

Service
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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

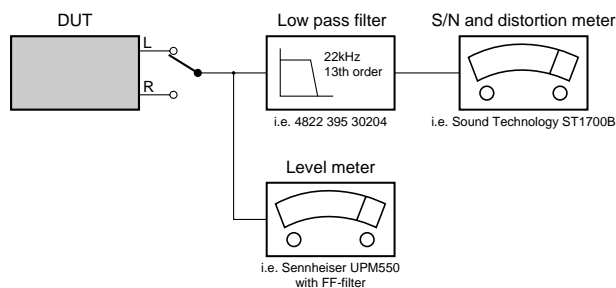
Dynamic Bass Boost DBB

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

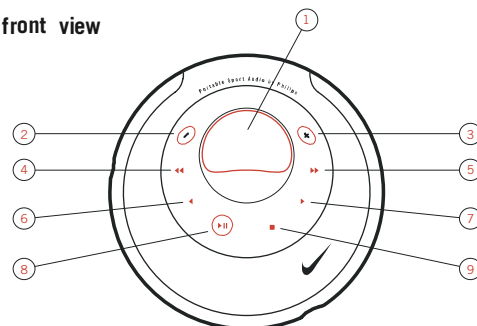
rear view

- 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

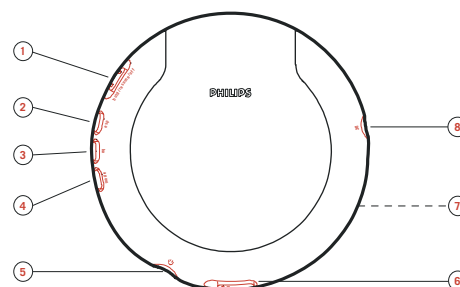
caution

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.

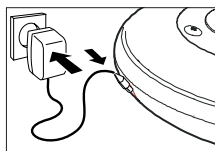
note: if upgrading is interrupted accidentally, repeat step 6 until upgrading is completed successfully.

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.

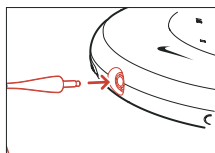


note: always disconnect the adapter if you are not using it.

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.

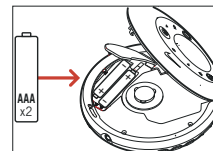
power supply

batteries (supplied or optionally available)

inserting batteries

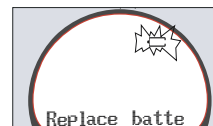
open the battery compartment and insert 2 alkaline batteries of type **AAA (RO3, UM4)**.

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

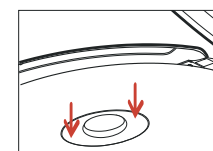
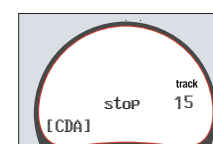
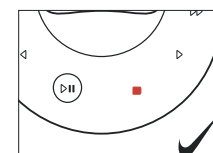
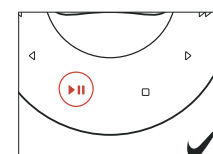
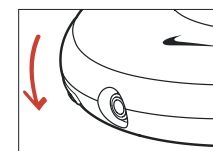
- 8cm audio discs pre-recorded audio cds
- 8cm audio discs finalized audio cdrs and cdrws
- 8cm mp3-cds (cd-roms with mp3 files)

- 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.

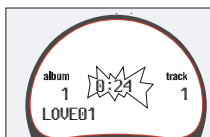


INSTRUCTION FOR USE

basic functions

pause

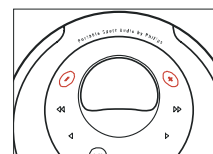
- 1 press **⏸** to interrupt playback.
the time where playback was interrupted is blinking.
- 2 to resume playback press **⏸** again.



basic functions

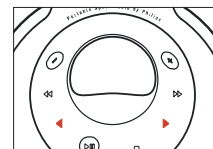
volume and sound

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.



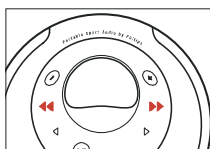
basic functions

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.*

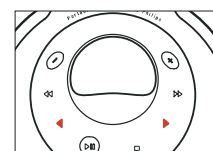
basic functions

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 **▶**.*

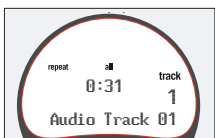
INSTRUCTION FOR USE

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.



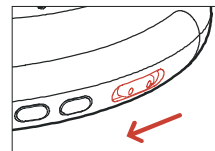
2 playback starts in the selected mode after 2 seconds.
3 to return to normal playback, press **mode** repeatedly until **repeat** and **shuffle** disappear.

features

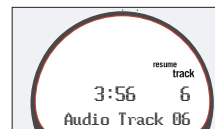
storing the last position played – resume

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.

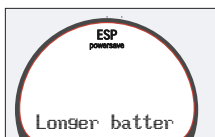
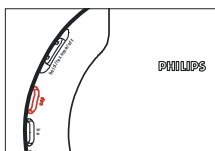
features

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.

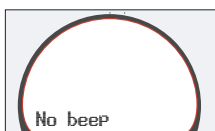
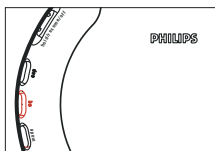


beep

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.

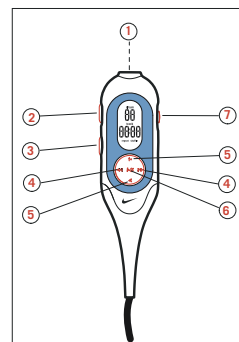


accessories

remote control AY 3773 (supplied or optionally available)

controls

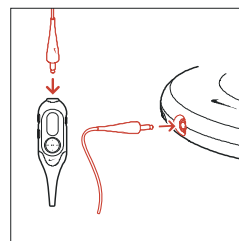
- 1 3.5 mm plug to connect the headphones
- 2 **hold** locks all buttons
- 3 **stop** stops playback and switches the set off
- 4 **skip forward/backward** skips and searches forward/backward tracks
- 5 **mp3-cd** mp3-cd only: selects the next/previous tracks
- 6 **play/pause** switches the set on, starts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

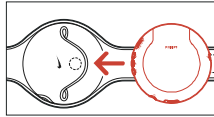
- adjust the volume and sound on the psa and your remote control.

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

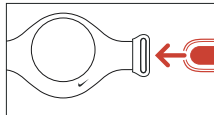
carry strap pouch (AY 3287)

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

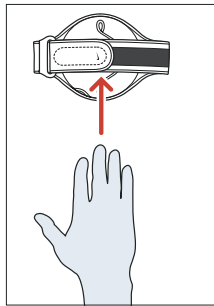
- open the velcro enclosure on the back of the carry strap pouch and slide the psa player inside. make sure the headphone / remote socket is aligned to the socket hole.



- 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.

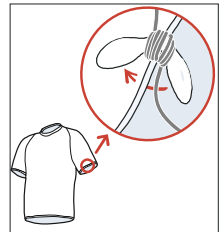
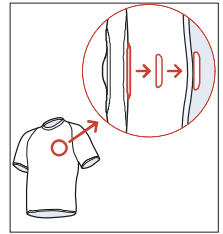
problem	solution
no power, playback does not start	insert the batteries correctly. replace the batteries. connect the mains adapter securely.
Hold indication and/or no reaction to controls	deactivate hold. disconnect the set from the power supply or take out the batteries for a few seconds.
no sound 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.

