

english/FD/MakeCD

COLLABORATORS

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<i>ACTION</i>	<i>NAME</i>	<i>DATE</i>	<i>SIGNATURE</i>
WRITTEN BY		April 17, 2022	

REVISION HISTORY

NUMBER	DATE	DESCRIPTION	NAME

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Chapter 1

english/FD/MakeCD

1.1 english/FD/MakeCD.guide

MakeCD

Version 2.4 (10-07-1997)

English User Manual

Note: this manual is still under construction. But it's getting better from release to release. ;-) Sorry for the missing or untranslated parts. We are working on it and soon there will be a complete English manual for MakeCD.

Warning

Crack/Virus warning, test binaries

Legal

Registration of MakeCD, legal notes

Features

Feature list of MakeCD

Hardware

Supported CD writers and CD-ROM drives

Introduction

Introduction to CD writers, MakeCD etc.

Installation

How to install MakeCD

Instructions	Instructions how to use MakeCD
Beginner notes	Notes for beginners
Questions	Frequently asked questions (FAQ)
Glossary	Glossary
Support	Support for MakeCD
Authors	How to Contact the Authors
Acknowledgements	Who participated?
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1.2 MakeCD.guide/MWARN

Crack warning:

We received some "100 % cracked" versions of MakeCD which did not at all behave like fully registered versions. Instead, they pretend to work, but the result is not what you expected. Please do not use them and don't blame us for lame cracks! Instead, download the slightly limited version from the MakeCD homepage: `'http://makecd.core.de/'`

If cracked versions of MakeCD do appear the authors of MakeCD will stop all development as it will be pointless for them to continue further. This will mean no new drivers and no new features (like DAO). If you want to use MakeCD, please purchase MakeCD.

Registered users:

In your own interest, you should never use cracked/modified versions of MakeCD. Instead, always get unmodified versions and unlock them using your registration number. Also, never give away your registration number.

Test binaries:

You can test the most important binaries of this MakeCD distribution for changes by a virus/cracker. Just click on the following button. But please note that the virus/cracker could

have changed our 'CRCList-binaries', so the test succeeds, although somebody has tampered with the binaries. In order to be totally sure, you have to check the PGP signature on 'CRCList-binaries'. You can find the PGP public key file on our home page.

Please use this test before you register MakeCD using the registration window, because this registration causes changes in the binaries.

>>> TEST MakeCD binaries! <<<

Note that you must have started this guide from Workbench in order to perform this test, otherwise the test might not find all files and might not work.

1.3 MakeCD.guide/MLEGL

Legal

As with most other software, there are legal conditions associated with MakeCD and you must read them before you first use the program. These conditions shall be interpreted according to the laws of your country. The German text of these conditions shall take precedence over any translation thereof for the purposes of legal interpretation.

Copyright

Copyright Notice

Disclaimer

Use at Own Risk

Alterations

What can happen if MakeCD is patched

Trademarks

References may be (Registered) Trademarks

Licence Agreement

Your Rights and Responsibilities

Registration

How to Get the Registered Version

Authors

How to Contact the Authors

1.4 MakeCD.guide/LCPYR

Copyright
=====

MakeCD is subject to Copyright 1996,1997 by Angela Schmidt and Patrick Ohly. All Rights Reserved, for both Software and the documentation. No part of this product shall be distributed, altered, manipulated or copied without the prior written authorisation of the authors.

The freely distributable, unregistered version of MakeCD is covered by special conditions regarding its copying and distribution.

1.5 MakeCD.guide/LDISC

Disclaimer
=====

The authors shall not be held responsible for any damages or losses, direct or consequential, resulting from the use, or inability to use the software. This applies even if the authors have been made aware of the possibility of losses or damage.

1.6 MakeCD.guide/LALTR

Alterations
=====

MakeCD shall not be altered (patched). Those who do this anyway, should not be surprised by extremely uncomfortable side-effects.

Of course, MakeCD shall not be distributed if it has been altered -- even when the altered software was based on the freely distributable version.

If a modification is thought to be useful, it's worth your while to contact the Authors, who may after all have the desired function in the next version.

1.7 MakeCD.guide/LTRAD

Trademarks
=====

This documentation mentions various hardware and software by name. Such names are often protected Trademarks and their mention in this document

shall in no way damage their legal status.

1.8 MakeCD.guide/LLICA

Licence Agreement

=====

This Agreement is a legal contract between you, the end user, and the authors of MakeCD. You agree to accept the conditions of this contract by use of the software.

The registered version with a valid registration number entitles you to use a single copy of the software on one computer (i.e. at only one location for one unit). Further details about the licence can be found in the section

Registration fess

.

If you want to sell a registered version of MakeCD to another person, both parties have to inform us. Then, we will lock the old registration number and the new owner of this licence will get a new registration number after paying a small handling charge.

If you use the unregistered version of MakeCD, you may use as many copies as you like simultaneously, and distribute copies to as many people as you like at no charge. If you use MakeCD for more than 4 weeks, you must get a licence, even if the functionality of the unregistered version of MakeCD fulfills your needs. There is one single exception: if you use MakeCD only to read/play CDDA data, and if you don't create ISO images or write CD-Rs, you don't have to register. However, in that case you must not expect any support from the authors.

An unregistered version of MakeCD can be recognized by the startup requester for registration number and user address. You are dealing with an unregistered version when all fields are empty (no default values). It is safest to only ever pass on the original archive -- nothing can go wrong that way.

1.9 MakeCD.guide/LREGI

Registration

=====

In case you like MakeCD, you should register. The development of MakeCD is very time and cost extensive and we really ask you to support us if you like it.

However, if the unregistered version of MakeCD does not work with your configuration, please do not register and stop using MakeCD. Some

people obviously think we must add support for their systems after they have registered. But that's not how things work. Of course, we do our best in supporting all systems, but in many cases, we can't support their systems, e.g. because they have SCSI troubles or because we don't have programmer docs for their CD writers. Sorry. Since we don't like to have dissatisfied users, we really ask you not to register if you are not satisfied with the current version of MakeCD and to stop using MakeCD.

If the unregistered version of MakeCD does not support your hardware, the registered version won't support it either. In that case you should check for updates of MakeCD from time to time and register after you found a working update.

We reserve the right to lock single registration numbers in future versions of MakeCD without mentioning any reasons (1).

Registration numbers are valid for the actual version and often also for following versions. If there are big new features, we might request an update fee.

Restrictions

Restrictions of the unregistered version

Prices

Registration fees

----- Footnotes -----

(1) Of course we do not plan to do that without a good reason

1.10 MakeCD.guide/LLRST

Restrictions of the unregistered version

Compared to the registered version, the unregistered version has a few built-in restrictions:

- The name of the CD-ROM and the "Publisher" entry in the primary volume descriptor cannot be changed.
- You can write a maximum of ten tracks to a CD-R.

Cracked versions of MakeCD often don't work at all.

1.11 MakeCD.guide/LREGF

Registration fees

As we think that about DM 200,- to 400,- is a very painful amount of money for a non commercial user to spend on this, we thought up something to still make some profit (as all the other vendors of mastering software):

There are three classes of licensing. The more "commercial" the user uses our software (and the more money he makes with it), the higher his or her registration fee will be for MakeCD. Non commercial users pay only a small fee. User who burn CD-ROMs for anyone for a fee pay a currently common amount. User who have their mastered CD-ROM's duplicated commercially at a CD manufacturer (and usually sell them) pay a fee that has to be negotiated with the authors individually. We can think of several ways to license MakeCD here. Just contact us!

We hope that this is a fair compromise. Why should someone who creates CD-ROM's just for fun pay the same amount as someone who makes large amounts of money on duplicating and selling CD-ROM's?

Please remember that the development of MakeCD could not have been done without investing considerable amounts of money. If you use the software, consider registering seriously and support further development and enhancements to MakeCD as they will be costly, too!

Private, non-commercial usage

There is a registration fee of DM 75,-. Any CD-ROM's created with MakeCD may only be used for your private non-commercial needs. "Publisher" cannot be modified.

CD-ROM recording service, non-commercial duplication.

The registration fee is DM 300,-. This is in the range of other currently available software of this type for the Amiga. The recorded CD-ROM's may be sold to the respective customers who may not re-duplicate them again for commercial purposes. CD-ROM's created by MakeCD with this license may not be used as masters for pressing CD-ROM's. An exception is the non-commercial duplication with CD-R's. "Publisher" cannot be modified.

CD-ROM Manufacturer, commercial duplication.

We don't have a standard price for this at this time. Please contact either Angela Schmidt or Patrick Ohly. We'll work up a license together then. This license allows you to press CD-ROM's with masters created by MakeCD. You will also be able to change "Publisher" as needed.

The Application-ID field will always contain the serial number (which isn't the same as the registration number) of the registered version.

A printed manual is planned, but not yet available. Once it is finished, you will have the opportunity to order it at a small extra fee.

Additionally to the licence fee as described, we have to charge some shipping costs:

Postage and Packing within Germany

5 DM for floppy only, or floppy with manual (manual is not available yet)

Postage and Packing within Europe

5 DM for floppy only

10 DM for floppy with manual (manual is not available yet)

Postage and Packing outside Europe (Air Mail)

10 DM for floppy only

20 DM for floppy with manual (manual is not available yet)

Express Delivery

15 DM extra. The Registration will be processed immediately and sent via Express delivery. Yet even normal registrations will be processed quickly by my sister - not like SASG where one often has to wait for weeks when Express is not chosen.

Please understand that Katrin likes to take the occasional holiday, usually around Whitsun or in August or September, as well as at the start of January. Registrations cannot be processed at these times (usually about one to three weeks) and we beg your understanding.

C.O.D. (only in Germany)

8 DM extra. This only makes sense if registering by telephone.

A normal MakeCD Private registration will therefore cost 80 DM within Europe, including postage and packing. Express registration and delivery to the USA would cost $75+10+15=100$ DM (Registration + postage + Express).

You can send a cheque within Germany; the preferred and safest method. Of course you can send cash at your own risk. If need be, the registration can also be done via C.O.D. (for an extra 8 DM).

You can also send a cheque from outside of Germany but please consider that this can present some difficulties and disproportionate costs (20 DM is not unusual). Please make sure that there's enough left over to pay your registration after all the additional costs have been paid -- otherwise your registration cannot be completed.

As foreign cheques often cause trouble (Eurocheques in DM and cheques from a German bank are fine, though), we prefer foreign registrations to be made by postal money order or using cash (preferably DM, or US Dollars of equivalent value, at least 1 US \$ for 1.50 DM).

Send your registration (in German, English or if need be, in French) to:

Katrin Schmidt
Finkenweg 26
89233 Neu-Ulm
Germany
Tel.: 0731/712316 (9:00 to 21:00 CET)

In case you have further questions, have a look at the
FAQ

1.12 MakeCD.guide/MFEAT

Feature list of MakeCD

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- AMIGA protection bits and file comments in CD-ROM images
MakeCD was the first program that brought this great feature to you. Meeting Pearls IV was mastered with MakeCD.
 - online images (no second partition required)
 - flexible CD copying
 - plays CDDA data from CD or from file
 - supports ISO 9660 and Rock Ridge extensions
 - requires relatively little memory while generating the ISO 9660 structures.
 - supports CDTV and CD32 (bootable CD-ROMs possible)
 - Multivolume and Multisession support
 - The ISO image can be created on block-orientated devices (e.g. hard disk) and tested before writing a CD-R.
 - CD Extra support
 - All source directory trees for the ISO image are optionally put into one distinct subdirectory of the image's root directory.
 - locale support (at this time English and German)
 - online help (Bubblehelp, can be disabled)
 - font-sensitive layout
 - style guide adhering (opens e.g. on a Public Screen)
 - easy to use
 - writes both data and audio tracks
 - modular concept (other CD-Writers can be supported if required)
 - recovery mode (dependent on CD-R driver!)
 - best value for your money, especially for non-commercial users
 - compatible (tested on many different configurations)
-

1.13 MakeCD.guide/MHARD

Supported CD-Writers and CD-ROM drives
=====

If you wish to know more about support for different CD writers, please do read the compatibility list. In general, the CD writers listed below are currently supported.

Please take notice of the fact that the programmers of other CD recording softwares make use of our list being not aware of the fact that for some of the CD writers mentioned below special treatment is required to make them work correctly with the corresponding driver. Thus, caution is advised concerning compatibility lists resembling ours that are offered with other CD recording softwares. Our lists are not copied from other lists. They are the result of our own investigations into the differences and similarities between those CD writers.

The following CD writers are ours, therefore those are to be supported very easily. The same applies for all CD writers based on those mentioned below:

- Philips CDD 2600
- Sony CDU 926S
- Yamaha CDR 100
- Yamaha CDR 400t

We did possess the following CD writers for some time to test the drivers of MakeCD. But we have already returned them.

- Philips CDD 2000
- JVC XR-W2010
- Plextor PX-R24CSi

The following CD writers are generally supported by MakeCD. CD writers marked with an "(*)" haven't been tested yet, but theoretically these should work, too.

