All Versions

Service
Service
Service

Service Manual

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3141 785 30487

Version 1.7

PHILIPS

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

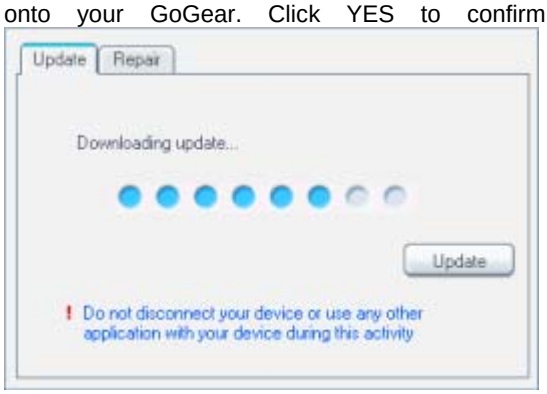
1. Download the latest version of the Device Manager application from http://www.philips.com/support. You may need to enter your language preference and the model number e.g.hdd084, to access the Device Manager application upgrade file.
2. Double click the downloaded execution file to start the installation 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.

8. 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.

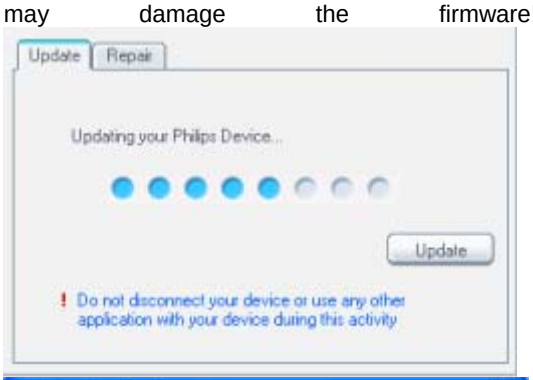
For HDD085/HDD082

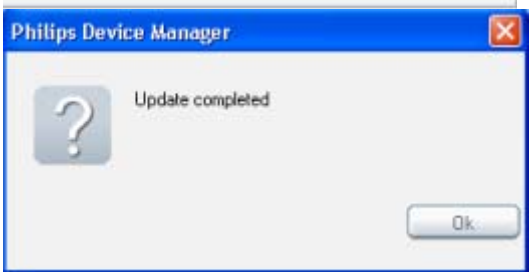
1. Download the latest version of the Device Manager application from http://www.philips.com/support. You may need to enter your language preference and the model number e.g. hdd085, to access the Device Manager application upgrade file.
2. Double click the downloaded execution file to start the installation 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. The Philips Device Manager will detect the connection of your GoGear and the application will automatically check on the server to see if an update is available and prompt user to download the updated firmware. Click YES to start the downloading.

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



7. The application will show the status of updating and at the end you need to click OK to complete the update. (Please do not disconnect the jukebox during the upgrading process as this interruption may damage the firmware!)





8. 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

1. Connect the GoGear to the power supply with the

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

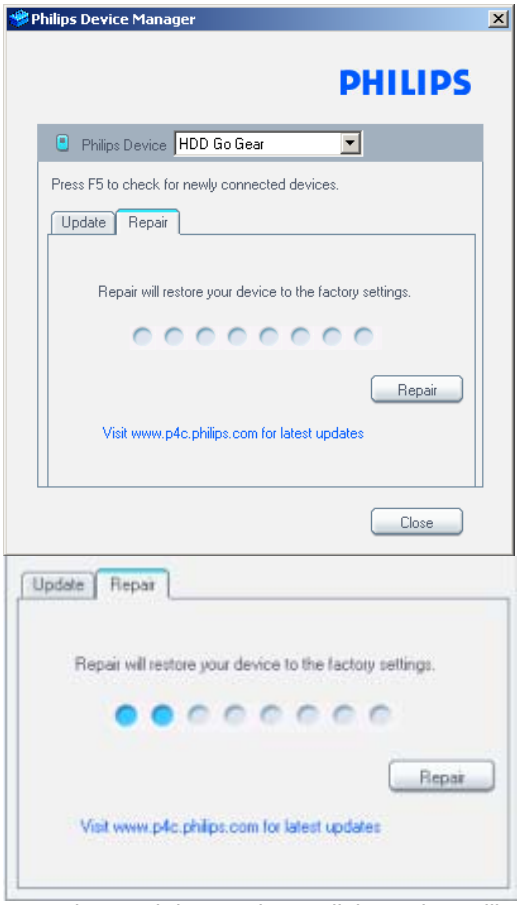
1. Download the latest version of the Device Manager application from http://www.philips.com/support. You may need to enter your language preference and the model number e.g.hdd085, to access the Device Manager application upgrade file.

2. Double click the downloaded execution file to start the installation of the Device Manager.

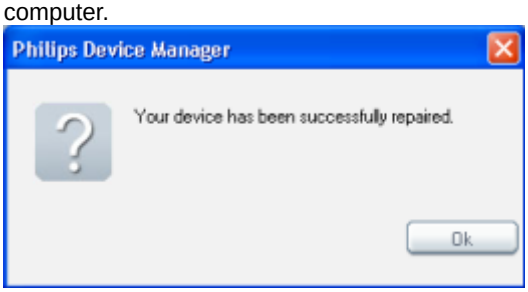
3. Connect the GoGear to the power supply with the AC/DC adapter and to the computer with the provided USB cable. Make sure that Windows Media Player along with any other applications are closed.

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.



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 **pcloginfo.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.

Recovery procedure for flash corrupt problem

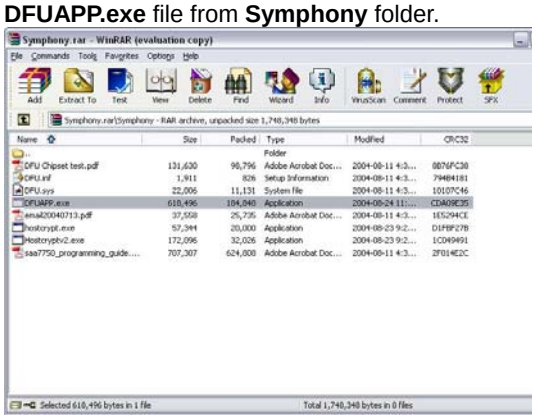
If the device cannot be powered on but it can be detected by DFU program (device firmware upgrade application), it can be recovered by following the procedure below.

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

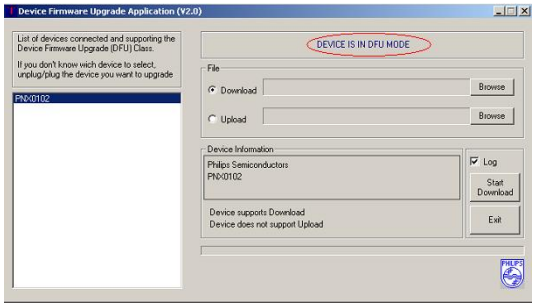
For HDD084 only (MSC mode device)

1. Connect the DFU USB cable to the device first and then connect to your PC.

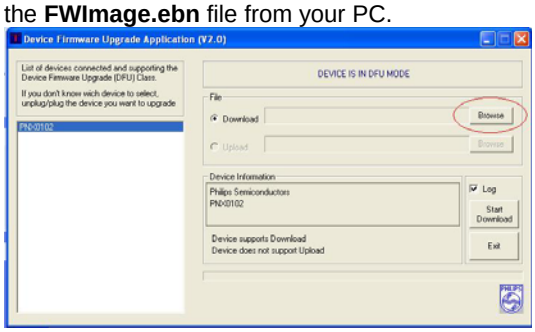
2. Launch the DFU program by unzip the **Symphony.rar** file and then double click the **DFUAPP.exe** file from **Symphony** folder.



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

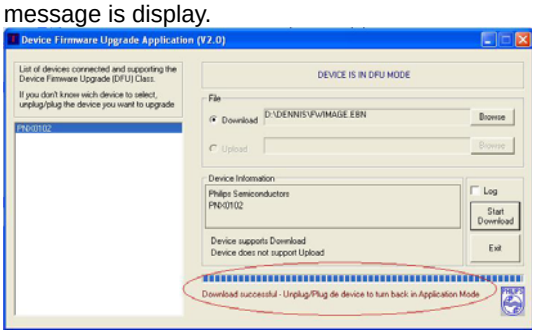


4. Select **Download** and then click **Browse** to get the **FWImage.ebn** file from your PC.



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

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

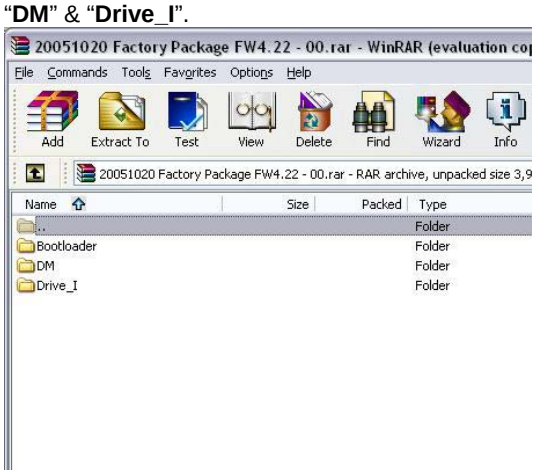


7. Disconnect DFU USB cable from the device.

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)

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**".



