

Service  
Service  
**Service**

**ACT200**

**ACT210**

all versions



# Service Manual

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**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
Rechargeable 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	Rechargeable 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	: 50°C ± 5°C

### 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

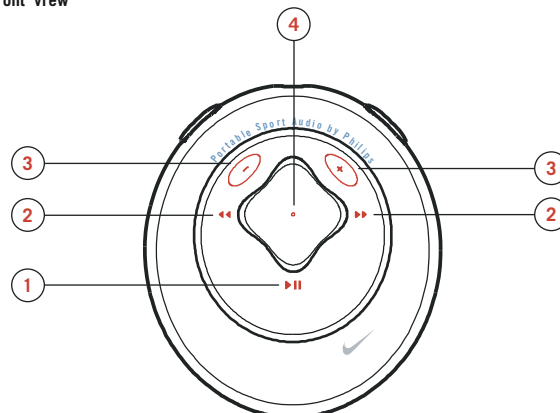
ACT200----controls

### controls and connections

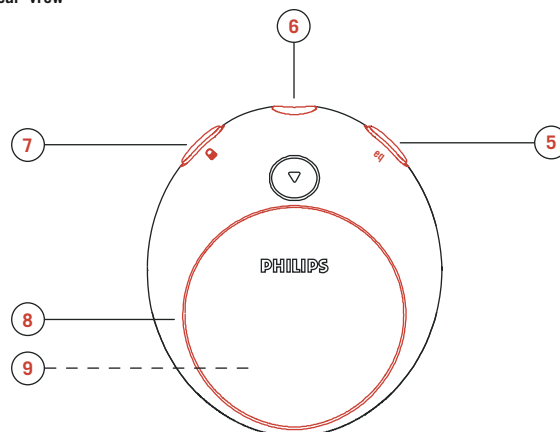
- |  |  |
|--|--|
| <p>① <b>▶  </b><br/>switches the set on /off;<br/>starts / pauses playback</p> <p>② <b>◀/ ▶</b><br/>skips to the beginning of a previous/<br/>next track</p> <p>③ <b>- / +</b><br/>adjusts the volume</p> <p>④ <b>indicator (for ACT200)</b><br/>lights up: red (battery low/power<br/>down), green (power up) or orange<br/>(button lock activated / pause mode)</p> <p>④ <b>display (for ACT210)</b><br/>with backlight. lights up briefly<br/>orange when you press any button<br/>on the psa.</p> <p>⑤ <b>eq</b><br/>enhance your listening experience.<br/>select from 4 equalizer settings:<br/><b>(for ACT210)</b><br/><b>Hiphop, Funk, Rock, Techno</b> or create<br/>your own adjustable <b>Custom</b> setting.</p> <p>⑥ <b>📀</b><br/>3.5 mm line out to connect</p> <p>⑦ <b>🔒</b> locks buttons to prevent them<br/>from being activated</p> | <p>⑧ <b>battery compartment</b><br/>uses 1 x AAA alkaline or<br/>Ni-MH battery</p> <p>⑨ <b>usb in</b><br/>(found in the battery compart-<br/>ment)<br/>connect the supplied usb cable<br/>from here to the usb port of<br/>your computer</p> |
|--|--|

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

front view



rear view



## ACCESSORIES

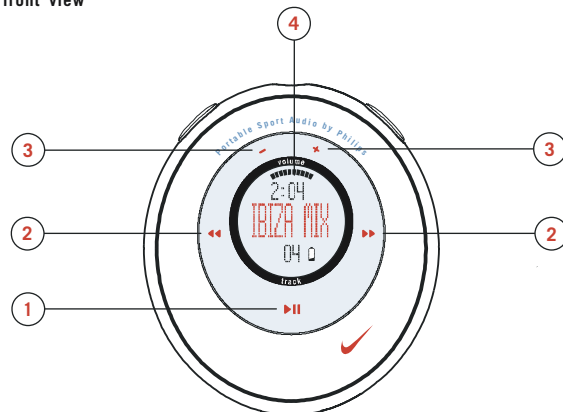
### supplied accessories

- 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)

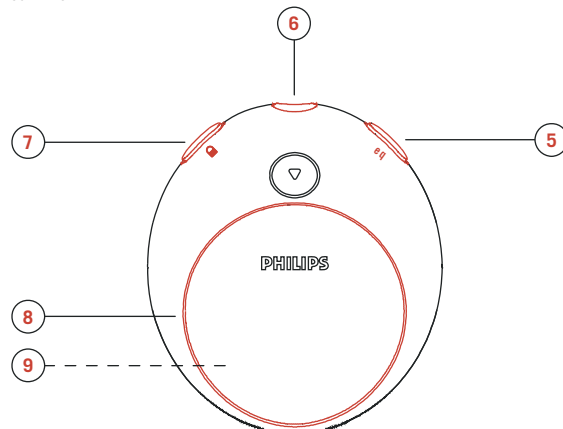
**\* not supplied with Asia-Pacific  
versions**

ACT210----controls

front view



rear view



# 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 software extensions that will be made available on [www.nike-philips.com](http://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:

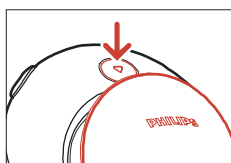
- do not expose to excessive heat caused by heating equipment or direct sunlight.
- do not drop the psa or allow objects to fall on the psa.
- do not allow the psa to be submersed in water. do not expose earphone socket or battery compartment to water as water entering the set may cause major damage.
- 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.

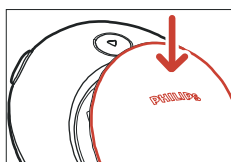
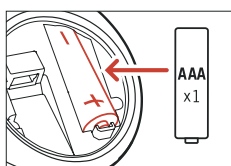
2 insert the lower edge of door as shown to close the battery cover latch.



### 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 indicator 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

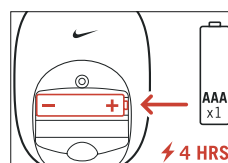
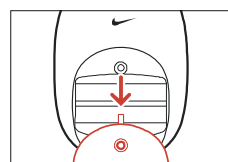
### battery charger\* (for ACT210)

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

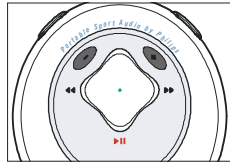
## power on / off, playback ▶▶

### power on and playback, ▶▶

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

#### for ACT200

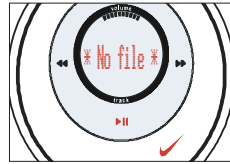
- indicator: green light flashes briefly and playback starts automatically.
- psa beeps: if no content has been stored in the psa, the psa powers down.



#### 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, ▶▶

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

for ACT200 - indicator: lights up red briefly.

for ACT210 - display message: OFF before turning off.

## pause, ▶▶

during playback, press ▶▶ to pause. press ▶▶ 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.

## ◀/▶, 🔒

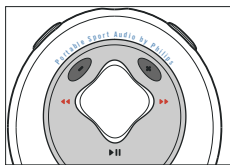
### selecting a different track ◀, ▶▶

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.

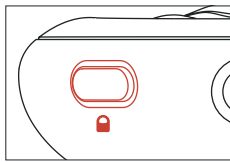
#### for ACT200

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.



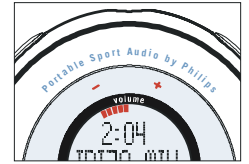
## adjusting volume - / + and eq settings

### volume

press - / + to decrease / increase the volume.

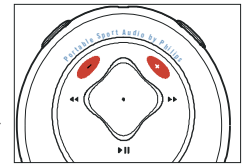
#### for ACT210

the volume bar decreases / increases.



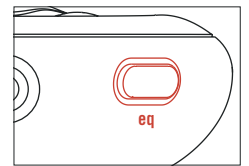
### eq sound options- bring out the bass or top up on treble!

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)

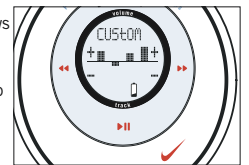
if you have selected Custom, the next display shows 4 eq frequency bars.

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

use - / + to adjust the frequency level.

press eq again to confirm your desired setting.

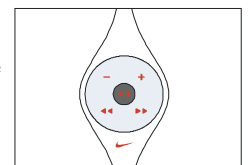
display: returns to showing track details



## accessories

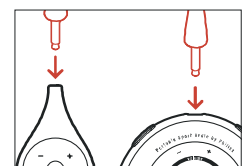
### remote control

the remote has 5 buttons (- / +, ▶▶, ◀/▶▶) 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.



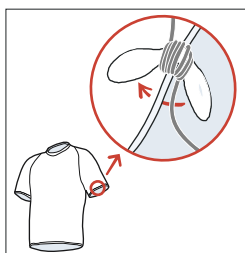
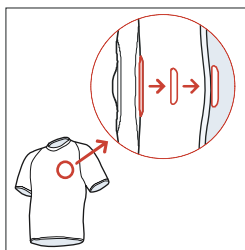
# INSTRUCTION FOR USE

## 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.

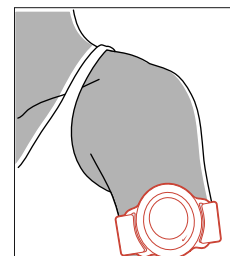
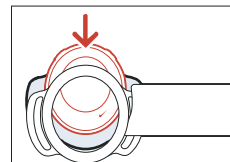
KEEP THE MAGNETS AWAY FROM CREDIT CARDS, TAPES AND ANY ITEMS WHICH MAYBE SENSITIVE TO THE MAGNETS.

## 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

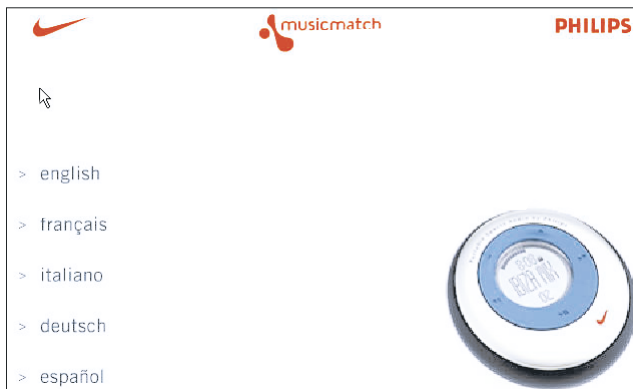


- 2 an introduction screen appears. select the language that suits you best (**english, français, italiano, deutsch** or **español**).

- 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**).

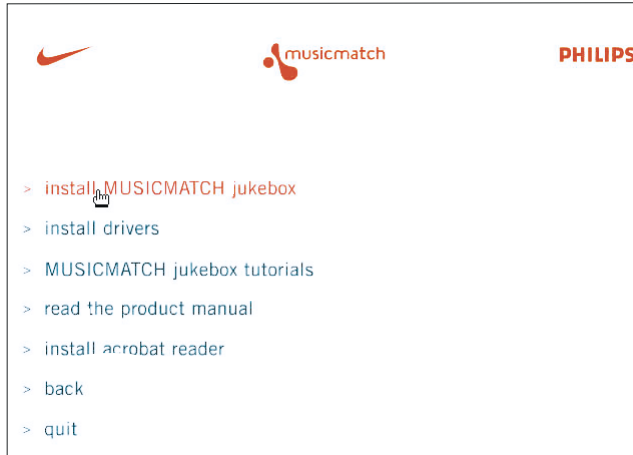
- 3 select your product.



## INSTRUCTION FOR USE

### software: MUSICMATCH Jukebox and device drivers

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

#### 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

#### 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.

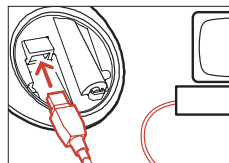
2 press ▼ to open the battery compartment. connect the other end of the usb cable to **usb in**, (found inside the battery compartment.)

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.




