolled twice.
- 4 press ■ to stop playback.
the total number of tracks, the track types (CD, MP3), the number of albums on an mp3-cd and the total playing time (of an audio disc only) are displayed.
- 5 to remove the disc, hold it by its edge and press the hub gently while lifting the disc.

notes:

after pressing ►|| it may take some time until the first mp3 track is played.

20 seconds after pressing ■ the set switches off automatically.

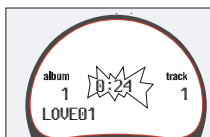


INSTRUCTION FOR USE

basic functions

pause

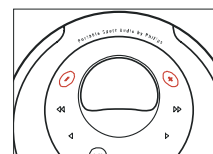
- 1 press **⏸** to interrupt playback.
the time where playback was interrupted is blinking.
- 2 to resume playback press **⏸** again.



basic functions

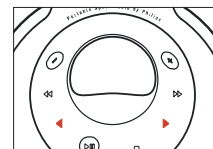
volume and sound

volume adjustment
adjust the volume by using **-** & **+**.



bass adjustment

- 1 press **eq** once during playback to select the bass adjustment.
the current bass setting blinks.
- 2 press **▶** repeatedly to select either:
No Bass: no bass enhancement
Bass 1: moderate bass enhancement
Bass 2: strong bass enhancement
the selected bass setting blinks.
- 3 press **eq** to confirm your selection.



treble adjustment

- 1 press **eq** twice during playback to select the treble adjustment.
the current treble setting blinks.
- 2 press **▶** repeatedly to select either:
No Treble: no treble enhancement
Treble: treble enhancement
the selected treble setting blinks.
- 3 press **eq** to confirm your selection.



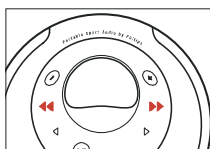
basic functions

selecting and searching on all discs

selecting a track during playback

briefly press **◀** or **▶** once or several times to skip to the beginning of the current, previous or subsequent track.

playback continues with the selected track.



searching for a passage during playback

- 1 keep **◀** or **▶** pressed to find a particular passage in backward or forward direction.
searching starts and playback continues at a low volume. for cd audio tracks the search speeds up after 2 seconds.
- 2 release the button at the desired passage.
normal playback continues.

*note: during **repeat**, **shuffle** or **shuffle all**, searching is only possible within the current track.*

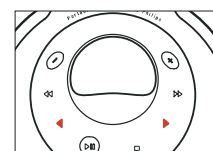
basic functions

selecting on mp3-cds

selecting an album during playback

briefly press **◀** or **▶** once or several times to skip to the first track of the current, previous or subsequent album.

the first track of the selected album is played.



selecting a track during playback

- 1 keep **◀** or **▶** pressed to skip quickly to previous or subsequent mp3 tracks.
skipping starts and speeds up after 5 seconds.
- 2 release the button at the desired track.
playback continues with the selected track.

*note: to skip from track to track at low speed, use **◀** or **▶**.*

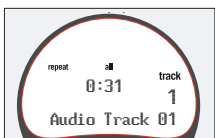
INSTRUCTION FOR USE

features

playing tracks repeatedly or in random order – mode

1 press **mode** repeatedly during playback to select either:

- shuffle album** (with mp3-cds only): all tracks of the current album are played in random order once.
- shuffle all**: all tracks of the disc are played in random order once.
- repeat shuffle album** (with mp3-cds only): all tracks of the current album are played repeatedly in random order.
- repeat shuffle all**: all tracks of the disc are played repeatedly in random order.
- repeat**: the current track is played repeatedly.
- repeat album** (with mp3-cds only): all tracks of the current album are played repeatedly.
- repeat all**: the entire disc is played repeatedly.



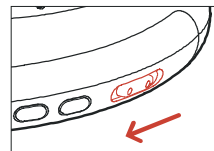
2 playback starts in the selected mode after 2 seconds.
3 to return to normal playback, press **mode** repeatedly until **repeat** and **shuffle** disappear.

features

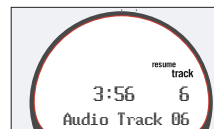
storing the last position played – resume

you can store the last position played. when restarting, playback will continue from where you have stopped.

- 1 switch the slider to **resume** during playback to activate resume. **resume** is shown.
- 2 press **stop** whenever you want to stop playback.
- 3 press **play/pause** to resume playback. playback continues from where you have stopped.



to deactivate **resume**, switch the slider to **off**. **resume** disappears.



locking all buttons – hold

you can lock all buttons of the set. when you press any key, no action will be executed then.

switch the slider to **hold** to activate hold. **resume** is shown and **Hold!** is displayed. all buttons are locked. when pressing any key, **Hold!** is displayed.



to deactivate **hold**, switch the slider to **off**. **resume** disappears.

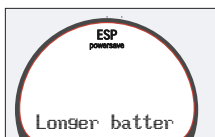
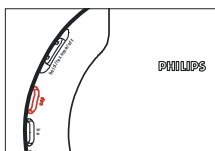
features

esp and powersaving

with a conventional portable disc player the music may stop while you are jogging, for example. the electronic skip protection protects the psa against loss of sound caused by light vibrations or shocks. **continuous playback is ensured. esp does not protect the psa against damage caused by dropping!**

press **esp** repeatedly during playback to select either:

- ESP on**: **ESP** is shown and esp is switched on.
- ESP, powersave** is shown. esp and powersaving are switched on, resulting in a longer battery lifetime and a shorter skip protection.
- ESP off** **ESP** disappears. esp and powersaving are switched off for cd audio tracks to achieve the highest sound quality.

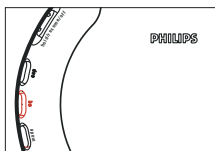


beep

a beep confirms that you have pressed a button or that the batteries are empty.

keep **eq** pressed for 2 seconds to switch beep either on or off:

- Beep** is displayed: beep is switched on.
- No beep** is displayed: beep is switched off.

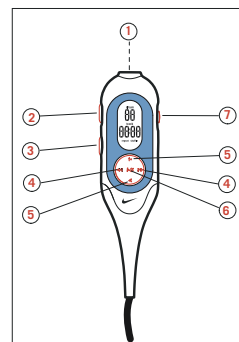


accessories

remote control AY 3773 (supplied or optionally available)

controls

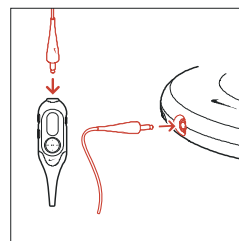
- 1 3.5 mm plug to connect the headphones
- 2 **hold** locks all buttons
- 3 **stop** stops playback and switches the set off
- 4 **left/right** skips and searches forward/backward tracks
- 5 **stop/next** mp3-cd only: selects the next/previous tracks
- 6 **play/pause** switches the set on, starts playback and interrupts playback
- 7 **volume** adjusts the volume



connecting the remote control

use only the AY 3773 remote control.

- 1 press **stop** on the set twice to switch off the set.
- 2 firmly connect the remote control to **remote** on the set.
- 3 firmly connect the headphones to the plug on the remote control.
- 4 on the remote control keep **play/pause** pressed for 1 second to switch on the set and to start playback. playback starts. the album number (mp3-cds only) and the track number are displayed on the remote control's display.



INSTRUCTION FOR USE

accessories

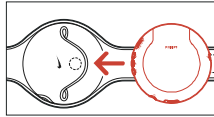
- adjust the volume and sound on the psa and your remote control.

note: replace the batteries as soon as no battery is displayed on the remote control's display.

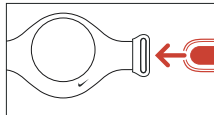
carry strap pouch (AY 3287)

wear your digital audio player during sport activity by securing it to the supplied carry strap pouch.

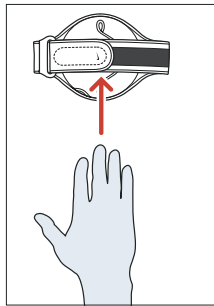
- open the velcro enclosure on the back of the carry strap pouch and slide the psa player inside. make sure the headphone / remote socket is aligned to the socket hole.



- thread the strap.



- position your hand and adjust the strap until the fit is snug and comfortable.



note: you can also use the supplied strap extension to secure the player to your waist.

troubleshooting

warning

under no circumstances should you try to repair the set yourself as this will invalidate the warranty.

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

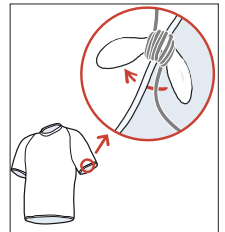
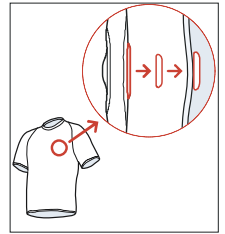
| problem | solution |
|------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| no power, playback does not start | insert the batteries correctly. replace the batteries. connect the mains adapter securely. |
| Hold indication and/or no reaction to controls | deactivate hold. disconnect the set from the power supply or take out the batteries for a few seconds. |
| no sound or bad sound quality | press ► to resume playback. adjust the volume. check and clean the connections. keep this set away from active mobile phones or strong magnetic fields. |
| pls insert cd or no audio file indication | insert a disc, label upwards. clean or replace the disc. wait until the steamed up lens has cleared. make sure you have inserted an audio disc or an mp3-cd. |
| unfinalized cd indication | make sure the inserted cdr or cdrw is finalized. |

accessories

clip magnets

wear your remote control and secure your headphone cord with these wearable magnets.

- check the polarity of the 2 button magnets. insert the big button magnet underneath your garment.
- clip the small button magnet on your outer garment. clip the remote control on top.
- secure your headphone cord with the "butterfly" magnet clip.



WARNING:

KEEP OUT OF REACH OF SMALL CHILDREN TO AVOID CHOKING HAZARD.

KEEP THE MAGNETS A WAY FROM CREDIT CARDS, TAPES AND ANY ITEMS WHICH MAYBE SENSITIVE TO THE MAGNETS.

USERS OF PACEMAKERS OR OTHER IMPLANTED DEVICES SHOULD CONSULT THEIR PHYSICIAN BEFORE USING MAGNETS OR DEVICES THAT MAY GENERATE ELECTROMAGNETIC INTERFERENCE.

troubleshooting

| problem | solution |
|-------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|
| music file is not played | make sure that the file names of the mp3 files end with .mp3 |
| missing directories on mp3-cd | make sure the total number of files and albums on your mp3-cd does not exceed 350. only albums with mp3 files are shown. |
| the disc skips tracks | clean or replace the disc. make sure repeat , repeat album , shuffle are not selected. |
| music skips or popping sound when playing an mp3 file | play the music file on your computer. if the problem persists, encode the audio track again and make a new cd-rom. |
| music is interrupted and Ops indication | switch esp on. |

Canada

English: This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus as set out in the Radio Interference Regulations of the Canadian Department of Communications.

*The set complies with the FCC-Rules, Part 15 and with 21 CFR 1040.10. Operation is subject to the following two conditions:
1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation.*

SAFETY & WARNINGS

ⓐ WARNING

All ICs and many other semiconductors are susceptible to electrostatic discharges (ESD). Careless handling during repair can reduce life drastically.

When repairing, make sure that you are connected with the same potential as the mass of the set via a wristband with resistance. Keep components and tools at this potential.

ⓑ 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 sertit d'une résistance de sécurité.

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

Ⓓ WARNUNG

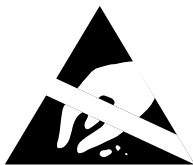
Alle ICs und viele andere Halbleiter sind empfindlich gegenüber elektrostatischen Entladungen (ESD).

Unvorsichtige Behandlung im Reparaturfall kann die Lebensdauer drastisch reduzieren.

Sorgen Sie dafür, daß Sie im Reparaturfall über ein Pulsarmband mit Widerstand mit dem Massepotential des Gerätes verbunden sind.

Halten Sie Bauteile und Hilfsmittel ebenfalls auf diesem Potential.

ESD



Ⓝ 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.

Ⓘ AVVERTIMENTO

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

La loro longevità potrebbe essere fortemente ridotta in caso di non osservazione della più grande cauzione alla loro manipolazione. Durante le riparazioni occorre quindi essere collegato allo stesso potenziale che quello della massa del apparecchio tramite un braccialetto a resistenza.

Assicurarsi che i componenti e anche gli utensili con quali si lavora siano anche a questo potenziale.

ⓐ AVAILABLE ESD PROTECTION EQUIPMENT :

anti-static table mat large 1200x650x1.25mm
small 600x650x1.25mm

anti-static wristband

connection box (3 press stud connections, 1MΩ)

extendible cable (2m, 2MΩ, to connect wristband to connection box)

connecting cable (3m, 2MΩ, to connect table mat to connection box)

earth cable (1MΩ, to connect any product to mat or to connection box)

KIT ESD3 (combining all 6 prior products - small table mat)

wristband tester

4822 466 10953

4822 466 10958

4822 395 10223

4822 320 11307

4822 320 11305

4822 320 11306

4822 320 11308

4822 310 10671

4822 344 13999

ⓐ

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

Safety components are marked by the symbol

ⓑ

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

Les composants de sécurité sont marqués

SAFETY



Ⓓ

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

Sicherheitsbauteile sind durch das Symbol

Ⓝ

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

Ⓘ

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

Componenti di sicurezza sono marcati con

ⓐ

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



Ⓢ Varning !

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

ⒹK Advarsel !

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

Ⓕ FIN Varoitus !

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

ⓐ

After servicing and before returning the set to customer perform a leakage current measurement test from all exposed metal parts to earth ground, to assure no shock hazard exists.

The leakage current must not exceed 0.5mA.

ⓑ

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

SERVICE HINTS

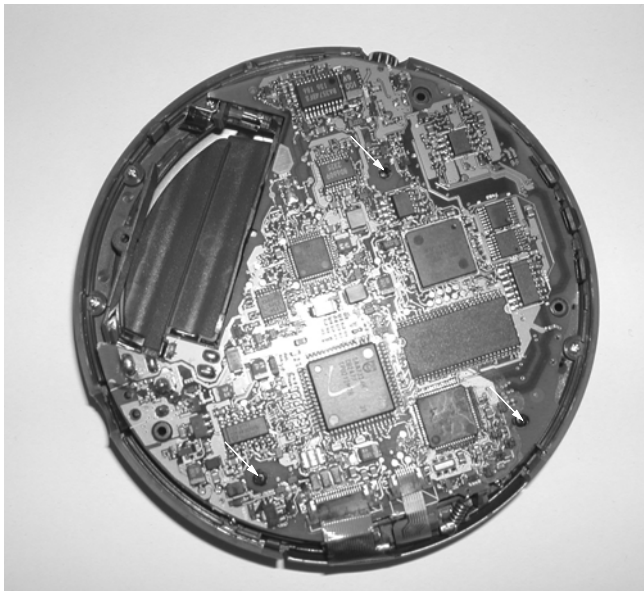
REPAIR POSITION COPPERSIDE



To get access to the copper side of the printed board assembly proceed as follows:

1. Remove screws 3pcs (in the CD-door)
Remove screws 1pc (in the Battery-door)
2. Lift the bottom-cabinet
3. Supply the unit via external DC-socket
4. Take care that the door switch is closed during measurements

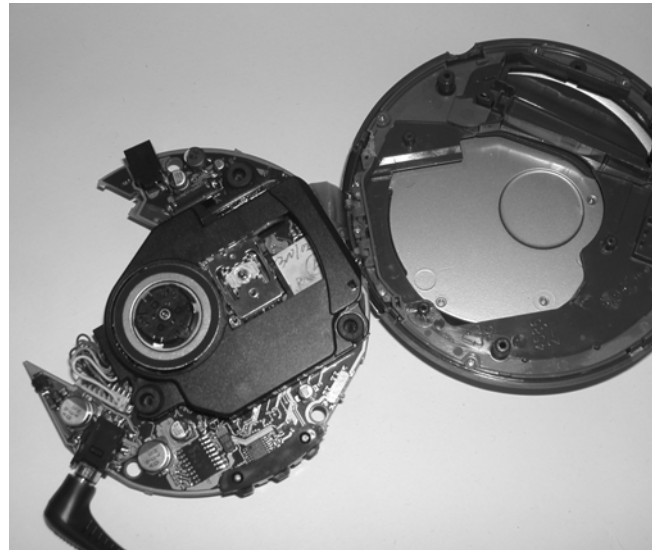
DISMANTLING THE CD-DOOR



To dismantle the CD-door proceed as follows:

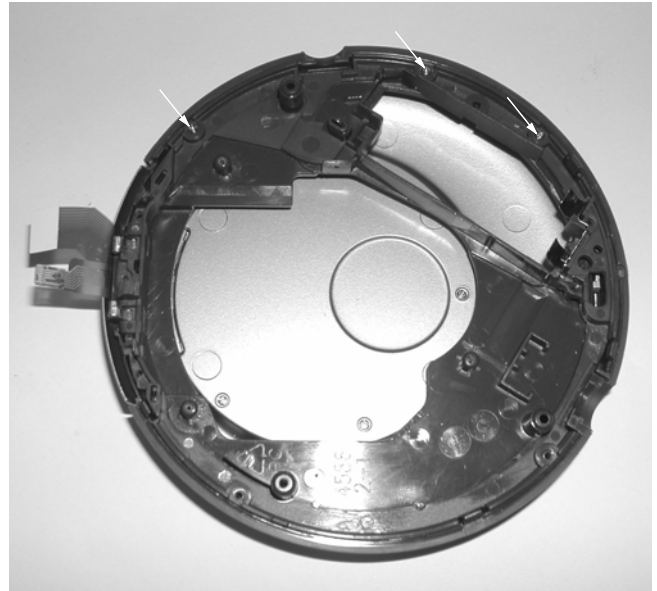
1. Dismantle bottom board
2. Remove screw 3pcs as indicated in the picture above
3. Lift the PCB board, disconnect membrane and 2 spring
4. Remove screw 9pcs as indicated in the picture above
5. Lift the cabinet middle and chassis carefully

