Digital Audio Player

psa[64 / **psa[**128 max

ACT200
ACT210
all versions

Service
Service
Service

Service Manual

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GB 3140 785 32180

PHILIPS

TECHNICAL SPECIFICATION

General

Dimensions (WxHxD) : 60 x 68 x 27 mm

Weight without battery : 45 g

Output power : 2 x 5 mW

Power supply modes

SUPPLY MODE	Voltage range
Alkaline batteries 1 x LR03/AAA/UM4	1.5V
Rechargable batteries 1 x LR03/AAA/UM4	1.5V

Battery lifetime

BATTERY TYPE	MP3 MODE
Alkaline battery 1 x LR03/AAA/UM4	≥ 10 h

Battery level detection

DETECTION LEVEL	Primary battery	Rechargable battery
LOW BAT! /ACT210	1.0V ± 50mV	1.0V ± 50mV
beep and red light /ACT200	1.0V ± 50mV	1.0V ± 50mV

Current consumption

OPERATION MODE	TYP.	CONDITION
Stand-by mode	0mA typ.	
Play mode	70mA typ.	Playing 1kHz 0dB MP3 file, volume setting = 1mW power output
Pause mode	37mA typ.	
Download mode	61mA typ.	Connect USB cable between PC and the PBAS.

Charge section (not on all versions)

Charge current : 250mA ± 10%

Max. charge time for AY3363 : 4.0h

Temperature protection : 50ºC ± 5ºC

Headphone out (measured with 16Ω load, in EQ flat mode)

Output power : 4.25mW

Frequency response : 40Hz-16kHz 0(30Hz-18kHz typ.)

S/N ratio (unwght) : ≥75dB (80dB typ.)

S/N ratio (A-wght) : ≥80dB

THD+N (1kHz, 0dB) : ≤0.3% (0.15% typ.)

Channel separation (1kHz) : ≤50dB (55dB typ.)

Channel unbalance (-40dB) : ≤1.5dB (0.2dB typ.)

* With 20kHz low pass filter, adjust volume to 1mW

INSTRUCTION FOR UES

controls and connections

① ▶II
switches the set on /off;
starts / pauses playback

② ◀◀ / ▶▶
skips to the beginning of a previous/ next track

③ - / +
adjusts the volume

④ **indicator (for ACT200)**
lights up: red (battery low/power down), green (power up) or orange (button lock activated / pause mode)

④ **display (for ACT210)**
with backlight. lights up briefly orange when you press any button on the psa.

⑤ **eq**
enhance your listening experience. select from 4 equalizer settings: **(for ACT210)**
Hiphop, Funk, Rock, Techno or create your own adjustable **Custom** setting.

⑥ 🎧
3.5 mm line out to connect

⑦ 🔒 locks buttons to prevent them from being activated

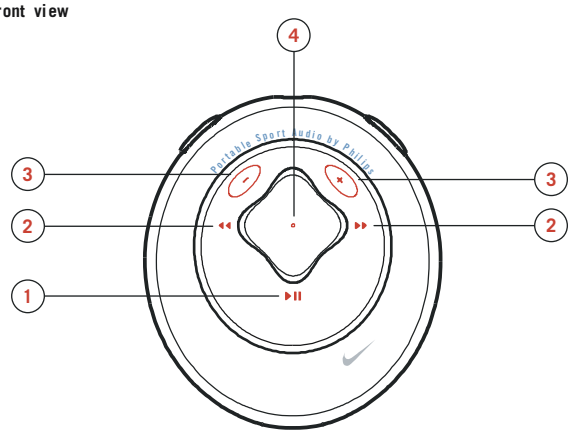
⑧ **battery compartment**
uses 1 x AAA alkaline or Ni-MH battery

⑨ **usb in**
(found in the battery compartment)
connect the supplied usb cable from here to the usb port of your computer

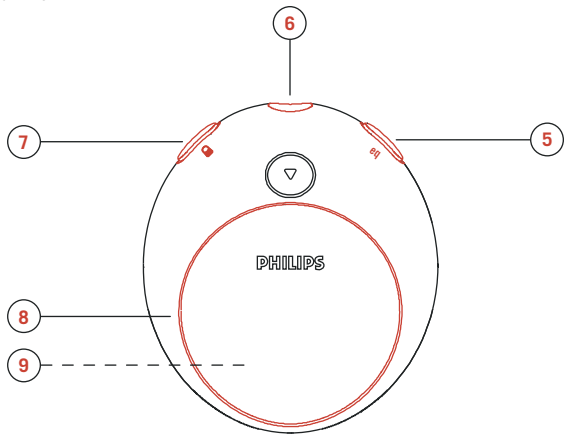
the model & serial numbers are located inside the battery compartment.

ACT200----controls

front view



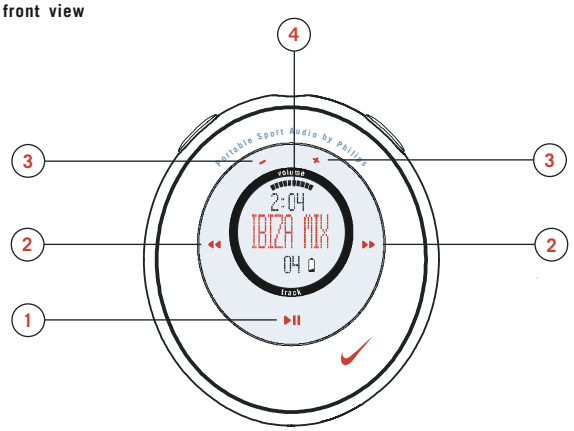
rear view



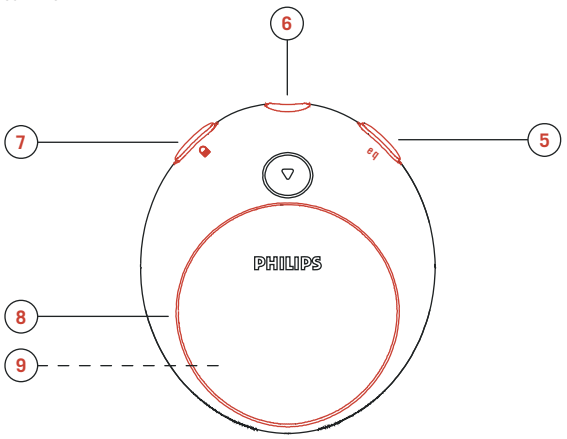
ACCESSORIES

ACT210----controls

front view



rear view



supplied accessories

one usb cable

one psa software & user guide cd-rom

one set of headphones, HJ020

one remote control, AY3776

one set of clip magnets

one armband, AY3285

one AAA alkaline battery (for ACT200)

one AAA rechargeable Ni-MH battery* (for ACT210)

one Ni-MH battery charger* (for ACT210)

*** not supplied with Asia-Pacific versions**

INSTRUCTION FOR USE

minium computer system requirements

Windows system requirements

you need to have a usb port. computers that were upgraded from Win 95 to Win 98 may not have usb compatibility! check out the other requirements:

- Pentium® MMX 166MHz processor or better
- usb port with Windows 98 / Me / 2000/ XP
- 64MB(for ACT200), 96MB(for ACT210) ram
- 50MB ram drive space
- cd rom drive
- video display card
- sound card
- Microsoft Internet Explorer 5.0 or better , Netscape 4.0 or better, and internet access

Mac system requirements

- G3 or better
- MacOS 8.6-9.X

general information

psa[64 and psa[128 is a solid-state, portable, digital audio player:

- plays mp3 & windows media audio files e.g. digitized and compressed cd tracks, tape tracks, audio books, newspapers, sound effects, etc., that are encoded into mp3 & windows media audio format.
- software upgradeable and will support future playback formats and sofware extensions that will be made available on **www.nike-philips.com**.
- will support for future digital rights management technology, including the Secure Digital Music Initiative (SDMI).

take care when using headphones

hearing safety: listen at a moderate volume. using headphones at high volume can impair your hearing.

traffic safety: do not use headphones while driving or cycling as you may cause an accident.

general maintenance

to avoid damage or malfunction:

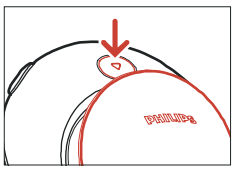
- do not expose to excessive heat caused by heating equipment or direct sunlight.
- do not drop the psa or allow objects to fall on the psa.
- do not allow the psa to be submersed in water. do not expose earphone socket or battery compartment to water as water entering the set may cause major damage.
- do not use any cleaning agents containing alcohol, ammonia, benzene, or abrasives as these may harm the set.
- active mobile phones in the vicinity may cause interference.

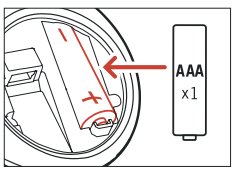
power supply

battery

1 press ▼ to open the battery cover latch and insert one **AAA** battery preferably alkaline, or Ni-MH as indicated.

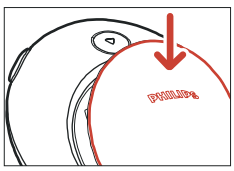
2 insert the lower edge of door as shown to close the battery cover latch.





IMPORTANT!

- remove the battery if: battery drained or the psa will not be used for more than two weeks.
- **batteries contain chemical substances, so they should be disposed of properly .**

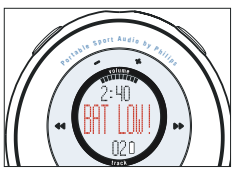


beep beep! indication of empty battery (for ACT200)

when the power level is almost empty the psa64 will beep at intervals and the inidicator lights up red. the psa will eventually switch itself off. always replace the battery after the first battery warning beep is heard.

indication of empty battery (for ACT210)

the number of blocks inside the battery icon indicates the battery power remaining. when the battery is low, the battery icon flashes. if no action is taken to renew the battery, the display shows **BAT LOW**! 5 seconds later the psa automatically switches off.



power supply

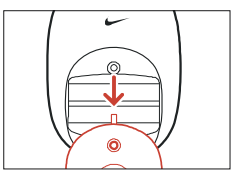
battery charger* (for ACT210)

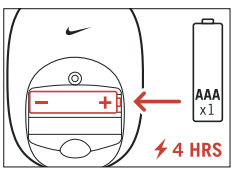
1 open the battery compartment. insert the batteries as indicated.

2 plug charger to wall outlet. the battery charger indicator lights up red when charging. a green light indicates charging has finished. maximum charging time: approx. 4 hours.

***note**: always disconnect the battery charger from the power outlet if you do not need to use it. batteries cannot be charged onboard the psa[128 max.*

*** not supplied with Asia-Pacific versions**



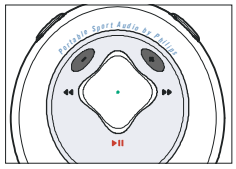


INSTRUCTION FOR USE

power on / off, playback ▶II

power on and playback, ▶II

press and hold ▶II for 2 seconds to turn on.



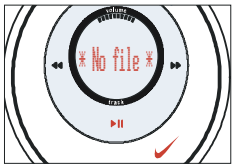
for ACT200

– indicator: green light flashes briefly and playback starts automatically.

– psa beeps: if no content has been stored in the psa, the psa powers down.

for ACT210

playback starts automatically and display shows track details.



No file will be shown if no content has been stored in the psa.

power off, ▶II

during playback, press and hold ▶II for 2 seconds to turn off.

for ACT200 – indicator: lights up red briefly.

for ACT210 – display message: **OFF** before turning off.

pause, ▶II

during playback, press ▶II to pause. press ▶II again to resume playback.

for ACT200

indicator: if psa on pause, orange light flashes.

for ACT210

display: during pause mode, the elapsed playtime flashes and track details freeze.

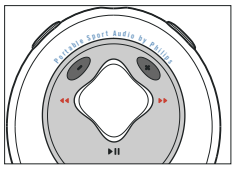
power-saving standby mode

the psa automatically switches off when playback is paused longer than 30 seconds and no buttons are pressed.

◀◀ / ▶▶, 🔒

selecting a different track ◀◀ , ▶▶

press ◀◀ / ▶▶ to select the desired track.



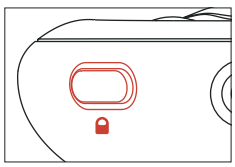
fast searching within a track

during playback, press and hold ◀◀ / ▶▶ briefly.

psa plays track at high speed until the button is released.

using the button lock 🔒

🔒 deactivates the other buttons so they are not activated accidentally.

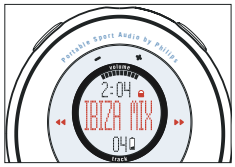


to activate / deactivate the button lock, press and hold 🔒 2 seconds.

for ACT200

indicator: lights up orange if button lock active, and when you attempt to press any other buttons.

indicator: lights up green briefly if button lock deactivated.



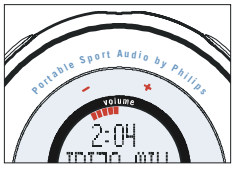
for ACT200

display: 🔒 appears if button lock active.

adjusting volume - / + and eq settings

volume

press - / + to decrease / increase the volume.

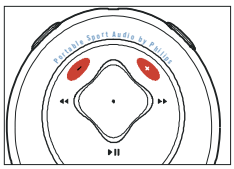


for ACT210

the volume bar decreases / increases.

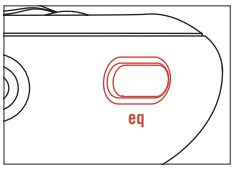
eq sound options- *bring out the bass or top up on treble!*

press **eq** again and again to select your equalizer option for high bass, flat, all high notes, etc.



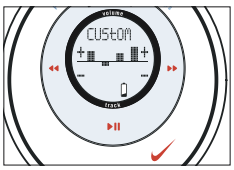
for ACT210

display: **Hiphop, Funk, Rock, Techno, Off** or **Custom**



create your own sound: Custom (for ACT210)

if you have selected **Custom**, the next display shows 4 eq frequency bars.



use ◀◀ / ▶▶ to select the frequency bar you want to adjust.

use - /+ to adjust the frequency level.

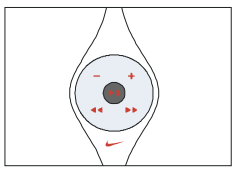
press **eq** again to confirm your desired setting.

display: returns to showing track details

accessories

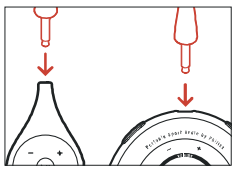
remote control

the remote has 5 buttons (- / +, ▶II , ◀◀ / ▶▶) that function the same way that they do on the psa. even if the button lock 🔒 is activated the remote control will override.



1
connect the remote control and headphones as shown.

2
adjust the volume on both the psa and remote control.



INSTRUCTION FOR USE

accessories

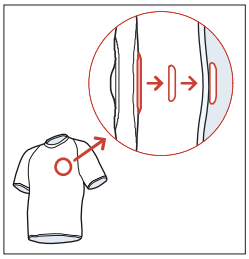
clip magnets

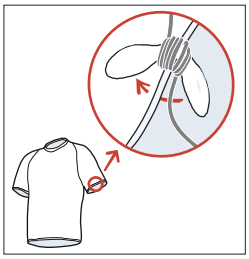
wear your remote control and secure your headphone cord with these wearable magnets.

1 check the polarity of the 2 button magnets. insert the big button magnet underneath your garment.

2 clip the small button magnet on your outer garment. clip the remote control on top.

3 secure your headphone cord with the "butterfly" magnet clip.





WARNING:

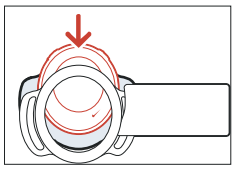
KEEP OUT OF REACH OF SMALL CHILDREN TO AVOID CHOKING HAZARD.

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

accessories, software: MUSICMATCH Jukebox

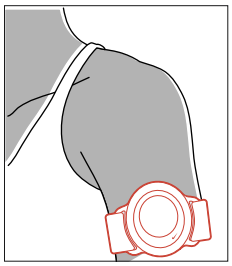
armband

wear your digital audio player during sport activity by securing it to the supplied armband.



1 fit the psa into the rubber buckle, with the headphone / remote socket aligned to the socket hole.