### creating mp3 files

#### 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*

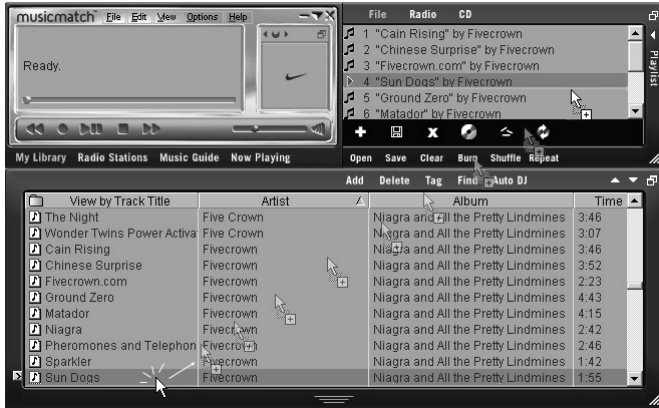


## INSTRUCTION FOR USE

### 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

#### 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.

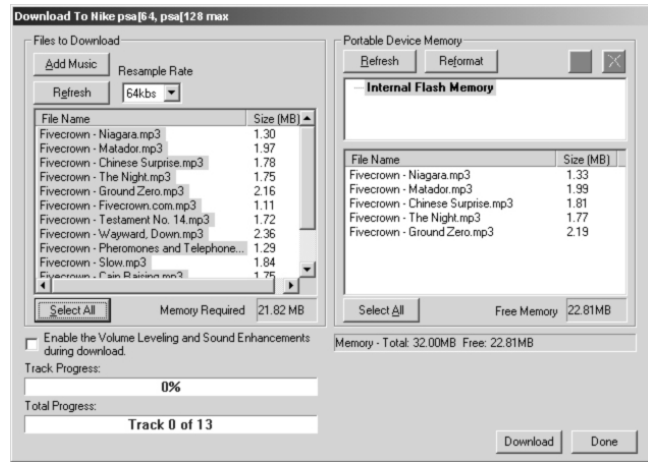
### downloading music

#### 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, psa128 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](http://www.nike-philips.com) for updates of mac plug-in.



### 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

#### 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	<ul style="list-style-type: none"> <li>- battery weak / incorrectly inserted. correctly insert fresh battery.</li> <li>- psa buttons pressed too quickly. slow down. press firmly. indicator lights up.</li> <li>- headphones not properly connected. insert headphone plug into jack completely.</li> </ul>
no reaction to controls / malfunction	<ul style="list-style-type: none"> <li>-  activated deactivate .</li> <li>- electrostatic discharge. remove battery and replace after several seconds.</li> </ul>
sound skips during playback on the psa	<ul style="list-style-type: none"> <li>- mp3 file made at compression level exceeding 320kbps.</li> <li>- use a lower compression level to record your file into mp3 format</li> <li>- electrical interference from other appliances, e.g. mobile phones, fluorescent, lamps, electric pylons.</li> <li>move away from source of electrical interference.</li> </ul>

### helpful tips

problem	solution
usb does not connect/function	<ul style="list-style-type: none"> <li>- you are using an unsuitable usb cable. use the supplied usb cable only.</li> <li>- cable connections incorrect / loose. check that all connections are correct and well inserted on the psa player and your computer.</li> <li>- usb driver not installed. check that you have installed the usb driver plug-in provided from the psa installation cd rom.</li> <li>- wrong Windows / MacOS version. your computer must be equipped with Windows 98 / Me / 2000 &amp; XP or MacOS 8.6-9.x.</li> <li>- usb not enabled. check the BIOS set-up: usb has to be enabled.</li> </ul>
unable to download files to player	<ul style="list-style-type: none"> <li>- battery low and/or connection between the player and computer is loose. check battery status and usb cable connection.</li> <li>- drivers not installed. check you have installed the drivers provided from the psa installation cd rom.</li> <li>- current psa does not download windows media audio for mac users. check out <a href="http://www.nike-philips.com">www.nike-philips.com</a> for updates.</li> <li>- electrostatic discharge. remove battery and replace after several seconds.</li> </ul>
incomplete track download	<ul style="list-style-type: none"> <li>- usb connection broken during downloading check the usb connection, delete the file on the psa via musicmatch and download track again.</li> </ul>

## SAFETY & WARNINGS

### ⓖB 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 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.

### ESD



### ⓓ WARNUNG

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

Unvorsichtige Behandlung im Reparaturfall kann die Lebensdauer drastisch reduzieren.

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

Halten Sie Bauteile und Hilfsmittel ebenfalls auf diesem Potential.

### ⓃL 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 dell'apparecchio tramite un braccialetto a resistenza.

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

### ⓖB 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

### ⓖB

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

### ⓃL

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

### ⓖB

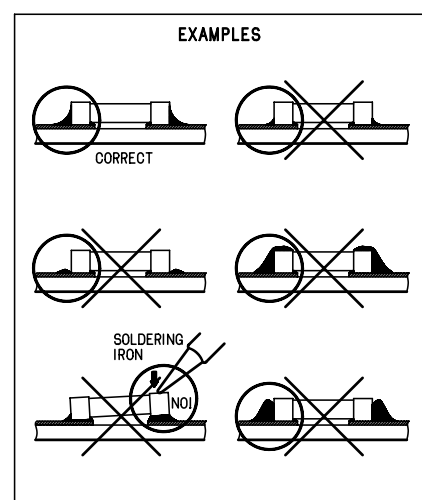
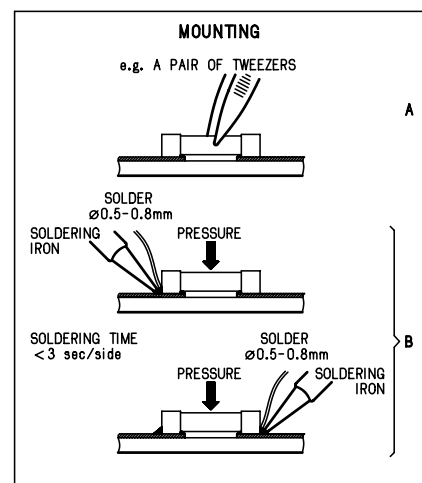
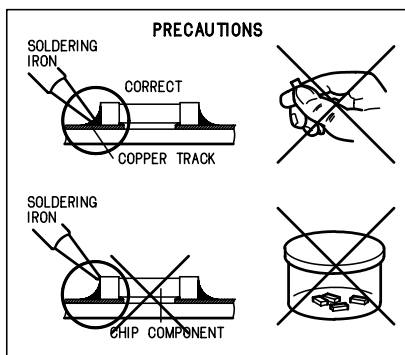
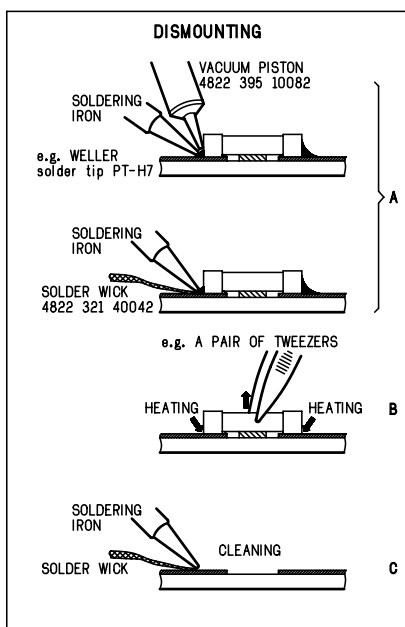
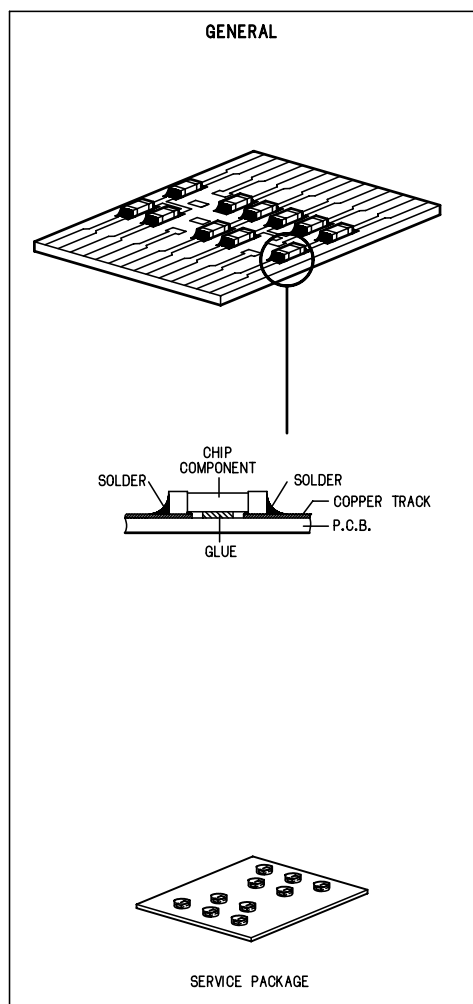
After servicing and before returning the set to customer perform a leakage current measurement test from all exposed metal parts to earth ground, to assure no shock hazard exists.

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".