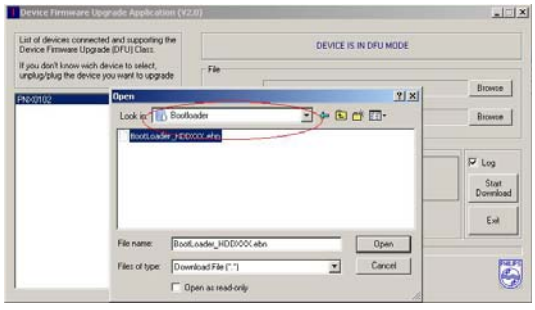
2. Unzip the **Setting.rar** file and choose the right **deviceinfo.sec** file according to the device model. Then copy this file into **\Drive_I\UnzipToRoot** folder to rewrite the original **deviceinfo.sec** file.

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.



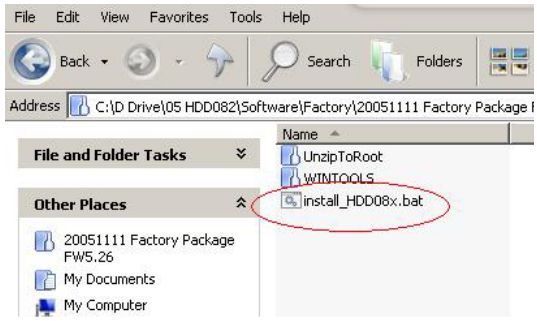
7. Click **Start Download** to download the firmware to the device. The program will stop once the successful message is display.

8. Disconnect DFU USB cable from the device.

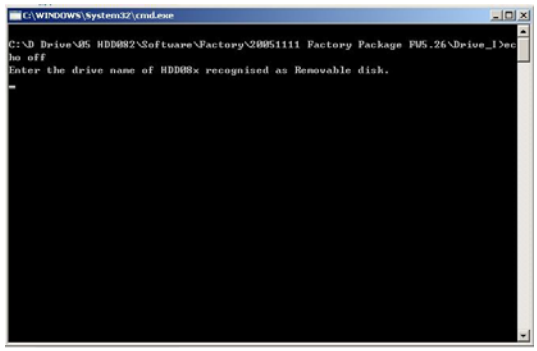
9. Open the device, displace will show "**BOOT LOADER APPLICATION Version 4.0**".

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.

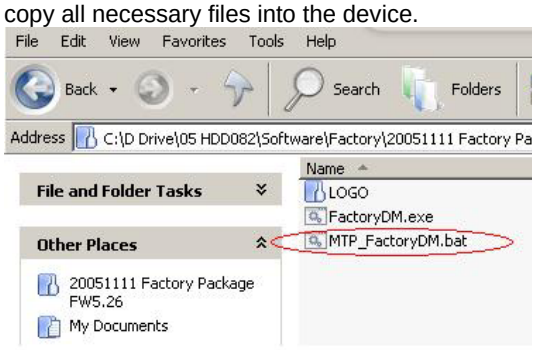


13. Safely remove the device from PC by clicking on the  icon in your task tray bar. Once the device is disconnected from the PC, the display will show "Firmware Upgrade" for a couple of

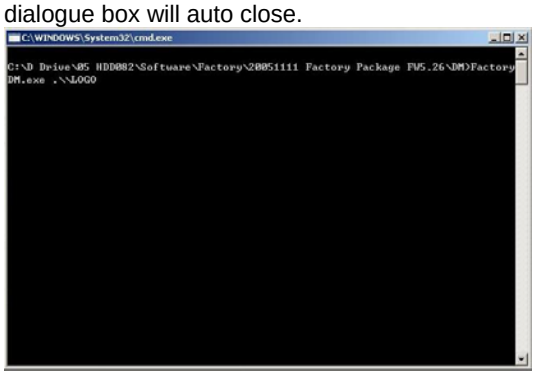
seconds and then start up as usual.

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.



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.

2.0 SAFTETY INSTRUCTIONS

GB **WARNING**

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

ESD

NL **WAARSCHUWING**

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

F **ATTENTION**

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

D **WARNUNG**

Alle ICs und viele andere Halbleiter sind empfindlich gegenüber elektrostatischen Entladungen (ESD).
Unsorgfältige Behandlung im Reparaturfall kan die Lebensdauer drastisch reduzieren.
Veranlassen Sie, dass Sie im Reparaturfall über ein Pulsarmband mit Widerstand verbunden sind mit dem gleichen Potential wie die Masse des Gerätes.
Bauteile und Hilfsmittel auch auf dieses gleiche Potential halten.

I **AVVERTIMENTO**

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

GB

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

NL

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

F

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

D

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

I

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

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

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

GB **Warning !**

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

S **Varning !**

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

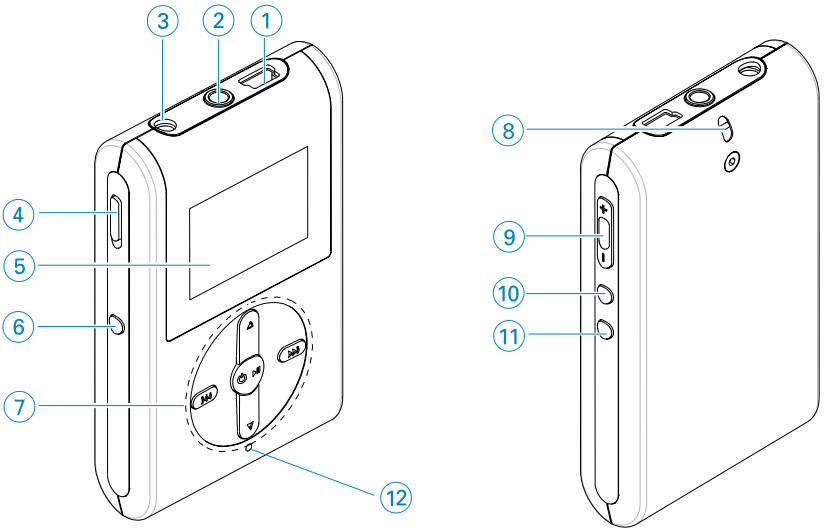
SF **Varoitus !**

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

DK **Advarse !**

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

3.0 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

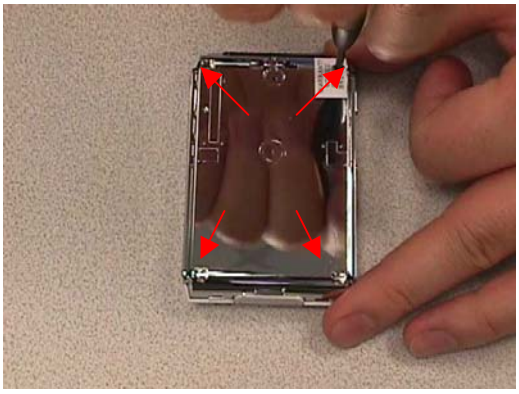
4.0 MECHANICAL INTRUCTIONS

Set Disassembly

1. Remove the Cosmetic screw with an Allen key

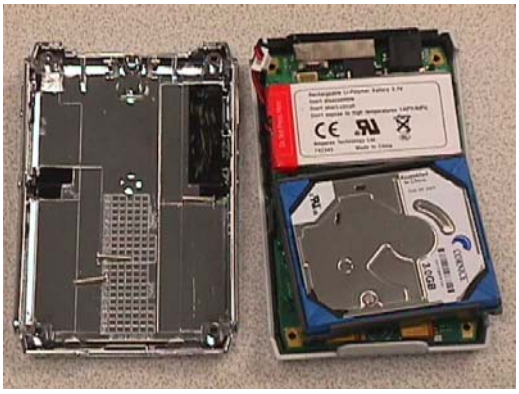
2. Use a screwdriver to carefully lift up the back cover of the device.