ⒻⒻ WARNING

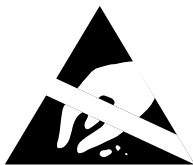
Alle ICs und viele andere Halbleiter sind empfindlich gegenüber elektrostatischen Entladungen (ESD).

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  markiert.

ⒼⒻⒻ

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.

ⒻⒻⒻ Advarsel !

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

ⒻⒻⒻ 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

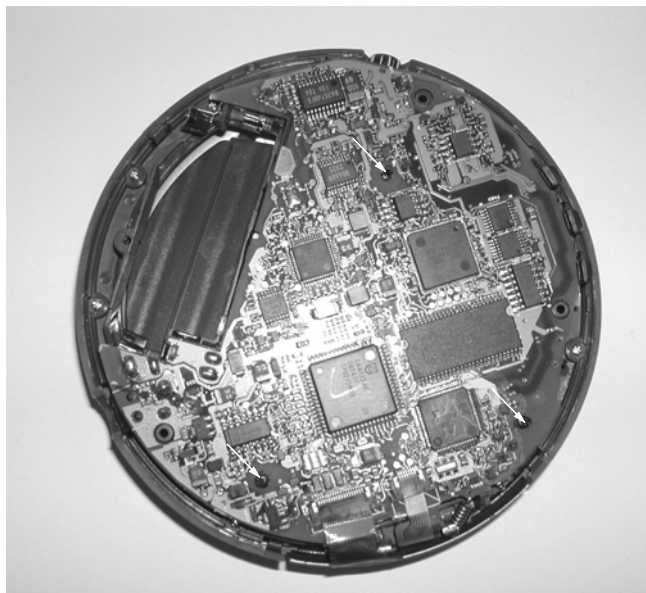
REPAIR POSITION COPPERSIDE



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

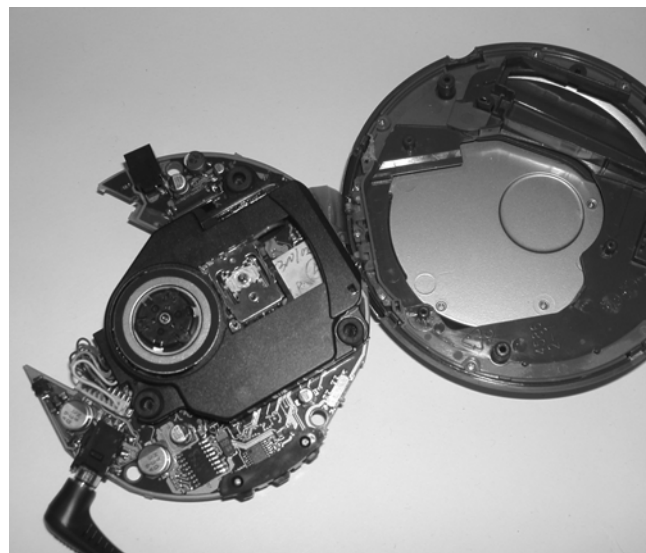
DISMANTLING THE CD-DOOR



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

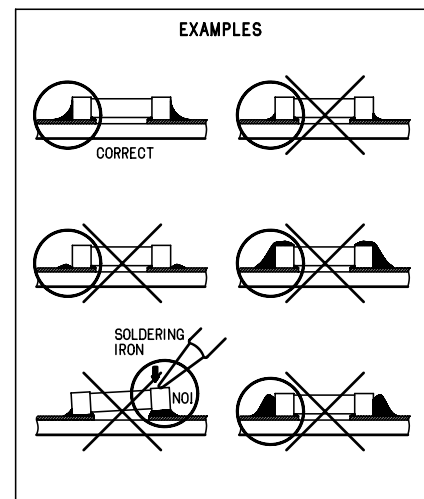
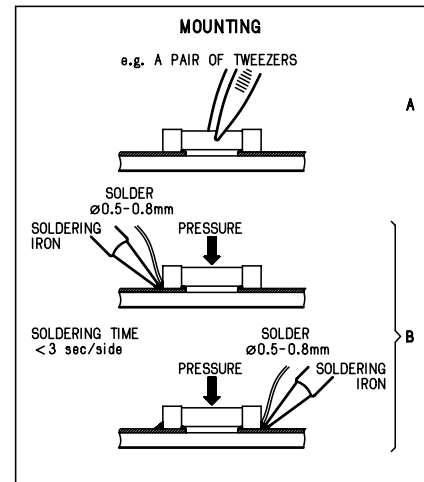
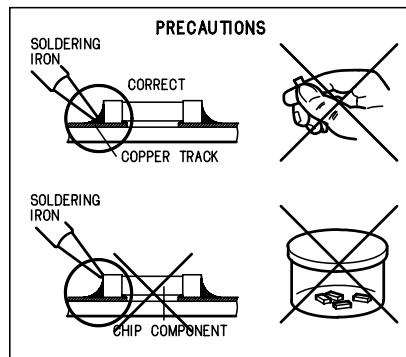
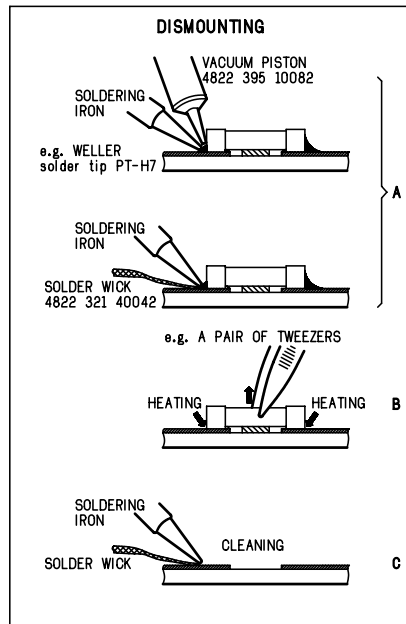
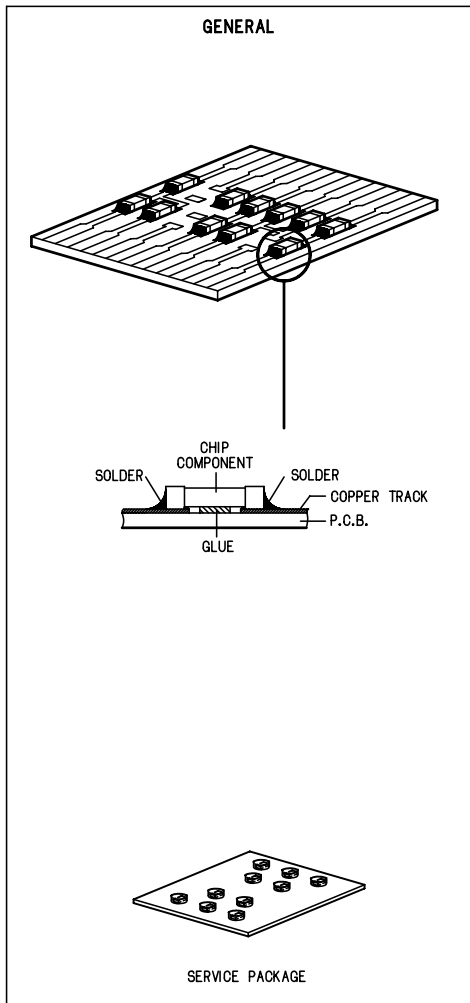