2 position the armband around your arm. thread the strap and fasten up for a snug fit.



installing MUSICMATCH Jukebox

install MUSICMATCH Jukebox software to manage your music collection on your personal computer. MUSICMATCH Jukebox allows you to:

– convert cd music tracks to mp3 and windows media audio files

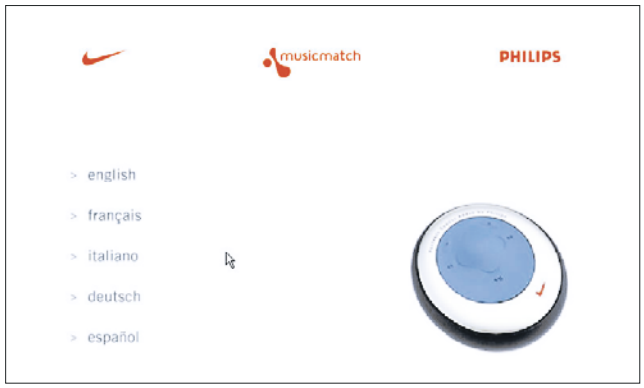
– create & save music playlists

– download mp3 and windows media audio files to the psa

1 insert the psa cd rom into your cd rom drive.

note: for MAC users, click the MUSICMATCH icon double click on MUSICMATCH Installer.

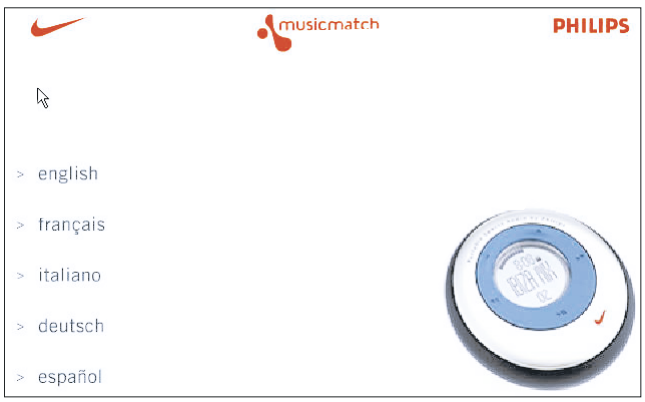
software: MUSICMATCH Jukebox



2 an introduction screen appears. select the language that suits you best (**english, français, italiano, deutsch** or **español**).

3 select your product.

software: MUSICMATCH Jukebox and device drivers

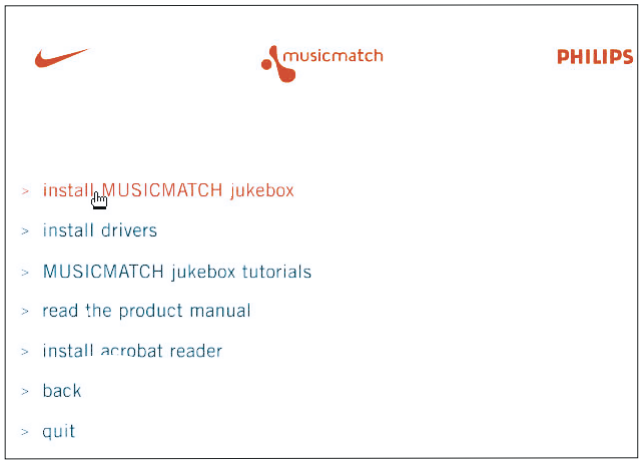


2 an introduction screen appears. select the language that suits you best (**english, français, italiano, deutsch** or **español**).

3 select your product.

INSTRUCTION FOR USE

4 from the next screen, click **install MUSICMATCH jukebox** and follow the screen instructions to install.



5 click **Yes** on the screen to restart your computer when prompted. the software is now installed.

installing the psa drivers

you must install the device drivers for your computer to recognize the psa player. follow these directions to install the drivers.

1 insert the psa cd rom into your cd rom drive.

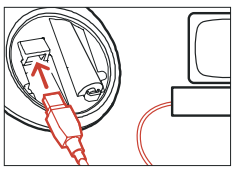
***note**: for **MAC users**, click the **MUSICMATCH** icon ➔ double click on **MUSICMATCH Installer**.*

2 an introduction screen appears. select the language that suits you best (**english, français, italiano, deutsch** or **español**).

3 click **install drivers➔Next** and follow all the screen instructions to complete installation.

connecting the psa to your computer

check that the psa is loaded with a suitable battery (preferably fresh) before you start connecting.



1 connect the supplied usb cable to your computer's usb port.

2 press ▼ to open the battery compartment. connect the other end of the usb cable to **usb in**, (found inside the battery compartment.)

3 turn on your computer.

for ACT200:

indicator: lights up green continuously.

buttons on the psa are automatically locked during usb connection.

for ACT210:

psa display: ∿∿∿ appears.

buttons on the psa are automatically locked during usb connection.

4 turn on your psa.

convert music cds into mp3 files

1 click the  (record) button. the **Recorder** window will open.

2 insert a commercial music cd into your computer's cd tray. **CD lookup** will attempt to add artist track and album names. if information doesn't appear, enter it manually.

3 check the boxes next to each track to record then click the  (record) button on the **Recorder**.

note**: by default, the recorder will create mp3 files at 128 kbps, which is considered cd quality (for other options, see the **Options / Settings / Recorder** menus.). recorded tracks will be automatically added to your **Music Library

encoding at 96 kbps can increase playtime with minimal loss in audio quality

INSTRUCTION FOR USE

playlist

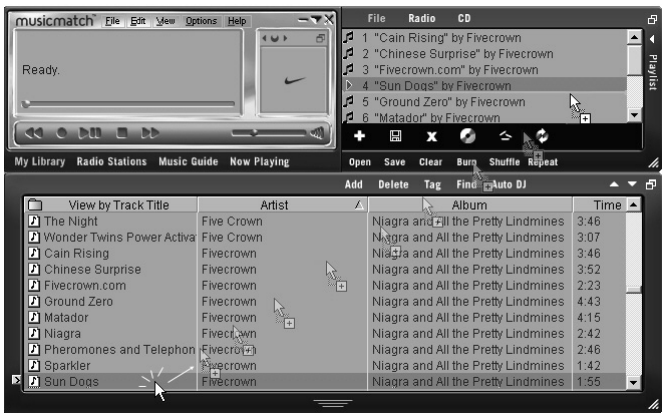
create & save music playlists

1 open the **Music Library** by clicking the **My Library** button.

2 double-click a track in the library, or drag and drop tracks from the **Music Library** into the **Playlist** window.

3 drag and drop tracks within the **Playlist** to change the play order.

4 click **Save** to save the playlist.



downloading music

download music* to your player from your computer:

1 create or open a music playlist.

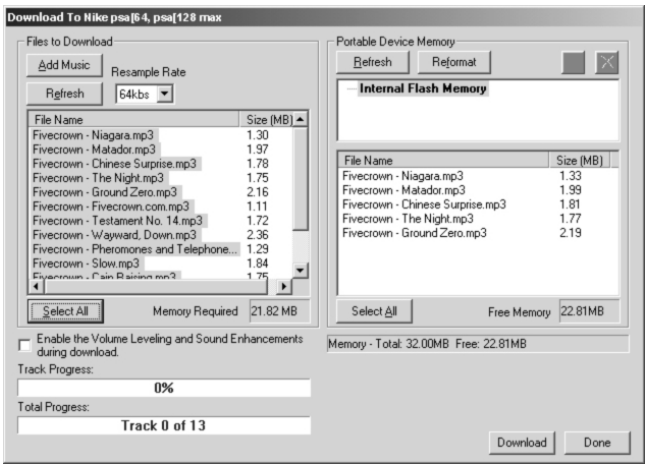
2 click **File → Send to Device → Download To Nike psa[64, psa[128 max** your songs will automatically appear in the **Files to Download** window.

3 select the songs you want to transfer and then click **Download**

4 after tracks have been transferred to the psa, click **Done** to exit. view download status from the track progress bar.

***note**: during file transfer, psa display shows* ∿∿∿ *scrolling.*

* the current psa may not download windows media audio for mac users. check out **www.nike-philips.com** for updates of mac plug-in.



downloading music

tips:

– the **Portable Device Memory** window (right) shows the tracks currently stored on the psa (if any). to clear tracks from psa memory, click **Reformat → Start → Close**.

– to fit more songs onto your player with existing memory, use the **Resample Rate** option (upper left), which allows you to reformat the tracks downloaded to a lesser bit rate. this lets you fit more audio onto your player by creating smaller files during the download. this does not affect the files stored on your computer.

updating software, upgrading your audio player

updating MUSICMATCH software *

be sure you have the latest available version of MUSICMATCH Jukebox by updating your software.

1 click **Options → Update Software → Continue**.

2 the update will add files to your computer, then automatically restart MUSICMATCH Jukebox for you.

* *requires an active internet connection.*

upgrading your audio player

visit **http://www .nike-philips.com** for more information and firmware upgrades.

INSTRUCTION FOR USE

helpful tips

if a fault occurs, first check the points listed below before taking the set for repair.

if you are unable to remedy a problem by following these hints, consult your dealer or service center.

***warning** : do not open the set as there is a risk of electric shock! under no circumstances should you try to repair the set yourself, as this will invalidate the warranty.*

problem	solution
no sound	– battery weak / incorrectly inserted. correctly insert fresh battery. – psa buttons pressed too quickly. slow down. press firmly. indicator lights up. – headphones not properly connected. insert headphone plug into jack completely.
no reaction to controls / malfunction	– 🔒 activated deactivate 🔒. – electrostatic discharge. remove battery and replace after several seconds.
sound skips during playback on the psa	– mp3 file made at compression level exceeding 320kbps. – use a lower compression level to record your file into mp3 format – electrical interference from other appliances, e.g. mobile phones, fluorescent, lamps, electric pylons. move away from source of electrical interference.

helpful tips

problem	solution
usb does not connect/function	– you are using an unsuitable usb cable. use the supplied usb cable only. – cable connections incorrect / loose. check that all connections are correct and well inserted on the psa player and your computer. – usb driver not installed. check that you have installed the usb driver plug-in provided from the psa installation cd rom. – wrong Windows / MacOS version. your computer must be equipped with Windows 98 / Me / 2000 & XP or MacOS 8.6-9.x. – usb not enabled. check the BIOS set-up: usb has to be enabled.
unable to download files to player	– battery low and/or connection between the player and computer is loose. check battery status and usb cable connection. – drivers not installed. check you have installed the drivers provided from the psa installation cd rom. – current psa does not download windows media audio for mac users. check out **www.nike-philips.com** for updates. – electrostatic discharge. remove battery and replace after several seconds.
incomplete track download	– usb connection broken during downloading check the usb connection, delete the file on the psa via musicmatch and download track again.

SAFETY & WARNINGS

ESD

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

(F) ATTENTION
Tous les IC et beaucoup d´autres semi-conducteurs sont sensibles aux décharges statiques (ESD). Leur longévite pourrait être considérablement écourtée par le fait qu´aucune précaution nést prise à leur manipulation.
Lors de réparations, s´assurer de bien être relié au même potentiel que la masse de l´appareil et enfileer le bracelet serti d´une résistance de sécurité.
Veiller à ce que les composants ainsi que les outils que l´on utilise soient également à ce potentiel.

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

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

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

(GB) AVAILABLE ESD PROTECTION EQUIPMENT :

anti-static table mat	large	1200x650x1.25mm	4822 466 10953
	small	600x650x1.25mm	4822 466 10958
anti-static wristband			4822 395 10223
connection box (3 press stud connections, 1MΩ)			4822 320 11307
extendible cable (2m, 2MΩ, to connect wristband to connection box)			4822 320 11305
connecting cable (3m, 2MΩ, to connect table mat to connection box)			4822 320 11306
earth cable (1MΩ, to connect any product to mat or to connection box)			4822 320 11308
KIT ESD3 (combining all 6 prior products - small table mat)			4822 310 10671
wristband tester			4822 344 13999

SAFETY

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

(F)
Les normes de sécurité exigent que l`appareil soit remis à l`état d`origine et que soient utilisées les pièces de rechange identiques à celles spécifiées.
Les composants de sécurité sont marqués ⚠

(D)
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.

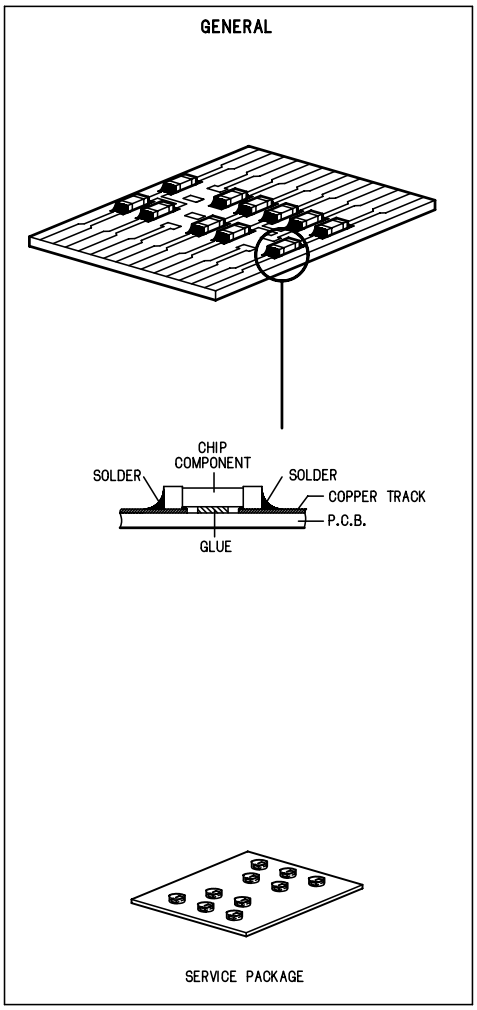
(NL)
Veiligheidsbepalingen vereisen, dat het apparaat in zijn oorspronkeliijke toestand wordt teruggebracht en dat onderdelen, identiek aan de gespecificeerde, worden toegepast.
De Veiligheidsonderdelen zijn aangeduid met het symbool ⚠

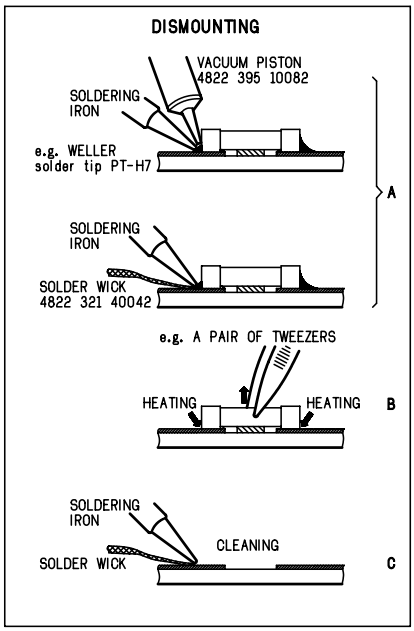
(I)
Le norme di sicurezza estigono che l´apparecchio venga rimesso nelle condizioni originali e che siano utilizzati i pezzi di ricambiago identici a quelli specificati.
Componenty di sicurezza sono marcati con ⚠

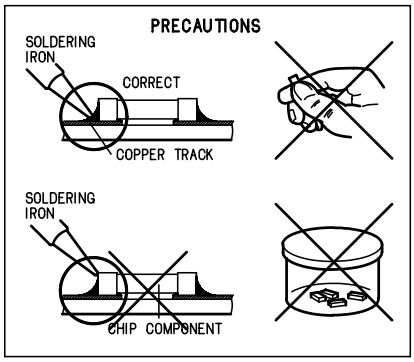
(GB)
After servicing and before returning the set to customer perform a leakage current measurement test from all exposed metal parts to earth ground, to assure no shock hazard exists.
The leakage current must not exceed 0.5mA.

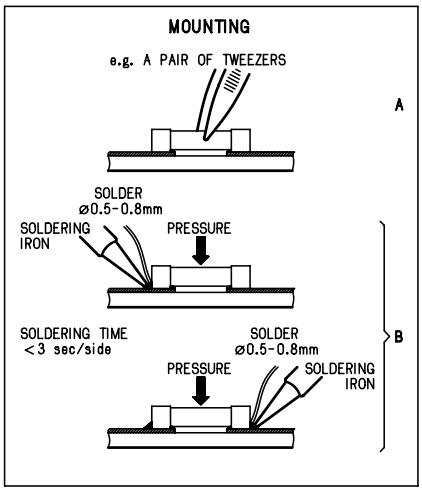
(F)
"Pour votre sécurite, ces documents doivent être utilisés par des spécialistes agréés, seuls habilités à réparer votre appareil en panne".