- JVC or TEAC compatible CD-writer:
 - JVC XR-W2001 (*)
 - JVC XR-W2010 (see 'doc/Compatibility')
 - JVC XR-W2012 (see 'doc/Compatibility')
 - JVC XR-W2020 (*)
 - JVC XR-W2022

- JVC XR-W2626 (*)
 - Pinnacle RCD-1000 (*)
 - Pinnacle RCD 5040 (*)
 - TEAC CD-R50S
 - MMC compatible CD-writer:
 - Microboards PlayWrite 2060R (*)
 - Mitsumi CR2600TE (*)
 - Philips CDD 3600 (*)
 - Philips CDD 3610 (*)
 - Ricoh MP6200I (*)
 - Ricoh MP6200S (*)
 - Ricoh MP6201S (*)
 - Ricoh MP6211S (*)
 - Smart & Friendly CDR4006 (*) (we don't expect any problems here)
 - Traxdata CDR 4600 (*) (we don't expect any problems here)
 - Yamaha CDR 200 (*) (we don't expect any problems here)
 - Yamaha CDR 400c
 - Yamaha CDR 400t
 - Yamaha CDR 400tx
 - Yamaha CD-RW 4001 (*)
 - Philips CDD 2000 CD-Writer family:
 - Grundig CDR1001PW
 - HP SureStore 4020i
 - Kodak PCD225 (*)
 - Mitsumi CDR 2401
 - Philips CDD 2000
 - Philips CDD 521 (no test mode!)
 - Philips CDD 522
 - Plasmon CDR4220 (*) (we don't expect any problems here)
-

- Philips CDD 2600 CD-Writer family:
 - HP SureStore 6020i
 - Philips CDD 2600
 - Wearnes CDR632P
 - Traxdata CDR 2600 (*) (we don't expect any problems here)
 - Sony compatible:
 - Sony CDU926S
 - Microboards PlayWrite 2000 (*)
 - Optima DisKovery 650 CD-R (*)
 - Smart & Friendly CDR1002 (*) (we don't expect any problems here)
 - Smart & Friendly CDR2004 (*) (we don't expect any problems here)
 - Smart & Friendly CDR2006
 - Sony CDU920S (*)
 - Sony CDU924S (*)
 - Sony CDU940S (*)
 - Sony Spresa 9211 (*)
 - Sony Spresa 9411 (*)
 - Sony Spresa 9611 (*) (we don't expect any problems here)
 - Yamaha CDR 10x (and compatible drives):
 - Yamaha CDR 100
 - Yamaha CDR 102
 - Yamaha CDE 100
 - Yamaha CDE 102
 - Plasmon CDR-4400
 - DynaTek Automation Systems CDM400 (*)
 - DynaTek Automation Systems CDM240 (*)
 - Microboards PlayWrite 4000 (*)
 - MicroNet Technology MasterCD Pro (*)
 - Procom Technology PCDR-4x (*)
-

- Smart & Friendly CDR4000 (*) (we don't expect any problems here)
- Smart & Friendly CDR1004 (*) (we don't expect any problems here)
- Ricoh/Plextor (and compatible drives):
 - Plextor PX-R24CS(i)
 - Ricoh RO-1420C
 - Ricoh RS-1420C
 - Turtle Beach 2040R (*) (we don't expect any problems here)

Additionally, MakeCD provides support for the following CD-ROM drives:

- ATAPI CD-ROM (with CDDA reading)
- NEC CD-ROM (with CDDA reading)
- Pioneer CD-ROM (Sony compatible)
- Plextor CD-ROM (with CDDA reading)
- Sony CD-ROM (with CDDA reading)
- Toshiba CD-ROM (with CDDA reading)
- any other CD-ROM drive (without CDDA reading)

1.14 MakeCD.guide/MINTR

Introduction to CD writers, MakeCD etc.

This introduction was written to help you understand CD-Rs, CD writers and all related information. Additionally, valuable information on how to use MakeCD is included.

```

CD writers
    CD writers <=> CD-ROM drives

CD-Rs
    CD-Recordables

Buffers
    Buffering
  
```

Tracks & sessions
 Interesting facts about tracks and sessions

Fixation
 Fixation of a session or a CD-R

Test mode
 What happens during test mode?

Multisession
 How multisession works

Multivolume
 How to create multivolume CD-Rs

CD-Extra
 CD-Extra: audio and data on one CD-R

Mixed Mode
 Mixed Mode: audio and data on one CD-R

ISO 9660
 ISO 9660 and its background

Rock Ridge
 Rock Ridge and AMIGA attributes

HFS
 HFS for CD-ROM and hybrid CDs

Joliet
 Joliet, the Windows95 extension

Romeo
 Romeo, another extension

Track-at-once
 TAO: Momentuous notes about track-at-once

Disc-at-once
 DAO: Interesting facts about disc-at-once

Compatibility
 Which driver is compatible to which CD writer?

1.15 MakeCD.guide/MICDW

CD writers <=> CD-ROM drives

=====

CD writers usually resemble CD-ROM drives being equipped with either tray or caddy.

In general, CD writers are capable of reading from CDs and CD-Rs and writing to CD-Rs. Those are basically CDs that can be written to. Due to the fact that the laser used for writing to the CD-R is significantly heavier than that of a conventional CD-ROM drive, the average transfer rate and seek rates will be worse than that of a normal CD-ROM drive.

Nevertheless, CD writers can be used for reading CDs and CD-Rs. Just like conventional CD-ROM drives, CD writers can be mounted via a CD filesystem and then be used to access CDs on your workbench screen.

Mounting a CD writer that is currently burning a CD can result in a defective CD-R if the filesystem attempts to access the CD writer. While MakeCD accesses your CD writer, it tries to recognize and lock all CD filesystems that are mounted on your CD writer. Unfortunately, this does not always work due to technical reasons.

1.16 MakeCD.guide/MICDR

CD-Rs, CD-Rs

=====

CD-Rs look like CDs and are mediums that can be written to with CD writers. After the process of writing, CD-Rs may, in general, be used with any CD player or CD-ROM drive.

In contrast to conventional silver CD-ROMs, CD-Rs are available in green, golden or even blue.

Further distinctions between CD-ROMs and CD-Rs concern the CD-R's labelling surface that may vary a lot in size.

If labelling is required, do not use peaked objects and write on label area only. Damaging the label surface will always damage the data layer situated below.

Take care when using additional labels. Labels attached on just one side will almost certainly make the CD-R wobble inside the CD-ROM drive. Removal of the label will damage the CD-R's surface (reflective layer). In that case you can only use the CD-R as a 'coaster'.

Be sure to buy larger quantities only of those CD-Rs that you have already tested and that actually work on your system. Some CD-Rs may survive the writing process but later fail on most CD-ROM drives. Some drives may read those CD-Rs flawlessly while others may take a long time to read and still produce read errors.

1.17 MakeCD.guide/MIBUF

Buffering

=====

Once the process of writing has started, the CD writer has to write all the data to CD-R without interruption. While in

Track-at-once
mode,

the finalization of the track is required.

While in

Disc-At-Once
mode, the whole CD-R has to be finished.

The reason for all this is, that the CD writer writes the data to CD-R several times to allow easier restoration in the event of a defect.

While writing the block N, some data of blocks N-1 and N+1 are incorporated into block N simultaneously. If the data of block N+1 doesn't exist, block N logically cannot be written.

For that reason, programs for CD writers and the CD writer itself require adequate buffering to ensure that the flow of data never stops. This is because the CD writer may later restart writing but fail to fill the gap caused by the interruption. CD writers usually include an internal buffer of 512kb to 2meg. MakeCD additionally adds its own buffer to attempt to avoid the eventuality of the CD writer's buffer running low due to a slow flow of data.

If reselection for the CD writer is turned on, the SCSI bus will be blocked for a short time only while MakeCD sends data to the CD writer. With reselection turned off, the CD writer will block the SCSI bus most of the time preventing you from reading data from the same SCSI bus.

Reading data from the same SCSI bus with reselection turned off, the internal buffer of MakeCD will almost certainly run empty. In this case, a huge buffer of the CD writer comes in handy.

If you have to turn reselection off for your CD writer due to SCSI problems, try to read the data from another SCSI bus or from an IDE controller. Otherwise, the internal buffer will only be partly filled causing the risk of buffer 'underrun'.

If you neither have another SCSI host-adaptor nor an IDE controller as the source for your data, you will have to use the almost empty buffer of MakeCD. Then, turn 'parallel reading/writing' off in the preferences window. This will slightly improve the performance. In all other cases, turn on 'parallel reading/writing'. Make sure to check your system's stability in test mode!

1.18 MakeCD.guide/MITUS

Interesting facts about tracks und sessions

=====

A finalized CD-R or a CD consists of one or more sessions. Each finalized session incorporates one or more tracks. A track can only be part of one session. A CD-R with multiple sessions may look like this:

```

---- Lead-In (start of CD and 1. session) ---- (1)
----                track 1                ----
----                track 2                ----
----                track 3                ----
----      Lead-Out  (end of 1. session)      ----
----      Lead-In  (start of 2. session)      ---- (2)
----                track 4                ----
----                track 5                ----
----      Lead-Out  (end of 2. session)      ----
----      Lead-In  (start of 3. session)      ---- (3)
----                track 6                ----
----      Lead-Out  (end of 3. session)      ----
----      Lead-In  (start of 4. session)      ---- (4)
----                track 7                ----
----      Lead-Out  (end of CD and 4. session) ----

```

Creating a new track requires a comparatively small capacity - about 300kb or 152 blocks plus the actual data for the new track that must be at least 600kb. In contrast, a new session takes up 22.5meg for the fixation of the first session and 13.5meg for the fixation of every next one plus the actual data. The more sessions a CD or CD-R incorporates the longer it takes the CD-ROM drive to read the table of contents (TOC). Given the example above, the index of tracks 1 to 3 (track list) would be stored at (1), that of track 4 and 5 at (2), that of track 6 at (3) and that of track 7 at (4). Therefore, the drive accesses four positions on the CD or CD-R to read the complete track list (TOC).

Older CD-ROM drives or CD players not capable of multisession ignore the fact that more tracks are stored at (2) and thus access only tracks 1 to 3.

While some CD writers are capable of displaying unfixed tracks in the track list (TOC), others require special commands to access those tracks. CD-ROM file systems can only recognize those tracks if the CD-R is situated in a CD writer (not a CD-ROM drive) and if that CD writer displays these tracks in the track list. If required, MakeCD additionally reads the PMA (a special area of a CD-R) to create a complete track list. CD-ROM file systems cannot offer you this feature.

Read errors may occur resulting in tracks being left out of the track list. This is commonly found with CD-Rs that contain many sessions. Reinserting the CD-R usually does the trick.

CD-ROM drives generally cannot read tracks from unfixed sessions while CD writers can. A CD-ROM drive will only read the complete CD-R once it is fixed otherwise it will read only the tracks that have been fixed.

If you intend to use the CD-R exclusively with your CD writer and if

your CD writer shows unfixed tracks in the TOC, you may refrain from fixing the session for the time being to save space. You may then add more tracks (including data tracks) and fix the session or CD at a later stage. Thus, you may create multisession tracks without fixing the CD-R, although the term "multisession" doesn't quite fit here. The function of such a CD-R does not differ from that of a multisession CD-R incorporating fixed data tracks.

1.19 MakeCD.guide/MISCF

Fixation of a session or CD-R
=====

Users are often confused over whether to fix a session or a CD-R. Hence the following explanation:

- Once the CD-R is fixed, you cannot add any more data to it. The CD-R can then only be read from.
- Fixing a session automatically creates a new session. All data on the CD-R from the sessions up to the last fixed session may be read.
- Not fixing the CD-R or the session usually prevents a CD-ROM drive, unlike a CD writer, from reading the data. Afterwards, you may add more data into the same session without fixation of the session, this can save a lot of space.
- Both sessions and the CD-R can only be fixed when the last session incorporates at least one track. Thus, empty sessions may not be fixed with either method.
- Having fixed a session prevents you from fixing the CD-R in the next step as the fixation of a session automatically creates a new and empty one which cannot be fixed. The process of fixation of a session is almost identical to that of a CD-R except that in the latter case no new session is created. As a result, the CD-R is completed.
- If you decide not to add any more data to the CD-R, you should fix the CD-R and not just the session. This is due to the fact that it can take some drives significantly longer to read a CD-R that's had only its sessions fixed thus causing it to search for an empty last session.

1.20 MakeCD.guide/MITST

What happens during test mode?
=====

There is a gadget both in the preferences and the writing window that lets you turn test mode on or off. But what happens during test mode?

Once you turn on the test mode, the CD writer won't write for real but just pretend to do so.

MakeCD sends data to the writer as if test mode was turned off. The writer then performs almost the same, except that the laser is not activated and thus the CD-R is not written to.

Given the fact that the process of writing in real mode and that in test mode are almost identical, the latter is just perfect to find out whether SCSI bus hangups may occur or whether the data is sent at the required speed.