REPAIR POSITION COMPONENTSIDE

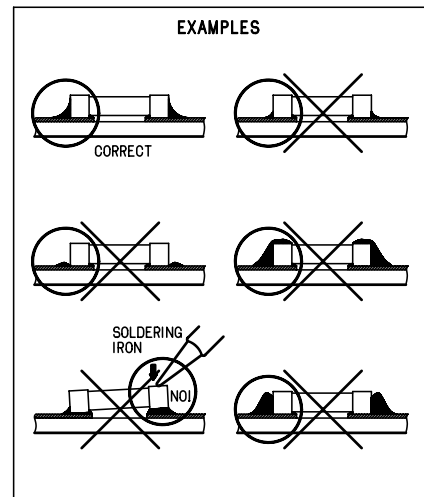
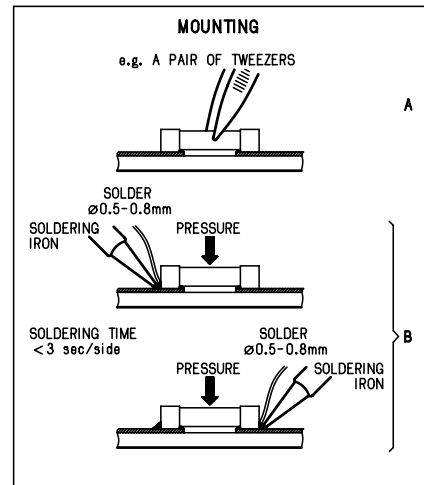
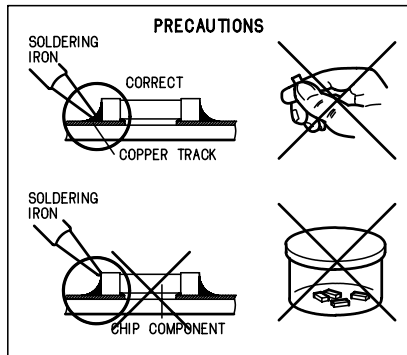
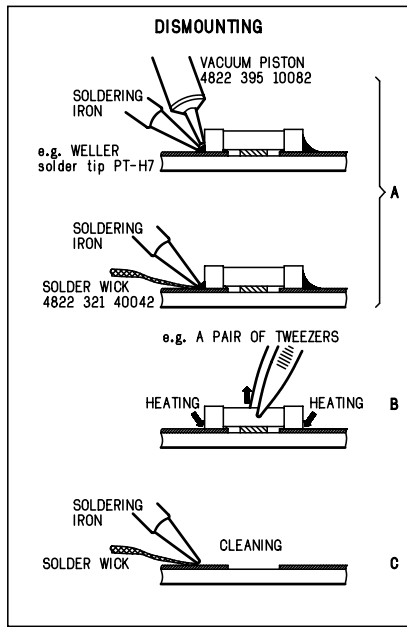
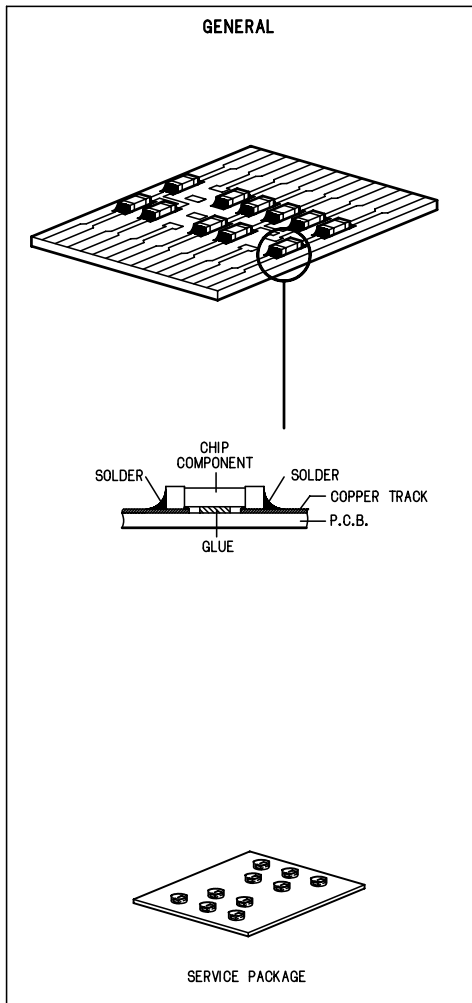


To get access to the component side of the printed board assembly proceed as follows:

1. Remove screws 3pcs (in the CD-door)
Remove screws 1pc (in the Battery-door)
2. Lift the bottom-cabinet
3. Remove screws 3pcs (on the PCB board)
4. Take care that the door switch is closed during measurements



HANDLING CHIP COMPONENTS



SERVICE TOOLS

service tool:

| | |
|-----------------------------------|----------------|
| 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:

| | |
|---------------------|----------------|
| ECC.200_8cm..... | 7104 099 32821 |
| SUB8A_8cm..... | 7104 099 32841 |
| MP3_8cm..... | 7104 099 32851 |
| Skew Disc_8cm..... | 7104 099 28262 |
| Music Disc_8cm..... | 7104 099 28252 |

Audio Test Disc TCD783(ABEX)

ESD Equipment:

| | |
|-------------------------------------------------------------|----------------|
| Anti-static table mat-large 1200x650x1.25mm..... | 4822 466 10953 |
| Anti-static table mat-small 600x650x1.25mm..... | 4822 466 10958 |
| Anti-static wrist band..... | 4822 395 10223 |
| Connector box (1MW)..... | 4822 320 11307 |
| Extension cable (to connect wrist band to conn.box)..... | 4822 320 11305 |
| Connecting cable (to connect table mat to conn.box)..... | 4822 320 11306 |
| Earth cable (to connect product to conn.box)..... | 4822 320 11308 |
| Complete kit ESD3 (Combining all above products)..... | 4822 320 10671 |
| Wrist band tester..... | 4822 344 13999 |

PIN DESCRIPTION OF INTEGRATED CIRCUITS

TZA1024 – HF-PREAMPLIFIER AND LASER SUPPLY CIRCUIT

| <i>Pin</i> | <i>Name</i> | <i>Direction</i> | <i>Description</i> |
|------------|-------------|----------------------|--------------------------------------------|
| 1 | LD | HF-preamp → CD-drive | current output to laser diode |
| 2 | VCCL | +2.6V | laser supply voltage |
| 3 | CFIL | → HF-preamp | external filter capacitor |
| 4 | MON | CD-drive → HF-preamp | laser monitor diode input |
| 5 | DIN | CD-drive → HF-preamp | central diode input |
| 6 | GND | GND | ground |
| 7 | PWRON | CD10 → HF-preamp | power-on select input |
| 8 | CMFB | +2.6V / 2 | common mode feedback voltage input |
| 9 | RFFB | → HF-preamp | external RF feedback resistor |
| 10 | RFEQO | HF-preamp → | RF amplifier output |
| 11 | CDRW | CD10 → HF-preamp | gain select input for CDDA/CDRW |
| 12 | EQSEL | CD10 → HF-preamp | equalizer/speed select input |
| 13 | VCC2 | +2.6V | supply voltage |
| 14 | RGADJ | GND | external laser supply gain adjust resistor |

SC111259AFTA – SERVO DRIVER & POWER MANAGEMENT IC

| <i>Pin</i> | <i>Name</i> | <i>Direction</i> | <i>Description</i> |
|------------|-------------|--------------------------------|------------------------------------------------------|
| 1 | SLEEP | μP → servo driver | sleep input |
| 2 | WAKE | μP → servo driver | wake input |
| 3 | VR | +VR | reference voltage input (motor driver) |
| 4 | ERR4 | CD10 → servo driver | control signal input (slide error signal) |
| 5 | CF4 | → servo driver | phase correction capacitor connect (CH4) |
| 6 | CF3 | → servo driver | phase correction capacitor connect (CH3) |
| 7 | ERR3 | CD10 → servo driver | control signal input (radial error signal) |
| 8 | ERR2 | DSP/μP → servo driver | control signal input (disc speed error signal) |
| 9 | CF2 | → servo driver | phase correction capacitor connect (CH2) |
| 10 | CF1 | → servo driver | phase correction capacitor connect (CH1) |
| 11 | ERR1 | CD10 → servo driver | control signal input (focus error signal) |
| 12 | OUT1A | servo driver → CD-drive | positive drive output (CH1) |
| 13 | PGND1 | GND | H-bridge driver ground |
| 14 | OUT1B | servo driver → CD-drive | negative drive output (CH1) |
| 15 | VIN12 | +A | CH1 and CH2 H-bridge driver supply voltage |
| 16 | OUT2B | servo driver → CD-drive | negative drive output (CH2) |
| 17 | PGND2 | GND | H-bridge driver ground |
| 18 | OUT2A | servo driver → CD-drive | positive drive output (CH2) |
| 19 | OUT3A | servo driver → CD-drive | positive drive output (CH3) |
| 20 | PGND2 | GND | H-bridge driver ground |
| 21 | OUT3B | servo driver → CD-drive | negative drive output (CH3) |
| 22 | VIN34 | +A | CH3 and CH4 H-bridge driver supply voltage |
| 23 | OUT4B | servo driver → CD-drive | negative drive output (CH4) |
| 24 | PGND4 | GND | H-bridge driver ground |
| 25 | OUT4A | servo driver → CD-drive | positive drive output (CH4) |
| 26 | VG | servo driver → | charge pump output |
| 27 | C2H | → servo driver | charge pump capacitor connect |
| 28 | C1H | → servo driver | charge pump capacitor connect |
| 29 | C1L | → servo driver | charge pump capacitor connect |
| 30 | C2L | → servo driver | charge pump capacitor connect |
| 31 | VIN | battery → servo driver | battery supply voltage |
| 32 | RSTB | servo driver → | reset block output |
| 33 | CHGSW | servo driver → charge circuit | transistor drive output for battery charger |
| 34 | RS | charge circuit → servo driver | OpAmp non-inverting input for battery charger |
| 35 | INM2 | → servo driver | error amplifier inverting input |
| 36 | RF2 | → servo driver | error amplifier output |
| 37 | DCIN | +DC | DC power supply from AC/DC adaptor |
| 38 | VDET | servo driver → | DCIN over voltage and VIN low voltage detect output |
| 39 | VREF | servo driver → | Voltage reference circuit output |
| 40 | DTC | → servo driver | max. duty control voltage input for power management |
| 41 | VOUT | servo driver → DC/DC converter | PWM output for power management |
| 42 | VC | → servo driver | power management power supply |
| 43 | CGND | GND | internal ground |
| 44 | RF1 | servo driver → | OpAmp output for power management |
| 45 | INM1 | → servo driver | OpAmp inverting input for power management |
| 46 | CLK | → servo driver | clock input |
| 47 | OE | DSP → servo driver | output enable for motor drivers |
| 48 | CHGON | μP → servo driver | charge enable for battery charger |

SAA7324 – DECODER, DIGITAL SERVO IC AND D/A-CONVERTER CD10 (low voltage version)

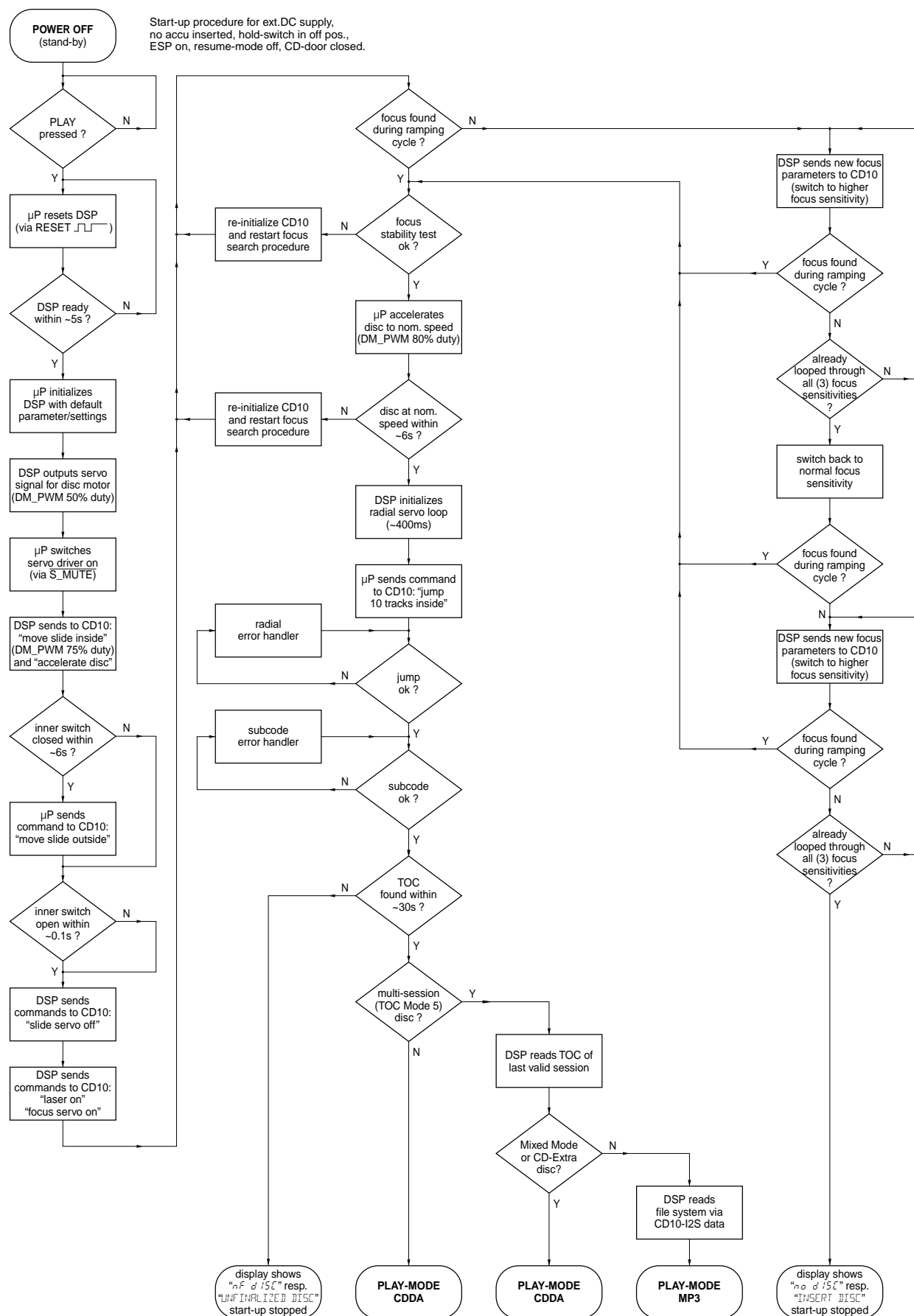
| <i>Pin</i> | <i>Name</i> | <i>Direction</i> | <i>Description</i> |
|------------|-------------|---------------------|-----------------------------------------------------------------------------|
| 1 | HFREF | → CD10 | comparator common mode input |
| 2 | HFIN | → CD10 | comparator signal input |
| 3 | ISLICE | CD10 → | current feedback from data slicer |
| 4 | VSSA1 | GND | analog ground 1 |
| 5 | VDDA1 | +2.6V | analog supply voltage 1 |
| 6 | IREF | CD10 → | reference current output pin |
| 7 | VRIN | CD10 → | reference voltage for servo ADC's |
| 8 | D1 | CD-drive → CD10 | unipolar current input (central diode signal input) |
| 9 | D2 | CD-drive → CD10 | unipolar current input (central diode signal input) |
| 10 | D3 | CD-drive → CD10 | unipolar current input (central diode signal input) |
| 11 | D4 | CD-drive → CD10 | unipolar current input (central diode signal input) |
| 12 | R1 | CD-drive → CD10 | unipolar current input (satellite diode signal input) |
| 13 | R2 | CD-drive → CD10 | unipolar current input (satellite diode signal input) |
| 14 | VSSA2 | GND | analog ground 2 |
| 15 | CROUT | CD10 → X-TAL | crystal/resonator output |
| 16 | CRIN | X-TAL → CD10 | crystal/resonator input |
| 17 | VDDA2 | +2.6V | analog supply voltage 2 |
| 18 | LN | CD10 → | DAC left channel differential output - negative |
| 19 | LP | CD10 → | DAC left channel differential output - positive |
| 20 | VNEG | GND | DAC negative reference input |
| 21 | VPOS | +2.6V | DAC positive reference input |
| 22 | RN | CD10 → | DAC right channel differential output - negative |
| 23 | RP | CD10 → | DAC right channel differential output - positive |
| 24 | SELPLL | CD10 → | selects whether internal clock multiplier PLL is used |
| 25 | TEST1 | GND | test control input 1; this pin should be tied low |
| 26 | CL16 | CD10 → | 16.9344 MHz system clock output |
| 27 | DATA | CD10 → DSP | serial data output (3-state) |
| 28 | WCLK | CD10 → DSP | word clock output (3-state) |
| 29 | SCLK | CD10 → DSP | serial bit clock output (3-state) |
| 30 | EF | CD10 → DSP | C2 error flag output (3-state) |
| 31 | TEST2 | GND | test control input 2; this pin should be tied low |
| 32 | KILL | CD10 → | kill output (programmable; open-drain) |
| 33 | VSSD1 | GND | digital ground 2 |
| 34 | V2/V3 | CD10 → | versatile I/O: input versatile pin 2 or output versatile pin 3 (open-drain) |
| 35 | WCLI | DSP → CD10 | word clock input (for data loopback to DAC) |
| 36 | SDI | DSP → CD10 | serial data input (for data loopback to DAC) |
| 37 | SCLI | DSP → CD10 | serial bit clock input (for data loopback to DAC) |
| 38 | RESETn | μP → CD10 | power-on reset input (active low) |
| 39 | SDA | μP ↔ CD10 | microcontroller interface data I/O line (open-drain output) |
| 40 | SCL | μP → CD10 | microcontroller interface clock line input |
| 41 | RAB | μP → CD10 | microcontroller interface R/W and load control line input (4-wire bus mode) |
| 42 | SILD | μP → CD10 | microcontroller interface R/W and load control line input (4-wire bus mode) |
| 43 | STATUS | CD10 → | servo interrupt request line/decoder status register output (open-drain) |
| 44 | TEST3 | GND | test control input 3; this pin should be tied low |
| 45 | RCK | DSP → CD10 | subcode clock input |
| 46 | SUB | CD10 → DSP | P-to-W subcode bits output (3-state) |
| 47 | SFSY | CD10 → DSP | subcode frame sync output (3-state) |
| 48 | SBSY | CD10 → DSP | subcode block sync output (3-state) |
| 49 | CL11/4 | CD10 → | 11.2896 MHz or 4.2336 MHz (for microcontroller) clock output |
| 50 | VSSD2 | GND | digital ground 3 |
| 51 | DOBM | CD10 → | bi-phase mark output (externally buffered; 3-state) |
| 52 | VDDD1P | +2.6V (+VR) | digital supply voltage 2 for periphery |
| 53 | CFLG | CD10 → | correction flag output (open-drain) |
| 54 | RA | CD10 → servo driver | radial actuator output |
| 55 | FO | CD10 → servo driver | focus actuator output |
| 56 | SL | CD10 → servo driver | slide control output |
| 57 | VDDD2C | +2.6V | digital supply voltage 3 for core |
| 58 | VSSD3 | GND | digital ground 4 |
| 59 | MOTO1 | CD10 → servo driver | motor output 1; versatile (3-state) |
| 60 | MOTO2 | CD10 → | motor output 2; versatile (3-state) |
| 61 | V4 | CD10 → HF-preamp | versatile output pin 4 |
| 62 | V5 | CD10 → HF-preamp | versatile output pin 5 |
| 63 | V1 | innerswitch → CD10 | versatile input pin 1 |
| 64 | LDON | CD10 → HF-preamp | laser drive on output (open-drain) |

