

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

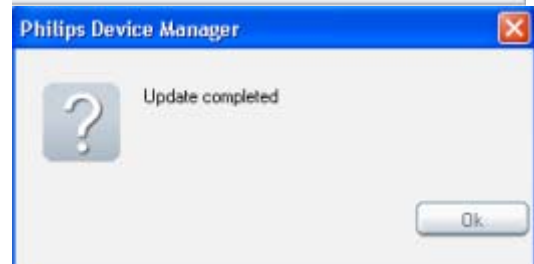
- Download the latest version of the Device Manager application from <http://www.philips.com/support>. You may need to enter your language preference and the model number e.g. hdd085, to access the Device Manager application upgrade file.
- Double click the downloaded execution file to start the installation 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

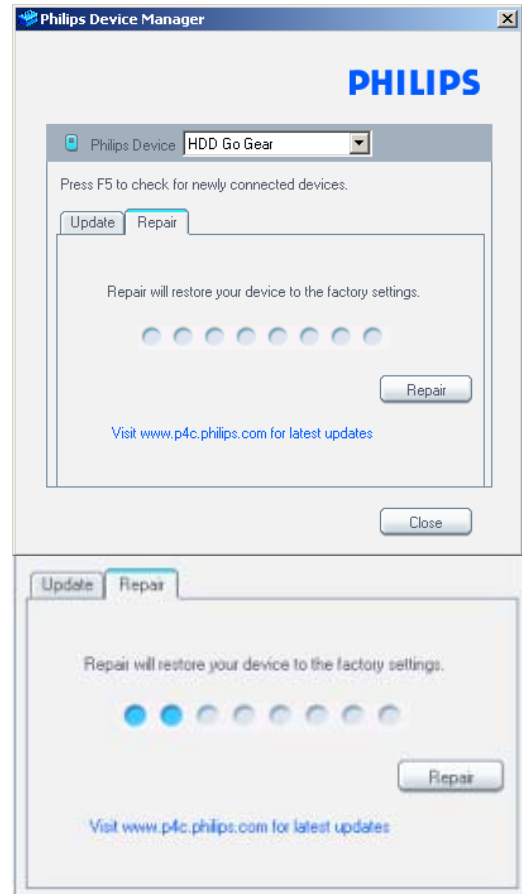
- Connect the GoGear to the power supply with the

1.0 TECHNICAL SPECIFICATION and SERVICE HINTS

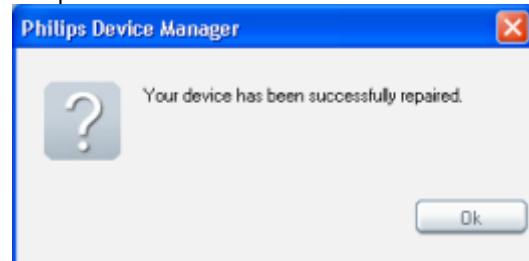
- AC/DC adapter and to the computer with the provided USB cable.
2. Launch the **Device Manager** at **Start->Programs->Philips GoGear HDD->Philips GoGear HDD** on your PC
A dialogue box will pop up; click **Restore** and **OK** to confirm and start restoring the unit to its factory setting.
 3. Follow 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

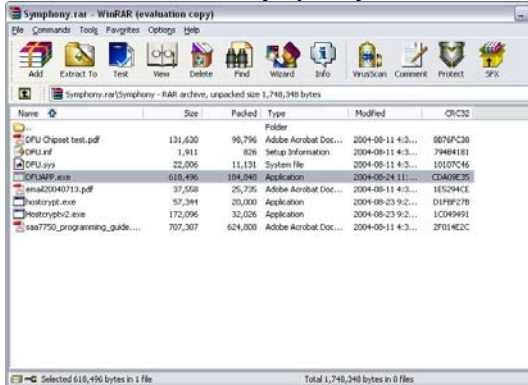
Recovery procedure for flash corrupt problem

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.

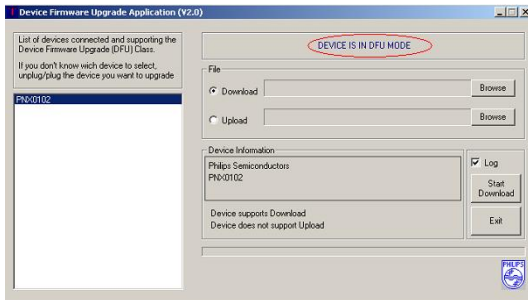
Note: Close all applications e.g. Philips Device Manager before launch the DFU program. Run this program by Window XP only.

For HDD084 only (MSC mode device)

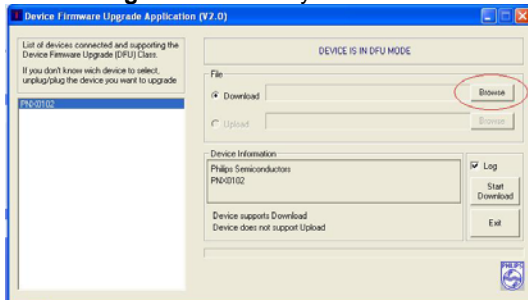
1. Connect the DFU USB cable to the device first and then connect to your PC.
2. Launch the DFU program by unzip the **Symphony.rar** file and then double click the **DFUAPP.exe** file from **Symphony** folder.