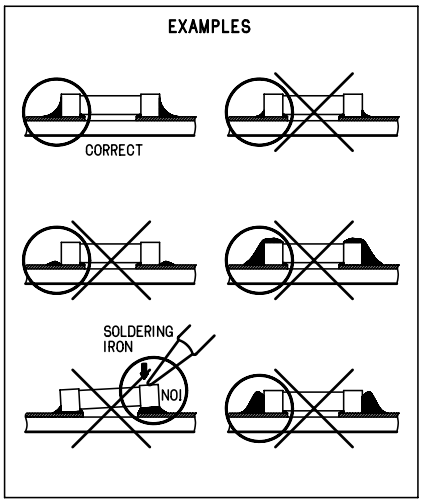
HANDLING CHIP COMPONENTS











ESD PROTECTION EQUIPMENT

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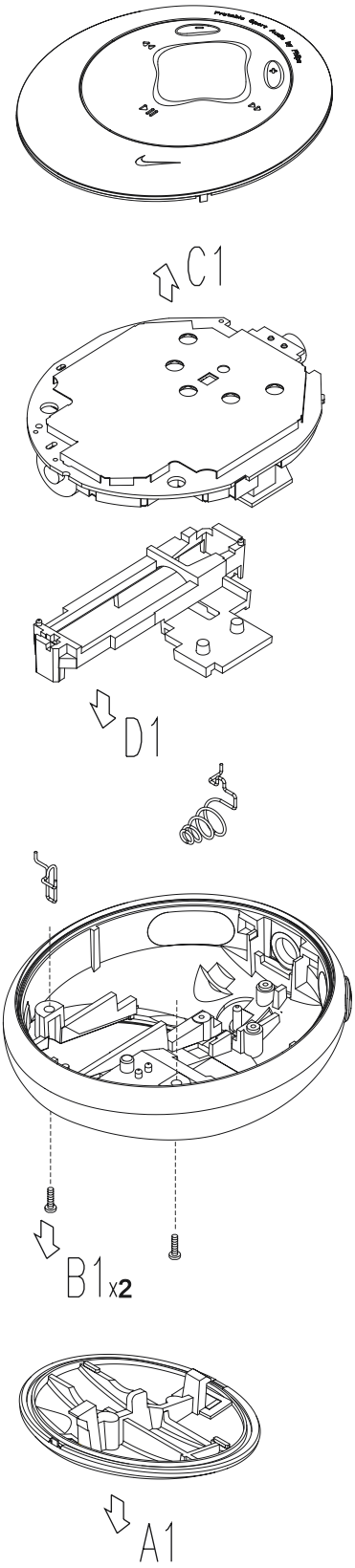
KIT ESD3(combining all 6 prior products - small table mat)	4822 310 10671
Wristband tester	4822 344 13999

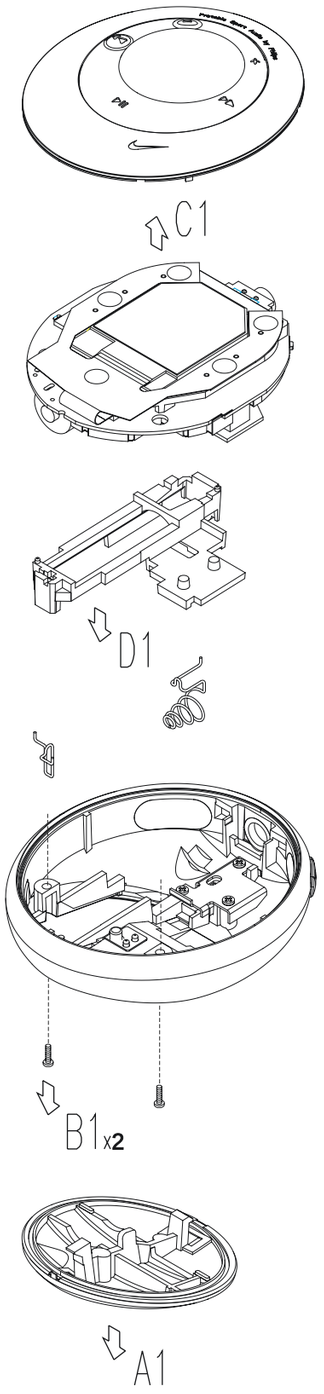
ACT200 DISASSEMBLY DIAGRAM

A. To remove Battery Door
B. To remove Top Cabinet
C. To remove PCB Module
D. To remove Battery Holder



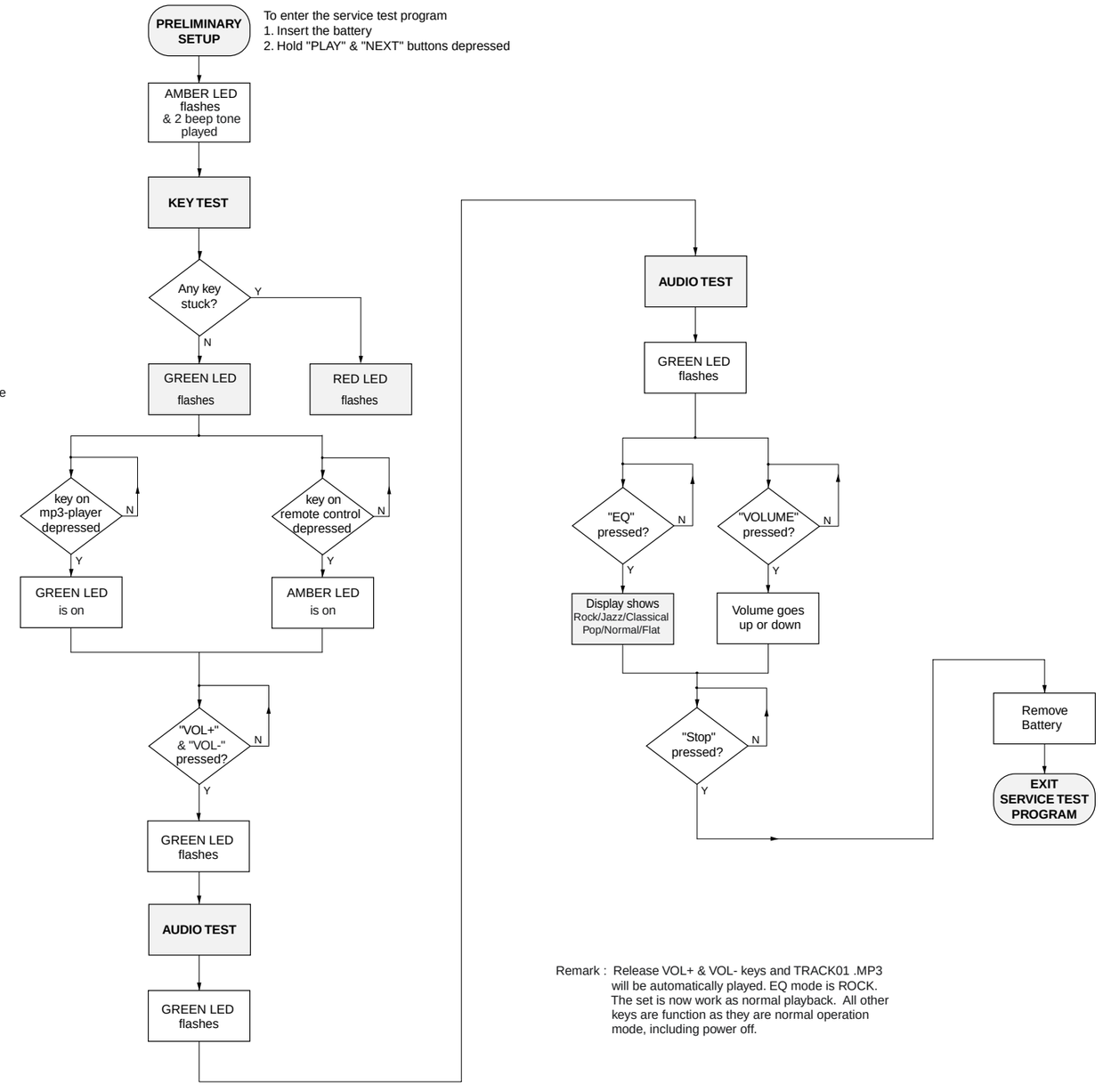
2 - 4

ACT200 AND ACT210 DISASSEMBLY DIAGRAM



3 - 1

ACT200 SERVICE TEST PROGRAM - FLOW CHART

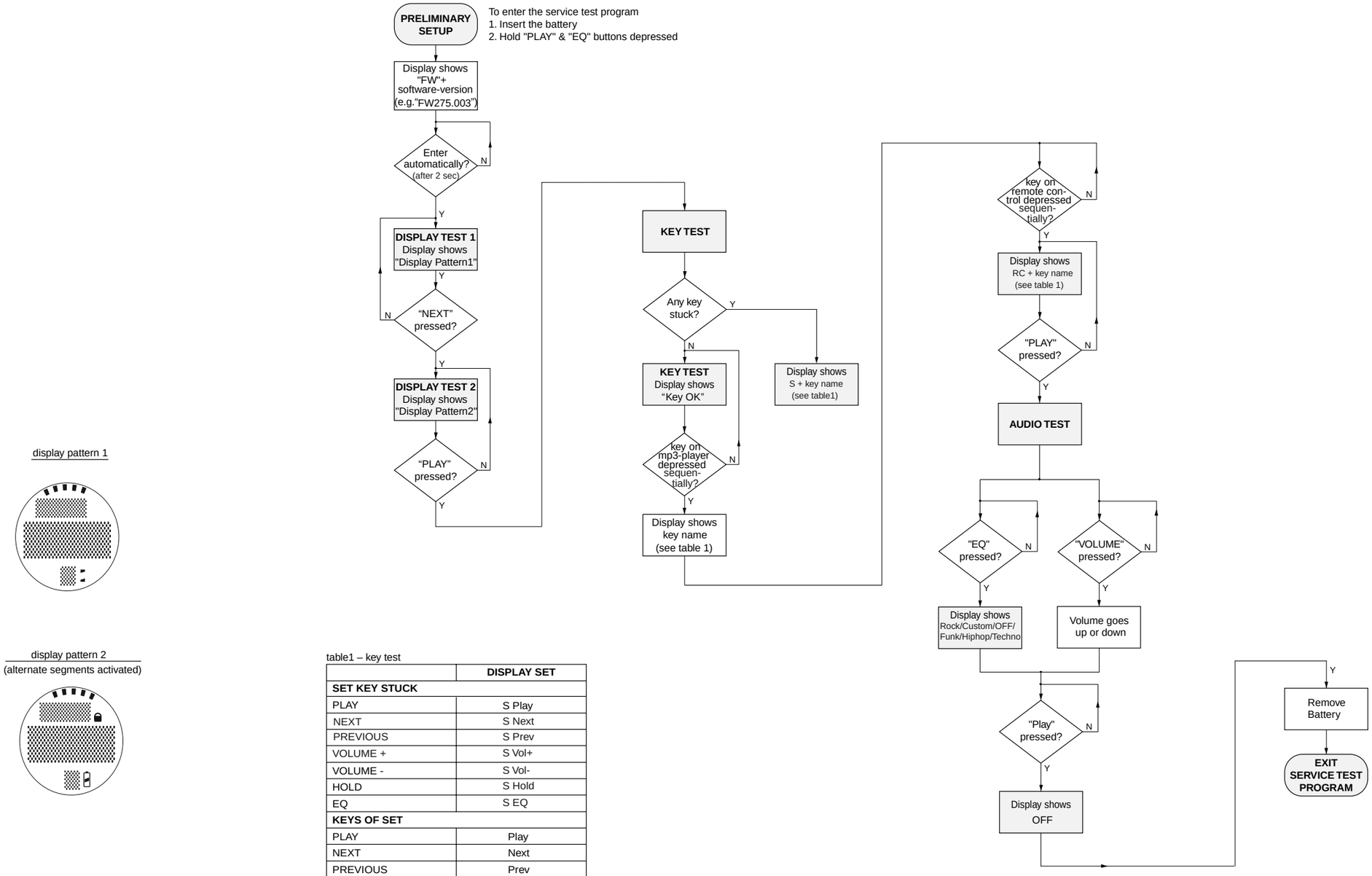


Remark : When the "PLAY + NEXT" keys is released, the GREEN LED flashes for 1 second if there is no stuck key found. Please don not press any key during the GREEN LED flashing. Wait untill the LED is OFF.

Remark : Release VOL+ & VOL- keys and TRACK01 .MP3 will be automatically played. EQ mode is ROCK. The set is now work as normal playback. All other keys are function as they are normal operation mode, including power off.

3 - 2

ACT210 SERVICE TEST PROGRAM - FLOW CHART



display pattern 1

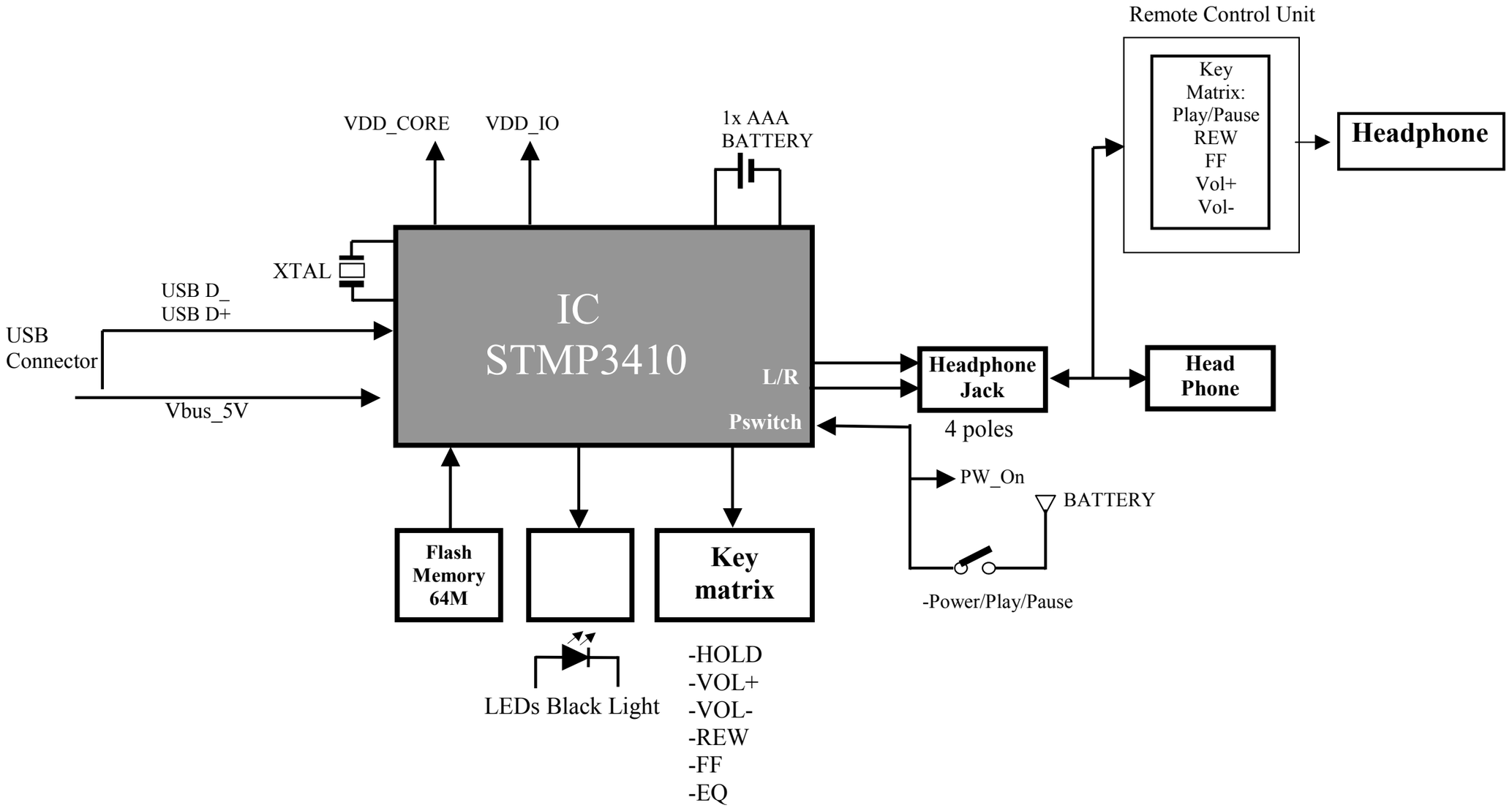
display pattern 2
(alternate segments activated)

table1 – key test

	DISPLAY SET
SET KEY STUCK	
PLAY	S Play
NEXT	S Next
PREVIOUS	S Prev
VOLUME +	S Vol+
VOLUME -	S Vol-
HOLD	S Hold
EQ	S EQ
KEYS OF SET	
PLAY	Play
NEXT	Next
PREVIOUS	Prev
VOLUME +	Vol+
VOLUME -	Vol-
HOLD	Hold
EQ	EQ
KEYS OF CORD REMOTE CONTROL	
PLAY	RCPlay
NEXT	RCNext
PREVIOUS	RCPrev
VOLUME +	RCVol+
VOLUME -	RCVol-
Press "PLAY" on the MP3 player to exit the key test.	