3. Gently open up the back cover.



4. Remove 4 x screws. See arrows

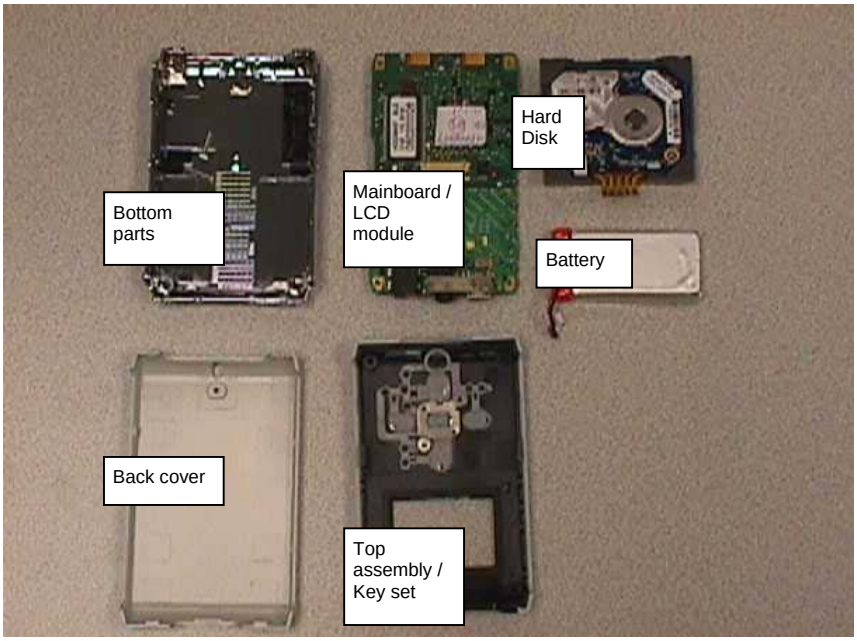
4.0 MECHANICAL INTRUCTIONS



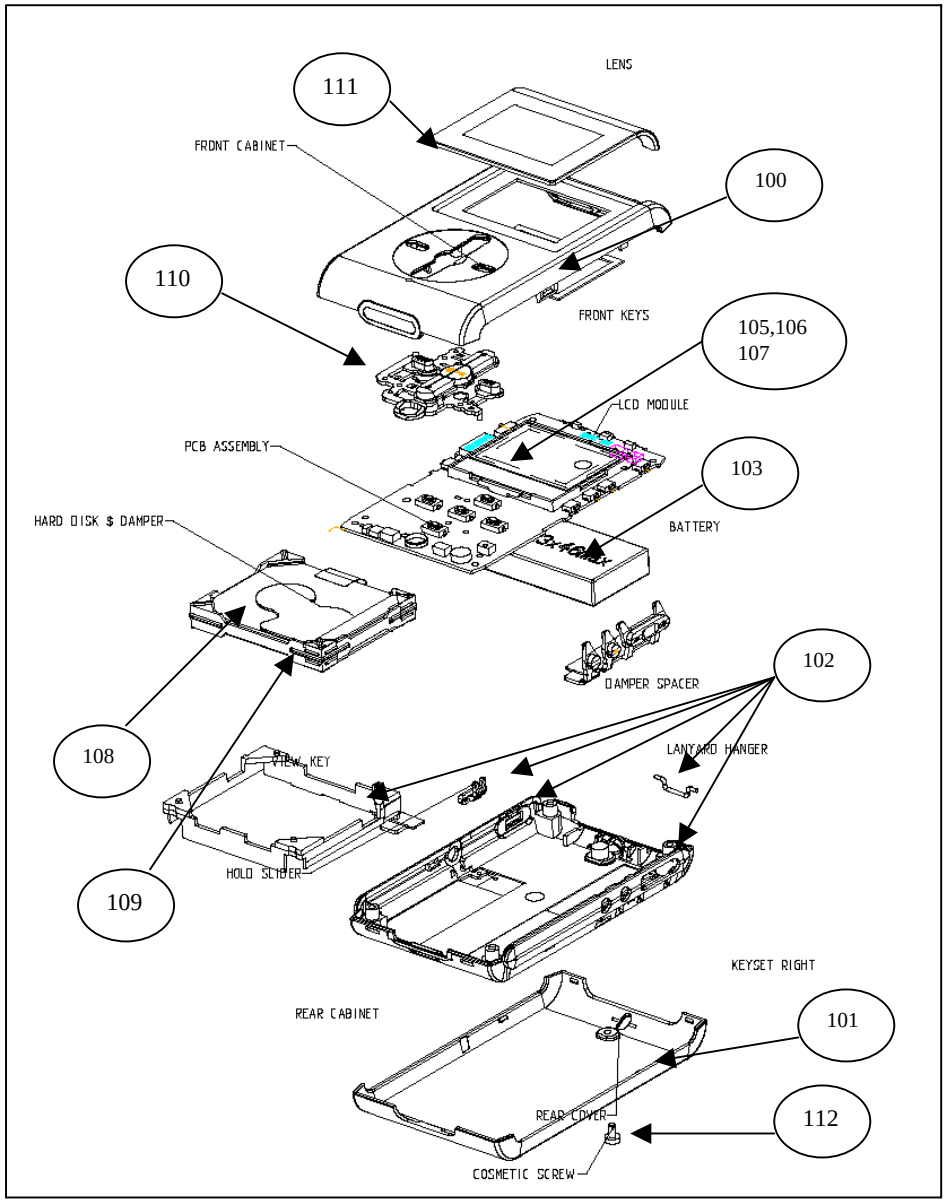
5. Open up and remove the bottom part.
6. Remove the battery pack and then the hard disk

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

MISCELLENEOUS

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

6.0 FACTORY SERVICE MODE TESTING

Programming the device using for stand-alone FSM

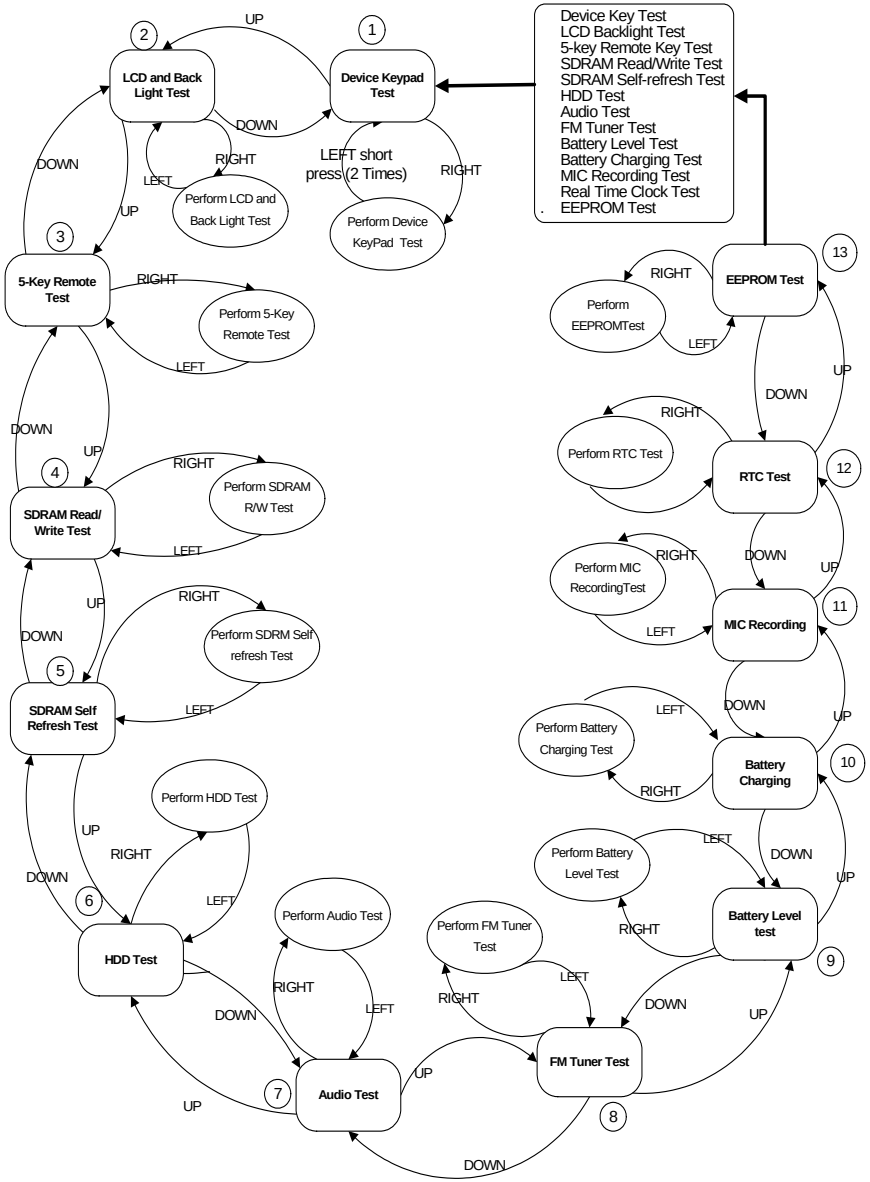
The following is the description for programming the device in stand-alone mode.

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].

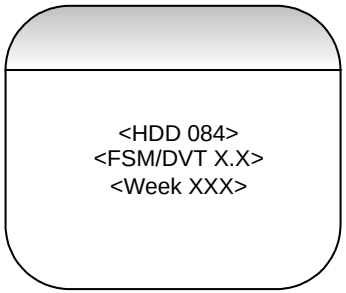
The following diagram describes the test flow.



6.0 FACTORY SERVICE MODE TESTING

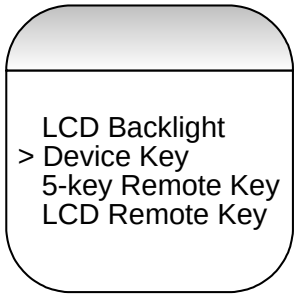
Test USAGE Description

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.