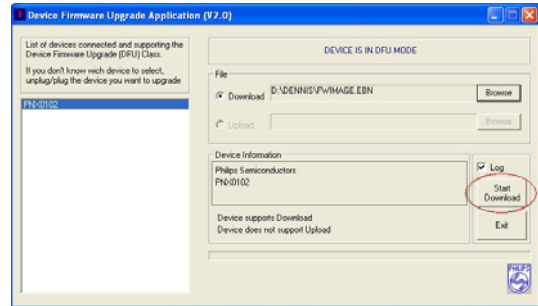
3. Observe the dialogue box to ensure **“DEVICE IS IN DFU MODE”**.



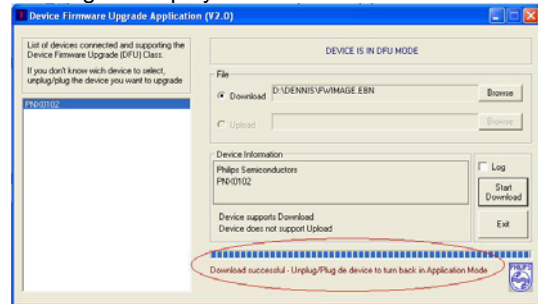
4. Select **Download** and then click **Browse** to get the **FWImage.ebn** file from your PC.



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>)

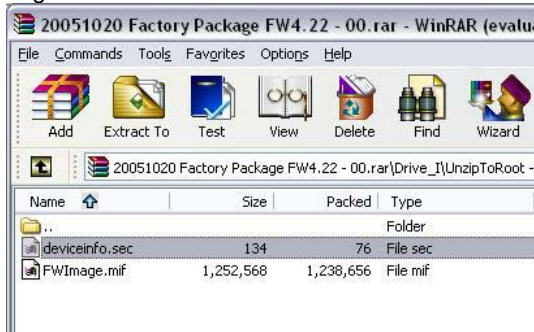
1.0 TECHNICAL SPECIFICATION and SERVICE HINTS

For HDD086/HDD085/HDD082 (MTP mode device)

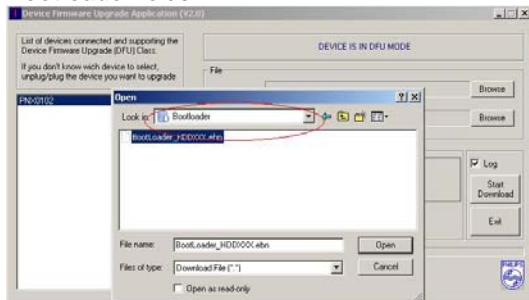
1. Unzip the **Factory.rar** file to your PC. You should find three folder name **"Bootloader"**, **"DM"** & **"Drive_I"**.



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.

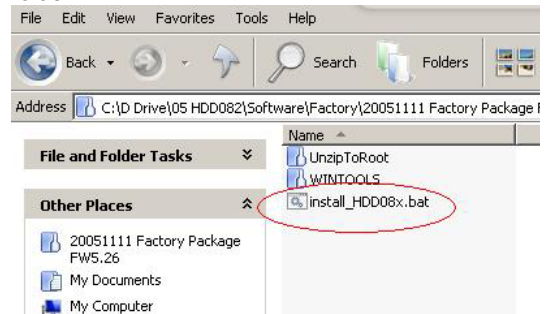
8. Disconnect DFU USB cable from the device.
9. Open the device, display will show **"BOOT LOADER APPLICATION Version 4.0"**.



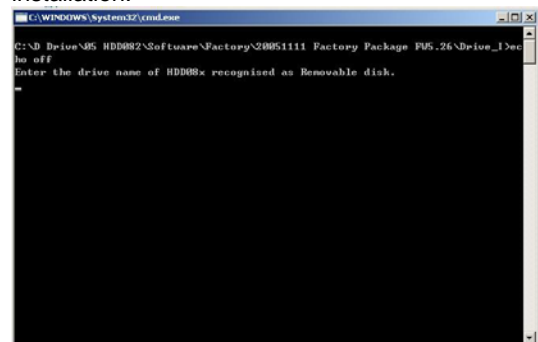
10. Connect the device with your PC by normal USB cable.