TMS320DA150PGE160 – DIGITAL SIGNAL PROCESSOR DSP

| <i>Pin</i> | <i>Name</i> | <i>Direction</i> | <i>Description</i> |
|------------|-------------|------------------|-------------------------------------------------------------------------------------------------------------|
| 1 | CVSS1 | GND | ground for core CPU |
| 2 | A22 | DSP ↔ | parallel address bus |
| 3 | CVSS2 | GND | ground for core CPU |
| 4 | DVDD1 | +3.3V | power supply for I/O pins |
| 5 | A10 | DSP ↔ | parallel address bus |
| 6 | HD7 | CD10 → MUTE | reference current output pin |
| 7 | A11 | DSP ↔ | parallel address bus |
| 8 | A12 | DSP ↔ | parallel address bus |
| 9 | A13 | DSP ↔ | parallel address bus |
| 10 | A14 | DSP ↔ | parallel address bus |
| 11 | A15 | DSP ↔ | parallel address bus |
| 12 | CVDD1 | +core | power supply for core CPU |
| 13 | HAS | → DSP | address strobe input |
| 14 | DVSS1 | GND | ground for I/O pins |
| 15 | CVSS3 | GND | ground for core CPU |
| 16 | CVDD2 | +core | power supply for core CPU |
| 17 | HCS | → DSP | chip select input |
| 18 | HR/W | → DSP | read/write input |
| 19 | READY | → DSP | data ready input, indicates that an external device is prepared for a bus transaction to be completed |
| 20 | PS | DSP → EPROM | program space select output, always high unless driven low for communicating to a particular external space |
| 21 | DS | DSP → | data space select output, always high unless driven low for communicating to a particular external space |
| 22 | IS | DSP → | I/O space select output, always high unless driven low for communicating to a particular external space |
| 23 | R/W | DSP → DRAM | read/write signal output, indicates transfer direction during communication to an external device |
| 24 | MSTRB | DSP → | memory strobe signal output |
| 25 | IOSTRB | DSP → | I/O strobe signal output |
| 26 | MSC | DSP → | microstate complete output, indicates completion of all software wait states |
| 27 | XF | DSP → CD10 | external flag output, latched software programmable signal |
| 28 | HOLDA | DSP → | Hold acknowledge, indicates that the processor is in a hold state |
| 29 | IAQ | DSP → | instruction acquisition signal output |
| 30 | HOLD | → DSP | hold input, asserted to request control of address, data and control lines |
| 31 | BIO | → DSP | branch control input |
| 32 | MP/MC | → DSP | microprocessor/microcomputer mode select |
| 33 | DVDD2 | +3.3V | power supply for I/O pins |
| 34 | CVSS4 | GND | ground for core CPU |
| 35 | BDR1 | CD10 → | serial data receive input |
| 36 | BFSR1 | CD10 → DSP | frame synchronization pulse for receive input |
| 37 | CVSS5 | GND | ground for core CPU |
| 38 | BCLKR1 | → DSP | serial shift clock |
| 39 | HCNTL0 | → DSP | control input |
| 40 | DVSS2 | GND | ground for I/O pins |
| 41 | BCLKR0 | CD10 → DSP | serial shift clock |
| 42 | BCLKR2 | μP → DSP | serial shift clock |
| 43 | BFSR0 | CD10 → DSP | frame synchronization pulse for receive input |
| 44 | BFSR2 | CD10 → DSP | frame synchronization pulse for receive input |
| 45 | BDR0 | CD10 → DSP | serial data receive input |
| 46 | HCNTL1 | → DSP | control input |
| 47 | BDR2 | μP → DSP | serial data receive input |
| 48 | BCLKX0 | DSP → CD10 | transmit clock |
| 49 | BCLKX2 | μP → CD10 | transmit clock |
| 50 | CVSS6 | GND | ground for core CPU |
| 51 | HINT | DSP → | interrupt output, used to interrupt the host |
| 52 | CVDD3 | +core | power supply for core CPU |
| 53 | BFSX0 | DSP → CD10 | frame synchronization pulse for transmit input/output |
| 54 | BFSX2 | μP → DSP | frame synchronization pulse for transmit input/output |
| 55 | HRDY | DSP → | ready output, informs the host when the HPI is ready for the next transfer |
| 56 | DVDD3 | +3.3V | power supply for I/O pins |
| 57 | DVSS3 | GND | ground for I/O pins |
| 58 | HD0 | DSP ↔ CD10 | parallel bidirectional data bus |
| 59 | BDX0 | DSP → CD10 | serial data transmit output |
| 60 | BDX2 | DSP → μP | serial data transmit output |
| 61 | IACK | DSP → | interrupt acknowledge signal output |
| 62 | HBIL | → DSP | byte identification, identifies the first or second byte of transfer |
| 63 | NMI | → DSP | nonmaskable interrupt input |
| 64 | INT0 | CD10 → DSP | external user interrupt input |
| 65 | INT1 | CD10 → DSP | external user interrupt input |
| 66 | INT2 | CD10 → DSP | external user interrupt input |
| 67 | INT3 | μP → DSP | external user interrupt input |
| 68 | CVDD4 | +core | power supply for core CPU |
| 69 | HD1 | DSP ↔ CD10 | parallel bidirectional data bus |

| | | | |
|-----|----------|--------------------|-------------------------------------------------------------------------------------------|
| 70 | CVSS7 | GND | ground for core CPU |
| 71 | BCLKX1 | DSP ↔ | transmit clock |
| 72 | DVSS4 | GND | ground for I/O pins |
| 73 | BFSX1 | DSP → | frame synchronization pulse for transmit input/output |
| 74 | BDX1 | DSP → servo driver | serial data transmit output |
| 75 | DVDD4 | +3.3V | power supply for I/O pins |
| 76 | DVSS5 | GND | ground for I/O pins |
| 77 | CLKMD1 | → DSP | clock mode select signal input, allow selection of different clock modes |
| 78 | CLKMD2 | → DSP | clock mode select signal input, allow selection of different clock modes |
| 79 | CLKMD3 | → DSP | clock mode select signal input, allow selection of different clock modes |
| 80 | HPI16 | → DSP | HPI16 mode selection |
| 81 | HD2 | DSP ↔ CD10 | parallel bidirectional data bus |
| 82 | TOUT | DSP → | timer output, signals a pulse when the on-chip timer counts down past zero |
| 83 | EMU0 | DSP ↔ | emulator 0 pin |
| 84 | EMU1/OFF | DSP ↔ | emulator 1 pin / disable all outputs, used as an interrupt to or from the emulator system |
| 85 | TDO | DSP → | IEEE standard 1149.1 test data output |
| 86 | TDI | → DSP | IEEE standard 1149.1 test data input |
| 87 | TRST | → DSP | IEEE standard 1149.1 test reset |
| 88 | TCK | → DSP | IEEE standard 1149.1 test clock |
| 89 | TMS | → DSP | IEEE standard 1149.1 test mode select |
| 90 | CVSS8 | GND | ground for core CPU |
| 91 | CVDD5 | +core | power supply for core CPU |
| 92 | HPIENA | → DSP | HPI module select |
| 93 | DVSS6 | GND | ground for I/O pins |
| 94 | CLKOUT | DSP → DRAM/FLASH | clock output signal |
| 95 | HD3 | DSP ↔ CD10 | parallel bidirectional data bus |
| 96 | X1 | DSP → | output pin from an internal oscillator for the crystal |
| 97 | X2/CLKIN | CD10 → DSP | clock/oscillator input |
| 98 | RS | μP → DSP | reset input |
| 99 | D0 | DSP ↔ DRAM/FLASH | parallel data bus |
| 100 | D1 | DSP ↔ DRAM/FLASH | parallel data bus |
| 101 | D2 | DSP ↔ DRAM/FLASH | parallel data bus |
| 102 | D3 | DSP ↔ DRAM/FLASH | parallel data bus |
| 103 | D4 | DSP ↔ DRAM/FLASH | parallel data bus |
| 104 | D5 | DSP ↔ DRAM/FLASH | parallel data bus |
| 105 | A16 | DSP ↔ DRAM/FLASH | parallel address bus |
| 106 | DVSS7 | GND | ground for I/O pins |
| 107 | A17 | DSP ↔ DRAM/FLASH | parallel address bus |
| 108 | A18 | DSP ↔ DRAM/FLASH | parallel address bus |
| 109 | A19 | DSP ↔ DRAM/FLASH | parallel address bus |
| 110 | A20 | DSP ↔ DRAM/FLASH | parallel address bus |
| 111 | CVSS9 | GND | ground for core CPU |
| 112 | DVDD5 | +3.3V | power supply for I/O pins |
| 113 | D6 | DSP ↔ DRAM/FLASH | parallel data bus |
| 114 | D7 | DSP ↔ DRAM/FLASH | parallel data bus |
| 115 | D8 | DSP ↔ DRAM/FLASH | parallel data bus |
| 116 | D9 | DSP ↔ DRAM/FLASH | parallel data bus |
| 117 | D10 | DSP ↔ DRAM/FLASH | parallel data bus |
| 118 | D11 | DSP ↔ DRAM/FLASH | parallel data bus |
| 119 | D12 | DSP ↔ DRAM/FLASH | parallel data bus |
| 120 | HD4 | DSP → servo driver | parallel bidirectional data bus |
| 121 | D13 | DSP ↔ DRAM/FLASH | parallel data bus |
| 122 | D14 | DSP ↔ DRAM/FLASH | parallel data bus |
| 123 | D15 | DSP ↔ DRAM/FLASH | parallel data bus |
| 124 | HD5 | DSP ↔ | parallel bidirectional data bus |
| 125 | CVDD6 | +core | power supply for core CPU |
| 126 | CVSS10 | GND | ground for I/O pins |
| 127 | HDS1 | → DSP | data strobe input |
| 128 | DVSS8 | GND | ground for I/O pins |
| 129 | HDS1 | → DSP | data strobe input |
| 130 | DVDD6 | +3.3V | power supply for I/O pins |
| 131 | A0 | DSP ↔ DRAM/FLASH | parallel address bus |
| 132 | A1 | DSP ↔ DRAM/FLASH | parallel address bus |
| 133 | A2 | DSP ↔ DRAM/FLASH | parallel address bus |
| 134 | A3 | DSP ↔ DRAM/FLASH | parallel address bus |
| 135 | HD6 | DSP ↔ | parallel bidirectional data bus |
| 136 | A4 | DSP ↔ DRAM/FLASH | parallel address bus |
| 137 | A5 | DSP ↔ DRAM/FLASH | parallel address bus |
| 138 | A6 | DSP ↔ DRAM/FLASH | parallel address bus |
| 139 | A7 | DSP ↔ DRAM/FLASH | parallel address bus |
| 140 | A8 | DSP ↔ DRAM/FLASH | parallel address bus |
| 141 | A9 | DSP ↔ DRAM/FLASH | parallel address bus |
| 142 | CVDD7 | +core | power supply for core CPU |
| 143 | A21 | DSP ↔ DRAM/FLASH | parallel address bus |
| 144 | DVSS9 | GND | ground for I/O pins |

START- UP PROCEDURE



SERVICE TEST PROGRAM - FLOW CHART

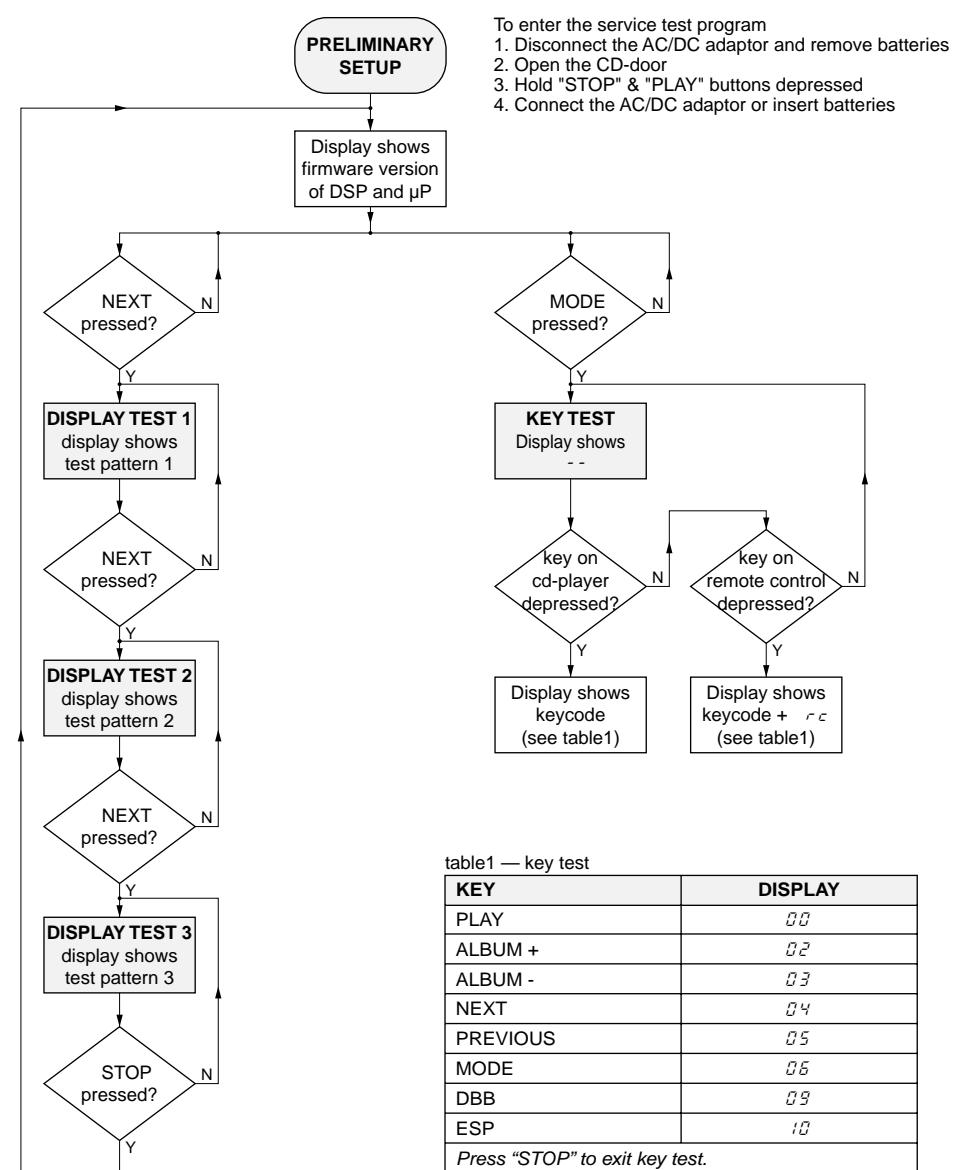
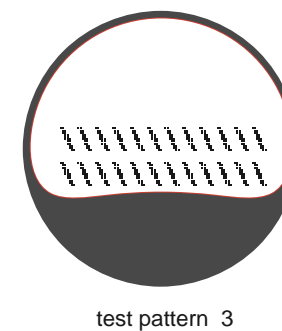
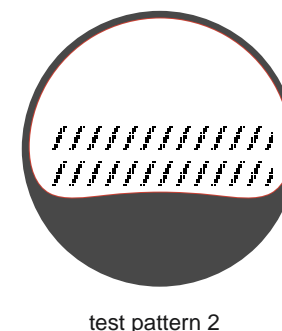
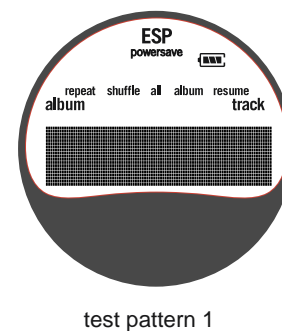


