AmiCDFS

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COLLABORATORS

	TITLE : AmiCDFS		
ACTION	*NAME*	*DATE*	*SIGNATURE*
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REVISION HISTORY

NUMBER	DATE	DESCRIPTION	NAME

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AmiCDFS

1.1 AmiCDFS-Guide Main

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                    AmiCDFS (AmiCDROM) 2.3 (05.03.96)

                          by Martin Berndt

              The ultimate Amiga CD-ROM Filing System
              -----------------------------------------------------------------------

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!



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                     !!! AmiCDFS 2.3 is SHAREWARE !!!
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1.2 Introduction to AmiCDFS

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                               Introduction
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AmiCDFS 2.3 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 2.3 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 2.3 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 !!!
--------------------------------------------------------------------------
```

1.3 How to install AmiCDFS

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                   How to install AmiCDFS 2.3
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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.

1.4 Disclaimer

                              Disclaimer

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

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                              Details

                    Important Changes

                      The Mount File

                    Audio Disks (CDDA)

                       Hybrid Disks

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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,MC=MOTORCONTROL/S,
                BL=BUFFERLINES/K/N,FB=FILEBUFFERS/K/N,DC=DISKCHANGE/K/N,
                TDP=TDPOLLING/S

- The mount files have changed significantly, so it's better to delete
  the old ones before installing AmiCDFS 2.3.

- 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.

- CDControl 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.

- Implemented motor control code for some bad device drivers.

- 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.

- Diskchange polling may optionally be done using trackdisk commands.

- 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.

– Removed obsolete vendor specific routines.

– Included a bugfixed version of MCDPlayer.

– Replaced some routines by fast assembler code.

– Created 68030 version.

– Recompiled with SAS/C 6.56.

1.7 The Mount File

                              The Mount File

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


```
        /* $VER: CD0 2.1 (01.03.96)
         *
         * 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            = 0x7ffffff                                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,MC=MOTORCONTROL/S,
         * BL=BUFFERLINES/K/N,FB=FILEBUFFERS/K/N,DC=DISKCHANGE/K/N,
         * TDP=TDPOLLING/S
         */
```

----

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 "0xffffff" 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 2.3 will detect these
                        automatically.

        MC   Some devices do not allow you to remove a CD as
        MOTORCONTROL   long as the motor hasn't been stopped manually
                        by the filing system. Set this option only if
                        you encounter such problems with your equipment!

        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.

      TDP             Use trackdisk instead of SCSI direct calls for
      TDPOLLING       diskchange polling. Some devices may work better
                      using this option, but you should only try it
                      if you have weird problems with diskchanges.

      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 2.3 distribution archive.

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

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 prefered. 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.

1.10 Benchmarks

                              Benchmarks

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 2.3   AsimCDFS 3.5   CacheCDFS 2.6
----

        72 sec   35 sec   56 sec   44 sec

1.11 Technical Details

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                              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 2.3 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 2.3 could even be
installed as part of a Rigid Disk Block (RDB).

All DOS packet handling code has been rewritten in order to eleminate
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 2.3 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"
  and/or "TDP" in Control field.

- Drive does not stop or CD cannot be removed?

  Simply set "MC" in Control field. Some devices need a MotorOff
  signal after reading data from the drive.

- 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!

1.13 Legal

                              Legal Stuff

                      AmiCDFS 2.3 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):

      R.Berndt   Konto 393439-438   BLZ 36010043   Postbank Essen

                      THANK YOU FOR YOUR SUPPORT !

Copyright

AmiCDFS 2.3 is written and copyright © 1996 by Martin Berndt. No parts
of this program may be altered by any means (this includes editing,
reprogramming, crunching, resourceing etc.), except archiving.

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The author is in no way liable for any changes made to any part of the
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or loss of data directly or indirectly caused by this software.

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Neither fees may be charged nor profits may be made by distributing this
piece of software. Only a nominal fee for costs of magnetic media may
be accepted, the amount of US $5 shouldn't be exceeded for a disk
containing AmiCDFS. CD Manufactures are specifically granted the right
to include this program on CD collections, as long as they are for the
Public Domain. But the user still has to pay the Shareware fee!

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_fmu@pki-nbg.philips.de)


--------------------------------------------------------------------------

      Version 2.3    05-Mar-96   (C) 1996 by Martin Berndt


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

     AmiCDFS 2.3 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 History

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                              History
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1.0 - 1.15             old AMICDROM versions by Frank Munkert

2.0 (14-Feb-96)        first public release of new AmiCDFS

2.1 (01-Mar-96)        - fixed serious bug in Prefetch code
                       - fixed problems with uncleared buffers
                       - fixed Control field template
                       - implemented
            MOTORCONTROL
                                  - implemented
            TDPOLLING
                                  - improved some routines
```

```
2.2 (04-Mar-96)            - fixed some small bugs in Cache handling code
                           - removed all old vendor specific routines
                           - fixed bug in SCSI classification code

2.3 (05-Mar-96)            - fixed potential problem with illegal sector
                             accesses
```

1.16 Credits

                              Credits

The following persons deserve special thanks from me as they made a
significant contribution to the development of AmiCDFS 2.3:

- 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   ;-)