# HANDLING CHIP COMPONENTS



# ESD PROTECTION EQUIPMENT

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

**Anti-static wristband**

**Connection box** (3press stud connections, 1MΩ)

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**Wristband tester**

4822 466 10953

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4822 320 11307

4822 320 11305

4822 320 11306

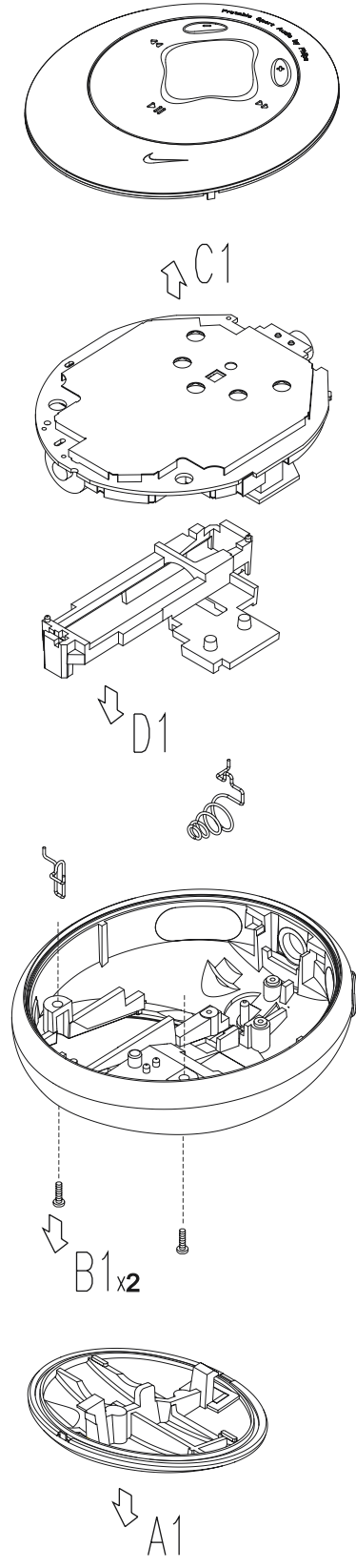
4822 320 11308

4822 310 10671

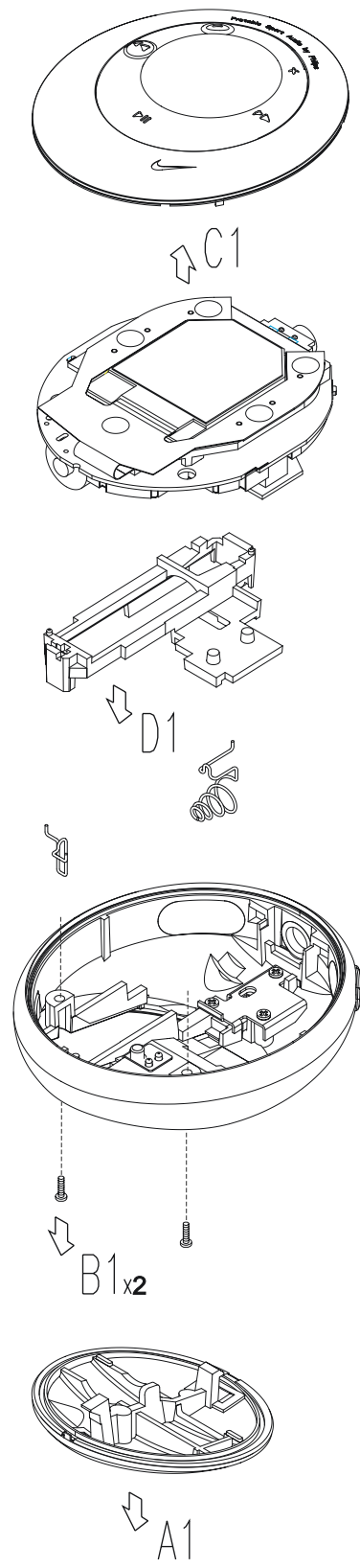
4822 344 13999

# ACT200 DISASSEMBLY DIAGRAM

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

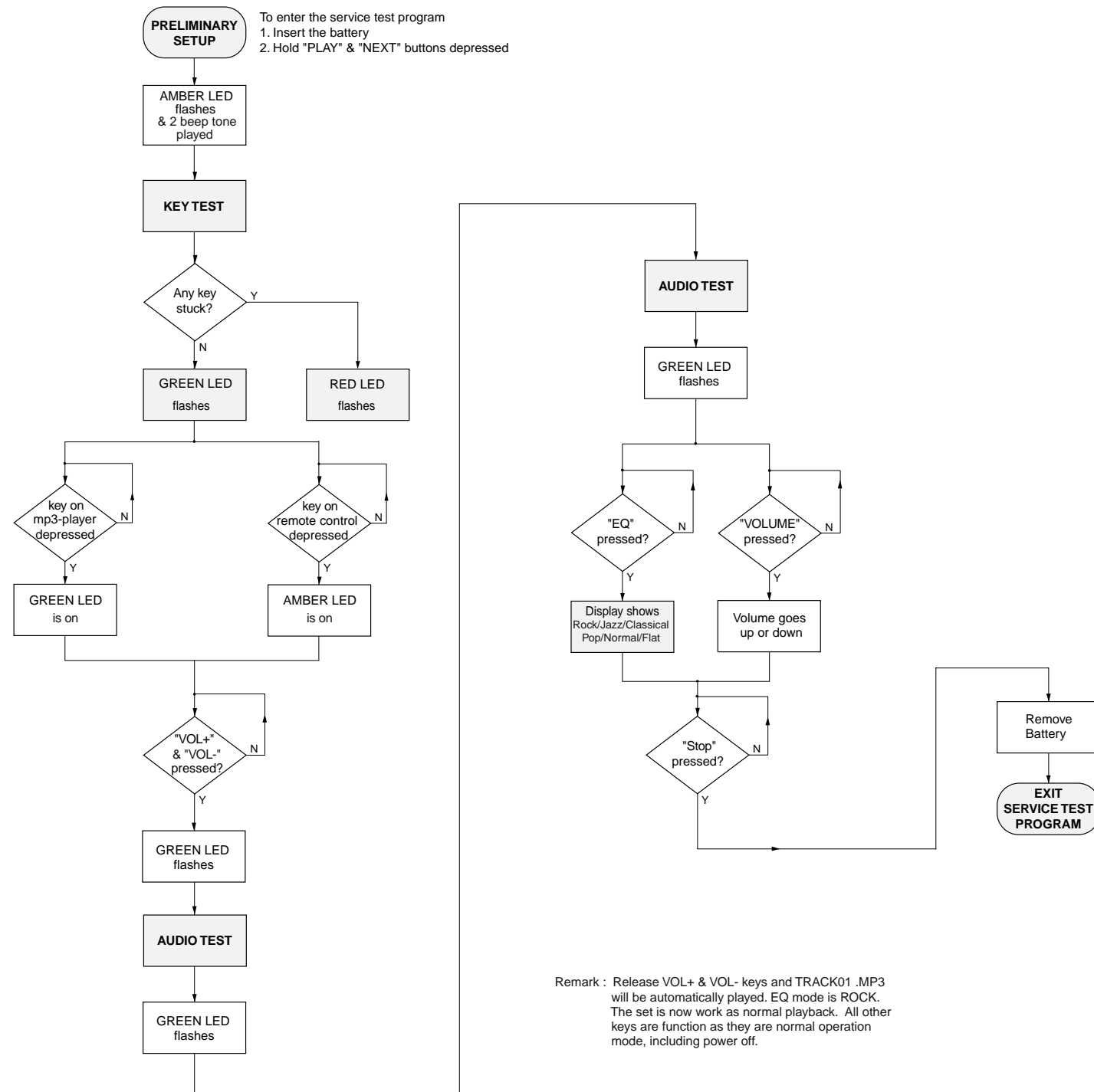


# ACT200 AND ACT210 DISASSEMBLY DIAGRAM



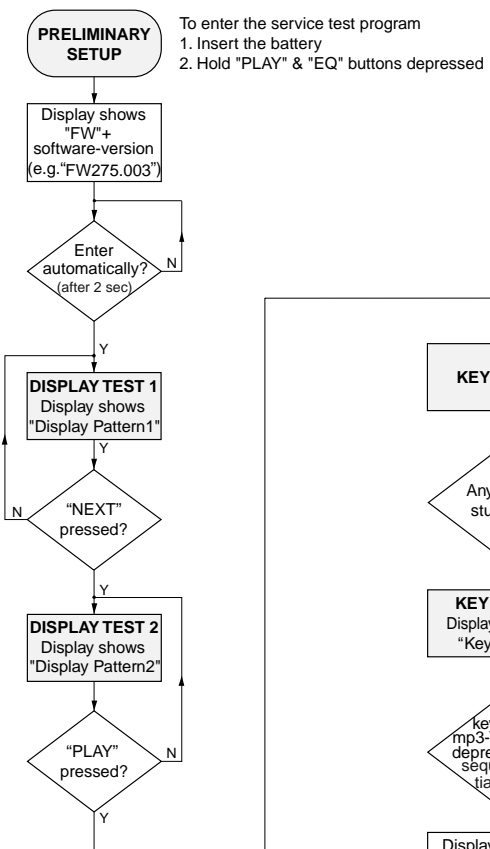
**ACT200 SERVICE TEST PROGRAM - FLOW CHART**

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

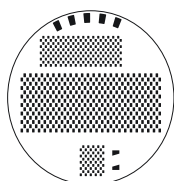


Remark : Release VOL+ & VOL- keys and TRACK01 .MP3 will be automatically played. EQ mode is ROCK. The set is now work as normal playback. All other keys are function as they are normal operation mode, including power off.

ACT210 SERVICE TEST PROGRAM - FLOW CHART



display pattern 1



display pattern 2  
 (alternate segments activated)

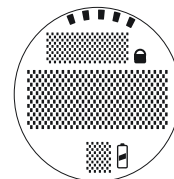
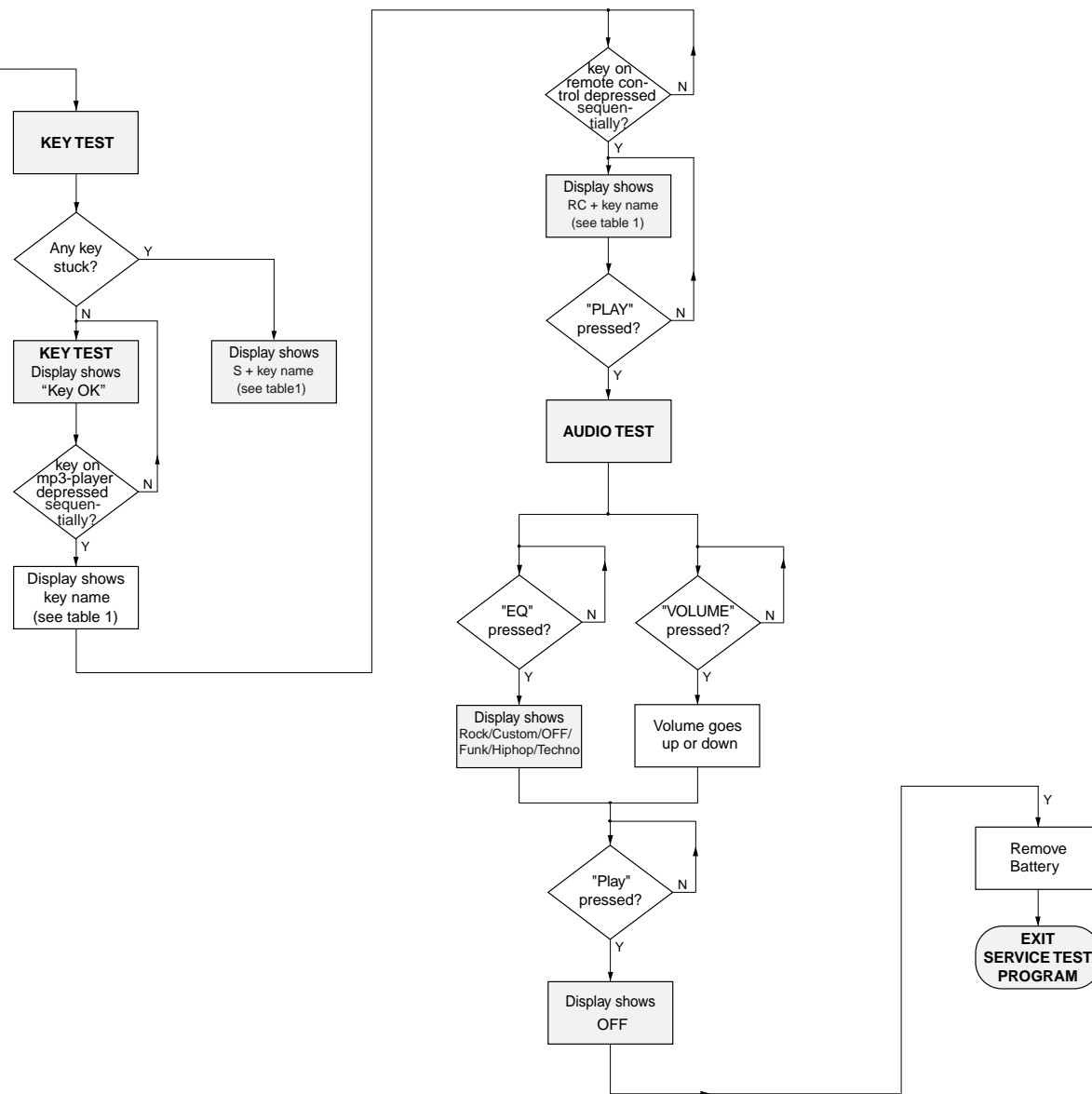