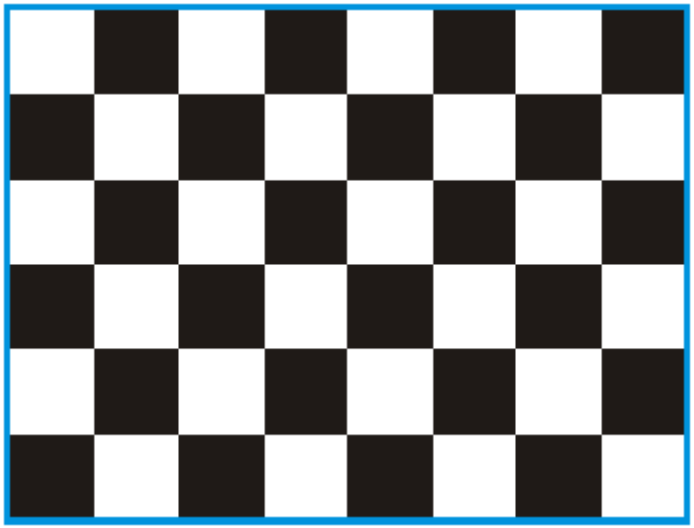
6.0 FACTORY SERVICE MODE TESTING

- 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

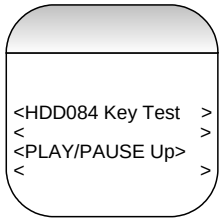
NOTE: The LCD patterns will changed after the new test patterns are received because the LCD that will be used with HDD084 is black and white LCD and cannot display greyscale.

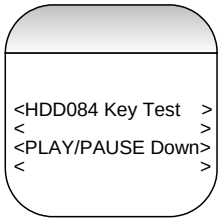
Device Key Test

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

.

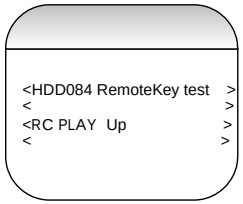


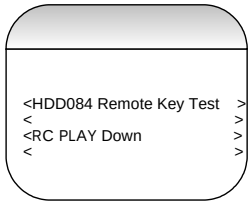


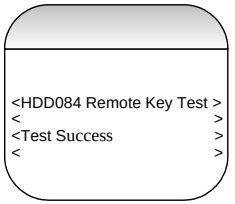
5-Key Remote Control Keys Test

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

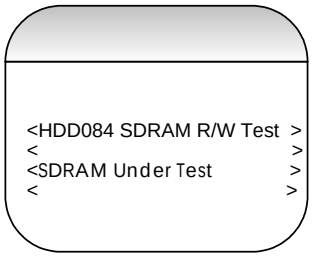
SDRAM Read/Write Test

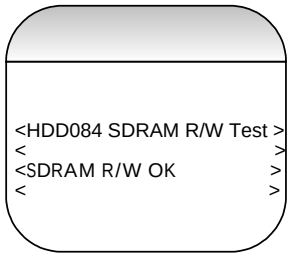
Steps

- 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.





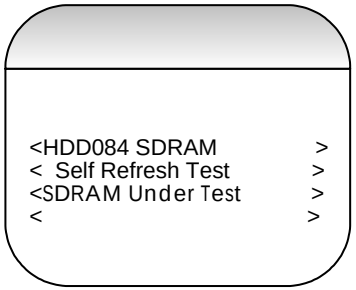
SDRAM Self-Refresh Test

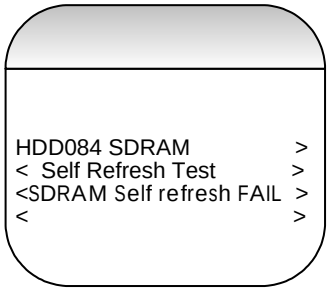
Steps

- 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

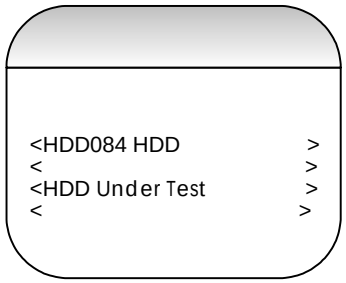
- Connect the device to the PC.

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.



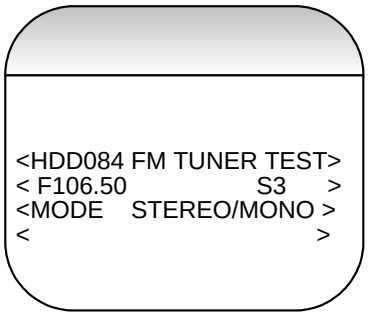
FM Tuner Test

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.

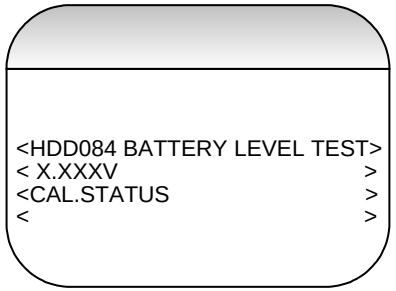


6.0 FACTORY SERVICE MODE TESTING

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.



Battery Charging Test

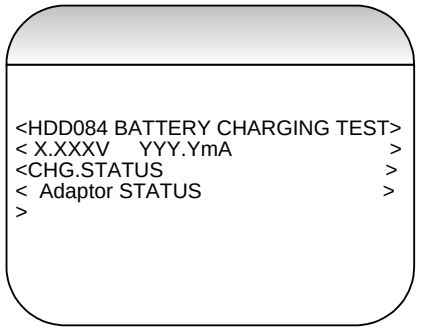
Steps

- 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 tale 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

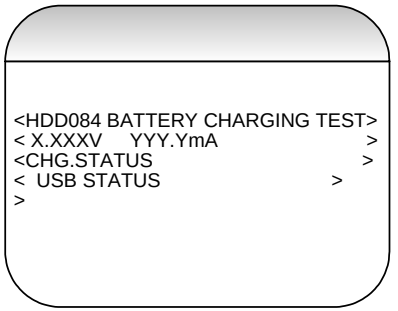
- The Following information is displayed on the LCD.

NON-USB CHARGING MODE



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.



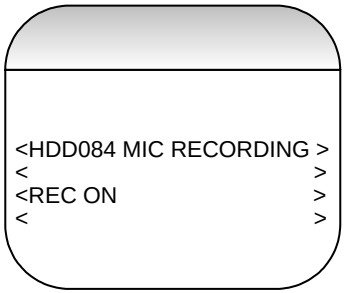
6.0 FACTORY SERVICE MODE TESTING

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

MIC Recording Test

Steps

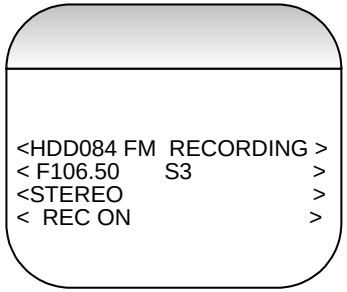
- Connect a microphone.
- Scroll to “MIC Recording Test” using UP / Down Key
- Press RIGHT to enter the test.
- Press REC key to start the recording .The recorded file will be “MICREC.MP3”.
- The recoded file can be verified in “AUDIO TEST CASE” (4.1.9)
- Press LEFT to exit the test



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 recoded 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.

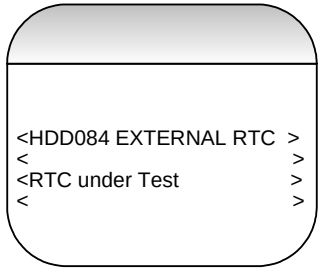
.

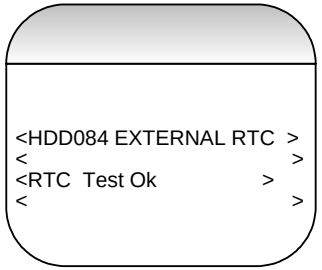
Verification of RTC

- 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





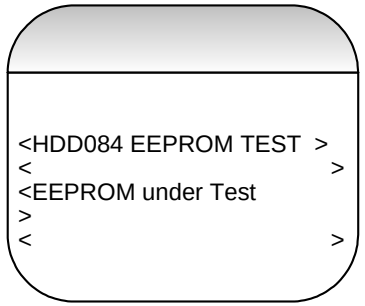
EEPROM Test

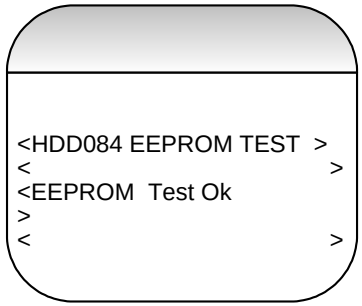
Steps

- 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.