To get access to the component side of the printed board assembly proceed as follows:

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)

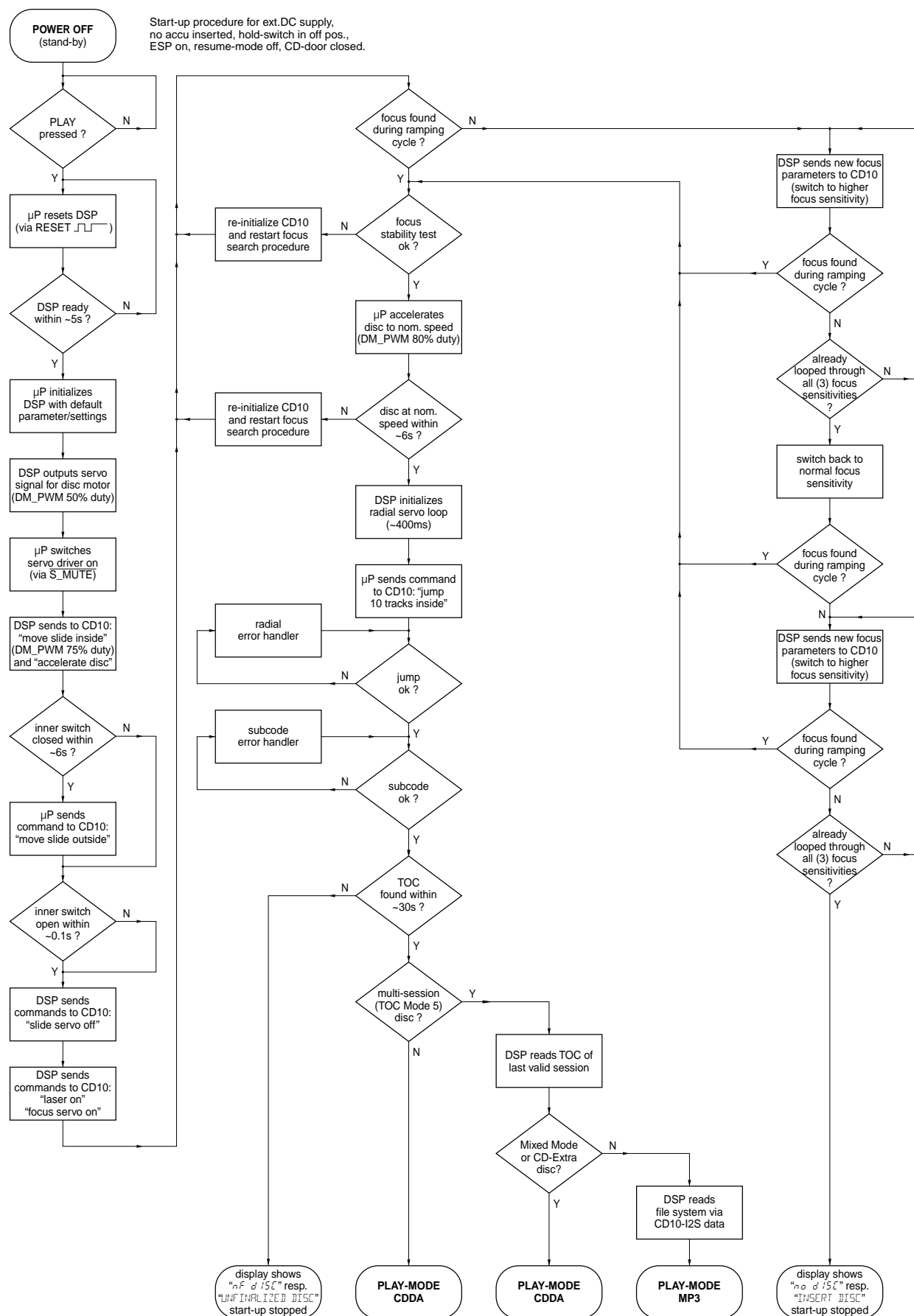
<i>Pin</i>	<i>Name</i>	<i>Direction</i>	<i>Description</i>
1	HFREF	→ CD10	comparator common mode input
2	HFIN	→ CD10	comparator signal input
3	ISLICE	CD10 →	current feedback from data slicer
4	VSSA1	GND	analog ground 1
5	VDDA1	+2.6V	analog supply voltage 1
6	IREF	CD10 →	reference current output pin
7	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

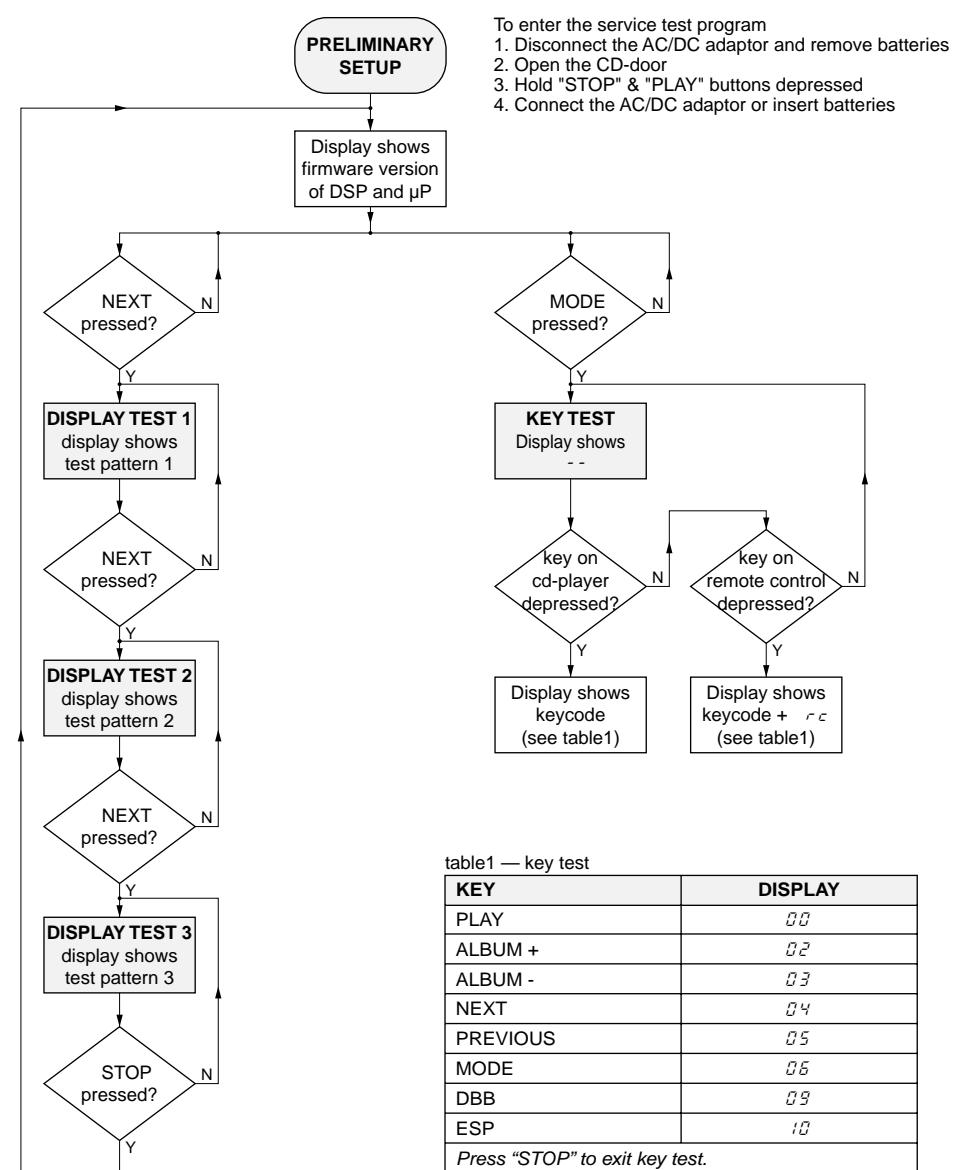
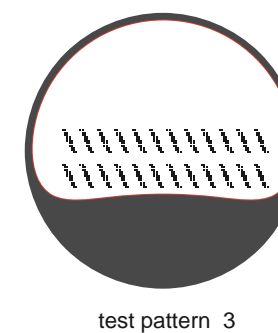
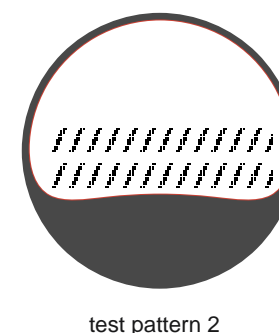
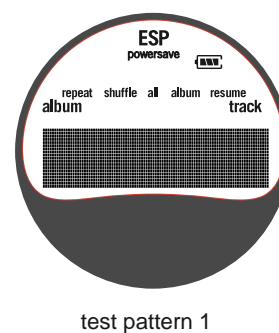


