

# **AmiCDFS**

Martin Berndt

**COLLABORATORS**

|               |                           |                  |                  |
|---------------|---------------------------|------------------|------------------|
|               | <i>TITLE :</i><br>AmiCDFS |                  |                  |
| <i>ACTION</i> | <i>NAME</i>               | <i>DATE</i>      | <i>SIGNATURE</i> |
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## Chapter 1

# AmiCDFS

### 1.1 AmiCDFS-Guide Main

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AmiCDFS (AmiCDROM) 2.0 (14.2.96)

by Martin Berndt

The ultimate Amiga CD-ROM Filesystem

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This old goodie by Frank Munkert has been reworked to be the fastest and most compatible CD-ROM Filesystem for the Amiga!

Just give it a try, and you will never want to be without it again!

Introduction

How to install AmiCDFS

Details

Bugs & Quirks

Legal Stuff

Who did it?

Credits

[Read old Manual](#)

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!!! AmiCDFS 2.0 is SHAREWARE !!!

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## 1.2 Introduction to AmiCDFS

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### Introduction

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AmiCDFS 2.0 is a CD-ROM disk filing system for the Amiga. It supports the ISO-9660 standard (single and multiple sessions), the Rock Ridge Interchange Protocol and the Macintosh HFS format.

The CD-ROM drive is mounted as a DOS device (e.g. CD0:). You can access files and directories on a CD-ROM disk by the usual syntax, e.g. "type cd0:foo/readme.txt".

AmiCDFS 2.0 has been developed with kind permission of Frank Munkert using his old AmiCDROM 1.15 source files, and would have never been possible without his great work. Nevertheless it was a lot of hard work, and so I think it's fair enough to ask you for a small amount of money for MY work. If you agree pay the share, otherwise just let it be, but don't expect any support from me.

AmiCDFS 2.0 is more compatible and faster than any other CD-ROM filing system for the Amiga including commercial ones, so I really think it's worth some bucks...

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The future of this product depends on YOU !!!

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## 1.3 How to install AmiCDFS

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### How to install AmiCDFS 2.0

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- Step 1: Copy the supplied Mount and SetPatch commands to C:.  
Read the  
Disclaimer  
notice!
- Step 2: Copy AmiCDFS to L:. If you own a 68020 or better copy  
AmiCDFS.030 instead and rename it.
- Step 3: Copy the CD0: mount entry file to DEVS:DOSDrivers/ and  
edit it as described in the next section.
- Step 4: Copy def\_CDDAdisk.info to ENVARC:sys/ if you wish to  
use CDDA disks. Set the Default Tool as described in a  
later section of this manual.  
Then copy WBStart-Handler to L:.
- Step 5: Copy MCDPlayer wherever you want.
-

Step 6: Reboot your machine.

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## 1.4 Disclaimer

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### Disclaimer

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SetPatch 40.16 (c) Copyright 1990-1995, Escom AG. All Rights Reserved.  
Mount 40.4 (c) Copyright 1990-1995, Escom AG. All Rights Reserved.

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## 1.5 Details

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### Details

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Important Changes

The Mount File

Audio Disks (CDDA)

Hybrid Disks

Benchmarks

Some Technical Details

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## 1.6 Important Changes

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Important Changes

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- "cdrom-handler" has been renamed to "AmiCDFS"
- Many obsolete features and parameters have been removed.
- The "Startup" field has been replaced by "Control" (needs Mount v39+).

New template: LC=LOWERCASE/S,TD=TRACKDISK/S,BL=BUFFERLINES/N,  
FB=FILEBUFFERS/N,DC=DISKCHANGE/N

- The mount files have changed significantly, so it's better to delete the old ones before installing AmiCDFS 2.0.
- The code is fully reentrant now, and will only be loaded once as long as the DosType is the same.
- AmiCDFS has a real LRU-Cache now!

The standard buffers ("Buffers" entry in mount file) are split into BufferLines. One BufferLine will always be read completely (Prefetch). If you do not specify BufferLines or set it to 1 the Buffers are handled as before.

Example: Buffers = 64 and BufferLines = 8 results in  
8 Caches with 8 Blocks (8\*2048 Bytes) each.

