

All Versions

Service
Service
Service



Service Manual

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3141 785 30487

1.0 TECHNICAL SPECIFICATION and SERVICE HINTS

General

Dimensions (WxLx H) :	53 x 86 x 16.7 mm (2.1 x 3.4 x 0.7 inches)
Weight :	78 g (2.8 oz)
Output power :	2 x 5 mW (16 ohm)
Frequency response :	20-20 000 Hz
Equalizer :	5 band DSP controlled
Hard disk :	1,0" micro HDD
Capacity :	3GB
Display :	Black/White : 96 x 64 pixels
Backlight :	White Led
Battery :	640 mAh Li-ion internal rechargeable battery
Battery life time:	>9hr
File transfer rate using USB :	800kbyte/s
Battery charging current	320 -420mA
Maximum charging time :	4hrs
Battery cutoff voltage:	3.4V
Connections:	Stereo headphone Mini USB (B-type) DC charger input

Battery level detection

Detection Level	Typ.
4-step to 3-step voltage	3.95V
3-step to 2-step voltage	3,8V
2-step to 1-step voltage	3,7V
Force Power Off voltage	3,4V

Current consumption

DC-IN SUPPLY (3.8V)	
Battery Charging Current	370mA typ.
BATT. SUPPLY (3.4V)	
Power Off	<15uA
Idle with LCD Backlight on	55mA
Playback without HDD reading	45mA
Playback with HDD reading	350mA
File transfer using USB1.1	350mA

Headphone out (headphone output load 2x16 ohm)

Maximum output power :	1mW
Frequency response :	20Hz - 20kHz
SNR (A-wght) :	>75 dB
THD (1kHz) :	0,5% - 1.0%
Left-Right Channel Separation :	40dB typ.
Left-Right Channel Balance :	0,5dB

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 For HDD084


via **Windows Media Player 9 or 10** for music playback or Windows Explorer for general data (music playback disabled)

For HDD082/HDD085/HDD086

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

Firmware and software upgrades

For HDD084

1. Download the latest version of the Device Manager application from <http://www.philips.com/support>. You may need to enter your language preference and the model number e.g.hdd084, to access the Device Manager application upgrade file.
2. Double click the downloaded execution file to start the installation of the Device Manager.
3. Once the installation is completed, connect the GoGear to the power supply with the AC/DC adapter.
4. Launch the **Device Manager** at **Start->Programs->Philips GoGear HDD->Philips GoGear HDD** on your PC
5. A dialogue box will pop up; click Upgrade to start the upgrading of the firmware. **(Please do not disconnect the jukebox during the upgrading process as this interruption may damage the firmware!)**
6. Follow all screen instructions to complete the firmware upgrade.
7. The Device Manager will close automatically once the success message is displayed. Close all opened application and then safely remove your GoGear micro jukebox by clicking on the  icon in your task tray bar. When prompted, "The USB Mass Storage Device can now be safely removed from the system", click OK and unplug your micro jukebox.

1.0 TECHNICAL SPECIFICATION and SERVICE HINTS

- 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 ► || key and the volume + key for a couple of seconds.

For HDD085/HDD082

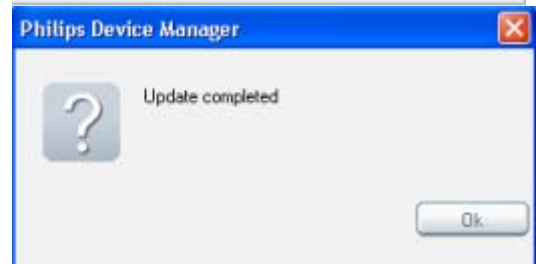
- Download the latest version of the Device Manager application from <http://www.philips.com/support>. You may need to enter your language preference and the model number e.g. hdd085, to access the Device Manager application upgrade file.
- Double click the downloaded execution file to start the installation of the Device Manager.
- Connect the GoGear to the power supply with the AC/DC adapter and to the computer with the provided USB cable. Make sure that Windows Media Player along with any other applications are closed.
- Launch the Philips Device Manager by double clicking the Device Manager icon at the task bar on your computer.
- 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.



- 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



- 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!)



- Once the success message is displayed. Close Device Manager and all opened application and unplug your GoGear.

Service Hints

Rebuild database & firmware after replacement of hard disk drive


IMPORTANT: All devices having the hard disk replaced must have the firmware image & database rebuilt before returning to customers.

After the replacement of hard disk the database and firmware image must be rebuilt in the device with device manager by following the procedure below.

For HDD084

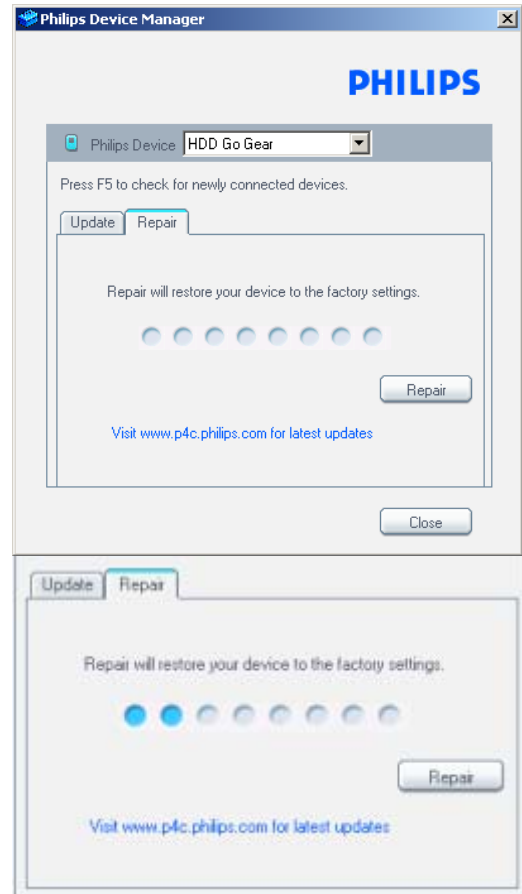
- Connect the GoGear to the power supply with the

1.0 TECHNICAL SPECIFICATION and SERVICE HINTS

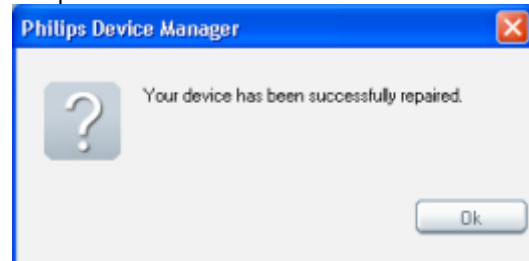
- AC/DC adapter and to the computer with the provided USB cable.
2. Launch the **Device Manager** at **Start->Programs->Philips GoGear HDD->Philips GoGear HDD** on your PC
A dialogue box will pop up; click **Restore** and **OK** to confirm and start restoring the unit to its factory setting.
 3. Follow all screen instructions to complete the restoration.
 4. The Device Manager will close automatically once the success message is displayed. Close all opened application and then safely remove your GoGear micro jukebox by clicking on the  icon in your task tray bar. When prompted, "The USB Mass Storage Device can now be safely removed from the system", click OK and unplug your micro jukebox.
 5. 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.

For HDD086/HDD085/HDD082

1. Download the latest version of the Device Manager application from <http://www.philips.com/support>. You may need to enter your language preference and the model number e.g.hdd085, to access the Device Manager application upgrade file.
2. Double click the downloaded execution file to start the installation of the Device Manager.
3. Connect the GoGear to the power supply with the AC/DC adapter and to the computer with the provided USB cable. Make sure that Windows Media Player along with any other applications are closed.
4. Launch the Philips Device Manager by double clicking the Device Manager icon at the task bar on your computer.
5. Select the REPAIR tab on the dialogue box and then click Repair to start repairing.
IMPORTANT: All music & content of your micro jukebox will be erased once the GoGear is repaired.



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



1.0 TECHNICAL SPECIFICATION and SERVICE HINTS

Capture the log file from device

1. Switch on the device in **FSM** mode by pressing and holding the **Rec** key and then the power key together.
2. Device will switch on and **FSM** main menu will be displayed
3. Scroll Down using the **▼** key to item 14 **HDDinit**
4. Press the **▶▶** key, HDD will be initialized, wait till HDD is initialized, you will get **HDD INIT OK** message once initialization is complete
5. Press **◀◀** to display main menu
6. Scroll down using the **▼** key to Item 19 **Log to File**, press the **▶** key.
7. Wait till writing is completed you will get a message, writing done
8. Connect USB to device, you will see a file **LOGINFO.TXT** in the root, this is device log file, size will be around 3KB, copy the file
9. You will also see the **pclginfo.bin** in the audio folder this is the PC log file.
10. Copy both of the above files to PC for future analysis by the Business if needed.

If the HDD failed the HDDinit test then the device log may only be read off the LCD display with the Log to LCD option by following the steps below:

1. In the FSM main menu scroll down and select Log to LCD.
2. Press the **▶▶** key and then when prompted to "Press RIGHT KEY" message on display, press the **▶▶** key again you will see 5 parameters at a time on the display and then press **▶▶** again to see the next 5 parameters.

1.0 TECHNICAL SPECIFICATION and SERVICE HINTS

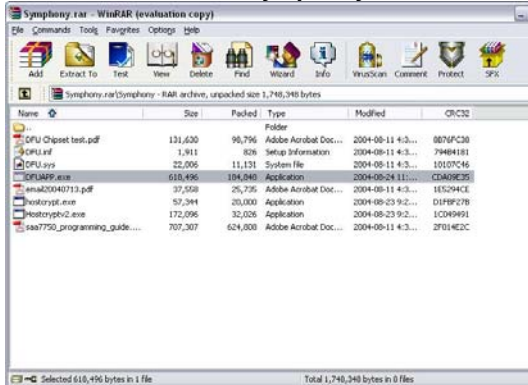
Recovery procedure for flash corrupt problem

If the device cannot be powered on but it can be detected by DFU program (device firmware upgrade application), it can be recovered by following the procedure below.

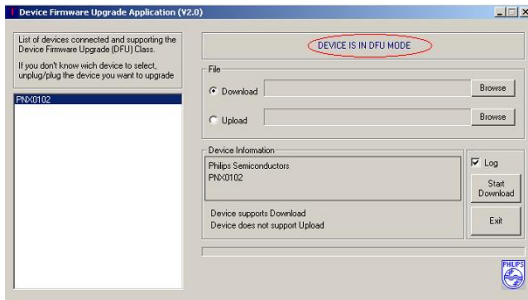
Note: Close all applications e.g. Philips Device Manager before launch the DFU program. Run this program by Window XP only.