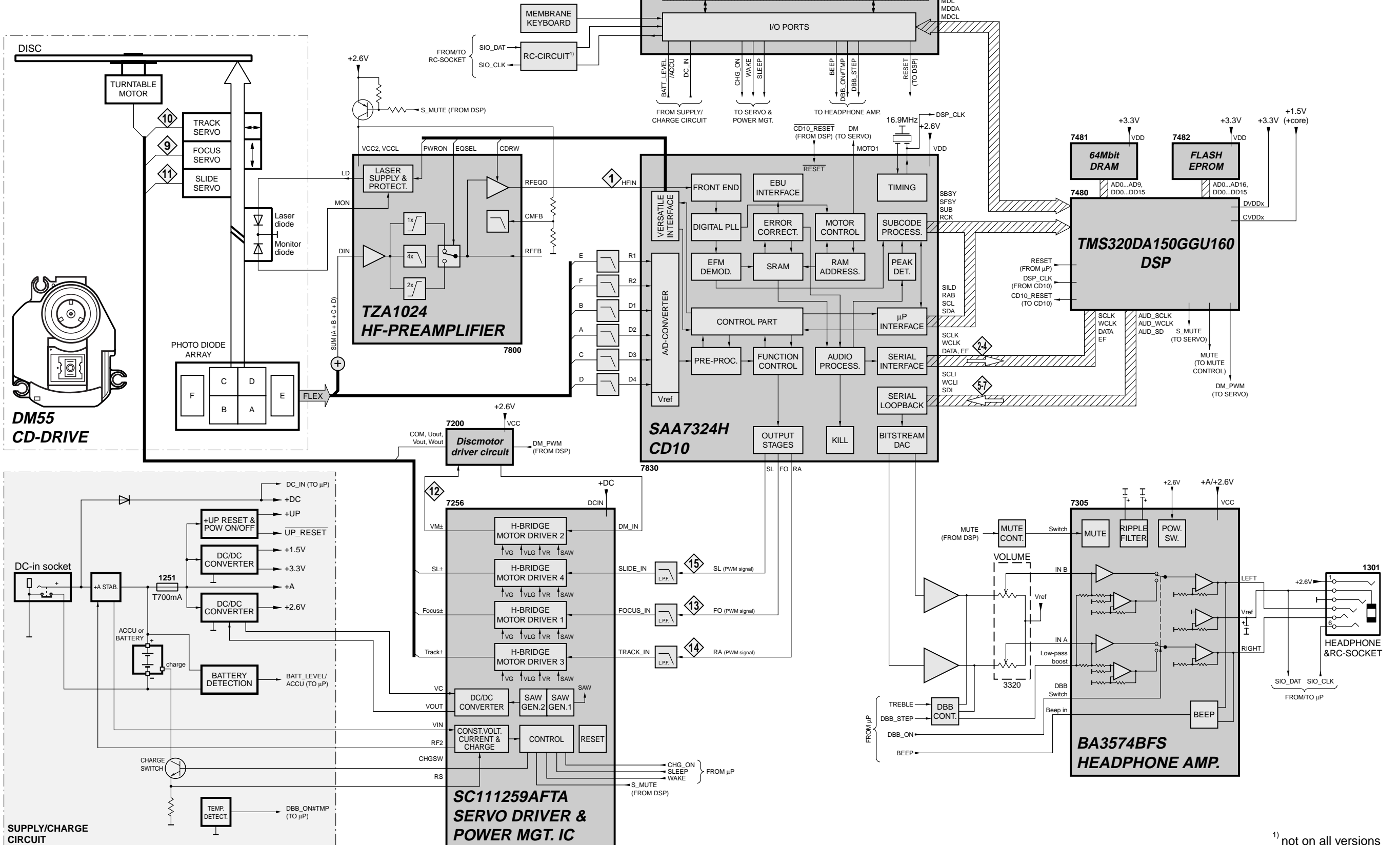
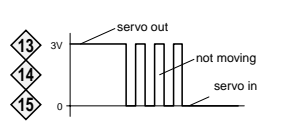
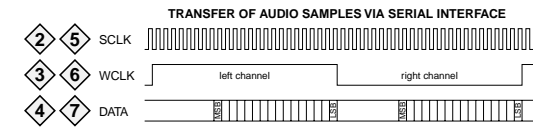
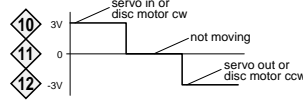
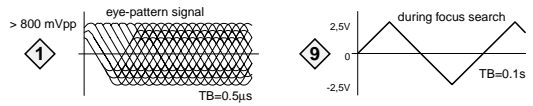
table1 — key test

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

Press "STOP" to exit key test.