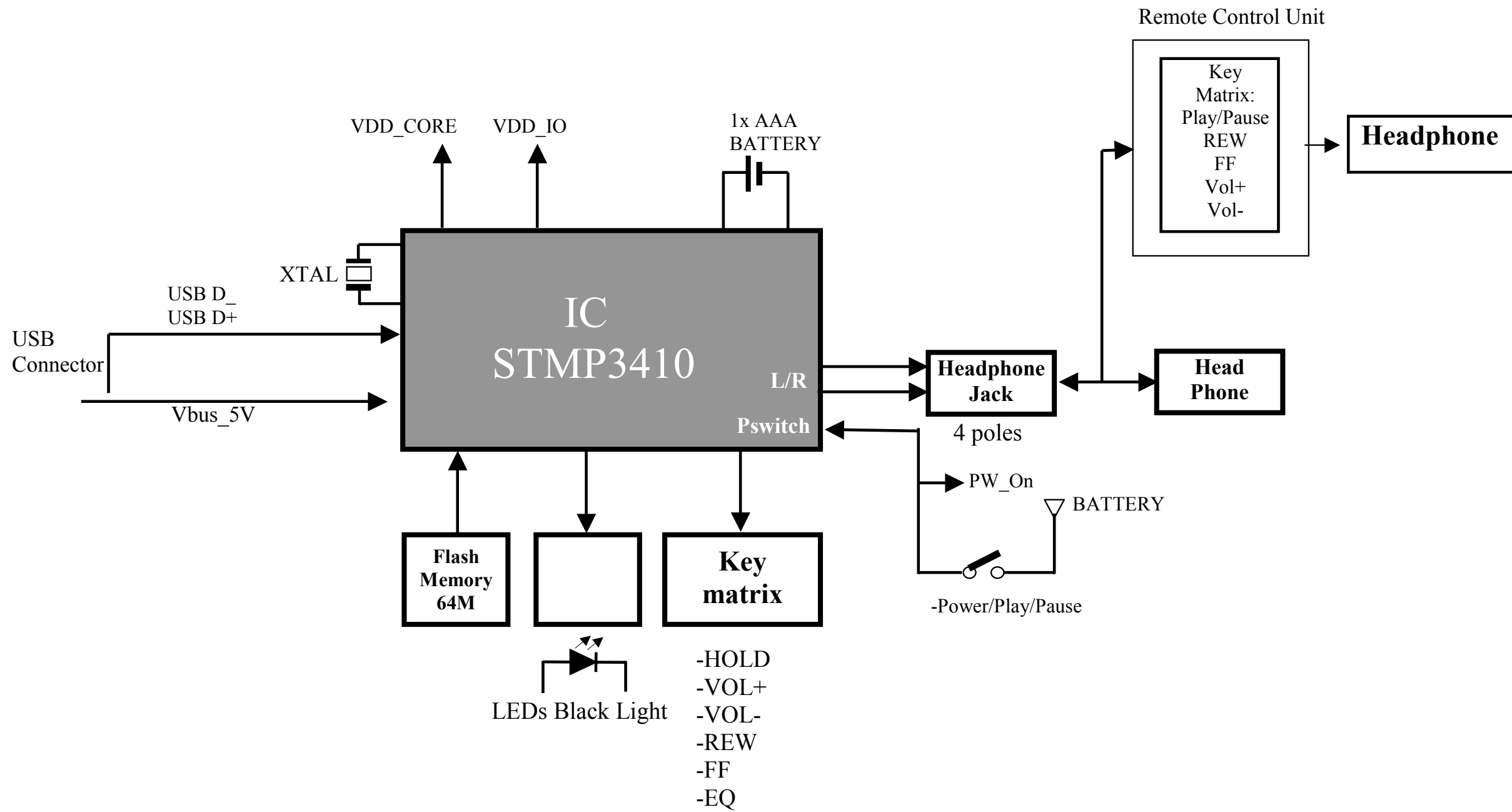
table1 - key test

	DISPLAY SET
<b>SET KEY STUCK</b>	
PLAY	S Play
NEXT	S Next
PREVIOUS	S Prev
VOLUME +	S Vol+
VOLUME -	S Vol-
HOLD	S Hold
EQ	S EQ
<b>KEYS OF SET</b>	
PLAY	Play
NEXT	Next
PREVIOUS	Prev
VOLUME +	Vol+
VOLUME -	Vol-
HOLD	Hold
EQ	EQ
<b>KEYS OF CORD REMOTE CONTROL</b>	
PLAY	RCPlay
NEXT	RCNext
PREVIOUS	RCPrev
VOLUME +	RCVol+
VOLUME -	RCVol-

Press "PLAY" on the MP3 player to exit the key test.

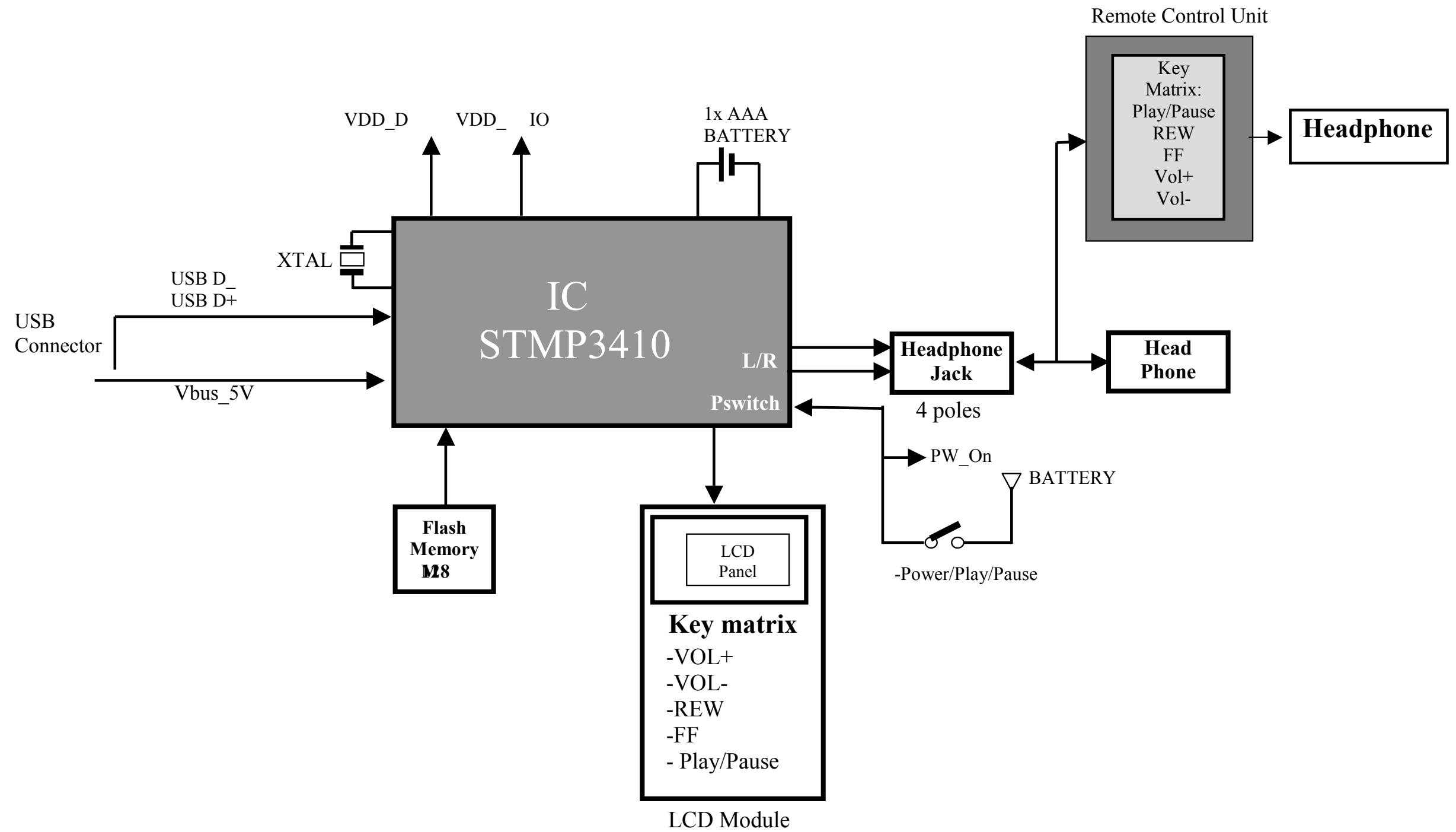


ACT200 SET BLOCK DIAGRAM





### ACT210 SET BLOCK DIAGRAM

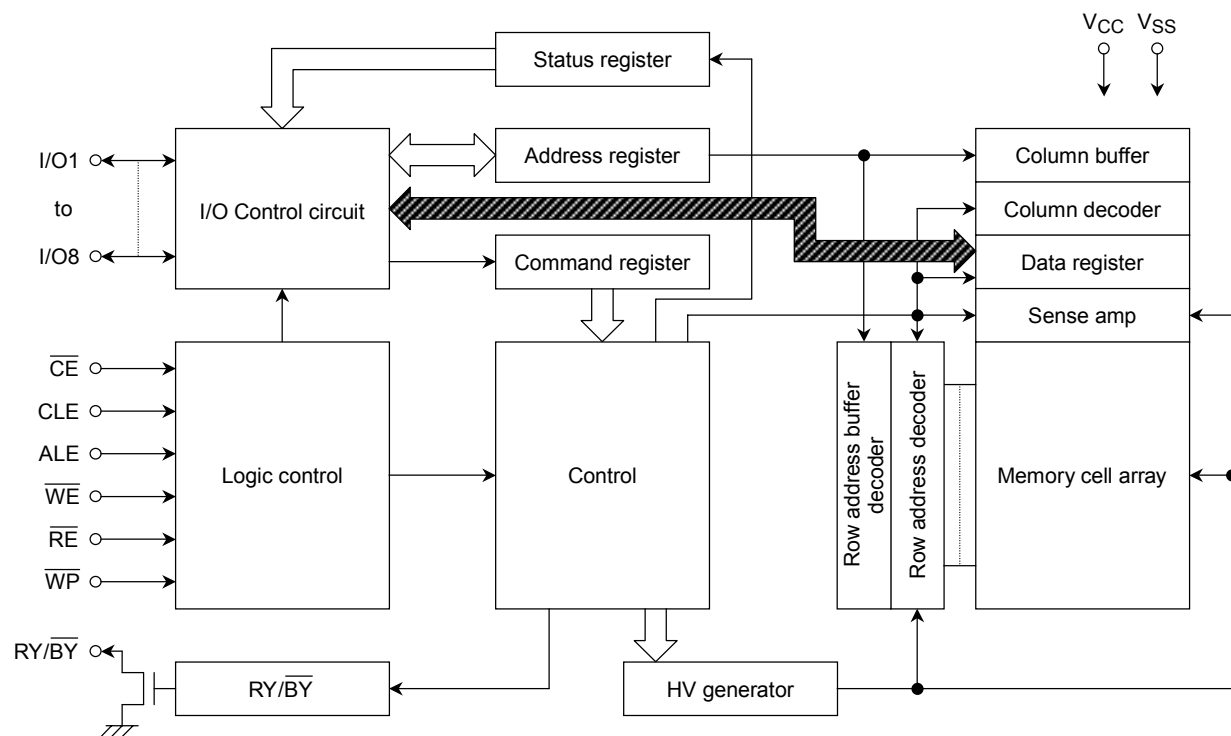


**BLOCK DIAGRAM OF INTEGRATED CIRCUIT**

**Abbreviations and Pin-description of NAND E<sup>2</sup>PROM**

**NAND E<sup>2</sup>PROM - TC58512FT**

**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.

**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 ( $\overline{RY/BY} = L$ ), 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:  $\overline{RY/BY}$**

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

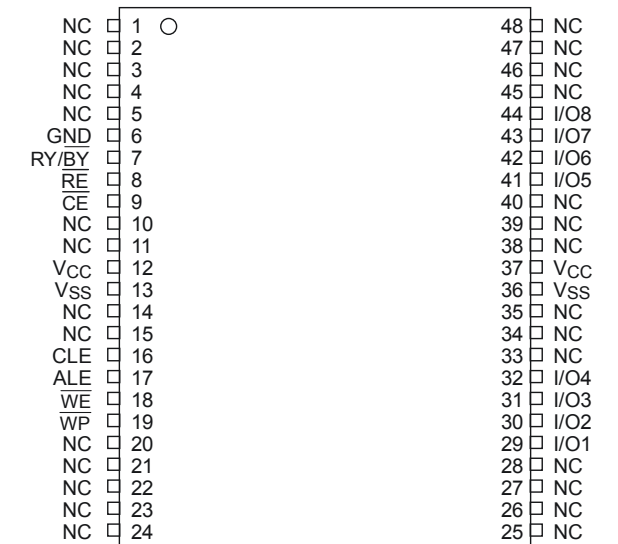
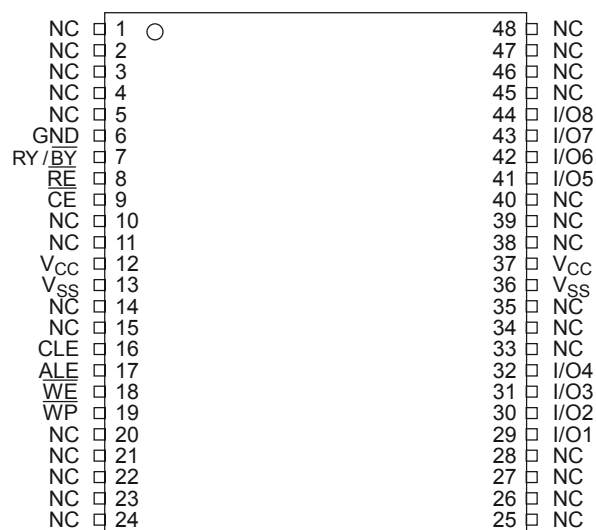