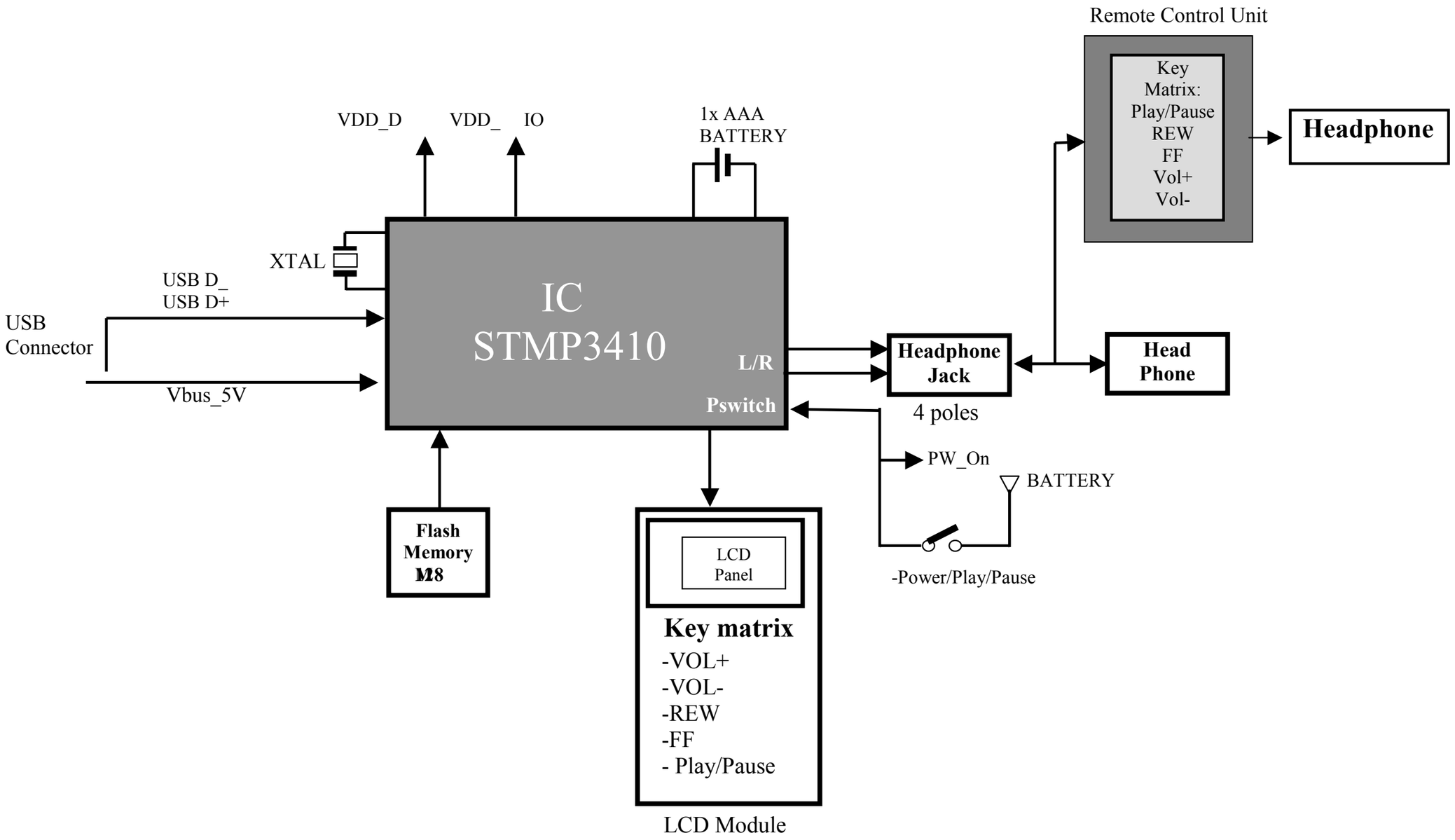
3 - 3

ACT200 SET BLOCK DIAGRAM



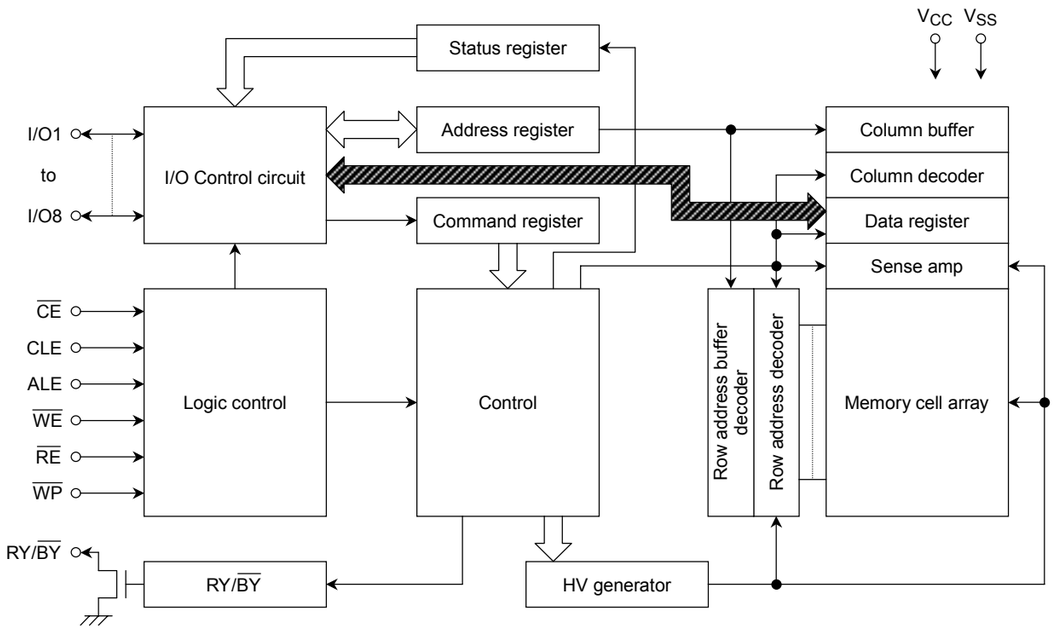
3 - 4

ACT210 SET BLOCK DIAGRAM

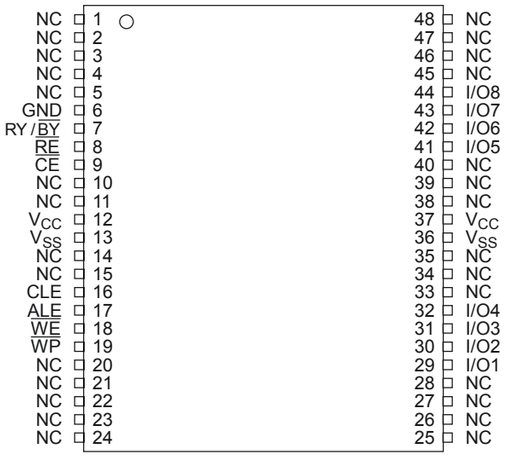


BLOCK DIAGRAM OF INTEGRATED CIRCUIT

NAND E²PROM - TC58512FT



PIN ASSIGNMENT (TOP VIEW)



PIN NAMES

I/O1 to I/O8	I/O port
$\overline{CE}$	Chip enable
$\overline{WE}$	Write enable
$\overline{RE}$	Read enable
CLE	Command latch enable
ALE	Address latch enable
$\overline{WP}$	Write protect
RY/$\overline{BY}$	Ready/Busy
GND	Ground input
V_{CC}	Power supply
V_{SS}	Ground

Abbreviations and Pin-description of NAND E²PROM

TC58512FT

PIN FUNCTIONS

The device is a serial access memory which utilizes time-sharing input of address information. The device pin-outs are configured as shown in Figure 1.

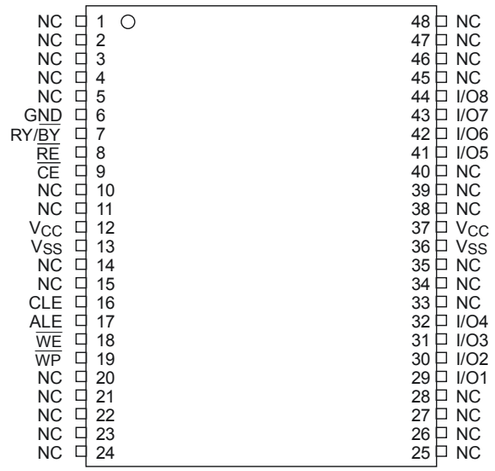


Figure 1. Pinout

Command Latch Enable: CLE

The CLE input signal is used to control loading of the operation mode command into the internal command register. The command is latched into the command register from the I/O port on the rising edge of the $\overline{WE}$ signal while CLE is High.

Address Latch Enable: ALE

The ALE signal is used to control loading of either address information or input data into the internal address/data register.

Address information is latched on the rising edge of $\overline{WE}$ if ALE is High.

Input data is latched if ALE is Low.

Chip Enable: $\overline{CE}$

The device goes into a low-power Standby mode when $\overline{CE}$ goes High during a Read operation. The $\overline{CE}$ signal is ignored when device is in Busy state (RY/$\overline{BY}$ = L), such as during a Program or Erase operation, and will not enter Standby mode even if the $\overline{CE}$ input goes High. The $\overline{CE}$ signal must stay Low during the Read mode Busy state to ensure that memory array data is correctly transferred to the data register.

Write Enable: $\overline{WE}$

The $\overline{WE}$ signal is used to control the acquisition of data from the I/O port.

Read Enable: $\overline{RE}$

The $\overline{RE}$ signal controls serial data output. Data is available t_{REA} after the falling edge of $\overline{RE}$.

The internal column address counter is also incremented (Address = Address + 1) on this falling edge.

I/O Port: I/O1 to 8

The I/O1 to 8 pins are used as a port for transferring address, command and input/output data to and from the device.

Write Protect: $\overline{WP}$

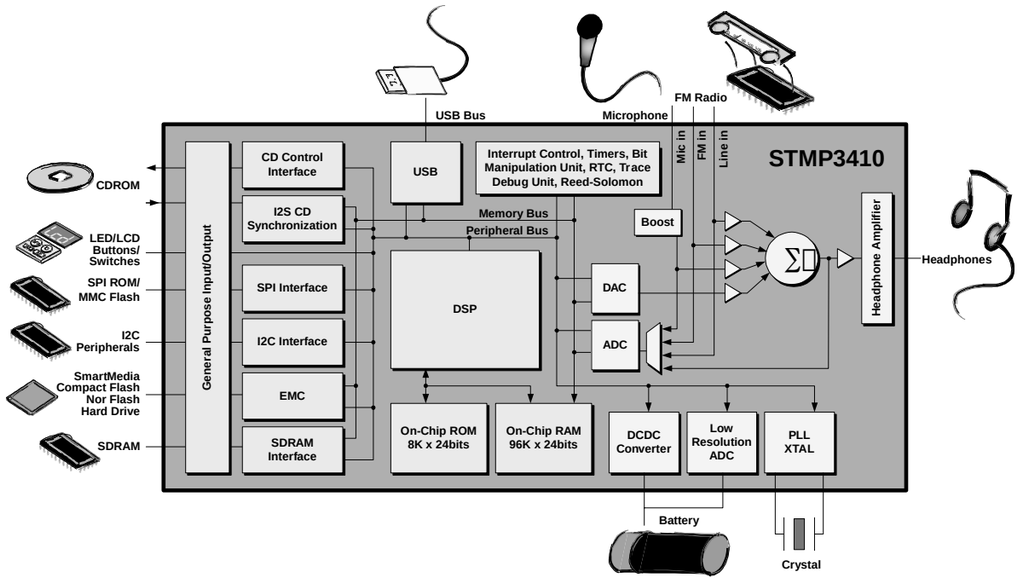
The $\overline{WP}$ signal is used to protect the device from accidental programming or erasing. The internal voltage regulator is reset when $\overline{WP}$ is Low. This signal is usually used for protecting the data during the power-on/off sequence when input signals are invalid.

Ready/Busy: RY/$\overline{BY}$

The RY/$\overline{BY}$ output signal is used to indicate the operating condition of the device. The RY/$\overline{BY}$ signal is in Busy state (RY/$\overline{BY}$ = L) during the Program, Erase and Read operations and will return to Ready state (RY/$\overline{BY}$ = H) after completion of the operation. The output buffer for this signal is an open drain.

BLOCK DIAGRAM OF AUDIO DECODER

STMP3410

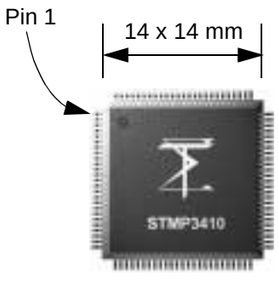


PIN DESCRIPTION OF AUDIO DECODER

STMP3410

Pin Placement and Definitions

100TQFP	PIN	MODULE	TYPE	DESCRIPTION
1	SPI_MOSI	SPI	I/O	SPI Master Output/Slave Input
2	SPI_MISO	SPI	I/O	SPI Master Input/Slave Output
3	SPI_SCK	SPI	I/O	SPI Serial Clock
4	I2C_SCL	I2C	I/O	I2C Serial Clock
5	I2C_SDA	I2C	I/O	I2C Serial Data
6	TESTMODE	SYSTEM	I	Test Mode Pin
7	CF_CE1n	EMC-CF	O	CompactFlash Chip Enable 1
8	CF_IORDn	EMC-CF	O	CompactFlash I/O Read Data Strobe
9	CF_IOWRn	EMC-CF	O	CompactFlash I/O Write Data Strobe
10	VssD2	POWER	P	Digital Core Ground 2
11	VddD2	POWER	P	Digital Core Power 2
12	CF_A0	EMC-CF	O	CompactFlash Address 0
13	GP33	GPIO	I/O	GP1B9
14	GP34	GPIO	I/O	GP1B10
15	GP35	GPIO	I/O	GP1B11
16	GP36	GPIO	I/O	GP1B12
17	GP37	GPIO	I/O	GP1B13
18	GP38	GPIO	I/O	GP1B14
19	GP39	GPIO	I/O	GP1B15
20	CF_A8	EMC-CF	O	CompactFlash Address 8
21	CF_A9	EMC-CF	O	CompactFlash Address 9
22	GP42	GPIO	I/O	GP1B18
23	GP53	GPIO	I/O	GP2B5
24	GP45	GPIO	I/O	GP1B21
25	CF_WAIT	EMC-CF	I	CompactFlash Wait
26	CF_WEn	EMC-CF	O	CompactFlash Write Enable Strobe
27	CF_WPn	EMC-CF	O	CompactFlash Write Protect
28	VssIO1	POWER	P	Digital I/O Ground 1
29	VddIO1	POWER	P	Digital I/O Power 1
30	CF_D0	EMC-CF	I/O	CompactFlash Data 0
31	CF_D1	EMC-CF	I/O	CompactFlash Data 1
32	CF_D2	EMC-CF	I/O	CompactFlash Data 2
33	CF_D3	EMC-CF	I/O	CompactFlash Data 3