For HDD084 only (MSC mode device)

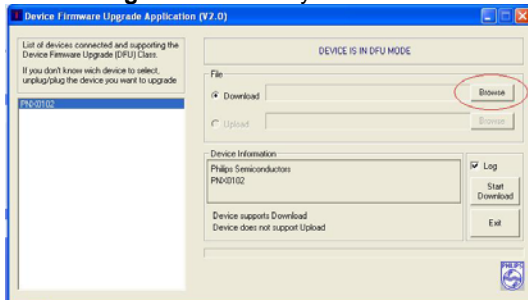
1. Connect the DFU USB cable to the device first and then connect to your PC.
2. Launch the DFU program by unzip the **Symphony.rar** file and then double click the **DFUAPP.exe** file from **Symphony** folder.



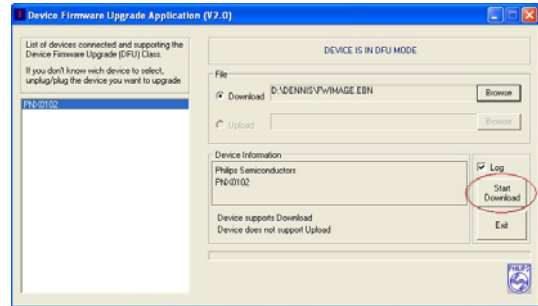
3. Observe the dialogue box to ensure “**DEVICE IS IN DFU MODE**”.



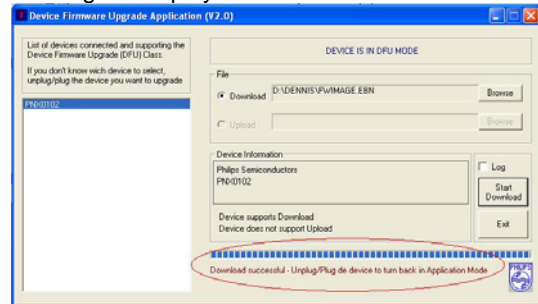
4. Select **Download** and then click **Browse** to get the **FWImage.ebn** file from your PC.



5. Click **Start Download** to download the firmware to the device.



6. The program will stop once the successful message is display.



7. Disconnect DFU USB cable from the device.
8. Connect the device to the PC by normal USB cable and launch the Philips Device Manager to repair the device. (Download the latest version of the Device Manager application from Philips support website <http://www.philips.com/support>)

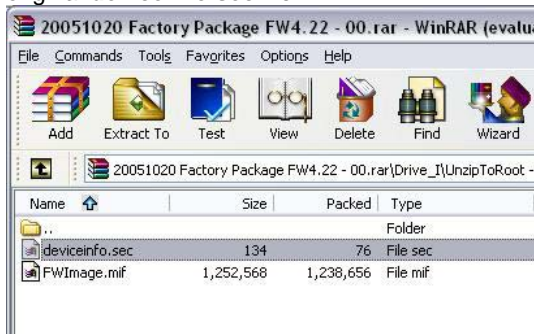
1.0 TECHNICAL SPECIFICATION and SERVICE HINTS

For HDD086/HDD085/HDD082 (MTP mode device)

1. Unzip the **Factory.rar** file to your PC. You should find three folder name **"Bootloader"**, **"DM"** & **"Drive_I"**.



2. Unzip the **Setting.rar** file and choose the right **deviceinfo.sec** file according to the device model. Then copy this file into **\Drive_I\UnzipToRoot** folder to rewrite the original **deviceinfo.sec** file.



3. Connect the DFU USB cable to the device first and then connect to your PC.
4. Launch the DFU program.
5. Observe the dialogue box to ensure **"DEVICE IS IN DFU MODE"**.
6. Select **Download** and then click **Browse** to get **bootLoader_HDDXXX.ebn** file from **Bootloader** folder.



7. Click **Start Download** to download the firmware to the device. The program will stop once the successful message is display.

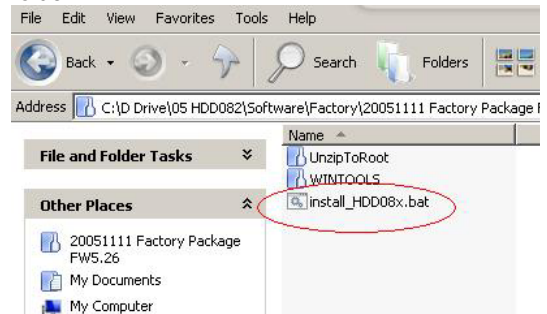
8. Disconnect DFU USB cable from the device.
9. Open the device, display will show **"BOOT LOADER APPLICATION Version 4.0"**.



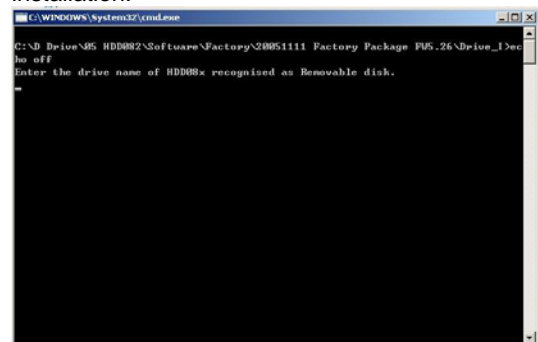
10. Connect the device with your PC by normal USB cable.




11. Run the **install_HDD08x.bat** file from **Drive_I** folder.



12. Follow all screen instructions to complete the installation.



13. Safely remove the device from PC by clicking on the  icon in your task tray bar. Once the device is disconnected from the PC, the display will show "Firmware Upgrade" for a couple of

1.0 TECHNICAL SPECIFICATION and SERVICE HINTS

seconds and then start up as usual.



MTP mode installation procedure after replaced the mainboard

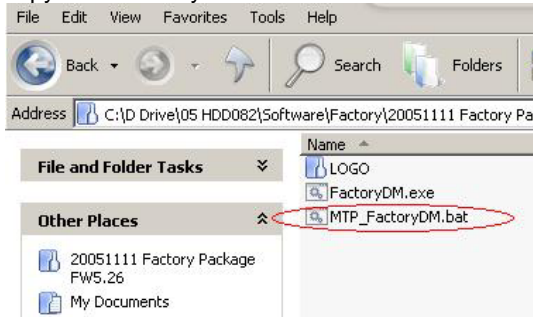
Note: Applicable for HDD085/HDD082 only

Repeat the recovery procedure for flash corrupt problem from step 9 to 16.

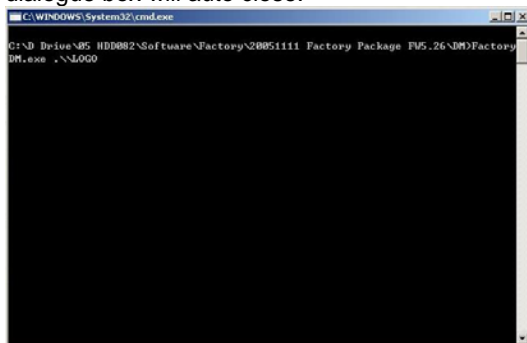
14. Connect the device with PC by normal USB cable again for MTP connection. Select "Take no action" once the device is detected by the PC.



15. Run the **MTP_FactoryDM.bat** from **DM** folder to copy all necessary files into the device.



16. Once the installation is completed, below dialogue box will auto close.



2.0 SAFETETY 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.

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 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.

D WARNUNG

Alle ICs und viele andere Halbleiter sind empfindlich gegenüber elektrostatischen Entladungen (ESD). Unsorgfältige Behandlung im Reparaturfall kann 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.

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.

I 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.

GB

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

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

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 utilisés les pièces de rechange identiques à celles spécifiées.

D

Bei jeder Reparatur sind die geltenden Sicherheitsvorschriften zu beachten. Der Originalzustand 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."



GB Warning !

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

S Varning !

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

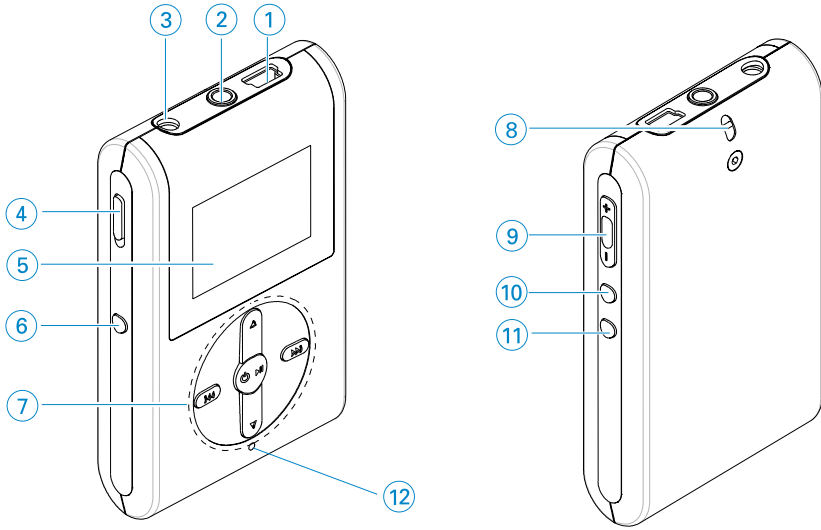
SF Varoitus !

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

DK Advarsel !

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

3.0 Instructions for use

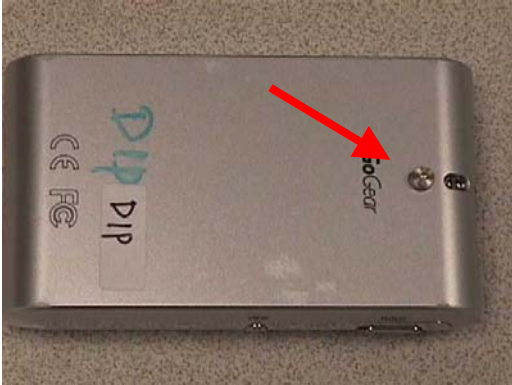


Overview of controls and connections

- | | | |
|---|---------------------|---|
| ① | USB cable connector | |
| ② | | Headphones jack |
| ③ | 5V DC | Charging socket |
| ④ | HOLD slider | To disable key press |
| ⑤ | LCD display | Dynamically displays menu, options and track information |
| ⑥ | VIEW | To switch between root menu, library and now playing screens |
| ⑦ | ▲ / ▼ | Scroll; SuperScroll; ▲ / ▼ |
| | ◀◀ / ▶▶ | Rewind / Fast forward; Up / Down to 1 level / Skip to previous / next |
| | ⏻ / ▶ | Power on / off and Play / Pause; confirms a menu setting |
| ⑧ | Neckstrap eyelet | |
| ⑨ | Volume + / - | Volume control |
| ⑩ | REC | Start or Stop Voice recording |
| ⑪ | PLAYLIST | Add the current track to My Playlist |
| ⑫ | MIC | Microphone |