- CDCControl will no longer work.
  - DosPacket handling routines have been completely rewritten and should be much more compatible now.
  - "AddBuffers" now returns the number of StdBuffers + FileBuffers.
  - FileBuffer routines rewritten, should be much faster now with very large files.
  - Diskchange polling is no longer needed with hostadapters which support diskchange interrupts (like A3000, Mastercard MC702 etc.). If your hardware does not support these you should set DC=3.
  - The CDDA icon is loaded as "ENV:sys/def\_CDDAdisk.info" now. Its Default Tool is the command to be executed if the user doubleclicks the CDDA icon. If you put a "#" in front of the command it will be executed as a WB application (WBStart-Handler).
  - Added a nice 256 color icon for CDDA, normal and NewIcon type. Copy it to "ENVARC:sys/" and set your Default Tool.
  - Improved handling of Audio/Data Hybrid CD's.
  - Extension for HFS resource forks always is ".rs" now.
-

- Improved HFS character conversion.
- Holding the CONTROL key while inserting a medium replaces old HFSFIRST option.
- Fixed Lock/Unlock routines and structures.
- Included a bugfixed version of MCDPlayer.
- Replaced some routines by fast assembler code.
- Created 68030 version.
- Recompiled with SAS/C 6.56.

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## 1.7 The Mount File

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### The Mount File

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Your CD-ROM Mount file (e.g. DEVS:DosDrivers/CD0) should look like this:

```

/* $VER: CD0 2.0 (11.1.96)
 *
 * CD-ROM filesystem mount entry
 */

Device          = scsi.device          1)
Unit            = 1                    2)
FileSystem      = L:AmiCDFS
Flags          = 0
BlocksPerTrack = 32
BlockSize      = 2048
LowCyl         = 0
HighCyl        = 11000
Surface        = 1
Buffers        = 64                    3)
BufMemType     = 1                    4)
Mask           = 0x7fffffff           5)
GlobVec        = -1
Priority        = 10
DosType        = 0x43444653
StackSize      = 600
Mount          = 1

Control        = "BL=8 FB=32"         6)

/* Control field template:
 *
 * LC=LOWERCASE/S,TD=TRACKDISK/S,BL=BUFFERLINES/N,

```

---



\* FB=FILEBUFFERS/N,DC=DISKCHANGE/N  
\*/

---

- 1) Insert your Device name here, e.g. "MASOBOSHI.device".
  - 2) Insert the Unit number of your CD-ROM drive here.
  - 3) Number of Standard Buffers (LRU-Cache).
  - 4) Memory type for SCSI Transfers:
    - 1 means all Public Memory
    - 3 means Public Chip Memory only
    - 5 means Public Fast Memory only

DO NOT USE ANY OTHER VALUES !!!
  - 5) Set the Mask to "0xffffffff" if your Device is only able to do transfers to 24Bit DMA Memory. You needn't care about alignment, because all buffers are always Quad Longword aligned.
  - 6) The following options may be used:

|             |  |
|-------------|--|
| LC          | Map ISO 9660 names to lower case.                |
| LOWERCASE   |  |
| TD          | Use trackdisk commands instead of SCSI-direct    |
| TRACKDISK   | calls. Only needed for VERY bad device drivers   |
|             | and most often AmiCDFS 2.0 will detect these     |
|             | automatically.                                   |
| BL          | Sets the number of lines for the LRU-Cache.      |
| BUFFERLINES | The Standard Buffers are split into BufferLines, |
|             | and one line will always be read completely.     |
|             | This will speed up all operations significantly! |
|             | If you don't specify a value or set it to 1 the  |
|             | Buffers are handled as before.                   |
|             | Example:   |
|             | Buffers = 64 and BL = 8 results in               |
|             | 8 caches with 8 blocks (8*2048 Bytes) each.      |
| FB          | Sets the number of buffers for file operations   |
| FILEBUFFERS | using the AmigaDOS Read() call.                  |
| DC          | Enables old Diskchange polling, set it to 3 or   |
| DISKCHANGE  | any other useful value if your device does not   |
|             | recognize DiskChange Interrupts.                 |

DO NOT TRY TO USE ANY OTHER OPTION !!!
-

## 1.8 Audio Disks

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### Audio Disks (CDDA)

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Whenever an audio disk is inserted in your CD-ROM drive, an AppIcon will be displayed on your Workbench screen. If it exists the iconfile ENV:sys/def\_CDDAdisk.info will be used.

If the Default Tool of the icon contains a command name, then AmiCDFS will try to start that program (which should be a CDDA Player) when double-clicking the AppIcon. Otherwise the disk simply starts playing from track 1.

If the first character of the Default Tool entry is a # (Hash) symbol, the according program will be started as a Workbench application using L:WBStart-Handler.

A bugfixed version of MCDPlayer by Boris Jakubaschk is included in the AmiCDFS 2.0 distribution archive.

These features are not available if the  
TRACKDISK  
option is selected or  
the drive doesn't support the needed commands.