100 TQFP

PIN DESCRIPTION OF AUDIO DECODER

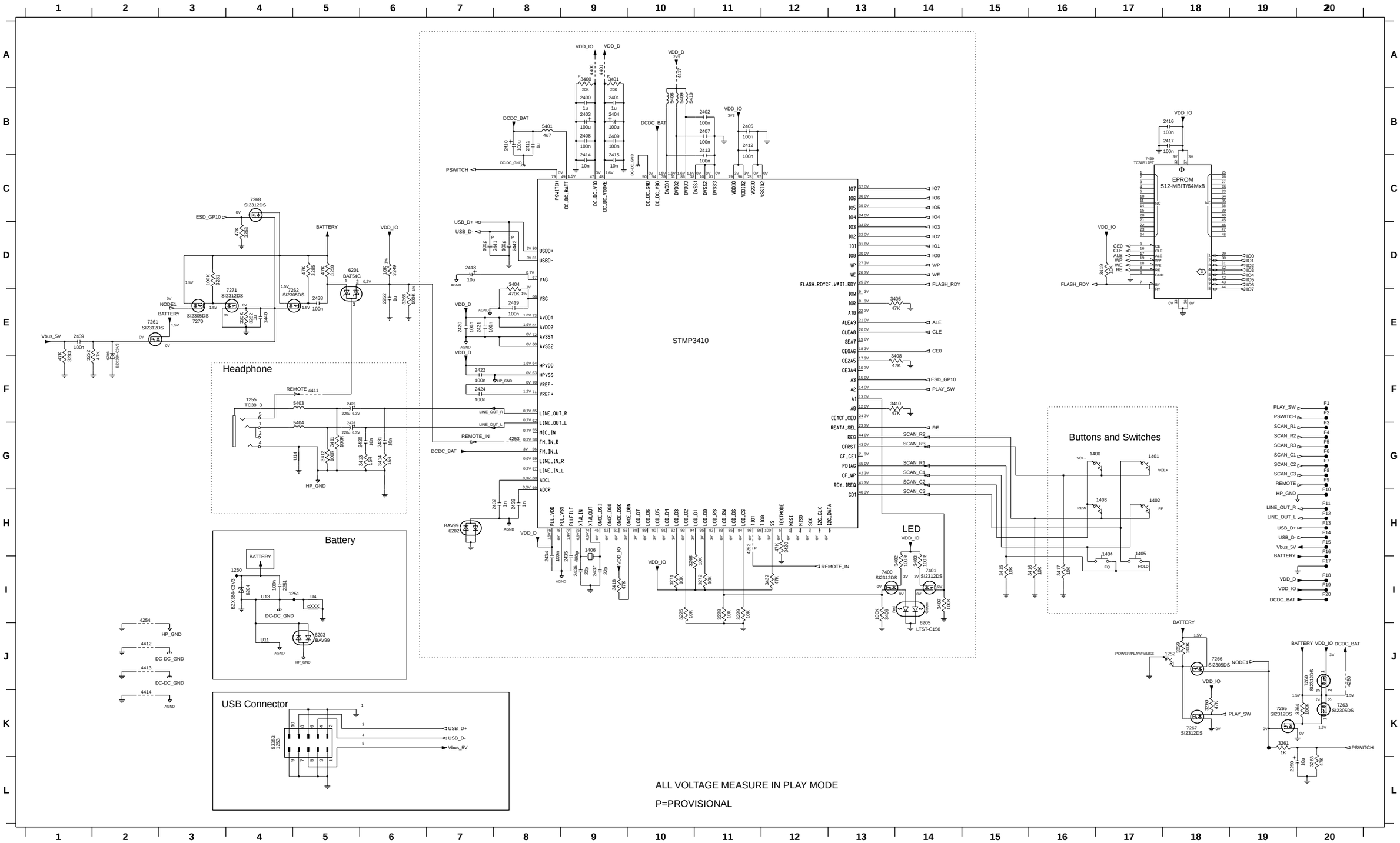
STMP3410

100TQFP	PIN	MODULE	TYPE	DESCRIPTION
34	CF_D4	EMC-CF	I/O	CompactFlash Data 4
35	CF_D5	EMC-CF	I/O	CompactFlash Data 5
36	CF_D6	EMC-CF	I/O	CompactFlash Data 6
37	CF_D7	EMC-CF	I/O	CompactFlash Data 7
38	VssD1	POWER	P	Digital Core Ground 1
39	VddD1	POWER	P	Digital Core Power 1
40	CF_CDn	EMC-CF	I	CompactFlash Card Detect
41	CF_READY	EMC-CF	I	CompactFlash Ready
42	CF_WPn	EMC-CF	I	CompactFlash Write Protect
43	CF_RESETn	EMC-CF	I	CompactFlash Reset
44	CF_REGn	EMC-CF	O	CompactFlash Register Select
45	CF_BVD1	EMC-CF	I	CompactFlash Bad Voltage Detect
46	DSI	SYSTEM	I	Debug Data In
47	DCDC_VddIO	DCDC	P	DCDC VddIO
48	DCDC_VddD	DCDC	P	DCDC VddD
49	DCDC_Batt	DCDC	P	DCDC Battery
50	DCDC_Gnd	DCDC	P	DCDC Ground
51	DSK	SYSTEM	O	Debug Clock
52	DSO	SYSTEM	O	Debug Data Out
53	DRN	SYSTEM	I	Debug Reset
54	DCDC_mod2	DCDC	P	DCDC mode pin 2
55	MIC	CODEC	A	Microphone Input
56	BATT	POWER	P	Battery Input
57	LINE1L	CODEC	A	Line-in 1 Left
58	LRADC	SYSTEM	A	Low Resolution ADC Input
59	LINE1R	CODEC	A	Line-in 1 Right
60	VssA2	POWER	P	Analog Ground 2
61	VddA2	POWER	P	Analog Power 2
62	HPL	CODEC	A	Headphone/Line-out Left
63	VssHP	POWER	P	Headphone Ground
64	VddHP	POWER	P	Headphone Power
65	HPR	CODEC	A	Headphone/Line Out Right
66	Vbg	CODEC	A	Bandgap Decoupling Capacitor
67	Vag	CODEC	A	Analog Ground Decoupling Capacitor
68	ADCL	CODEC	A	ADC Left Filter Capacitor
69	ADCR	CODEC	A	ADC Right Filter Capacitor
70	REFn	CODEC	A	ADC Negative Reference
71	REFp	CODEC	A	ADC Positive Reference
72	VssA1	POWER	P	Analog Ground 1
73	VddA1	POWER	P	Analog Power 1
74	XTALO	SYSTEM	A	Crystal Out
75	XTALI	SYSTEM	A	Crystal In
76	VddPLL	POWER	P	PLL Power
77	VddXTAL	SYSTEM	A	Power for XTAL oscilator (generated on-chip)
78	VssPLL	POWER	P	PLL Ground
79	PSWITCH	SYSTEM	P	Power Switch
80	USB_DP	USB	A	USB Positive Data Line
81	USB_DM	USB	A	USB Negative Data Line
82	GP11	GPIO	I/O	GP0B11
83	GP9	GPIO	I/O	GP0B9
84	GP8	GPIO	I/O	GP0B8
85	GP10	GPIO	I/O	GP0B10
86	VddD3	POWER	P	Digital Core Power 3
87	VssD3	POWER	P	Digital Core Ground 3
88	GP7	GPIO	I/O	GP0B7
89	GP6	GPIO	I/O	GP0B6
90	GP5	GPIO	I/O	GP0B5
91	GP4	GPIO	I/O	GP0B4
92	GP3	GPIO	I/O	GP0B3
93	GP2	GPIO	I/O	GP0B2
94	GP1	GPIO	I/O	GP0B1
95	GP0	GPIO	I/O	GP0B0
96	VddIO2	POWER	P	Digital I/O Power 2
97	VssIO2	POWER	P	Digital I/O Ground 2
98	TIO1	TIMER	I/O	Timer 1 Pin
99	TIO0	TIMER	I/O	Timer 0 Pin
100	SPI_SSn	SPI	I	SPI Slave Select

4 - 1

CIRCUIT DIAGRAM - ACT200 MAIN BOARD

F1 F20 F5 G20 F9 G20 F12 H20 F16 H20 F20 I20 1250 I4 1255 F4 1403 H17 2250 L20 2401 B9 2405 B11 2410 B8 2414 C9 2418 D7 2422 F7 2430 G6 2434 I8 2438 E5 2442 D8 3253 D4 3263 L20 3271 I10 3279 I11 3285 D5 3403 I14 3407 I14 3412 G5 3416 I16 3420 H12 4253 G8 4411 F5 4417 A10 5408 B10 6202 H7 6206 F2 7263 K20 7268 C4 7401 I14
F2 F20 F6 G20 U4 I5 F13 H20 F17 I20 U11 J4 1251 I5 1400 G16 1404 H17 2251 I4 2402 B11 2407 B11 2411 B8 2415 C9 2419 E8 2424 F7 2431 G6 2435 I9 2439 E1 2443 E4 3249 D6 3259 J18 3264 K20 3272 I11 3279 I11 3285 D9 3400 A9 3404 D8 3408 F14 3413 G6 3417 I16 3437 I12 4254 I2 4412 J2 5401 B8 5409 B10 6203 J5 7260 J20 7265 K19 7270 E3 7399 C17
F3 G20 F7 G20 F10 H20 F14 H20 F18 I20 U13 I4 1252 J18 1401 G17 1405 H17 2252 E6 2403 B9 2408 B9 2412 B11 2416 B18 2420 E7 2425 F5 2432 H8 2436 I9 2440 E4 3250 D5 3260 K18 3265 E6 3268 I10 3278 I11 3282 E4 3401 A9 3405 E14 3410 F14 3414 G6 3418 I9 4250 J20 4400 A9 4413 J2 5403 F5 5410 B10 6204 I4 7261 E2 7266 J18 7271 E4 cXXX I5
F4 G20 F8 G20 F11 H20 F15 H20 F19 I20 U14 G5 1253 K4 1402 H17 1406 H9 2400 B9 2404 B9 2409 B9 2413 B11 2417 B18 2421 E7 2428 G5 2433 H8 2437 I9 2441 D7 3252 F1 3261 K19 3268 I10 3278 I11 3283 F1 3402 I14 3406 I13 3411 G5 3415 I15 3419 D17 4252 H11 4401 A9 4414 K2 5404 G5 6201 D5 6205 J14 7262 E5



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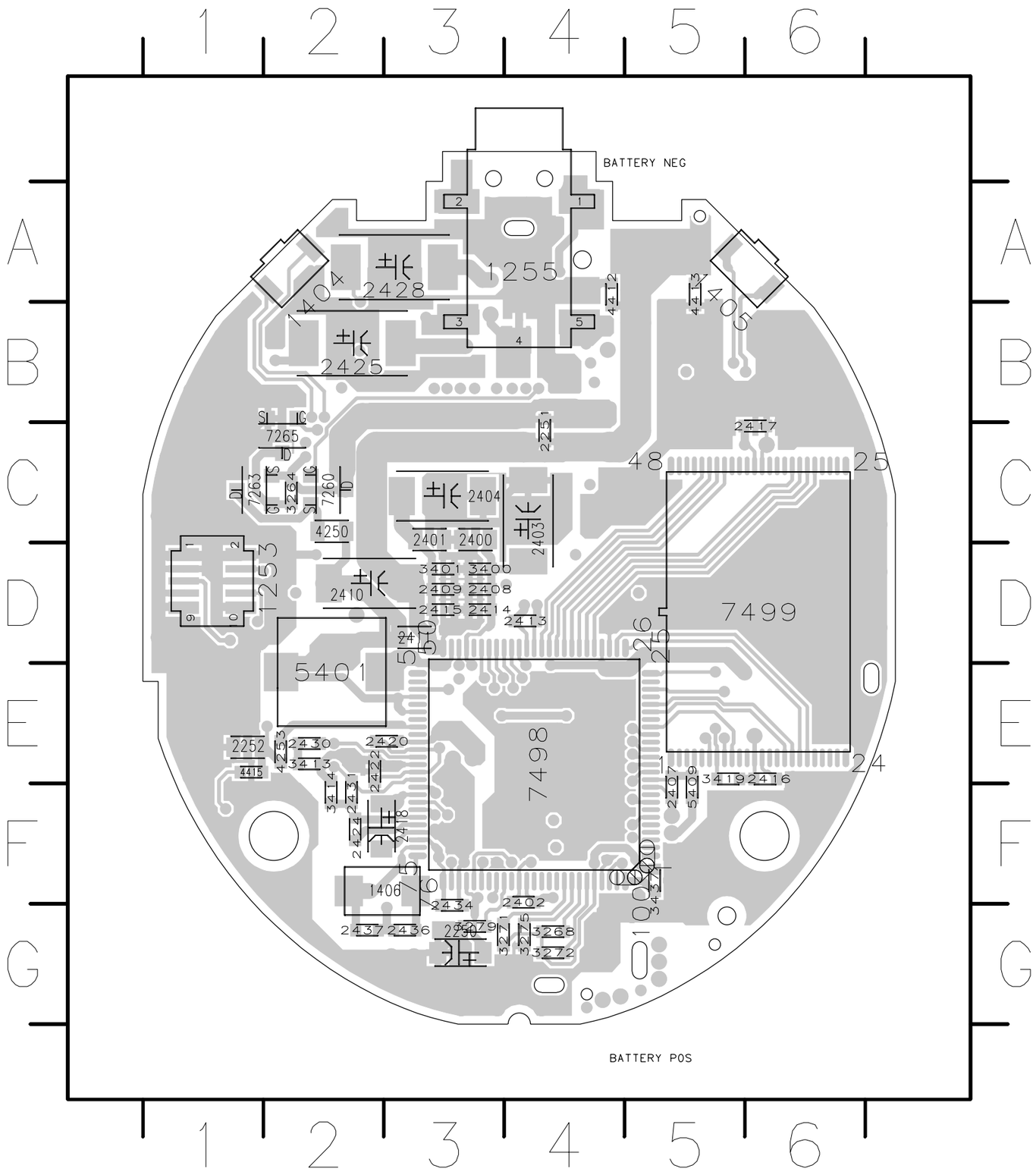
LAYOUT DIAGRAM - ACT200 MAIN BOARD

COMPONENT SIDE



1253	D2	3400	D3
1255	A4	3401	D3
1404	A2	3413	E2
1405	A5	3414	F2
1406	F3	3419	E5
2250	G3	3437	F5
2251	C4	4250	C2
2252	E1	4253	E2
2400	C3	4412	A4
2401	C3	4413	A5
2402	F4	4415	E1
2403	C4	5401	E2
2404	C3	5409	F5
2407	F5	7260	C2
2408	D3	7263	C1
2409	D3	7265	C2
2410	D2	7498	E4
2411	D3	7499	D6
2413	D4		
2414	D3		
2415	D3		
2416	E6		
2417	C6		
2418	F3		
2420	E3		
2422	E2		
2424	F2		
2425	B2		
2428	A3		
2430	E2		
2431	F2		
2434	G3		
2436	G3		
2437	G2		
3264	C2		
3268	G4		
3271	G3		
3272	G4		
3275	G4		
3279	G3		

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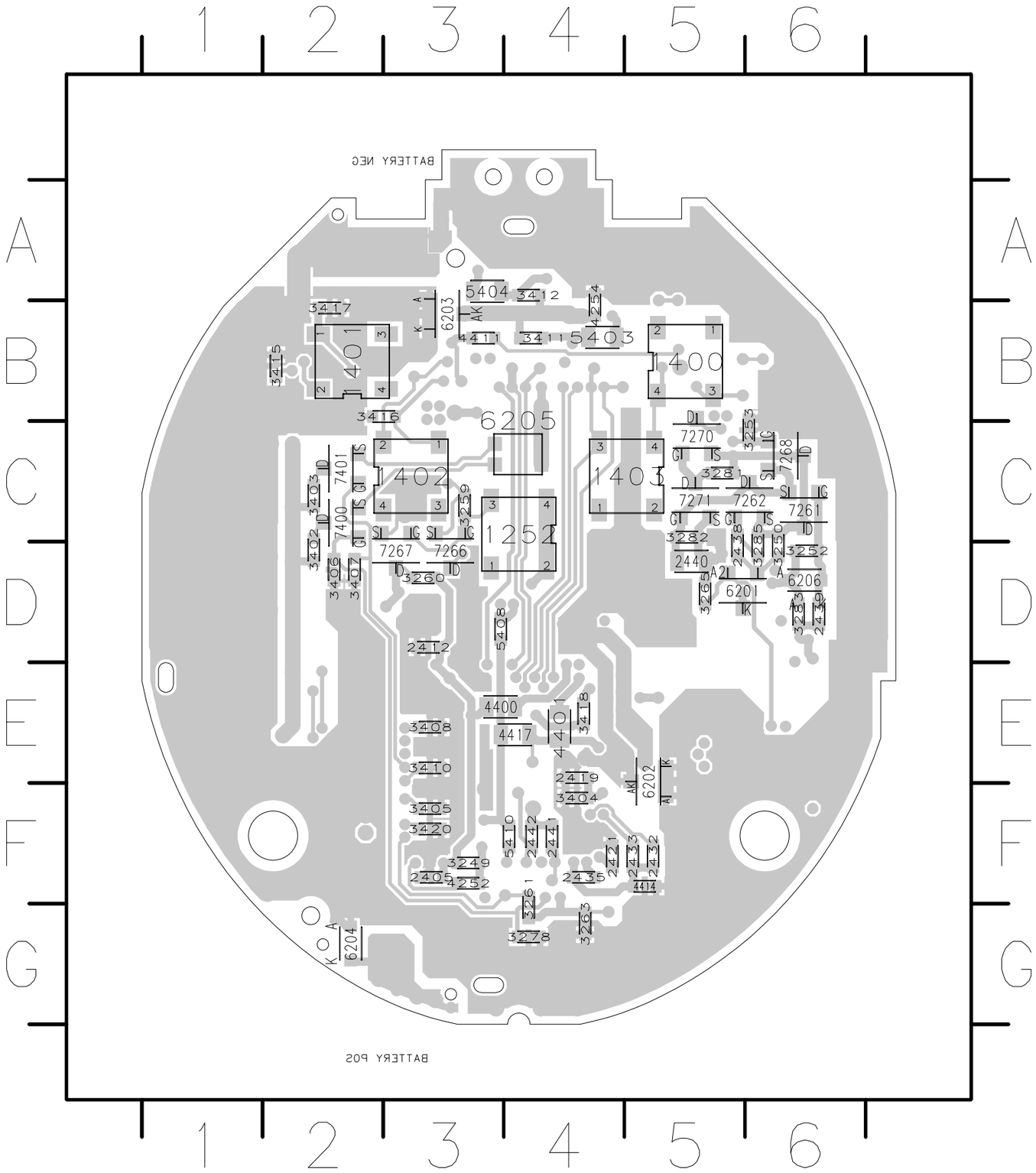
LAYOUT DIAGRAM - ACT200 MAIN BOARD

