Service
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Service Manual

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3141 785 30701

Version 1.1

PHILIPS

1.0 TECHNICAL SPECIFICATION and SERVICE HINTS

General

Dimensions (WxHxD) :	53.7 X 86.0 X 16.3 mm (2.11 x 3.39 x 0.64 inch)
Weight :	87 g
Output power :	2 x 5 mW (16 Ohm)
Frequency response :	20 – 16 000 Hs
Equalizer :	5-bands
Hard disk :	
Capacity :	4GB – 6GB
Display :	128 x 128 pixels, 65K color
Backlight :	White
Battery :	630 mAh Li-Ion rechargeable battery
Battery life time:	>16hrs
File transfer rate using USB2.0 :	>4Mbyte
Battery charging current	450mA
Maximum charging time :	4hr
Battery cutoff voltage:	3.7V
Connections:	Headphone Line Out Jack Power Connector

Battery level detection

Detection Level	Typ.
4-step to 3-step voltage	3.6 – 3.7V
3-step to 2-step voltage	3.53 – 3.6V
2-step to 1-step voltage	3.48 – 3.53V
Force Power Off voltage	<3.5V

Current consumption

DC-IN SUPPLY (4.5V)	
Battery Charging Current	450mA
BATT. SUPPLY (3.7V)	
Power Off	300uA
Idle	30mA
Playback without HDD reading	30mA
Playback with HDD reading	345mA
File transfer using USB2.0	350mA

Headphone out (headphone output load 2x16 ohm)

Maximum output power :	10 mW
Frequency response :	45Hz – 16kHz (16Ω load) 20Hz – 16kHz (15kΩ load)
SNR (A-wght) :	85dB
THD (1kHz) :	0.1%
Left-Right Channel Separation :	45dB typ. (1k Hz) 40dB typ. (20Hz – 16kHz)
Left-Right Channel Balance :	<1.0dB (1k Hz) <2.0dB (20Hz – 16kHz)

Supported playback format

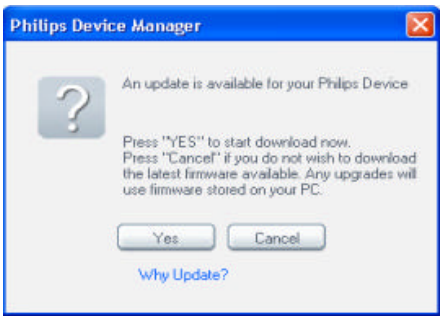
MP3 :	8 - 320 Kbps and VBR
WMA :	32 - 192 Kbps
Sample rates :	8, 11.025, 16, 22.050 32, 44.1, 48
ID3-tag support :	Yes
PC Connectivity :	USB

File Transfer
via **Windows Media Player 10** for music and picture playback or Windows Explorer for general data (music playback disabled)

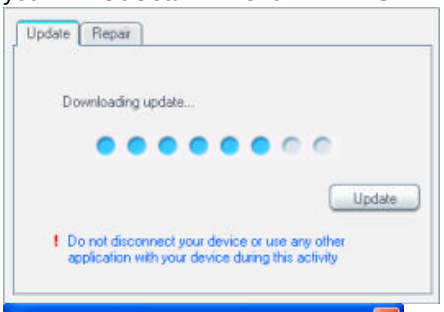
Firmware and software upgrades

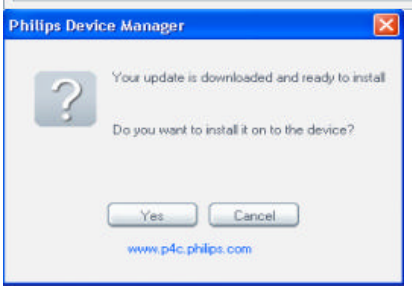
1. If you have not already installed the Device Manager download the latest version of the Device Manager from http://www.philips.com/support. You may need to enter your language preference and the model number e.g.HDD1630, to access the Device/Firmware Manager upgrade file.
2. Download the zip file into a temp folder in your computer. Unzip the file and then double click the Setup.exe file to start the installation of the Device Manager.
3. Once the installation is complete, connect the GoGear to the power supply with the AC/DC adapter.
4. Make sure all other applications such as Philips Device plug-in, Windows Media Player or Windows Explorer that accessing the device are closed or else Device Manager will not recognize the device. Launch the **Philips Device Manager** at **Start->Programs->Philips Device Manager->Philips Device Manager** on your PC.
5. Click Update in the dialogue box

the **Philips Device Manager** will detect the connection of your GoGear and the application will automatically check on the server to see if an update is available and prompt user to download the updated firmware. Click **YES** to start the downloading.

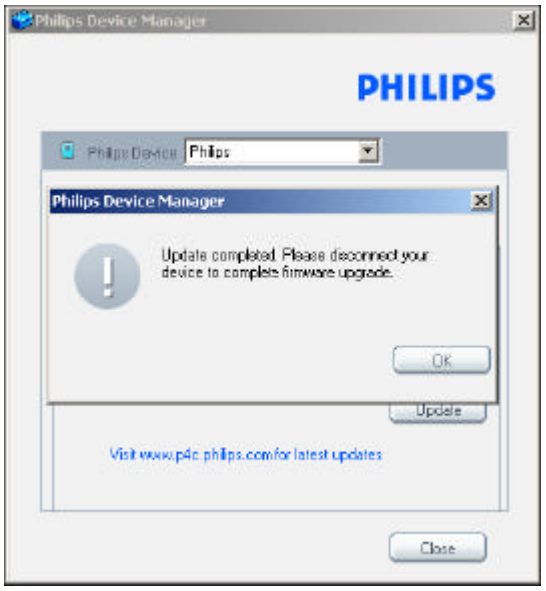


6. A status bar will show the downloading progress of the firmware. Once the downloading is complete the application will prompt you to install the update onto your GoGear. Click **YES** to confirm





7. The application will show the status of updating and at the end you need to click OK to complete the update.



(Please do not disconnect the jukebox during the upgrading process as this interruption may damage the firmware!)

8. Follow all screen instructions to complete the firmware upgrade.

9. The Device Manager will close automatically once the success message is displayed. Close all opened application and then unplug your GoGear.

10. Once the GoGear micro jukebox is disconnected from the computer, the display will show " Firmware Upgrading" for a couple of seconds and then start up as usual. If the message does not disappear after 2 minutes, do a soft reset by pressing and holding the Power on/off key and the volume + key for a couple of seconds.

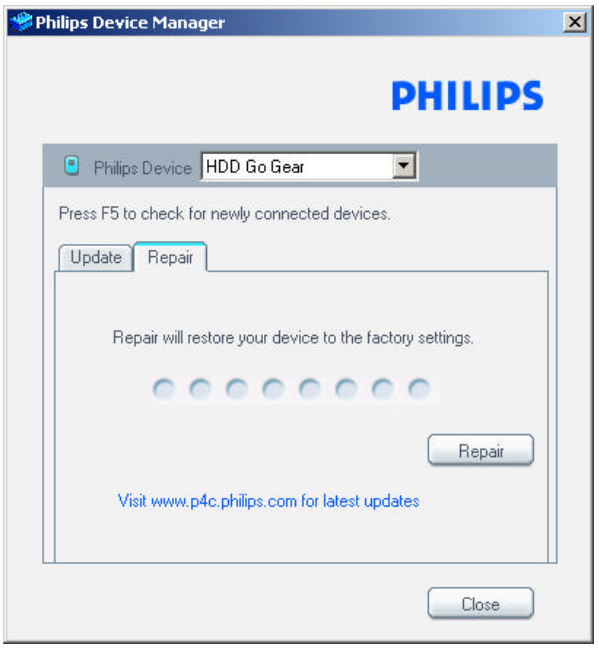
Repair the firmware with Device Manager

1. If you have not already installed the Device Manager download the latest version of the Device Manager from http://www.philips.com/support. You may need to enter your language preference and the model number e.g.HDD1630, to access the Device/Firmware Manager upgrade file.

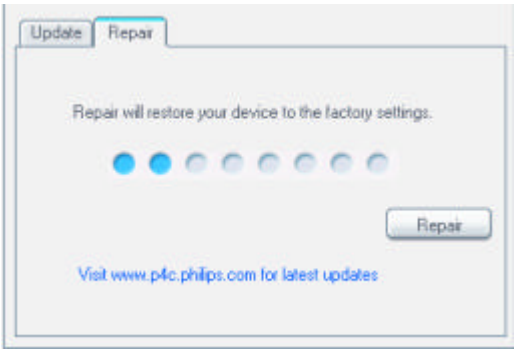
2. Download the zip file into a temp folder in your computer. Unzip the file and then double click the Setup.exe file to start the installation of the Device Manager.

3. Once the installation is complete, connect the GoGear to the power supply with the AC/DC adapter.

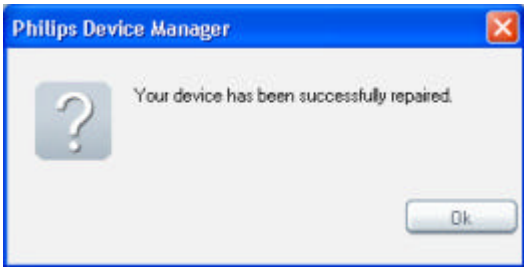
4. Make sure all other applications such as Philips Device plug-in, Windows Media Player or Windows Explorer that accessing the device are closed or else Device Manager will not recognize the device. Launch the **Philips Device Manager** at **Start->Programs->Philips Device Manager->Philips Device Manager** on your PC.