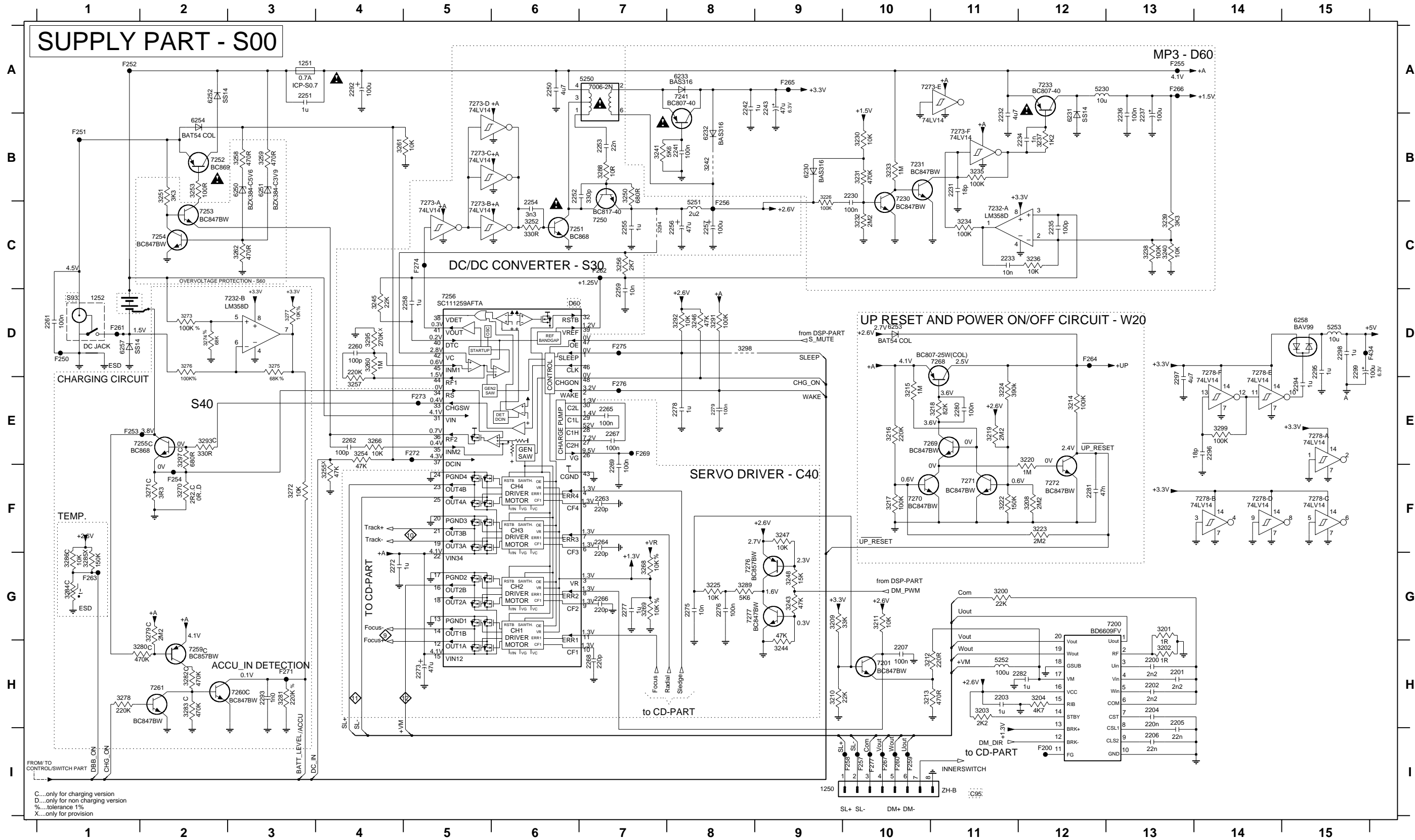
BLOCKDIAGRAM



¹⁾ not on all versions

MAIN BOARD - CIRCUIT DIAGRAM

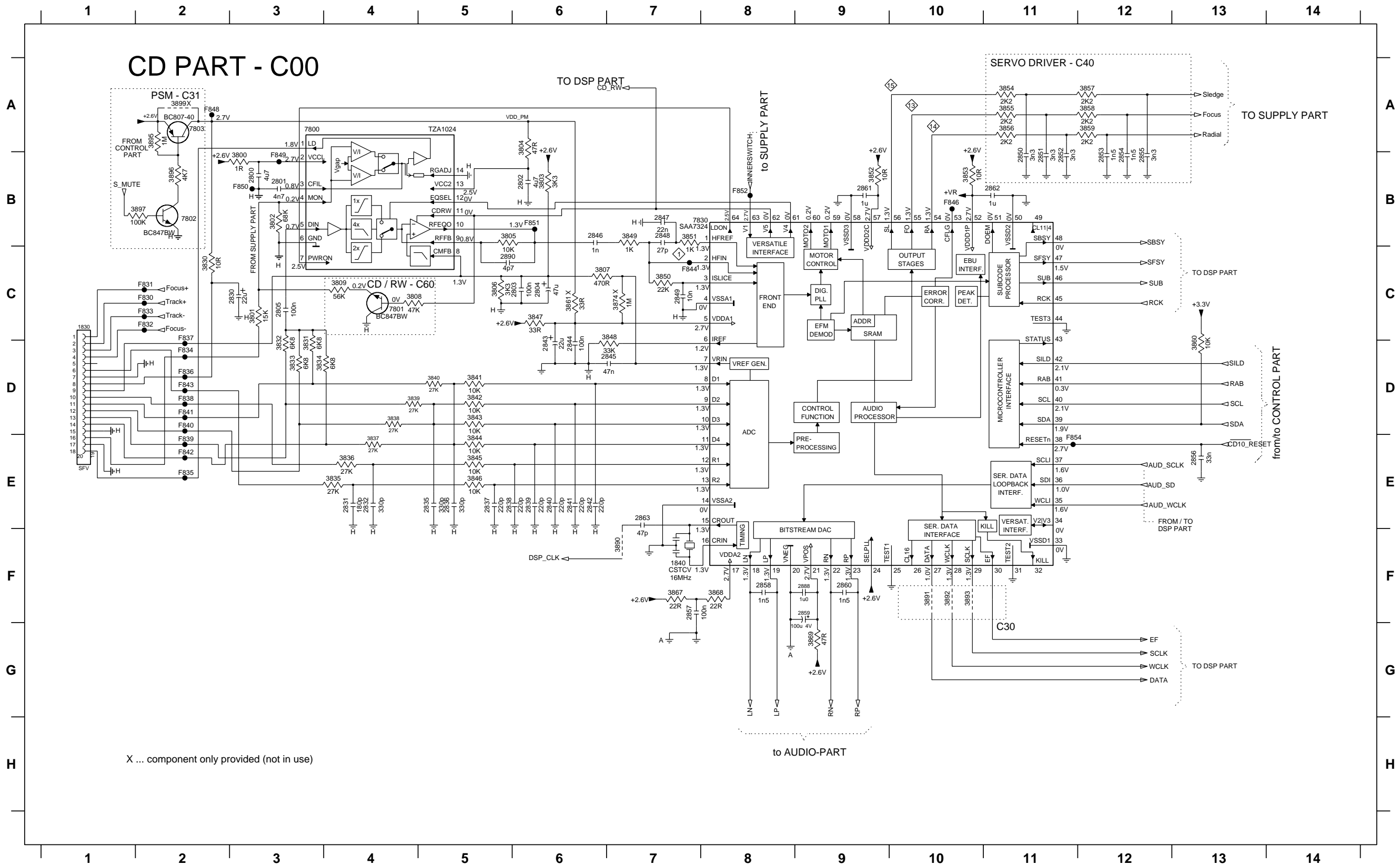
1250 I9	2205 H13	2235 C12	2252 B6	2260 D4	2268 H7	2279 E8	2296 E14	3204 H12	3215 E10	3224 E11	3235 B11	3243 G9	3252 C6	3260 D4	3272 F3	3280 H2	3289 G8	3299 E14	6232 B8	6258 D15	7241 A8	7259 H2	7273-A C5	7278-A E15	F251 B1	F259 I10	F267 I10	F277 I10	
1251 A3	2206 H13	2236 B13	2253 B7	2261 D1	2269 F7	2280 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	7200 G13	7250 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	3292 E2	5251 A7	6250 B3	7201 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	3293 E2	5251 C8	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	3294 C7	5252 H11	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	3295 D4	5253 D15	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	3297 E2	6230 B9	6254 B2	7232-B D2	7255 E2	7271 F11	7276 G8	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	7233 A12	7256 D5	7272 F12	7277 G8	F258 I10	F266 A13	F276 E7			