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

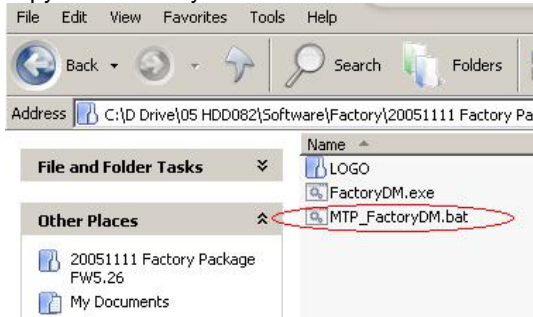
Note: Applicable for HDD085/HDD082 only

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

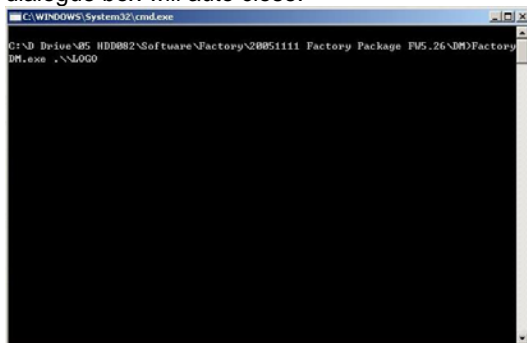
14. Connect the device with PC by normal USB cable again for MTP connection. Select "Take no action" once the device is detected by the PC.



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 SAFETY 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.

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."

ESD



GB Warning !

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

S Varning !

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

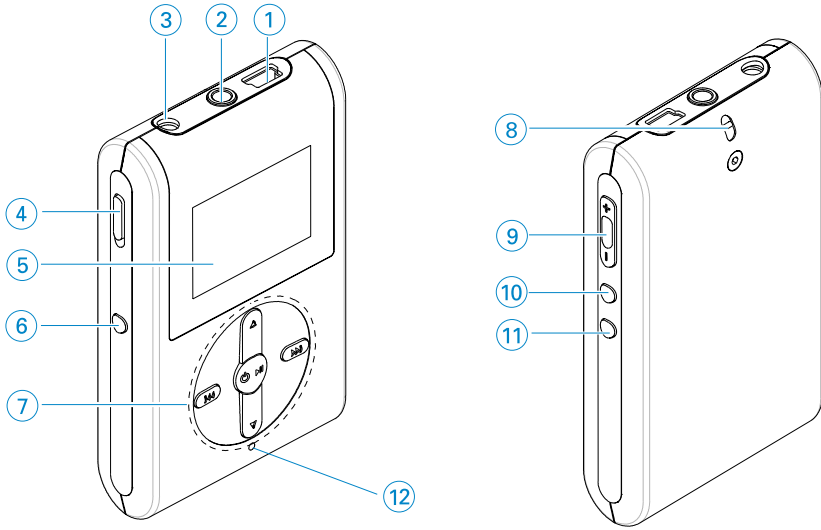
SF Varoitus !

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

DK Advarse !

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

3.0 Instructions for use

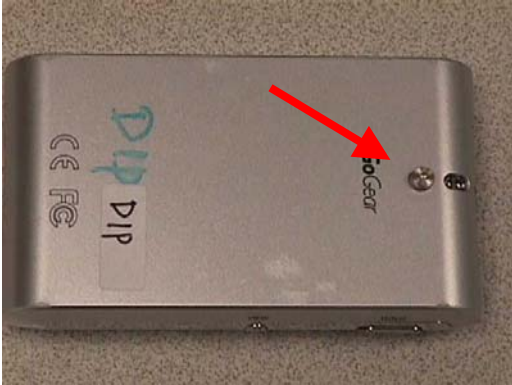


Overview of controls and connections

- | | | |
|---|---------------------|---|
| 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



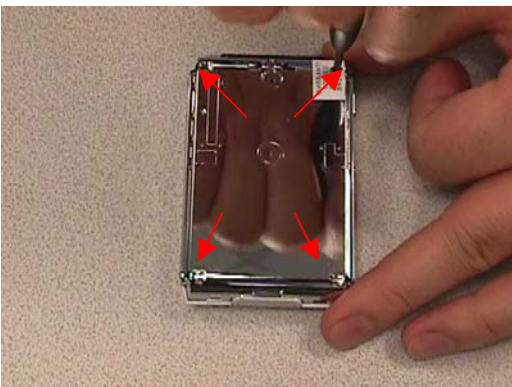
1. Remove the Cosmetic screw with an Allen key