4.0 MECHANICAL INTRUCTIONS

Set Disassembly



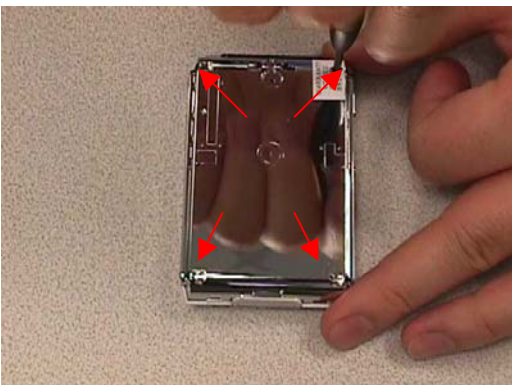
1. Remove the Cosmetic screw with an Allen key



2. Use a screwdriver to carefully lift up the back cover of the device.

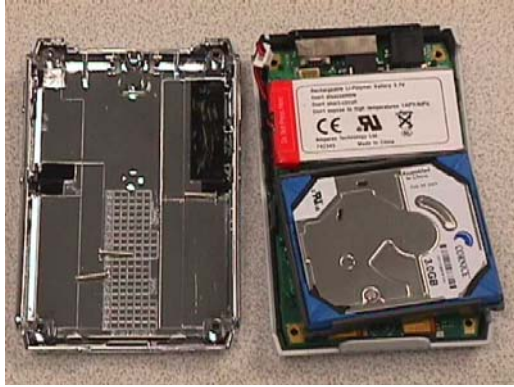


3. Gently open up the back cover.



4. Remove 4 x screws. See arrows

4.0 MECHANICAL INTRUCTIONS

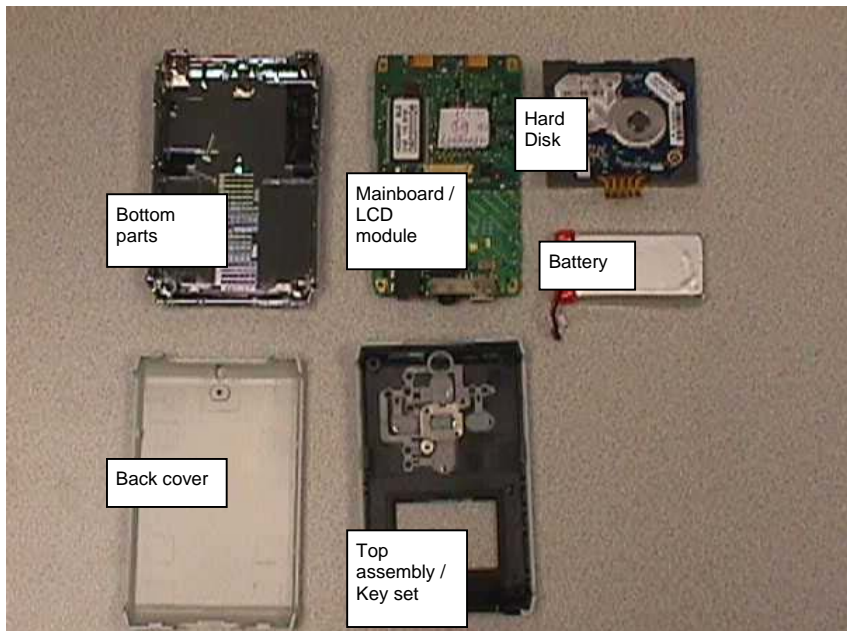


5. Open up and remove the bottom part.
6. Remove the battery pack and then the hard disk

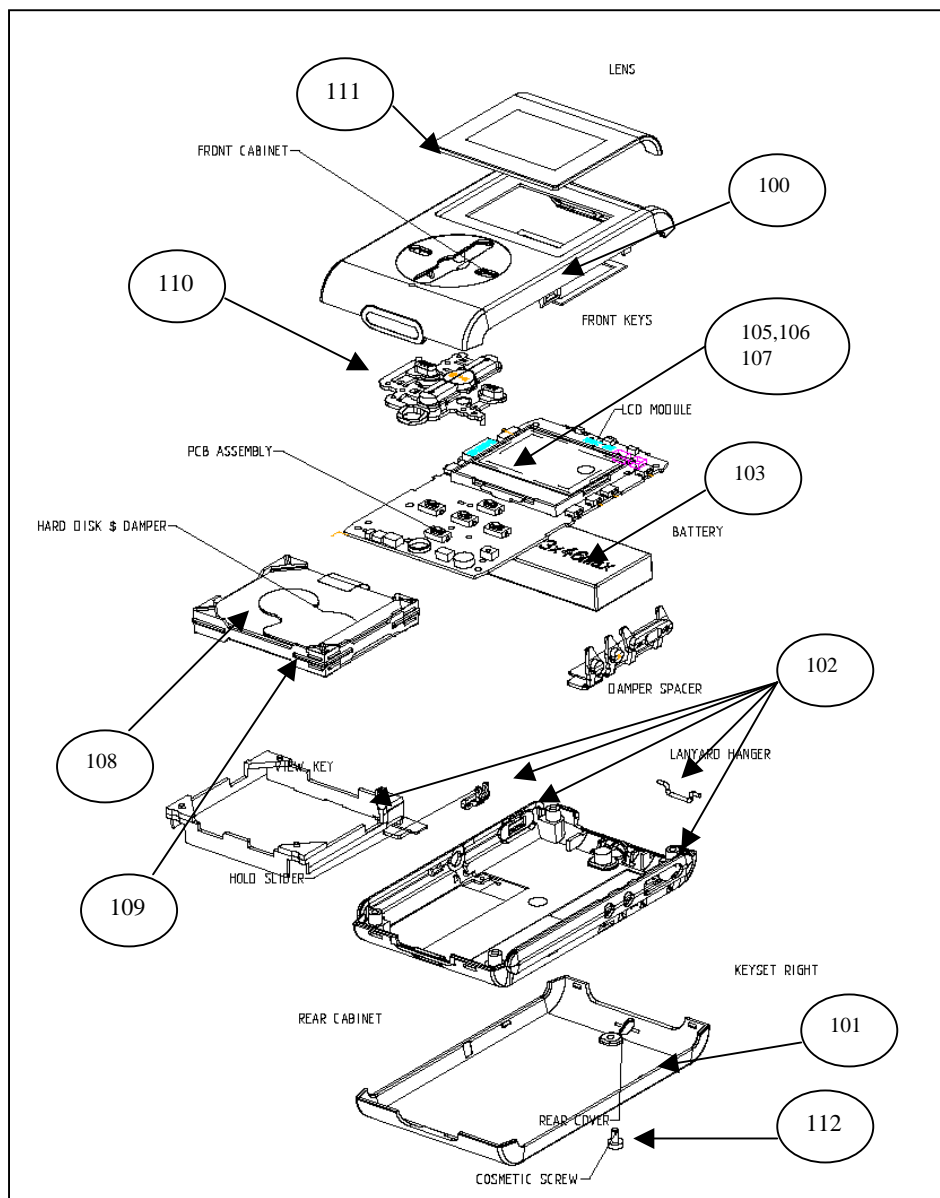


7. Take out the 2 screws on the PCB assembly to replace it from the casing.

Overview of the disassembly parts



5.0 EXPLODED VIEW & SERVICE PARTS LIST



MECHANICAL PARTS

100	314017750142	FRONT CAB. ASSY HDD084 SILVER
101	314017750591	COVER-REAR LAQ ASSY HDD084 SIL
102	314017750132	REAR CABINET ASSY HDD084
103	314017870131	BATTERY PACK 610MAH LI POLYMER
105	314017900191	PCBA KIT ASSY HDD084/00/05
	314017900231	PCBA KIT ASSY HDD085/00/05
	314017900261	PCBA KIT ASSY HDD086/00/05
106	314017900121	PCBA KIT ASSY HDD084/17
	314017900121	HDD082 serial nr. (NW01_) PCBA KIT ASSY*
	314017800261	HDD082 serial nr. (NW00_) PCBA KIT ASSY*
107	314017800131	PCBA KIT ASSY HDD084/97
108	282206200083	HDD084/HDD085 - HDD 1.0"3GB 000936-02(CORN)Y
	282206200083	HDD082 serial nr. (NW01_) - HDD 1" 3GB*
	310420052301	HDD082 serial nr. (NW00_) - HDD 1" 2GB*
	282206200108	HDD086 - HDD 1.0" 4GB
109	314017400331	DAMPER HDD084
	314017400651	DAMPER HDD082/HDD086
110	314017750321	KEYSET-FRONT-ASSY HDD084
111	314017750181	LENS-PRI ASSY HDD084
112	314017040031	SCREW HEXAGON HDD084
	314017320171	PLATE-PROTECTION

IMPORTANT:

* Please note that there are 2 different execution of HDD082/17 in the market, that can be distinguished by the serial number with the change code "00" & "01" please refer to the above table for different applicable PCBA & HDD

MISCELLANEOUS

908210004736	Headphone SHE775BI/00 (for HDD084/HDD085/HDD082)
908210008773	Headphone SHE2550BI/00 (for HDD086)
314017310091	Neck Strap (not for HDD086)
314017400511	Rubber Sleeve (not for HDD086)
272201200608	MOD SUPP AC-DC /00
272201200609	MOD SUPP AC-DC /05
314017830111	AY4108/17 AC/DC Adaptor /17
242207600755	USB CABLE ASSY
314017870361	CD-ROM HDD086

SERVICE TOOL

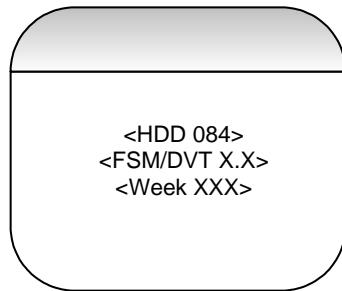
824041001931	DFU CABLE
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6.0 FACTORY SERVICE MODE TESTING

Programming the device using for stand-alone FSM

The following is the description for programming the device in stand-alone mode.