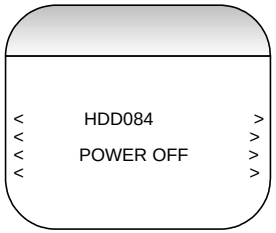




Steps

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

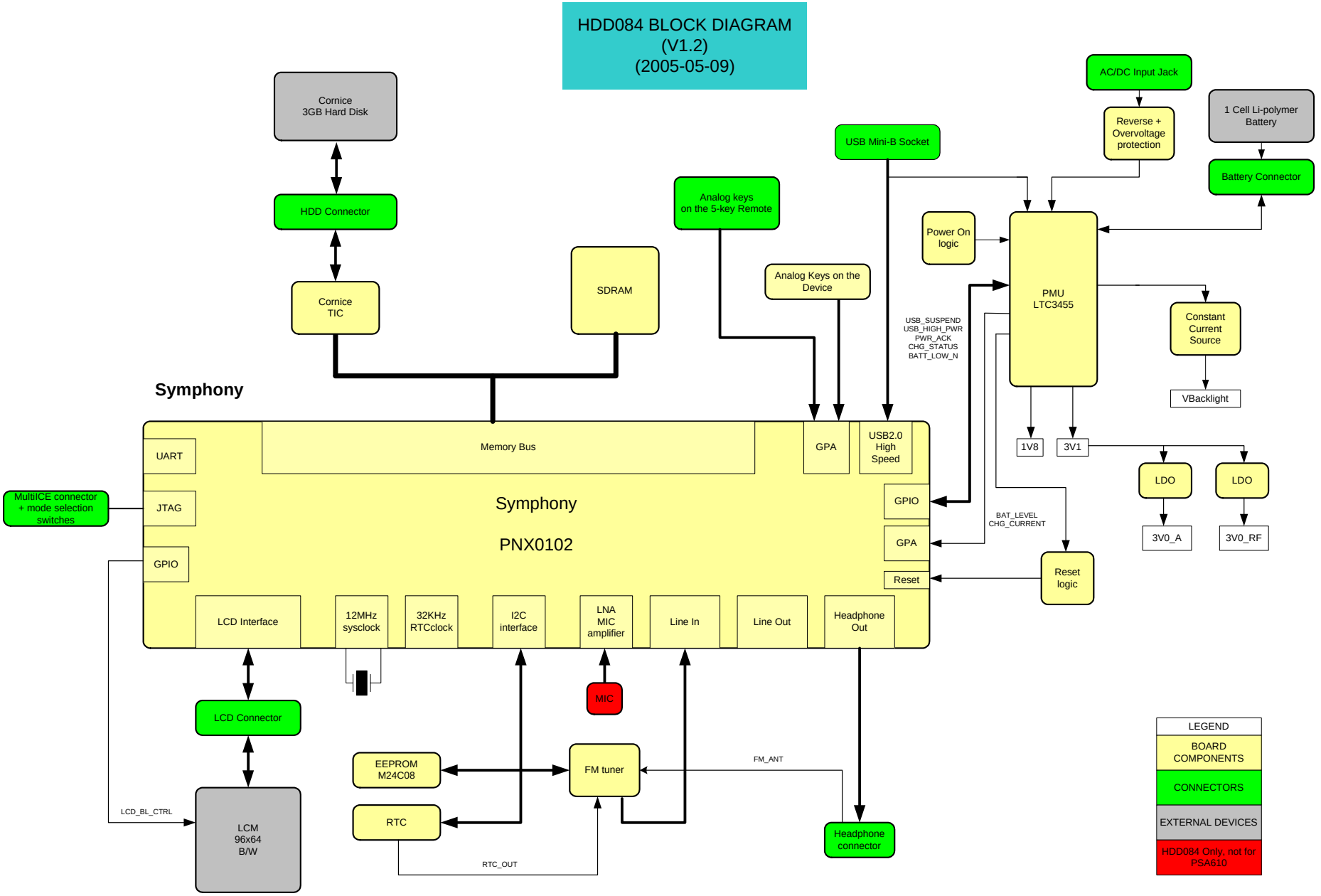
6.0 FACTORY SERVICE MODE TESTING

HDD initialisation

Steps

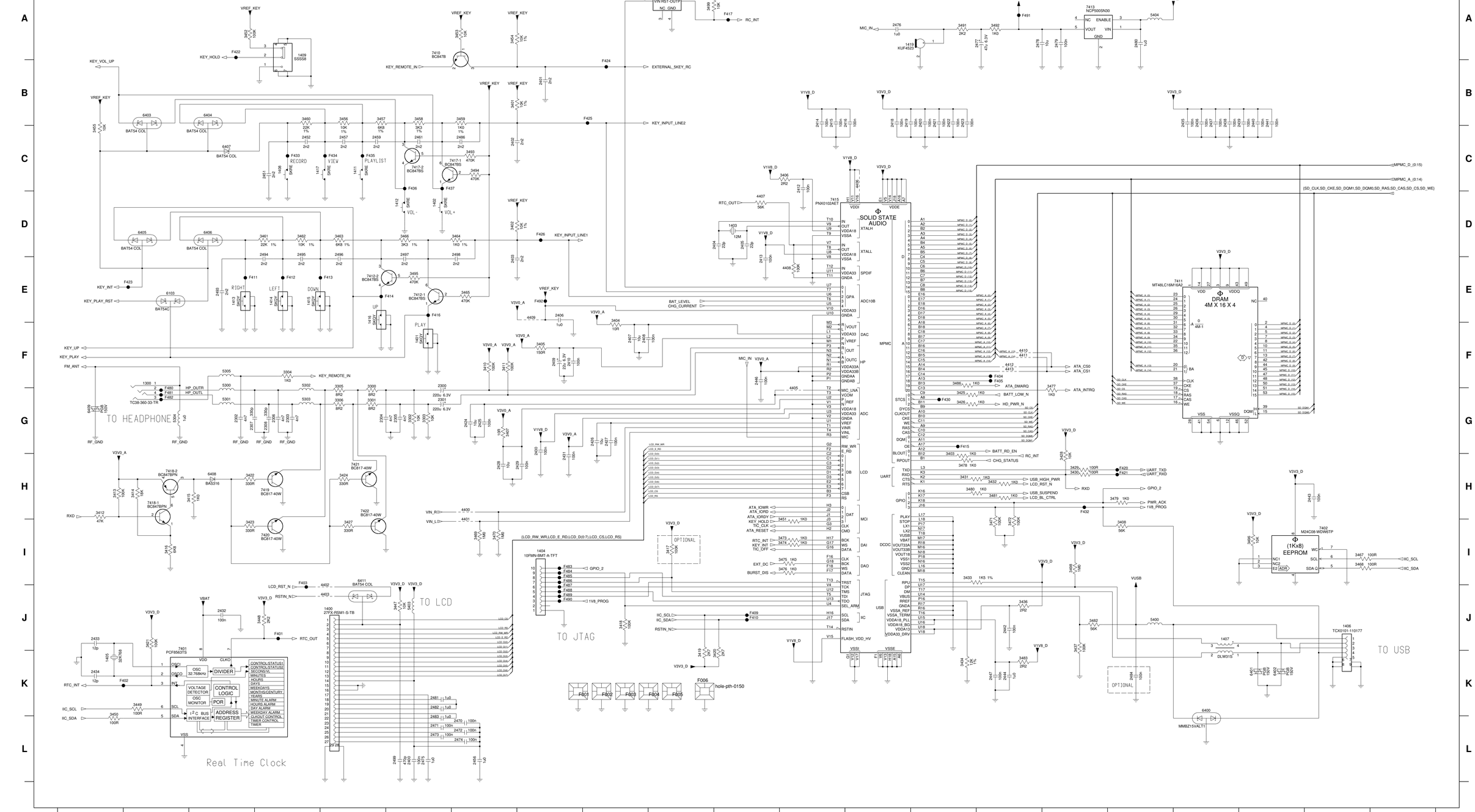
- Select the test and press right key to enter the test
- Initialize the HDD