SMD SIDE



1252	C4	3412	A4
1400	B5	3415	B2
1401	B2	3416	B2
1402	C3	3417	B2
1403	C5	3418	E4
2405	F3	3420	F3
2412	D3	4252	F3
2419	E4	4254	B4
2421	F4	4400	E3
2432	F5	4401	E4
2433	F5	4411	B3
2435	F4	4414	F5
2438	D5	4417	E4
2439	D6	5403	B4
2440	D5	5404	A3
2441	F4	5408	D3
2442	F4	5410	F4
3249	F3	6201	D5
3250	D6	6202	E5
3252	D6	6203	B3
3253	C6	6204	G2
3259	C3	6205	B4
3260	D3	6206	D6
3261	F4	7261	C6
3263	G4	7262	C6
3265	D5	7266	D3
3278	G4	7267	D3
3281	C5	7268	C6
3282	C5	7270	C5
3283	D6	7271	C5
3285	D6	7400	C2
3402	D2	7401	C2
3403	C2		
3404	F4		
3405	F3		
3406	D2		
3407	D2		
3408	E3		
3410	E3		
3411	B4		

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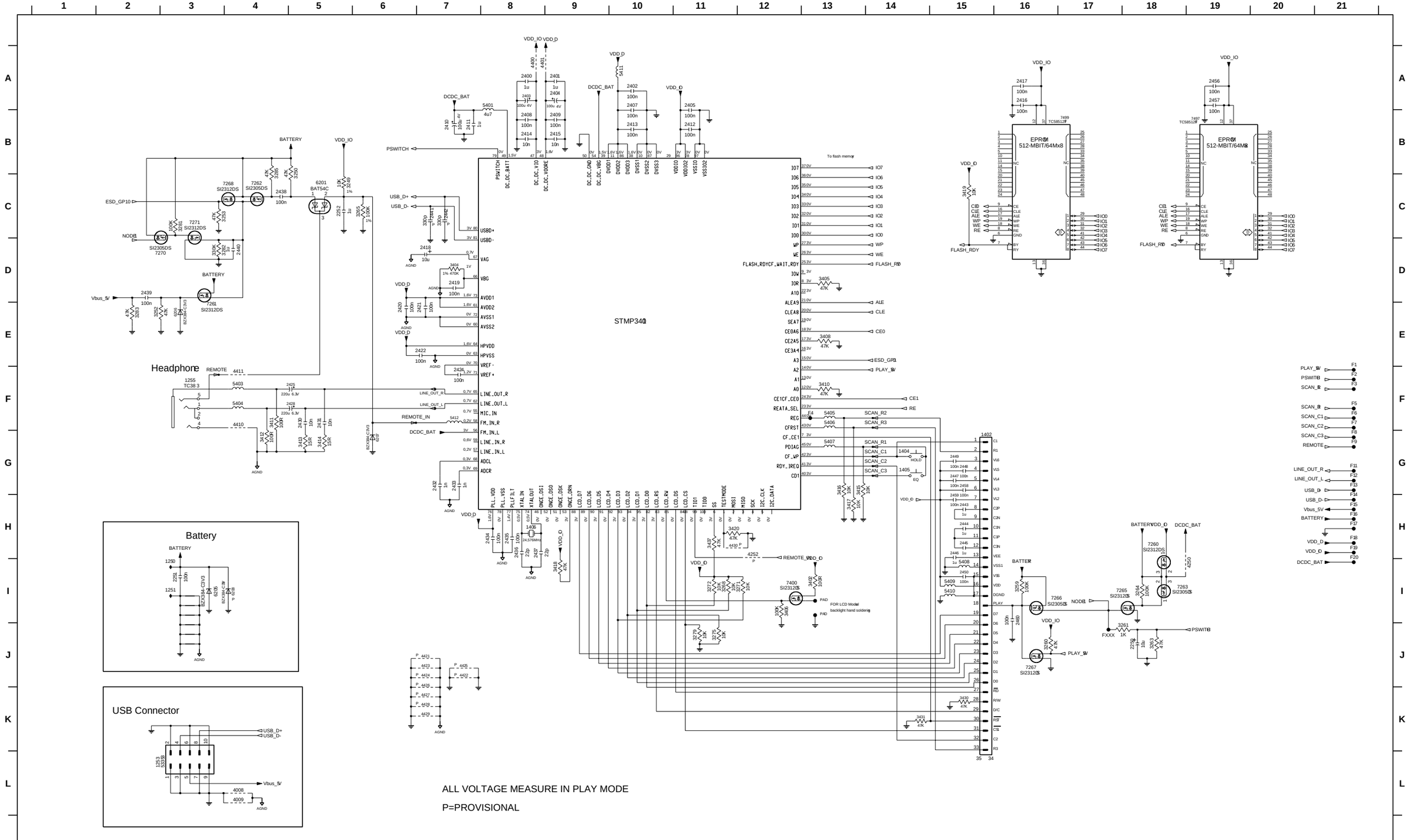
CIRCUIT DIAGRAM - ACT210 MAIN BOARD



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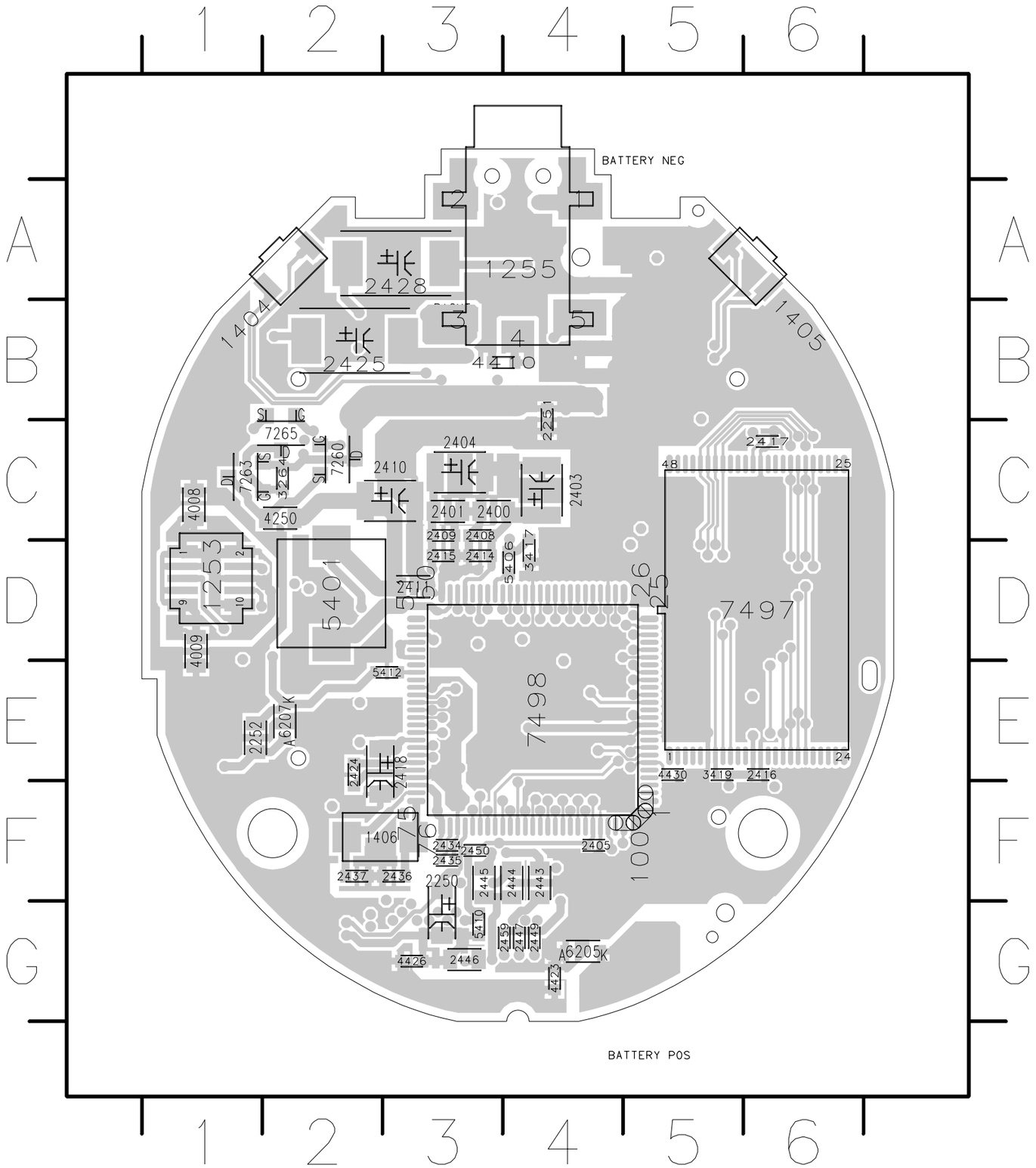
LAYOUT DIAGRAM - ACT210 MAIN BOARD

COMPONENT SIDE



1253	D1	4008	C1
1255	A4	4009	D1
1404	B1	4250	C2
1405	B6	4410	B4
1406	F2	4423	G4
2250	F3	4426	G3
2251	B4	4430	E5
2252	E1	5401	D2
2400	C3	5406	D4
2401	C3	5410	G3
2403	C4	5412	E3
2404	C3	6205	G4
2405	F4	6207	E2
2408	C3	7260	C2
2409	C3	7263	C1
2410	C3	7265	C2
2411	D3	7497	D6
2414	D3	7498	E4
2415	D3		
2416	E6		
2417	C6		
2418	E3		
2424	E2		
2425	B2		
2428	A3		
2434	F3		
2435	F3		
2436	F3		
2437	F2		
2443	F4		
2444	F4		
2445	F3		
2446	G3		
2447	G4		
2449	G4		
2450	F3		
2459	G4		
3264	C2		
3417	D4		
3419	E5		

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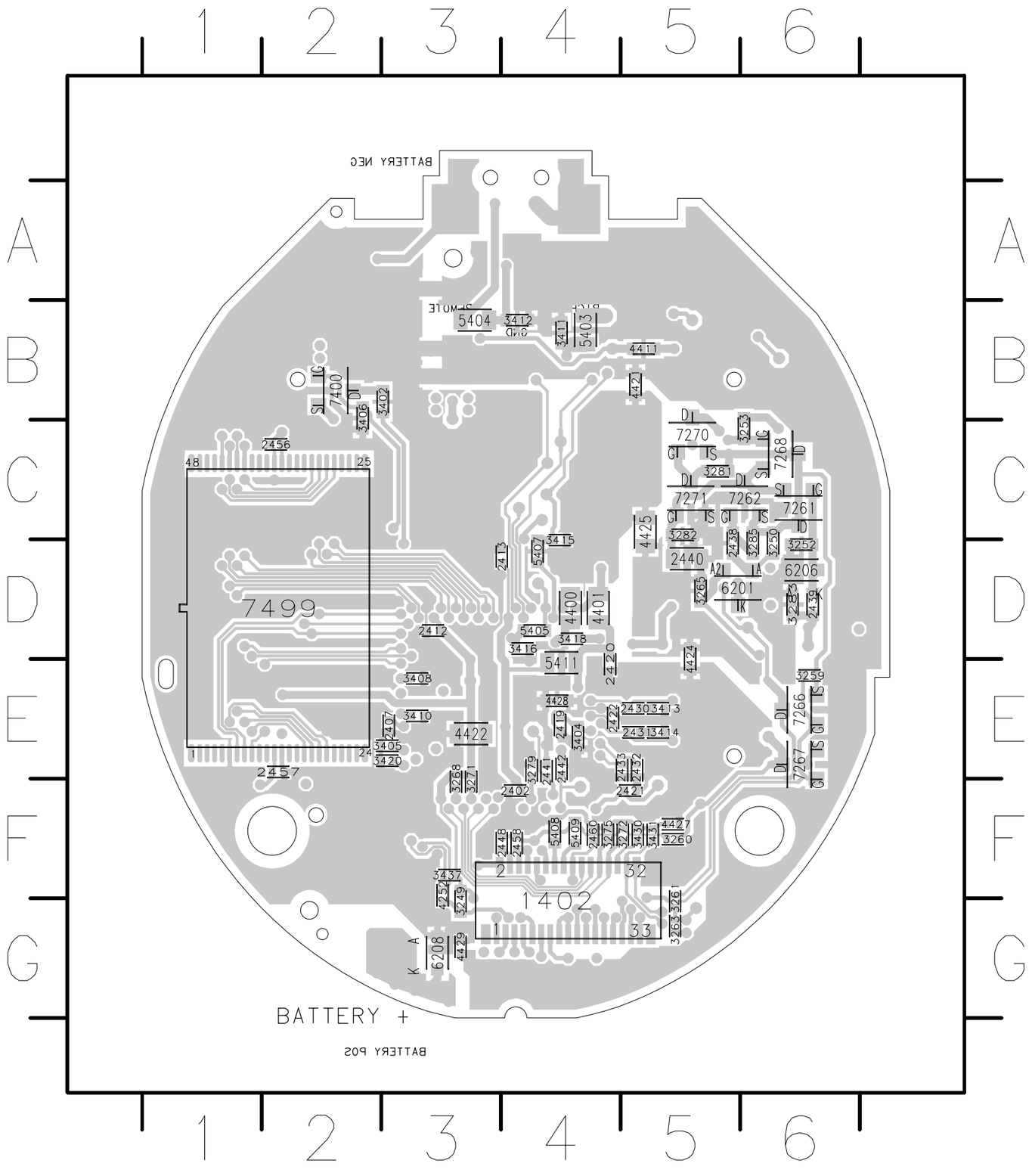
1AYOUT DIAGRAM - ACT210 MAIN BOARD

SMD SIDE



1402	G4	3285	D6	7262	C6
2402	F4	3402	B3	7266	E6
2407	E3	3404	E4	7267	E6
2412	D3	3405	E3	7268	C6
2413	D4	3406	B2	7270	C5
2419	E4	3408	E3	7271	C5
2420	E4	3410	E3	7400	B2
2421	F5	3411	B4	7499	D2
2422	E4	3412	B4		
2430	E5	3413	E5		
2431	E5	3414	E5		
2432	E5	3415	D4		
2433	E5	3416	D4		
2438	D5	3418	D4		
2439	D6	3420	E3		
2440	D5	3430	F5		
2441	E4	3431	F5		
2442	E4	3437	F3		
2448	F4	4252	F3		
2456	C2	4400	D4		
2457	E2	4401	D4		
2458	F4	4411	B5		
2460	F4	4421	B5		
3249	G3	4422	E3		
3250	D6	4424	D5		
3252	D6	4425	C5		
3253	C6	4427	F5		
3259	E6	4428	E4		
3260	F5	4429	G3		
3261	F5	5403	B4		
3263	G5	5404	B3		
3265	D5	5405	D4		
3268	E3	5407	D4		
3271	E3	5408	F4		
3272	F5	5409	F4		
3275	F4	5411	E4		
3279	E4	6201	D5		
3281	C5	6206	D6		
3282	C5	6208	G3		
3283	D6	7261	C6		