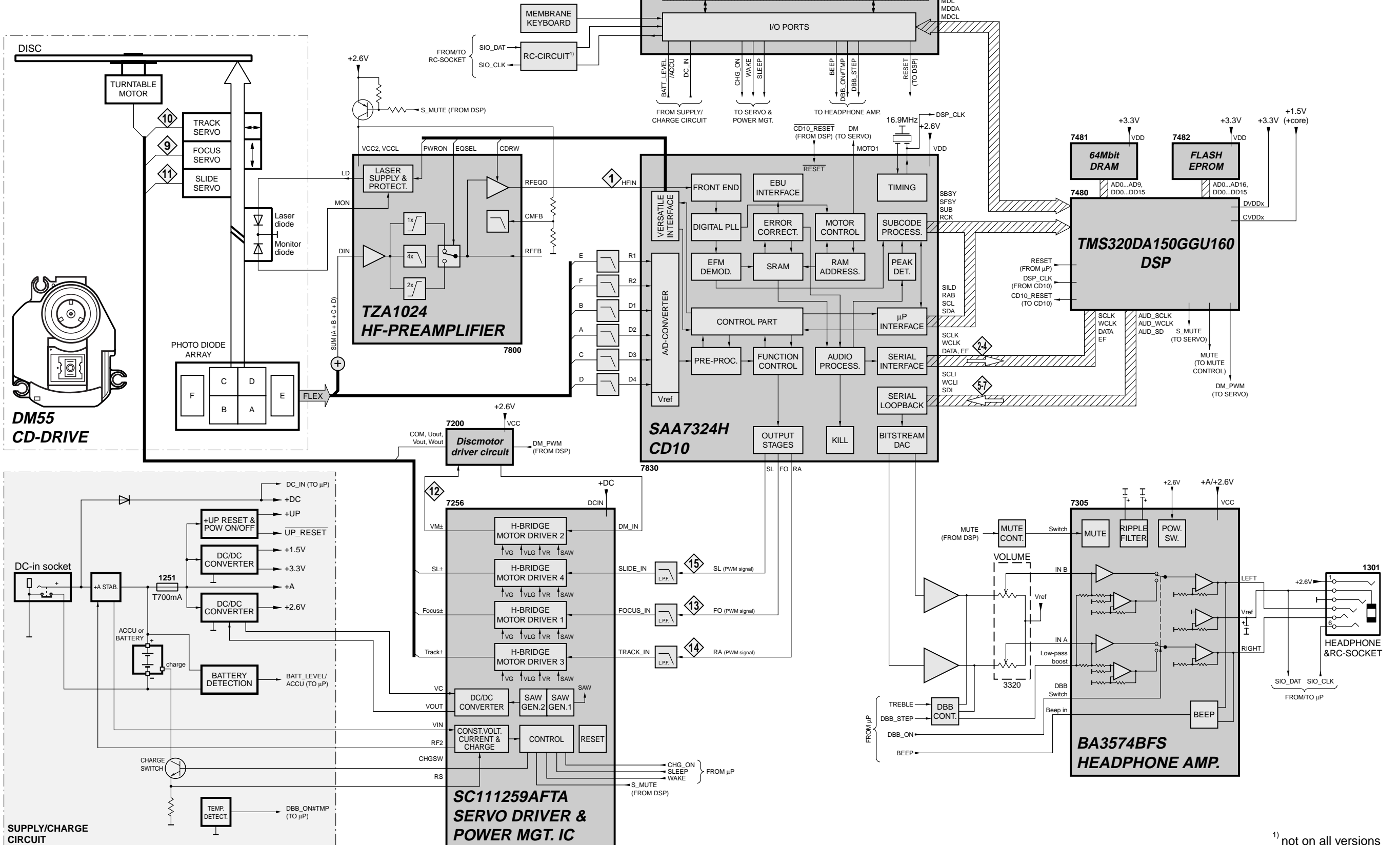
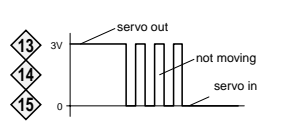
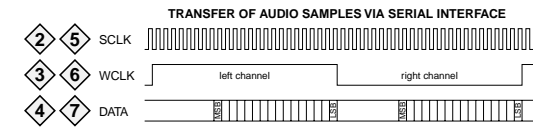
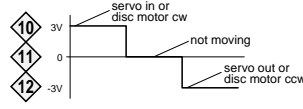
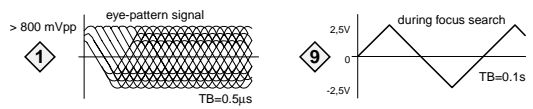
table1 — key test

| KEY | DISPLAY |
|----------|---------|
| PLAY | 00 |
| ALBUM + | 02 |
| ALBUM - | 03 |
| NEXT | 04 |
| PREVIOUS | 05 |
| MODE | 06 |
| DBB | 09 |
| ESP | 10 |

Press "STOP" to exit key test.



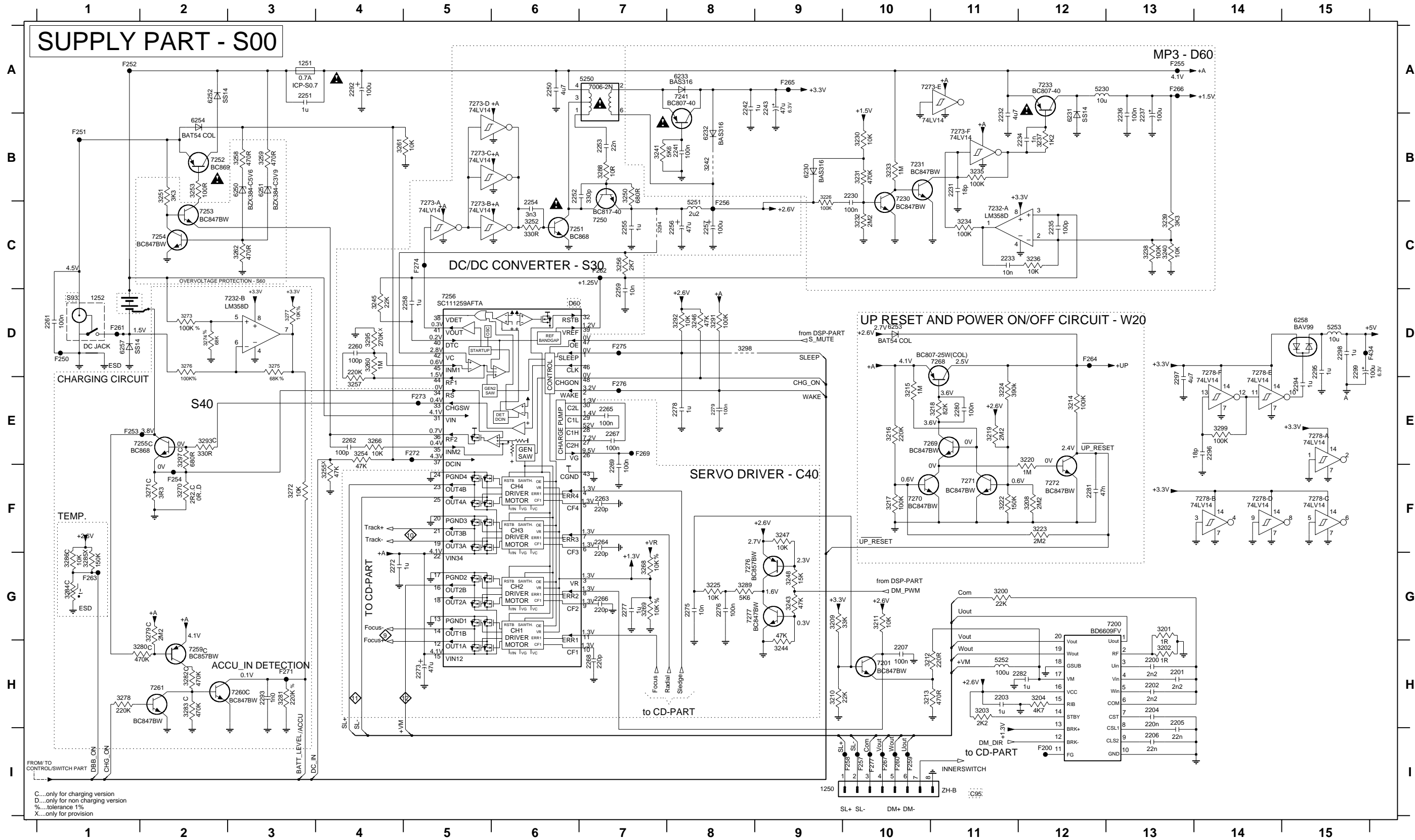
BLOCKDIAGRAM



1) not on all versions

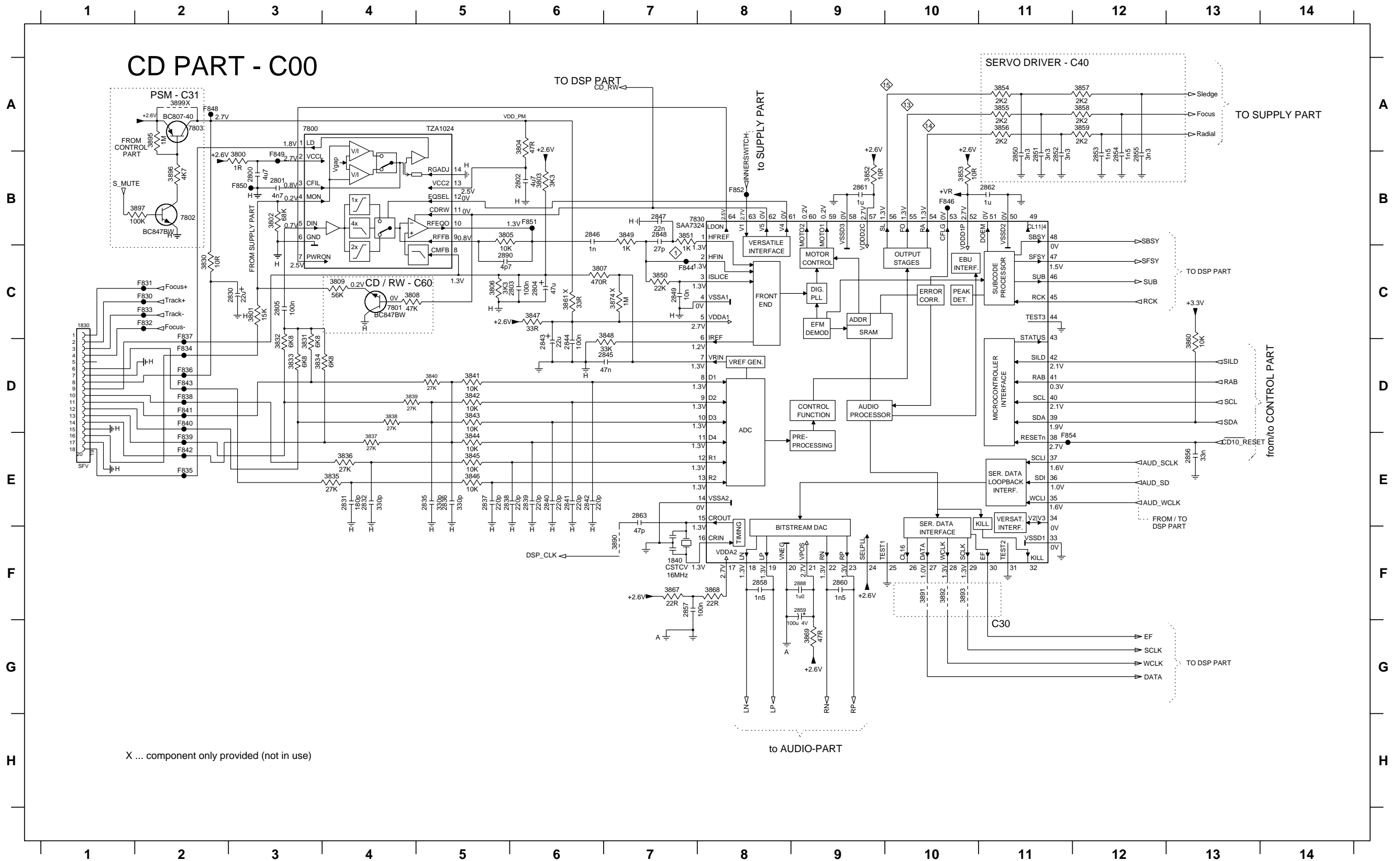
MAIN BOARD - CIRCUIT DIAGRAM

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|----------|----------|----------|---------|---------|---------|----------|----------|----------|----------|----------|----------|---------|---------|---------|---------|---------|---------|----------|----------|----------|------------|---------|-----------|------------|------------|----------|----------|----------|----------|
| 1250 I9 | 2205 H13 | 2235 C12 | 2252 B6 | 2260 D4 | 2268 H7 | 2279 E8 | 2296 E14 | 3204 H12 | 3215 E10 | 3224 E11 | 3235 B11 | 3243 G9 | 3252 C6 | 3260 D4 | 3272 F3 | 3280 H2 | 3289 G8 | 3299 E14 | 6232 B8 | 6258 D15 | 7241 A8 | 7259 H2 | 7273-A C5 | 7278-A E15 | F251 B1 | F259 I10 | F267 I10 | F277 I10 | |
| 1251 A3 | 2206 H13 | 2236 B13 | 2253 B7 | 2261 D1 | 2269 F7 | 2280 E11 | 2297 E13 | 3208 F12 | 3216 E10 | 3225 G8 | 3236 C12 | 3244 H9 | 3253 B2 | 3261 B4 | 3273 D2 | 3281 H3 | 3291 D8 | 3291 D8 | 5230 A12 | 6233 A8 | 6250 G13 | 7240 C7 | 7260 H3 | 7273-B C5 | 7278-B F14 | F252 A1 | F260 I10 | F269 E7 | F434 D15 |
| 1252 D1 | 2207 H10 | 2237 B13 | 2254 C6 | 2262 E4 | 2272 G4 | 2281 F12 | 2298 D15 | 3209 G9 | 3217 F10 | 3226 B9 | 3237 B12 | 3245 D4 | 3254 E4 | 3262 C3 | 3274 D2 | 3282 H2 | 3292 E2 | 5251 A7 | 6250 B3 | 6251 B3 | 7241 H10 | 7251 C6 | 7261 H2 | 7273-C B5 | 7278-C F15 | F253 E1 | F261 D1 | F271 H3 | |
| 2200 H13 | 2230 B10 | 2241 B8 | 2255 C7 | 2263 F7 | 2273 H5 | 2282 H12 | 2299 D15 | 3210 H9 | 3218 E11 | 3230 B10 | 3238 C13 | 3246 D8 | 3255 F4 | 3266 E4 | 3275 D3 | 3283 H2 | 3293 E2 | 5251 C8 | 6251 B3 | 6251 B3 | 7230 B10 | 7252 B2 | 7268 D11 | 7273-D A5 | 7278-D F14 | F254 F2 | F262 C7 | F272 E5 | |
| 2201 H13 | 2231 B11 | 2242 A8 | 2256 C8 | 2264 F7 | 2275 G8 | 2282 A4 | 3200 G11 | 3211 G10 | 3219 E11 | 3231 B10 | 3239 C13 | 3247 F9 | 3256 C7 | 3268 G7 | 3276 D2 | 3284 G1 | 3294 C7 | 5252 H11 | 6252 A2 | 6252 A2 | 7231 B10 | 7253 C2 | 7269 E11 | 7273-E A10 | 7278-E D14 | F255 A13 | F263 G1 | F273 E5 | |
| 2202 H13 | 2232 B11 | 2243 A9 | 2257 C8 | 2265 E7 | 2276 G8 | 2283 H3 | 3201 G13 | 3212 H10 | 3220 E12 | 3232 C10 | 3240 C13 | 3248 G9 | 3257 E4 | 3269 G7 | 3277 D3 | 3285 G1 | 3295 D4 | 5253 D15 | 6253 D10 | 6253 D10 | 7232-A C11 | 7254 C2 | 7270 F10 | 7273-F B11 | 7278-F D14 | F256 C8 | F264 D12 | F274 C5 | |
| 2203 H11 | 2233 C11 | 2250 A6 | 2258 D5 | 2266 G7 | 2277 G7 | 2284 E15 | 3202 H13 | 3213 H10 | 3222 F11 | 3233 B10 | 3241 B7 | 3249 B7 | 3258 B3 | 3270 F2 | 3278 H1 | 3286 G1 | 3297 E2 | 6230 B9 | 6254 B2 | 6254 B2 | 7232-B D2 | 7255 E2 | 7271 F11 | 7278-G B11 | F257 I10 | F265 A9 | F275 D7 | | |
| 2204 H13 | 2234 B12 | 2251 A3 | 2259 D7 | 2267 E7 | 2278 E8 | 2295 D15 | 3203 H11 | 3214 E12 | 3223 F12 | 3234 C11 | 3242 B8 | 3251 B2 | 3259 B3 | 3271 F2 | 3279 G2 | 3288 B7 | 3298 D8 | 6231 B12 | 6257 D1 | 6257 D1 | 7233 A12 | 7256 D5 | 7272 F12 | 7277 G8 | F258 I10 | F266 A13 | F276 E7 | | |