7.0 OVERALL BLOCK DIAGRAM



8.0 ELECTRICAL DIAGRAM

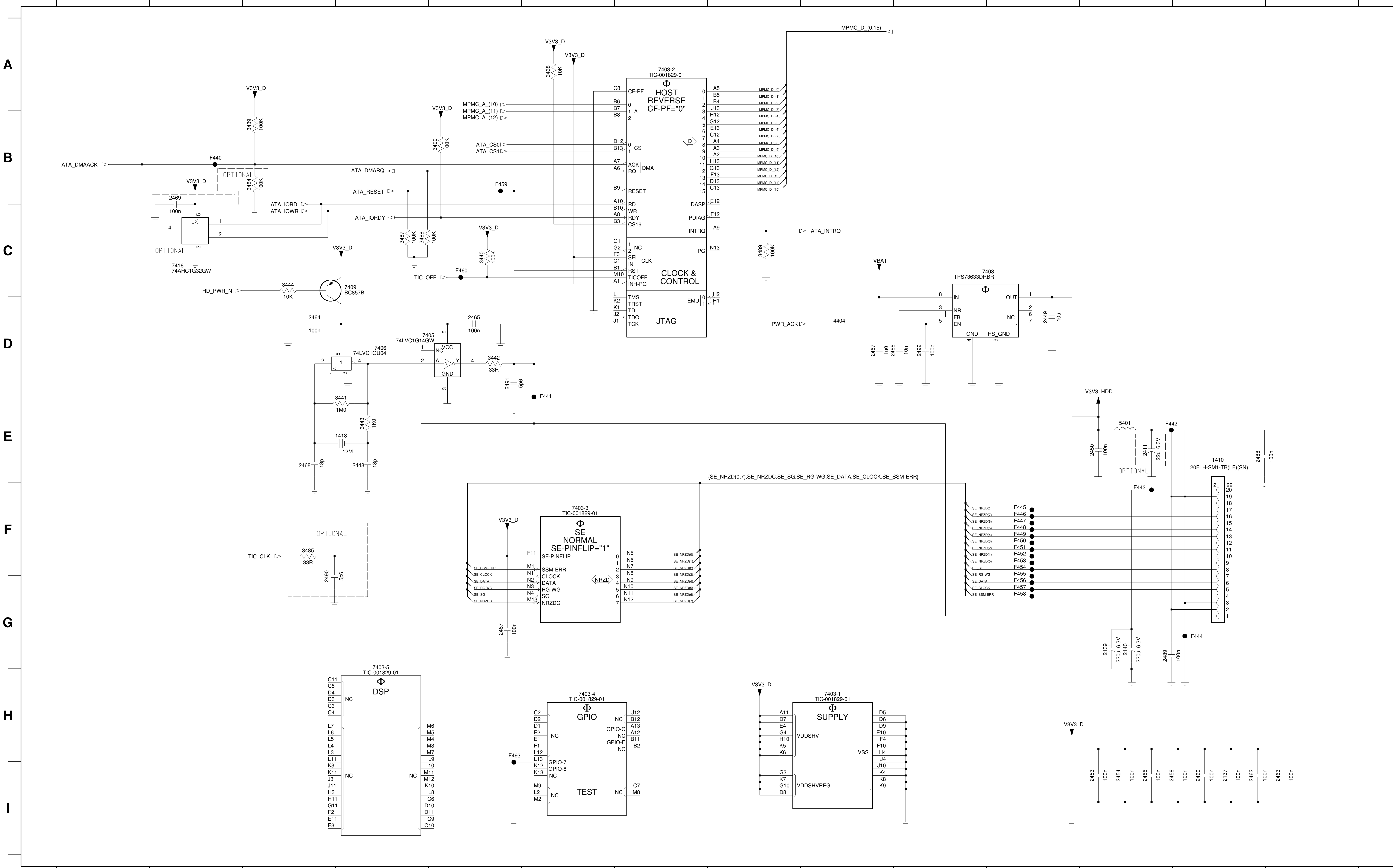
1300 F2	1407 J18	1416 E5	2305 G6	2404 D11	2413 E11	2422 B14	2430 G8	2438 B18	2447 K15	2471 L6	2479 A16	2494 D4	3302 G6	3404 E9	3413 H1	3421 J2	3429 H16	3447 J6	3455 C1	3463 D5	3471 I15	3479 H17	3493 C7	4402 J5	4411 F15	5305 F3	6403 B2	7401 J2	7415 D12	7422 H5	F402 K2	F413 E5	F423 E2	F435 C5	F485 I8
1400 J5	1408 C4	1417 C4	2306 G4	2405 D11	2414 B12	2423 B14	2431 H8	2439 B19	2448 C4	2472 L7	2480 A17	2495 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 E8	2415 B12	2424 G7	2432 J3	2440 B19	2449 C4	2473 L6	2481 K6	2496 D5	3304 F4	3406 C12	3415 H2	3423 I3	3431 H15	3449 K2	3457 B5	3465 D7	3473 I12	3481 H15	3495 E6	4404 J5	4413 F15	5403 J6	6405 D2	7410 A6	7417-2 C6	F002 K9	F404 F15	F415 G14	F425 B9	F437 C6	F487 J8
1402 D6	1411 C5	2300 F6	2308 G4	2407 F9	2416 B13	2425 G7	2433 J1	2441 B19	2450 C4	2474 L7	2482 K6	2497 D6	3305 F5	3407 G7	3416 I2	3424 H5	3432 H15	3450 K1	3458 B6	3466 D6	3474 I12	3482 J16	3496 I19	4405 G12	5404 A17	6406 D3	7411 E18	7418-1 H2	F005 K10	F405 F15	F426 D8	F480 G2	F488 J8
1403 D11	1412 D6	2301 G6	2400 L6	2408 F9	2418 B13	2426 G9	2434 K1	2442 J15	2451 C5	2475 L6	2483 L6	2498 D7	3306 G5	3408 I17	3417 I10	3425 G14	3433 I14	3451 I12	3459 B7	3467 I20	3475 I12	3483 K15	3498 I16	4406 C13	5300 F3	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 B8	2409 F8	2419 B13	2427 G9	2435 B18	2443 H20	2452 C5	2476 A13	2484 K17	3300 F5	3307 G5	3401 B7	3410 F7	3418 J9	3426 G14	3434 K14	3452 A3	3460 B4	3468 I20	3476 I12	3499 A10	4407 D11	5301 G3	6408 H3	7412-2 E5	7419 H4	F006 K10	F411 E3	F421 H17	F432 C4	F483 I8	F490 J8
1405 K1	1414 E4	2303 G4	2402 C7	2410 F8	2420 B14	2428 H7	2436 B18	2444 K15	2461 C6	2477 A15	2485 K6	3301 G5	3402 D7	3411 F7	3419 K10	3427 I5	3435 J15	3453 A7	3461 D4	3469 I7	3477 F16	3491 A14	4400 H7	4408 E12	5302 F4	6409 E8	7413 A16	7420 I4	F001 J4	F412 E4	F422 A3	F433 C5	F484 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	2486 C7	3303 H14	3412 H1	3420 K11	3428 H16	3436 J15	3454 A7	3462 D4	3470 I7	3478 H14	3492 A15	4401 I7	4410 F15	5303 G4	6411 I5	7414 A10	7421 H5	F401 J4	F412 E4	F422 A3	F434 C5	F484 I8	F492 E8



CHN	SETNAME HDD		
CLASS_NO 3PC330	PBAS HDD084	3140 178 0012	1 2005-04-12
1 2004-12-10	HDD084		1 2005-03-24
2 2005-04-12			1 2005-03-07
3			1 2004-12-10
			1 2004-09-23
NAME RAYMOND CHOI	SUPERS. 4	10 130 - 1	A1
CHECK	DATE 2004-06-11	© KONINKLIJKE PHILIPS ELECTRONICS N.V. 2004	

1410 E13	2139 G12	2448 E4	2453 I12	2458 I13	2463 I14	2466 D10	2469 B2	2489 G12	2492 D10	3440 C5	3443 E4	3485 F3	3489 C8	5401 E12	7403-3 F6	7405 D5	7409 C4	F441 E6	F444 G13	F447 F11	F450 F11	F453 F11	F456 G11	F459 B5
1418 E4	2140 G12	2449 D11	2454 I12	2460 I13	2464 D3	2467 D9	2487 G5	2490 G3	3438 A6	3441 E4	3444 C3	3487 C4	3490 B5	7403-1 H9	7403-4 H6	7406 D4	7416 C2	F442 E12	F445 F11	F448 F11	F451 F11	F454 F11	F457 G11	F460 C5
2137 I13	2411 E12	2450 E12	2455 I12	2462 I13	2465 D5	2468 E3	2488 E13	2491 D5	3439 B3	3442 D5	3484 B3	3488 C4	4404 D9	7403-2 A7	7403-5 H4	7408 C11	F440 B2	F443 F12	F446 F11	F449 F11	F452 F11	F455 F11	F458 G11	F493 H5