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

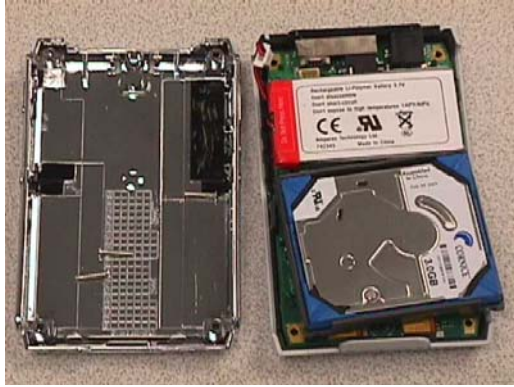


3. Gently open up the back cover.



4. Remove 4 x screws. See arrows

4.0 MECHANICAL INTRUCTIONS

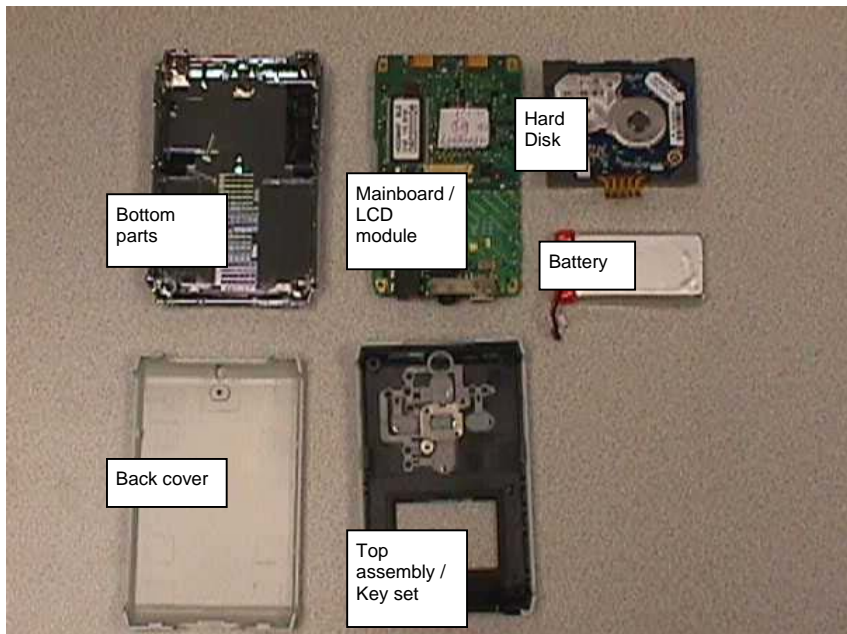


5. Open up and remove the bottom part.
6. Remove the battery pack and then the hard disk

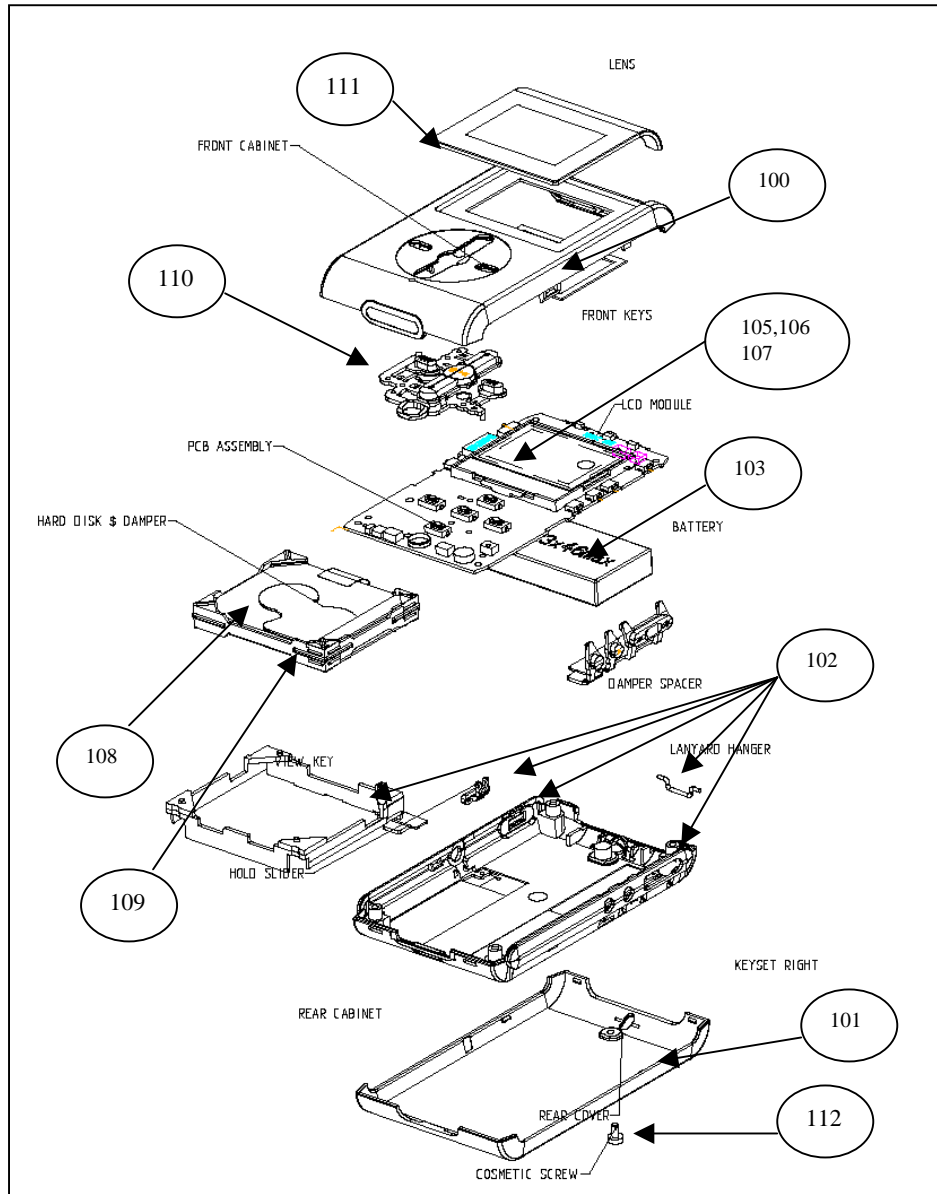


7. Take out the 2 screws on the PCB assembly to replace it from the casing.

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

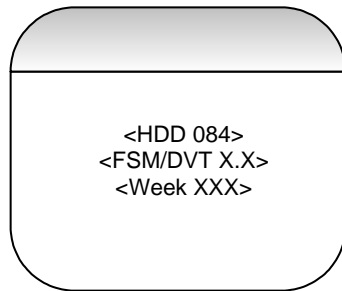
824041001931	DFU CABLE
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6.0 FACTORY SERVICE MODE TESTING