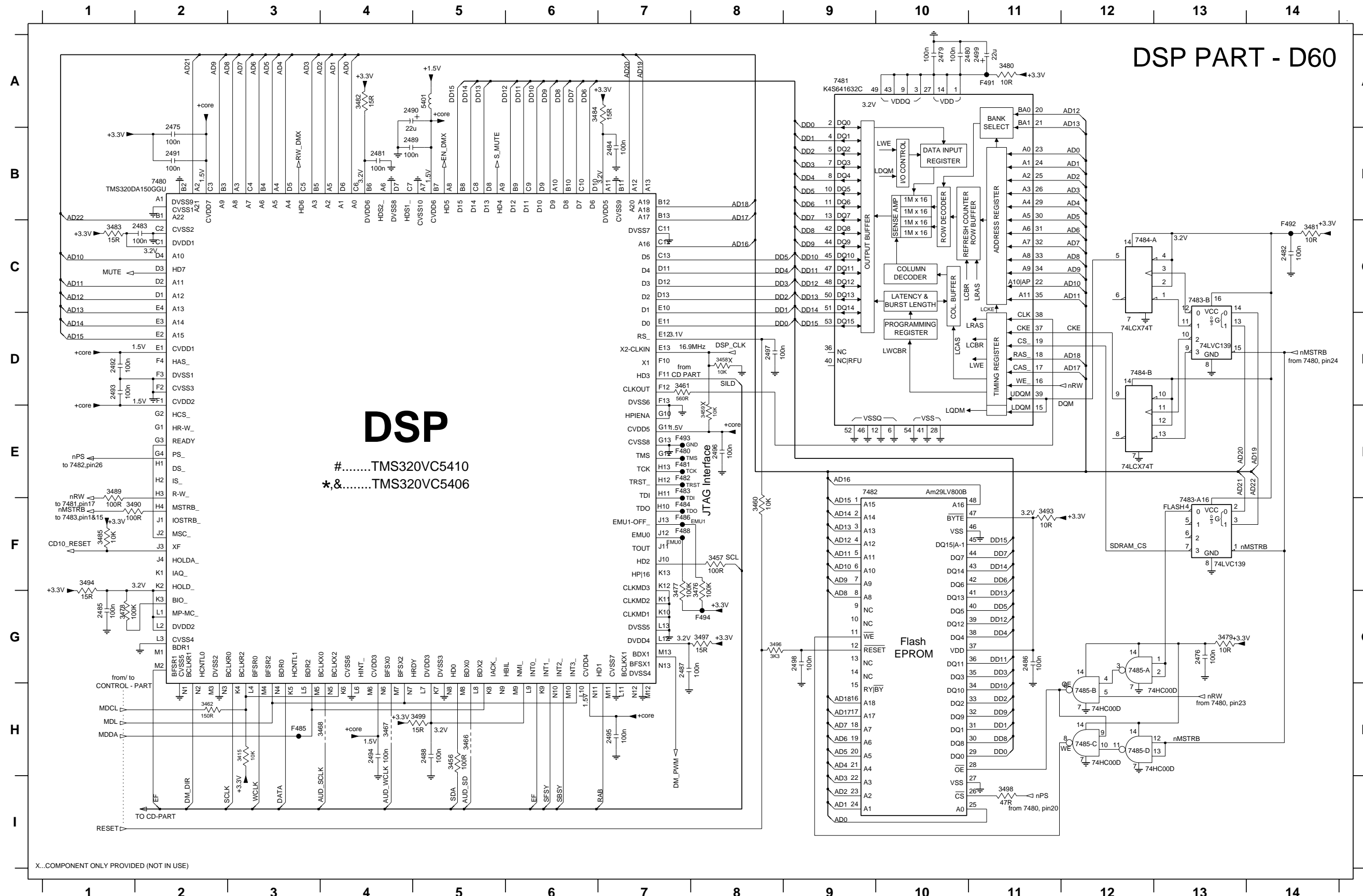


MAIN BOARD - CIRCUIT DIAGRAM

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---------|---------|---------|---------|---------|---------|----------|----------|----------|----------|---------|---------|---------|---------|---------|---------|---------|---------|----------|----------|----------|---------|----------|---------|---------|---------|---------|---------|---------|----------|----------|
| 1830 C1 | 2802 B6 | 2830 C2 | 2836 E5 | 2840 E6 | 2844 D6 | 2848 B7 | 2852 B11 | 2856 E13 | 2860 F9 | 2888 F9 | 3802 B3 | 3806 C5 | 3830 C2 | 3834 D3 | 3838 D4 | 3842 D5 | 3846 E5 | 3850 C7 | 3854 A11 | 3858 A12 | 3867 F7 | 3890 F7 | 3895 A2 | 7800 A3 | 7830 B7 | F833 C2 | F837 C2 | F841 D2 | F846 B10 | F851 B6 |
| 1840 F7 | 2803 C6 | 2831 E4 | 2837 E5 | 2841 E6 | 2845 D7 | 2849 C7 | 2853 B12 | 2857 F7 | 2861 B9 | 2890 C5 | 3803 B6 | 3807 C6 | 3831 D3 | 3835 E4 | 3839 D4 | 3843 D5 | 3847 C6 | 3851 B7 | 3855 A11 | 3859 A12 | 3868 F8 | 3891 F10 | 3896 B2 | 7801 C4 | F830 C2 | F834 D2 | F838 D2 | F842 E2 | F848 A2 | F852 B8 |
| 2800 B3 | 2804 C6 | 2832 E4 | 2838 E5 | 2842 E6 | 2846 B6 | 2850 B11 | 2854 B12 | 2858 F8 | 2862 B11 | 3800 B3 | 3804 A6 | 3808 C4 | 3832 D3 | 3836 E4 | 3840 D5 | 3844 E5 | 3848 C7 | 3852 B9 | 3856 A11 | 3860 D13 | 3869 G9 | 3892 F10 | 3897 B2 | 7802 B2 | F831 C2 | F835 E2 | F839 E2 | F843 D2 | F849 B3 | F854 E11 |
| 2801 B3 | 2805 C3 | 2835 E5 | 2839 E6 | 2843 D6 | 2847 B7 | 2851 B11 | 2855 B12 | 2859 F9 | 2863 E7 | 3801 C3 | 3805 B5 | 3809 C4 | 3833 D3 | 3837 E4 | 3841 D5 | 3845 E5 | 3849 B7 | 3853 B10 | 3857 A12 | 3861 C6 | 3874 C7 | 3893 F10 | 3899 A2 | 7803 A2 | F832 C2 | F836 D2 | F840 D2 | F844 C7 | F850 B3 | |



MAIN BOARD - CIRCUIT DIAGRAM



DSP

#.....TMS320VC5410
*,&.....TMS320VC5406

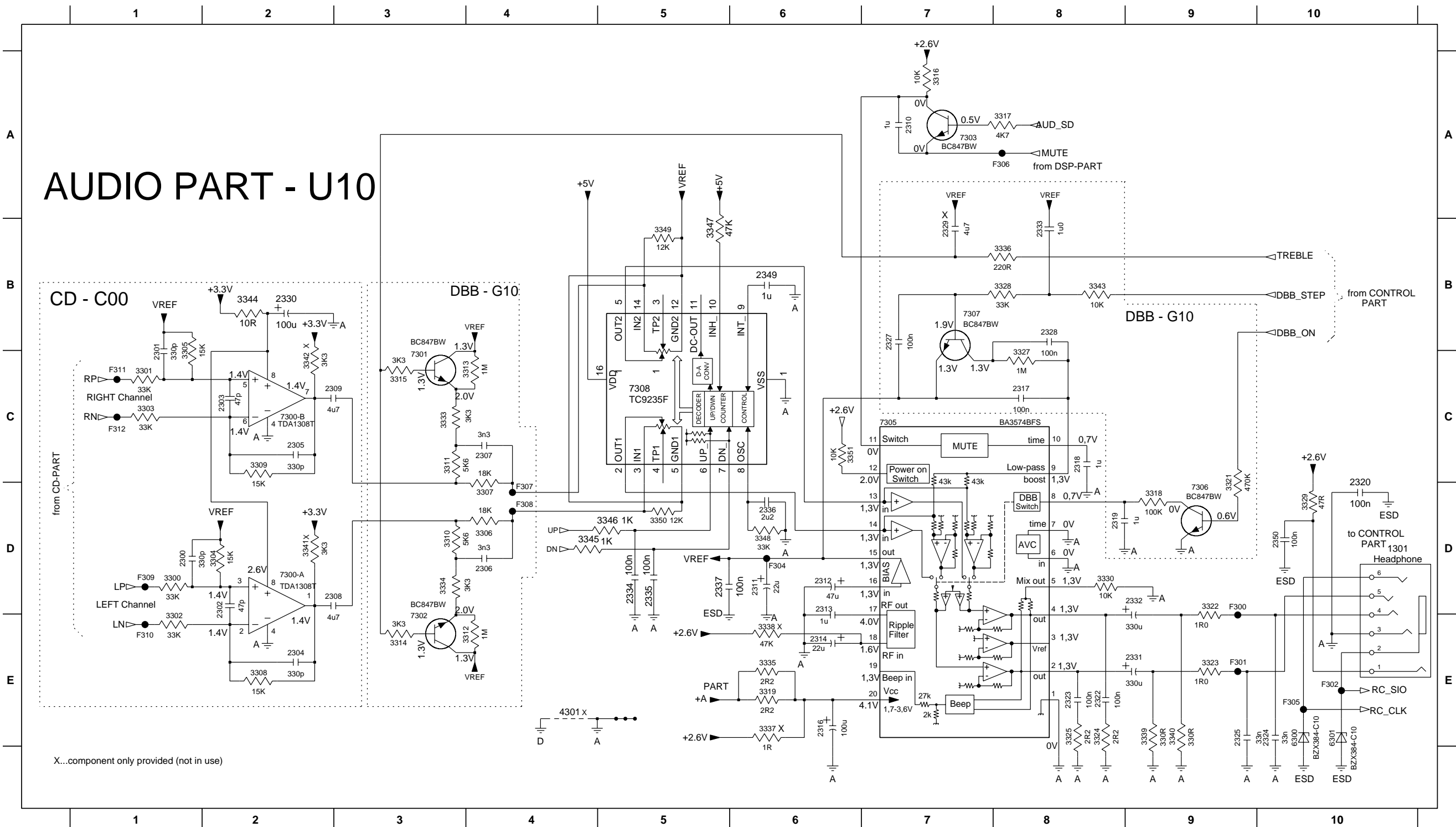
DSP PART - D60

- 2475 B2
- 2476 G13
- 2479 A10
- 2480 A10
- 2481 B4
- 2482 C14
- 2483 C2
- 2484 B7
- 2485 G1
- 2486 G11
- 2487 G7
- 2488 H5
- 2489 B4
- 2490 A4
- 2491 B2
- 2492 D1
- 2493 D1
- 2494 H4
- 2495 H7
- 2496 E8
- 2497 D8
- 2498 G9
- 2499 A11
- 3415 H3
- 3456 H5
- 3457 F8
- 3458 D8
- 3459 E8
- 3460 F8
- 3461 D7
- 3462 H2
- 3466 H5
- 3467 H4
- 3468 H4
- 3476 F7
- 3477 F7
- 3478 G1
- 3479 G13
- 3480 A11
- 3481 C14
- 3482 A4
- 3483 C1
- 3484 A6
- 3485 F1
- 3489 E1
- 3490 F1
- 3493 F11
- 3494 F1
- 3496 G8
- 3497 G8
- 3498 I11
- 3499 H5
- 5401 A5
- 7480 B2
- 7481 A9
- 7482 E10
- 7483-A F13
- 7483-B C13
- 7484-A C13
- 7484-B D12
- 7485-A G12
- 7485-B H12
- 7485-C H12
- 7485-D H12
- F480 E7
- F481 E7
- F482 E7
- F483 E7
- F484 F7
- F485 H3
- F486 F7
- F488 F7
- F491 A11
- F492 C14
- F493 E7
- F494 G8

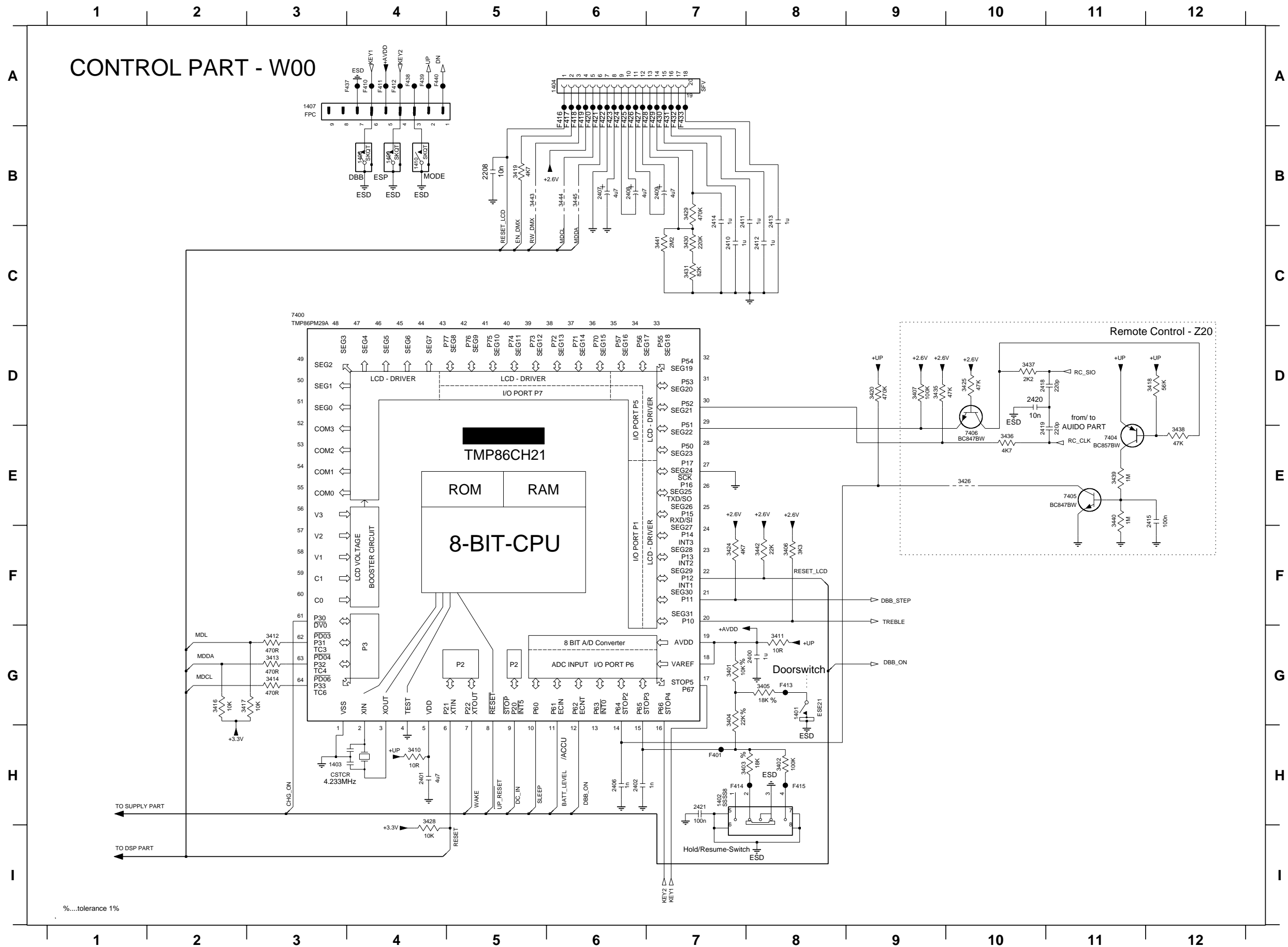
X...COMPONENT ONLY PROVIDED (NOT IN USE)