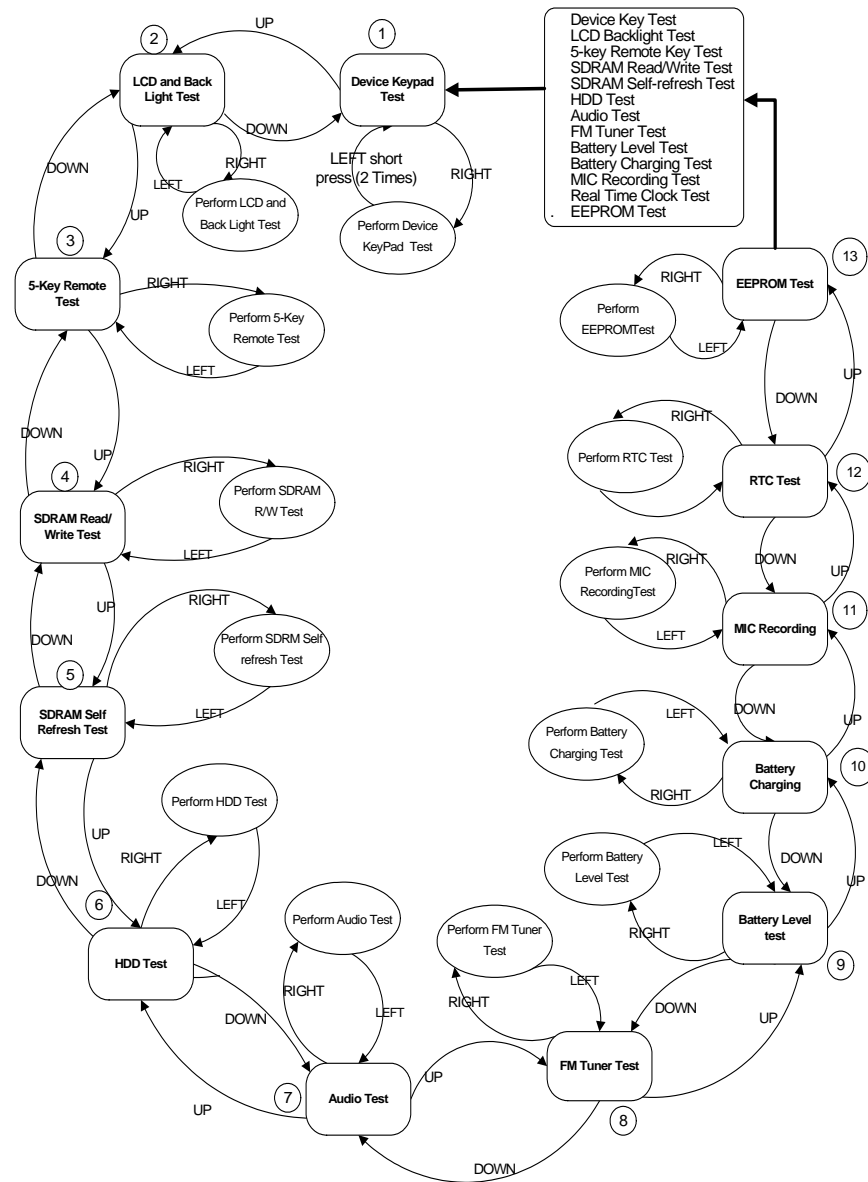
1. Press & hold “ Rec” and then Press ► || together
2. The FSM/DVT application will start and you will see the following screen.
3. Navigate to the required test.



Using the FSM integrated with UI

Press UP/DOWN key to browse through available tests. Please note that this action does not activate the test. Press RIGHT key to activate the test [which is displayed on the screen]. Within a given test LEFT key always exits from the test back to the test browse screen [Exceptions are Keypad test, Remote Keypad Test, where test can be exited by 2 short left key presses].

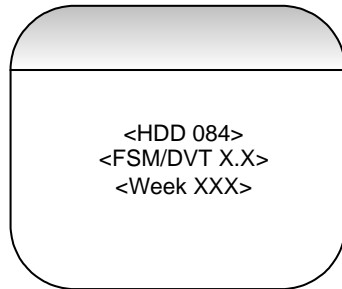
The following diagram describes the test flow.



6.0 FACTORY SERVICE MODE TESTING

Test USAGE Description

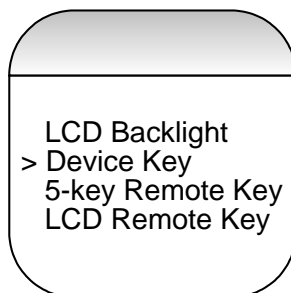
Power ON screen



Test Browse Screen

Pressing UP/DOWN keys will display names of test cases that can be selected following are the test cases that are displayed. The current test that will be selected by pressing RIGHT key will be as shown below.

Note: scroll bar to indicate the test selected can be used provided the UI+FSM/DVT FW does not exceed 1 MB.



1. FSM
2. LCD Test
3. Device Keypad Test
4. 5-key Remote Key
5. SDRAM Read/Write
6. HDD Test
7. Audio Test
8. FM Tuner
9. Battery Level
10. Battery Charging
11. Internal MIC Checking
12. RealTime Clock RTC
13. EEPROM Checking
14. Harddisk HDD Initialization
15. Firmware Upgrade
16. Read Device Information
17. Write Device Information
18. Log to file
19. Log to LCD
20. Write to RTC

1.1.3 LCD Back Light Test

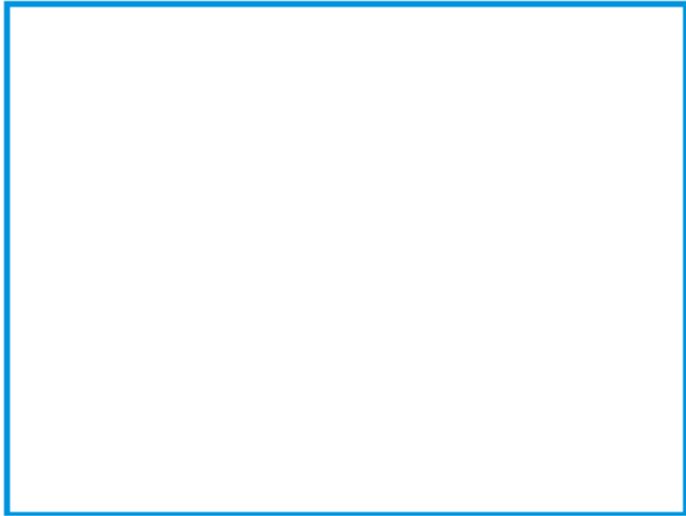
Steps

- Scroll to "LCD Test" using UP / Down Key
- Press RIGHT to enter the test. " LCD Test" is displayed on the LCD.
- Press RIGHT to see the first bitmap
- To view the next bitmap press RIGHT again.
- 4 bitmaps (TBD) are thus displayed and once all the bitmaps are displayed, it return to the test browser screen, where a next test can be selected.
- The LCD test can be exited in between the testing process by pressing LEFT key.
- Pressing "PLAY/PAUSE" Key will turn ON/OFF the Back Light.
- Pressing UP/DOWN Key The contrast level can be changed in steps of 1 while displaying the test patterns.

6.0 FACTORY SERVICE MODE TESTING

- The Test patterns which will be displayed will be as shown

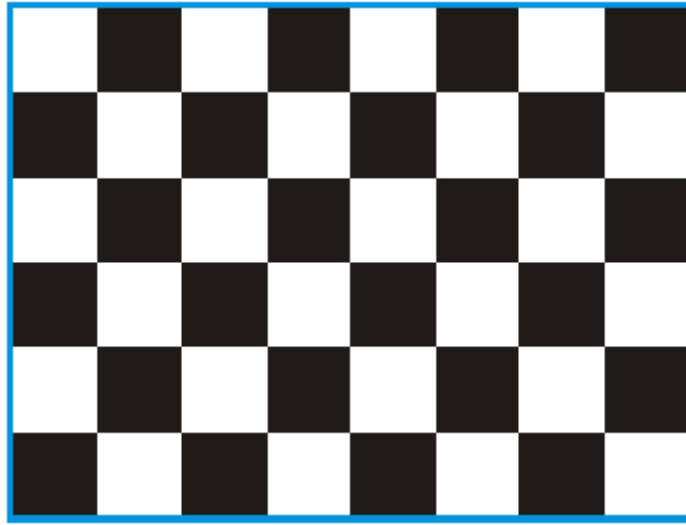
LCD pattern 1: White screen



LCD pattern 2: Black screen with a white square at right upper corner



LCD pattern 3: Checkerboard pattern



LCD pattern 4: Black background

6.0 FACTORY SERVICE MODE TESTING

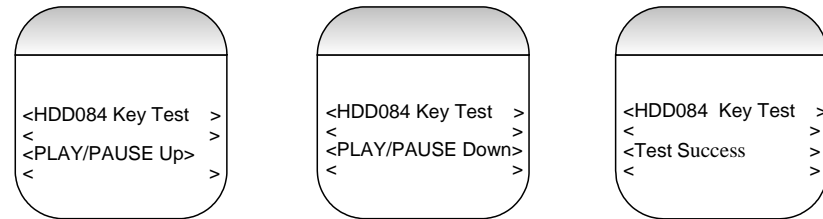


NOTE: The LCD patterns will be changed after the new test patterns are received because the LCD that will be used with HDD084 is black and white LCD and cannot display greyscale.

Device Key Test

Steps

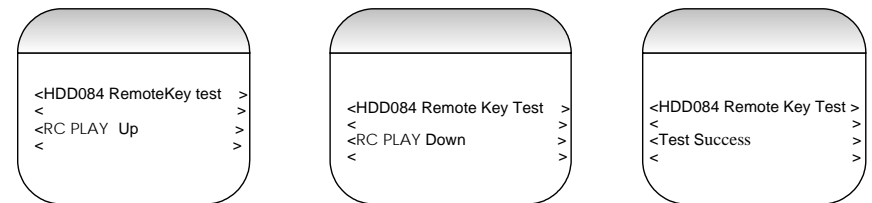
- Scroll to "Device KEYPAD Test" using UP / Down Key.
- Press RIGHT to enter the test. "Keypad Test" is displayed on the LCD.
- Press all keys one by one. Every time a key is pressed, the corresponding key number is displayed as "KEY x DOWN".
- After releasing the key, KEY x UP is displayed.
- **NOTE THAT 2 SHORT LEFT KEY PRESSES CAN EXIT THIS TEST.**
- Note: The ADC value will not be displayed on the LCD.
- Once all keys are pressed the test success screen is displayed.
- The Result is indicated as shown



5-Key Remote Control Keys Test

Steps

- Scroll to "5-Key REMOTE Key Test" using UP / Down Key
- Press RIGHT to enter the test. "Remote Key Test" is displayed on the LCD.
- Press all keys one by one. Every time a key is pressed, the corresponding key number is displayed as "KEY x DOWN".
- After releasing the key, KEY x UP is displayed.
- Once all the keys are pressed, the test is exited after a brief delay and the test browse screen will be entered, where next test can be selected.
- **NOTE THAT LEFT KEY PRESSES CAN EXIT THIS TEST.**
- Once all keys are pressed the test success screen is displayed.
- The result is as shown



6.0 FACTORY SERVICE MODE TESTING

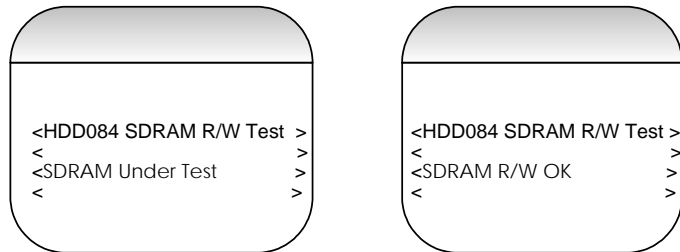
SDRAM Read/Write Test

Steps

- Scroll to “SDRAM Read/Write Test” using UP / Down Key
- Press RIGHT to enter the test.
- The test status and results will be shown on LCD. If the test is successful, “SDRAM R/W TEST OK” is displayed on the LCD and if the test fails “SDRAM TEST FAIL” will be displayed on the LCD.
- This test can be exited in between the testing process by pressing LEFT key.