During test mode, most CD writers retain which tracks were written at what place. Those tracks are displayed in the target CD-R window track list although they do not really exist. Please note that some CD writers mix up information when sessions or the CD-R are fixed in test mode.

We therefore recommend to every user of MakeCD to go through the process of test mode prior to the actual writing. Writing in test mode is also advised when reading data from a slow source drive or in the case of reading data not from an image file but directly from your hard disk (on-the-fly). The stream of data may cease abruptly especially with directories that contain many small files. Finding this to be true is significantly less costly in test mode than it is in real mode. ;-)

1.21 MakeCD.guide/MIMUS

How multisection works

=====

What is multisection? Once you create a CD-R, you will sooner or later write the first data track. So far, the CD-R is a conventional CD holding data. Provided there is still free space left on the CD-R you may want to use it. This is where multisection comes handy enabling you to incorporate an older track into a new one.

For that, MakeCD has to read and remember the contents of this (normally) last data track. MakeCD retains the position on the CD-R where the data is stored. The program then seeks all information about the new data from hard disk except the actual contents of those files. The table of contents written into the new track contains information on both the data of the old track as well as on the new data. As the actual data of the first track is already stored on the CD-R, all but a short reference to it is required. The data from hard disk however still has to be written to CD-R.

In the case of a CD-R consisting of two tracks of which the latter incorporates data of the first one, only the second is added to the third track. If you forgot to add the data of the first track to the second, MakeCD allows you to incorporate both data from first and

second track into the third. Data from all three tracks are then accessible through the third track.

How does this work with MakeCD?

MakeCD offers a very flexible way of creating multisession CD-Rs. You select the tracks to be incorporated into an already existing track via the 'ISO settings window'. That is the same window that lets you select directories to be included in the image file. In the case of identical file names, the file of the track or directory scanned first will be selected and all other identical file names will be ignored.

After selecting tracks and directories, you may write to the CD-R as usual.

MakeCD version 2.1 upwards has this multisession feature.

1.22 MakeCD.guide/MIMVC

How to create multivolume CD-Rs

=====

A CD-R can hold several tracks that are recognized as individual volumes by the filesystem provided the filesystem supports multivolume CDs and CD-Rs. To achieve this, write the tracks and fix them as soon as you want a CD-ROM drive to be capable of reading them.

For instance, if you intend to write three tracks in a single operation and later want to read those tracks in a CD-ROM drive, fix the session (or the CD-R) as soon as you have written the tracks. If you intend to write the tracks separately and want to read the CD-R in a CD-ROM drive in between, you will have to fix the session before reading the CD-R in a CD-ROM drive. Fixing the current session is required, no matter whether one or more tracks were written into this session since the fixation of the preceding session.

Each track of a multivolume CD-R corresponds to an independent volume, as can a hard disk be divided into several partitions. See

Fixation

.

The major difference between multisession and multivolume is the fact that tracks of multivolume CD-Rs cannot contain data from previous tracks. Multisession on a hard disk would look like this: the first partition had to be a conventional one, the second would hold new data and links to all data on the first partition and the third partition would contain new data and links to all data on the second partition etc. Implementing multisession on hard disks would be rather confusing and useless. In contrast, the use with CD-Rs makes sense and is advised given the fact that filesystems supporting multivolume are rarely used.

A filesystem supporting multivolume would either give access to all tracks (partitions on hard disk) or let you choose the desired track (partition).

MakeCD version 2.0 upwards is capable of creating multivolume CD-Rs. Just perform as described above. You will need a filesystem that supports multisession to access the volumes (tracks).

1.23 MakeCD.guide/MICDE

CD Extra: audio and data on one CD-R

=====

CD Extra holds the option of a CD-R containing both data and audio (mixed CD-R) that performs like a conventional audio CD which means that you don't have to skip the first track using it with a CD player. The computer will still recognize the included data tracks. And this is how it works:

Burn all audio tracks and fix this first session. That's how your CD player recognizes the audio CD. Afterwards, write a data track within the following session. A filesystem with support for multisession detects this data track and allows access to it.

MakeCD version 2.0 upwards has the option to create such CD Extra CD-Rs. Just write to your CD-Rs as described above.

1.24 MakeCD.guide/MIMIM

Mixed Mode: audio and data on one CD

=====

A Mixed Mode CD-R incorporates one data track and one or more audio tracks. The data track is always the first track followed by audio track(s). The session must only be fixed after the audio track(s).

Create a list of tracks with MakeCD starting with the data track and continue with as many audio tracks as you like. Then write to the CD-R.

Any CD-ROM drive will access the data track as no multisession feature is required.

When used with a CD player, skip the first track as it is a data track. Please make sure not to play the first track of a Mixed Mode CD or CD-R as this may damage your hifi equipment if your CD player is one of those that don't check for data tracks before playing a track.

1.25 MakeCD.guide/MIISO

ISO 9660 and its background

=====

ISO 9660 is a very old filesystem that was developed to allow almost every computer system to access CDs.

Out of regard for the then very popular PCs, file names can only consist of capitals A-Z, numerals 0-9 and the sub-stroke '_'.

ISO level 1 is additionally restricted to the 8+3 standard. File names must not exceed eight characters in front of and three characters behind the dot. The dot must be present and at least one character, either before or behind the dot is required.

ISO level 2 is more flexible - it allows up to 31 characters including the dot. But the same restrictions as above apply: only one dot in all can be used and small letters or even vowel mutation are not allowed.

The restrictions above cannot be accepted for the AMIGA as a file and its corresponding icon do not match them. Under the ISO definitions, the file would miss a dot and if a dot was added, the icon file contained two dots, as itself consists of the file name and the ending '.info'. But two dots do not comply with the ISO restrictions.

For this reason, it has become a common habit with the AMIGA community to forget about all the restrictions and to use file names as desired. Thus, MakeCD offers a feature called the 'ISO 9660 AMIGA'. If selected, MakeCD uses the file names as stored on your hard disk without change.

ISO 9660 has a further restriction. There must be no more than eight directory levels. MakeCD ignores this rule and writes as many levels as selected. AMIGA filesystems work flawlessly with more than eight levels, but an option to automatically move directories levels up is planned.

1.26 MakeCD.guide/MIRRA

Rock Ridge and AMIGA attributes

=====

Fans of UNIX computers weren't too happy about ISO 9660 restrictions and defined an extension called Rock Ridge.

A CD or CD-R with Rock Ridge extension is based on ISO 9660 but makes use of space reserved within the ISO norm.

Filesystems with support for nothing but ISO 9660 will not detect those Rock Ridge extensions. Therefore, Rock Ridge cannot confuse the filesystem.

It is difficult to measure the amount of space that the Rock Ridge extension occupies. It should roughly be of the order of 50 to 150 bytes per file or directory, thus very little.

What is the advantage of Rock Ridge?

The possibility to use multiuser attributes for unix systems is of little importance for the AMIGA. More important is that fact that the use of file names containing any type of characters is possible through this extension. There is no need to change characters or to shorten file names.

A filesystem with support for Rock Ridge also supports ISO 9660 for technical reasons and will show the Rock Ridge file names if the extension was used to create the CD-R. Some of those filesystems feature the option of displaying only the ISO 9660 file names. If your filesystem fails to show the Rock Ridge file names, check whether the options are set correctly.

Some filesystems may fail to identify a CD with Rock Ridge extension as such, because with previous versions of Rock Ridge such as v1.09, the identification of Rock Ridge was stored on the CD in another way than it is with version 1.12 which MakeCD makes use of. This is sometimes found with UNIX file systems and if your filesystem only supports RockRidge v1.09, update to v1.12.

Around mid-1996, a new standard based on Rock Ridge was developed primarily by Angela Schmidt who worked in close cooperation with other AMIGA programmers and the leading author of Rock Ridge. The standard has since been accepted by the AMIGA community as it is supported by all major file systems such as AmiCDFS, AsimCDFS and CacheCDFS. This implementation offers AMIGA protection bits and file comments on CD-R within the Rock Ridge extension.

To save these AMIGA attributes, Rock Ridge extension is required.

You can finally backup your data on CD-R. The advantages: instant access and the AMIGA attributes won't get lost anymore with a suitable filesystem.

1.27 MakeCD.guide/MIHFS

HFS on CD-ROM and hybrid CDs

=====

Apple developed its own format for CDs and CD-Rs due to the limitations and insufficiency of ISO 9660 for the MacOS filesystem.

MakeCD currently does not support HFS and support is unlikely as there seems to be no need for it.

Hybrid CDs are CDs containing both the HFS and ISO 9660 format. The CD will be mounted as an ISO-CD on an AMIGA or a PC and as an HFS-CD on a Macintosh. As the data can be kept separately in ISO 9660 and HFS, the PC and AMIGA users only have access to their programs and the Mac user exclusively to his/her own.

1.28 MakeCD.guide/MIJOL

Joliet, the Windows95 extension
=====

Windows95 introduced a new filesystem format named Joliet. It is based on ISO 9660 and supports all standardised characters such as e.g. Chinese symbols. File names are no longer limited in variety, but in length.

MakeCD doesn't support this extension yet. It is however not certain that we will support it.

1.29 MakeCD.guide/MIROM

Romeo, another extension
=====

Romeo, too, is an extension supposed to allow more characters on PCs. MakeCD doesn't support this extension yet and it is rather uncertain that we will ever implement this feature.

1.30 MakeCD.guide/MITAO

TAO: Momentuous notes about track-at-once
=====

Most CD writers offer several modes of writing a CD-R. The most common and most important modes are TAO (track-at-once) and DAO (disc-at-once).

The easier method to implement is track-at-once. The program sends track by track to the writer so that the writer takes care of the actual writing process.

The disadvantage of TAO is the fact that most CD writers put in a pause of approximately 2 seconds (152 blocks) between the tracks. This is annoying when you intend to write a live concert to CD-R using more than one track.

DAO, with its own new restrictions, provides a solution to this.

At the moment, MakeCD has support for TAO only. Support for DAO will follow for certain CD writers.

1.31 MakeCD.guide/MIDAO

DAO: Interesting facts about disc-at-once

=====

Most CD writers offer several modes of writing a CD-R. The most common and most important modes are TAO (track-at-once) and DAO (disc-at-once).

While in track-at-once mode, little gaps between tracks have to be accepted. With disc-at-once, all tracks can be written without pauses in between and even the creation of index marks is possible.

The CD-R is however limited to one session using disc-at-once. Therefore modern CD writers offer SAO (Session-At-Once), so you can write several sessions in Disc-At-Once mode.

MakeCD doesn't support DAO, but TAO. Support for DAO and SAO will follow for certain CD writers.

1.32 MakeCD.guide/MICMP

Which driver is compatible to which CD writer?

=====

We have tried to give you as many compatibility tips as possible in the file 'doc/Compatibility'. Unfortunately, we are not aware of every existing CD writer and we cannot always tell you which driver you need for your CD writer or whether we have a driver for your CD writer. But you can select one driver after the other and try to write a CD-R in test mode (or without test mode).

If the driver which you have selected is not compatible with your CD writer, you will usually get an error message. Occasionally, your CD writer will misunderstand a command and will do something undefined with your CD-R - probably destroying it.

If you do find a working driver for your CD writer through testing and if your CD writer is not yet listed in our compatibility list, please contact us and we will add it to the list.

1.33 MakeCD.guide/MINST

Installation

In order to install MakeCD you should use the installation program included with the MakeCD distribution. Certain magazines will have MakeCD pre-installed to make it easy to access.

It should normally be possible to start MakeCD without installing it.

To install, start the installation program by double-clicking on "Install". As you will notice, you can select between several languages in the installation program. Click on the desired language. The installation program will then install using this language. Then follow the on-screen prompts.

At the end of the installation process, select which CD-ROM and COMPACT DISC burner drivers should be installed. If you know your required drivers, you can install just those files. Otherwise, you should install all drivers and select the appropriate file from within the settings window. See

Attitudes

.

After you have completed the installation, run MakeCD. If you have not registered MakeCD, the registration window will appear. If you are registered, enter your registration number here - the key is case sensitive i.e. pay attention exactly to UPPERCASE/lowercase. After entering the correct registration number, you will be able to access all of MakeCD's functions.

After starting from MakeCD should first carry out you the correct

attitudes

for your system. You can now start working with MakeCD.

1.34 MakeCD.guide/MISTR

User Guide

MakeCD is designed to be easy to use. However, we thoroughly recommend that you read this guide. This will give you a better understanding of MakeCD, helping you to anticipate and avoid problems.

Settings

Settings Window

Main Window

Main Window Description

ISO Settings

ISO Options Description

Scan Window

ISO Write Window Description

Write Window

Write Window Description

```
Target CD-R Window
  Target CD-R Window Description

Main Menu
  Main Menu Description
```

1.35 MakeCD.guide/MISET

```
Settings Window
```

```
=====
```

Before using MakeCD, you need to alter the settings to suit your system.