5. Click YES to start the downloading. A status bar will show the downloading progress of the firmware. Once the downloading is complete the application will prompt you to install the update onto your GoGear.



6. Once the repair is complete a dialogue box will pop up; click OK and unplug the GoGear from the computer.



IMPORTANT: All music & content of your micro jukebox will be erased once the factory setting is restored.

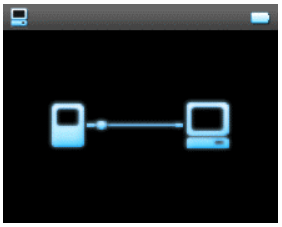
7. Follow all screen instructions to complete the repair.
8. The Device Manager will close automatically once the success message is displayed. Close all opened application and then unplug your micro jukebox.
9. Once the GoGear micro jukebox is disconnected from the computer, the display will show "Firmware Upgrading" for a couple of seconds and then start up as usual.

Service Hints

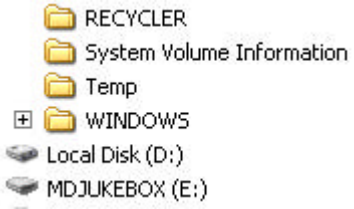
Re Rebuild database, firmware and Microsoft (Plays For Sure) copy protection key after replacement of hard disk or PCBA

IMPORTANT: All devices having the hard disk or PCBA replaced must have the firmware image, database and the Plays For Sure key rebuilt before returning to customers.

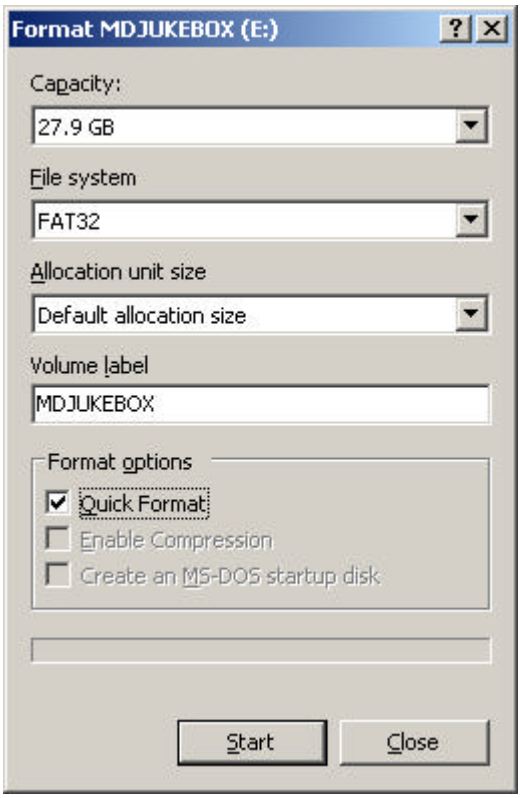
1. Connect the GoGear to the power supply and the computer with the combined charger and USB cable.
2. Reset the device by pressing and holding down the Volume + and the power on/off slider switch until the display turns off.
3. While the device restart, press and hold the volume – key until the Philips splash screen disappear and showing the connection icon to put the device in USB Mass Storage Device mode.



4. The device will be listed as a new drive named GOGEAR or MDJUKEBOX in Windows Explorer.



5. Launch Windows Explorer and then quick format the new drive to the file system FAT32.



IMPORTANT: All music & content of your micro jukebox will be erased once the device is formatted.

6. Unzip and copy all the content of the shipment ui files of the corresponding model version into the root directory of the device. (**CD ROM with the Shipment ui files will be provided to repair workshops**.)
7. Disconnect the GoGear from the computer by clicking on the safely remove hardware icon on the task tray.
8. Wait until the display shows " Burn success" .
9. Reset the device again by pressing and holding down the Volume + and the power on/off slider switch until the display turns off.
10. Upgrade the firmware of the device to the latest version by following the procedure as mentioned under " Firmware software upgrades"

2.0 SAFTETY INSTRUCTIONS

GB **WARNING**

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

ESD

NL **WAARSCHUWING**

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

F **ATTENTION**

Tous les IC et beaucoup d'autres semi-conducteurs sont sensibles aux décharges statiques (ESD).
Leur longévité pourrait être considérablement écourtée par le fait qu'aucune précaution n'est prise à leur manipulation.
Lors de réparations, s'assurer de bien être relié au même potentiel que la masse de l'appareil et enfiler 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 kan die Lebensdauer drastisch reduzieren.
Veranlassen Sie, dass Sie im Reparaturfall über ein Pulsarmband mit Widerstand verbunden sind mit dem gleichen Potential wie die Masse des Gerätes.
Bauteile und Hilfsmittel auch auf dieses gleiche Potential halten.

I **AVVERTIMENTO**

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

GB

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

NL

Veiligheidsbepalingen vereisen, dat het apparaat bij reparatie in zijn oorspronkelijke toestand wordt teruggebracht en dat onderdelen, identiek aan de gespecificeerde, worden toegepast.

F

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

D

Bei jeder Reparatur sind die geltenden Sicherheitsvorschriften zu beachten. Der Original zustand des Geräts darf nicht verändert werden; für Reparaturen sind Original-Ersatzteile zu verwenden.

I

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

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

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

GB **Warning !**

Invisible laser radiation when open.
Avoid direct exposure to beam.

S **Varning !**

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

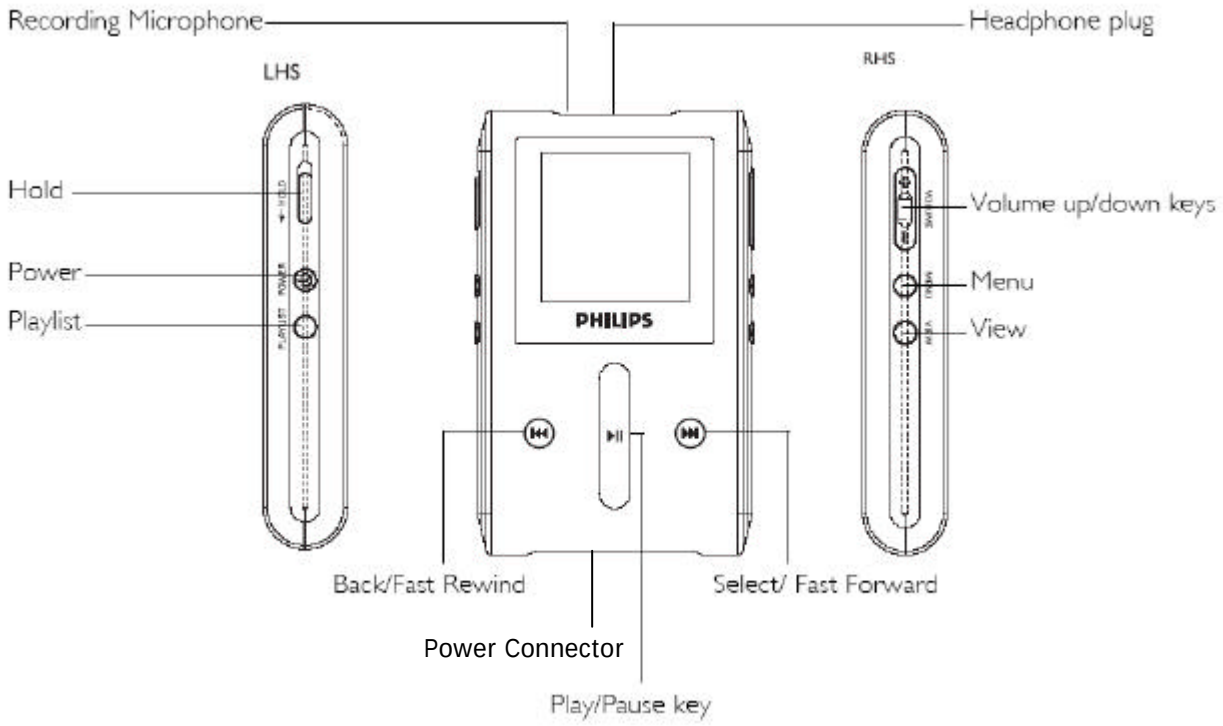
SF **Varoitus !**

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

DK **Advarse !**

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

3.0 INSTRUCTION FOR USE



Press this	To
⏻ POWER (about 3 seconds)	Power on / off
HOLD	Lock all touch control keys
▶II	Play / Pause songs
⏮	Back / Fast rewind
⏭	Select / Fast forward
+ VOLUME -	Control volume
VERTICAL TOUCH STRIP	Scroll through lists
MENU	Access list of menu options
VIEW	Switch between library and play screen
PLAYLIST	Add song to "Playlist on the go"