8.0 ELECTRICAL DIAGRAM



CHN	SETNAME HDD		
CLASS_NO 3PC330	PBAS HDD084 HDD084	3140 178 0012	1 2005-04-12 / 1 2005-03-24 / 1 2005-03-07 / 1 2004-12-10 / 1 2004-09-23
1 / 2004-12-10 2 / 2005-04-12 3			
NAME RAYMOND CHOI	SUPERS. 4	10 130 – 2	A2
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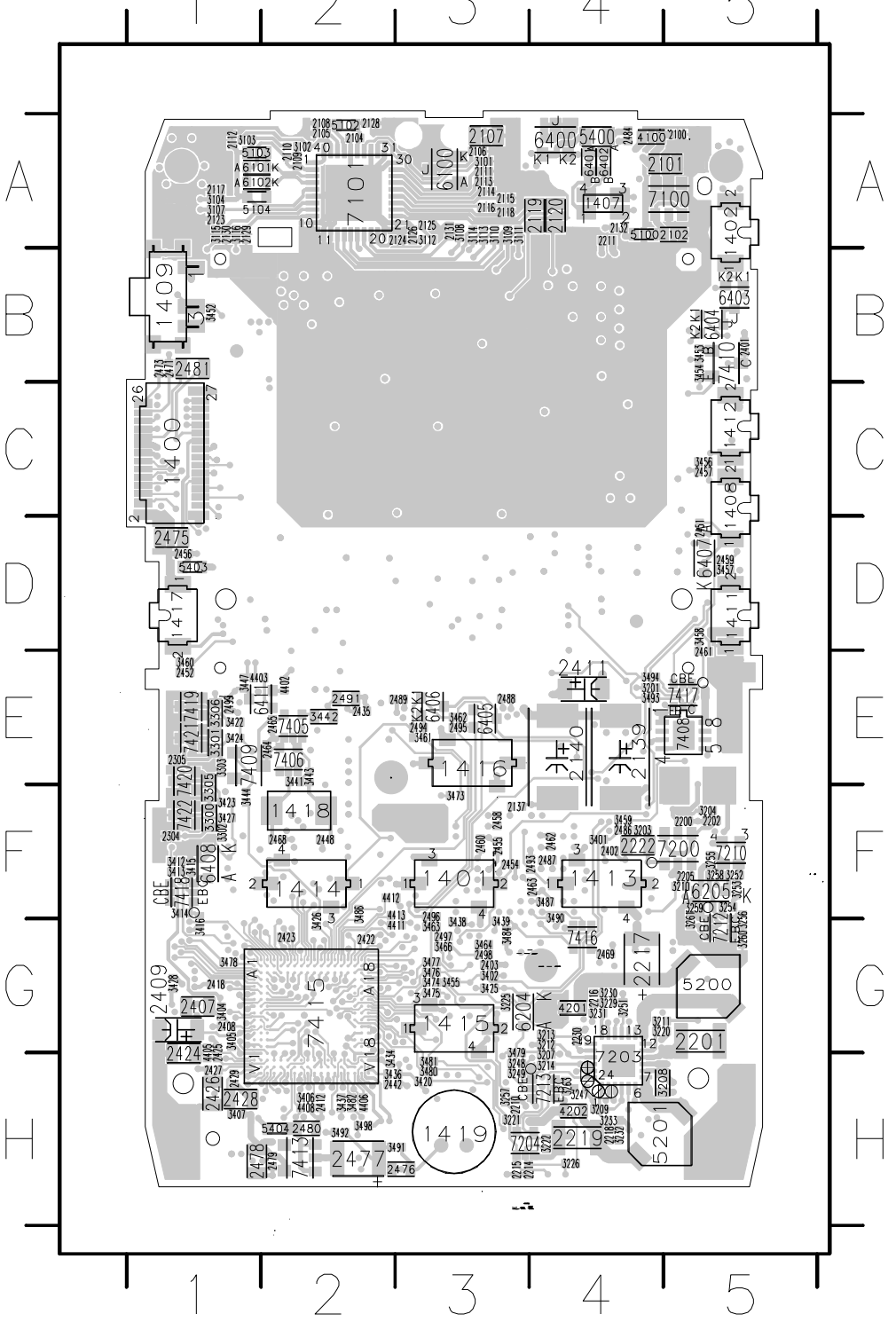
9.0 COMPONENT LAYOUT



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1402	A5	2215	H3	2480	H2	3249	H3	3456	C5	6204	G3				
1407	A4	2216	G4	2481	B1	3251	G4	3457	D5	6205	F5				
1408	C5	2217	G4	2484	A4	3252	F5	3458	D5	6400	A4				
1409	B1	2218	H4	2486	F4	3253	F5	3459	F4	6401	A4				
1411	D5	2219	H4	2487	F4	3254	F5	3460	E1	6402	A4				
1412	C5	2222	F4	2488	E3	3255	F5	3461	E3	6403	B5				
1413	F4	2230	G4	2489	E3	3256	G5	3462	E3	6404	B5				
1414	F2	2304	F1	2491	E2	3257	H3	3463	G3	6405	E3				
1415	G3	2305	E1	2493	F4	3258	F5	3464	G3	6406	E3				
1416	E3	2401	B5	2494	E3	3259	F5	3466	G3	6407	D5				
1417	D1	2402	F4	2495	F3	3260	G5	3473	F3	6408	F1				
1418	F2	2403	G3	2496	F3	3261	G5	3474	G3	6411	E1				
1419	H3	2407	G1	2497	G3	3263	H4	3475	G3	7100	A5				
2100	A5	2408	G1	2498	G3	3300	F1	3476	G3	7101	A2				
2101	A5	2409	G1	2499	E1	3301	E1	3477	G3	7200	F5				
2102	A5	2411	E4	3101	A3	3302	F1	3478	G1	7203	H4				
2104	A2	2412	H2	3102	A2	3303	E1	3479	H3	7204	H3				
2105	A2	2418	G1	3103	A1	3305	F1	3480	H3	7210	F5				
2106	A3	2422	G2	3104	A1	3306	E1	3481	H3	7212	G5				
2107	A3	2423	G2	3107	A1	3401	F4	3482	H2	7213	H4				
2108	A2	2424	H1	3108	A3	3402	G3	3484	G3	7405	E2				
2109	A2	2425	H1	3109	A3	3404	G1	3486	F2	7406	E2				
2110	A2	2426	H1	3110	A3	3405	G1	3487	F4	7408	E5				
2111	A3	2427	H1	3111	A3	3406	H2	3490	F4	7409	E1				
2112	A1	2428	H1	3112	A3	3407	H1	3491	H3	7410	B5				
2113	A3	2429	H1	3113	A3	3412	F1	3492	H2	7413	H2				
2114	A3	2435	E2	3114	A3	3413	F1	3493	E4	7415	G2				
2115	A3	2442	H2	3115	A1	3414	F1	3494	E4	7416	G4				
2116	A3	2448	F2	3116	A1	3415	F1	3498	H2	7417	E5				
2117	A1	2451	D5	3201	E4	3416	G1	4100	A4	7418	F1				
2118	A3	2452	E1	3203	F4	3420	H3	4201	G4	7419	E1				
2119	A4	2454	F3	3204	F5	3422	E1	4202	H4	7420	E1				
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2123	A1	2456	D1	3208	H4	3424	E1	4403	E1	7422	F1				
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2125	A3	2458	F3	3210	F5	3426	G2	4406	H2	F002	A3				
2126	A3	2459	D5	3211	G4	3427	F1	4408	H2	F003	H3				
2128	A2	2460	F3	3212	G4	3428	G1	4411	G3	F004	H3				
2129	A1	2461	E5	3213	G4	3434	H2	4412	F2	F005	G5				
2130	A1	2462	F4	3214	H4	3436	H2	4413	F3	F006	E2				
2131	A3	2463	F4	3220	G4	3437	H2	5100	A4						
2132	A4	2464	E2	3221	H3	3438	G3	5102	A2						
2137	F3	2465	E2	3222	H4	3439	G3	5103	A1						
2139	E4	2468	F2	3225	G3	3441	E2	5104	A1						
2140	E4	2469	G4	3226	H4	3442	E2	5200	G5						
2200	F5	2471	B1	3229	G4	3443	E2	5201	H4						
2201	G5	2473	B1	3230	G4	3444	F1	5400	A4						
2202	F5	2475	D1	3231	G4	3447	E1	5403	D1						
2205	F5	2476	H3	3232	H4	3452	B1	5404	H2						
2210	H3	2477	H2	3233	H4	3453	B5	6100	A3						

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

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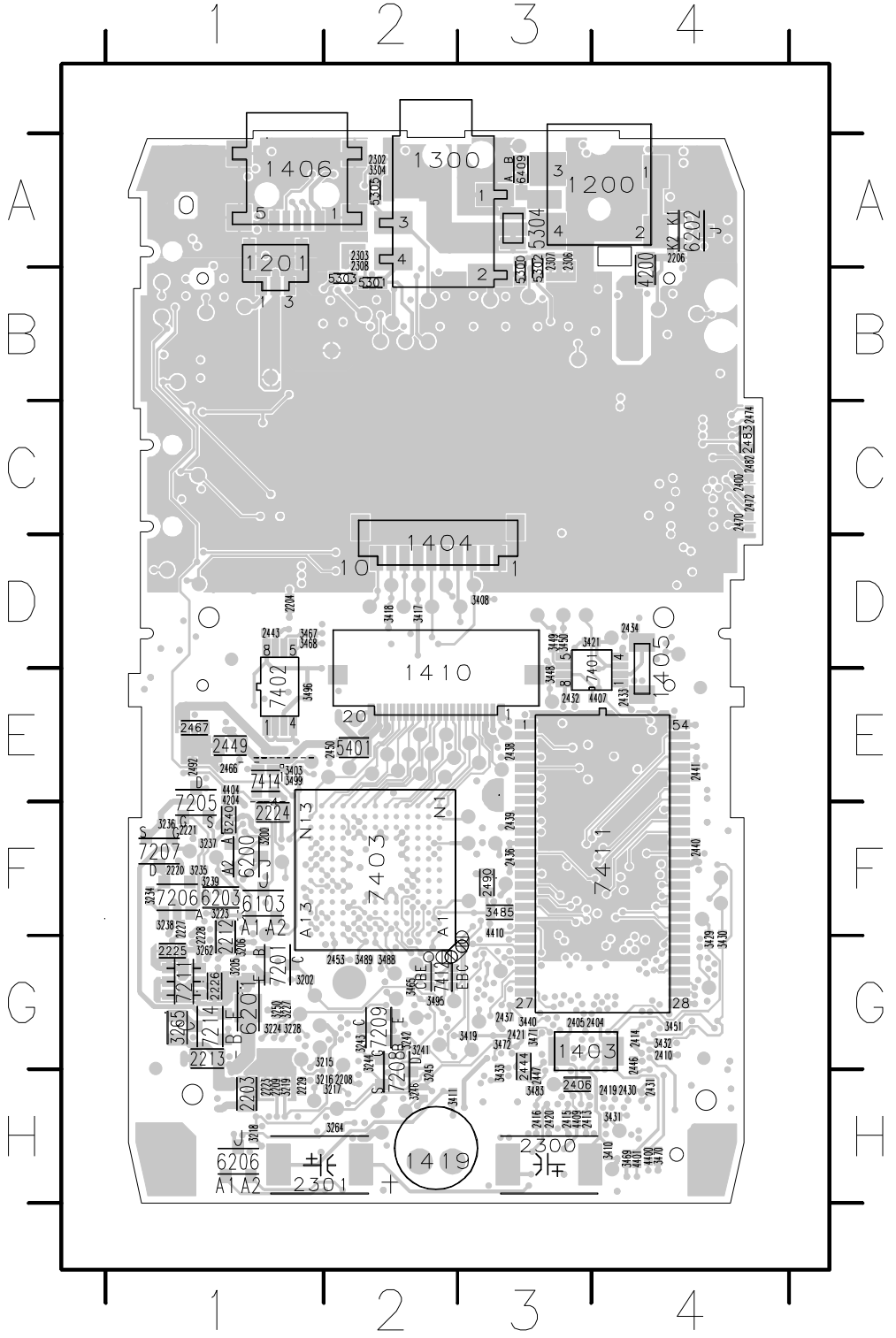
9.0 COMPONENT LAYOUT