C....only for charging version
D....only for non charging version
%....tolerance 1%
X....only for provision

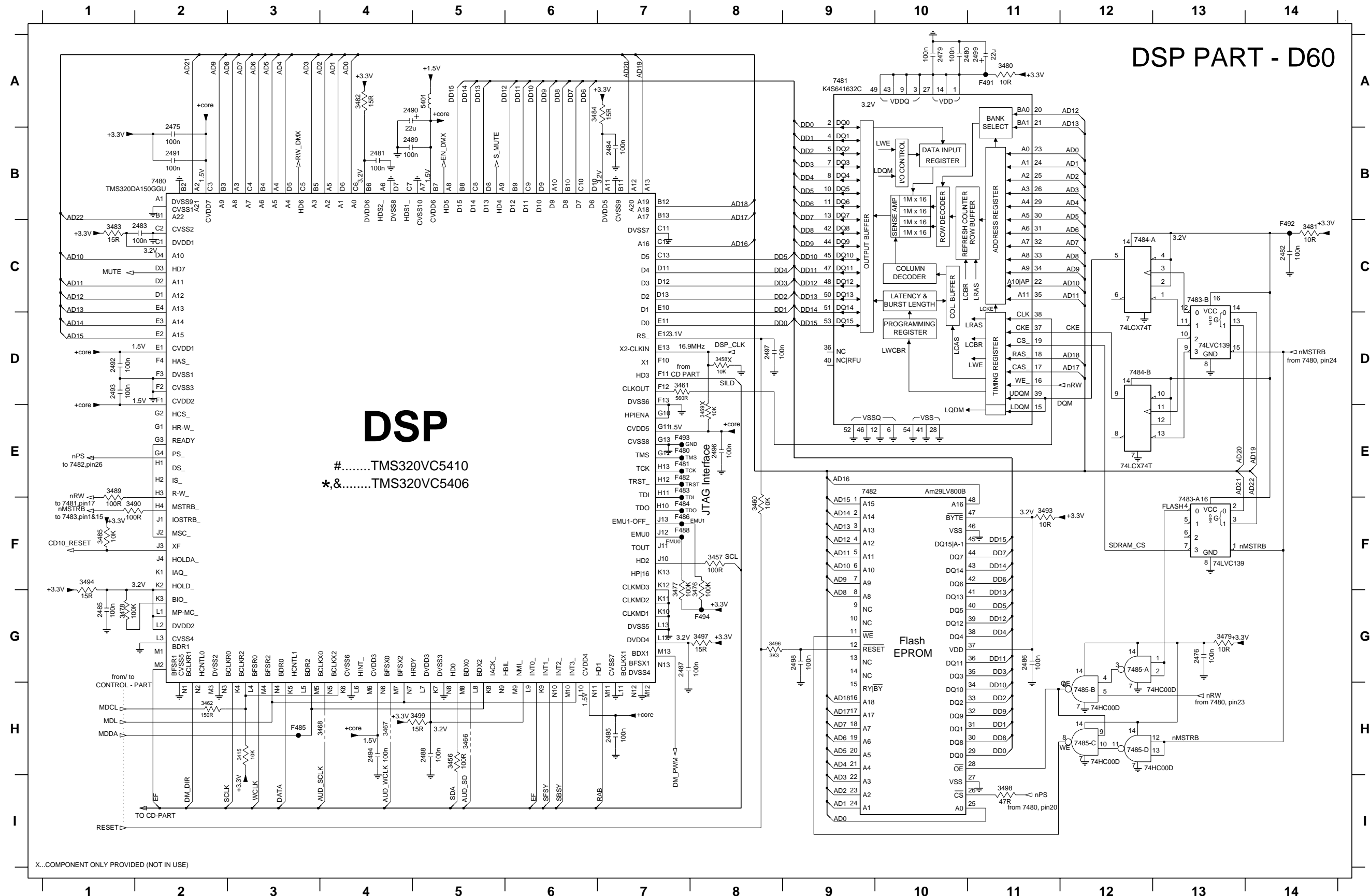
MAIN BOARD - CIRCUIT DIAGRAM

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	



X ... component only provided (not in use)