Verification of SDRAM Read Write Functionality

To Verify SDRAM Read Write Functionality Write a pattern 0x55aa55aa to a specific location and read back the data to verify the data Integrity.



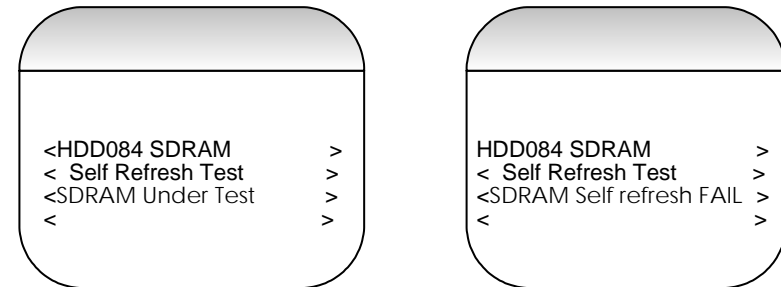
SDRAM Self-Refresh Test

Steps

- Scroll to “SDRAM Self Refresh Test” using UP / Down Key
- Press RIGHT to enter the test.
- The test status and results will be shown on LCD. If the test is successful, “SDRAM self refresh TEST OK” is displayed on the LCD and if the test fails “SDRAM self refresh FAIL” will be displayed on the LCD.
- This test can be exited in between the testing process by pressing LEFT key.

Verification of SDRAM Self-Refresh Functionality

- To verify the SDRAM self-Refresh functionality, we write a string of characters to the SDRAM and put the SDRAM in self-refresh mode for 5 Seconds and Check the data integrity before entering and after leaving Self-refresh mode without any write action on SDRAM.



6.0 FACTORY SERVICE MODE TESTING

HDD Test

Preconditions

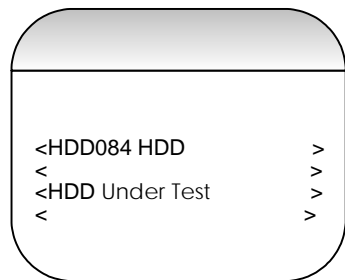
- Connect the device to the PC.

Steps

- Scroll to "HDD Test" using UP / Down Key
- Press RIGHT to enter the test.
- The test status and results will be shown on LCD. If the test is successful, "HDD TEST OK" is displayed on the LCD and if the test fails "HDD TEST FAIL" will be displayed on the LCD.
- This test can be exited in between the testing process by pressing LEFT key.

Verification of HDD Functionality

- After connecting it to the PC.
- Create a file "HDD084.txt".
- Write a predefined sting of characters such as "A-Z", "a-z" and "0-9".
- Close the file.
- Open it back and read and verify the contents.
- If the contents are same the test has passed else the test is failed.



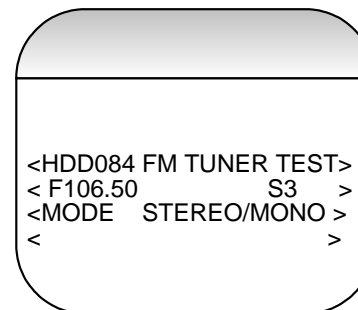
FM Tuner Test

Precondition

- Ensure that headphones are connected.

Steps

- Scroll to "Tuner Test" using UP / Down Key
- Press RIGHT to enter the test.
- Initialization of the tuner will be done when test is entered.
- Press UP now to search UP in steps of 50kHz.
- Press DOWN to search DOWN in steps of 50kHz.
- Use FUNC1 Key to select manual or auto search mode.
- Whenever a station is found, the frequency and Signal strength are displayed on the LCD.
- Press PLAY/PAUSE Key to set Stereo Mode. (TBC)
- Press PLAY/PAUSE key to set Mono Mode. (TBC)
- FM recording Test can be performed along with the tuner test as mentioned in 4.1.14.
- Press LEFT to exit the test, tuner will be disabled and the test browse screen will be entered where a next test can be selected.



6.0 FACTORY SERVICE MODE TESTING

Battery Level Test

Steps

- Scroll to “Battery Test” using UP / Down Key
- Press RIGHT to enter the test.
- Battery level is displayed on the screen in Volts
- Battery Level will be refreshed regularly every 1 sec.
- If the battery level is lesser than 2.8 V a “**LOW BATTERY**” warning will be flashed on the LCD for 10 seconds and the device goes to shutdown mode (TBD).
- Press LEFT key to exit the test.
- Note this test should be done without initialising the HDD.

```

<HDD084 BATTERY LEVEL TEST>
< X.XXXV           >
<CAL.STATUS       >
<                  >

```

Battery Charging Test

Steps

- Scroll to “Battery Charging test” using UP / Down Key
- Press RIGHT to enter the test
- Press LEFT to exit the test
- The charging current is updated every 1 seconds
- If charging current is less than 20mA, battery is not in the charging status.
- The following table indicates the charge current for different states

CHG_STATUS (GPA4)	CHG_CURRENT	INDICATION ON THE LCD
H	X	Charge Up
L	<20mA	Charge Up
L	> = 20mA	Charging

- The Following information is displayed on the LCD.

NON-USB CHARGING MODE

```

<HDD084 BATTERY CHARGING TEST>
< X.XXXV   YYY.YmA   >
<CHG.STATUS           >
< Adaptor STATUS     >
>

```

USB CHARGING MODE

If the USB connection is made the system will startup in the low power mode (trickle charging – <100mA include system current) and after the enumeration process, SW can decide whether high power mode can be switched on for a fast charging - <500mA include system current.

```

<HDD084 BATTERY CHARGING TEST>
< X.XXXV   YYY.YmA   >
<CHG.STATUS           >
< USB STATUS         >
>

```

6.0 FACTORY SERVICE MODE TESTING

- The battery level will be refreshed regularly every 1 second.

MIC Recording Test

Steps

- Connect a microphone.
- Scroll to “MIC Recording Test” using UP / Down Key
- Press RIGHT to enter the test.
- Press REC key to start the recording .The recorded file will be “MICREC.MP3”.
- The recorded file can be verified in “AUDIO TEST CASE” (4.1.9)
- Press LEFT to exit the test

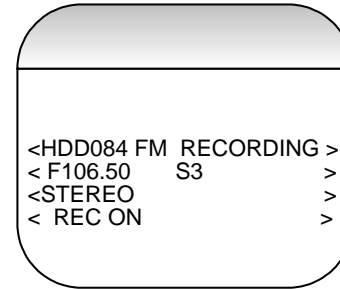


FM Recording Test

Steps

- This test will be done during the tuner test and is not a separate test case .
- Initialise the Tuner.
- Search the desired station using UP/DOWN Key.
- Press REC key to start the recording .The recorded file will be “FMREC.MP3”.

- The recorded file can be verified in “AUDIO TEST CASE” (4.1.9)
- Press LEFT to exit the test.



Real Time Clock Test

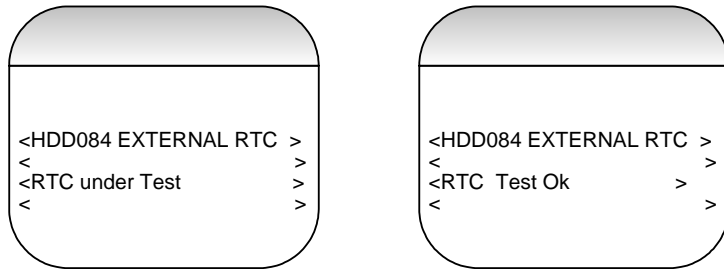
Steps

- Scroll to “Real Time Clock Test” using UP / Down Key
- Press RIGHT to enter the test. “
- If the test is successful “RTC TEST OK” is shown on LCD, if the Test fails “RTC TEST FAIL” is shown on the LCD.
- Press LEFT to exit the test.

Verification of RTC

- When user selected the RTC test, Software will write a pre-defined register value to the RTC.
- After 1 second, Software will read back the RTC register value and check if the RTC date is correct and clock is incremented by 1 second.
- If the test is successful, “RTC TEST OK” is shown on the LCD display, if test fails “RTC FAIL” is shown on the LCD display.

6.0 FACTORY SERVICE MODE TESTING



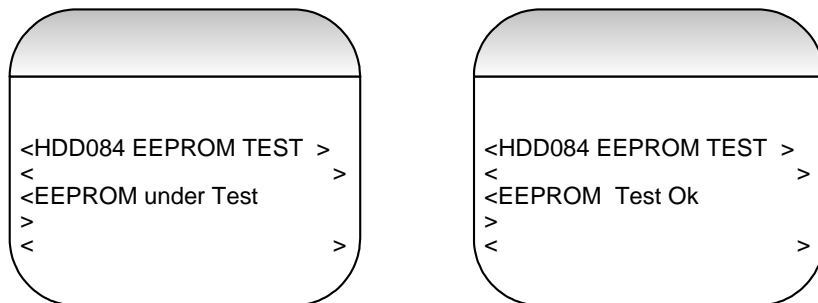
EEPROM Test

Steps

- Scroll to “EEPROM test “using UP / Down Key
- Press RIGHT to enter the test. “
- If the test is successful “EEPROM TEST OK” is shown on LCD, if the test fails “EEPROM TEST FAIL” is shown on the LCD.
- Press LEFT to exit the test.

Verification of EEPROM Functionality

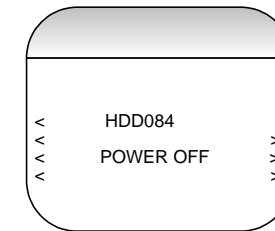
To Verify EEPROM Functionality Write a pattern 0x55aa55aa to a specific location and read back the data to verify the data Integrity, repeat the write/read test by pattern 0xaa55aa55.