Programming the device using for stand-alone FSM

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

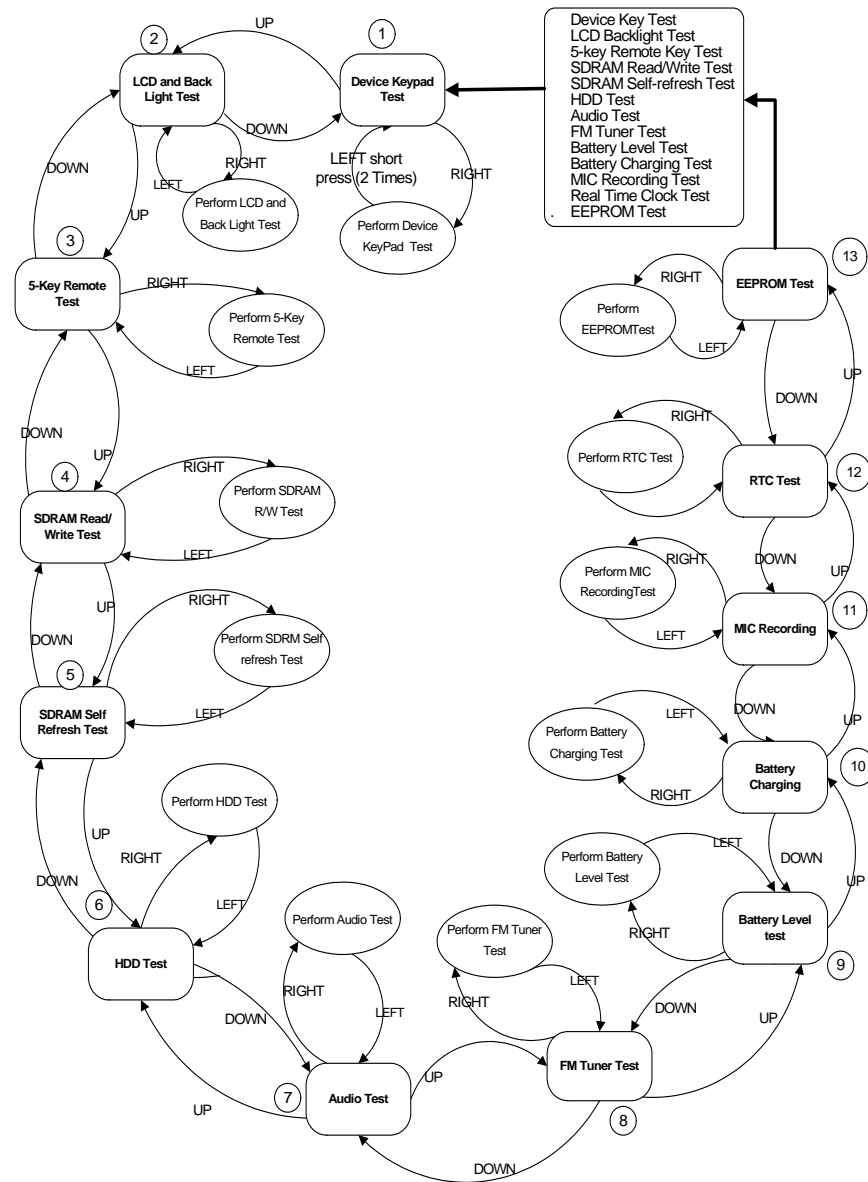
1. Press & hold “ Rec” and then Press ► || together
2. The FSM/DVT application will start and you will see the following screen.
3. Navigate to the required test.



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].

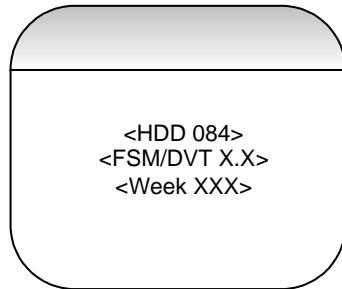
The following diagram describes the test flow.