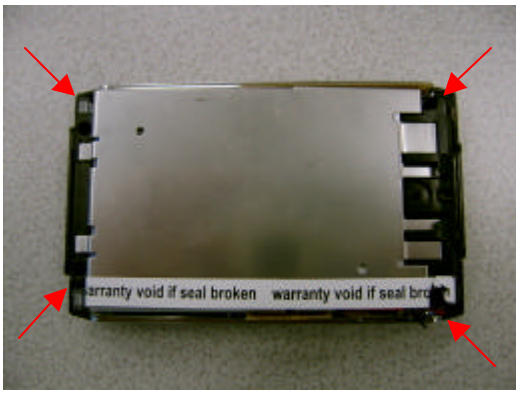
4.0 MECHANICAL INTRUCTIONS

Set Disassembly

1. Remove the cosmetic screw on the back cover by Allen Key.

2. Finger inset the gap of the top cover assy and the housing, and then carefully lift up the top cover.

3. Generally remove the housing.

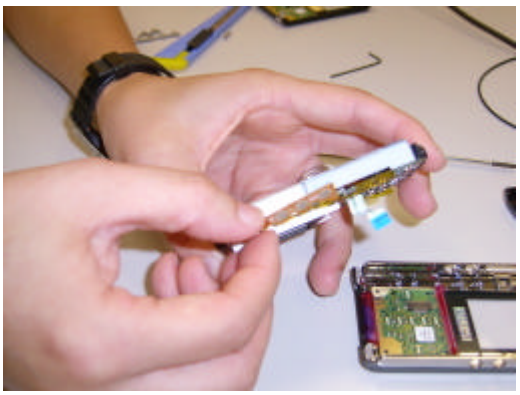


4. Remove the 4 screws on four corners. See pointed arrows.

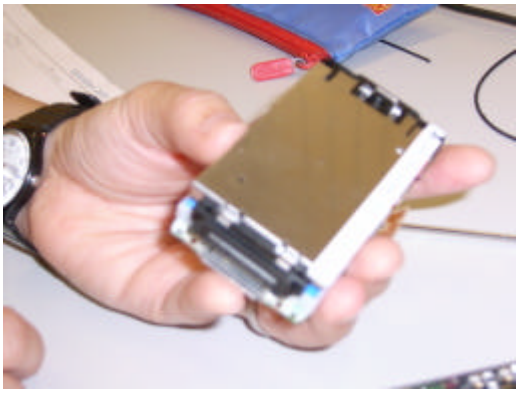
4.0 MECHANICAL INTRUCTIONS

5. Carefully pull out the mainboard assy, which include the HDD drive, LCD, battery and PCBA board.

6. Disconnect the flex cable from the front touch screen module carefully, then free the top cover assy.

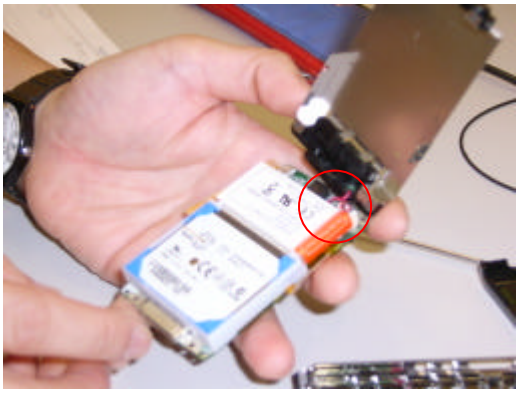


7. Lift up the double side tape of the side buttons.



8. Turn to the bottom side.

4.0 MECHANICAL INTRUCTIONS



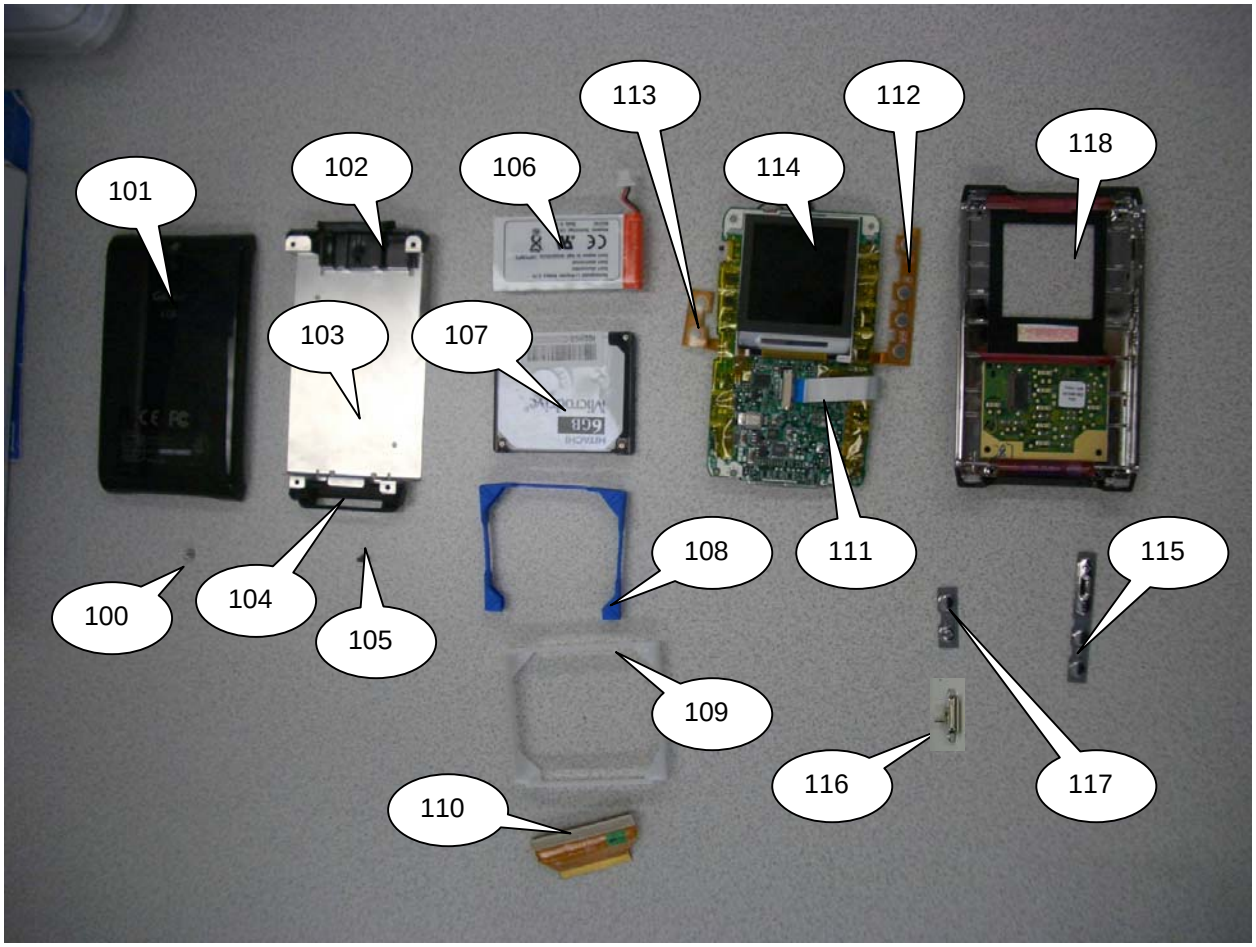
9. Open up the metal shielding and disconnect the cable connected to the battery. Carefully disassemble the mini mic as circled in the picture from the plastic audio jack holder.