MAIN BOARD - CIRCUIT DIAGRAM

| | | | | | | | | | | | | | | | | | | | | | |
|----------|---------|---------|---------|----------|---------|---------|----------|---------|---------|---------|---------|---------|----------|---------|---------|---------|-----------|-----------|---------|----------|---------|
| 1301 D10 | 2304 E2 | 2309 C2 | 2314 E6 | 2320 D10 | 2327 B7 | 2332 D9 | 2337 D5 | 3302 E1 | 3307 D4 | 3312 E4 | 3317 A8 | 3323 E9 | 3329 D10 | 3336 B8 | 3341 D2 | 3346 D5 | 3351 C6 | 7300-B C2 | 7306 D9 | F302 E10 | F308 D4 |
| 2300 D1 | 2305 C2 | 2310 A7 | 2316 E6 | 2322 E8 | 2328 B8 | 2333 B8 | 2349 B6 | 3303 C1 | 3308 E2 | 3313 C4 | 3318 D9 | 3324 E8 | 3330 D8 | 3337 E6 | 3342 C2 | 3347 B5 | 4301 E4 | 7301 C3 | 7307 B7 | F304 D6 | F309 D1 |
| 2301 C1 | 2306 D4 | 2311 D6 | 2317 C8 | 2323 E8 | 2329 B7 | 2334 D5 | 2350 D10 | 3304 D2 | 3309 C2 | 3314 E3 | 3319 E6 | 3325 E8 | 3333 C3 | 3338 E6 | 3343 B8 | 3348 D6 | 6300 E10 | 7302 D3 | 7308 C5 | F305 E10 | F310 E1 |
| 2302 D2 | 2307 C4 | 2312 D6 | 2318 C8 | 2324 E10 | 2330 B2 | 2335 D5 | 3300 D1 | 3305 B1 | 3310 D3 | 3315 C3 | 3321 D9 | 3327 C8 | 3334 D3 | 3339 E9 | 3344 B2 | 3349 B5 | 6301 E10 | 7303 A7 | 7309 D9 | F306 A8 | F311 C1 |
| 2303 C2 | 2308 D2 | 2313 D6 | 2319 D8 | 2325 E9 | 2331 E9 | 2336 D6 | 3301 C1 | 3306 D4 | 3311 C3 | 3316 A7 | 3322 D9 | 3328 B8 | 3335 E6 | 3340 E9 | 3345 D4 | 3350 D5 | 7300-A D2 | 7305 C7 | F301 E9 | F307 D4 | F312 C1 |



MAIN BOARD - CIRCUIT DIAGRAM



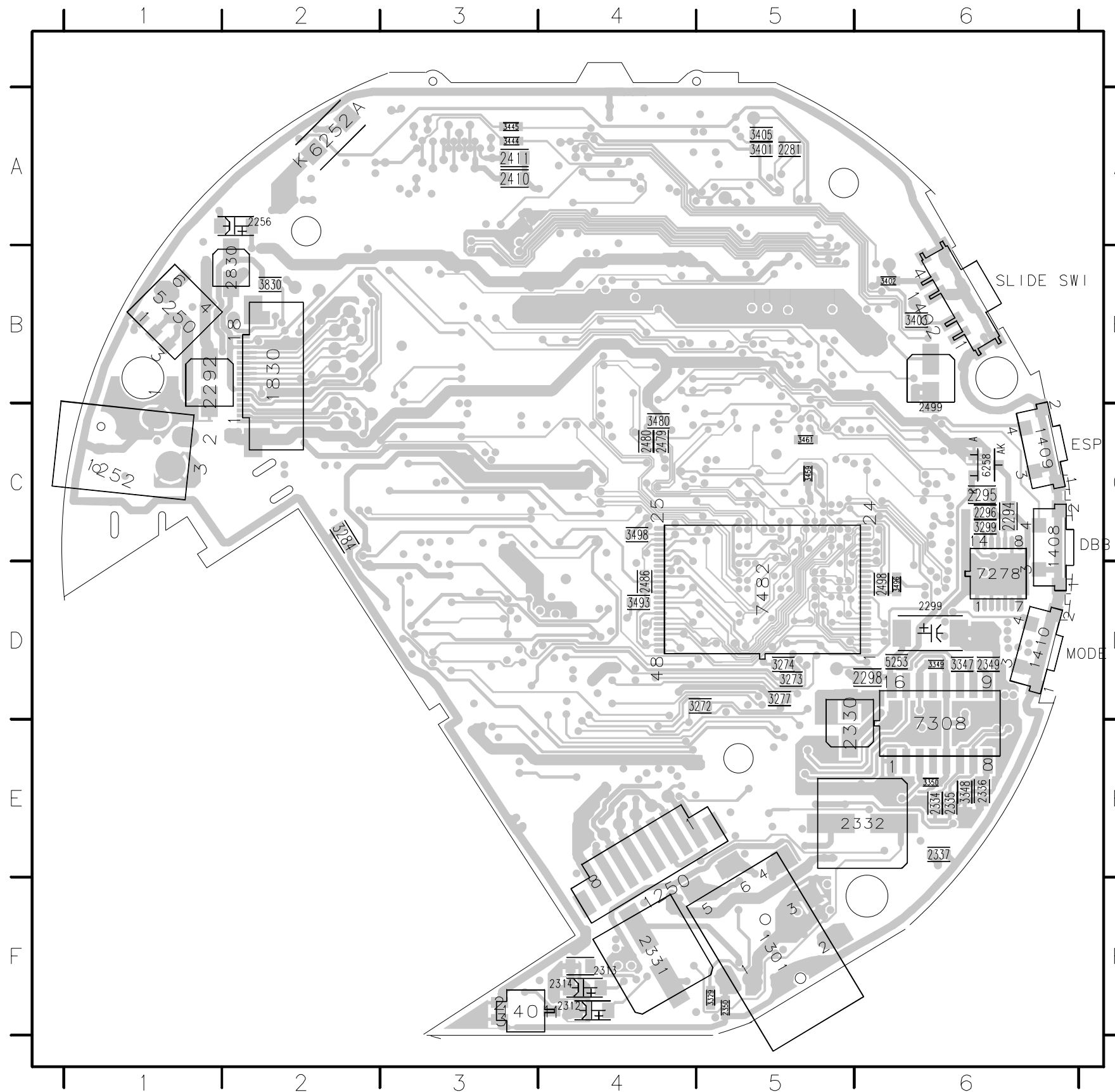
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- 1402 H7
- 1403 H3
- 1404 A6
- 1407 A3
- 1408 B4
- 1409 B4
- 1410 B4
- 2208 B5
- 2400 G8
- 2401 H4
- 2402 H6
- 2406 H6
- 2407 B6
- 2408 B6
- 2409 B7
- 2410 C7
- 2411 B7
- 2412 C8
- 2413 B8
- 2414 B7
- 2415 E12
- 2418 D10
- 2419 E10
- 2420 D10
- 2421 H7
- 3401 G7
- 3402 H8
- 3403 H7
- 3404 G7
- 3405 G8
- 3406 F8
- 3407 D9
- 3410 H4
- 3411 G8
- 3412 G3
- 3413 G3
- 3414 G3
- 3416 G2
- 3417 G2
- 3418 D12
- 3419 B5
- 3420 D9
- 3424 F7
- 3425 D10
- 3426 E10
- 3428 H4
- 3429 B7
- 3430 C7
- 3431 C7
- 3435 D9
- 3436 E10
- 3437 D10
- 3438 E12
- 3439 E11
- 3440 E11
- 3441 C7
- 3442 F8
- 3443 B5
- 3444 B6
- 3445 B6
- 7400 C3
- 7404 E11
- 7405 E11
- 7406 E10
- F401 H7
- F410 A4
- F411 A4
- F412 A4
- F413 G8
- F414 H7
- F415 H8
- F416 A6
- F417 A6
- F418 A6
- F419 A6
- F420 A6
- F421 A6
- F422 A6
- F423 A6
- F424 A6
- F425 A6
- F426 A6
- F427 A6
- F428 A6
- F429 A7
- F430 A7
- F431 A7
- F432 A7
- F433 A7
- F437 A3
- F438 A4
- F439 A4
- F440 A4

MAIN BOARD - LAYOUT DIAGRAM COPPER SIDE VIEW



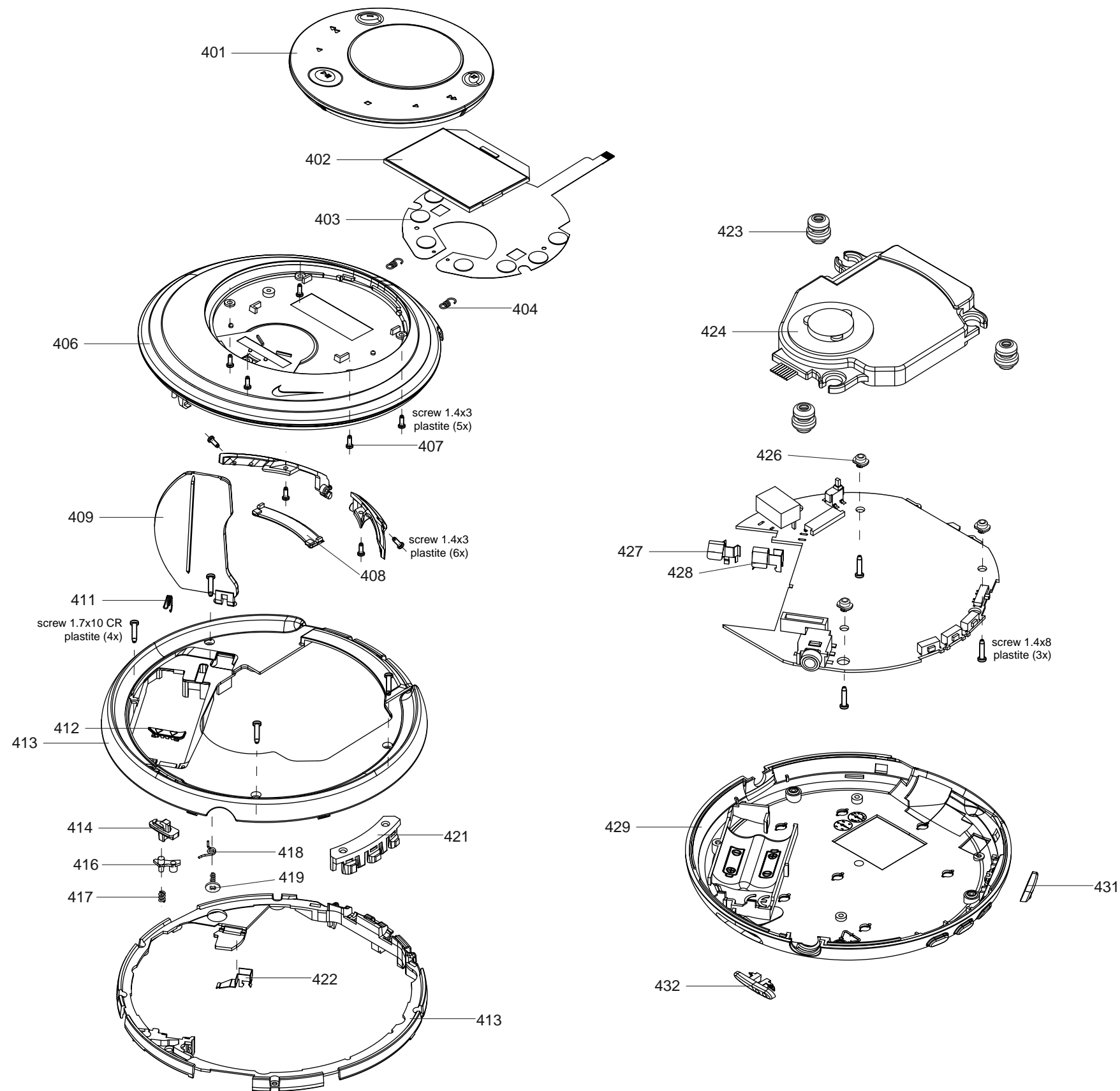
| | | | | | |
|---|------|------|------|------|------|
| 1 | 2 | 3 | 4 | 5 | 6 |
| A | 2251 | 2252 | 2253 | 2254 | 2255 |
| B | 2256 | 2257 | 2258 | 2259 | 2260 |
| C | 2261 | 2262 | 2263 | 2264 | 2265 |
| D | 2266 | 2267 | 2268 | 2269 | 2270 |
| E | 2271 | 2272 | 2273 | 2274 | 2275 |
| F | 2276 | 2277 | 2278 | 2279 | 2280 |
| G | 2281 | 2282 | 2283 | 2284 | 2285 |
| H | 2286 | 2287 | 2288 | 2289 | 2290 |
| I | 2291 | 2292 | 2293 | 2294 | 2295 |
| J | 2296 | 2297 | 2298 | 2299 | 2300 |
| K | 2301 | 2302 | 2303 | 2304 | 2305 |
| L | 2306 | 2307 | 2308 | 2309 | 2310 |
| M | 2311 | 2312 | 2313 | 2314 | 2315 |
| N | 2316 | 2317 | 2318 | 2319 | 2320 |
| O | 2321 | 2322 | 2323 | 2324 | 2325 |
| P | 2326 | 2327 | 2328 | 2329 | 2330 |
| Q | 2331 | 2332 | 2333 | 2334 | 2335 |
| R | 2336 | 2337 | 2338 | 2339 | 2340 |
| S | 2341 | 2342 | 2343 | 2344 | 2345 |
| T | 2346 | 2347 | 2348 | 2349 | 2350 |

MAIN BOARD - LAYOUT DIAGRAM COMPONENT SIDE VIEW



| | |
|------|----|
| 1250 | F4 |
| 1252 | C1 |
| 1301 | F5 |
| 1401 | F3 |
| 1402 | B6 |
| 1408 | C6 |
| 1409 | C6 |
| 1410 | D6 |
| 1830 | B2 |
| 2256 | A2 |
| 2281 | A5 |
| 2292 | B1 |
| 2294 | B1 |
| 2295 | C6 |
| 2296 | C6 |
| 2297 | D6 |
| 2298 | D6 |
| 2312 | F4 |
| 2313 | F4 |
| 2314 | F4 |
| 2330 | F5 |
| 2331 | F4 |
| 2332 | F4 |
| 2333 | F4 |
| 2334 | F5 |
| 2335 | F5 |
| 2336 | F5 |
| 2337 | F5 |
| 2338 | F5 |
| 2339 | F5 |
| 2340 | F5 |
| 2341 | F5 |
| 2342 | F5 |
| 2343 | F5 |
| 2344 | F5 |
| 2345 | F5 |
| 2346 | F5 |
| 2347 | F5 |
| 2348 | F5 |
| 2349 | F5 |
| 2350 | F5 |
| 2351 | F5 |
| 2352 | F5 |
| 2353 | F5 |
| 2354 | F5 |
| 2355 | F5 |
| 2356 | F5 |
| 2357 | F5 |
| 2358 | F5 |
| 2359 | F5 |
| 2360 | F5 |
| 2361 | F5 |
| 2362 | F5 |
| 2363 | F5 |
| 2364 | F5 |
| 2365 | F5 |
| 2366 | F5 |
| 2367 | F5 |
| 2368 | F5 |
| 2369 | F5 |
| 2370 | F5 |
| 2371 | F5 |
| 2372 | F5 |
| 2373 | F5 |
| 2374 | F5 |
| 2375 | F5 |
| 2376 | F5 |
| 2377 | F5 |
| 2378 | F5 |
| 2379 | F5 |
| 2380 | F5 |
| 2381 | F5 |
| 2382 | F5 |
| 2383 | F5 |
| 2384 | F5 |
| 2385 | F5 |
| 2386 | F5 |
| 2387 | F5 |
| 2388 | F5 |
| 2389 | F5 |
| 2390 | F5 |
| 2391 | F5 |
| 2392 | F5 |
| 2393 | F5 |
| 2394 | F5 |
| 2395 | F5 |
| 2396 | F5 |
| 2397 | F5 |
| 2398 | F5 |
| 2399 | F5 |
| 2400 | F5 |

EXPLODED VIEW DIAGRAM - CABINET



MECHANICAL PARTSLIST - CABINET

| | | |
|-----|----------------|-------------------------|
| 401 | 3140 117 63970 | TOP PANEL ASSEMBLY |
| 402 | 3140 110 51650 | LCD |
| 403 | 3140 113 32990 | MEMBRANE KEYBOARD |
| 404 | 3140 111 01430 | SPRING-CD-DOOR |
| 406 | 3140 117 63930 | DOOR CD ASSEMBLY |
| 407 | 3103 300 41610 | SCREW-P-1,4X3-NI |
| 408 | 3140 114 45950 | COVER-CD DOOR |
| 409 | 3140 114 45960 | DOOR-BATTERY |
| 411 | 3140 111 01450 | SPRING DOOR-BATTERY |
| 412 | 3140 114 46860 | BATTERY LOCK |
| 413 | 3140 117 63950 | MIDDLE CABINET ASSEMBLY |
| 414 | 3140 114 45910 | LEVER-OPEN |
| 416 | 3140 114 46850 | LEVER-SWITCH |
| 417 | 3140 111 01490 | SPRING SWITCH |
| 418 | 3140 111 01440 | SPRING-OPEN |
| 419 | 3140 110 41070 | SCREW M1.4 X 4.5 |
| 421 | 3140 114 45940 | BUTTONSET CONTROL |
| 422 | 3140 111 01410 | SPRING-BATTERY-SHORT |
| 423 | 3103 304 73260 | SUSPENSION |
| 424 | 3103 309 05430 | CD DM55 DRIVE ASSEMBLY |
| 426 | 3140 114 45980 | SPACER-DAMPER |
| 427 | 3140 111 01390 | SPRING-BATTERY-MINUS |
| 428 | 3140 111 01400 | SPRING-BATTERY-POSITIVE |
| 429 | 3140 117 63940 | BOTTOM CABINET ASSEMBLY |
| 431 | 3140 114 45920 | KNOB-RESUME |
| 432 | 3140 114 45900 | KNOB-OPEN |

