Karma Limbo Hard Drive Replacement Guide

28-Nov-07

The main critical failure to occur on the Karma is the death of the hard drive. The Hitachi Travelstar 1.8" drive, as sweet as it is, seems to be prone to failure after about 3 years of service. It is not clear what the reason is for the failures, but some factors contributing to hard drive death are:

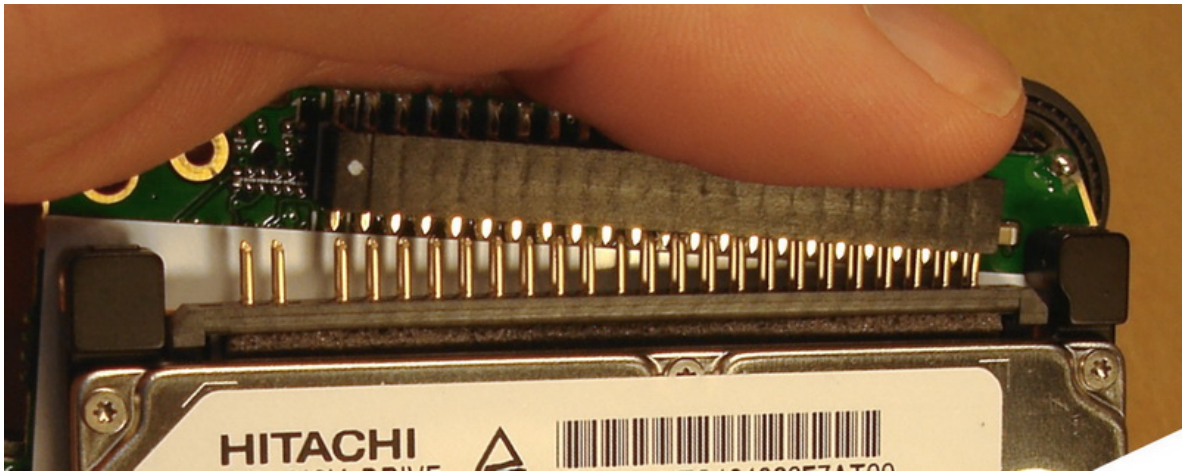
- over heating due to continuous disk access
- compression of the drive by a swollen battery
- sticking of the heads in the parked position (design problem)

The drive interface on the main board is a 44-pin IDE connection (0a). In theory, any drive that has a 44-pin IDE connection, and has an operating voltage of 3.3 VDC can be used with the Karma. At the moment, the Hitachi brand drives are the only ones that match the physical size and arrangement requirements to fit within the envelope of the player's casing. Suitable Hitachi drives are:

- Travelstar 1.8", C4K40 – 20 GB, model# HTC424020F7AT00, part# DK14FA-20
- Travelstar 1.8", C4K40 – 40 GB, model# HTC424040F9AT00, part# DK13FA-40
- Travelstar 1.8", C4K30 – 30 GB, model# HTC423030F9AT00, part# (don't know)
- Travelstar 1.8", C4K60 – 20 GB, model# HTC426020G7AT00, part# 08K1532
- Travelstar 1.8", C4K60 – 30 GB, model# HTC426030G7AT00, part# 08K1531
- Travelstar 1.8", C4K60 – 40 GB, model# HTC426040G9AT00, part# 08K1530
- Travelstar 1.8", C4K60 – 60 GB, model# HTC426060G9AT00, part# 08K1529

Note that all drives with a '9' in their model # are 9.5mm thick (as opposed to 7mm) and so are too thick to be used inside the Karma without modifying the case as well as using a thinner battery. The later version of the drive (C4K60) seems to have fixed a lot of the bugs with the drive, as well as uses less power. The sad part in all of this is that around January 2007, Hitachi stopped manufacturing this drive with the IDE connector. If you find one of these drives, buy it, and consider yourself lucky.

Below is my step-by-step hard drive replacement guide, exactly as I have done numerous times now.

0a. 