Steps

Powering Off

- Pressing play key for longer than 2 seconds causes system power off.
- Release the PLAY key once “OFF” is displayed in the LCD. Note that system is shutdown only after release of PLAY key.
- System can be powered off while any test case is being executed.
- System can again be powered on by pressing play key and holding for 2 seconds



Appendix I

Firmware Upgrade

Steps

- Select the test and press right key to enter the test
- Firmware upgrade can be done by copying a hdd084_FSM.ebn file from a specified directory I.e. “_system” on HDD
- The device copies the firmware image into the device

NOTE: this test should be done after initializing the HDD

6.0 FACTORY SERVICE MODE TESTING

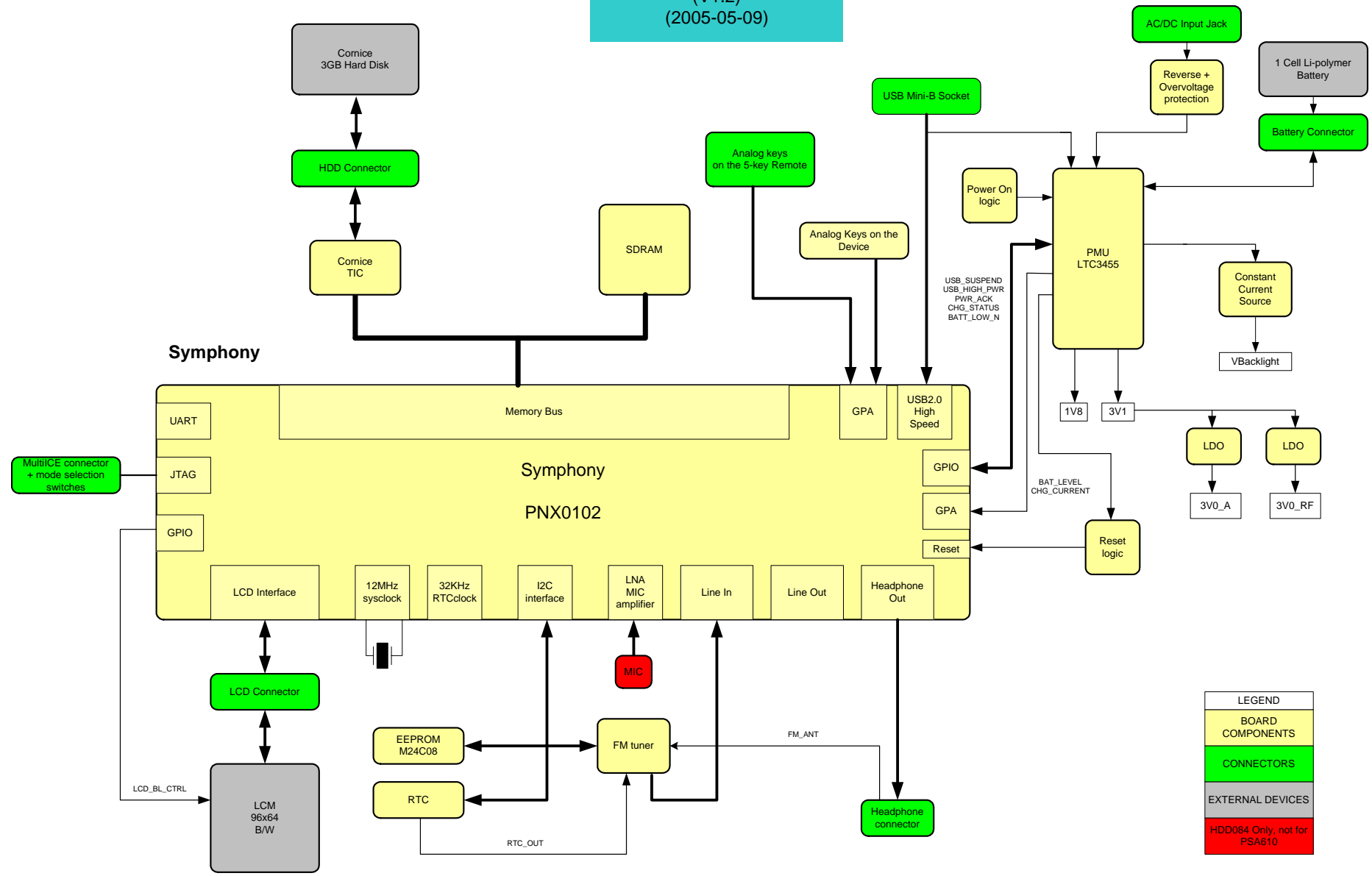
HDD initialisation

Steps

- Select the test and press right key to enter the test
- Initialize the HDD

7.0 OVERALL BLOCK DIAGRAM

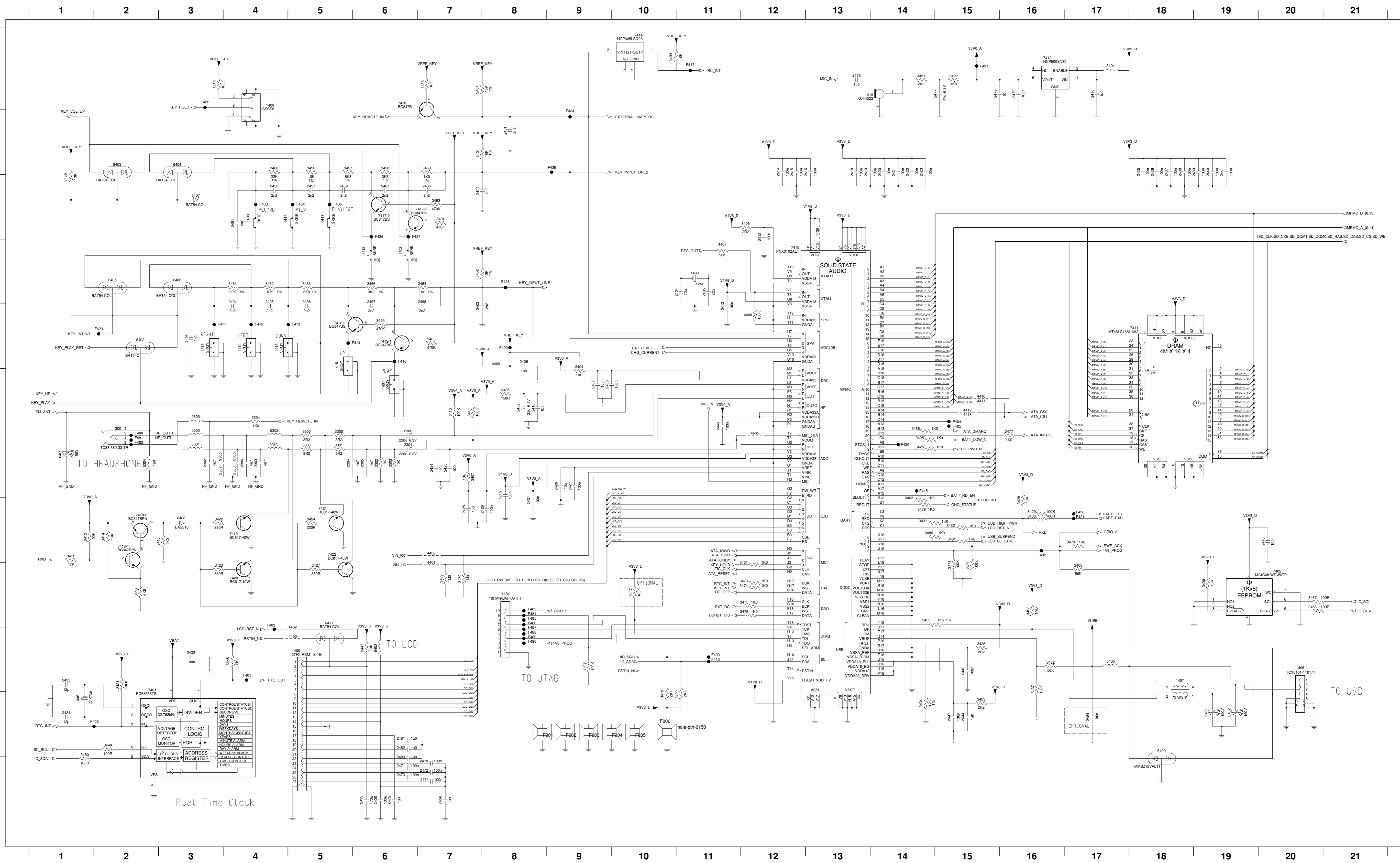
HDD084 BLOCK DIAGRAM (V1.2)
(2005-05-09)



