

Dev.doc

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Chapter 1

Dev.doc

1.1 Device-Handler 1.1 Manual

Device-Handler
=====

A Handler for direct device access for OS 2.04 and newer
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Motivation
Purpose

Installation

History
Plans for future version
Author & Copyright

No guarantee of any kind is made that the program described in this document is 100% reliable. You use this material on your own risk.

1.2 Motivation to write Device-Handler

I used CrossDOS to exchange files (mostly AmiNet) between home and the Sun Workstations at our university for a long time. But there were some problems with this solution:

- CrossDOS is unreliable. If the CPU got busy while reading a disk I got lots of these nasty "CRC Error" requesters. I always thought the "mfm.device" was the reason but these errors never appeared while using my handler.
 - Filenames are limited to 8+3 characters and converted to uppercase.
 - After mounting CrossDOS diskchanges were recognized much slower because "DF0:" and "PC0:" jamed each other when checking the inserted disk.
 - Transferring files larger than 1.4MB with MS-DOS disk was really a pain.
-

I had to split them at the university (not easy with a disk quota of 5MB) and rejoin them at home with "Join". And even with smaller files I still had to calculate how to distribute them onto my disks.

So I decided to try to use the unix archive "tar" (GNU version) and an Amiga port of it. Under UN*X "tar" has the ability to write directly to device files e.g. "/dev/fd0". This method is fast and saves space (no filesystem overhead) and "tar" offers multi volume archives in this mode which are perfect for transferring large files. And "tar" supports long filenames and mixed case.

For this purpose I needed a handler which made a raw device look like a file like "/dev/..." under UN*X. I found two handlers for this purpose:

- RDF (Raw Device FileSystem)
RDF was uncomfortable to use, had a bad EOF handling (needed for multi volume archives) and caused Enforcer hits.
- Flat
Olaf Barthel's Flat is quite nice and of course much more powerful than my handler, but it has lots of bug. I was able to fix two of them but I still got corrupt archives if I wrote to "FLAT:". And I didn't like that I still had to mount "PC0:" to use it.

At this point I decided to write Device-Handler.

1.3 What is Device-Handler ?

Device-Handler is an AmigaDOS handler like "PAR:" or "SER:". It can be used to access to an exec device e.g. "trackdisk.device" like a file. The syntax for filenames is "DEV:device/unit".

To view a hex dump of the disk in "DF0:" you could use:

```
Type DEV:trackdisk.device/0 HEX
```

The main purpose of Device-Handler is to use it for "tar". To create a multi volume tar archive on a UN*X work station you can use this command:

```
tar cvMf /dev/fd0 file1 file2
```

To extract this archive on your Amiga you can use:

```
tar xvMf DEV:mfm.device/0
```

For more informations how to use "tar" consult the manual.

You can even use Device-Handler to make a complete image backup of your harddisk (including the RDB) on a SCSI streamer via BTNTape:

```
Copy DEV:z3scsi.device/0 TO TAPE: BUF=2048
```

NOTE: Device-Handler will not work with all devices especially not with any version of Commodore's "scsi.device". That's not my fault,

these devices just don't support the required command.

1.4 Installation

To install the Device-Handler copy the file "L/Device-Handler" to the "L:" directory on your system partition.

Workbench 2.04 users should append "Devs/MountList.DEV" to "DEVS:MountList" and add the command "Mount DEV:" to "S:User-Startup".

Users of Workbench 2.1 or newer don't have to modify these files, they just need to copy "Devs/DOSDrivers/DEV#?" to "DEVS:DOSDrivers".

If you want to use "tar" with the "mfm.device" it's also not a bad idea to set the environment variable "TAPE" to "DEV:mfm.device/0".

1.5 Plans for future version

These things could be improved:

- More Packets

The number of DOS packets supported by Device-Handler is very small. It does not even support seeking on its file handles. But because "tar" never seeks I don't care.

1.6 History of Device-Handler

1.0:

- first public release

1.1:

- If the device which should be used by Device-Handler was not in memory Device-Handler could crash.
- Device-Handler is now much faster. If it is possible Device-Handler will read multiple sectors directly into the application's buffer.

1.7 Author & Copyright

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