Run MakeCD and use the menu to open the Settings Window. The following sections explain the function of the fields in the settings window and suggest useful values.

```
Read
  Read Device (CD-ROM drive)

Write
  Write Device (CD-Burner)

Block Medium
  (There is usually no need to change this value)

Normal Speed
  Write Speed

Audio Speed
  Speed for Audio Files

Buffer Maximum
  Buffer Size

Buffer Chunk
  Chunk Size (MaxTransfer)

Permit ExAll()
  Directory Search Function

Test Mode
  CD-Burner Test Mode

Parallel Read/Write
  SCSI Problems -- read these!
```


Pure Audio Data
CDDA = Intel or Motorola

IO Error
Procedure after Error

Audio Length
Audio Data = Multiple of 2352?

Audio Start
Modification of Audio Track Start

Audio Pause
Automatic Removal of Audio Pause

1.36 MakeCD.guide/MISRE

Read

If you want to read tracks from a CD and burn them on a CD-R without using an intermediate file, you must have both a CD-ROM drive and a CD-R (or two CD-Rs). MakeCD can use the two drives simultaneously -- the data can be read while the CD is burnt.

The device that you select here is used whenever you select a track. You can enter the same device used for writing (i.e. your CD-Burner), but you will need to use intermediate files (image files).

Click on the popup gadget. A device selection window opens -- if you need any help, please consult the
FAQ (Frequently Asked Questions)

.

The device selection window scans your system for device drivers ("Devices"). However, most of the device drivers in your system are not suitable for SCSI commands and will be filtered out. This means that often only a few devices drivers are listed -- and even some of these drivers may not understand SCSI commands. The "NSD" driver (see "NSDPatch" by Heinz Wrobel) lists only those device drivers which do understand SCSI commands. There are two types of device drivers which understand SCSI commands: those which cannot do NSD (although you can use "NSDPatch" to "teach" these drivers to do NSD!) and those which can do NSD.

Select the device driver for the host adapter that your read drive is connected to.

MakeCD then examines all the attached devices and displays them in the unit list. Select the read device from this list.

MakeCD automatically recognizes many devices and will set the required

MakeCD driver for you. Other devices are not automatically recognized -- you need to set the MakeCD driver yourself for these. Check to see if MakeCD has set the 'driver' for you. If the driver has not been set, select it using the popup gadget.

If you are not sure which driver to select, try each driver until you find one that works. Some drivers can read CDDA files, others cannot. Some drivers are for CD burners, others are for CD-ROM drives only.

1.37 MakeCD.guide/MISWR

Write

This is where you choose the CD burner used for burning your CD-Rs. See 'Read'.

If you choose the driver yourself, make sure it is suitable for CD burners. The other drivers cannot control your CD writer!

There is one exception: if you have a CD-ROM driver, but no CD burner, you can still experiment with the MakeCD by selecting a CD-ROM reader driver. If you insert a CD-R which is fixed in the last session, you can create an ISO multisession image. If the last section is not fixed, the created ISO image will not function correctly once it is burnt using a CD writer!

1.38 MakeCD.guide/MISBL

Block Medium

Do not enter a value in this field unless you know exactly what you are doing! If you enter the wrong setting, you could unknowingly format your hard drive! You have been warned!

You can write the data to a block medium (e.g. directly to hard drive) rather than to an image file. This is useful if you are going to mount a CD-ROM file system on the hard drive and test the data. In addition, if you don't have a CD burner yourself, you can pass on the data in this form (i.e. on hard drive) to a duplicator for CD-ROM burning.

If you want to enter a value here (don't forget the hazard risk!), click on the popup gadget. A device selection window appears.

Unlike the device selection windows used for 'Read' and 'Write', the device does not have to understand SCSI commands -- it must understand Trackdisk compatible commands. Select the required device.

Next, you need to declare which blocks on this device can be overwritten. You would normally enter 0 for 'Start Block' and a very high block number for 'End Block'. MakeCD will only overwrite blocks in this region. Please note that the rigid disk block is normally saved from block 0 on the hard drive for AMIGA computers. If you destroy the RDB when using MakeCD, RDB-Salv could be your last hope...

Please note: your setting is only used if you enter 'Block Medium' as the 'Source' or 'Target'.

If you intend using a hard drive (preferably empty) and have correctly filled in the values, close this window using 'OK'.

1.39 MakeCD.guide/MISSN

Normal Speed

Here you enter the burning speed for the CD writer. This value is checked for known devices and corrected if necessary. If your device is unknown, this value is passed on unchanged -- if this value is wrong, a number of side-effects are possible.

You can enter the following values without hesitation:

1
 Single Speed

2
 Double Speed

4
 Quad Speed

0
 Maximum Speed

1.40 MakeCD.guide/MISSA

Audio Speed

Many CD-ROM drives play audio data at single speed only. In addition, there seems to be a loss in sound quality at the higher speeds with some drives. You can set the reading and writing speed for audio tracks separately.

The speeds you can choose here are the same as with 'Normal Speed'. Some CD-ROM drivers ignore the speed setting, in which case the value you enter here has no effect.

If you are copying audio tracks directly, the read and write speeds should match exactly. This is for technical reasons -- a full or empty buffer can lead to errors in the audio data with some drives.

If you do not know what to enter here, use '1'.

1.41 MakeCD.guide/MISBM

Buffer Maximum

This value sets the maximum buffer size that MakeCD can use. If reselection (disconnect/reselect) is deactivated and the data is being transferred from a device on the same SCSI bus, a relatively small value (e.g. 1000-2000 KB) should be adequate. This is because the buffer will always be at the lower value with reselect deactivated.

If reslection is activated for the CD burner, or you if are reading the data from a device that is connected to a different bus (AT bus or another SCSI host adapter), you should set this value as high as you can. In this way you reduce the danger of a buffer underrun.

Details on reselection can be found under
SCSI Problems
and

Buffer Behavior
.

8000 is a sensible value for this field, but a value in the region of 4000-20000 should be fine. You can tell if the buffer value is high enough by running in the test mode.

1.42 MakeCD.guide/MISBC

Buffer Chunk

You can use this field to set the size of the individual data chunks. MakeCD passes this value to your burner. The value you set must be no larger than half the size of your CD writer's built-in buffer i.e. at least two chunks should fit into the CD writer's buffer.

Some SCSI host adapters have problems transferring large chunks. In view of this, we suggest that you start with a value of 50KB. You can try increasing this value at a later data in the hope of a speed improvement.

If you deactivate reselection and the CD burner is attached to the same SCSI bus as the read device, we recommend that you set a small chunk size.

1.43 MakeCD.guide/MISAE

Permit ExAll()

When you are creating data CDs MakeCD has to search the chosen directory. The AmigaOS has two functions for this: an old, highly compatible, but relatively slow function, and a new, quick function. The new function is called ExAll(). It is associated with several problems. If you want MakeCD to use the new function, activate this gadget.

MakeCD is aware of some, possibly all, of the problems associated with ExAll() and will try to use the older, slower function where applicable. This means that it is normally safe to use 'Permit ExAll()'.

1.44 MakeCD.guide/MISTM

Test Mode

If this is activated, MakeCD will run in test mode. This setting only relates to the tools menu functions. You can use the write window immediately before burning a CD-R to select whether to burn in the test mode or for real. More details relating to the test mode can be found under

Test Mode
.

1.45 MakeCD.guide/MISPR

Parallel Read/Write

Here you can set whether MakeCD sends parallel read or write requests to your source or target drive.

You can improve the performance if you activate this field, provided that your SCSI configuration really does support parallel read/write (i.e. reselection is activated for the CD burner) or the data is being read from another SCSI bus or from an IDE bus.

You should deactivate this field if reselection is deactivated for the

CD burner and you are reading data from the same bus which the CD burner is attached to. This will marginally improve the performance.

In all other cases you would normally activate this field. There is one notable exception: deactivate this field if you do not have to deactivate reselection for your CD burner, but your device driver has problems under extreme parallel access.

1.46 MakeCD.guide/MISPA

Pure Audio Data

There is no standard format for saving audio data (CDDA data). Some programs store audio data in the Motorola format, others in the Intel format.

You can use this field to set which format MakeCD uses for reading and writing audio data.

1.47 MakeCD.guide/MISIO

IO Error

This determines the procedure taken after a read or write error occurs.

Ignore

The error is ignored -- MakeCD will continue as though nothing happened.

Pad with Null

The missing data is padded with the null character -- MakeCD will continue as though nothing happened.

Stop

Abort, but finish writing the buffer contents.

Delete File and Abort

Abort immediately and delete the incomplete file (if possible).

Abort

Abort immediately, but keep the incomplete file.

Ask

Offer all the preceding options in a requester and let the user decide.

1.48 MakeCD.guide/MISAL

Audio Length

Select 'Block' if you are reading audio data exclusively from CD. If you want to be able to use your own audio data samples in addition to CD, select 'any'.

If you select 'any', MakeCD stops checking if the source really is CDDA data (this is no longer technically possible). The only way to automatically recognize CDDA data is to test if the data length is divisible by 2352 (sampled data is usually not divisible by 2352).

1.49 MakeCD.guide/MISAS

Audio Start

For technical reasons, CD-ROM drives and CD burners do not have to locate the exact start block. Some drives start transferring audio data a fraction too late, missing the start of the track.

The number of blocks you enter here will be subtracted from the start of the track to be read. In this way MakeCD will read the track earlier, helping you to catch the start of the track.

We found that a value of 32 worked well with our Yamaha 100 -- other CD burners may do better with other values.

If you feel that some music is missing from the start of the track, start off with a value of 0 and change this field correspondingly. 75 blocks = 1 second of music.

Please note: this setting modifies the track start in the track selection window or when adding tracks. As such, it only affects tracks which have not been added to the project.

1.50 MakeCD.guide/MISAP

Audio Pause

It is not possible to find out the exact length of a track -- most programs assume that a track ends where the next track begins.

This means that the pause between the current track and the next track is usually read too.

You can use this field to set the pause length. MakeCD will remove the

corresponding number of blocks from the track.

CDs mastered in the TAO mode normally have a pause of 152 blocks between the tracks, so try this value first. See

Track-At-Once

.

Please note: this setting modifies the track start in the track selection window or when adding tracks. As such, it only affects tracks which have not been added to the project.

1.51 MakeCD.guide/MIDMA

Main Window Description

=====

The main window contains a list of the tracks that you want to write, several settings for each of these tracks, and several gadgets used for starting the process.

You can use the gadgets to add or delete tracks from the track list, change the track sequence, or play the currently selected track (providing it is an audio track). Intermediate files (image files) can be set for each track.

There are a few properties that have to be set for every track in the track list.

1. Use the cycle gadget to select the type of track that you want to write (usually a data or an audio track).
2. Now select the source for this track.

File System

The data for the track will be read from a hard drive or another medium – an ISO 9600 image will be created so that the data on the CD can be read.

Declare the ISO setting by clicking on the popup gadget.

Track from CD

You can read the data for the new track from another CD. This can be any type of track.

Choose the source track -- click on the popup gadget and select your track from the track entry window.

Image File

With this setting, MakeCD reads the data from an image file on your hard drive. This could be an ISO image, audio data, etc.

Choose the image file you want to burn on the CD -- click on

the popup gadget. A file selection window appears. Select your file.

Block Medium

This setting reads the data from the block medium declared in the MakeCD

Settings

This option is normally used if you already have an image on this block medium and want to write this to the CD-R. You can find further details by the target description.

Please make sure that you have set the correct block medium in the settings window.

3. Now select the target.

Use Image File

The data is not sent directly to the CD burner. Instead, an image file is created. In turn, the image file sent to the CD burner.

Use this option if you have sufficient hard drive space and are not sure if the data source is quick enough.

Remember to declare the image file to be created. Old files with the same name will be overwritten if the length of the image file does not match the length of the data to be written. Decide when the image files are to be deleted.

Direct to CD Burner

The data will be sent directly to the CD burner. An intermediate file (image file) will not be created; a block medium will not be used.

In many cases, the data can be transferred directly to the CD burner. You should burn in test mode first in case there are problems. If the test fails, try using an image file.

Use Block Medium

MakeCD can write data directly to a hard drive starting at the block you have set (usually block 0). This is extremely useful for data CDs if you want to test the ISO image before burning it, and if you don't want to use the 'cdromemu.device'. In addition, most CD manufacturers will accept this form as source.

This option uses the block medium as defined in the

Settings Window

. and will create the image on this medium.

Please note: this option can destroy the data on your hard drive. Only use this option if you know exactly what you are doing!

The main window has further gadgets:

Root Directory

You can set the directory used for all image files -- enter your chosen directory as the root directory.

This is particularly useful if you want to use your own directory for the image files of each CD. Specify this path before creating the track list - this makes it is easier to select the file names for the image files.

This option is particularly useful for CDs with numerous tracks, e.g. music CDs.

Start Block

If you want to make a mutlisession/multivolume CD, but want to create just the ISO image to begin with, you must enter the correct start block.

The start block is the next block on the CD-R which can be written. For empty CDs, this value is 0. If there are already tracks on the CD, the value is positive. If you insert the CD-R in your burner, MakeCD will find this block for you and enter the correct value in the string gadget. MakeCD can also find this block from a CD-ROM drive, providing that the session was fixed on the CD-R after the last track that was written -- otherwise your CD-ROM drive will return an incorrect value.