6.0 FACTORY SERVICE MODE TESTING

Test USAGE Description

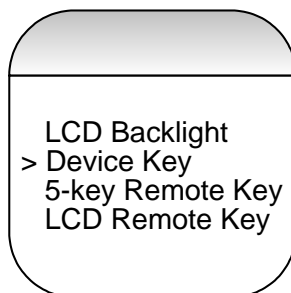
Power ON screen



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

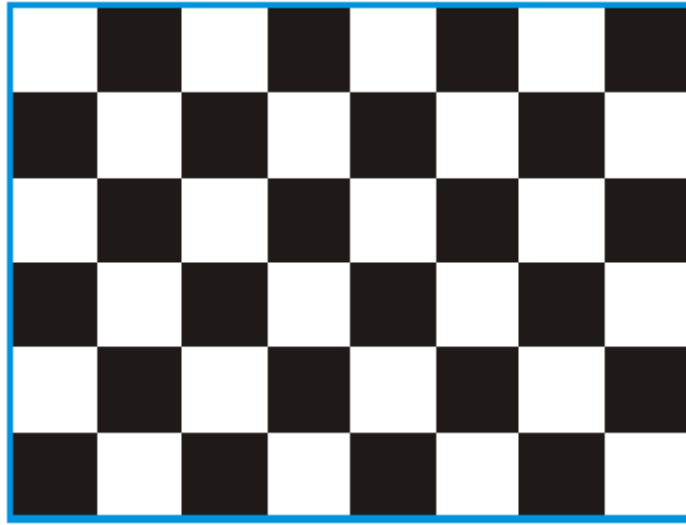
LCD pattern 1: White screen



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

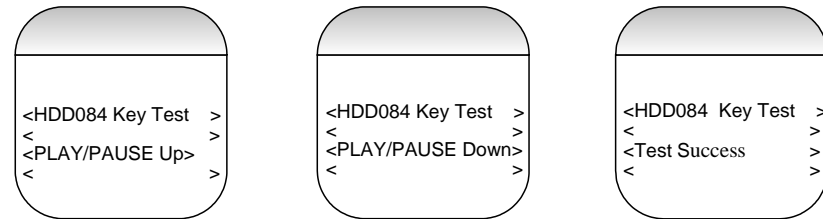


NOTE: The LCD patterns will be changed after the new test patterns are received because the LCD that will be used with HDD084 is black and white LCD and cannot display greyscale.

Device Key Test

Steps

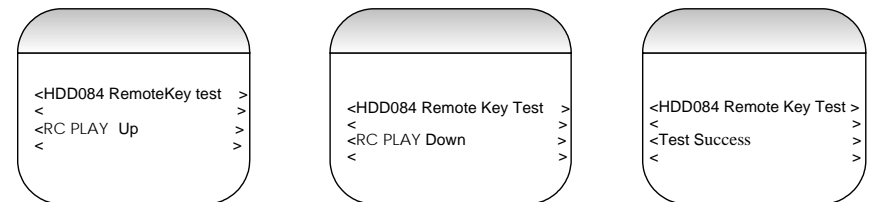
- Scroll to “Device KEYPAD Test” using UP / Down Key.
- Press RIGHT to enter the test. “Keypad Test” is displayed on the LCD.
- Press all keys one by one. Every time a key is pressed, the corresponding key number is displayed as “KEY x DOWN”.
- After releasing the key, KEY x UP is displayed.
- **NOTE 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

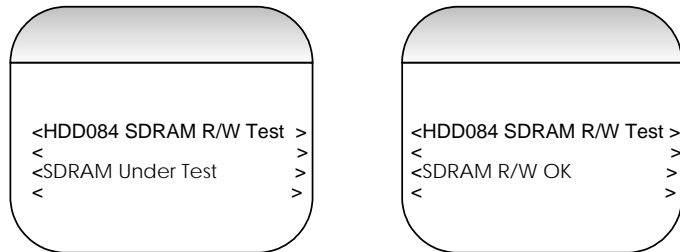
SDRAM Read/Write Test

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.



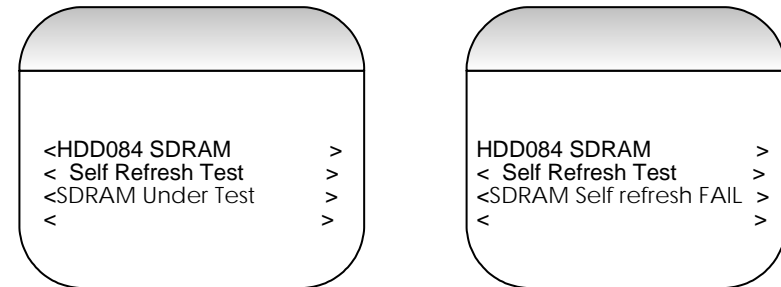
SDRAM Self-Refresh Test

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

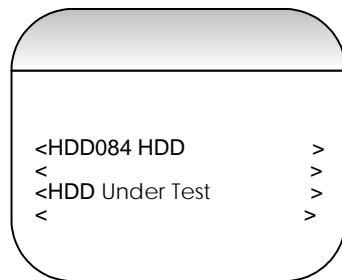
- Connect the device to the PC.

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.