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

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

| | | |
|------|----------------|-------------------|
| 1250 | 2422 025 17975 | CONNECTOR 8P |
| 1251 | 2422 086 11012 | FUSE 0,7A 50V |
| 1252 | 2422 026 05086 | CONNECTOR H 1P |
| 1301 | 2422 026 05386 | SOCKET PHONE H 1P |
| 1401 | 2422 129 16832 | SWITCH DET 1P |
| 1402 | 2422 127 00547 | SWITCH SLID 1P |
| 1404 | 2422 025 16695 | CONNECTOR 18P FFC |
| 1407 | 2422 025 17918 | CONNECTOR 7P FFC |
| 1408 | 2422 128 02863 | TACT SWITCH |
| 1409 | 2422 128 02863 | TACT SWITCH |
| 1410 | 2422 128 02863 | TACT SWITCH |
| 1830 | 2422 025 17917 | CONNECTOR 18P FFC |

- CAPACITORS -

| | | |
|------|----------------|-----------------------|
| 2200 | 2020 552 96623 | 2,2nF 10% X7R 50V |
| 2201 | 2020 552 96623 | 2,2nF 10% X7R 50V |
| 2202 | 2020 552 96623 | 2,2nF 10% X7R 50V |
| 2203 | 4822 126 14472 | 1µF 10% X7R 10V |
| 2204 | 4822 126 13879 | 220nF +80-20% 16V |
| 2205 | 2020 552 96632 | 22nF 10% X7R 16V |
| 2206 | 2020 552 96632 | 22nF 10% X7R 16V |
| 2207 | 2238 586 59812 | 100nF +80-20% Y5V 50V |
| 2208 | 2020 552 96628 | 10nF 10% X7R 16V |
| 2230 | 2238 586 59812 | 100nF +80-20% Y5V 50V |
| 2231 | 4822 126 14507 | 18pF 5% NP0 50V |
| 2232 | 2020 552 96305 | 4,7µF +80-20% Y5V 10V |
| 2233 | 5322 126 11583 | 10nF 10% X7R 50V |
| 2234 | 2020 552 96618 | 1nF 10% X7R 50V |
| 2235 | 2020 552 94427 | 100pF 5% NP0 50V |
| 2236 | 2238 586 59812 | 100nF +80-20% Y5V 50V |
| 2237 | 3198 032 15190 | 100µF 20% 4V |
| 2241 | 2238 586 59812 | 100nF +80-20% Y5V 50V |
| 2242 | 3198 017 41050 | 1µF Y5V 10V |
| 2243 | 2022 009 00656 | 47µF 20% 6,3V |
| 2250 | 2020 552 96305 | 4,7µF +80-20% Y5V 10V |
| 2251 | 4822 126 14472 | 1µF 10% X7R 10V |
| 2252 | 4822 126 14241 | 330pF NP0 50V |
| 2253 | 2020 552 96632 | 22nF 10% X7R 16V |
| 2254 | 2020 552 96625 | 3,3nF 10% X7R 50V |
| 2255 | 4822 126 14472 | 1µF 10% X7R 10V |
| 2256 | 2020 004 90331 | 47µF 20% F93 4V |
| 2257 | 3198 032 15190 | 100µF 20% 4V |
| 2258 | 4822 126 14472 | 1µF 10% X7R 10V |
| 2259 | 2020 552 96628 | 10nF 10% X7R 16V |
| 2260 | 2020 552 94427 | 100pF 5% NP0 50V |
| 2261 | 2238 586 59812 | 100nF +80-20% Y5V 50V |
| 2262 | 2020 552 94427 | 100pF 5% NP0 50V |
| 2263 | 4822 126 13883 | 220pF 5% 50V |
| 2264 | 4822 126 13883 | 220pF 5% 50V |

- CAPACITORS -

| | | |
|------|----------------|-----------------------|
| 2265 | 2238 586 59812 | 100nF +80-20% Y5V 50V |
| 2266 | 4822 126 13883 | 220pF 5% 50V |
| 2267 | 2238 586 59812 | 100nF +80-20%Y5V 50V |
| 2268 | 4822 126 13883 | 220pF 5% 50V |
| 2269 | 2238 586 59812 | 100nF +80-20% Y5V 50V |
| 2272 | 4822 126 14472 | 1µF 10% X7R 10V |
| 2273 | 2022 009 00656 | 47µF 20% 6,3V |
| 2275 | 2020 552 96628 | 10nF 10% X7R 16V |
| 2276 | 2238 586 59812 | 100nF +80-20% Y5V 50V |
| 2277 | 3198 017 41050 | 1µF Y5V 10V |
| 2278 | 3198 017 41050 | 1µF Y5V 10V |
| 2279 | 2238 586 59812 | 100nF +80-20% Y5V 50V |
| 2280 | 2238 586 59812 | 100nF +80-20% Y5V 50V |
| 2281 | 3198 017 34730 | 47nF X7R 16V |
| 2282 | 4822 126 14472 | 1µF 10% X7R 10V |
| 2292 | 2020 012 93793 | 100µF 20% 6,3V |
| 2293 | 5322 126 11578 | 1nF 10% X7R 50V |
| 2294 | 4822 126 14472 | 1µF 10% X7R 10V |
| 2295 | 4822 126 14472 | 1µF 10% X7R 10V |
| 2296 | 4822 126 14507 | 18pF 5% 50V NP0 |
| 2297 | 2020 552 96305 | 4,7µF +80-20% Y5V 10V |
| 2298 | 4822 126 14472 | 1µF 10% X7R 10V |
| 2299 | 3198 032 27190 | 100µF 20% 6,3V |
| 2300 | 4822 126 14241 | 330pF NP0 50V |
| 2301 | 4822 126 14241 | 330pF NP0 50V |
| 2302 | 4822 126 11785 | 47pF 5% NP0 50V |
| 2303 | 4822 126 11785 | 47pF 5% NP0 50V |
| 2304 | 4822 126 14241 | 330pF NP0 50V |
| 2305 | 4822 126 14241 | 330pF NP0 50V |
| 2306 | 2020 552 96625 | 3,3nF 10% X7R 50V |
| 2307 | 2020 552 96625 | 3,3nF 10% X7R 50V |
| 2308 | 2020 552 96305 | 4,7µF +80-20% Y5V 10V |
| 2309 | 2020 552 96305 | 4,7µF +80-20% Y5V 10V |
| 2310 | 4822 126 14472 | 1µF 10% X7R 10V |
| 2311 | 4822 124 11946 | 22µF 20% 16V |
| 2312 | 2020 004 90331 | 47µF 20% 4V |
| 2313 | 4822 126 14472 | 1µF 10% X7R 10V |
| 2314 | 4822 124 11946 | 22µF 20% 16V |
| 2316 | 3198 032 27190 | 100µF 20% 6,3V |
| 2317 | 2238 586 59812 | 100nF +80-20% Y5V 50V |
| 2318 | 4822 126 14472 | 1µF 10% X7R 10V |
| 2319 | 3198 017 41050 | 1µF Y5V 10V |
| 2320 | 2238 586 59812 | 100nF +80-20% Y5V 50V |
| 2322 | 2238 586 59812 | 100nF +80-20% Y5V 50V |
| 2323 | 2238 586 59812 | 100nF +80-20% Y5V 50V |
| 2324 | 4822 126 14549 | 33nF 16V X7R |
| 2325 | 4822 126 14549 | 33nF 16V X7R |
| 2327 | 2238 586 59812 | 100nF +80-20% Y5V 50V |
| 2328 | 2238 586 59812 | 100nF +80-20% Y5V 50V |
| 2330 | 2020 012 93793 | 100µF 20% 6,3V |

ELECTRICAL PARTSLIST - MAIN BOARD**- CAPACITORS -**

| | | |
|------|----------------|-----------------------|
| 2331 | 4822 124 12397 | 330µF 20% 6,3V |
| 2332 | 4822 124 12397 | 330µF 20% 6,3V |
| 2333 | 3198 017 41050 | 1µF Y5V 10V |
| 2334 | 2238 586 59812 | 100nF +80-20% Y5V 50V |
| 2335 | 2238 586 59812 | 100nF +80-20% Y5V 50V |
| 2336 | 4822 126 14491 | 2,2µF 10V |
| 2337 | 2238 586 59812 | 100nF +80-20% Y5V 50V |
| 2349 | 3198 017 41050 | 1µF Y5V 10V |
| 2350 | 2238 586 59812 | 100nF +80-20% Y5V 50V |
| 2400 | 4822 126 14472 | 1µF 10% X7R 10V |
| 2401 | 2020 552 96305 | 4,7µF +80-20% Y5V 10V |
| 2402 | 2020 552 96618 | 1nF 10% X7R 50V |
| 2406 | 2020 552 96618 | 1nF 10% X7R 50V |
| 2407 | 3198 032 54110 | 4,7µF 20% 20V |
| 2408 | 3198 032 54110 | 4,7µF 20% 20V |
| 2409 | 3198 032 54110 | 4,7µF 20% 20V |
| 2410 | 4822 126 14472 | 1µF 10% X7R 10V |
| 2411 | 4822 126 14472 | 1µF 10% X7R 10V |
| 2412 | 4822 126 14472 | 1µF 10% X7R 10V |
| 2413 | 4822 126 14472 | 1µF 10% X7R 10V |
| 2414 | 4822 126 14472 | 1µF 10% X7R 10V |
| 2415 | 2238 586 59812 | 100nF +80-20% Y5V 50V |
| 2418 | 4822 126 13883 | 220pF 5% 50V |
| 2419 | 4822 126 13883 | 220pF 5% 50V |
| 2420 | 5322 126 11583 | 10nF 10% X7R 50V |
| 2421 | 2238 586 59812 | 100nF +80-20% Y5V 50V |
| 2475 | 2238 586 59812 | 100nF +80-20% Y5V 50V |
| 2476 | 2238 586 59812 | 100nF +80-20% Y5V 50V |
| 2479 | 2238 586 59812 | 100nF +80-20% Y5V 50V |
| 2480 | 2238 586 59812 | 100nF +80-20% Y5V 50V |
| 2481 | 2238 586 59812 | 100nF +80-20% Y5V 50V |
| 2482 | 2238 586 59812 | 100nF +80-20% Y5V 50V |
| 2483 | 2238 586 59812 | 100nF +80-20% Y5V 50V |
| 2484 | 2238 586 59812 | 100nF +80-20% Y5V 50V |
| 2485 | 2238 586 59812 | 100nF +80-20% Y5V 50V |
| 2486 | 2238 586 59812 | 100nF +80-20% Y5V 50V |
| 2487 | 2238 586 59812 | 100nF +80-20% Y5V 50V |
| 2488 | 2238 586 59812 | 100nF +80-20% Y5V 50V |
| 2489 | 2238 586 59812 | 100nF +80-20% Y5V 50V |
| 2490 | 4822 124 11946 | 22µF 20% 16V |
| 2491 | 2238 586 59812 | 100nF +80-20% Y5V 50V |
| 2492 | 2238 586 59812 | 100nF +80-20% Y5V 50V |
| 2493 | 2238 586 59812 | 100nF +80-20% Y5V 50V |
| 2494 | 2238 586 59812 | 100nF +80-20% Y5V 50V |
| 2495 | 2238 586 59812 | 100nF +80-20% Y5V 50V |

| | | |
|------|----------------|-----------------------|
| 2496 | 2238 586 59812 | 100nF +80-20% Y5V 50V |
| 2497 | 2238 586 59812 | 100nF +80-20% Y5V 50V |
| 2498 | 2238 586 59812 | 100nF +80-20% Y5V 50V |
| 2499 | 4822 124 23237 | 22µF 6,3V |
| 2800 | 2020 552 96305 | 4,7µF +80-20% Y5V 10V |

- CAPACITORS -

| | | |
|------|----------------|-----------------------|
| 2801 | 4822 126 13193 | 4,7nF 10% X7R 63V |
| 2802 | 2020 552 96305 | 4,7µF +80-20% Y5V 10V |
| 2803 | 2238 586 59812 | 100nF +80-20% Y5V 50V |
| 2804 | 2022 009 00656 | 47µF 20% 6,3V |
| 2805 | 2238 586 59812 | 100nF +80-20% Y5V 50V |
| 2830 | 2020 012 93794 | 22µF 20% 6,3V |
| 2831 | 4822 126 14508 | 180pF 5% NP0 50V |
| 2832 | 4822 126 14241 | 330pF NP0 50V |
| 2835 | 4822 126 14241 | 330pF NP0 50V |
| 2836 | 4822 126 14241 | 330pF NP0 50V |
| 2837 | 4822 126 13883 | 220pF 5% 50V |
| 2838 | 4822 126 13883 | 220pF 5% 50V |
| 2839 | 4822 126 13883 | 220pF 5% 50V |
| 2840 | 4822 126 13883 | 220pF 5% 50V |
| 2841 | 4822 126 13883 | 220pF 5% 50V |
| 2842 | 4822 126 13883 | 220pF 5% 50V |
| 2843 | 4822 124 11946 | 22µF 20% 16V |
| 2844 | 2238 586 59812 | 100nF +80-20% Y5V 50V |
| 2845 | 3198 017 34730 | 47nF X7R 16V |
| 2846 | 2020 552 96618 | 1nF 10% X7R 50V |
| 2847 | 2020 552 96632 | 22nF 10% X7R 16V |
| 2848 | 4822 126 11669 | 27pF |
| 2849 | 2020 552 96628 | 10nF 10% X7R 16V |
| 2850 | 2020 552 96625 | 3,3nF 10% X7R 50V |
| 2851 | 2020 552 96625 | 3,3nF 10% X7R 50V |
| 2852 | 2020 552 96625 | 3,3nF 10% X7R 50V |
| 2853 | 2238 587 15625 | 1,5nF 10% X7R 50V |
| 2854 | 2238 587 15625 | 1,5nF 10% X7R 50V |
| 2855 | 2020 552 96625 | 1,5nF 10% X7R 50V |
| 2856 | 4822 126 14549 | 33nF 16V X7R |
| 2857 | 2238 586 59812 | 100nF +80-20% Y5V 50V |
| 2858 | 4822 126 13344 | 1,5nF 5% 63V |
| 2859 | 3198 032 15190 | 100µF 20% 4V |
| 2860 | 4822 126 13344 | 1,5nF 5% 63V |
| 2861 | 3198 017 41050 | 1µF Y5V 10V |
| 2862 | 3198 017 41050 | 1µF Y5V 10V |
| 2863 | 4822 126 11785 | 47pF NP0 50V |
| 2888 | 3198 017 41050 | 1µF Y5V 10V |
| 2890 | 4822 126 13887 | 4,7pF 50V |

- RESISTORS -

| | | |
|------|----------------|-----------------|
| 1403 | 2422 540 98536 | 4,23M |
| 3200 | 4822 117 13601 | 22K 5% 0,0062W |
| 3201 | 4822 117 12917 | 1R 5% 0,062W |
| 3202 | 4822 117 12917 | 1R 5% 0,062W |
| 3203 | 4822 117 13602 | 2,2K 5% 0,0062W |

ELECTRICAL PARTSLIST - MAIN BOARD**- RESISTORS -**

| | | |
|------|----------------|--------------------|
| 3204 | 3198 031 04720 | 4,7K 5% |
| 3208 | 3198 031 02250 | 2,2M 5% |
| 3209 | 4822 117 13603 | 33K 5% 0,0062W |
| 3210 | 4822 117 13601 | 22K 5% 0,0062W |
| 3211 | 4822 117 13606 | 10K 5% 0,0062W |
| 3212 | 4822 117 13596 | 220R 5% 0,0062W |
| 3213 | 4822 117 13543 | 470R 5% |
| 3214 | 4822 117 11297 | 100K 1/16W |
| 3215 | 3198 031 01050 | 1M 5% |
| 3216 | 3198 031 02240 | 220K 5% |
| 3217 | 4822 117 11297 | 100K 1/16W |
| 3218 | 3198 031 08230 | 82K 5% |
| 3219 | 3198 031 02250 | 2,2M 5% |
| 3220 | 3198 031 01050 | 1M 5% |
| 3222 | 3198 031 01540 | 150K 5% |
| 3223 | 3198 031 02250 | 2,2M 5% |
| 3224 | 3198 031 04740 | 470K 5% |
| 3225 | 4822 117 13606 | 10K 5% 0,0062W |
| 3226 | 4822 117 11297 | 100K 1/16W |
| 3230 | 4822 051 30103 | 10K 5% 0,062W |
| 3231 | 4822 051 30474 | 470K 5% 0,062W |
| 3232 | 3198 031 02250 | 2,2M 5% |
| 3233 | 3198 031 01050 | 1M 5% |
| 3234 | 4822 117 11297 | 100K 1/16W |
| 3235 | 4822 117 11297 | 100K 1/16W |
| 3236 | 4822 117 13606 | 10K 5% 0,0062W |
| 3237 | 3198 031 01220 | 1,2K 5% |
| 3238 | 4822 117 11297 | 100K 1/16W |
| 3239 | 3198 031 03320 | 3,3K 5% |
| 3240 | 4822 117 13606 | 10K 5% 0,0062W |
| 3241 | 3198 031 05620 | 5,6K 5% |
| 3242 | 4822 117 13605 | 0,05R 100% 0,0062W |
| 3243 | 3198 031 04730 | 47K 5% |
| 3244 | 3198 031 04730 | 47K 5% |
| 3245 | 4822 117 13601 | 22K 5% 0,0062W |
| 3246 | 3198 031 04730 | 47K 5% |
| 3247 | 4822 117 13606 | 10K 5% 0,0062W |
| 3248 | 3198 031 01530 | 15K 5% |
| 3250 | 3198 031 06810 | 680R 5% |
| 3251 | 3198 031 03320 | 3,3K 5% |
| 3252 | 4822 117 13597 | 330R 5% 0,0062W |
| 3253 | 4822 117 13545 | 100R 5% |
| 3254 | 3198 031 04730 | 47K 5% |
| 3255 | 3198 031 04730 | 47K 5% |
| 3256 | 3198 031 02720 | 2,7K 5% |
| 3257 | 3198 031 02240 | 220K 5% |
| 3258 | 4822 117 13543 | 470R 5% |
| 3259 | 4822 117 13543 | 470R 5% |
| 3260 | 3198 031 01050 | 1M 5% |
| 3261 | 4822 117 13606 | 10K 5% 0,0062W |