10. Remove the battery part form PCBA.

11. Lift up the hard disk and disconnect the flex cable underneath from the PCBA.

12. After remove both battery and hard disk.

5.0 EXPLODED VIEW AND SERVICE PARTS LIST



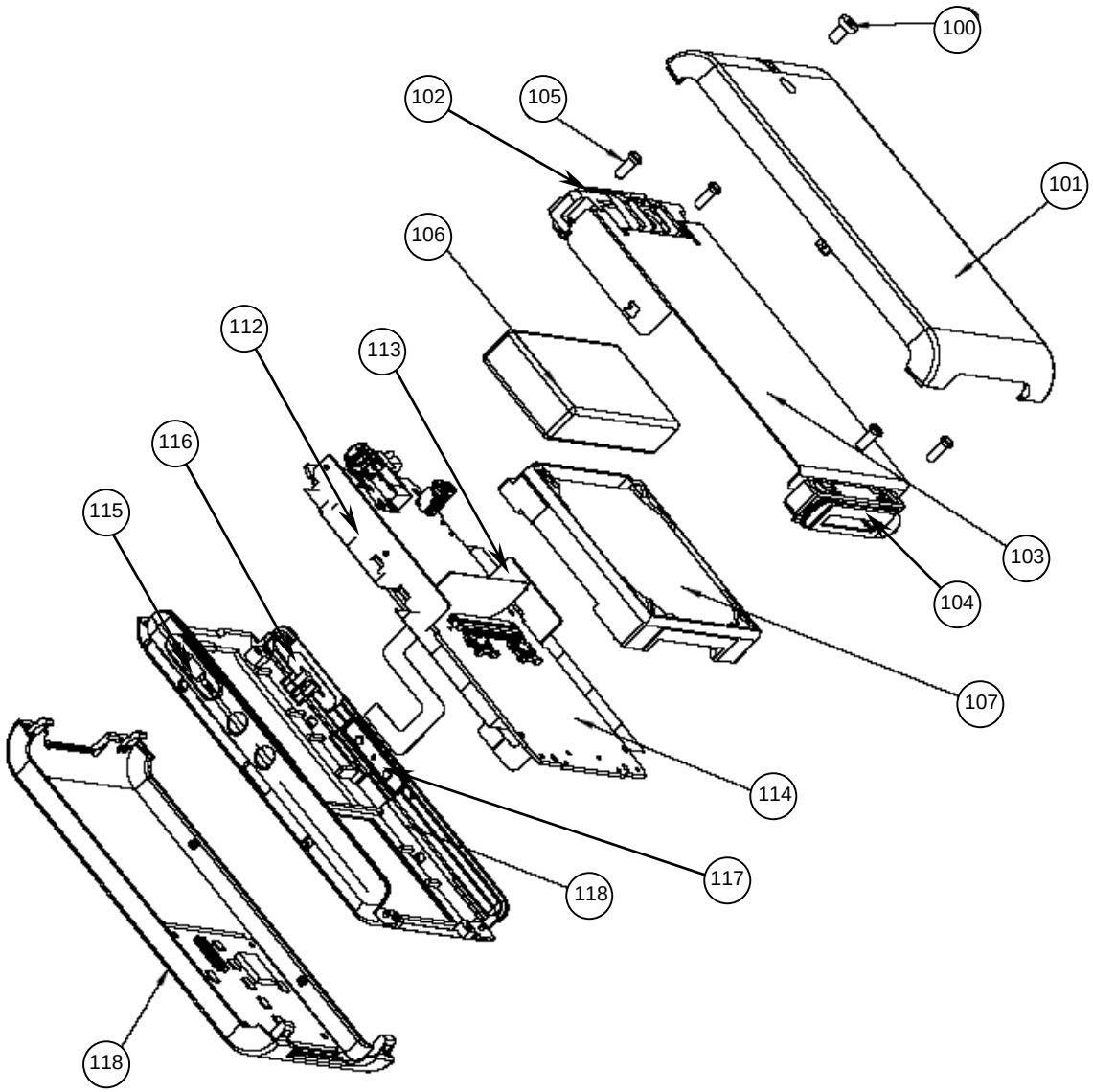
MECHANICAL PARTS

100	994000003554	COSMETIC SREW PHOENIX
101	994000003555	BACK CABINET PHOENIX
102	994000003559	AUDIO JACK HOLDER ASSY
103	994000003556	SHIELDING PHOENIX
104	994000003572	CRADLE HOLDER PHOENIX
105	994000003558	SCREW 1.7X5 PHOENIX
106	994000003557	BATTERY PACK PHOENIX
107	282206200084	HDD 4GB (HDD1420/00)
	282206200079	HDD 6GB (HDD1620/00/05, HDD1630/17 & HDD1635/17)
108	994000003563	HDD DAMPER PHOENIX
109	994000003564	HDD HOLDER PHOENIX
110	994000003568	HD FPC PHOENIX
111	994000003565	FFC PHOENIX
112	994000003566	KEY FPC 1 PHOENIX
113	994000003567	KEY FPC 2 PHOENIX
114	994000003569	PCBA W/Z RADIO LCD PHOENIX (HDD1630/17 & HDD1635/17)
	994000003571	PCBA W/O RADIO LCE PHOENIX (HDD1420/00 & HDD1620/00/05)
115	994000003573	RIGHT SIDE KEYPAD PHOENIX
116	994000003574	HOLD KEY PHOENIX
117	994000003575	LEFT SIDE KEYPAD PHOENIX
118	994000003576	HOUSING TOUCHPAD PHOENIX

MISCELLENEOUS

	994000003527	EARPHONE SHE9500
	994000003577	AC ADAPTOR AD7150/00
	994000003578	AC ADAPTOR AD7153/17
	994000003579	AC ADAPTOR AD715B/05
	994000003791	CRADLE ASSY PHOENIX (HDD1635/17)

5.0 EXPLODED VIEW AND SERVICE PARTS LIST



MECHANICAL PARTS

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110	994000003568	HD FPC PHOENIX
111	994000003565	FFC PHOENIX
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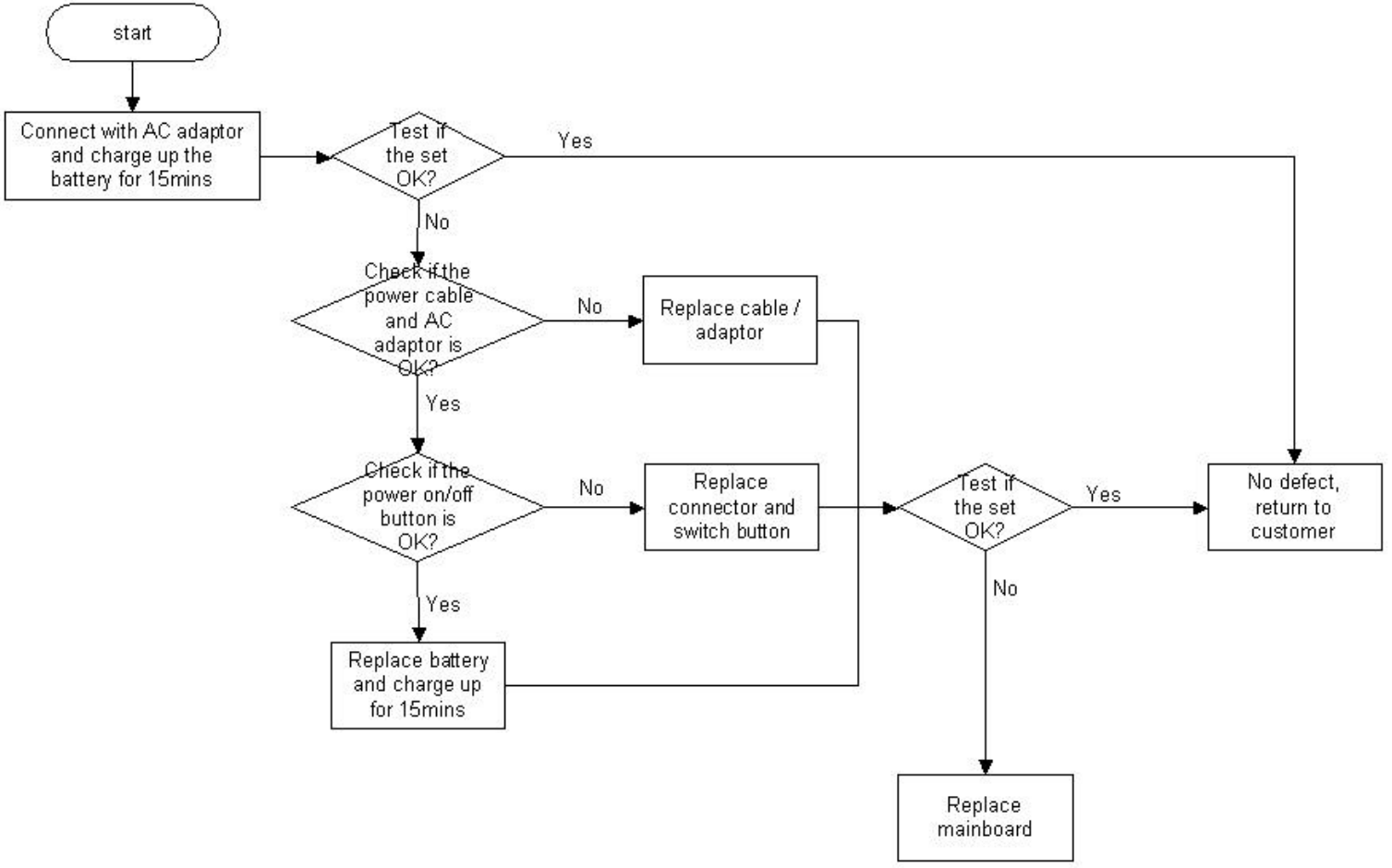
	994000003578	AC ADAPTOR AD7153/17
	994000003579	AC ADAPTOR AD715B/05
	994000003791	CRADLE ASSY PHOENIX (HDD1635/17)