STEP 1: DISASSEMBLE PLAYER

Follow the instructions in the Disassembly Guide (rev. 2) to prepare the player. You will have to disassemble all the way to the completion of the last step.

STEP 2: INSTALL REPLACEMENT DRIVE

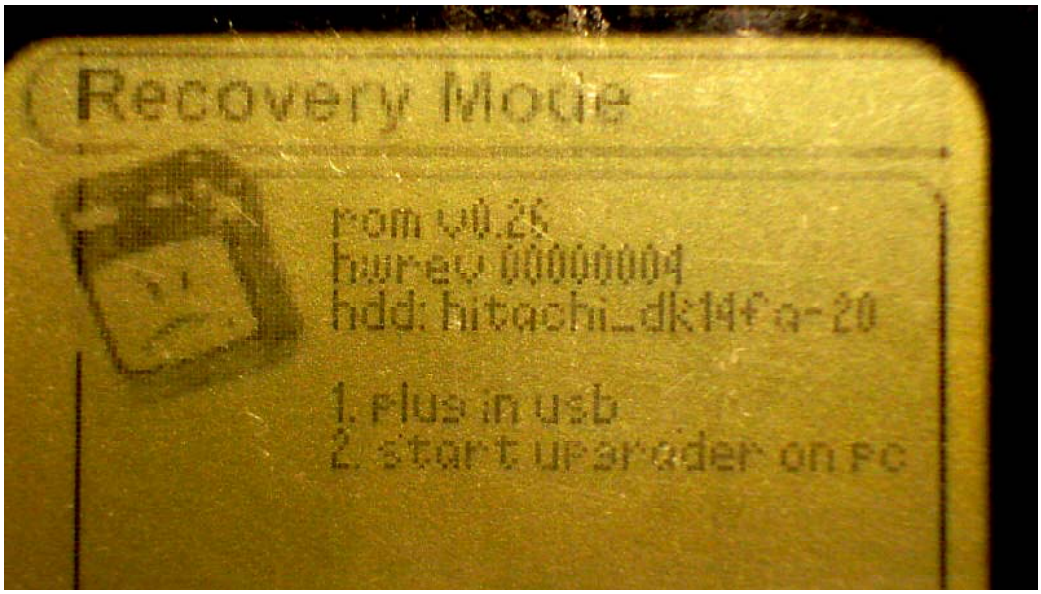
Perform the reverse of what you did in Step 9 of the Disassembly Guide to install the new drive.

STEP 3: RE-ASSEMBLE PLAYER

Follow the instructions in the Re-assembly Guide to put your player back together. If you are not feeling confident enough to fully assemble the player yet, you can go as far as Step 4 and still complete the rest of this guide.

STEP 4: STARTUP PLAYER IN RECOVERY MODE

Your replacement drive needs to be formatted for use with the player. To do this you will need to start the process by putting the player into its recovery mode. This is done by pressing and holding the menu button, and then hitting the power button. You should get a screen that looks like this – 4a. The entry after "hdd:" indicates the brand and model of drive detected by the player. If there is something entered here, that is good. If the player seems to be searching, and takes a long time to (or never) fill in this entry, you have a problem with your replacement hard drive.

4a. 

STEP 5: CONNECT THE PLAYER TO PC

As instructed on the player screen, connect it to your PC using the proper USB cable. Your PC should detect that the player was attached and will ask you what you want to do with it (5a). Just ignore/cancel the Windows message, and proceed to the next step.

