# Re: Panasonic HD Recorders − What disk format?

***Source:*** http://linux.derkeiler.com/Newsgroups/alt.os.linux/2005−05/1196.html

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***From:*** Java Jive (*java_at_evij.com*)
***Date:*** 05/30/05

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Bummer! Forgot to x−post first time, apologies to uk.tech.digital−tv readers ...

The earlier part of this (A) is more about what may be Linux partitioning, the later part (B) more about actually swapping the HDs.

Cross−posting to Linux groups and uk.tech.digital−tv, but, to keep as near−topic as possible, please reply to alt.video.dvd.tech, for which I would judge this to be if not on topic, then less off−topic than the other choices.

We were discussing whether it's possible to upgrade the HDs in Panasonic HD/DVD Recorders such as the DMR−E100H. I had previously suggested that it might be possible to present the recorder with a larger disk already correctly formatted, but I've since this discovered that this idea won't work without modification, for reasons explained below.

"Java Jive" <java@evij.com> wrote in message news:...
*> Thanks, will investigate and report back (probably next week though)*

Ahem! A rather long 'week' ...

Section A: Linux, possibly ...

*> "WDino" <nogood@bigpond.com> wrote in message*
*> news:FOH6e.8305$5F3.33@news−server.bigpond.net.au...*
*> > The majority of HD and DVD recorders use the Unix format, usually the*
*> > Linux variation.*

Looks as though you're right. Examining the DMR−E100H's original Maxtor Diamond Max 16 80Gb disk (no obvious model number), connected via IDE to a W2K PC with an Abit VH6II motherboard ...

Most DOS/Windows utilities such as FDisk, Ghost, and Partition Magic Pro 7.0, whether under W98 DOS or W2K, think the disk is unpartitioned. However, PTEDIT.EXE, a DOS utility from Partition Magic, gives (for best results, use a fixed font to display)...

Part Type Boot Start End Sectors Sectors
# C H S C H S Before
1 93 00 0 0 0 331 228 58 1,707,243,167 0
2 31 00 0 0 0 264 182 10 4,092,552,974 0
3 2B 00 0 0 0 883 211 3 988,889,053 0
4 4B 00 0 0 0 598 160 14 347,126,965 0

Hidden Linux native file system (ext2fs)

It's 20 years since I hand−edited a partition table, and that wasn't LBA, so, although I am worried by the figures, I can't really say whether or not this looks pukka. However, if it is, as I have a 160Gb HD as a potential replacement, presumably all I would have to do is find a way of doubling the size of each partition.

However, when I tried booting the PC with the Slackware adaptec boot disk (this PC's own disks are SCSI), cfdisk /dev/hda didn't find the disk, and, unsurprisingly, variations on /dev/sd* only found the PC's own disks or nothing. When I tried a USB rather than an IDE connection, the disk was seen but not the partitions. The bare bootdisk gave the message: couldn't find vmlinuz.

Can any Linux afficionados suggest Linux tools to find the disk, recognise its partitions, and resize them? Ideally, I would like to be able to do this from a boot disk in a newer PC, as I'm unsure whether the BIOS of an older PC (Abit LX6, PII, 233MHz, 64Mb), on which I am planning to install Linux, can handle a 160Gb disk.

Note: I have some knowledge of Linux, but detailed help would be most welcome.

Section B: Owners of Panasonic HD/DVD Recorders, read on MacDuff, there's worse to come ...

I've now worked out, I believe pretty well for certain, that every time the recorder powers up it reads details of the current HD via the IDE interface, and compares this with a record in CMOS (or equivalent non−volatile RAM) written when it last formatted a HD − if there's a match, it presumes everything's OK, if not it assumes that this is an entirely new disk, and prompts to format it. It offers only very limited functionality until you accept this option.

Not realising this, I put the new 160Gb HD into the recorder (btw: the jumpers must be set to Cable Select), and it instantly noticed I had a different HD, and prompted me to format it, so I accepted. Not only did it format at 80Gb as predicted by others here, but now it thinks that this is its own true own love, sorry, its own true hard disk, and when I put the original one back in, sees that as a stranger which must be formatted!

Talk about ex−ing your ex− ... This was almost the worst possible scenario! Not only have I not got a larger drive and therefore am wasting half of the

replacement's capacity, but also stood to lose all the data on the old one!
That was a very black couple of hours ...

However, I found I could copy the data off the old drive. For anyone who might need to know, here's how ...

1) If you have formatted a new drive, when you reconnect the old one and switch on, the machine will self−check, then present the format HD option. Wait until all activity, such as the reading of any DVD inserted, has stopped, and then PRESS and HOLD 'stop' (black rectangle) ON THE UNIT (the remote button is ignored). After a few seconds, the menu clears.

2) Using the remote as normal from now on, press RETURN on the owner confirmation message.

3) If there isn't one inserted already, insert a DVD−RAM disk.

4) Press DVD

5) Press HDD

6) Although you cannot record to the HD (it shows zero time free), and the FUNCTIONS button is disabled while it is selected, you can now one by one copy programmes to DVD−RAM by using DIRECT NAVIGATOR and the DUBBING button in the normal way. As usual, if High Speed mode is offered then the programme will fit on the DVD−RAM, but if flexible recording (FR) is offered, then you either have to accept the loss of quality that this option gives, or use additional DVD−RAMs, or ...

7) Switch off, swap to the newly formatted replacement HD, switch on, and dub the DVD−RAM(s) to HD using High Speed mode in the normal way.

8) You can then erase the DVD−RAM(s) and repeat until all your data is copied between the two HDs.

Note: I've always felt that with this unit it would be quite easy to accidentally erase the entire HD thinking you were erasing a DVD−RAM. I've made myself get into the habit of consciously checking that it really is the DVD at each confirmation message. Perhaps as a result, I've not done it yet, but the above process would be a particularly easy time to do it, because you get into a habit, especially if, as mine, your HD was nearly full!

It was a very time consuming business, but in this fashion I have succeeded in copying the entire contents of the original HD onto the new one, so, if nothing else, I could retrench by similarly reformatting the original HD and copying everything back again.

But, having a proven restore option also leaves me free to experiment − if I can find a way of resizing the new HD's partitions, who knows ...

Can I have a beer now?