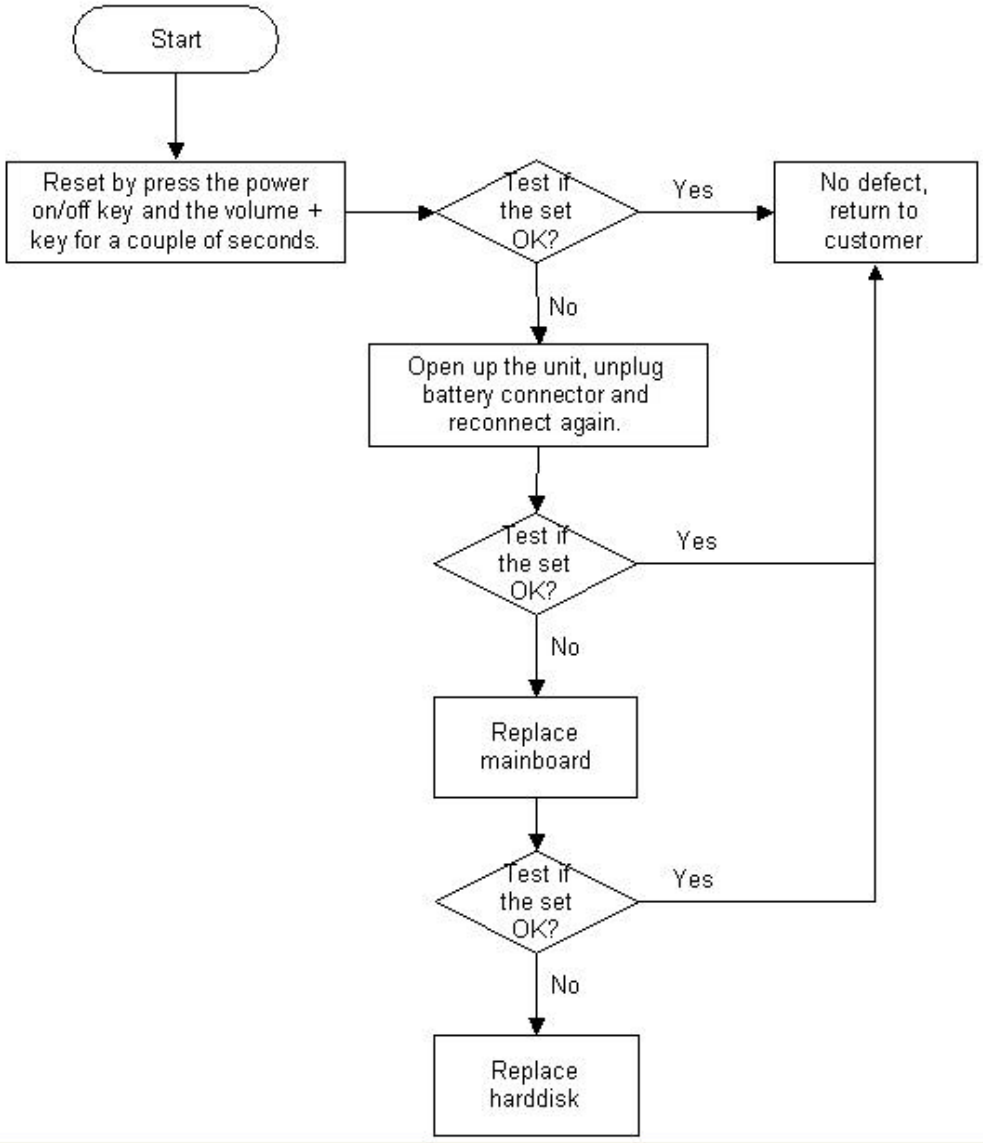
6.0 TROUBLESHOOTING FLOW

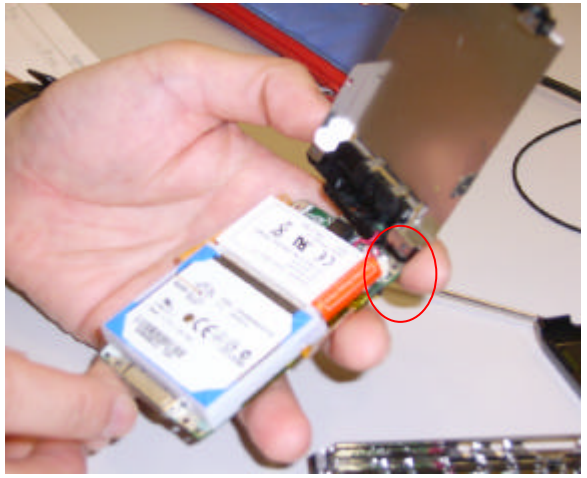
SYMPTOM 1: NO POWER



6.0 TROUBLESHOOTING FLOW

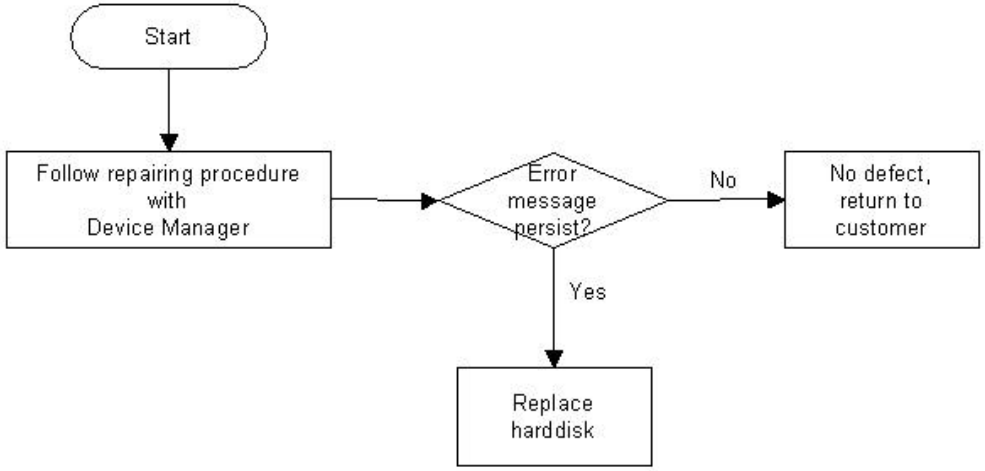
SYMPTOM 2: JUKEBOX FREEZES / HANGS UP





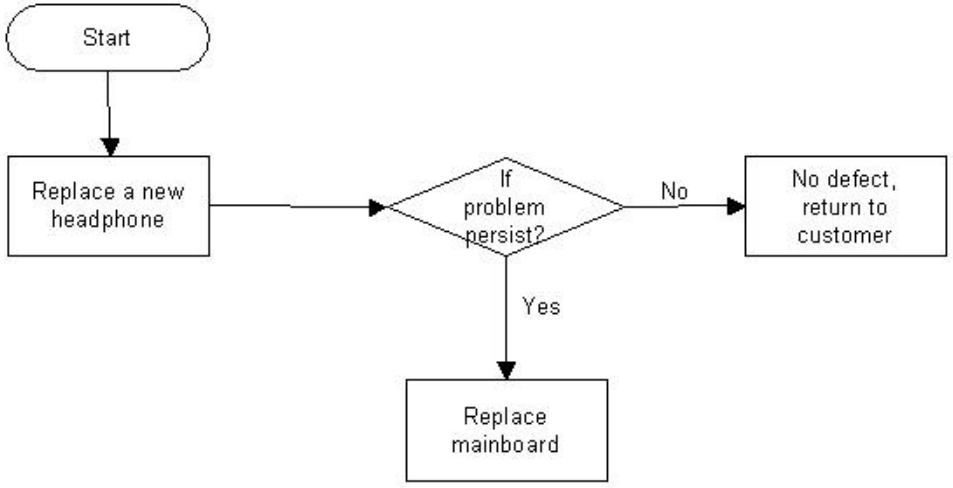
Open up the unit, unplug battery connector and reconnect again