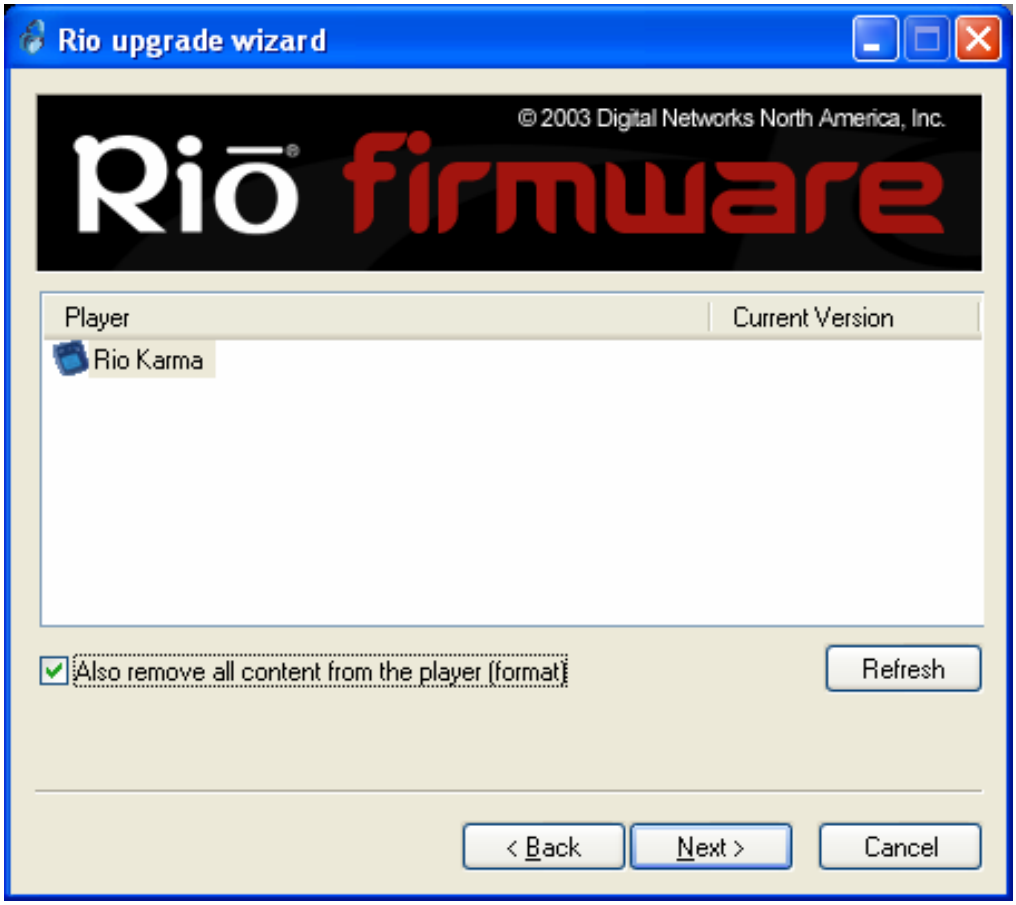
5a.

STEP 6: RUN FIRMWARE UPDATE SOFTWARE

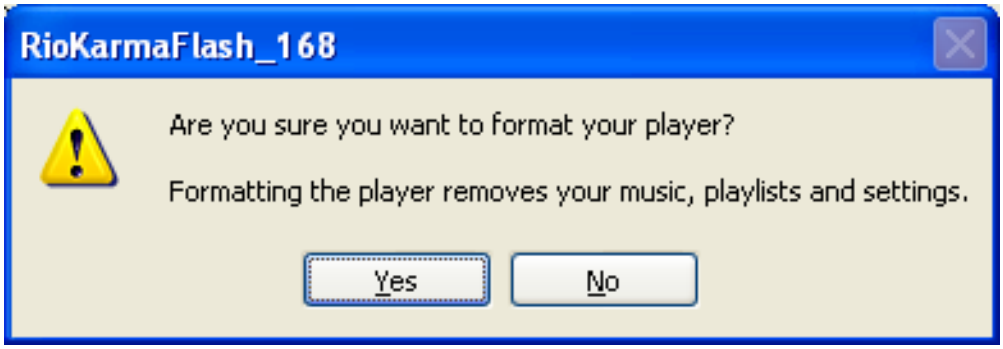
Make sure that you have the latest Rio Firmware Updater software installed on your PC. You can download a copy from the Karma Limbo website. After you have canceled the Windows message in Step 5, start up the Firmware Update software. You will see a screen that looks like 6a. Confirm that you've done everything they ask on the screen then click "next". The next screen will be a list of detected players, in which you should see the one you just connected (6b). Choose it from the list, and select the "Also remove all content from the player" check box. When you click "next", you will get a pop-up window asking if it is okay to format the drive (6c). Say yes. The next screen will inform you of the status of the transfer of the firmware data to the player (6d). When the file transfer has finished you will get a screen saying the updater is done (6e). Don't do anything yet. If you look at the display on the player you will see the status of the firmware update (6f). Leave the player until it is finished updating itself, and has rebooted to the pick language screen (6g). At that time you are finished, the Windows device detect window will pop-up again (5a), and the player is ready to move music to.