You can create a multivolume image without actually having the CD-R! -- all you need to know is the start block.

This value is essential for multisesion/multivolume CDs. It must be a positive value if data has already been saved to the CD, or 0 if the CD-R is still empty.

Please note that MakeCD automatically uses the correct value if the CD-R is available and if you do not call 'Write Image Files'.

MakeCD will warn you if you try to write an image file with the wrong start block to the CD-R. This should prevent you ruining a disk with the wrong value.

Write Image Files...

This function attempts to create all the remaining image files. You must enter the correct start block before using this function. The start block is 0 if the CD-R is still empty. If data has already been written to the CD, MakeCD can calculate this value for you: click on the popup gadget next to the start block.

Write Tracks...

This command writes the image files and sends them (or the data from the source if you are not using image files) to the CD burner. Please make sure that your system is fast enough for this process, otherwise you risk producing faulty CD-Rs.

Play Audio...

This command plays all the audio tracks in the track list. You can

use this to test the quality of the audio data before you burn it.

Click on 'Start' if the write window appears. MakeCD then starts to play the audio data.

You can adjust the lowpass filter and volume, skip within the current track and jump to any other track.

You can save the lowpass filter and volume values using the menu.

1.52 MakeCD.guide/MIOP

ISO Options Description

=====

If you want to create your own data CD, create a data track and set 'File System' as the source for this track. Then, click on 'Settings'. A window will appear -- this section explains how to use this window.

The list in the window shows all the sources for the image. For multisession merging, these could be path names or tracks from the CD-R.

You can use the list's gadgets to add and delete entries. Each entry can be defined as a path from the hard drive or a track from the CD-R. Use the popup gadget to select either the path or the CD-R track.

The sequence of the entries in the list only matters if there are file name clashes. Should more than one file share the same name, the file which appears first in the source is added to the ISO image and all subsequent files which generate clashes are ignored.

If you are creating a mutlisession CD, you probably have at least one CD with at least one data track. Add this or the path to be scanned to the list. Next, add the tracks which are to be added to the image. The first path will be added to the image -- all files from the following paths or tracks are only added if their names do not clash with the name of a file in the image.

Suppose you burn a data CD in four sessions and want all the data to be visible. Record the last track that was burnt in the image before burning a new track. If you forget this to do this once (e.g. you remembered to record after track 3 but forgot after track 4, simply save both track 3 and track 4 next time round. The track is written very quickly (this takes just a few seconds) and uses little storage space if you do not add data to it. Fixing the new session requires about 13.5MB (if this is the first session, otherwise 22.5MB).

One simple way to avoid name clashes is to store each path/track in its own directory: activate the tick for 'Image path' and enter the name for the new directory. The current objects will be copied to this directory. You can avoid name clashes in this way, creating a directory for each source.

Once you have selected the source to be copied to the ISO image, the next step is to set the ISO options.

First, enter the name for the data carrier. This is the name that will appear on the Workbench when the CD disk is inserted in the CD-ROM drive.

System ID, Author and Sales are not required -- you can usually leave these entries empty. We are unaware of any programs which use these strings or expect to find particular values there.

Copyright, Overview and Summary are not required -- you can leave these fields empty.

If you want your CD to boot on the CDTV/CD32, alter the CDTV/CD32 options: turn off the writing of CDTV preferences and use the correct trademark file - you can find the trademark files on the AMIGA Developer CD v1.1, directory: CD32/ISO9660Tools_V1.04/ISOCD. Use either CDTV.TM or CD32.TM. These files are not included with MakeCD -- this is due to copyright laws.

The other values do not need to be changed. The values are passed on to the Commodore file system but are not well documented. You may like to experiment with these values and gauge their effect on the CDTV/CD32.

Now you need to change the ISO/Rock Ridge options -- this seems to be the most difficult part for many users. If a Meeting Pearls CD runs well on your system, you can use similar master options from the menu. There are no differences in the master settings between Meeting Pearls ii and iii.

Next, check the following gadgets and change them if necessary.

Sort Sequence

Icons on CDs made using MakeCD load very quickly. A CD-ROM drive takes about 0.1 s to access a file (a slow drive takes about 0.2 s). A directory containing 20 icons is usually displayed in less than 2 to 4 seconds, i.e. faster than you would expect given the access time. MakeCD saves all ``.info'` files in the same area. This means that when the first ``.info'` file is accessed, the following ``.info'` files are usually copied into the cache of your CD burner and can be loaded more quickly.

This list defines which files are to be stored in the same area. Simply add the endings of the required files to this list. For example, if you want ``.html'` to be found quickly, add ``.html'` to the list.

``.info'` is the preset.

ISO Level

ISO 9660 file names and directory names have a number of restrictions. Only upper case letters, digits and the underscore character ``_'` can be used. There must be exactly one full stop in file names and no full stops at all in directory names. File and directory names must not exceed 31 characters in length.

Some AMIGA CD-ROM file systems do not support Rock Ridge (e.g. Commodore CDFS, as included with OS 3.1) and do not work well with these restrictions. In view of this, you can ignore this standard by selecting 'ISO 9660 AMIGA'. CDs that have been created with these options will still work on most systems, though there can be problems under MS-DOS,.

ISO 9660 Level 1 generates file names which are fully compatible with MS-DOS systems. In addition to the restrictions described above, these names are cut into the 8.3 format.

ISO 9660 Level 2 is not cut into the 8.3 format, but all the restrictions mentioned above apply.

We recommend that you use 'ISO 9660 AMIGA' for CDs that are definitely for AMIGA's only. If the CD is for MS-DOS systems too, use ISO 9660 Level 1 with Rock Ridge extensions -- bear in mind that AMIGA users will need to use a file system that supports Rock Ridge. See below.

Change .info Extension

Workbench 1.3 only displays icons with the '.info' file extension - '.INFO' or '.info' file extensions will not be displayed. This option ensures that all '.info' files are lower case. This option is only necessary if you want the CD to be readable under Kickstart/Workbench 1.3 or on the CDTV.

Change ISO Names to Upper-Case

Select this option if you don't want the file name restrictions of ISO 9660 but want to make life easier under MS-DOS. This option changes all ISO names into upper case. Other invalid characters, however, remain unchanged. i.e. a-z characters are converted into A-Z. Please note that some of the files may not be accessible under MS-DOS. Schatzruhe GmbH use this option for most of their CDs. If you also select Rock Ridge (like Schatzruhe GmbH), you will see complete Rock Ridge names. You will need a CD-ROM file system that supports Rock Ridge.

CDs written using this option can be read problem-free on the AMIGA and read better under MS-DOS than an 'ISO 9660 AMIGA' CD written without this option. If Rock Ridge is selected, AMIGA users with a CD file system that supports Rock Ridge see the names unchanged. If Rock Ridge is not selected, or if your CD-ROM file system does not support Rock Ridge, you will primarily see upper-case characters.

Rock Ridge

Rock Ridge extensions are written into the image when this option is selected. CDs with Rock Ridge extensions can be read on all file systems that support ISO 9660, hence are backwards compatible. If your file system supports Rock Ridge, you can benefit from a few additional features such as multi-user flags, AMIGA file attributes or unchanged file names (even if they were mastered using ISO Level 1 or 2).

In general, we recommend this option.

The current versions of AmiCDFS, AmiCDROM, CacheCDFS, BabelCDROMFS and AsimCDFS all support Rock Ridge.

The CommodoreCDFS (included with OS 3.1) does not support Rock Ridge.

World Access

If you select Rock Ridge, mutli-user flags will be written to the image. This option gives all objects the same world access priority as the owner.

This is useful if the CD is used with Unix machines.

Group Access

If you select Rock Ridge, multi-user flags will be written to the image. This option gives all objects get the same group access priority as the owner.

This is useful if the CD is used with Unix machines.

Save AMIGA File Attributes

The AMIGA protection bits and the AMIGA file comments are recorded in the image if this option is selected.

Please note: you require a CD-ROM file system that supports AMIGA file attributes in order to see these attributes when using the CD.

The following CD-ROM file systems support these attributes: AmiCDFS 2.30 or better, AsimCDFS 3.7. The latest version of CacheCDFS may support attributes.

1.53 MakeCD.guide/MIISW

ISO Write Window Description

=====

In order to create an ISO 9660 image, MakeCD has to scan the source path to be added to the image before the ISO 9660 image is created. The ISO write window opens.

Towards the top of the window you can see how many files/directories have already been scanned. Towards the bottom of the window, you can see which file/directory is being scanned. The display update is slow -- about 1-5 times per second -- not every file will be displayed. The slow update saves valuable processor time.

Following scanning, the entire size of the ISO image is calculated and displayed. Then, MakeCD prepares the image and begins to write it. The number of files/directories written is shown as well as the percentage of total files that this represents.

You can cancel the entire operation at any point -- MakeCD will quit with a "user abort" error.

1.54 MakeCD.guide/MIWRW

ISO Write Window Description

=====

The write window opens when you create an ISO image, burn a track or play audio files.

The write window includes useful information about the buffer, the source and the target.

'Buffer Display' shows the size of MakeCD's internal buffer, as well the extent to which the buffer is filled with data. Avoid confusing the MakeCD buffer with the buffer built into your CD burner. The CD burner buffer is not shown in the write window. The MakeCD buffer could be empty even though the buffer in your CD burner is full!

You can change the size of the MakeCD buffer in the

Settings Window

. MakeCD uses this value as a guide -- it may use a slightly smaller or larger buffer. The buffer could be much smaller than your setting if insufficient memory is available.

A large buffer helps reduce the chance of a buffer underrun when writing a CD-R -- a buffer underrun can ruin a CD-R. Please note that the buffer will be close to empty when you turn off 'Parallel Read/Write' or if you turn off reselection for the CD burner. This makes burning a CD-R more risky. Some CD burners do not correctly implement CD burner reselection. In this case, you must turn off reselection, otherwise the SCSI bus hangs.

A smaller buffer can be used for playing audio CDs. Avoid too small a value here, since many drives corrupt audio data when there is a buffer underrun, i.e. when MakeCD does not fetch audio data from the drive, because the MakeCD buffer is full.

The MakeCD buffer will become full if the drive transfers the data faster than the buffer sends the data to the loudspeakers (or to hard drive or to the CD burner) and your drive has to wait before it can transfer more audio data. This wait can cause noise with some drives -- if the audio output is noisy, check that the MakeCD buffer is large enough and/or the drive is reading data at a slow enough speed as to avoid buffer underruns.

The buffer does not have to be large if you are creating just an ISO image on your hard drive. Also, buffer overruns and underruns are not critical.

The 'Source Display' shows how many files have been transferred from the source, the source of the files, and the current transfer speed. The transfer rate shown may be higher than is possible long-term -- even

higher than the theoretical limit, especially if you are reading from your CD-ROM drive. This can be the case if the CD-ROM drive fills its internal buffer while the CD burner is writing. Should MakeCD request this data from the CD-ROM drive, it is transferred very quickly, i.e. directly from CD-ROM buffer. MakeCD cannot tell if the CD-ROM drive is reading the data from the CD or directly from the CD-ROM internal buffer. MakeCD merely shows you how quickly the data was transferred by the CD-ROM drive. Do not be surprised, therefore, if the transfer rate is higher than the actual speed of your CD-ROM drive!

The 'Target Display' has similar information for your target: where the data is being sent, how much data has already been written, and the transfer speed.

In addition, the window shows you the amount of data to be written, as well as the length the data (in minutes:seconds) already written. A display lists further information.

You can change the 'Write Mode' and the automatic 'Fixing' for your CD-R.

Test Mode On

The CD-R will be written in test mode. No permanent changes will be made to the CD-R.

Test Mode Off

The CD-R will really be written. All changes will be permanent.

Write After Test

If the test run is successful, the CD-R is written -- no further intervention is required. You can start the process and leave the room: if the test run was successful, the CD-R should be burnt by the time you return.

The CD-R can be fixed automatically if there were no errors in writing the tracks. Set 'Fix' accordingly. Please see
Target CD-R Window
and

Fix Session Or CD-R

.

No

No automatic fix.

Session

The session is fixed automatically after a successful write process.

CD-R

The CD-R is fixed automatically after a successful write process.

You can use the gadgets for this window to control the playing of audio data. Please note: there is a slight delay with most of these gadgets.

No Lowpass Filter

Turn off the Lowpass Filter.

Volume

Controls the music output volume. Values above 100% will over-modulate the music.

Current Track

When you are playing all the tracks in the track list, use these gadgets to skip between the tracks.

Position with 'Target'

You can see the play-progress of the current track in 'Target'. You can change this state.

The state of all the gadgets can be saved via the menu.

1.55 MakeCD.guide/MITGW

Target CD-R Window Description

=====

The main function of the target CD-R window is to show which tracks and sessions have been written to the CD/CD-R in the CD burner. In addition, you can fix the last session or the entire CD-R, as well as repair damaged CD-Rs.