SYMPTOM 3: ERROR MESSAGE SCROLLS ON THE DISPLAY

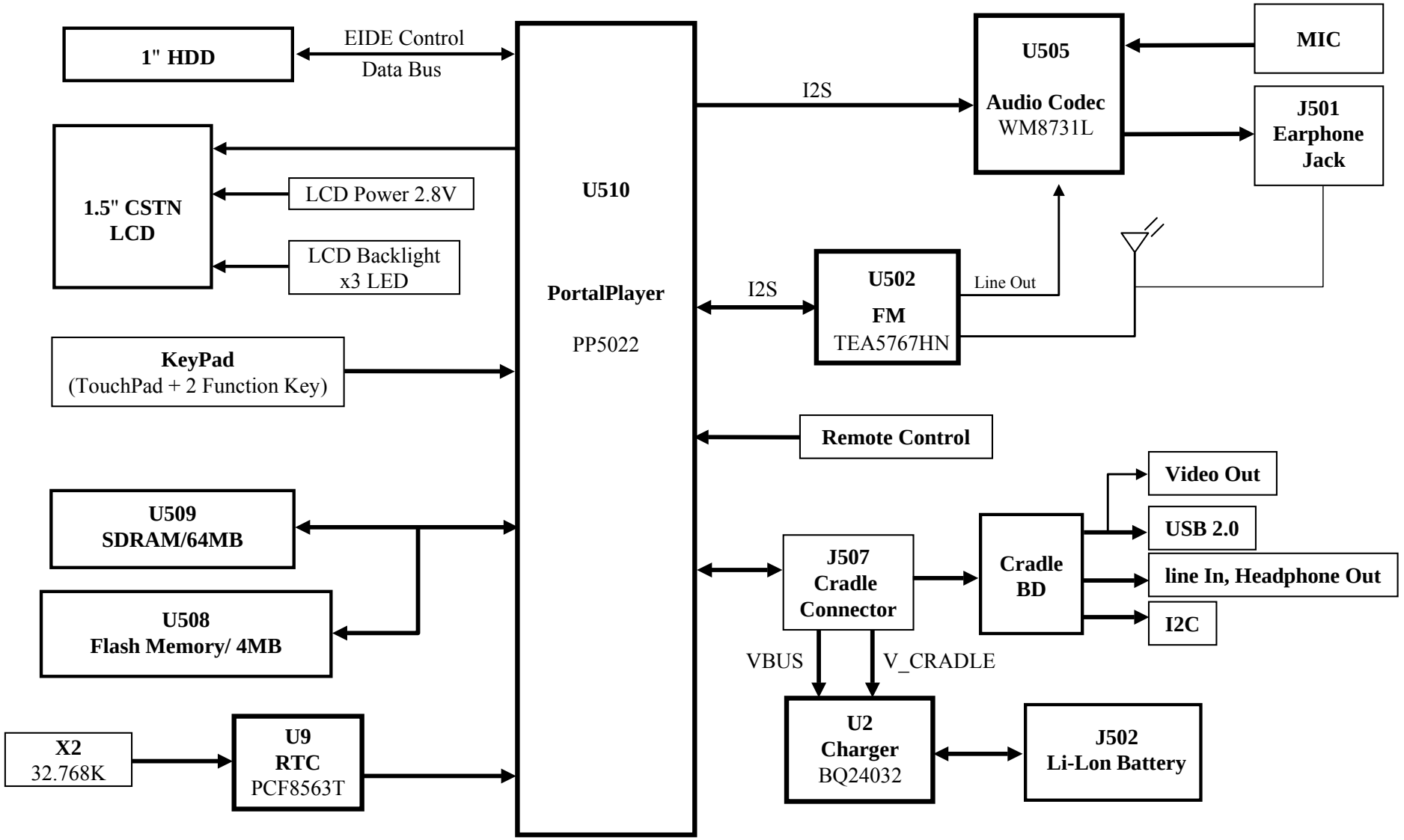


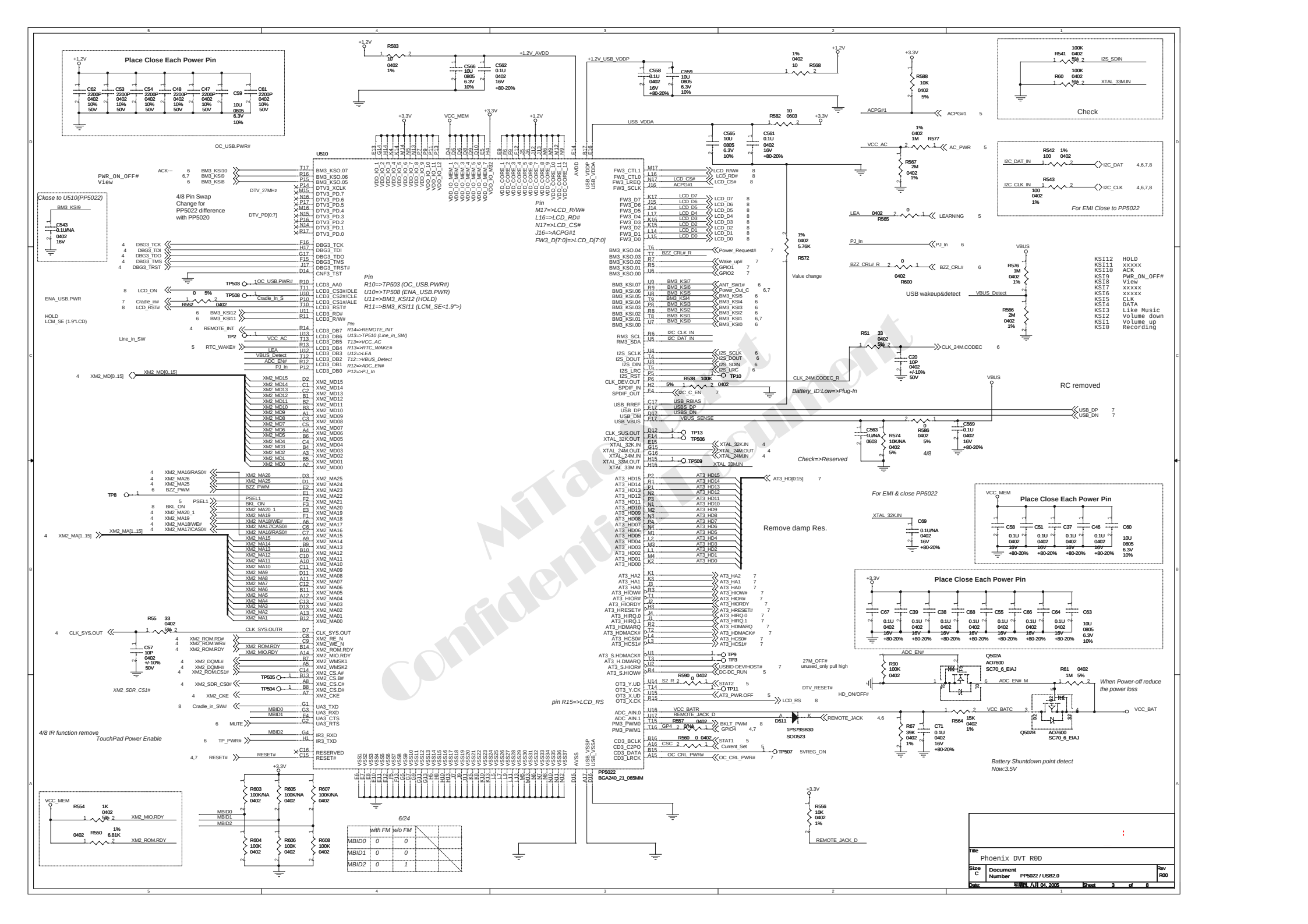
6.0 TROUBLESHOOTING FLOW

SYMPTOM 4: NO SOUND



7.0 Overall Block Diagram





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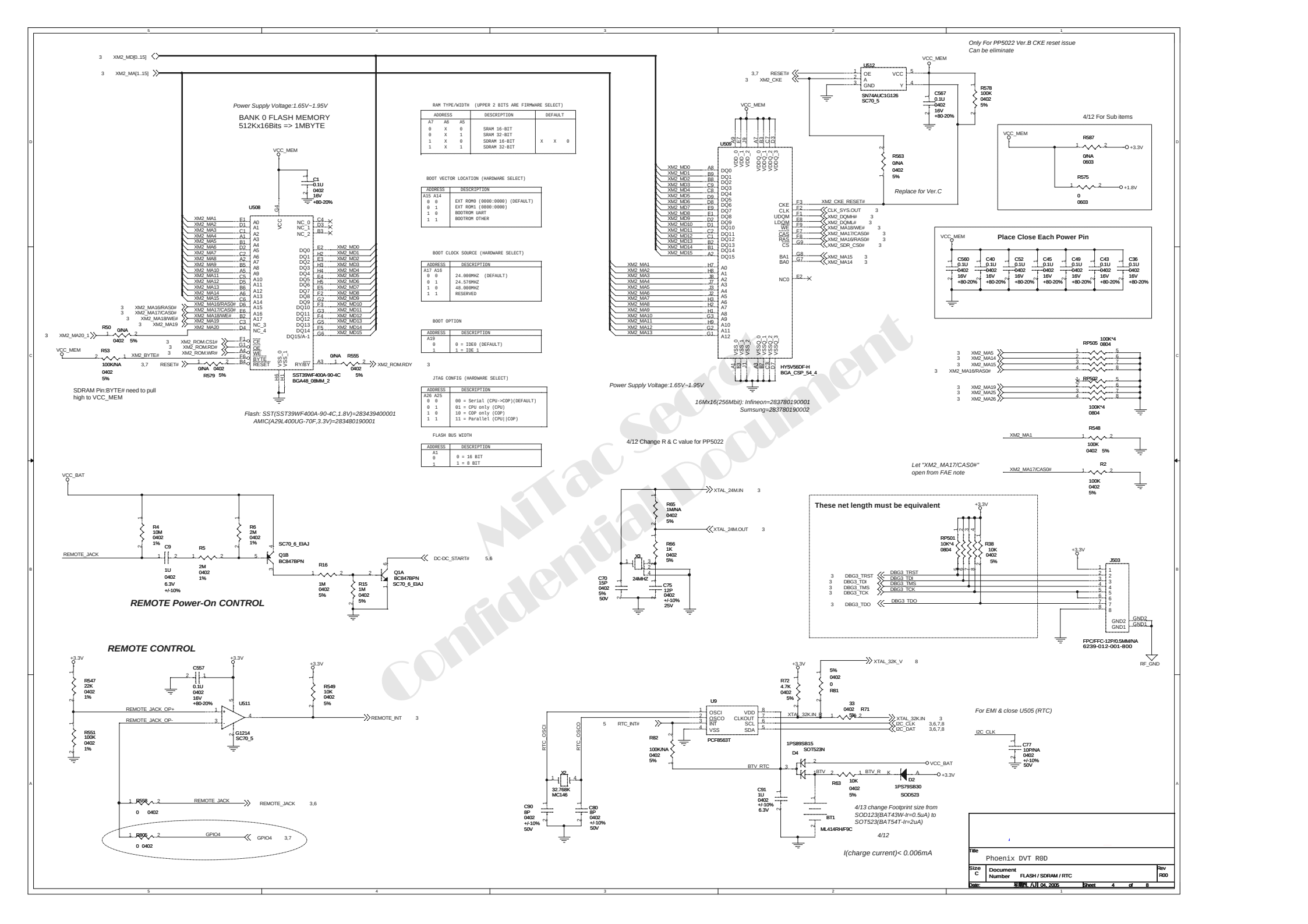
Only For PP5022 Ver.B CKE reset issue
Can be eliminate
Power Supply Voltage:1.65V~1.95V
BANK 0 FLASH MEMORY
512Kx16Bits => 1MBYTE
RAM TYPE/WIDTH (UPPER 2 BITS ARE FIRMWARE SELECT)
BOOT VECTOR LOCATION (HARDWARE SELECT)
BOOT CLOCK SOURCE (HARDWARE SELECT)
BOOT OPTION
JTAG CONFIG (HARDWARE SELECT)
FLASH BUS WIDTH
SDRAM Pin:BYTE# need to pull high to VCC_MEM
Flash: SST(SST39WF400A-90-4C,1.8V)=283439400001
AMIC(A29L400UG-70F,3.3V)=283480190001
Power Supply Voltage:1.65V~1.95V
16Mx16(256Mbit): Infineon=283780190001
Sumsung=283780190002
4/12 Change R & C value for PP5022
Replace for Ver.C
4/12 For Sub items
Place Close Each Power Pin
Let "XM2_MA17/CAS0#" open from FAE note
These net length must be equivalent
REMOTE Power-On CONTROL
REMOTE CONTROL
For EMI & close U505 (RTC)
4/13 change Footprint size from SOD123(BAT43W-I/r=0.5uA) to SOT523(BAT54T-I/r=2uA)
I(charge current)< 0.006mA
4/12
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Phoenix DVT R0D
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Rev R00
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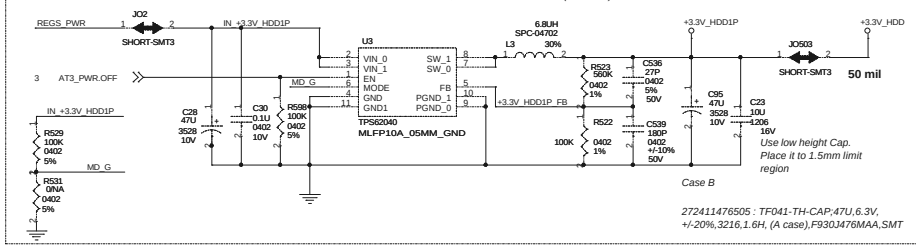
dI=Vo*(1-Vo/Vi)/(L*f)
Imax=Iomax+(dI/2)