Figure 1. Pinout

**PIN ASSIGNMENT (TOP VIEW)**

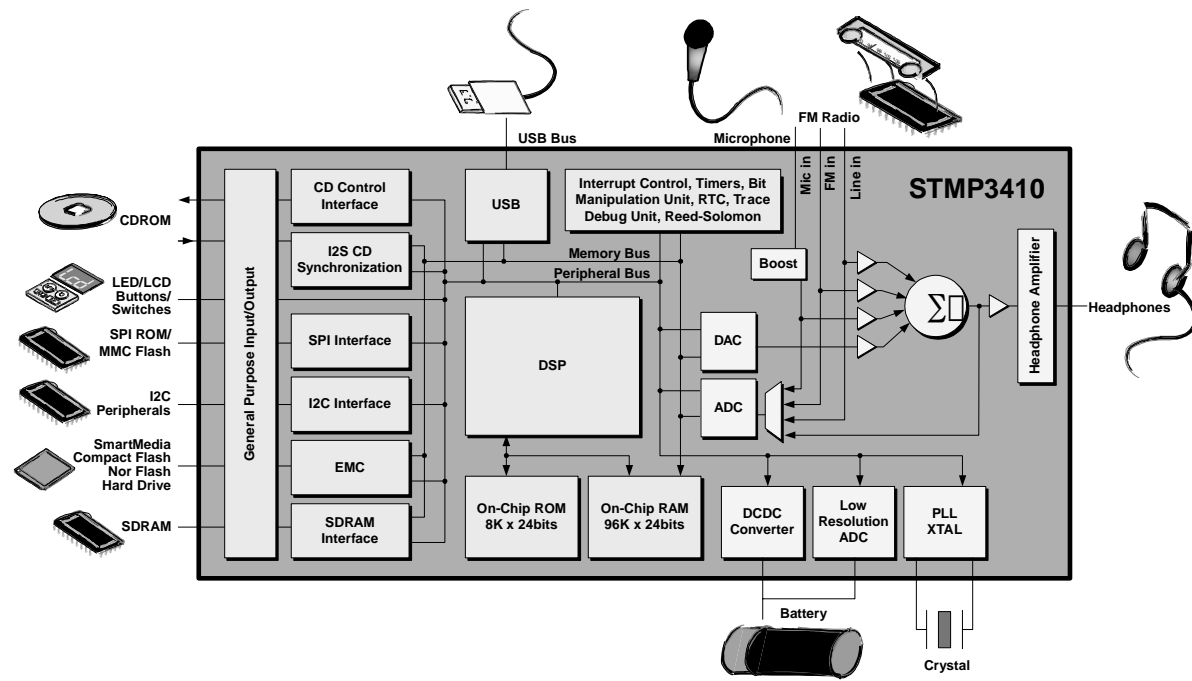


**PIN NAMES**

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
$\overline{RY/BY}$	Ready/Busy
GND	Ground input
VCC	Power supply
VSS	Ground

BLOCK DIAGRAM OF AUDIO DECODER

STMP3410



PIN DESCRIPTION OF AUDIO DECODER

STMP3410

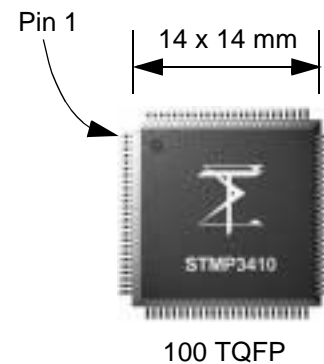
100TQFP	PIN	MODULE	TYPE	DESCRIPTION
34	CF_D4	EMC-CF	I/O	CompactFlash Data 4
35	CF_D5	EMC-CF	I/O	CompactFlash Data 5
36	CF_D6	EMC-CF	I/O	CompactFlash Data 6
37	CF_D7	EMC-CF	I/O	CompactFlash Data 7
38	VssD1	POWER	P	Digital Core Ground 1
39	VddD1	POWER	P	Digital Core Power 1
40	CF_CDn	EMC-CF	I	CompactFlash Card Detect
41	CF_READY	EMC-CF	I	CompactFlash Ready
42	CF_WPn	EMC-CF	I	CompactFlash Write Protect
43	CF_RESETh	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 oscillator (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_SS <sub>n</sub>	SPI	I	SPI Slave Select

PIN DESCRIPTION OF AUDIO DECODER

STMP3410

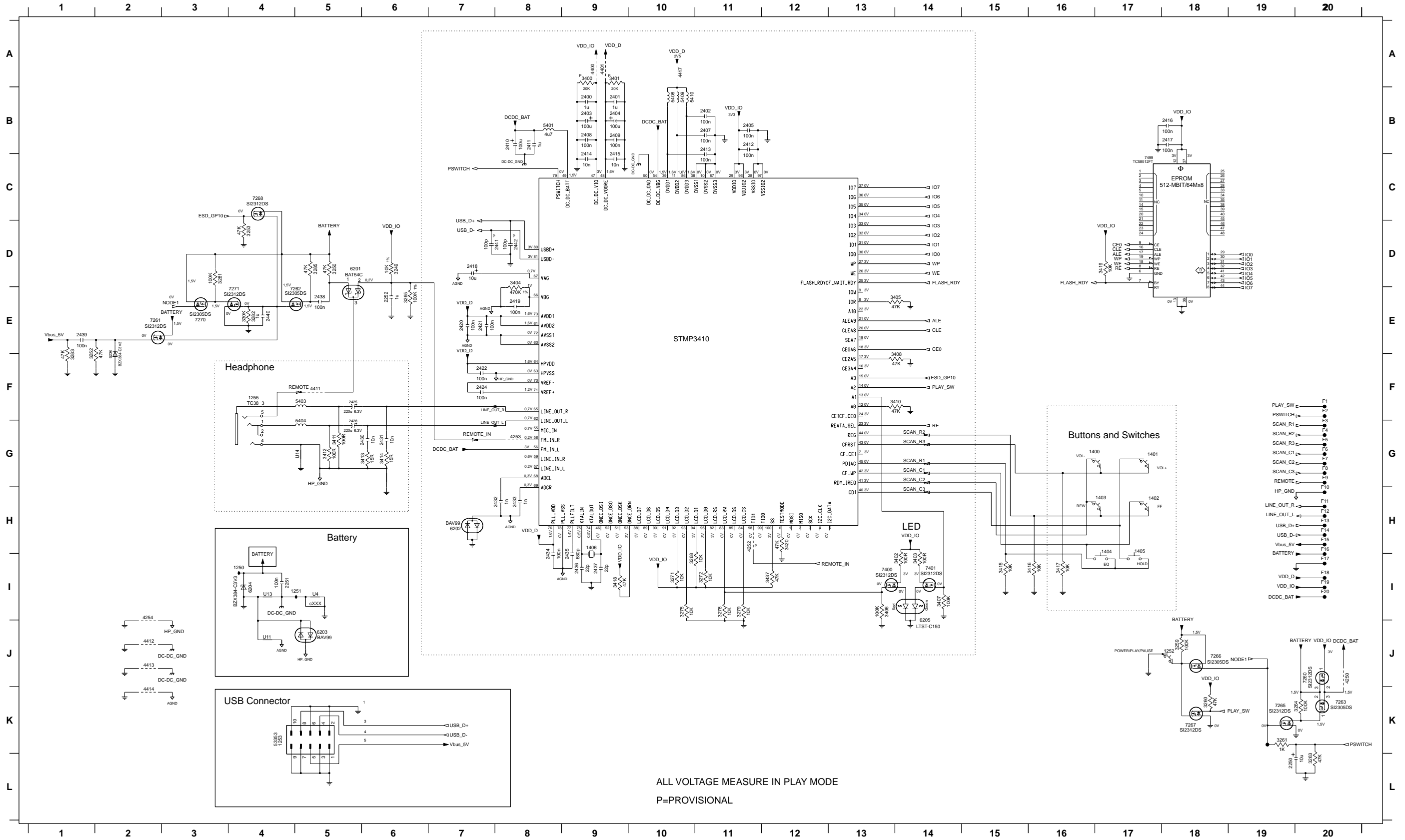
Pin Placement and Definitions

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_CE1 <sub>n</sub>	EMC-CF	O	CompactFlash Chip Enable 1
8	CF_IORD <sub>n</sub>	EMC-CF	O	CompactFlash I/O Read Data Strobe
9	CF_IOWR <sub>n</sub>	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_WP <sub>n</sub>	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



# CIRCUIT DIAGRAM - ACT200 MAIN BOARD

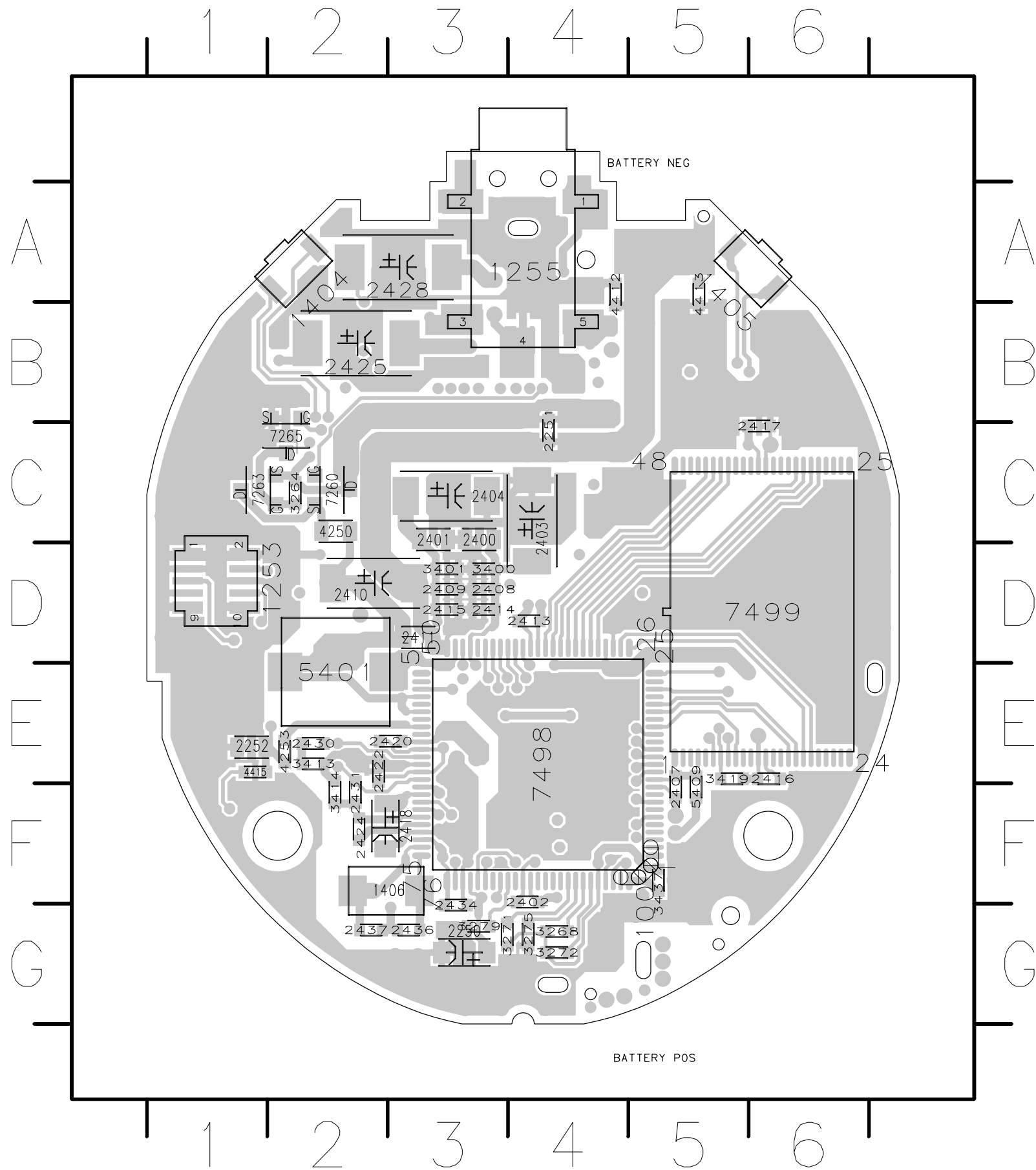
F1 F20	F5 G20	F9 G20	F12 H20	F16 H20	F20 I20	1250 I4	1255 F4	1403 H17	2250 L20	2401 B9	2405 B11	2410 B8	2414 C9	2418 D7	2422 F7	2430 G6	2434 I8	2438 E5	2442 D8	3253 D4	3263 L20	3271 I10	3279 H11	3285 D5	3403 I4	3407 I14	3412 G5	3416 H16	3420 H12	4253 G8	4411 F5	4417 A10	5408 B10	6202 H7	6206 F2	7263 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	3249 D6	3259 J18	3264 K20	3272 I11	3281 D3	3400 A9	3404 D8	3408 F14	3413 G6	3417 H16	3437 I12	4254 I2	4412 J2	5401 B8	5409 B10	6203 J5	7260 J20	7265 K19	7270 E3	7499 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	3275 I10	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 D5	7267 K18	7400 I13	