You can access the target CD-R window via the menu. Many CD burners will also show tracks that have been burnt in the test mode. If you want to see the tracks that really have been written to the CD, click on 'Update.'

'Contents' shows all the tracks contained on the CD (or if applicable: only those burnt in the test mode).

'Sessions' shows which tracks belong to which sessions, provided that your drive can supply this data. See
Tracks & Sessions

The target CD-R window provides additional details.

Medium Type

The medium type is displayed here provided your CD burner can supply this information.

Storage Used

The amount of data (in minutes) saved on the CD/CD-R in the form of tracks is displayed. The lead-in and lead-out of session boundaries are not included -- this typically adds about 1.5 to 2.5 minutes for each session.

Storage Free

'Storage Free' shows the amount of free storage on the CD-R. You can write to the CD-R until 0 bytes are free. There is still some

storage space remaining when you reach 0 bytes, but this is reserved for the lead-out.

CD-R Status

This field shows the status of the CD-R (OK or not OK), provided your drive can supply this information.

You can use the following buttons to repair or fix the CD, or to fix one session only:

Fix CD-R

Fixes the entire CD-R. You cannot add further tracks or sessions once the CD-R has been fixed. The CD-R can only be fixed if there is at least one track in session that was last opened. See

Fix Session or CD-R

.

Fix Session

Fixes the session only. You can write further tracks to the next session. You can only fix the CD-R if you write at least one more track afterwards. See

Fix Session or CD-R

.

Repair CD-R

You can use this if your CD burner supports a repair function (e.g. Phillips and Sony CD burners). Sony has a better repair function than Phillips and can often restore damaged CDs to a CD-R -- allowing you to add new tracks.

Old tracks on the CD-R are usually at least partly readable following repair. Sometimes, though, the CD-R too badly damaged and recovery is not possible.

Once you have looked through the details for your target CD-R -- perhaps you have just fixed or repaired it, leave the window by means of the close gadget.

1.56 MakeCD.guide/MIMEN

Main Menu Description

=====

The main menu has several menu points relating to project management and your drives and CD-Rs.

Project

Load, Save, Quit, ...

Edit

Edit Track List

Tools

Target CD-R, fix, eject, ...

Options

Settings, Quickhelp, ...

1.57 MakeCD.guide/MIMPR

The Project Menu

The project menu includes functions relating to project management. You can use the project menu to load and save the settings made in the track editor.

Open...

.....

This menu point opens a file selection window so that you can load a previously saved MakeCD project. Select your project and click on 'OK' -- the saved track settings will appear in the track editor.

Add...

.....

This function is the same as 'Open...', with the exception that any tracks already in the track editor are not removed but are added to the end of the loaded project. This enables you to merge two projects.

Save

....

'Save' saves the current project. If the project has not yet been saved, a file selection window opens. Otherwise, the project is saved under the old name.

If you omit the file name extension '.mcd', MakeCD will add this for you.

Save As...

.....

This menu point saves the current project. You can choose the project name before the project is saved.

If you omit the file name extension '.mcd', MakeCD will add this for you.

Registration...

.....

If you did not yet save your registration, you can do this by selecting this menu item. In case your registration is already saved, this menu item is disabled.

About...
.....

A window opens containing information about MakeCD. The version number can be found here, as well as the person who has registered MakeCD.

Quit MakeCD
.....

You can quit MakeCD using this menu point or the close gadget. A requester will not seek confirmation!

1.58 MakeCD.guide/MIMED

The Edit Menu

The edit menu has several useful functions for changing the track list.

Add Entire CD
.....

This reads the contents directory of the CD in your read device. The contents directory is then added to the track list and 'Track Type' is changed correspondingly.

This function is very useful when copying CDs -- it works just like a copy function if the track list is empty before the operation.

If you set 152 for 'Audio Pause' and 0 for 'Audio Start', MakeCD usually generates an almost identical copy of the source CD. You can make a 100% identical copy if MakeCD is able to use Disc-At-Once.

Set 'Target' to 'Use Image File' before you select this menu point if you want to create image files for most of the tracks before they are burnt. This will become the default value for all subsequent tracks that are added. Alternatively, set 'Direct to CD Burner' if you are generally not using an image file.

Once you have taken care of your modifications to the track list, start the copy process using 'Write Tracks...'.
.....

Add Image File(s)
.....

Unlike 'Add Entire CD', this function lets you choose several image files to add to the track list.

Please note: it is not possible for MakeCD to recognize the 'Track Type' for the images. You may need to alter the track types later on.

This function is useful, for example, if have several pieces of music on your hard drive. You could use the MultiSelect in the ASL file selection window to select all the music files in one go and add them to the track list.

Delete

.....

This menu point removes all the entries from the track list. A requester will not seek confirmation!

1.59 MakeCD.guide/MIMTO

The Tools Menu

This contains useful tools -- mainly relating to the target CD-R.

Target-CD-R ...

.....

This menu point opens the
Target CD-R Window
. This shows the contents
of the target CD-R and allows you to edit the CD-R.

Fix CD-R

.....

You can fix the CD-R directly in the target CD-R window or by calling this menu point. See

Fix Session or CD-R

.

Fix Session

.....

You can fix the CD-R directly in the target CD-R window or by calling this menu point. See

Fix Session or CD-R

.

Repair CD-R

.....

You can repair the session directly in the
Target CD-R Window
, or use
this menu point.

Eject

.....

The eject menu point has two submenus: 'Source' and 'Target'. These submenus eject a CD disc from the read drive or the write drive, depending on which one you select.

1.60 MakeCD.guide/MIMOP

The Options Menu

Settings ...
.....

This menu point opens the
Settings Window
. This window is used for
configuring MakeCD for your system.

Save Current Gadget State
.....

This menu point saves the status of some of the main window gadgets.
This status will be used when next launching MakeCD.

Quickhelp
.....

MakeCD uses bubble help to provide information about the user interface. The bubble help can be turned on or off, and the current state can be saved.

1.61 MakeCD.guide/MBEGN

Instructions for Novices

This chapter is intended for AMIGA beginners and newcomers to MakeCD. Even advanced users may find useful information here.

MakeCD
How To Use MakeCD

Data CD
Making A Data CD

Audio CD
Making An Audio CD

1.62 MakeCD.guide/MBMCD

How To Use MakeCD

=====

MakeCD centres around a track editor. The tracks are always arranged as a track list, whether you are copying a CD or organizing the tracks yourself.

Define which type of track you want to write (this is usually a data or an audio track), the source of the data that is to be burned (i.e. where the data is coming from), and if you want to write the data to an image file first.

When copying CDs, MakeCD reads the tracks from the source CD and passes them to the track editor in the correct form. When creating your own CDs, take care to arrange the tracks correctly.

Once you have finished arranging the tracks, click on "Write Image Files" to create the image files only, or "Write Tracks" to burn all the tracks. Image files will be created in advance.

1.63 MakeCD.guide/MBDAT

Creating A Data CD

=====

The most common operation when making data CDs is to copy a partition or a directory to a CD-R. This chapter explains how to do this.

A simple data CD consists of one data track. Once you have loaded MakeCD, add a data track to the track list by clicking on 'New'. A single track should appear in the track list.

Next, check that the track type and the source for your track have been correctly set. Use the mouse to select the new track in the track list (this track should be highlighted anyway). Ensure that the cycle gadget 'Track Type' is set to 'Data'.

For our example we shall burn a partition or an entire directory. We need to select the type for the source to 'File System' - set the corresponding cycle gadget to 'File System'.

MakeCD cannot tell which data you want to burn. So, click on the popup gadget for the source. A window opens.

This window contains a list. All the source paths need to be entered in this list. Click on 'New' and make sure that the source type cycle

gadget is set to 'File System'. After all, you want to read from a file system and not from a track that already exists on the CD-R. The last option is only applicable for multisession CDs.

We have now selected our source. The next step is to choose how to master the CD. Click on 'ISO/Rock Ridge...'.

Set the following values so that your data CD has maximum compatibility on as many AMIGAs possible:

1. Rock Ridge: On
2. World Access: On
3. Group Access: On
4. AMIGA File Attributes: On
5. ISO 9660 AMIGA
6. AMIGA File Attributes: On
7. Change ISO Names To Upper-Case: On

Now, enter '.info' in the 'Sort Sequence' list. This will make the CD feel quick under Workbench.

Don't change any of the 'CDTV/CD32' options - unless you want the CD to boot from a CDTV/CD32.

Leave the window using 'Save' or 'Use'.

Our data CD still has no name. Set the 'Volume Name' - this is the name that will appear on the Workbench. Enter your name for 'Author'. The remaining fields can be left blank.

Now decide if you want to create an image file first or have the data sent directly to the CD burner. Set the cycle gadget for 'Target' correspondingly. If you want to create an image file, enter the file name in the corresponding text gadget. Sending the data directly to the CD burner is a more hazardous process, since the performance requirements are greater and a buffer underrun is more likely. You should always run in the test mode first to ensure that the system is running smoothly. You may need to increase the buffer size in the settings window and/or reduce the burn speed.

We're almost at the finishing post! You now need to click on 'Write Tracks...'. All image files will be generated and burnt to the CD. Follow the on-screen instructions.

The write window will appear. Use the window to burn the CD-R in the test mode or for real. We recommend that you try the test mode first. In test mode, the same process is used as with real burning, with the exception that the laser beam of the burner is not turned on i.e. no permanent changes are made to the CD-R.

In addition, you can set if and when the CD-R should be fixed. More about this later on. If you are not sure if you want the CD-R to be fixed, turn off the automatic fixing for now.

Next, click on 'Start'. This starts the process.

The process will take some time. We recommend that you leave your AMIGA to work uninterrupted. It is possible to have other programs running during the process, for example, a robust word processor is unlikely to cause problems. However, you must avoid all programs that use the CPU for a long period at a time at a high priority (and of course any programs that have a habit of crashing unexpectedly!) - if MakeCD is ousted from the processor for more than a few seconds (typically 0.5 - 15 seconds, depending on the size of the burner's internal buffer and the writing speed), your CD burner may experience a buffer underrun. A buffer underrun can ruin the entire CD-R, making it unusable. At the very least, the current track is likely to be lost.

NB: reports suggest that some graphics cards use up so much processor time at such a high priority when changing screens that {No Value For "program"} can be locked out from the processor long enough to cause buffer underruns. This is not a problem on all systems - try this out for yourself in the test mode i.e. keep changing the screen while in test mode and see if there are problems.

Once MakeCD has burnt the track, either the CD-R is fixed, the session is fixed, or nothing is fixed - this will depend on the setting you chose. The MakeCD status display will inform you of any fixing that takes place. You can now burn another CD-R (which you don't want to do) or click on 'Abort'. Click on 'Abort'.

If the CD-R or the session was fixed, take out the CD-R and try reading it from your CD-ROM drive. You can add data later if you fixed the session only.

If there was no fixing, use the menu to select 'Fix Session' (select this if you want to add more data to the CD-R later on) or 'Fix CD-R' (select this if you are sure that no more data is to be added to the CD-R).

We've finished creating our data CD! Try reading the CD-R from a CD-ROM drive!

It may be possible, depending on your burner, to read the CD without actually fixing anything. We recommend that you try this. The advantage is that you save a lot of space if you do not fix the CD.

NB: You can create the image files without burning a CD by clicking on 'Write Tracks...' instead of 'Write Image Files...', you can create the image files without burning a CD immediately!

1.64 MakeCD.guide/MBAIO

Creating An Audio CD

=====

An audio CD usually has several tracks. There is normally one piece of music per track. Each track has a number by which it can be referenced - this is the track number displayed by CD players.

Arrange the music pieces in the track list. The first entry in the list corresponds to the first piece of music, the second entry corresponds to the second piece of music, etc.

You can copy music pieces directly from other CDs or load them from files. Files must be in the CDDA format (this is the raw format as read from CDs) or in the 'AIFF' format. MakeCD will recognize the format and convert it during burning into data which the CD burner recognizes.

You can use MakeCD to make a CD which takes its tracks from a number of different music CDs as well as data read from a file. MakeCD will prompt you to insert the CDs as they are required during the copy process. You can also make copies, even if you have just the one drive.

The following sections help you create your first music CD.

Start by setting the 'Track Type' cycle gadget to 'Audio(normal)' and the 'Type' for 'Source' to 'Image File' (if you want to read most of the data from files) or to 'Track from CD' (if you want to read most of the data from another CD). This is not essential, but saves you work later on. The gadget settings can be different for each track in the track list. However, the settings from the previous entry are copied for each new entry in the track list.

If most of your tracks will use image files, set the cycle gadget 'Target' to 'Use Image File', otherwise, set it to 'Direct to CD Burner'. This setting can be changed later on for each track, but why not make life easier and set the default to the most frequent setting? We recommend that you use image files to begin with if you have sufficient hard drive space.

'Delete File' can also be set separately for each track. You can set when the temporary image files should be automatically deleted. If you set 'Never', you will have to delete the image files yourself.