LEGEND
BOARD COMPONENTS
CONNECTORS
EXTERNAL DEVICES
HDD084 Only, not for PSA610

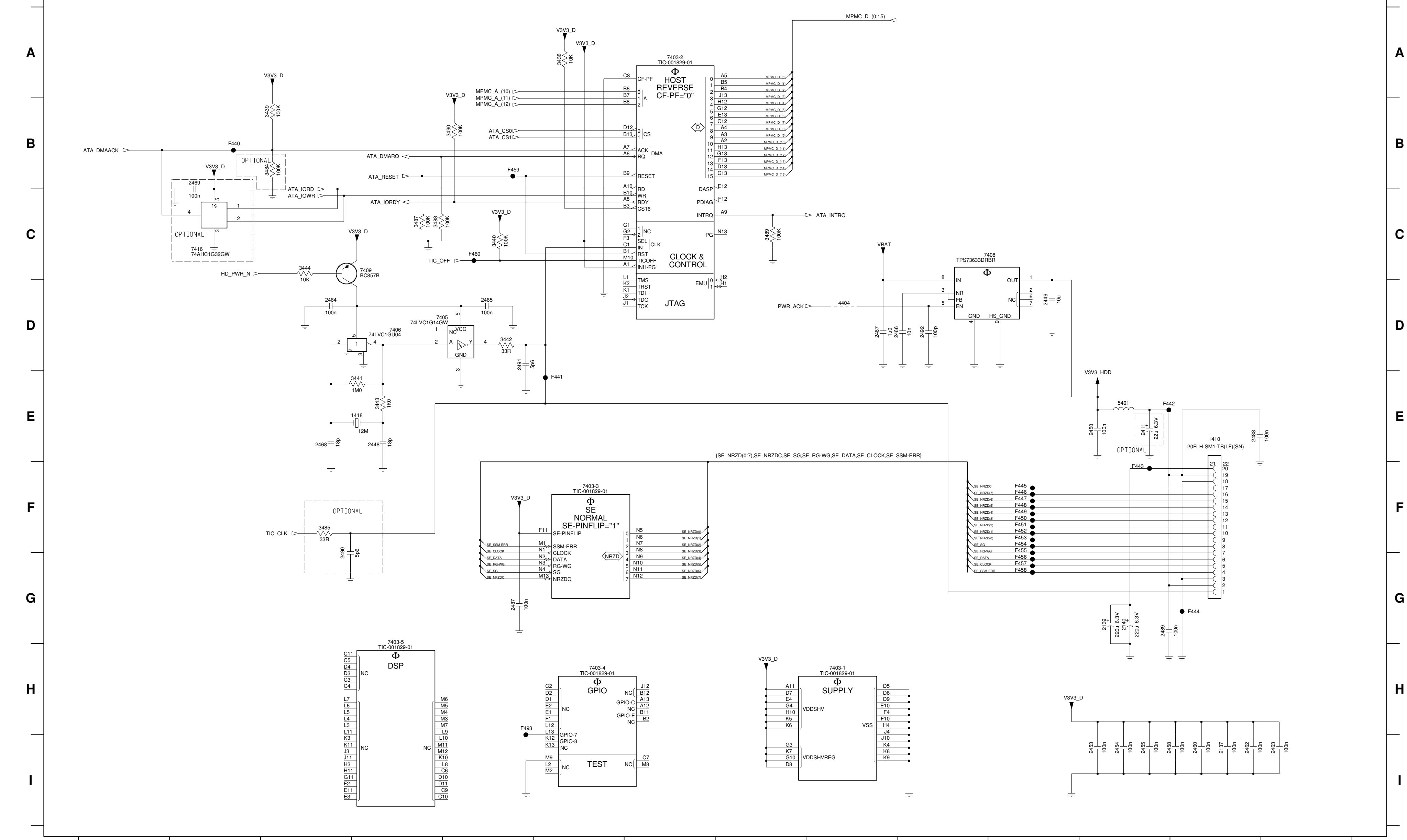
8.0 ELECTRICAL DIAGRAM

1300 F2	1407 J8	1416 E5	2305 G6	2404 D11	2413 E11	2422 B14	2430 G8	2438 B18	2447 K15	2471 L6	2479 A16	2484 D4	3302 G6	3404 E9	3413 H1	3421 J2	3429 H16	3447 J6	3455 C1	3463 D5	3471 I15	3479 H17	3493 C7	4402 J5	4411 F15	5305 F3	6403 B2	7401 J2	7415 D12	7422 H5	F402 K2	F413 E5	F423 E2	F435 C5	F485 I8
1400 J5	1408 C4	1417 C4	2306 G4	2405 D11	2414 B12	2423 B14	2431 H8	2439 B19	2451 C4	2472 L7	2480 A17	2485 D4	3303 G6	3405 F8	3414 H2	3422 H3	3430 H16	3448 J4	3456 B5	3464 D7	3472 I15	3480 H14	3494 C7	4403 J5	4412 F15	5400 J17	6404 B3	7402 I20	7417-1 C7	F001 K8	F403 I4	F414 E6	F424 B9	F436 C6	F486 I8
1401 F6	1409 A4	1419 A14	2307 G3	2406 E6	2415 B12	2424 G7	2432 J3	2440 B19	2452 C4	2473 L6	2481 K6	2486 D5	3304 F4	3406 C12	3415 H2	3423 I3	3431 H14	3449 K2	3457 B5	3465 E7	3473 I12	3481 H15	3495 E6	4405 G12	4413 F15	5403 J6	6405 D2	7410 A6	7417-2 C6	F002 K9	F404 F15	F415 G4	F425 B9	F437 C6	F487 J8
1402 D6	1411 C5	2308 F6	2308 G4	2407 F9	2416 B13	2425 C7	2433 J1	2441 B19	2456 L7	2474 L7	2482 K6	2487 D6	3305 F5	3407 C7	3416 I2	3424 H5	3432 H15	3450 K1	3458 B6	3466 D6	3474 I12	3482 J16	3496 I9	4406 C13	5303 F3	5404 A17	6406 D3	7411 E18	7418-1 H2	F003 K9	F405 F15	F416 E6	F426 B9	F438 J8	
1403 D11	1412 D6	2301 G6	2400 L6	2408 F9	2418 B13	2426 G9	2434 K1	2442 J10	2457 C5	2475 L6	2483 L6	2488 D7	3306 G5	3408 I7	3417 I10	3425 G14	3433 I14	3451 I12	3459 B7	3467 L0	3475 I12	3483 F15	3498 I16	4407 D11	5301 G3	6103 E2	6407 C3	7412-1 E6	7418-2 H2	F004 K10	F409 J11	F417 A11	F430 G14	F481 G2	F489 J8
1404 I8	1413 E3	2302 G3	2401 B5	2409 F6	2419 B13	2427 G9	2435 B18	2443 H10	2459 C5	2476 A13	2484 K17	2489 L6	3401 B7	3410 F7	3418 J9	3426 G14	3434 K14	3452 A3	3460 B4	3468 I0	3476 I12	3486 F14	3499 A10	4408 E12	5302 F4	6400 K18	6408 H3	7412-2 E5	7419 H4	F005 K10	F410 J11	F420 H17	F432 H16	F482 G2	F490 J8
1405 K1	1414 E4	2303 G4	2402 C7	2410 F8	2420 B14	2428 H7	2436 B18	2444 K15	2461 C6	2477 A15	2486 C7	2490 L6	3300 F5	3402 D7	3411 F7	3419 K10	3436 J15	3453 A7	3461 D4	3469 I7	3477 F16	3485 A16	4409 H7	4409 E8	5303 G4	6401 K19	6409 G1	7413 A16	7420 I4	F006 K10	F411 E3	F421 H17	F433 C4	F483 I8	F491 A15
1406 J20	1415 E4	2304 G5	2403 E7	2412 C12	2421 B14	2429 H8	2437 B18	2446 F11	2470 L7	2478 A15	2493 E3	3301 G5	3403 H4	3412 H1	3420 K11	3428 H16	3437 J16	3454 A7	3462 D4	3470 I7	3478 H14	3492 A15	4401 I7	4410 F15	5304 G2	6402 K19	6411 I5	7414 A10	7421 H5	F401 J4	F412 E4	F422 A3	F434 C5	F484 I8	F492 E8



CHN	SETNAME	HDD	1	2005-04-12
CLASS_NO	PBAS HDD084		1	2005-03-24
3P2361	HDD084		1	2005-03-07
2004-12-10			2	2004-12-10
2005-04-12			3	2004-09-23
NAME	RAYMOND CHOI	SUPERS	4	
CHECK	DATES	2004-06-11	10	130 - 1
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8.0 ELECTRICAL DIAGRAM



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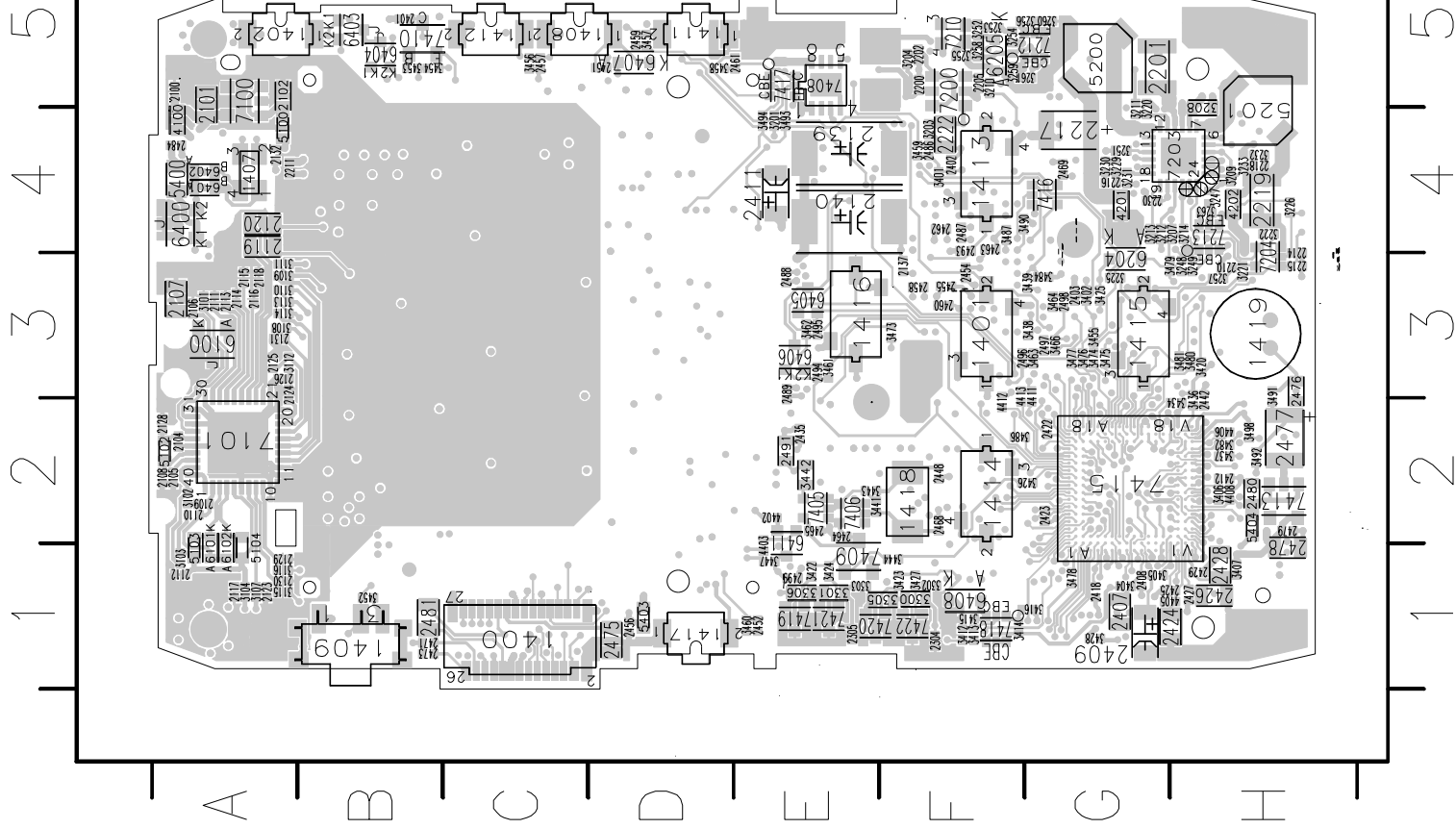
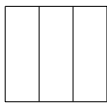
Alle rechten voorbehouden. Vervolgvuldiging, geheel of gedeeltelijk, is niet toegestaan dan met schriftelijke toestemming van de auteursrechtbehebende.

CHN		SETNAME HDD			
CLASS_NO	3PC330	PBAS HDD084		1 2005-04-12	
		HDD084		1 2005-03-24	
	1			1 2005-03-07	
	2			1 2004-12-10	
	3			1 2004-09-23	
NAME	RAYMOND CHOI	SUPERS.	4	10	130 - 2
CHECK		DATE	2004-06-11	© KONINKLIJKE PHILIPS ELECTRONICS N.V. 2004	