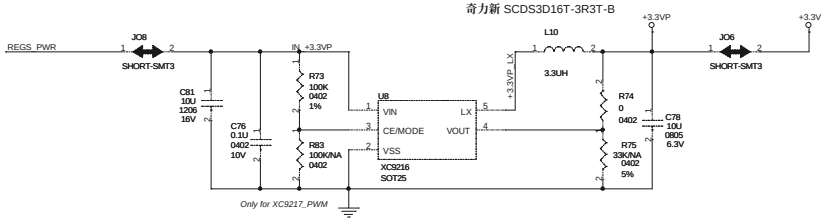
4/14 HD Power IC change from XC6366 to TPS62040

沛波 SPC-04702-6R8-GP (4.7*4.7*2)



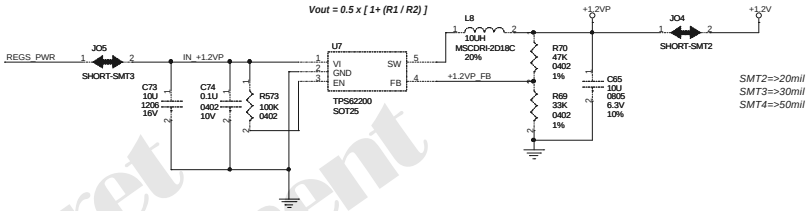
4/14 CoLayout two select one

奇力新 SCDS3D16T-3R3T-B

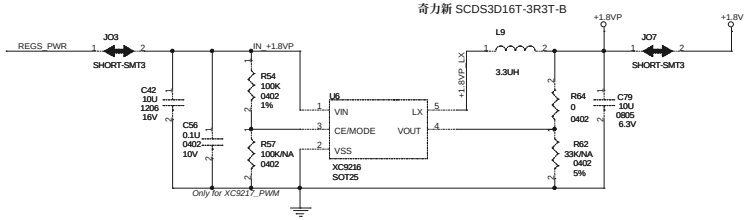


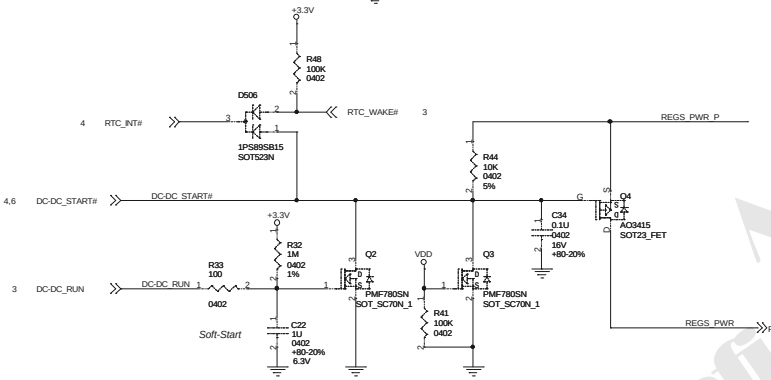
美磊 MSCDRI-2D18-100MG (H=1.8mm)

Vout = 0.5 x [1+ (R1 / R2)]

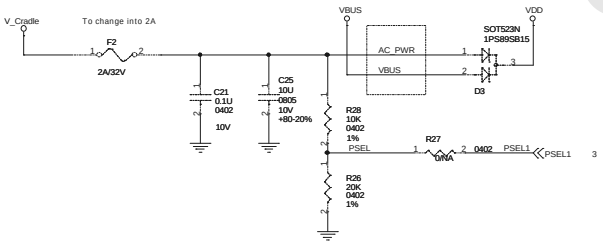


奇力新 SCDS3D16T-3R3T-B

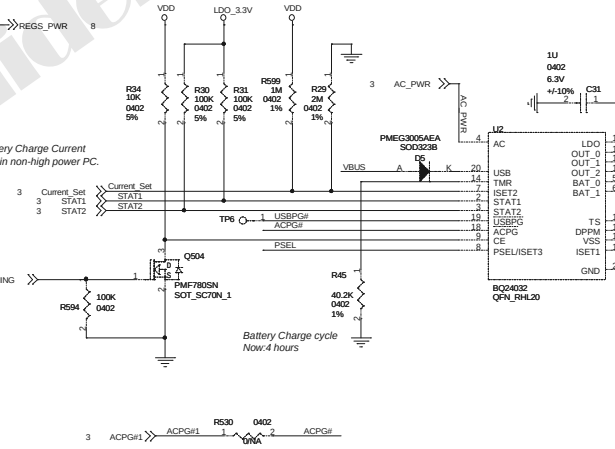




For Only AC or USB Input to Auto-Power-On
To show the Battery charge status



To set Battery Charge Current
when Plug-in non-high power PC.