MAIN BOARD - CIRCUIT DIAGRAM



DSP

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

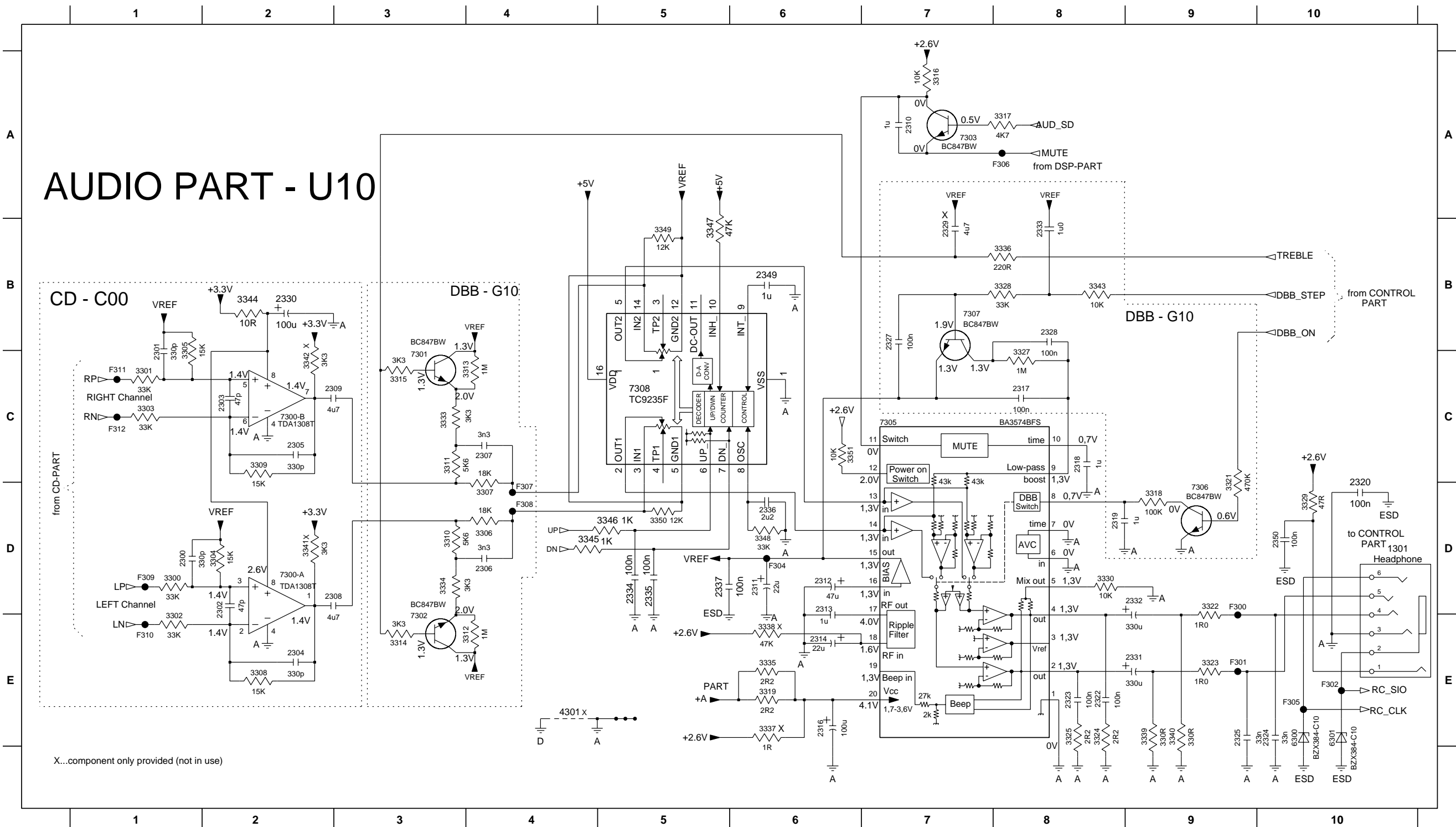
DSP PART - D60

- 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)

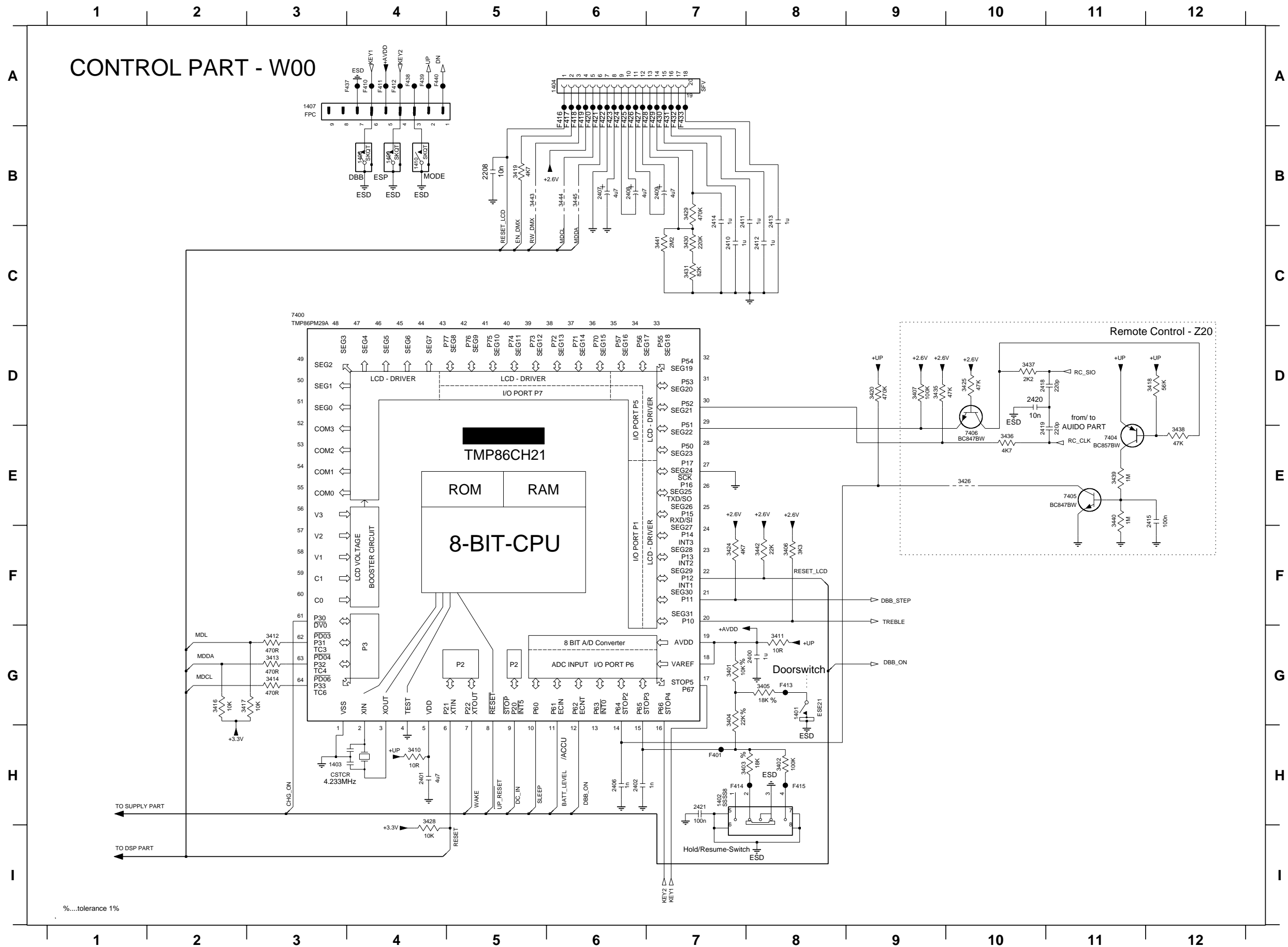
MAIN BOARD - CIRCUIT DIAGRAM

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	2339 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



X...component only provided (not in use)