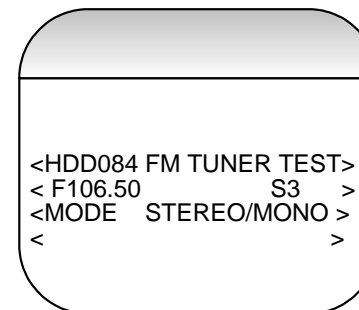
FM Tuner Test

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

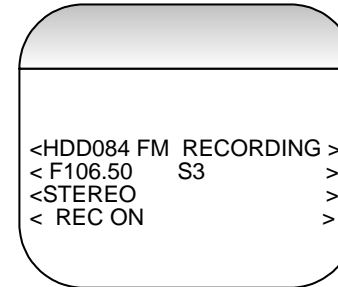


FM Recording Test

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

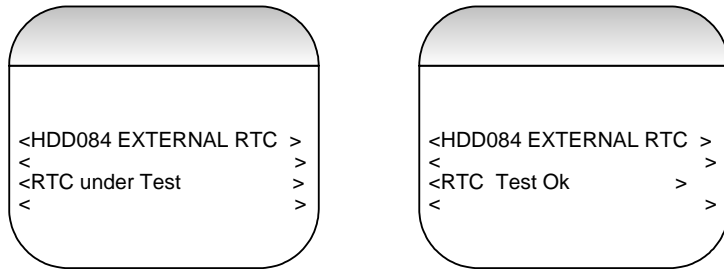
Steps

- 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



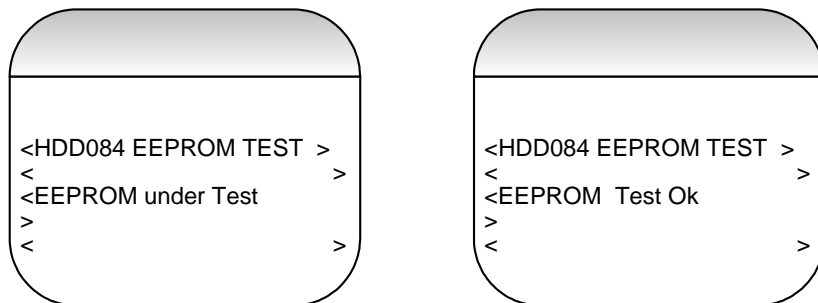
EEPROM Test

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

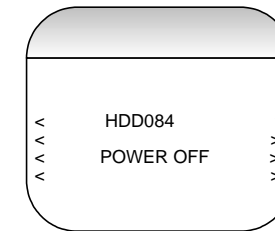
To Verify EEPROM Functionality Write a pattern 0x55aa55aa to a specific location and read back the data to verify the data Integrity, repeat the write/read test by pattern 0xaa55aa55.