- PLAY\_SW → F1
- PSWITCH → F2
- SCAN\_R1 → F3
- SCAN\_R2 → F4
- SCAN\_R3 → F5
- SCAN\_C1 → F6
- SCAN\_C2 → F7
- SCAN\_C3 → F8
- REMOTE → F9
- HP\_GND → F10
- LINE\_OUT\_R → F11
- LINE\_OUT\_L → F12
- USB\_D+ → F13
- USB\_D- → F14
- Vbus\_SV → F15
- BATTERY → F16
- VDD\_D → F18
- VDD\_IO → F19
- DCDC\_BAT → F20

# LAYOUT DIAGRAM - ACT200 MAIN BOARD

## COMPONENT SIDE

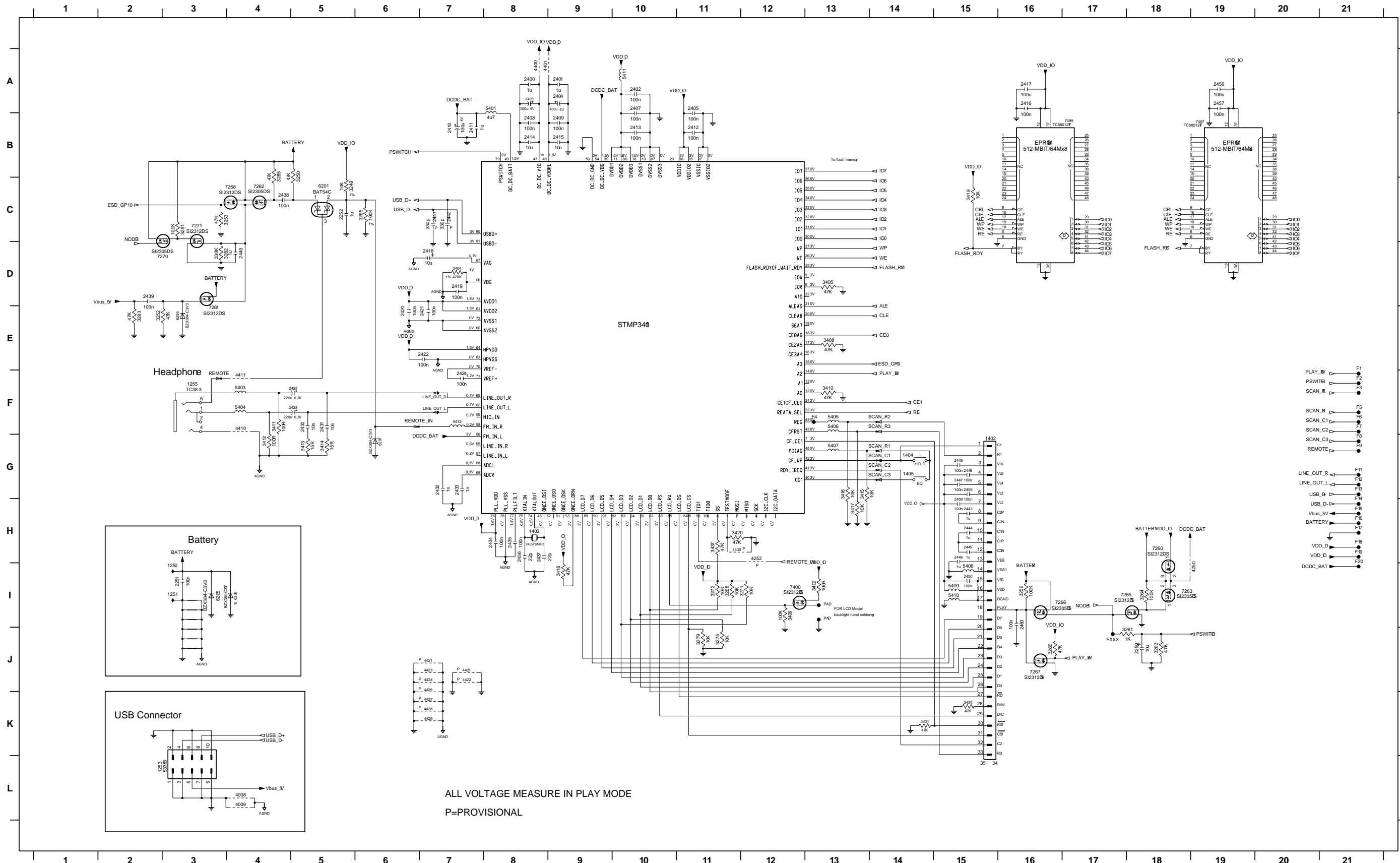


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1	4	0	4	A	2	3	4	1	3	A	3
1	4	0	5	A	5	3	4	1	4	A	4
1	4	0	6	F	3	3	4	1	9	F	5
2	2	5	0	F	3	3	4	3	7	F	5
2	2	5	1	C	4	4	2	5	0	C	2
2	2	5	2	F	1	4	2	5	3	F	2
2	4	0	0	C	3	4	4	1	2	C	4
2	4	0	1	C	3	4	4	1	3	C	5
2	4	0	2	F	4	4	4	1	5	F	1
2	4	0	3	C	4	5	4	0	1	C	2
2	4	0	4	F	3	7	2	6	0	F	5
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2	4	1	1	D	3	7	4	9	8	D	6
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2	4	2	0	F	3	7	4	9	9	F	3
2	4	2	2	F	2	7	4	9	9	F	2
2	4	2	4	B	2	7	4	9	9	B	2
2	4	2	5	A	2	7	4	9	9	A	3
2	4	3	0	F	2	7	4	9	9	F	2
2	4	3	1	F	2	7	4	9	9	F	2
2	4	3	4	G	3	7	4	9	9	G	3
2	4	3	6	G	3	7	4	9	9	G	3
2	4	3	7	G	2	7	4	9	9	G	2
3	2	6	4	G	4	7	4	9	9	G	4
3	2	7	1	G	3	7	4	9	9	G	3
3	2	7	2	G	4	7	4	9	9	G	4
3	2	7	5	G	4	7	4	9	9	G	4
3	2	7	9	G	3	7	4	9	9	G	3



# CIRCUIT DIAGRAM - ACT210 MAIN BOARD

F1 F3	F5 F3	F9 G21	F14 H21	F18 H2	1251 I3	1404 G4	2251 I3	2402 B6	2407 B10	2411 B6	2415 B9	2419 E7	2424 F7	2431 G5	2435 H8	2438 E3	2443 H15	2447 H15	2456 B9	2460 J6	3253 D4	3263 J8	3271 I2	3281 D3	3402 I6	3408 E8	3413 G5	3417 H13	3430 K6	4009 L4	4401 A9	4422 K7	4426 K7	4430 I8	5405 G8	5409 H5	6201 C5	6208 I4	7263 I8	7269 C4	7497 B8
F2 F3	F6 G21	F11 G21	F15 H21	F19 I21	1253 L3	1405 G4	2252 D6	2403 B8	2408 B8	2412 B1	2416 B6	2420 E6	2425 F5	2432 H7	2436 I8	2440 D4	2444 H15	2448 G15	2457 B9	3249 C6	3259 I6	3264 I7	3272 I8	3282 D4	3404 D7	3410 F8	3414 G5	3418 I9	3431 K4	4250 I8	4410 G4	4423 J7	4427 K7	5401 B8	5406 G8	6205 I4	7260 I8	7265 I7	7270 D3	7499 B8	
F3 F3	F7 G21	F12 H21	F16 H21	F20 I21	1255 F3	1406 H8	2400 B8	2404 B9	2409 B9	2413 B6	2417 B6	2421 E7	2428 F5	2433 H7	2437 I9	2441 D7	2445 H15	2449 G15	2458 H6	3250 C5	3260 J6	3265 D6	3275 J11	3283 E3	3405 E8	3411 G5	3415 H8	3419 C15	3437 I8	4252 I2	4411 F4	4424 K7	4428 K7	5403 F4	5407 G8	6206 E3	7261 E4	7266 I6	7271 D3	FXXX JM	
F4 G13	F8 G21	F13 H21	F17 H21	1250 I3	1402 G6	2250 J7	2401 B9	2405 B1	2410 B7	2414 B8	2418 D7	2422 F7	2430 G5	2434 H8	2438 C5	2442 D7	2446 H15	2450 H15	2459 H6	3252 E3	3261 J7	3268 I8	3279 J11	3285 C5	3406 J12	3412 G4	3416 H8	3420 H11	4008 L4	4400 A8	4421 J7	4425 J7	4429 K7	5404 F4	5408 I6	6207 G6	7262 C4	7267 J6	7400 I2		