e

f



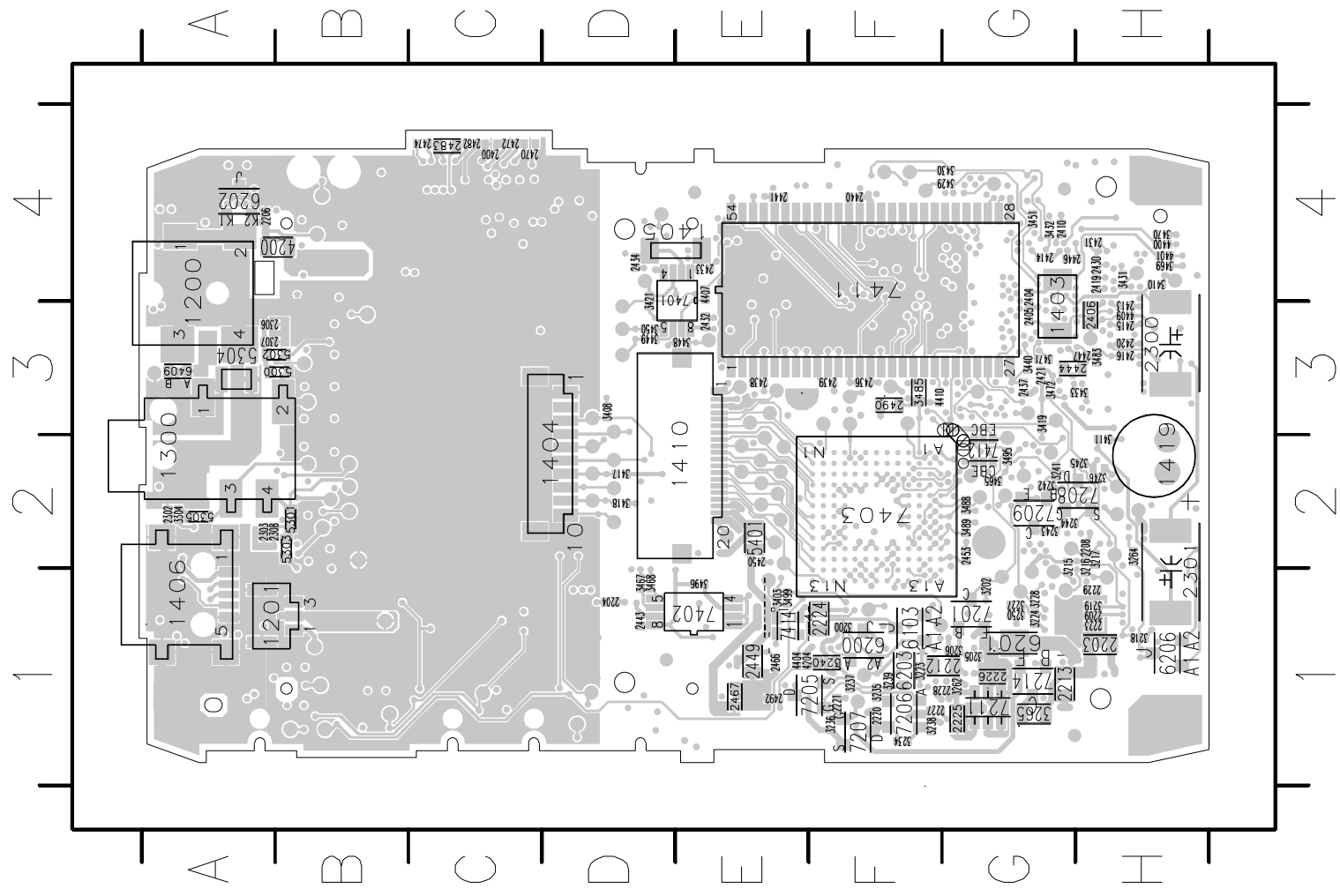
9.0 COMPONENT LAYOUT

A 1 2 3 4 5 6 7 8
 A I L A A 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100
 B C D D D L E L L L L G G G L G G G G I I I I I G L L L I I I L L I A G I L L L I I I G L L A 2 1 1 G H 4 4 A D H 2 A
 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100
 4 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100
 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100
 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100
 4 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100
 1 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100
 1 3 5 4 5 1 5 5 4 2 3 3 1 2 3 5 5 2 2 3 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100
 0 1 2 7 8 9 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

CN:	HDD	3140 178 0012	
CLASS NO.	PBAS HDD084	3140 178 0012	
3PC330	MAIN BOARD	3140 178 0012	
1	1	1	1
2004-12-10	2004-06-11	2005-03-24	2004-12-10
2005-04-12	2005-04-12	2005-03-07	2004-09-23
NAME Raymond Choi	SUPERS	10	132 - 1
CHECK	DATE	© Philips Electronics N.V.	
		A3	



9.0 COMPONENT LAYOUT

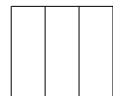


0 1 2 3 4 5 6 7 8

A B C D E F G H

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187 188 189 190 191 192 193 194 195 196 197 198 199 200 201 202 203 204 205 206 207 208 209 210 211 212 213 214 215 216 217 218 219 220 221 222 223 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238 239 240 241 242 243 244 245 246 247 248 249 250 251 252 253 254 255 256 257 258 259 260 261 262 263 264 265 266 267 268 269 270 271 272 273 274 275 276 277 278 279 280 281 282 283 284 285 286 287 288 289 290 291 292 293 294 295 296 297 298 299 300 301 302 303 304 305 306 307 308 309 310 311 312 313 314 315 316 317 318 319 320 321 322 323 324 325 326 327 328 329 330 331 332 333 334 335 336 337 338 339 340 341 342 343 344 345 346 347 348 349 350 351 352 353 354 355 356 357 358 359 360 361 362 363 364 365 366 367 368 369 370 371 372 373 374 375 376 377 378 379 380 381 382 383 384 385 386 387 388 389 390 391 392 393 394 395 396 397 398 399 400 401 402 403 404 405 406 407 408 409 410 411 412 413 414 415 416 417 418 419 420 421 422 423 424 425 426 427 428 429 430 431 432 433 434 435 436 437 438 439 440 441 442 443 444 445 446 447 448 449 450 451 452 453 454 455 456 457 458 459 460 461 462 463 464 465 466 467 468 469 470 471 472 473 474 475 476 477 478 479 480 481 482 483 484 485 486 487 488 489 490 491 492 493 494 495 496 497 498 499 500 501 502 503 504 505 506 507 508 509 510 511 512 513 514 515 516 517 518 519 520 521 522 523 524 525 526 527 528 529 530 531 532 533 534 535 536 537 538 539 540 541 542 543 544 545 546 547 548 549 550 551 552 553 554 555 556 557 558 559 560 561 562 563 564 565 566 567 568 569 570 571 572 573 574 575 576 577 578 579 580 581 582 583 584 585 586 587 588 589 590 591 592 593 594 595 596 597 598 599 600 601 602 603 604 605 606 607 608 609 610 611 612 613 614 615 616 617 618 619 620 621 622 623 624 625 626 627 628 629 630 631 632 633 634 635 636 637 638 639 640 641 642 643 644 645 646 647 648 649 650 651 652 653 654 655 656 657 658 659 660 661 662 663 664 665 666 667 668 669 670 671 672 673 674 675 676 677 678 679 680 681 682 683 684 685 686 687 688 689 690 691 692 693 694 695 696 697 698 699 700 701 702 703 704 705 706 707 708 709 710 711 712 713 714 715 716 717 718 719 720 721 722 723 724 725 726 727 728 729 730 731 732 733 734 735 736 737 738 739 740 741 742 743 744 745 746 747 748 749 750 751 752 753 754 755 756 757 758 759 760 761 762 763 764 765 766 767 768 769 770 771 772 773 774 775 776 777 778 779 780 781 782 783 784 785 786 787 788 789 790 791 792 793 794 795 796 797 798 799 800 801 802 803 804 805 806 807 808 809 810 811 812 813 814 815 816 817 818 819 820 821 822 823 824 825 826 827 828 829 830 831 832 833 834 835 836 837 838 839 840 841 842 843 844 845 846 847 848 849 850 851 852 853 854 855 856 857 858 859 860 861 862 863 864 865 866 867 868 869 870 871 872 873 874 875 876 877 878 879 880 881 882 883 884 885 886 887 888 889 890 891 892 893 894 895 896 897 898 899 900 901 902 903 904 905 906 907 908 909 910 911 912 913 914 915 916 917 918 919 920 921 922 923 924 925 926 927 928 929 930 931 932 933 934 935 936 937 938 939 940 941 942 943 944 945 946 947 948 949 950 951 952 953 954 955 956 957 958 959 960 961 962 963 964 965 966 967 968 969 970 971 972 973 974 975 976 977 978 979 980 981 982 983 984 985 986 987 988 989 990 991 992 993 994 995 996 997 998 999 1000

CN:		HDD	
CLASS NO. 3PC330	PBAS HDD084		
2004-12-10 2	MAIN BOARD		
2005-04-12 3			
NAME Raymond Choi	SUPERS	DATE	CHECK
		2004-06-11	
3140 178 0012		10	132 - 2
1	2005-04-12	A3	
1	2005-03-24		
1	2005-03-07		
1	2004-12-10		
1	2004-09-23		
Philips Electronics N.V.			



10.0 REVISION LIST

Version 1.0 (3141 785 30480)

- Initial release HDD084/00/05/17

Version 1.1 (3141 785 30481)

- Chapter 4 Photo added to the disassemble instructions for the removal of screws on the PCB Assembly.

Version 1.2 (3141 785 30482)

- Include content on HDD082/17
- Chapter 5 Changes in the service 12NC on the following parts
 - FRONT CAB. ASSY HDD084 SILVER (314017750142)
 - COVER-REAR LAQ ASSY HDD084 SIL (314017750172)
 - REAR CABINET ASSY HDD084 (314017750132)
- Chapter 5 Adding of the following new service parts
 - HDD 1" 2GB+SW CONFIG HDD082/17 (314017050361)
 - USB CABLE ASSY (314011769601)

Version 1.3 (3141 785 30483)

- Chapter 5 New PCBA kits with different resistor value are used.
 - PCBA KIT ASSY HDD084/00 (314017900191)
 - PCBA KIT ASSY HDD084/05 (314017900111)
 - PCBA KIT ASSY HDD084/17 (314017830111)
 - PCBA KIT ASSY HDD082/17 (314017900181)
- Chapter 5 Changes in the service 12NC on the following parts
 - AY4108/00 AC/DC Adaptor (312017830122)
 - AY4108/05 AC/DC Adaptor (314017830132)

Version 1.4 (3141 785 30484)

- Chapter 1 Added procedure on rebuilding the firmware image & database after the replacement of hard disk.
Chapter 1 Added procedure on how to capture the device log file & the pc log file from the device.
- Chapter 2 Clarified on the PCBA and HDD used on HDD082/17 with different change code in the serial number
- Chapter 5 Changes in the service 12NC on the following part
 - PCBA KIT ASSY HDD082/17 (314017800261)

Version 1.5 (3141 785 30485)

- Chapter 1 Added firmware upgrade and firmware rebuilding re-building procedure for HDD082/HDD085
- Chapter 5 New service parts added with the 12NC below
 - PCBA KIT ASSY HDD085/00 (314017900231)
 - PCBA KIT ASSY HDD085/05 (314017900231)
 - MOD SUPP AC-DC HDD085/00 (272201200608)
 - MOD SUPP AC-DC HDD085/05 (272201200609)

10.0 REVISION LIST

Version 1.6 (3141 785 30486)

- Chapter 1 Added recovery procedure for flash corrupt problem for HDD084/HDD085/HDD02 and MTP mode installation procedure after replaced the mainboard for HDD085/HDD082.
- Chapter 5 Added new service 12NC on the following part
 - DFU CABLE (824041001931)

Version 1.7 (3141 785 30487)

- Include content on HDD086/00/05/17
- Chapter 5 Added new service 12NC on the following part
 - HDD 1.0" 4GB (2822 0620 0108)
 - PCBA KIT ASSY HDD086/00/05 (3140 1790 0261)
 - CD ROM HDD086 (3140 1787 0361)
 - Headphone SHE2550BI/00 (9082 1000 8773)