6a. 

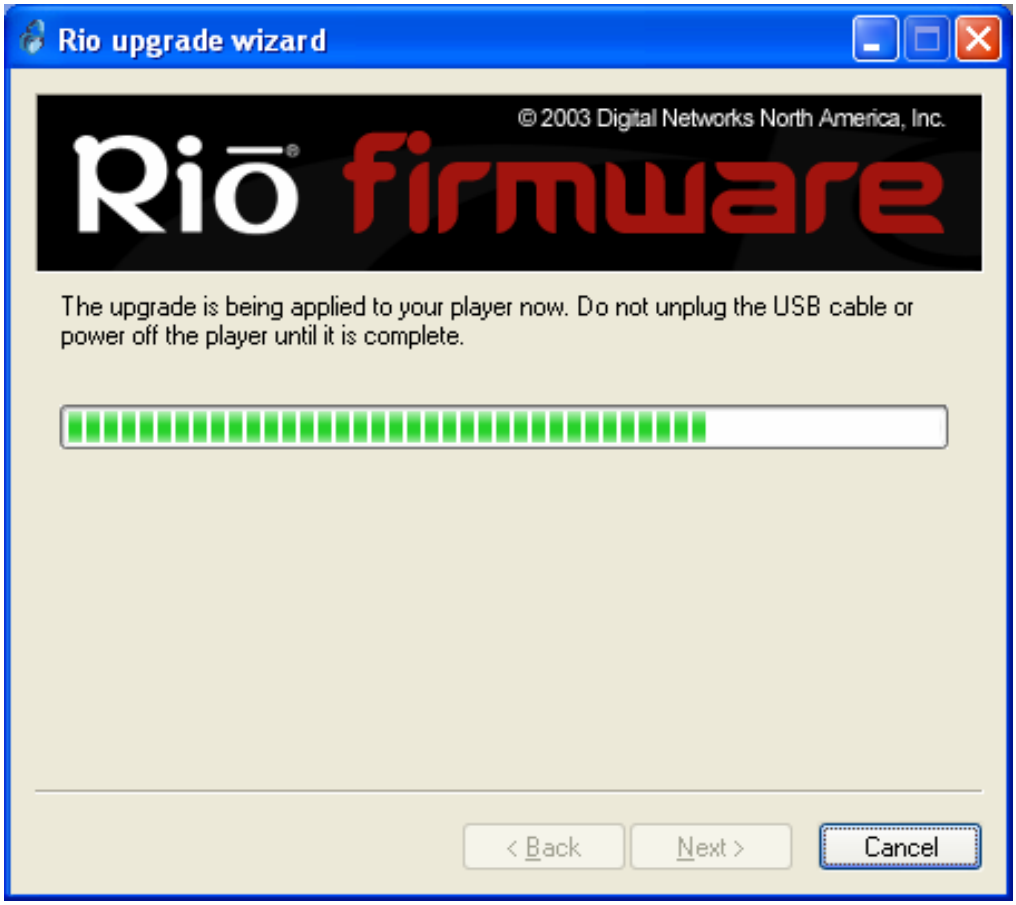
6b.