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## 1.9 Hybrid Disks

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### Hybrid Disks

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Sometimes disks are dual-format (ISO-9660 and HFS). In this case the ISO-9660 part will always be preferred. If you wish to force mounting the HFS part of such a disk, simply hold the CONTROL key pressed while inserting the disk in your CD-ROM drive.

If a Sound & Data (ISO-9660 or HFS) hybrid disk is inserted, two icons will be placed on your Workbench. You can access the data part like usual while using the audio part with a CDDA Player program.

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## 1.10 Benchmarks

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### Benchmarks

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The following benchmark script has been used to evaluate several Amiga CD-ROM filing systems:

```
c:makedir ram:tools
c:date
c:copy AMINET9:Tools ram:tools all quiet
c:date
c:delete ram:tools all quiet
```

The benchmark system configuration:

```
Amiga 2000 ECS, 68030-50, 68882-50
2 MB ChipRAM, 20 MB 32Bit FastRAM
Masoboshi MC702 with SANYO CRD-254SH QuadSpeed CD-ROM
AmigaOS 3.1, Kickstart 40.70, Workbench 40.42
```

Results:

| AmiCDROM 1.15 | AmiCDFS 2.0 | AsimCDFS 3.5 | CacheCDFS 2.6 |
|---------------|-------------|--------------|---------------|
| 72 sec        | 35 sec      | 56 sec       | 44 sec        |

## 1.11 Technical Details

### Technical Details

The whole code is fully reentrant now, so that it may be shared among multiple instances of the filing system as long as the  
 DosType  
 is  
 identical.

AmiCDFS 2.0 is now able to read any type of physical device, so it may be used to read Macintosh HFS floppy disks as well.

The drivers task stack is handled by the filing system code itself now to make sure that it is always big enough. So AmiCDFS 2.0 could even be installed as part of a Rigid Disk Block (RDB).

All DOS packet handling code has been rewritten in order to eliminate problems with unknown packet types and to allow implementation of some extra functions. Packets like ACTION\_MORE\_CACHE now return valid results even if they do nothing.

## 1.12 Bugs & Quirks

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### Bugs & Quirks

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No real bugs are known, yet!

AmiCDFS 2.0 has been tested on many different hardware configurations, including IDE/ATAPI drives, PCMCIA adaptors and several SCSI drives.

If you encounter any difficulties, please check the following topics:

- Are you using a IDE/ATAPI CD-ROM drive?

Every device has to emulate a SCSI-2 drive, so everything depends on how good this emulation is. Try setting "TD" in Control field if nothing seems to work.

- Diskchanges are not recognized properly?

It is possible that your device driver does not support DiskChange interrupts. Report it to the manufacturer and try setting "DC=3" in Control field.

- Are you using any bad software?

If you're using very nasty hacks or programs like MCP, please don't report any bugs. It is useless to expect any program to work properly while trashing important functions of your Operating System!

- Anything else?

Send me a mail describing your problems and your configuration!

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## 1.13 Legal

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### Legal Stuff

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AmiCDFS 2.0 is SHAREWARE !!!

If you use it permanently please send me a donation of US\$ 15 (DM 20).  
Please add \$5 when you send me a cheque to cover clearing charges.

Bank Account for money transfer (German users only):

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R.Berndt    Konto 393439-438    BLZ 36010043    Postbank Essen

THANK YOU FOR YOUR SUPPORT !

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## 1.14 Author

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Author

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Version 1.15    03-Nov-94    (C) 1993,1994 by Frank Munkert  
(ln\_fm@pki-nbg.philips.de)

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Version 2.0    13-Feb-96    (C) 1996 by Martin Berndt

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Login: GAST Area: WANDERER/BIN/MB-SUPPORT

AmiCDFS 2.0 was developed using SAS/C 6.56 by SAS Institute

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Have you tried MultiCX already ?  
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## 1.15 Credits

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Credits  
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The following persons deserve special thanks from me as they made a significant contribution to the development of AmiCDFS 2.0:

- Frank Munkert for his wonderful AmiCDROM 1.15
  - Nicola Salmoria for some good ideas in AmiCDFS v37
  - Boris Jakubaschk for MCDPlayer 1.0
  - Olaf "Olsen" Barthel for his good advice in many cases
  - Ralph Babel for the Amiga Guru Book
  - Stefan Becker for WBStart-Handler
  - all my Beta-Testers for reports and constructive criticism
  - the MCP authors for the worst programming example ever
  - Mike Oldfield for the best music on this little planet
  - the TNG crew for the greatest adventures in universe
  - my son Daryl for moral support
  - my coffee machine for coffee support ;-)
-