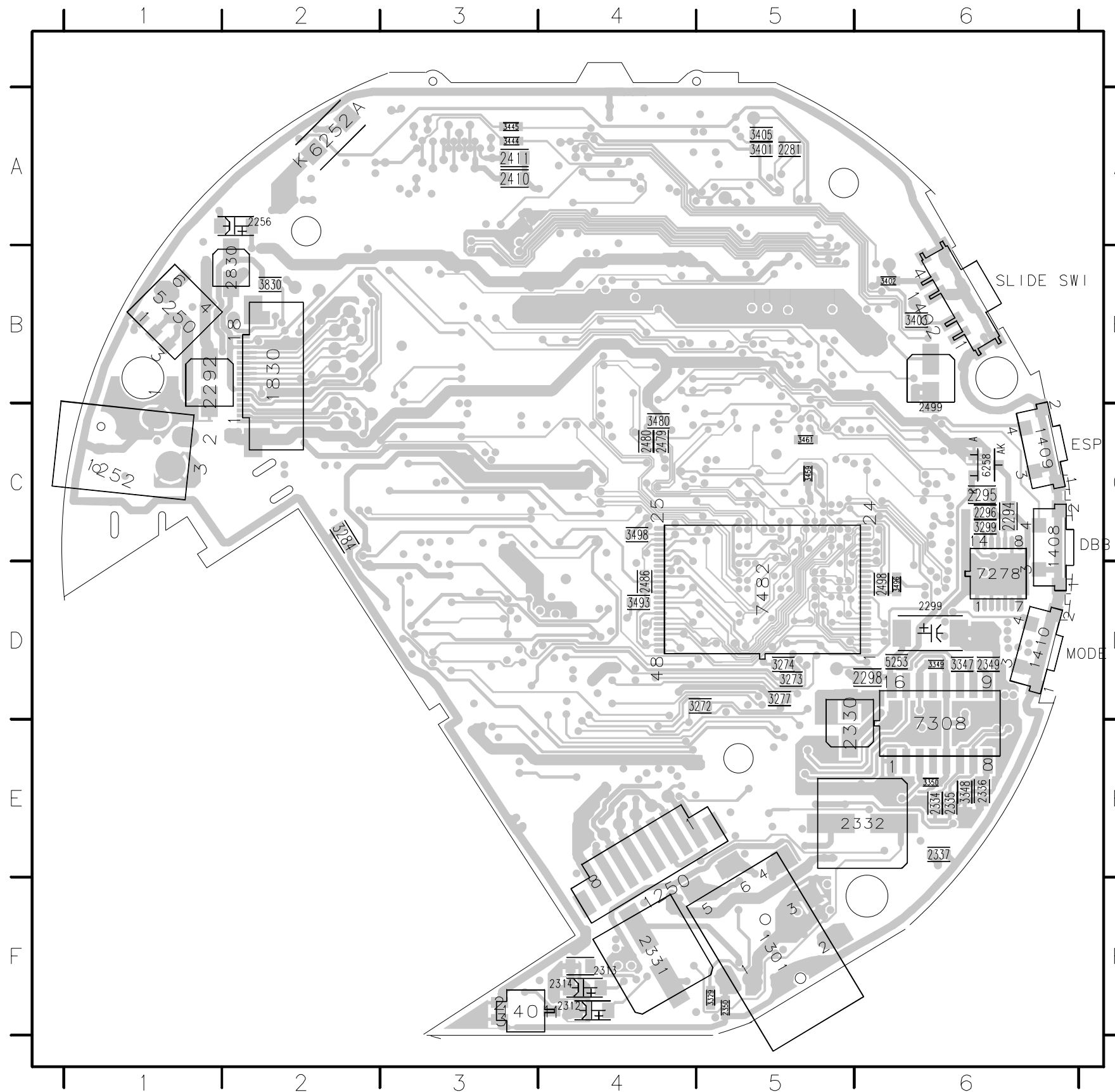
MAIN BOARD - CIRCUIT DIAGRAM



- 1401 G8
- 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
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- F428 A6
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- F432 A7
- F433 A7
- F437 A3
- F438 A4
- F439 A4
- F440 A4

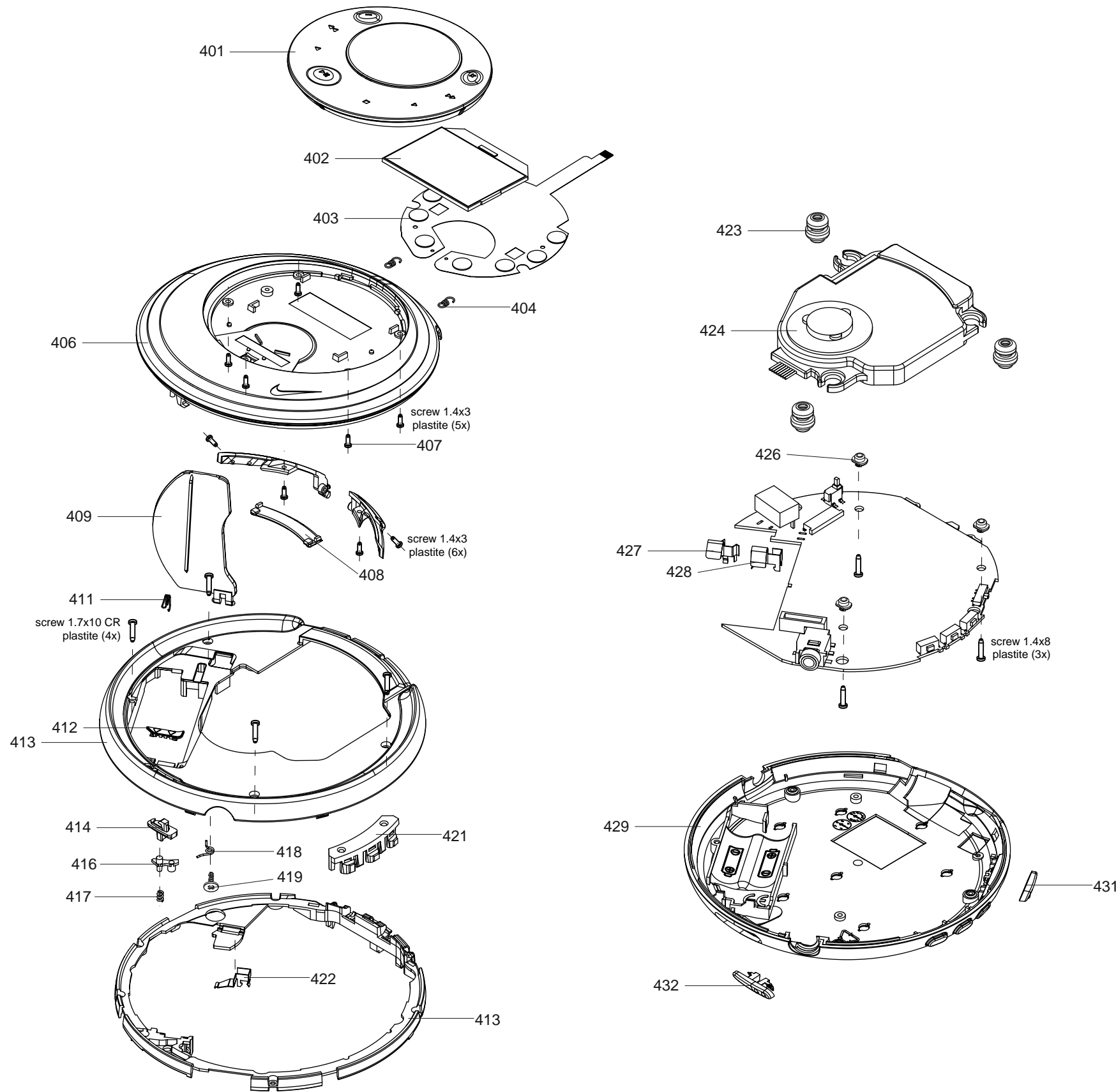
%...tolerance 1%

MAIN BOARD - LAYOUT DIAGRAM
COMPONENT SIDE VIEW



- 1250 F4
- 1252 C4
- 1301 F5
- 1401 F3
- 1402 B6
- 1408 C6
- 1409 C6
- 1410 D6
- 1830 B2
- 2256 A2
- 2281 A5
- 2292 B1
- 2294 C6
- 2295 C6
- 2296 D6
- 2297 D6
- 2298 F4
- 2312 F4
- 2313 F4
- 2314 F4
- 2330 F5
- 2331 F4
- 2332 F4
- 2333 F4
- 2334 F6
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- 2336 F6
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- 2340 F6
- 2341 F6
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- 2600 F6

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	CONNCTOR 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	CONNCTOR 18P FFC
1407	2422 025 17918	CONNCTOR 7P FFC
1408	2422 128 02863	TACT SWITCH
1409	2422 128 02863	TACT SWITCH
1410	2422 128 02863	TACT SWITCH
1830	2422 025 17917	CONNCTOR 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.