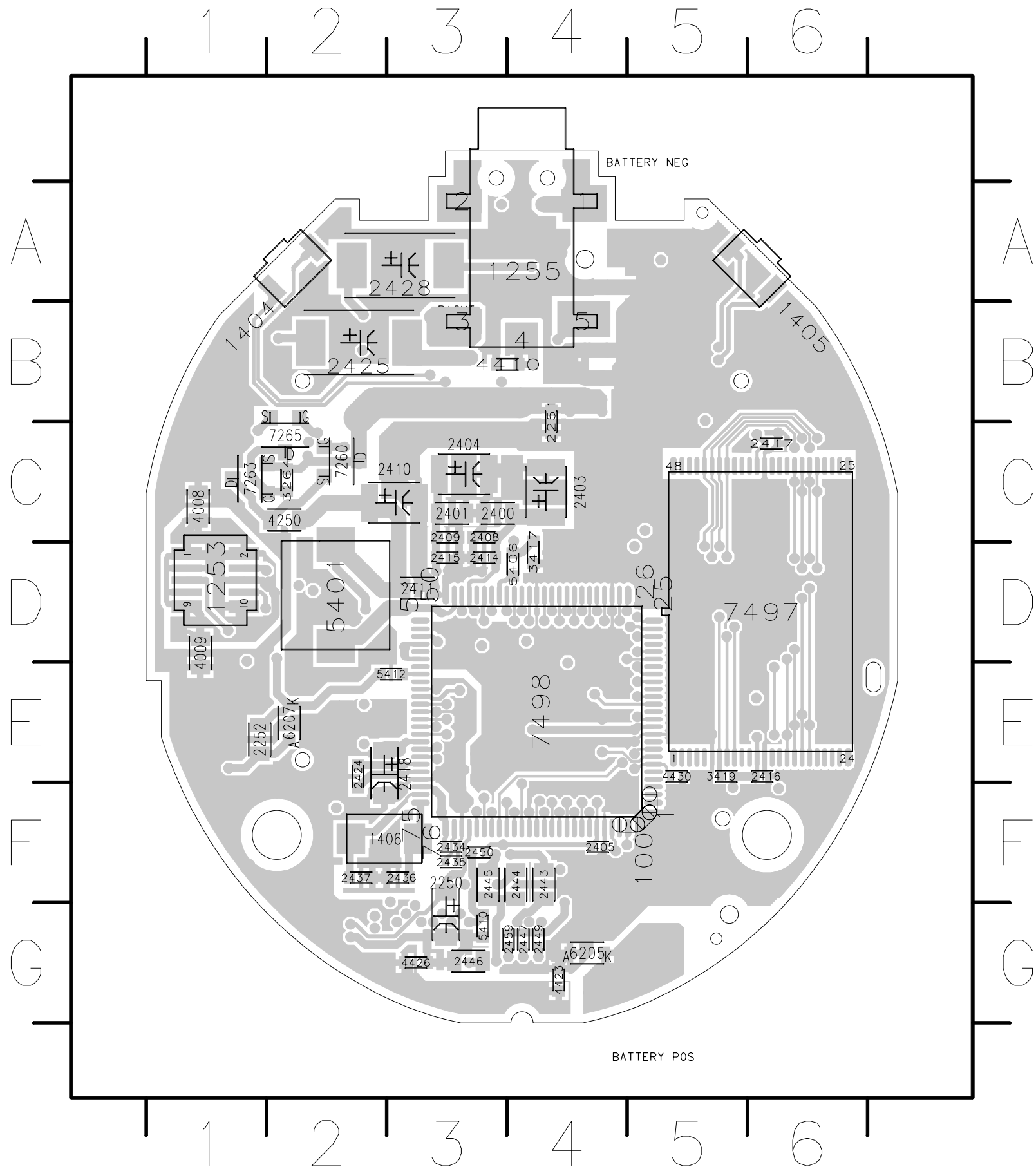


- PLAY\_SW F1
- PSWITCH F2
- SCAN\_R F3
- SCAN\_R F5
- SCAN\_C1 F6
- SCAN\_C2 F7
- SCAN\_C3 F8
- REMOTE F9
- LINE\_OUT\_R F11
- LINE\_OUT\_L F12
- USB\_DP F14
- Vbus\_SV F15
- BATTERY F16
- VDD\_D F17
- VDD\_D F18
- VDD\_D F19
- DCDC\_BAT F20

ALL VOLTAGE MEASURE IN PLAY MODE  
P=PROVISIONAL

LAYOUT DIAGRAM - ACT210 MAIN BOARD

COMPONENT SIDE



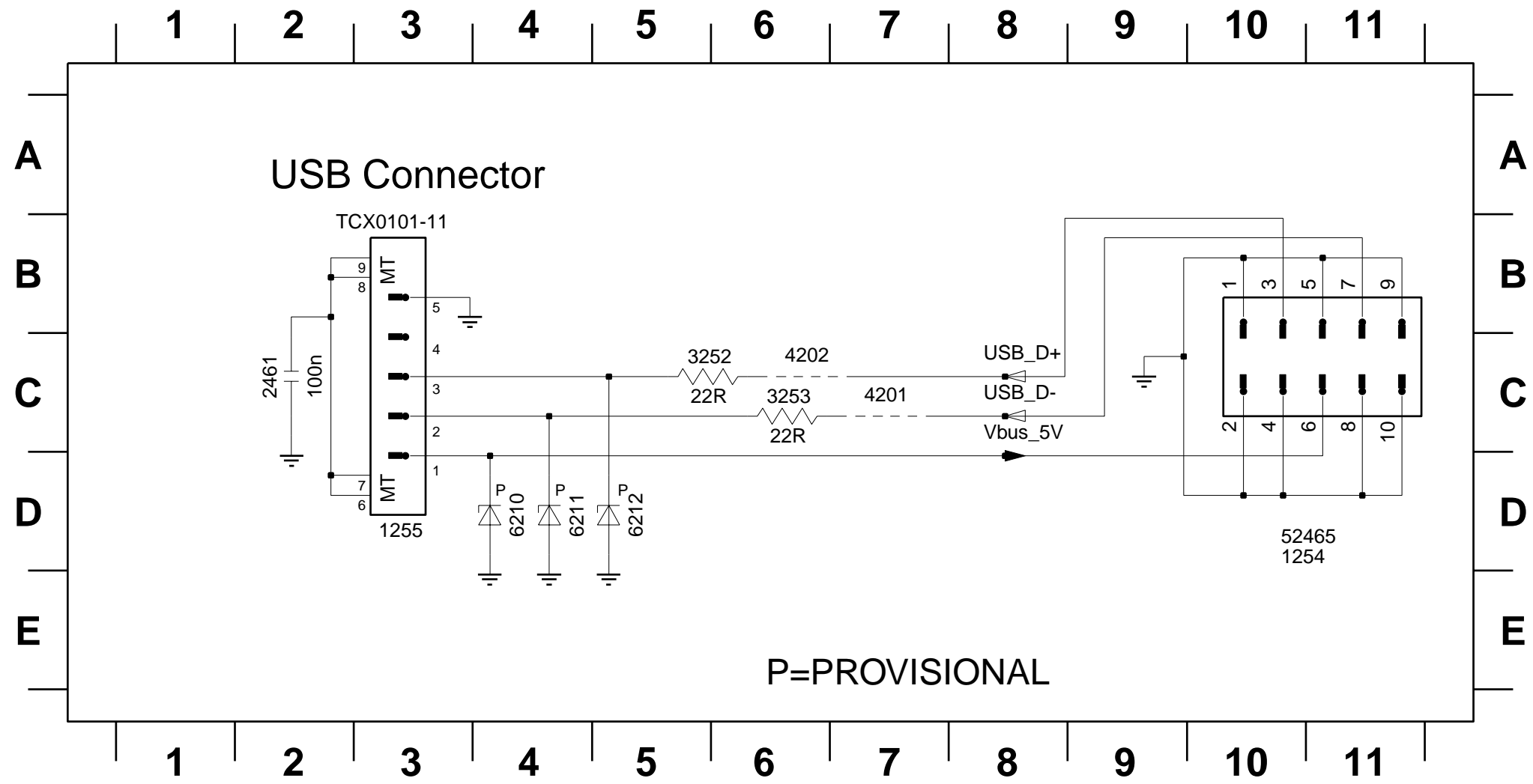
1	2	5	3	D	1	4	0	0	8	C	1
1	2	5	5	A	4	4	0	0	9	D	1
1	4	0	4	B	1	4	2	5	0	C	2
1	4	0	5	B	6	4	4	1	0	B	4
1	4	0	6	F	2	4	4	2	3	G	4
2	2	5	0	F	3	4	4	2	6	G	3
2	2	5	1	F	4	4	4	3	0	F	5
2	2	5	2	F	1	5	4	0	1	D	2
2	4	0	0	C	3	5	4	0	6	D	4
2	4	0	1	C	3	5	4	1	0	G	3
2	4	0	3	C	4	5	4	1	2	F	3
2	4	0	4	F	3	6	2	0	5	F	4
2	4	0	5	F	4	6	2	0	7	F	2
2	4	0	8	C	3	7	2	6	0	C	2
2	4	0	9	C	3	7	2	6	3	C	1
2	4	1	0	C	3	7	2	6	5	C	2
2	4	1	1	D	3	7	4	9	7	D	6
2	4	1	4	D	3	7	4	9	8	F	4
2	4	1	5	D	3	7	4	9	8	F	4
2	4	1	6	D	3	7	4	9	8	F	4
2	4	1	7	F	3	7	4	9	8	F	4
2	4	1	8	F	3	7	4	9	8	F	4
2	4	2	4	F	2	7	4	9	8	F	4
2	4	2	5	B	2	7	4	9	8	F	4
2	4	2	8	F	3	7	4	9	8	F	4
2	4	3	4	F	3	7	4	9	8	F	4
2	4	3	5	F	3	7	4	9	8	F	4
2	4	3	6	F	3	7	4	9	8	F	4
2	4	3	7	F	2	7	4	9	8	F	4
2	4	4	3	F	4	7	4	9	8	F	4
2	4	4	4	F	4	7	4	9	8	F	4
2	4	4	5	F	3	7	4	9	8	F	4
2	4	4	6	G	3	7	4	9	8	F	4
2	4	4	7	G	4	7	4	9	8	F	4
2	4	4	9	G	4	7	4	9	8	F	4
2	4	5	0	F	3	7	4	9	8	F	4
2	4	5	9	G	4	7	4	9	8	F	4
3	2	6	4	C	2	7	4	9	8	F	4
3	4	1	7	D	4	7	4	9	8	F	4
3	4	1	9	E	5	7	4	9	8	F	4





