# Dev.doc

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# Chapter 1

# Dev.doc

## 1.1 Device-Handler 1.0 Manual

```
                  Device-Handler
  ==============

A Handler for direct device access for OS 2.04 and newer
  Copyright 1994 Matthias Scheler


                Motivation

                Purpose

                Installation

                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.

- Transfering 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 disk.

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 transfering 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 tar archive on a UNI*X work station you can use this command:

tar cvf /dev/fd0 file1 file2

To extract this archive on your Amiga you can use:

tar xvf DEV:mfm.device/0

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

## 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:

- Speed
  Device-Handler is not very fast. Every byte is read into its own buffer
  and copied with the CPU. Because floppy disks are so slow the transfer
  speed is not affected but if you use Device-Handler with a harddisk you
  will recognize it.

- 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 Author & Copyright

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