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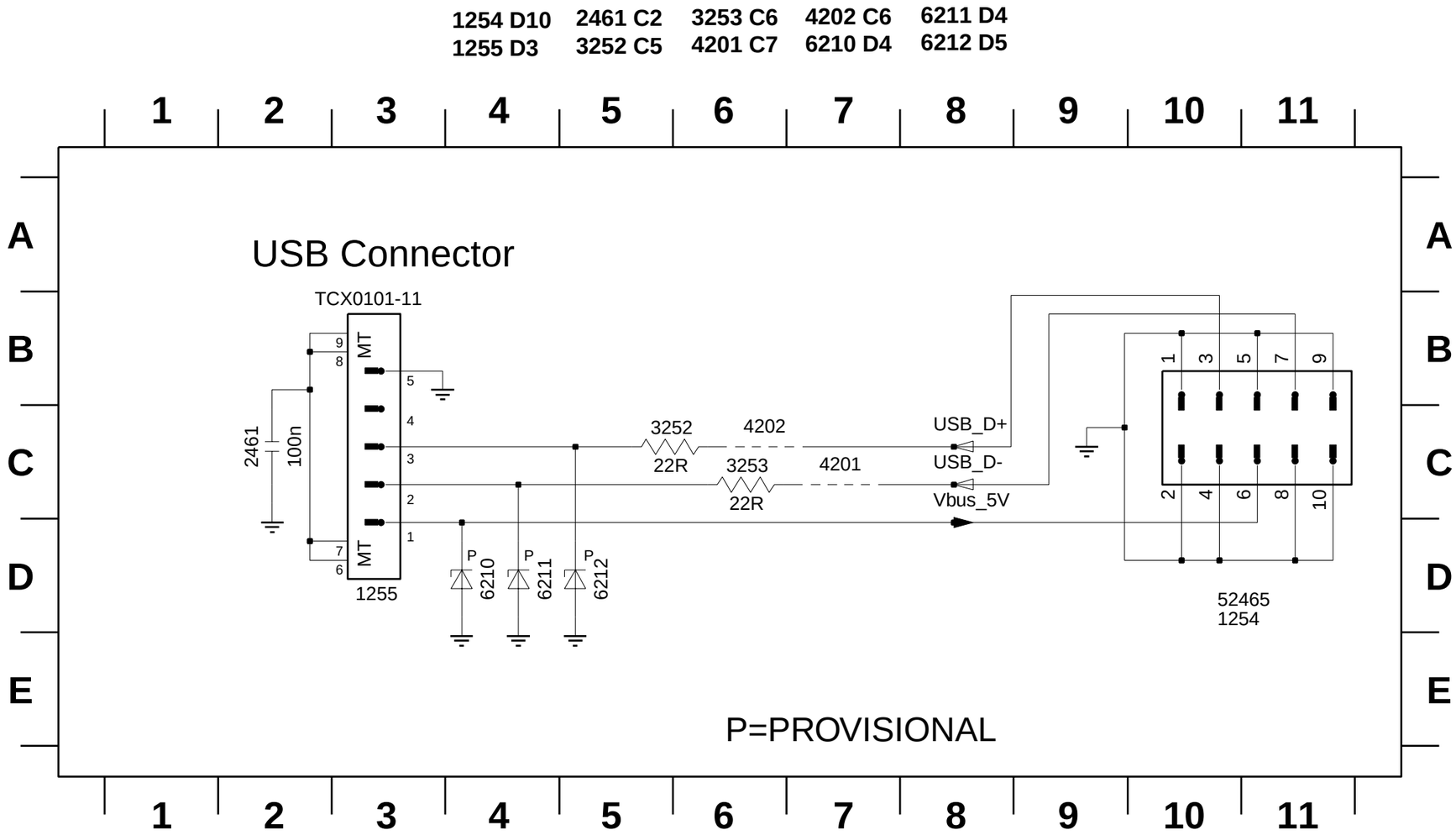
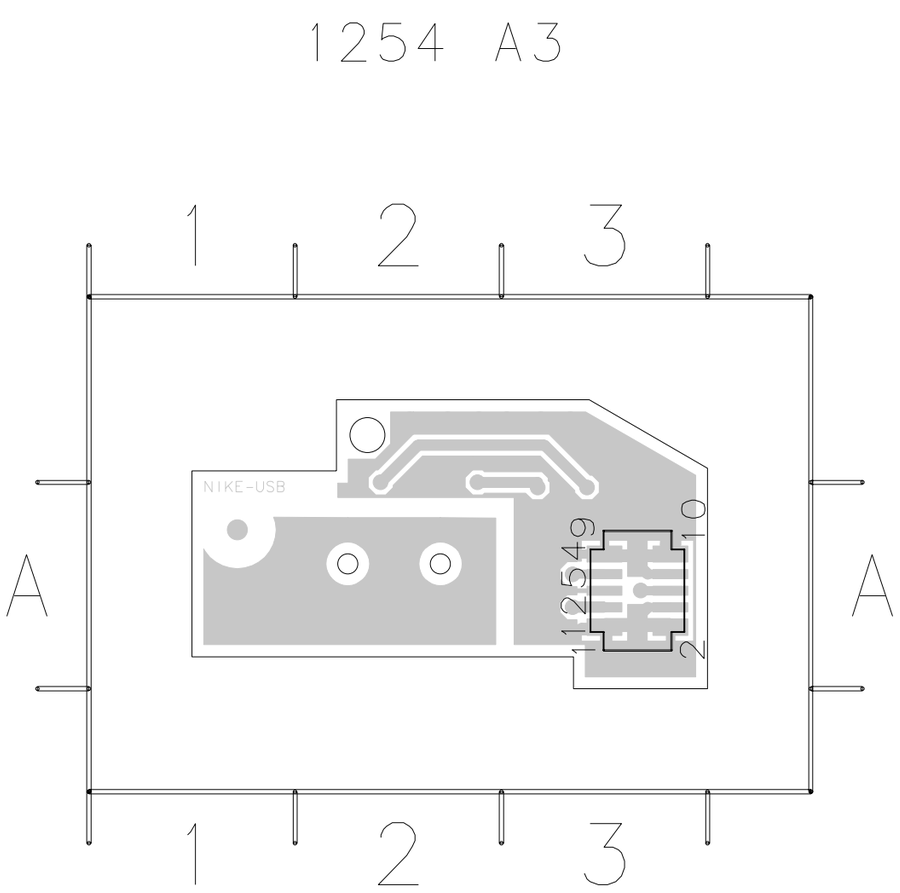
CIRCUIT DIAGRAM - ACT200/210 USB BOARD



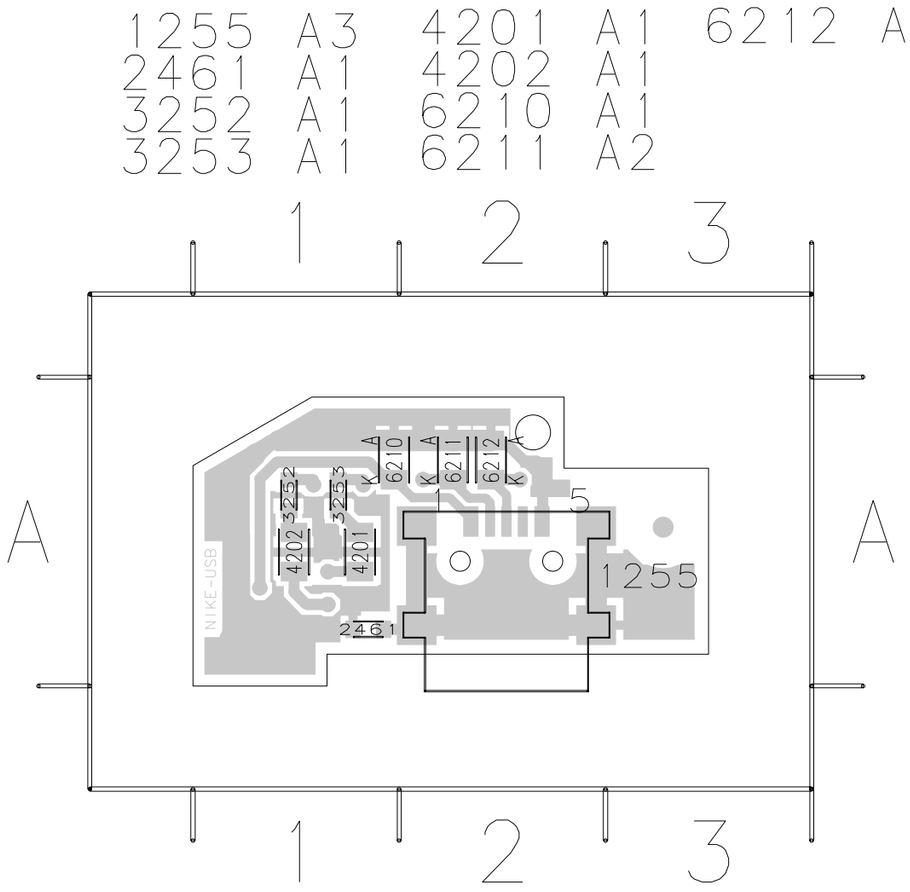
LAYOUT DIAGRAM - ACT200/210 USB BOARD

COMPONENT SIDE

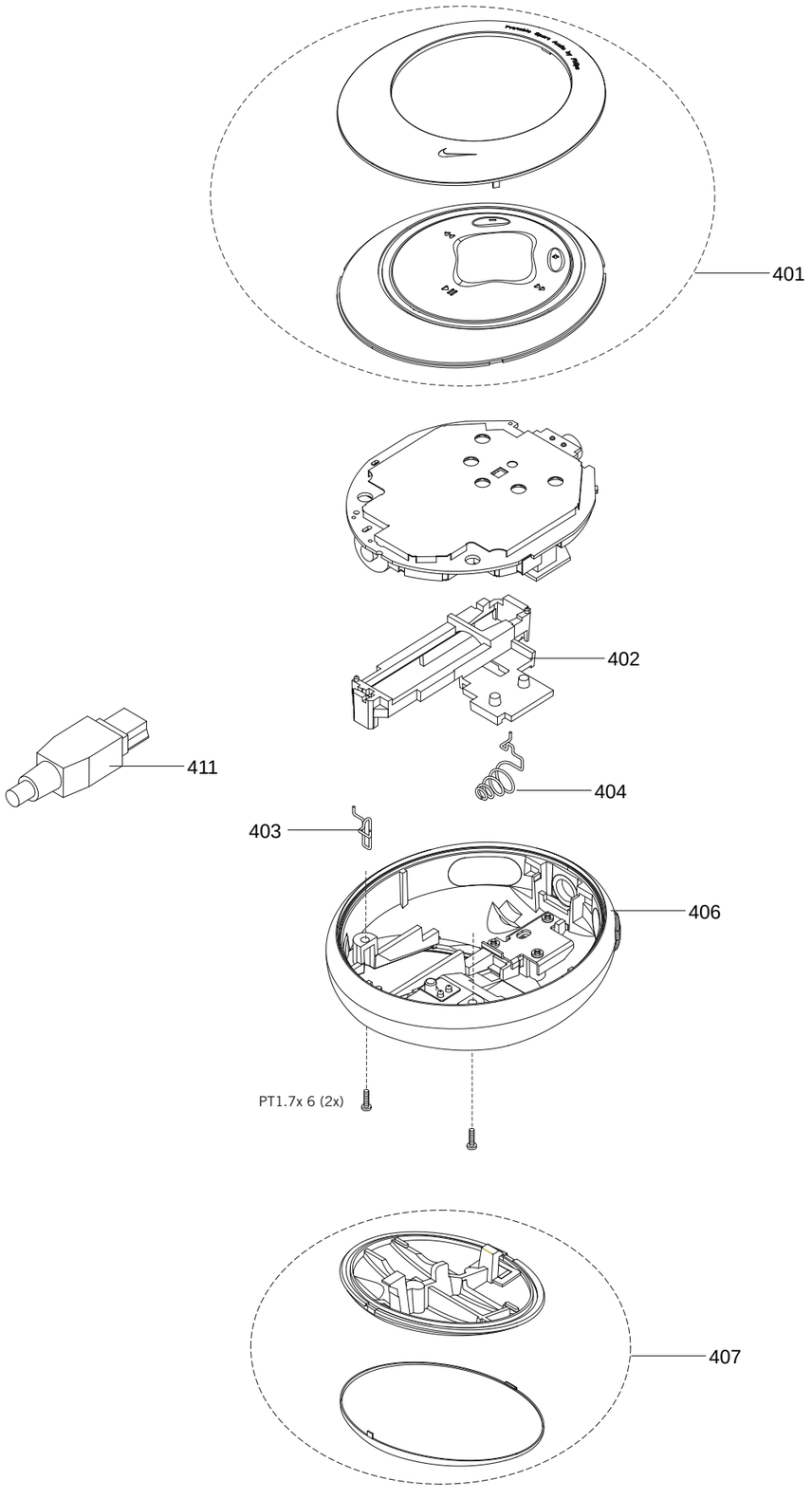


LAYOUT DIAGRAM - ACT200/210 USB BOARD

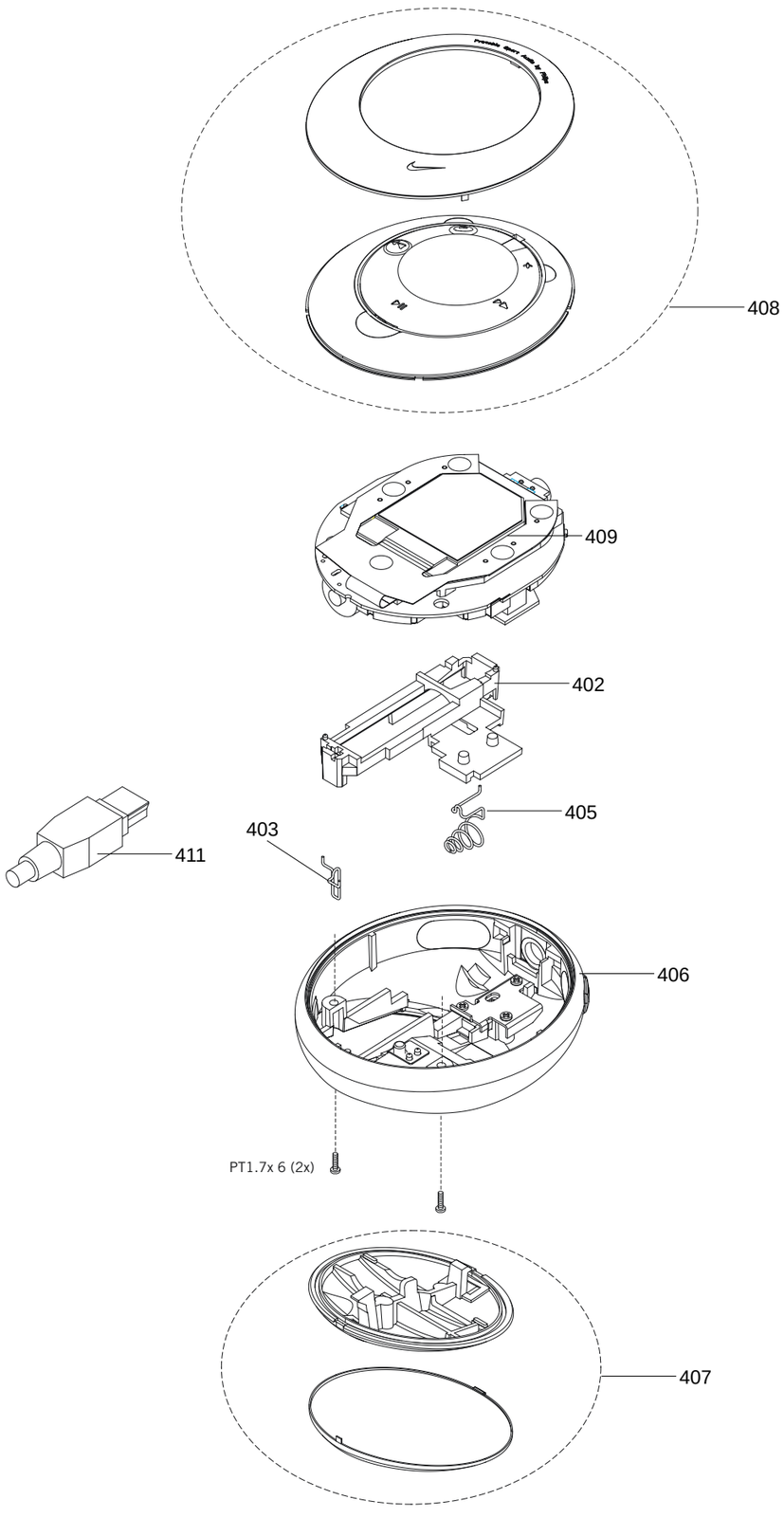
SMD SIDE



ACT200 EXPLODED VIEW DIAGRAM - CABINET



ACT210 EXPLODED VIEW DIAGRAM - CABINET



MECHANICAL PARTSLIST

401	3140 117 63770	TOP CABINET ASSEMBLY ACT200
402	3140 114 44460	BATTERY HOLDER
403	3140 111 01340	BATTERY CONTACT +VE
404	3140 111 01350	BATTERY CONTACT -VE ACT200
405	3140 111 01360	BATTERY CONTACT -VE ACT200
406	3140 117 63780	BOTTOM CABINET ASSEMBLY
407	3140 117 63890	BATTERY DOOR ASSEMBLY
408	3140 117 63910	TOP CABINET ASSY ACT210
409	3140 110 51700	LCD MODULE ACT210