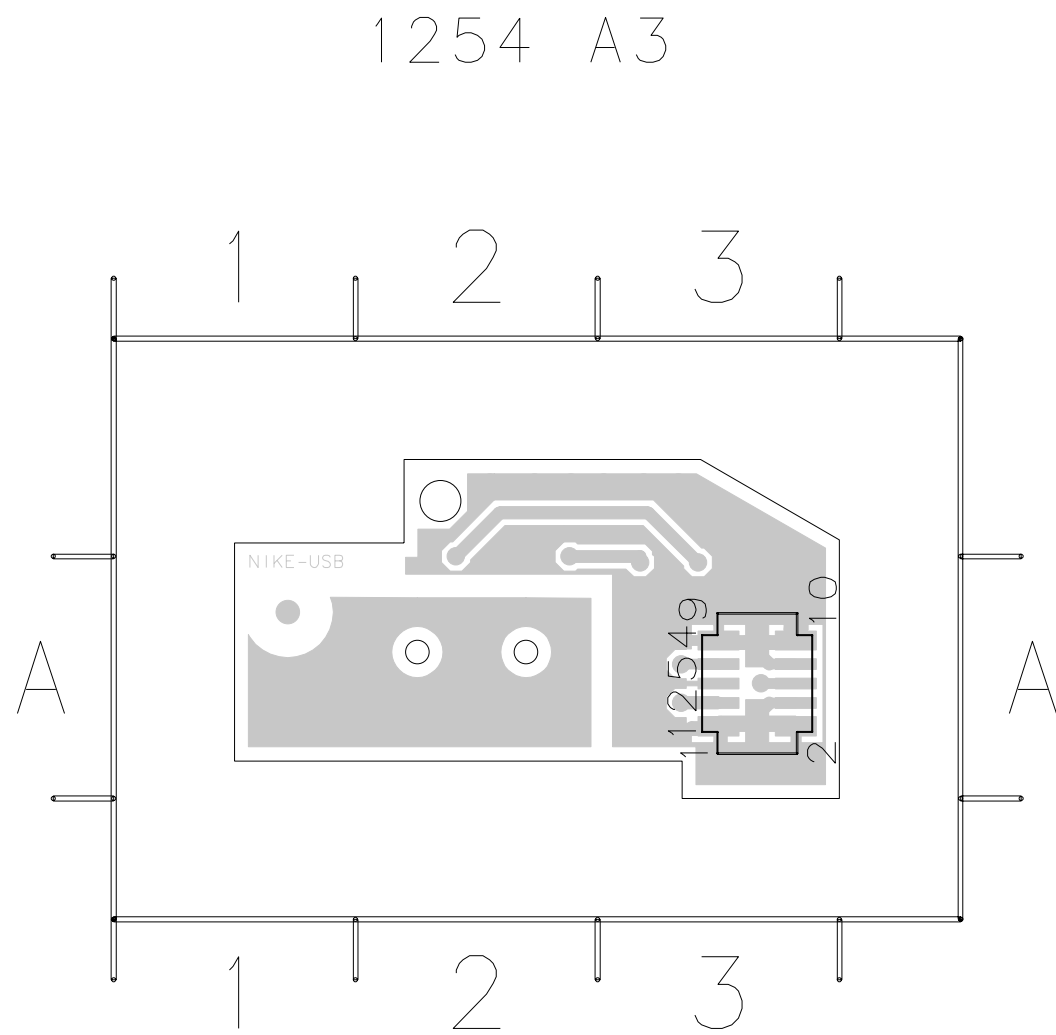
CIRCUIT DIAGRAM - ACT200/210 USB BOARD

1254 D10	2461 C2	3253 C6	4202 C6	6211 D4
1255 D3	3252 C5	4201 C7	6210 D4	6212 D5



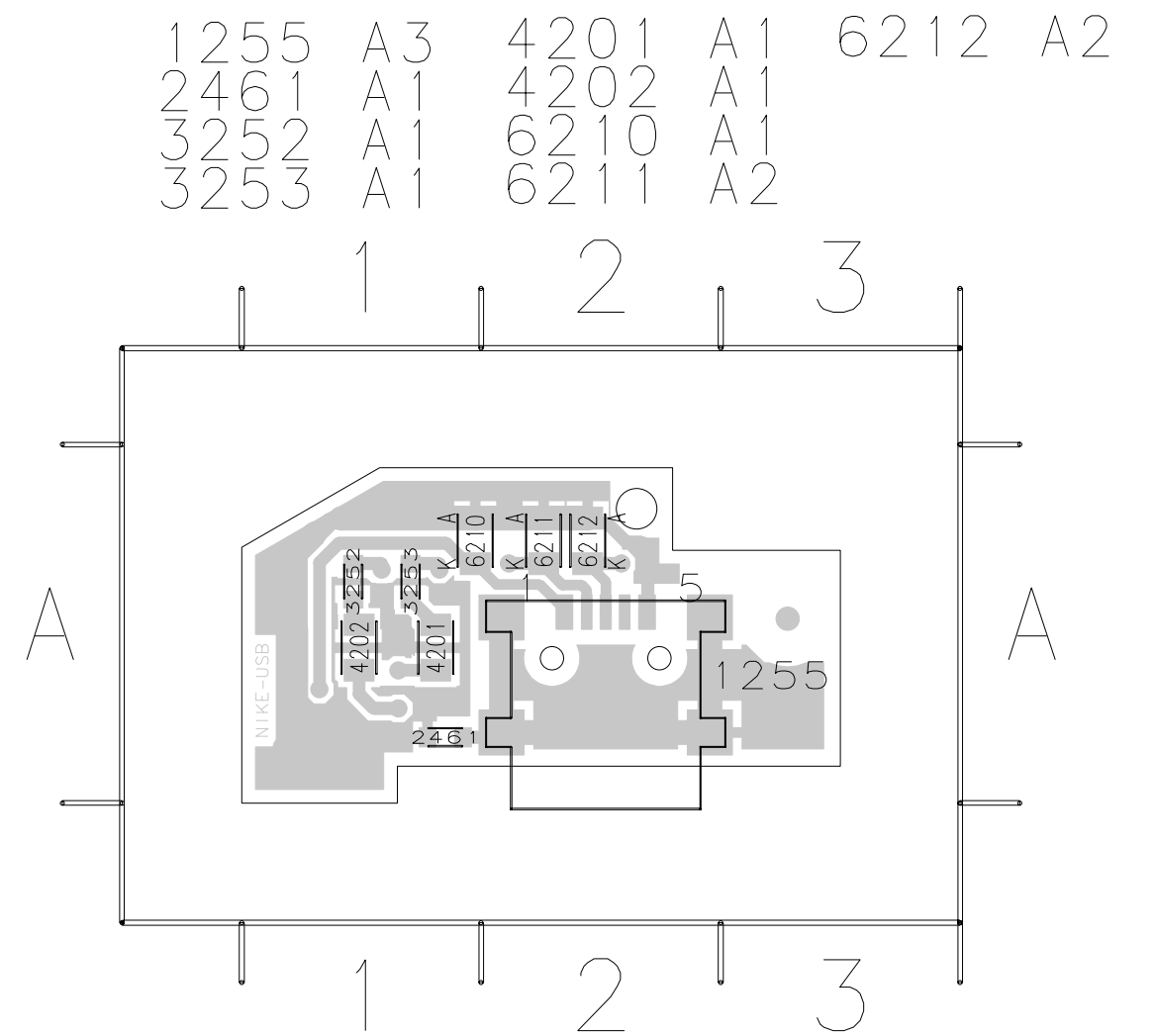
LAYOUT DIAGRAM - ACT200/210 USB BOARD

COMPONENT SIDE

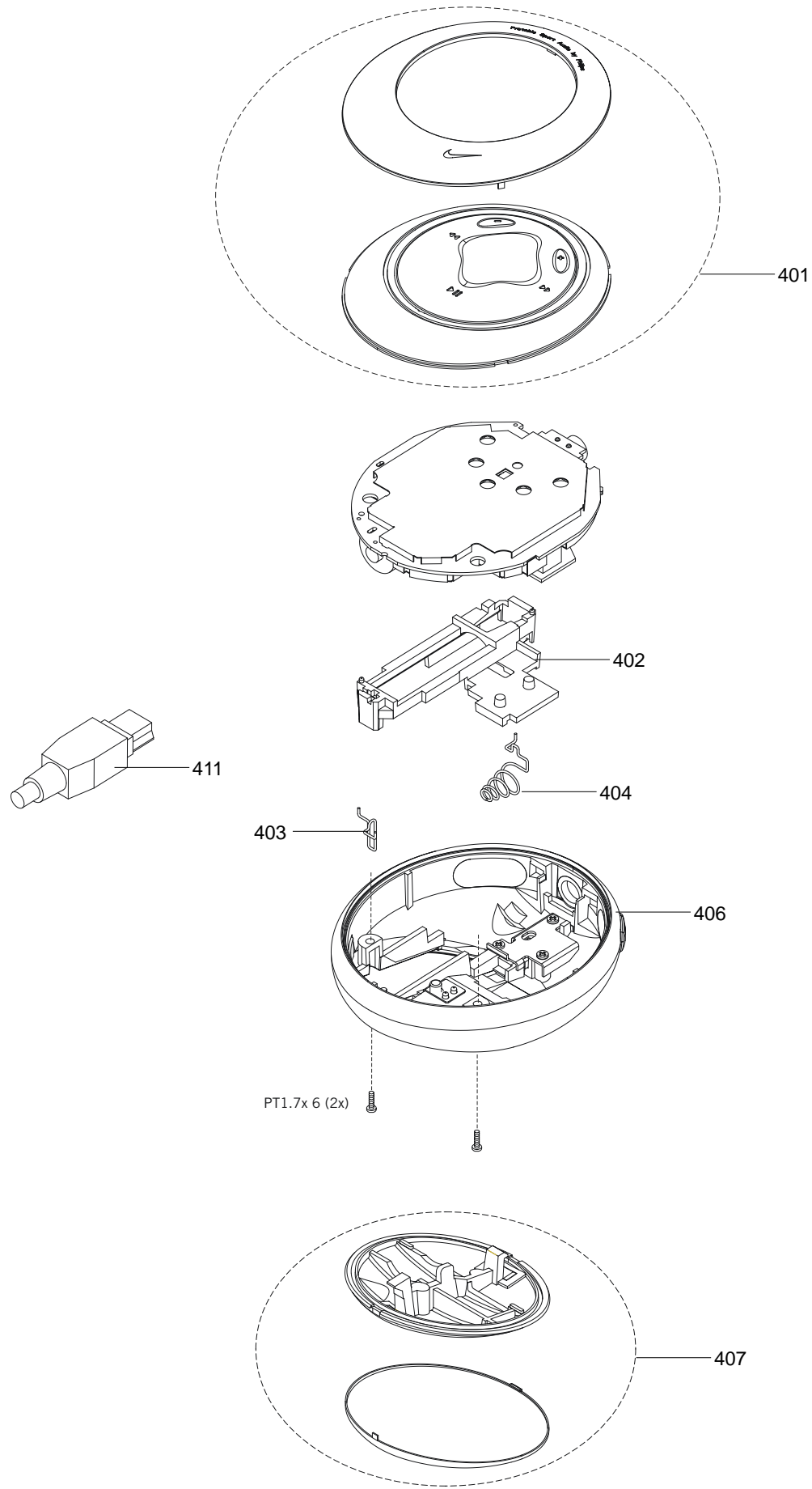


LAYOUT DIAGRAM - ACT200/210 USB BOARD

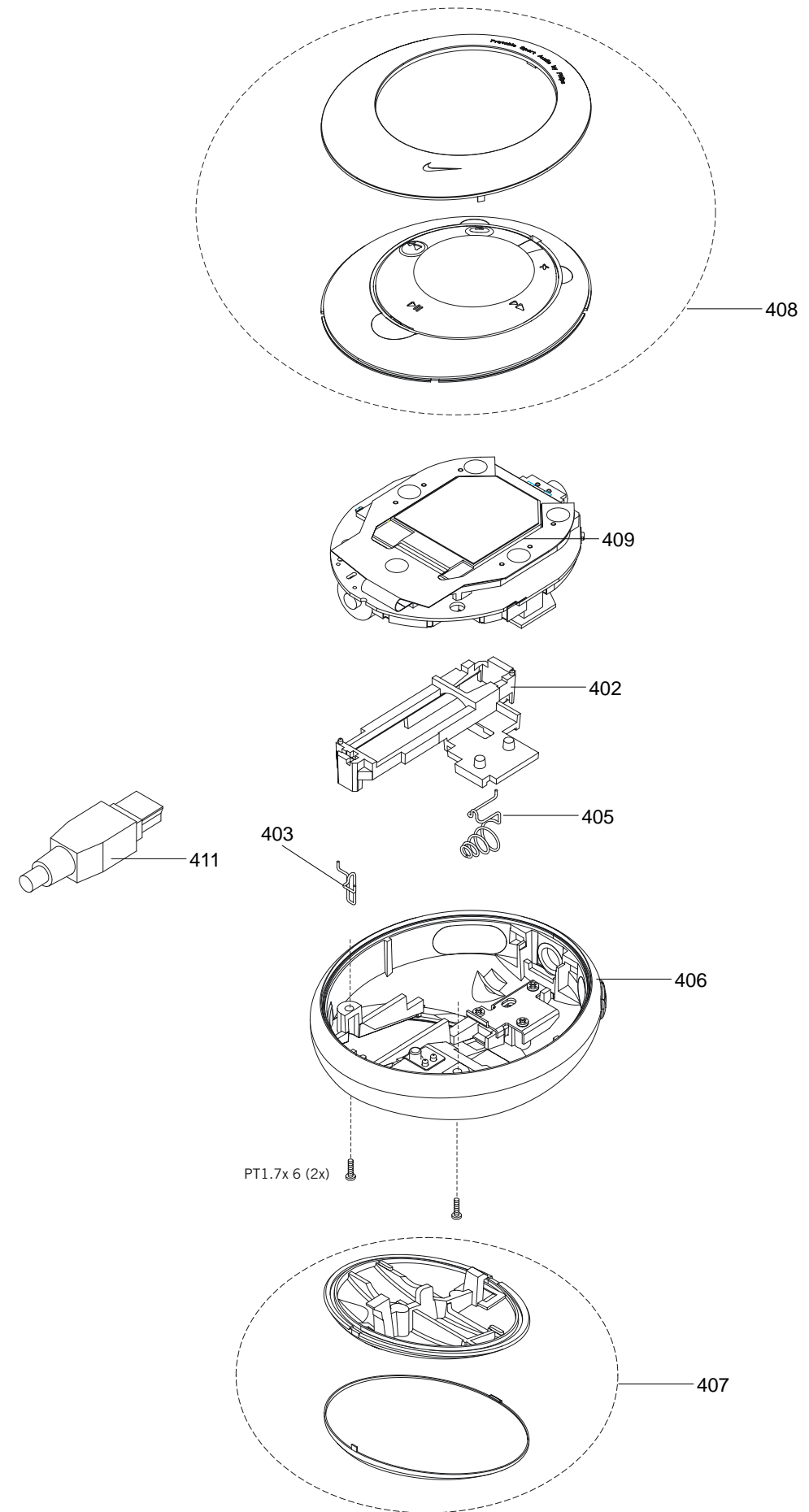
SMD SIDE



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 -**

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 -****- 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

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

**- 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.**

**- 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

**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****- 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

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

**- COILS & FILTERS -**

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

**- 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**

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**- MISCELLANEOUS -**

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

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**- CAPACITORS -**

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

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

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**- COILS & FILTERS -**

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5406	4822 157 71206	BLM21A601SPT
5407	4822 157 71206	BLM21A601SPT

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