Save these settings using 'Save Current Gadget State' from the menu - the defaults will help save time later on.

We have taken care of the settings. We want to create a CD with the following structure:

1. Music piece from CD A (piece 3), with image file
 2. Music piece from CD B (piece 2), without image file
 3. Music piece from an available AIFF file
 4. Music piece from an available CDDA file
 5. Music piece from CD C (piece 5), without image file
-

To begin with, let's add a track in the track list for each music piece. We will also adjust the settings for each track.

Track 1 (CD A, piece 3, with image file)

Click on 'New' to create the first track. Next, set the 'Type' for 'Source' to 'Track from CD'. Now, insert a music CD in your read drive and click on the 'Source' popup gadget.

A track selection window opens. Click on 'Update' to read the contents on the CD. We want to record the third music piece to our CD, so click on the third entry in the track selection window list. If you know the song title, type it (or an abbreviation) into 'Name' - please avoid using the space character. Leave the track selection window by clicking on 'OK'. The 'Track Type' is automatically set to the correct value when you leave the track selection window, so you needn't change 'Track Type'.

We want to create an image file for the first track, so make sure that 'Target' is set to 'Use Image File'. Then, enter a name for the track in 'Image File' - this name is used when the track is saved to the hard drive. MakeCD may suggest a name for you - by all means change this to a more appropriate entry.

You must enter an appropriate path for the image file. Image files use considerable storage space -- about 173 KB per second for audio data. Make sure that the partition you select has sufficient free space. If you want to save all image files to the same directory, you can enter the directory in 'Root Directory'. This directory will be used for all objects with a relative path. If you leave 'Root Directory' empty, use absolute paths only (i.e. names containing a colon).

We have finished defining the first track. Now to define the second track...

Track 2 (CD B, Piece 2, no image file)

Click on 'New' to create the next track. Set the 'Type' for 'Source' to 'Track from CD'. Insert another audio CD, and click on the gadget again. The track selection window opens.

'Update' the track selection window, select track 2, and enter a name in 'Name'. Leave the window using 'OK'. 'Track Type' is automatically set to the correct value when you leave the track selection window.

Set 'Target' to 'Direct to CD Burner'.

NB: select 'Use Image File' as described above if you have selected the same device for reading and writing in the settings window. MakeCD can only copy tracks directly if the source and the target drives are different!

We have finished defining the second track!

Track 3 (AIFF File)

Please skip this part if you do not have an AIFF file.

Otherwise, click on 'New' to create a new track. Set 'Track Type' to 'Audio (normal)'. Set 'Source' to select 'Image File'. This means that MakeCD is to read the data from an image file.

Click on the 'Source' popup gadget. The track selection window does not open this time. Instead, a file selection window appears - MakeCD realises you want to read an existing image file and not a track.

Select the AIFF file and close the file selection window using 'OK'.

MakeCD can convert AIFF files into data that your CD burner understands very quickly, so enter the target as 'Direct to CD Burner'. You could, theoretically, create an image file - this would contain the data in the same form that is eventually sent to the CD burner. However, this is usually unnecessary.

We've now finished setting up the AIFF file!

Track 4 (CDDA Data)

Please skip this part if you do not have a CDDA file.

Otherwise, proceed as with track 3, but choose a CDDA file instead of an AIFF file. MakeCD automatically recognizes the CDDA file and sends the data to the CD burner. MakeCD will change the byte sequence if necessary.

Please note: CDDA data must be in the exact byte sequence selected in the settings window - otherwise you will end up with a terrible, ringing data noise. We will check this before we start burning.

There is no point in creating an image file for CDDA data, so select 'Direct to CD Burner'.

Track 5 (CD C, Piece 5, no image file)

Finally, we want to add another track from a third CD. This should be the fifth track.

You should now be able create this track without additional help. This time we do not want to create an image file.

The most difficult part is over! We are going to create image files in the following section. We will then be able to listen to the results, and finally, we can burn the CD!

Click on 'Write Image Files...' to create the image files. Follow the on-screen instructions.

If the image files were written, click on 'Play Audio...'. A window containing a few gadgets opens. Click on 'Start'. You should soon be able to hear the data using your AMIGA loudspeakers. You can skip within the current track or between the tracks, alter the volume and lowpass filter as required.

Close the window once you have finished checking the tracks. We are now ready to write the tracks. Click on 'Write Tracks...'

The write window opens. Use 'Write Mode' to burn in the test mode (no permanent changes will be made to the CD-R) or to burn without the test mode (the CD will be written for real!). You can also select to run the test mode first and then burn if no problems are encountered.

You must now, choose if, and how, the tracks are fixed following a successful write process.

You cannot add further audio tracks if you fix the session, only data tracks. The written tracks can be read by a CD player immediately afterwards.

You cannot add further tracks if you fix the CD-R. The written tracks can be read by a CD player immediately afterwards.

You can add more audio tracks if you do not fix the session or the CD-R. However, the written tracks can only be read by your CD burner.

After making your choice, click on 'Start'. Then, avoid using your Amiga in such a way that could cause a crash or lead to a buffer underrun - avoid using "greedy" applications (those which use the processor for a long time at a high priority). A buffer underrun ruins the current track and can even destroy the entire CD-R.

Please read the following sections for trouble-shooting.

Buffer Overrun/Underrun

It is possible to copy audio tracks directly: the source drive and the target drive must run at exactly the same speed. You can set the read speed separately for audio tracks, but some CD-ROM drivers ignore this value. If the read speed cannot be set, make sure you set the target drive to the same speed as the source drive. Many CD-ROM drives transfer CDDA at single speed only.

The direct copying of audio tracks is a time-critical operation. This is because the source drive cannot pause once it has started to transfer audio data. We strongly recommend that you try the test mode first. In case of doubt, we recommend that you use image files.

Track M requires "Audio (normal)" with Block Size 2352

This message usually appears if you try to read CDDA data. MakeCD can only recognise if the data is CDDA in the following way: MakeCD checks to see if the data has a recognised format. If the format is not recognised, MakeCD checks if the file length is divisible by 2352 - all audio data from CD is divisible by 2352. If you recorded the data yourself, the file is unlikely to be divisible by 2352 and you need to set the 'Audio Length' from 'Block' to 'any'. The disadvantage: it is then possible to select any file, i.e. you could select a file which is totally unrelated to CDDA!

1.65 MakeCD.guide/MFAQS

Frequently asked questions

NOTE: This FAQ is beta and needs a complete rework. We are working on it.

Please read these questions and answers carefully, before asking any questions. Maybe your question is answered in this list.

We sorted the questions according to the following categories:

Registration

Questions about registration

Support

Questions about support/registration

CD writer

Questions about CD writer support

Writer problems

Problems with some CD writers

SCSI problems

SCSI problems, SCSI hangups

Audio CDs

Questions about Audio CDs

Data CDs

Questions about Data CDs

CD backups

Questions about CD backups and copies

Various

Various questions about burning CDs

GUI

GUI related questions

Settings

Questions about the settings

1.66 MakeCD.guide/FREGI

Fragen zur Registrierung

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Question:

Why do I have to send the registration fee to Katrin and not to you, the authors?

Answer:

We are busy with writing MakeCD and if we made the registrations ourselves, it would take much more time than when Katrin's does this job. She's Angela's little sister and happy to earn some pocket money with this job. She especially enjoys nice persons at the phone and those letters which contain some nice words. ;-)
Please note, that she can not answer technical questions. Please contact the authors directly, if you have such questions.

Question:

I'd like to pay with my VISA card (or any other credit card). Do you accept such cards?

Answer:

Unfortunately, VISA (and other credit card institutes) has quite strong conditions. If we accepted VISA cards, we would need one VISA registration about every two days. We are far from that limit. So, payment with VISA is not possibly, sorry.

Question:

I want to get registered by transferring the money on a bank account. Please tell me an account number.

Answer:

We did not include our bank account in these documents on intention. Often, name and address do not appear properly on our bank statements, so we can't send you the registration. Furthermore it will need more time to register you, as we don't get our bank statements very often and since we would have to transfer your data to Katrin Schmidt, who goes ahead with your registration. If you really don't see any other possibility, you can write us an email about that, but other possibilities are really preferred!

Question:

I don't live in Germany, but I want to order MakeCD anyway. How can I transfer the money to Germany?

Answer:

There are several possibilities:

Euro cheque in DM

That's most likely the most comfortable method for both of us. But please make sure you write an DM amount on the cheque and not an amount of your national currency. We can only cash euro cheques without additional fees if they are in DM. If they are in a different currency they cost us a lot of fees.

Cheque from German bank

Ask your bank if they have a partner bank in Germany. In this case, your bank can ask that partner bank in Germany to write a cheque in DM. If the cheque is from a German bank and

written in DM, we don't have to pay additional fees for it. In your own interest, ask your bank which fees you will have to pay for that!

Postal money order (German or international)

Go to your post office and ask them to send us the money in DM. That's a safe method. In parallel, you should send your registration form to us, but in case the post loses your registration form, make sure to note your whole address and the use on the postal money order. Then we can send you MakeCD even in case your letter gets lost.

Cash

Of course, that's your own risk. Just go to your bank and get some German bank notes. Some persons then send the money in registered letters, but this also can't guarantee 100 % safety. However, usually the money reaches us. However, once we got a registered letter from Italy that did not contain the cash anymore. We don't know what happened here. We could not say if the letter has been opened or not (it was an air bag envelope) Maybe somebody stole the money out of the envelope.

Cheque from your bank

Cheques from outside Germany, which are none of those as described above, cost us -- depending -- about 20 DM each to cash. This amount of money is taken by our bank from the amount of money which you have written on the cheque. Therefore, you have to add about 20 DM to your cheque, if you want to use this method.

1.67 MakeCD.guide/FSUPT

Questions about support/registration

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Question:

Are there any mailing lists for MakeCD?

Answer:

Yes, there are. Refer to the documentation of MakeCD.

Question:

I have entered and saved my registration number and address. Nevertheless, the next time the MakeCD registration requesters pops again. What's wrong?

Answer:

You are probably trying to register MakeCD on a partition with AFS (AMIGA File Safe) with a version older than 16.16. Update AFS and the registration will work.

Question:

I am registered and want to get the latest version. Where can I

obtain it from?

Answer:

If you have internet access, have a look at our homepage:
'http://makecd.core.de/' .

If you don't have internet access, use the register form to order a free demo version (you pay only shipping costs, which is 5 inside Europe and 10 DM outside Europe). This offer is limited to one disk per package. As soon as you enter your registration number in this demo version, you will have a registered version.

BTW: You need not be registered to order the free (you pay only shipping costs) demo version. This offer also applies to all unregistered users who have old versions of MakeCD and want to see what's new.

1.68 MakeCD.guide/FWRTR

Questions about CD writer support

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Question:

When will you add support for my CD writer XYZ?

Answer:

It is not easy to support all different CD writers, because there is no standard SCSI command set to access them. However, if you send us the command set of your CD writer, we will do our best in order to support it.

Question:

My CD writer often (or always) hangs after a while. The SCSI bus seems to be blocked. What can I do?

Answer:

Try if it helps to switch off Reselection or Synchronous Transfer Mode. There is a tool, called 'CTRLscsi' (Archive name: 'HWGCTRLscsi.lha'), which allows you to control Reselection of each Unit if you are using Commodore scsi.device V39/40. This tool is contained in most of the MakeCD distributions.

1.69 MakeCD.guide/FWRTP

Problems with some CD writers

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Question:

I checked the audio on the CDs and at some random positions there was a burst of noise. Ouch. What happened?

Answer:

Somebody reported, that he had such a problem when a Zip drive is attached to the same SCSI bus. As soon as he removes his Zip, the noise disappears. Another person reported, that switching on reselection causes more noise than switching off reselection. The ideal option is to transfer data to RAM or to use a huge buffer. We have also heard that you should check the termination of your SCSI bus.

Question:

I use a JVC CD writer and have several problems. When will you release a new driver that is not beta?

Answer:

The problem is not really located in the driver, but in the buggy firmware of the JVC XR-W2010 V1.51. Please read more about that in `'doc/Compatibility'`. The most important problems are:

Reading delivers wrong data without error

If you have a Meeting Pearls III or IV, please mount your CD writer as a CD-ROM drive, insert the Meeting Pearls and click on "Deutsch" or "English". Now, an AmigaGuide document should appear which includes a link that allows you to check the CD for errors. Check the CD! If there are shown any errors without an appearing Read/Write error, your JVC CD writer delivers wrong data without error message!

Rejecting of write commands

Obviously, some CD writers reject the commands to write or fix a CD or session with `'ILLEGAL COMMAND'`. It might be that you can fix this by using a shorter SCSI bus (that worked in Patricks tests) or by using a different, better media (that has been reported by JVC). Try both!

Additional errors

Please read the JVC sections in `'doc/Compatibility'`.

Question:

I use my HP 4020 CD writer (or Philips CDD 2000, Grundig and other similar drives) in test mode. Everything works fine. But when I switch to real mode, a lot of CD-Rs get damaged after a while. MakeCD reports a "write append error". This never happens in test mode, but very often without test mode. My friend has the same CD writer, but didn't have these problems when the CD writer was new. But now, he has the same problems. What's wrong here?