ACCESSORIES

	3140 118 51140	REMOTE CONTROL AY3776
	3103 308 84540	BATTERY-NIMH-AAA ACT210/00C/05/17
	3140 114 45500	ARM BAND
	9082 100 00785	HEADPHONE
411	3140 110 22240	USB CABLE
	3140 118 51150	CHARGER ACT210/00C
	3140 118 51210	CHARGER ACT210/17
	3140 118 51380	CHARGER ACT210/05

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

ACT200 ELECTRICAL PARTS LIST- MAIN BOARD

- MISCELLANEOUS -

1252	2422 128 03013	SWITCH TACT
1253	2422 025 17818	CONNECTOR 10P
1255	2422 026 05317	SOCKET PHONE
1400	2422 128 03013	SWITCH TACT
1401	2422 128 03013	SWITCH TACT
1402	2422 128 03013	SWITCH TACT
1403	2422 128 03013	SWITCH TACT
1404	2422 128 03057	SWITCH TACT
1405	2422 128 03057	SWITCH TACT

- CAPACITORS -

2250	2020 004 90283	10µF 20%
2251	2238 586 59812	100nF Y5V 50V +80-20%
2252	4822 126 14043	1µF +80-20% Y5V 16V
2400	4822 126 14043	1µF +80-20% Y5V 16V
2401	4822 126 14043	1µF +80-20% Y5V 16V
2402	2238 586 59812	100nF Y5V 50V +80-20%
2403	3198 032 27190	100µF 20%
2404	3198 032 27190	100µF 20%
2405	2238 586 59812	100nF Y5V 50V +80-20%
2407	2238 586 59812	100nF Y5V 50V +80-20%
2408	2238 586 59812	100nF Y5V 50V +80-20%
2409	2238 586 59812	100nF Y5V 50V +80-20%
2410	3198 032 27190	100µF 20%
2411	4822 126 14043	1µF +80-20% Y5V 16V
2412	2238 586 59812	100nF Y5V 50V +80-20%
2413	2238 586 59812	100nF Y5V 50V +80-20%
2414	5322 126 11583	10nF 10% X7R 50V
2415	5322 126 11583	10nF 10% X7R 50V
2416	2238 586 59812	100nF Y5V 50V +80-20%
2417	2238 586 59812	100nF Y5V 50V +80-20%
2418	2020 004 90283	10µF 20%
2419	2238 586 59812	100nF Y5V 50V +80-20%
2420	2238 586 59812	100nF Y5V 50V +80-20%
2421	2238 586 59812	100nF Y5V 50V +80-20%
2422	2238 586 59812	100nF Y5V 50V +80-20%
2424	2238 586 59812	100nF Y5V 50V +80-20%
2425	2022 029 00632	330µF 20%
2428	2022 029 00632	330µF 20%
2430	5322 126 11583	10nF 10% X7R 50V
2431	5322 126 11583	10nF 10% X7R 50V

- CAPACITORS -

2432	3198 016 31020	1nF NP0 25V
2433	3198 016 31020	1nF NP0 25V
2434	2238 586 59812	100nF Y5V 50V +80-20%
2435	2238 586 59812	100nF Y5V 50V +80-20%
2436	4822 122 33761	22pF 5% NP0 50V
2437	4822 122 33761	22pF 5% NP0 50V
2438	2238 586 59812	100nF Y5V 50V +80-20%
2439	2238 586 59812	100nF Y5V 50V +80-20%
2440	4822 126 14043	1µF +80-20% Y5V 16V

- RESISTORS -

3249	4822 117 12706	10K 1% 0,063W
3250	4822 117 12925	47K 1% 0,063W
3252	4822 117 12925	47K 1% 0,063W
3253	4822 117 12925	47K 1% 0,063W
3259	4822 117 13632	100K 1% 0,62W
3260	4822 117 12925	47K 1% 0,063W
3261	4822 051 30102	1K 5% 0,062W
3263	4822 117 12925	47K 1% 0,063W
3264	4822 117 13632	100K 1% 0,62W
3265	5322 117 13019	100K 1% 0,063W
3268	4822 051 30103	10K 5% 0,062W
3271	4822 051 30103	10K 5% 0,062W
3272	4822 051 30103	10K 5% 0,062W
3275	4822 051 30103	10K 5% 0,062W
3278	4822 051 30103	10K 5% 0,062W
3279	4822 051 30103	10K 5% 0,062W
3281	4822 117 13632	100K 1% 0,62W
3282	4822 051 30334	330K 5% 0,062W
3283	4822 117 12925	47K 1% 0,063W
3285	4822 117 12925	47K 1% 0,063W
3402	4822 051 30101	100R 5% 0,062W
3403	4822 051 30101	100R 5% 0,062W
3404	5322 117 13044	470K 1% 0,063W
3405	4822 117 12925	47K 1% 0,063W
3406	4822 117 13632	100K 1% 0,62W
3407	4822 117 13632	100K 1% 0,62W
3408	4822 117 12925	47K 1% 0,063W
3410	4822 117 12925	47K 1% 0,063W
3411	4822 051 30101	100R 5% 0,062W
3412	4822 051 30101	100R 5% 0,062W
3413	4822 117 12971	15R 5% 0,62W

ACT200 ELECTRICAL PARTS LIST-MAIN BOARD

- RESISTORS -

3414	4822 117 12971	15R 5% 0,62W
3415	4822 051 30103	10K 5% 0,062W
3416	4822 051 30103	10K 5% 0,062W
3417	4822 051 30103	10K 5% 0,062W
3418	4822 117 12925	47K 1% 0,063W
3419	4822 051 30103	10K 5% 0,062W
3420	4822 117 12925	47K 1% 0,063W
3437	4822 117 12925	47K 1% 0,063W
4250	4822 051 20008	0R J UMPER 0805
4253	4822 051 30008	0R J UMPER
4254	4822 051 30008	0R J UMPER
4400	4822 051 20008	0R J UMPER 0805
4401	4822 051 20008	0R J UMPER 0805
4411	4822 051 30008	0R J UMPER
4412	4822 051 30008	0R J UMPER
4413	4822 051 30008	0R J UMPER
4414	4822 051 30008	0R J UMPER
4415	4822 051 30008	0R J UMPER
4417	4822 051 20008	0R J UMPER 0805

- COILS & FILTERS -

1406	2422 543 01286	CRYSTAL
5401	2422 536 00528	IND FXD 4,7µH 20%
5403	4822 157 71206	BLM21A601SPT
5404	4822 157 71206	BLM21A601SPT
5408	4822 157 11074	100µH
5409	4822 157 11074	100µH
5410	4822 157 11074	100µH

- DIODES -

6201	4822 130 82594	BAT54C
6202	5322 130 34337	BAV99
6203	5322 130 34337	BAV99
6204	4822 130 10838	UDZ3,3B
6205	9322 179 22685	LTST-C155KGJ RK

- IC & TRANSISTORS -

7260	9322 180 12685	SI2312DS
7261	9322 180 12685	SI2312DS

- IC & TRANSISTORS -

7262	9322 179 08685	SI2305DS
7263	9322 179 08685	SI2305DS
7265	9322 180 12685	SI2312DS
7266	9322 179 08685	SI2305DS
7267	9322 180 12685	SI2312DS
7268	9322 180 12685	SI2312DS
7270	9322 179 08685	SI2305DS
7271	9322 180 12685	SI2312DS
7400	9322 180 12685	SI2312DS
7401	9322 180 12685	SI2312DS
7498	9322 186 93671	STMP3410
7499	9322 180 40671	TC58512FT

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

ACT210 ELECTRICAL PARTS LIST- MAIN PART

- MISCELLANEOUS -

1253	2422 025 17818	CONNECTOR 10P
1255	2422 026 05317	SOCKET PHONE
1402	2422 025 17888	CONNCTOR 33P
1404	2422 128 03057	SWITCH TACT
1405	2422 128 03057	SWITCH TACT

- CAPACITORS -

2250	2020 004 90283	10µF +80-20%
2251	2238 586 59812	100nF +80-20% Y5V 50V
2252	4822 126 14043	1µF +80-20% Y5V 16V
2400	4822 126 14043	1µF +80-20% Y5V 16V
2401	4822 126 14043	1µF +80-20% Y5V 16V
2402	3198 035 71040	100nF Y5V 16V
2403	3198 032 15190	100µF +80-20% 4V
2404	3198 032 15190	100µF +80-20% 4V
2405	3198 035 71040	100nF Y5V 16V
2407	3198 035 71040	100nF Y5V 16V
2408	2238 586 59812	100nF +80-20% Y5V 50V
2409	2238 586 59812	100nF +80-20% Y5V 50V
2410	3198 032 15190	100µF +80-20% 4V
2411	4822 126 14043	1µF +80-20% Y5V 16V
2412	3198 035 71040	100nF Y5V 16V
2413	3198 035 71040	100nF Y5V 16V
2414	5322 126 11583	10nF 10% X7R 50V
2415	5322 126 11583	10nF 10% X7R 50V
2416	3198 035 71040	100nF Y5V 16V
2417	3198 035 71040	100nF Y5V 16V
2418	2020 004 90283	10µF +80-20% 10V
2419	3198 035 71040	100nF Y5V 16V
2420	3198 035 71040	100nF Y5V 16V
2421	3198 035 71040	100nF Y5V 16V
2422	3198 035 71040	100nF Y5V 16V
2424	2238 586 59812	100nF +80-20% Y5V 50V
2425	3198 032 28210	220µF +80-20% 6,3V
2428	3198 032 28210	220µF +80-20% 6,3V
2430	3198 035 71030	10nF Y5V 16V
2431	3198 035 71030	10nF Y5V 16V
2432	2020 552 96618	1nF 10% X7R 50V
2433	2020 552 96618	1nF 10% X7R 50V
2434	3198 035 71040	100nF Y5V 16V
2435	3198 035 71040	100nF Y5V 16V
2436	4822 122 33761	22pF 5% NP0 50V
2437	4822 122 33761	22pF 5% NP0 50V
2438	2238 586 59812	100nF +80-20% Y5V 50V
2439	2238 586 59812	100nF +80-20% Y5V 50V
2440	4822 126 14043	1µF +80-20% Y5V 16V
2443	4822 126 14043	1µF +80-20% Y5V 16V

- CAPACITORS -

2444	4822 126 14043	1µF +80-20% Y5V 16V
2445	4822 126 14043	1µF +80-20% Y5V 16V
2446	4822 126 14043	1µF +80-20% Y5V 16V
2447	3198 035 71040	100nF Y5V 16V
2448	3198 035 71040	100nF Y5V 16V
2449	3198 035 71040	100nF Y5V 16V
2450	3198 035 71040	100nF Y5V 16V
2456	3198 035 71040	100nF Y5V 16V
2457	3198 035 71040	100nF Y5V 16V
2458	3198 035 71040	100nF Y5V 16V
2459	3198 035 71040	100nF Y5V 16V
2460	3198 035 71040	100nF Y5V 16V

- RESISTORS -

3249	4822 117 12706	10K 1% 0,063W
3250	4822 117 12925	47K 1% 0,063W
3252	4822 117 12925	47K 1% 0,063W
3253	4822 117 12925	47K 1% 0,063W
3259	4822 117 11297	100K 1/16W
3260	3198 031 04730	47K 5%
3261	4822 117 13548	1K 5%
3263	3198 031 04730	47K 5%
3264	4822 117 13632	100K 1% 0,62W
3265	5322 117 13019	100K 1% 0,063W
3268	4822 117 13606	10K 5% 0,0062W
3271	4822 117 13606	10K 5% 0,0062W
3272	4822 117 13606	10K 5% 0,0062W
3275	4822 117 13606	10K 5% 0,0062W
3279	4822 117 13606	10K 5% 0,0062W
3281	4822 117 13632	100K 1% 0,62W
3282	4822 051 30334	330K 5% 0,062W
3283	4822 117 12925	47K 1% 0,063W
3285	4822 117 12925	47K 1% 0,063W
3402	4822 051 30101	100R 5% 0,062W
3404	5322 117 13044	470K 1% 0,063W
3405	3198 031 04730	47K 5%
3406	4822 117 13632	100K 1% 0,62W
3408	3198 031 04730	47K 5%
3410	3198 031 04730	47K 5%
3411	4822 051 30101	100R 5% 0,062W
3412	4822 051 30101	100R 5% 0,062W
3413	3198 031 01590	15R 5%
3414	3198 031 01590	15R 5%
3415	4822 117 13606	10K 5% 0,0062W
3416	4822 117 13606	10K 5% 0,0062W
3417	4822 051 30103	10K 5% 0,062W
3418	3198 031 04730	47K 5%
3419	4822 117 13606	10K 5% 0,0062W
3420	3198 031 04730	47K 5%

ACT210 ELECTRICAL PARTS LIST - MAIN PART

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

- RESISTORS -

3430	3198 031 04730	47K 5%
3431	3198 031 04730	47K 5%
3437	3198 031 04730	47K 5%
4008	4822 051 20008	0R J UMPER 0805
4009	4822 051 20008	0R J UMPER 0805
4250	4822 051 20008	0R J UMPER 0805
4400	4822 051 20008	0R J UMPER 0805
4401	4822 051 20008	0R J UMPER 0805
4410	4822 051 30008	0R J UMPER
4411	4822 051 30008	0R J UMPER
4423	4822 117 13605	0,05R 100% 0,0062W
4429	4822 117 13605	0,05R 100% 0,0062W

- COILS & FILTERS -

1406	2422 543 01286	24M576
5401	2422 536 00528	4,7µH 20%
5403	4822 157 71206	BLM21A601SPT
5404	4822 157 71206	BLM21A601SPT
5405	4822 157 11074	100µH
5406	4822 157 11074	100µH
5407	4822 157 11074	100µH
5408	4822 157 11074	100µH
5409	4822 157 11074	100µH
5410	4822 157 11074	100µH
5411	4822 157 71206	BLM21A601SPT
5412	4822 157 11074	100µH

- DIODES -

6201	4822 130 82594	BAT54C
6205	4822 130 10838	UDZ3,3B
6206	4822 130 10838	UDZ3,3B

- IC & TRANSISTORS -

7260	9322 180 12685	SI2312DS
7261	9322 180 12685	SI2312DS
7262	9322 179 08685	SI2305DS
7263	9322 179 08685	SI2305DS
7265	9322 180 12685	SI2312DS
7266	9322 179 08685	SI2305DS
7267	9322 180 12685	SI2312DS
7268	9322 180 12685	SI2312DS
7270	9322 179 08685	SI2305DS
7271	9322 180 12685	SI2312DS
7400	9322 180 12685	SI2312DS
7497	9322 180 40671	TC58512FT
7498	9322 186 93671	STMP3410
7499	9322 180 40671	TC58512FT

ACT200/210 ELECTRICAL PARTS LIST - SOCKET BOARD

- MISCELLANEOUS -

1254	2422 025 16208	CONNECT 10P
1255	2422 025 17684	SOCKET 5P

- CAPACITORS -

2461	2238 586 59812	100nF +80-20% Y5V 50V

- RESISTORS -

3252	4822 117 12139	22R 5% 0,062W
3253	4822 117 12139	22R 5% 0,062W

- COILS & FILTERS -

5406	4822 157 71206	BLM21A601SPT
5407	4822 157 71206	BLM21A601SPT

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