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1201	A1	2441	E4	3417	D2	7206	F1
1300	A2	2443	D1	3418	D2	7207	F1
1403	G3	2444	G3	3419	G3	7208	H2
1404	D2	2446	G4	3421	D3	7209	G2
1405	E4	2447	H3	3429	G4	7211	G1
1406	A1	2449	E1	3430	G4	7214	G1
1410	E2	2450	E2	3431	H4	7401	D4
2203	H1	2453	G2	3432	G4	7402	E1
2204	D1	2466	E1	3433	H3	7403	F2
2206	A4	2467	E1	3440	G3	7411	F4
2208	H2	2470	C4	3448	E3	7412	G2
2209	H1	2472	C4	3449	D3	7414	E1
2212	G1	2474	C4	3450	D3		
2213	G1	2482	C4	3451	G4		
2220	F1	2483	C4	3465	G2		
2221	F1	2490	F3	3467	D1		
2223	H1	2492	E1	3468	D1		
2224	F1	3200	F1	3469	H4		
2225	G1	3202	G1	3470	H4		
2226	G1	3205	G1	3471	G3		
2227	F1	3206	G1	3472	G3		
2228	G1	3215	G2	3483	H3		
2229	H1	3216	H2	3485	F3		
2300	H3	3217	H2	3488	G2		
2301	H1	3218	H1	3489	G2		
2302	A2	3219	H1	3495	G2		
2303	A2	3223	F1	3496	E1		
2306	A3	3224	G1	3499	E1		
2307	A3	3227	G1	4200	B4		
2308	A2	3228	G1	4204	E1		
2400	C4	3234	F1	4400	H4		
2404	G4	3235	F1	4401	H4		
2405	G3	3236	F1	4404	E1		
2406	H3	3237	F1	4407	E4		
2410	G4	3238	F1	4409	H3		
2413	H3	3239	F1	4410	F3		
2414	G4	3240	F1	5300	B3		
2415	H3	3241	G2	5301	B2		
2416	H3	3242	G2	5302	B3		
2419	H4	3243	G2	5303	B2		
2420	H3	3244	G2	5304	A3		
2421	G3	3245	H2	5305	A2		
2430	H4	3246	H2	5401	E2		
2431	H4	3250	G1	6103	F1		
2432	E3	3262	G1	6200	F1		
2433	E4	3264	H2	6201	G1		
2434	D4	3265	G1	6202	A4		
2436	F3	3304	A2	6203	F1		
2437	G3	3403	E1	6206	H1		
2438	E3	3408	D3	6409	A3		
2439	F3	3410	H4	7201	G1		

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

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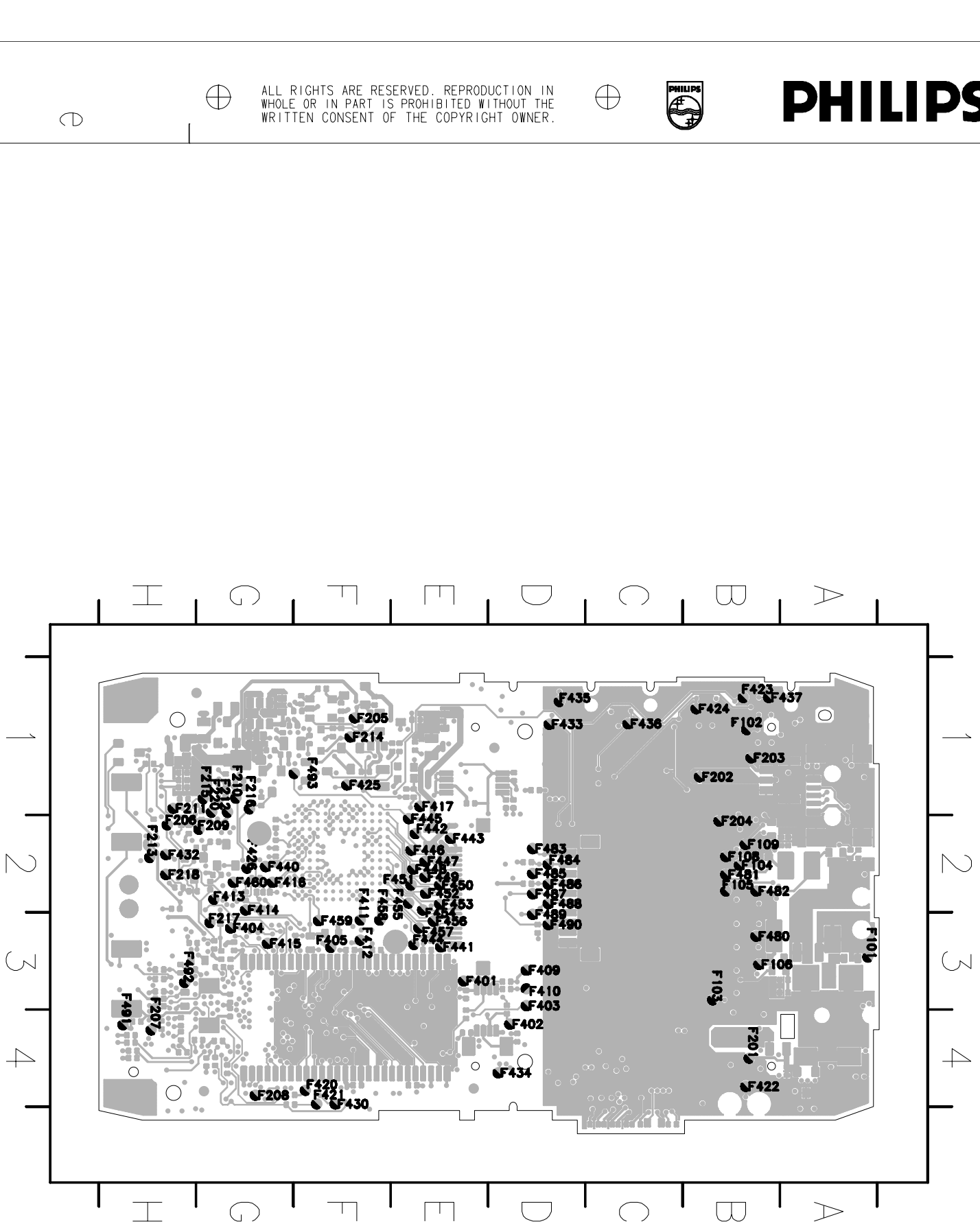

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F1105 B2
F1106 B2
F1107 B3
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F1109 B2
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F4484 F3
F4485 F2
F4486 E3
F4487 E3
F4488 E2
F4489 D2
F4490 D2
F4491 D2
F4492 D2
F4493 H3
F1 F1

9.0 COMPONENT LAYOUT

CN:

HDD

CLASS NO. 3PC330		
		1
2004-12-10	2	
2005-04-12	3	

PBAS HDD084

MAIN BOARD

3140 178 0012

NAME	Raymond Choi				
CHECK					
SUPERS		3	10	132 - 3	A3
DATE	2004-06-11	©	Philips Electronics N.V.		

1	2005-04-12
1	2005-03-24
1	2005-03-07
1	2004-12-10
1	2004-09-23

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)