- RESISTORS -

| | | |
|------|----------------|--------------------|
| 3262 | 4822 117 13543 | 470R 5% |
| 3266 | 4822 117 13606 | 10K 5% 0,0062W |
| 3268 | 4822 117 12706 | 10K 1% 0,063W |
| 3269 | 4822 117 12706 | 10K 1% 0,063W |
| 3270 | 4822 117 13605 | 0,05R 100% 0,0062W |
| 3272 | 4822 051 30103 | 10K 5% 0,062W |
| 3273 | 4822 117 13632 | 100K 1% 0,62W |
| 3274 | 2120 108 93057 | 68K 1% |
| 3275 | 2120 108 93057 | 68K 1% |
| 3276 | 4822 117 13632 | 100K 1% 0,62W |
| 3277 | 2120 108 93942 | 10K 1% |
| 3281 | 2322 705 87564 | 560K 5% |
| 3288 | 3198 031 01090 | 10R 5% |
| 3289 | 3198 031 05620 | 5,6K 5% |
| 3291 | 4822 117 11297 | 100K 1/16W |
| 3292 | 4822 117 13606 | 10K 5% 0,0062W |
| 3294 | 4822 117 13605 | 0,05R 100% 0,0062W |
| 3298 | 4822 117 13605 | 0,05R 100% 0,0062W |
| 3299 | 4822 117 13632 | 100K 1% 0,62W |
| 3300 | 4822 117 13603 | 33K 5% 0,0062W |
| 3301 | 4822 117 13603 | 33K 5% 0,0062W |
| 3302 | 4822 117 13603 | 33K 5% 0,0062W |
| 3303 | 4822 117 13603 | 33K 5% 0,0062W |
| 3304 | 3198 031 01530 | 15K 5% |
| 3305 | 3198 031 01530 | 15K 5% |
| 3306 | 3198 031 01830 | 18K 5% |
| 3307 | 3198 031 01830 | 18K 5% |
| 3308 | 3198 031 01530 | 15K 5% |
| 3309 | 3198 031 01530 | 15K 5% |
| 3310 | 3198 031 05620 | 5,6K 5% |
| 3311 | 3198 031 05620 | 5,6K 5% |
| 3312 | 3198 031 01050 | 1M 5% |
| 3313 | 3198 031 01050 | 1M 5% |
| 3314 | 3198 031 03320 | 3,3K 5% |
| 3315 | 3198 031 03320 | 3,3K 5% |
| 3316 | 4822 117 13606 | 10K 5% 0,0062W |
| 3317 | 3198 031 04720 | 4,7K 5% |
| 3318 | 4822 117 11297 | 100K 1/16W |
| 3319 | 4822 117 13613 | 2,2R 5% |
| 3321 | 3198 031 04740 | 470K 5% |
| 3322 | 4822 117 12917 | 1R 5% 0,062W |
| 3323 | 4822 117 12917 | 1R 5% 0,062W |
| 3324 | 3198 031 02280 | 2,2R 5% |
| 3325 | 3198 031 02280 | 2,2R 5% |
| 3327 | 3198 031 01050 | 1M 5% |
| 3328 | 4822 117 13603 | 33K 5% 0,0062W |
| 3329 | 4822 051 30479 | 47R 5% 0,062W |
| 3330 | 4822 117 13606 | 10K 5% 0,0062W |
| 3333 | 3198 031 03320 | 3,3K 5% |
| 3334 | 3198 031 03320 | 3,3K 5% |

ELECTRICAL PARTSLIST - MAIN BOARD**- RESISTORS -**

| | | |
|------|----------------|--------------------|
| 3335 | 4822 117 13613 | 2,2R 5% |
| 3336 | 4822 117 13596 | 220R 5% 0,0062W |
| 3339 | 4822 117 13597 | 330R 5% 0,0062W |
| 3340 | 4822 117 13597 | 330R 5% 0,0062W |
| 3343 | 4822 117 13606 | 10K 5% 0,0062W |
| 3344 | 3198 031 01090 | 10R 5% |
| 3345 | 4822 117 13548 | 1K 5% |
| 3346 | 4822 117 13548 | 1K 5% |
| 3347 | 4822 117 12925 | 47K 1% 0,063W |
| 3348 | 4822 051 30333 | 33K 5% 0,062W |
| 3349 | 4822 051 30123 | 12K 5% 0,062W |
| 3350 | 4822 051 30123 | 12K 5% 0,062W |
| 3351 | 4822 117 13606 | 10K 5% 0,0062W |
| 3401 | 4822 117 12706 | 10K 1% 0,063W |
| 3402 | 4822 117 13632 | 100K 1% 0,62W |
| 3403 | 5322 117 13032 | 18K 1% 0,063W |
| 3404 | 5322 117 13022 | 22K 1% 0,063W |
| 3405 | 5322 117 13032 | 18K 1% 0,063W |
| 3406 | 3198 031 03320 | 3,3K 5% |
| 3407 | 4822 117 11297 | 100K 1/16W |
| 3410 | 3198 031 01090 | 10R 5% |
| 3411 | 3198 031 01090 | 10R 5% |
| 3412 | 4822 117 13543 | 470R 5% |
| 3413 | 4822 117 13543 | 470R 5% |
| 3414 | 4822 117 13543 | 470R 5% |
| 3415 | 4822 117 13606 | 10K 5% 0,0062W |
| 3416 | 4822 117 13606 | 10K 5% 0,0062W |
| 3417 | 4822 117 13606 | 10K 5% 0,0062W |
| 3418 | 4822 051 30563 | 56K 5% 0,062W |
| 3419 | 3198 031 04720 | 4,7K 5% |
| 3420 | 3198 031 04740 | 470K 5% |
| 3424 | 3198 031 04720 | 4,7K 5% |
| 3425 | 3198 031 04730 | 47K 5% |
| 3426 | 4822 117 13605 | 0,05R 100% 0,0062W |
| 3428 | 4822 117 13606 | 10K 5% 0,0062W |
| 3429 | 3198 031 04740 | 470K 5% |
| 3430 | 3198 031 02240 | 220K 5% |
| 3431 | 3198 031 08230 | 82K 5% |
| 3435 | 3198 031 04730 | 47K 5% |
| 3436 | 3198 031 04720 | 4,7K 5% |
| 3437 | 4822 117 13602 | 2,2K 5% 0,0062W |
| 3438 | 3198 031 04730 | 47K 5% |
| 3439 | 3198 031 01050 | 1M 5% |
| 3440 | 3198 031 01050 | 1M 5% |
| 3441 | 3198 031 02250 | 2,2M 5% |
| 3442 | 4822 117 13601 | 22K 5% 0,0062W |
| 3443 | 4822 117 13605 | 0,05R 100% 0,0062W |
| 3444 | 4822 051 30008 | 0R JUMPER |
| 3445 | 4822 051 30008 | 0R JUMPER |
| 3456 | 4822 117 13545 | 100R 5% |

- RESISTORS -

| | | |
|------|----------------|--------------------|
| 3457 | 4822 117 13545 | 100R 5% |
| 3460 | 4822 117 13606 | 10K 5% 0,0062W |
| 3461 | 4822 051 30561 | 560R 5% 0,062W |
| 3462 | 3198 031 01510 | 150R 5% |
| 3466 | 4822 117 13605 | 0,05R 100% 0,0062W |
| 3467 | 4822 117 13605 | 0,05R 100% 0,0062W |
| 3468 | 4822 117 13605 | 0,05R 100% 0,0062W |
| 3476 | 4822 117 11297 | 100K 1/16W |
| 3477 | 4822 117 11297 | 100K 1/16W |
| 3478 | 4822 117 11297 | 100K 1/16W |
| 3479 | 3198 031 01090 | 10R 5% |
| 3480 | 4822 051 30109 | 10R 5% 0,062W |
| 3481 | 3198 031 01090 | 10R 5% |
| 3482 | 3198 031 01590 | 15R 5% |
| 3483 | 3198 031 01590 | 15R 5% |
| 3484 | 3198 031 01590 | 15R 5% |
| 3485 | 4822 117 13606 | 10K 5% 0,0062W |
| 3489 | 4822 117 13545 | 100R 5% |
| 3490 | 4822 117 13545 | 100R 5% |
| 3493 | 4822 051 30109 | 10R 5% 0,062W |
| 3494 | 3198 031 01590 | 15R 5% |
| 3496 | 4822 051 30332 | 3,3K 5% 0,062W |
| 3497 | 3198 031 01590 | 15R 5% |
| 3498 | 4822 051 30479 | 47R 5% 0,062W |
| 3499 | 3198 031 01590 | 15R 5% |
| 3800 | 4822 117 12917 | 1R 5% 0,062W |
| 3801 | 3198 031 01530 | 15K 5% |
| 3802 | 3198 031 06830 | 68K 5% |
| 3803 | 3198 031 03320 | 3,3K 5% |
| 3804 | 4822 117 13546 | 47R 5% |
| 3805 | 4822 117 13606 | 10K 5% 0,0062W |
| 3806 | 3198 031 03320 | 3,3K 5% |
| 3807 | 4822 117 13543 | 470R 5% |
| 3808 | 3198 031 04730 | 47K 5% |
| 3809 | 3198 031 05630 | 56K 5% |
| 3830 | 4822 051 30109 | 10R 5% 0,062W |
| 3831 | 3198 031 06820 | 6,8K 5% |
| 3832 | 3198 031 06820 | 6,8K 5% |
| 3833 | 3198 031 06820 | 6,8K 5% |
| 3834 | 3198 031 06820 | 6,8K 5% |
| 3835 | 3198 031 02730 | 27K 5% |
| 3836 | 3198 031 02730 | 27K 5% |
| 3837 | 3198 031 02730 | 27K 5% |
| 3838 | 3198 031 02730 | 27K 5% |
| 3839 | 3198 031 02730 | 27K 5% |
| 3840 | 3198 031 02730 | 27K 5% |
| 3841 | 4822 117 13606 | 10K 5% 0,0062W |
| 3842 | 4822 117 13606 | 10K 5% 0,0062W |
| 3843 | 4822 117 13606 | 10K 5% 0,0062W |
| 3844 | 4822 117 13606 | 10K 5% 0,0062W |

ELECTRICAL PARTSLIST - MAIN BOARD**- RESISTORS -**

| | | |
|------|----------------|--------------------|
| 3845 | 4822 117 13606 | 10K 5% 0,0062W |
| 3846 | 4822 117 13606 | 10K 5% 0,0062W |
| 3847 | 3198 031 03390 | 33R 5% |
| 3848 | 4822 117 13603 | 33K 5% 0,0062W |
| 3849 | 4822 117 13548 | 1K 5% |
| 3850 | 4822 117 13601 | 22K 5% 0,0062W |
| 3851 | 4822 117 13548 | 1K 5% |
| 3852 | 3198 031 01090 | 10R 5% |
| 3853 | 3198 031 01090 | 10R 5% |
| 3854 | 4822 117 13602 | 2,2K 5% 0,0062W |
| 3855 | 4822 117 13602 | 2,2K 5% 0,0062W |
| 3856 | 4822 117 13602 | 2,2K 5% 0,0062W |
| 3857 | 4822 117 13602 | 2,2K 5% 0,0062W |
| 3858 | 4822 117 13602 | 2,2K 5% 0,0062W |
| 3859 | 4822 117 13602 | 2,2K 5% 0,0062W |
| 3860 | 4822 117 13606 | 10K 5% 0,0062W |
| 3867 | 3198 031 02290 | 22R 5% |
| 3868 | 3198 031 02290 | 22R 5% |
| 3869 | 4822 117 13546 | 47R 5% |
| 3890 | 4822 117 13605 | 0,05R 100% 0,0062W |
| 3891 | 4822 117 13605 | 0,05R 100% 0,0062W |
| 3892 | 4822 117 13605 | 0,05R 100% 0,0062W |
| 3893 | 4822 117 13605 | 0,05R 100% 0,0062W |
| 3895 | 3198 031 01050 | 1M 5% |
| 3896 | 3198 031 04720 | 4,7K 5% |
| 3897 | 4822 117 11297 | 100K 1/16W |

- COILS & FILTERS -

| | | |
|------|----------------|------------------|
| 1840 | 4822 242 10989 | CSTCV16,93MXJ0C3 |
| 5230 | 4822 157 11705 | 10µH CASE1812 |
| 5250 | 2422 536 00438 | 7006-2N 40µH 30% |
| 5251 | 2422 536 00058 | 2,2µH 20% |
| 5252 | 4822 157 70753 | 100µH 10% |
| 5253 | 3198 018 51090 | 10µH 10% |
| 5401 | 4822 157 11074 | 100µH |

- DIODES -

| | | |
|------|----------------|---------------|
| 6230 | 4822 130 11397 | BAS316 |
| 6231 | 9322 128 70685 | SS14 (GI00) R |
| 6232 | 4822 130 11397 | BAS316 |
| 6233 | 4822 130 11397 | BAS316 |
| 6250 | 3198 020 55680 | BZX384-C5V6 |
| 6251 | 4822 130 11564 | UDZ3,9B |
| 6252 | 9322 128 70685 | SS14 (GI00) R |
| 6253 | 4822 130 80622 | BAT54 |
| 6254 | 4822 130 80622 | BAT54 |
| 6257 | 9322 128 70685 | SS14 (GI00) R |

- DIODES -

| | | |
|------|----------------|---------|
| 6258 | 5322 130 34337 | BAV99 |
| 6300 | 4822 130 11551 | UDZS10B |
| 6301 | 4822 130 11551 | UDZS10B |

- IC & TRANSISTORS -

| | | |
|------|----------------|----------------|
| 7200 | 9322 181 40668 | BD6609FV |
| 7201 | 3198 010 42310 | BC847BW |
| 7230 | 3198 010 42310 | BC847BW |
| 7231 | 3198 010 42310 | BC847BW |
| 7232 | 5322 209 82941 | LM358D |
| 7233 | 5322 130 60123 | BC807-40 |
| 7241 | 5322 130 60123 | BC807-40 |
| 7250 | 4822 130 42615 | BC817-40 |
| 7251 | 5322 130 61569 | BC868 |
| 7252 | 4822 130 60142 | BC869 |
| 7253 | 3198 010 42310 | BC847BW |
| 7254 | 3198 010 42310 | BC847BW |
| 7256 | 9322 171 12671 | SC111259AFTA |
| 7268 | 3198 010 44350 | BC807-25W |
| 7269 | 3198 010 42310 | BC847BW |
| 7270 | 3198 010 42310 | BC847BW |
| 7271 | 3198 010 42310 | BC847BW |
| 7272 | 3198 010 42310 | BC847BW |
| 7273 | 4822 209 17289 | 74LV14PW |
| 7276 | 3198 010 42320 | BC857BW |
| 7277 | 3198 010 42310 | BC847BW |
| 7278 | 4822 209 17289 | 74LV14PW |
| 7300 | 4822 209 33165 | TDA1308T/N1 |
| 7301 | 3198 010 42310 | BC847BW |
| 7302 | 3198 010 42310 | BC847BW |
| 7303 | 3198 010 42310 | BC847BW |
| 7305 | 4822 209 16083 | BA3574BFS |
| 7306 | 3198 010 42310 | BC847BW |
| 7307 | 3198 010 42310 | BC847BW |
| 7308 | 9322 181 94682 | TC9235F |
| 7400 | 3103 308 84691 | TMP86CH21U |
| 7404 | 3198 010 42320 | BC857BW |
| 7405 | 3198 010 42310 | BC847BW |
| 7406 | 3198 010 42310 | BC847BW |
| 7480 | 9322 171 79671 | TMS320DA150G |
| 7481 | 9322 166 67668 | MT48LC4M16A2TG |
| 7482 | 3103 308 84480 | EPROM EXP431 |
| 7483 | 9351 960 10118 | 74LVC139PW |
| 7484 | 9322 158 50668 | 74LCX74T |
| 7485 | 4822 209 30426 | 74HC00D |
| 7800 | 4822 209 17286 | TZA1024T/N1 |
| 7801 | 3198 010 42310 | BC847BW |
| 7802 | 3198 010 42310 | BC847BW |
| 7803 | 5322 130 60123 | BC807-40 |
| 7830 | 9352 641 80557 | SAA7324H/M2B |

ELECTRICAL PARTSLIST - MAIN BOARD

- MISCELLANEOUS -

| | | |
|------|------------------|-----------------------------------|
| 1002 | 3103 309 05430 | CD DM55 DRIVE ASSY |
| 1003 | 3140 110 51650 | LCD |
| | 9082 100 00787 | HEADPHONE SBC HJ020/77E |
| | 3140 118 51170 | REMOTE CONTROL AY3773 |
| | △ 3140 118 33630 | AC/DC ADAPTOR AY3170/00 (for /00) |
| | △ 3140 118 32020 | AC/DC ADAPTOR AY3170/02 (for /01) |
| | △ 3140 118 33640 | AC/DC ADAPTOR AY3170/17 (for /17) |
| | 3140 113 10571 | HANDSTRAP (AY3287) |
| | 3140 113 10581 | WAIST BELT |

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