Battery Charge cycle
Now:4 hours

4/7 Remove L15 0402GA Bead filter

Battery Connector

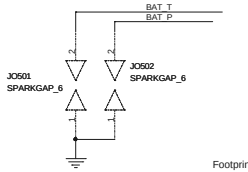
Check Pin assignment

Set Charg Current 450mA

Value change

Set Adaper power 1A

ADD EMI ESD Protect



Footprint=SPARKGAP-6

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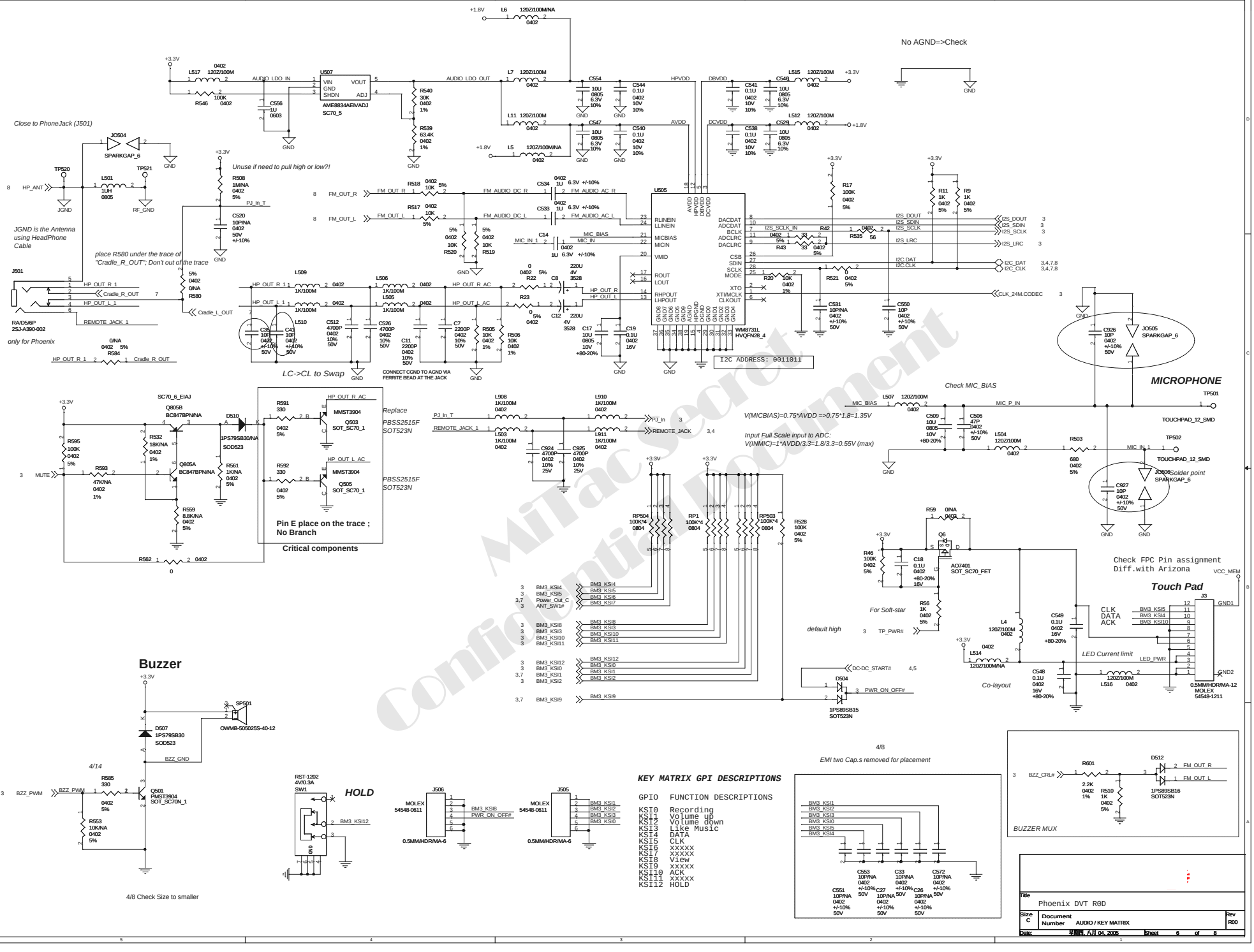
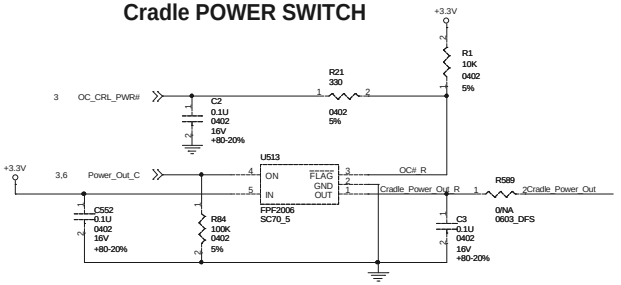
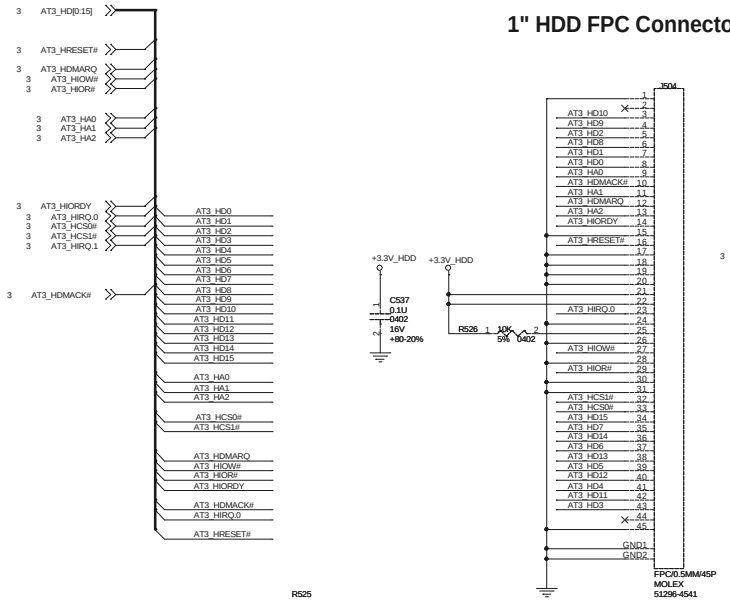
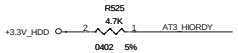

No AGND=>Check
Close to PhoneJack (J501)
JGND is the Antenna using HeadPhone Cable
place R580 under the trace of "Cradle_R_OUT"; Don't out of the trace
only for Phoenix
LC->CL to Swap
CONNECT CGND TO AGND VIA FERRITE BEAD AT THE JACK
I2C ADDRESS: 0011011
Check MIC_BIAS
V(MICBIAS)=0.75*AVDD =>0.75*1.8=1.35V
Input Full Scale input to ADC:
V(INMIC)=1*AVDD/3.3=1.8/3.3=0.55V (max)
MICROPHONE
Check FPC Pin assignment
Diff.with Arizona
Touch Pad
Pin E place on the trace ;
No Branch
Critical components
Replace
PBSS2515F
SOT523N
Buzzer
HOLD
KEY MATRIX GPI DESCRIPTIONS
GPIO FUNCTION DESCRIPTIONS
KSI0 Recording
KSI1 Volume up
KSI2 Volume down
KSI3 Like Music
KSI4 DATA
KSI5 CLK
KSI6 xxxxx
KSI7 xxxxx
KSI8 View
KSI9 xxxxx
KSI10 ACK
KSI11 xxxxx
KSI12 HOLD
BUZZER MUX
Phoenix DVT R0D
AUDIO / KEY MATRIX
R00
Sheet 6 of 8

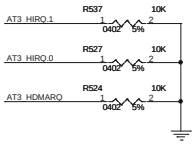
Cradle POWER SWITCH

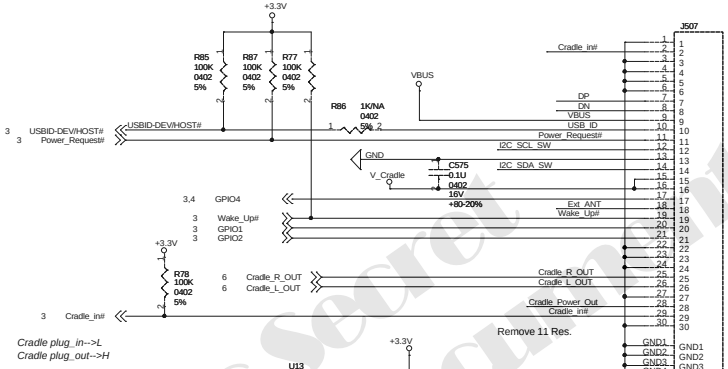


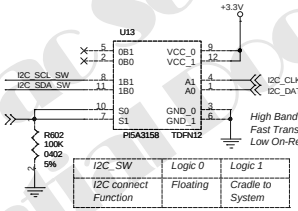
1" HDD FPC Connector



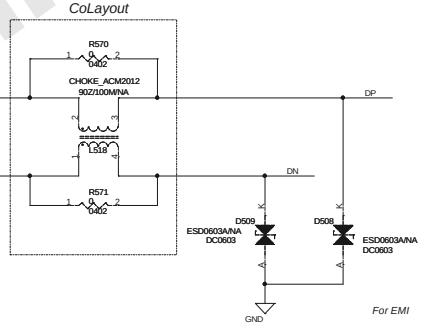


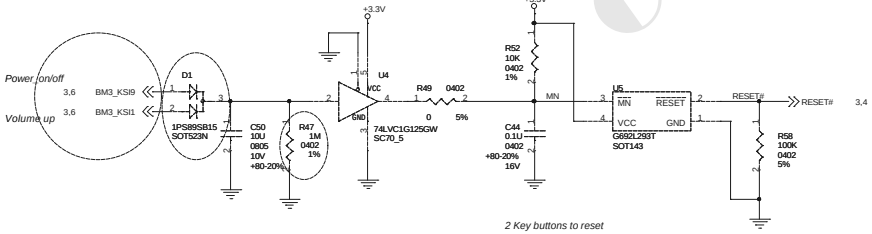


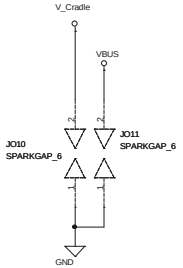


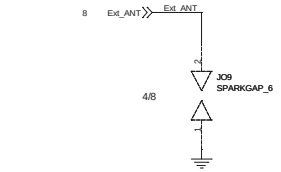


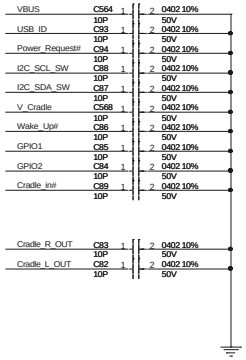
I2C_SW	Logic 0	Logic 1
I2C connect Function	Floating	Cradle to System

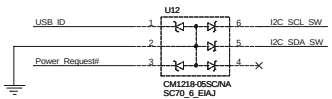


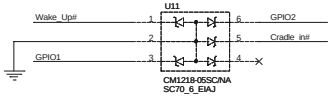


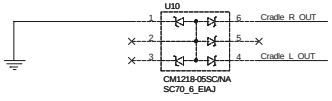




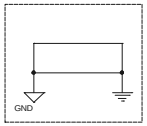








For ESD Negative power Cut



RC Delay Time:
*I=C*dV/dt*
*=>t=C*V/I*
(dV is both sides voltage of Res. ; dt is the time of charge Cap.)

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1.5" CSTN PANEL

美蓉 MSCDRI-2D18-4R7MG (H=1.8mm)

LDO

U504 AME8834AEIVADJ SC70_5

Vout = 0.59 x [1+ (R1 / R2)]

High->On
Low ->Off

ANTENNA SWITCH

FM Switch

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Title	Phoenix DVT R0D
Size C	Document Number FM TUNER / LCM
Rev	R00
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9.0 REVISION LIST

Version 1.0 (3141 785 30700)

- Initial release HDD1420/HDD1620/HDD1630/DD1635

Version 1.1 (3141 785 30701)
Chapter 5 – Service part list revised service 12NC as listed below

- Added the new part cradle assy for HDD1635/17 (994000003791)