Rio upgrade wizard
© 2003 Digital Networks North America, Inc.
Rio firmware
Player
Current Version
Rio Karma
Also remove all content from the player (format)
Refresh
< Back
Next >
Cancel

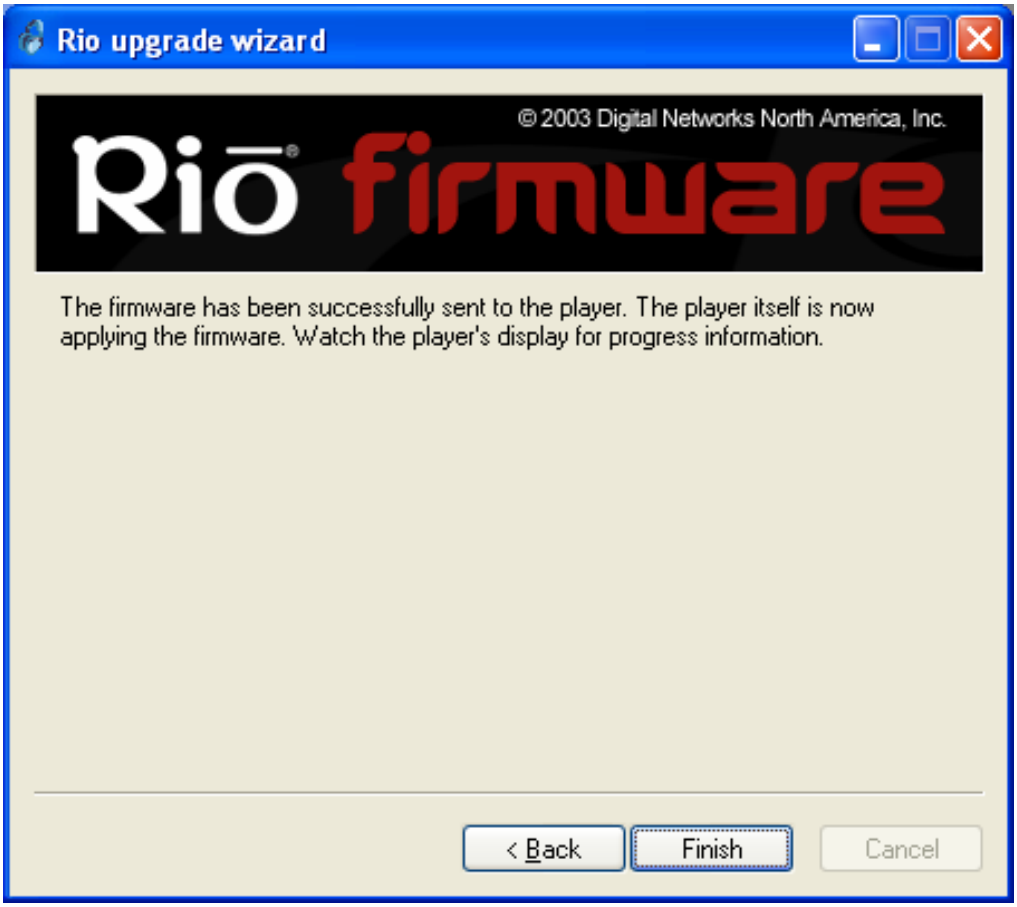
6c.


RioKarmaFlash_168
Are you sure you want to format your player?
Formatting the player removes your music, playlists and settings.
Yes
No

6d.


Rio upgrade wizard
© 2003 Digital Networks North America, Inc.
Rio firmware
The upgrade is being applied to your player now. Do not unplug the USB cable or power off the player until it is complete.
< Back
Next >
Cancel

6e.


Rio upgrade wizard
© 2003 Digital Networks North America, Inc.
Rio firmware
The firmware has been successfully sent to the player. The player itself is now applying the firmware. Watch the player's display for progress information.
< Back
Finish
Cancel

6f.


Recovery Mode
firmware upgrade
in progress
erasing flash...
programming flash...

6g.


Select Language
English (US)
English (UK)
Deutsch
Français
Español