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

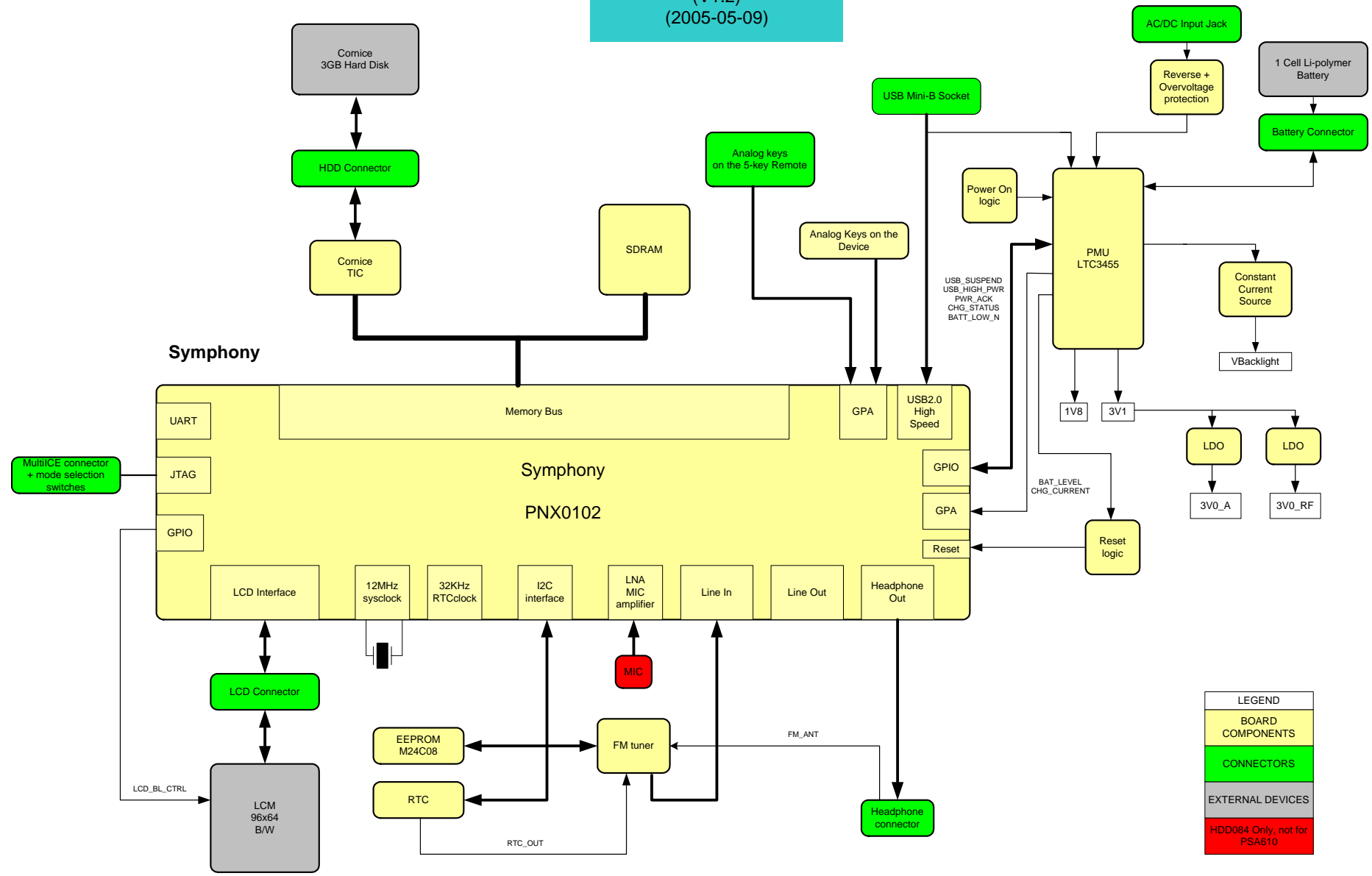
HDD initialisation

Steps

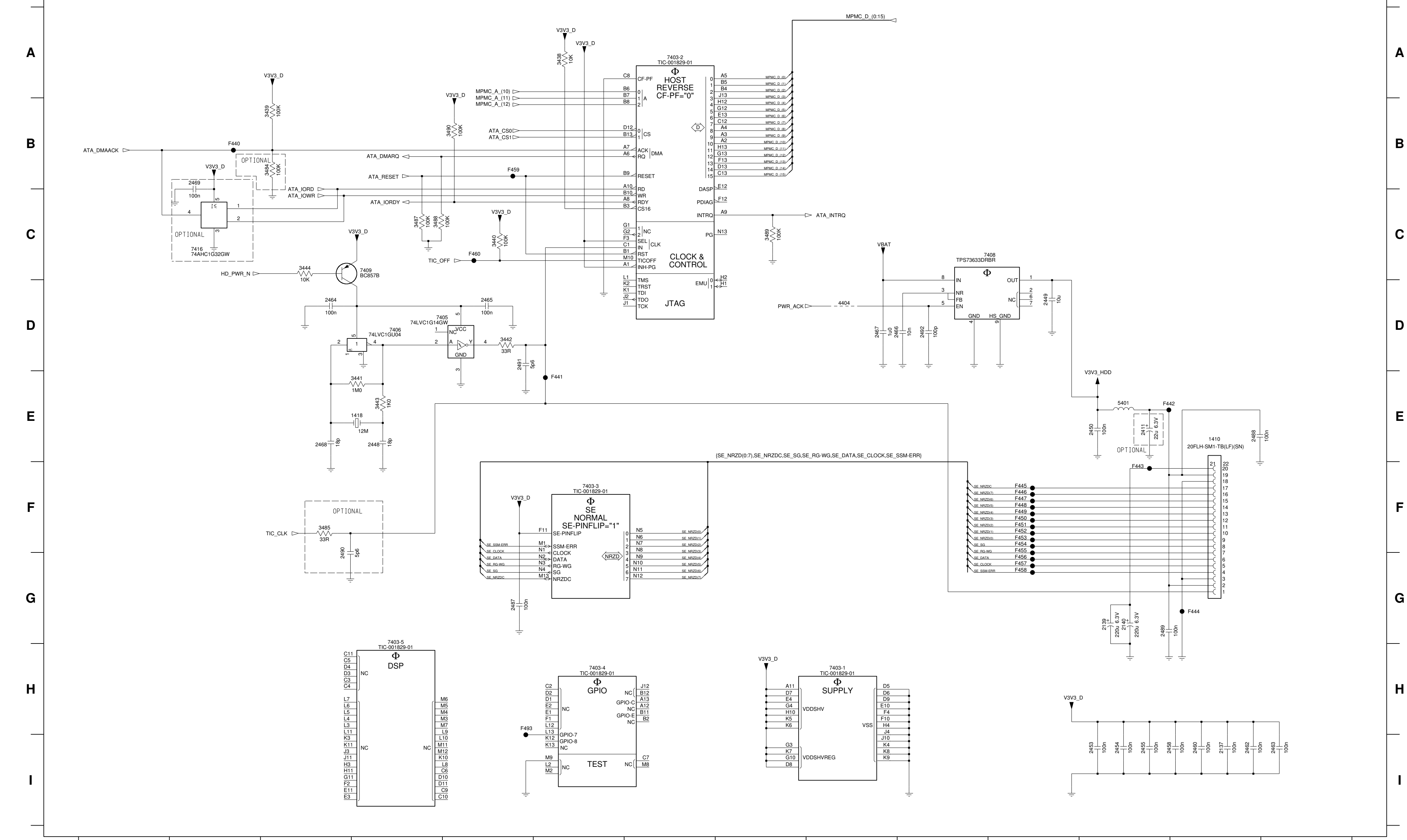
- Select the test and press right key to enter the test
- Initialize the HDD

7.0 OVERALL BLOCK DIAGRAM

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



8.0 ELECTRICAL DIAGRAM



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

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)