Answer:

Most likely, you have got one of these defective CD writers. Your drive needs to get fixed. A new firmware or a new version of MakeCD won't help here.

An internet user has reported, that HP seemed to be surprised, that he could write 200 CD-Rs without problems before getting that write append error.

On Feb-25-1997, Alexander Becker <alex@enjoy.regio.net> reported in

<5eu67r\$1q0@enjoy.regio.net>, that HP sent him new CD-Rs, and that he got his money for the CD writer back, after he called them and faxed them the bill.

Other users have exchanged their CD writers two or three times -- without staying success -- and finally got their money back.

One of the MakeCD betatesters reported that the following company does very good support for those defective CD writers:

Repair 2000 Hardware Service GmbH
Werkstrasse 5
22844 Norderstedt
Germany
phone: +49 40 5225031 (ask for Mr. Peter and describe the error)
fax: +49 40 5264811

An internet guy has posted, how you can try to repair the CD writer by yourself, after the warranty is over, when you have the 'write append error'. The authors of MakeCD shall not be responsible for this text, but since it might help somebody, we decided to include it in this document.

First a note: there's a different text in the German FAQ. The instructions of both texts differ -- but maybe both solutions work. We don't know. If you understand German, read that text, too. They add some grease there to the drive, there.

From: telsat@cybernet.it (Peter Marchionda)
Newsgroups: comp.publish.cdrom.hardware
Subject: CDD-2000 / HP 4021i "spring" FIX >>>>READ INSIDE<<<<
Date: Wed, 19 Feb 1997 02:53:20 GMT
Message-ID: <330a6a70.13096048@news.supernews.com>

After reading all those horror stories about the Philips CDD-2000 drive, I considered myself fortunate. My CDD-2000 gave me no problems to set up. I made about 40-50 burns without any problems using Easy CD Pro 95 on a 120 MHz Pentium with 2 Quantum Fireball 3.2 GB HDs, 64 MB of EDO-RAM and a cheap (\$30 !) NCR C810 compatible PCI SCSI controller. Only a couple of times I lost about 30-40 megs of space because I forgot to turn off the screen saver, and the session closed with a buffer underun error 4-5 minutes from the start of the recording.

But then.....disaster struck! After writing about 300 of 610megs, the session prematurely closed and I got an error code message of 171-00-50-00 (write or write append error)....I had just become a new member of the "COASTER CLUB".

I restored my configuration files (win.ini, system.ini, system.dat and user.dat) from a version saved when I was sure that the drive worked, and using the speed test function I tried again (and again, again and again.....), but the test failed ALL the time between 300 and 330 megs with that same 171-... error code. Apparently it wasn't the computer or the

software, but the drive itself!

I had read about "spring" problems with the CDD-2000, but nobody seemed to know exactly what could be done to fix the problem -- without sending it to the Philips service center. I wanted to send mine in too, but after they told me it would take from 25 to 40 days for the repairs, and not being very enthusiastic about purchasing a new drive, I decided to see myself what this "spring" problem was all about.

I opened the drive (you will need a small TORX driver set) and removed the cover, then removed the main board, carefully disconnecting the 5 cables (open the 3 flat cable connectors on both sides before pulling!!). The loading mechanism flap, on the top side of the drive was removed by removing the spiral spring at its center, and disengaging the hinge by sliding it sideways. The drive mechanism can then be removed by gently pulling it out, it is only held down with 4 rubber grommet shock absorbers. The controller board must be now removed by unscrewing the 4 Torx screws, disconnecting the spindle motor connector and unsoldering the wires of the laser carriage motor. After you remove the board you will be able to see the culprit. It is a straight piece of round spring steel wire (25.4mm/1.0" long , 0.25mm/0.01" in diameter) that pushes the rack towards the pinion gear. It was easily removed by just gently pulling it out with a SMALL pair of pliers. DO NOT disassemble anything else to remove it. The spring MUST be replaced , you can not bend it to increase the tension to fix it, as it must be perfectly straight. Replace it with a larger diameter wire; it should be between 0.40mm/0.016" and 0.50mm/0.02" in diameter of high quality spring steel, be sure it retains its shape if bent, and that its length is exactly the same as the original one. Now, I know I should not admit this, but I used a straightened piece of spring from an old ball-point pen! Piano or guitar wire should also work. Be careful to not deform the new spring when replacing it.

After the spring is replaced, verify that the carriage moves smoothly back and forth by applying 6 volts DC to the motor, inverting the voltage when it reaches the ends. The gear teeth should only jump when the carriage reaches the extreme ends and can not go any further. Dont burn the motor out or ruin the teeth by applying voltage for more than necessary. If the gear teeth jump in between, or if there is any play between the rack and pinion gears the spring tension is not high enough, probably caused by the spring being deformed when it was replaced or bad quality spring steel. Once you successfully perform this test, reassemble the drive and dont forget to reconnect the motor wires.....they should not cross each other. Reinstall the drive and try it using "Test recording speed".

DISCLAIMER: Absolutely DO NOT try to repair a CDD-2000 yourself..... unless....you meet ALL 5 of the following requirements:

1. You are VERRRRRY experienced technician.
2. You are very impatient and dont want to wait for the repair.
3. You live in Antarctica and the nearest service center is very far away.
4. You must record a CD NOW!
5. Be sure that your drive has the "spring" problem; incomplete writes with the 171-00-50-00 error message (with Easy CD Pro 95 v 2)

Otherwise....send it to the Philips service center! Please dont E-mail bomb me if you mess your drive up... I warned you not to do it!!

Question:

My Philips CDD 2000 (or similar CD-Writer like HP SureStore 4020, Grundig CDR100 IPW, ...) is able to write CD-Rs and to read original CD-ROMs, but it can't read CD-Rs -- even if they are readable in my CD-ROM drive.

Answer:

We've heard about this problem which some Philips CD writers obviously have. Your CD writer needs to get repaired. Send it back.

Question:

I want to rip an audio track with my Philips CDD 2600 CD-Recorder. The inner tracks can be read, but on the outer tracks I get error messages. What can I do?

Answer:

This is a common problem with Philips CDD 2600 and HP SureStore 6020 (and similar drives). Use the settings window to slow reading audio data down to single speed. This might help.

Question:

I have problems with my JVC XR-W2010 CD writer, especially with Audio CDs. What can I do?

Answer:

Make sure you have the latest firmware version (V1.51 or better). Older versions made a lot of trouble with Audio CDs.

Question:

I have an A3000 (scsi.device V40.12) and a Yamaha CDR 100. MakeCD works great. No problems at all. Seems to be a very good CD writer! However, my filesystem does not mount CDs from the CD writer. MakeCD can read the data tracks, but my filesystem (BabelCDROMFS) says "not a DOS disk". The same CD-ROM works fine in my CD-ROM drive -- even with the same CD-ROM filesystem. Strange, isn't it?

Answer:

We have the same configuration and had the same problems. The

Yamaha CDR 100 is really a very good CD writer, and the problem it has is not its fault. The scsi.device cannot read from the CD writer using trackdisk commands. Something seems to be broken. Maybe, the same error happens with A2091 and other Commodore host adapters. On the A3000, we could fix the problem by installing the new V43 scsi.device.

If you don't want to install V43 scsi.device, you should use a filesystem that uses SCSI commands to communicate with the CD writer. For example AmiCDFS (shareware) is a good choice. Make sure the filesystem uses SCSI commands (refer to its documentation). Then, everything should work.

1.70 MakeCD.guide/FSCSI

SCSI problems, SCSI hangups

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Question:

I have big problems. Nothing seems to work. MakeCD hangs up very often. What can I do?

Answer:

Try the following things -- of course, use test mode!

- Select a small chunk size (32 KB or 64 KB) in the settings window and try if this already helps. We have been told that this helps some Phase5 host adapters.
- Switch off parallel reading/writing in the settings window and try if this already helps. When parallel reading/writing is off, the buffer will stay almost empty all the time. That's normal, and of course more dangerous. Obviously, big buffers do not make much sense then. 1 MB should be more than sufficient.
- Switch off reselection for all drives, especially for the CD writer. If this helps, play around with reselection until you find out where you can keep and on and where you have to switch it off. When reselection is off for some drives, the same as above applies for the buffer.
- If nothing helps, borrow a 2nd host adapter and try if you get better results when connecting the CD writer to its own host adapter.

Question:

When writing a CD-R the CD writer suddenly stops, but MakeCD doesn't show an error description. I can select abort, but nothing happens. The computer doesn't crash and I can still use the SCSI bus. Is this a known bug?

Answer:

We have encountered this problem with a Oktagon V6.8 when writing

audio tracks to a Philips CDD2000 V1.26 with enabled disconnect. It was reported for other controllers, too. It is a bug in the controller or the target drive: MakeCD is waiting for a write request that is never completed because reconnection failed.

MakeCD can hardly do anything about this. You should disable disconnect for your target drive and/or try sequential reading/writing.

Question:

I have a Philips CD writer (or Grundig, HP SureStore or other compatible CD write, refer to Compatibility list). Writing in test mode works fine. But when I write a CD without test mode, I kill CD-Rs all the time when I am almost finished. The error is "write append error" or "buffer underrun". Why that?

Answer:

We heart several times about that problem. A user who seemed to be quite good informed told us, that this is a common problem with Philips and compatible CD writers. Your CD writer has to get fixed. Contact your dealer.

Question:

While writing a CD, sometimes my SCSI bus hangs up. This happens in both, test mode and real writing. Is there anything I can do against this?

Answer:

Obviously, your CD writer and/or your SCSI hostadapter have some problems. Sorry, we can't help you there. Have a look at our Compatibility list -- maybe a user with a similar configuration had the same problem and can tell you a solution.

You might want to switch off reselection. There's a small tool for Commodore V39/V40 scsi.devices included in most MakeCD distributions.

Also, you can try to switch off parallel reading/writing in the MakeCD settings window.

Furthermore, you can choose a small (e.g. 32 KB) chunk size.

If nothing helps, contact your dealer. There's a problem in either your SCSI hostadapter or your CD writer.

Question:

I have buffer underrun errors. What can I do?

Answer (from 'John Hendrikx <john@globalxs.nl>'): I

experienced buffer underruns when reselection on my CD writer was off. This meant that the hard disk couldn't do anything while the CD writer is using the bus (which can be quite a while). Putting on Reselection on both the CD writer and the HD resulted in SCSI errors (sometimes), but only having it on for the CD writer works fine and won't make much of a performance difference as the HD (which has reselection off) won't use the bus for an extended period of time anyway.

I've successfully burned CD's at 4x speed (!!) with a Yamaha CD writer when I still had a 030 22MHz system with only 8 MB of FastRAM. The data came from an IDE drive (I think that the separate IDE controller made things a bit easier). I was pushing the limits with this system though: at one time I did get buffer underruns this way, and it turned out that I had to do a ReOrg on the source drive before it would work fast enough :-)

Anyway, a few tips:

- If you expect that your HD is not delivering data fast enough at some specific point in the process, try ReOrging the drive.
- Use large block sizes on your image partitions. I use 2K blocks on all image partitions (some will probably set this even larger, but I want to be able to use such drives normally when needed as well). Fragmented files won't slow down your Hd that much anymore this way.
- Check the reselection setting of your SCSI devices. It doesn't need to be on for any fast devices (like harddrives), but it should absolutely be on for the CD writer (I have reselection disabled for all drives, except the writer -- works like a charm). If you want to see what difference reselection makes try this: Set parallel reading/writing ON; start writing (testmode) a large image or something. Now use a reselection tool to turn on/off reselection for the writer. When it is off the writebuffer gradually becomes smaller, as soon as you turn it on the buffer is filled in a few seconds again (it may differ on your config but try it anyway).
- If you suspect the SCSI controller simply can't handle the throughput, or setting reselection on for the CD writer causes SCSI errors then try getting the data from a different controller (a 2nd SCSI controller, or simply from an IDE controller). This should work even better since you never need to worry about reselection.

BTW, turning reselection off for your harddrives also improves performance (atleast when using one of them at the time :-)). I've had almost a 20% performance boost when I turned it off for my Seagate drive (it didn't handle reselection correctly anyway -- it was the cause of some lockups I experienced at one time, not my writer).

1.71 MakeCD.guide/FAUDI

Questions about Audio CDs

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Question:

When copying an audio CD, I get a buffer underflow. Obviously my

8x speed CD-ROM drive is not fast enough, although my CD writer writes only in double speed. What's wrong here?

Answer:

Many CD-ROM drives read CDDA data in single speed only. In order to copy an audio track, you should switch your CD writer back to single speed -- or use temporary files.

Question:

How can I set the length of the pauses between the tracks?

Answer:

This is not possible with any AMIGA CD writer software at the moment (27.12.96). MakeCD uses the track-at-once mode, too, i.e. it only sends the pure track data to the writer and leaves calculating checksums and writing of pauses and table of contents to the writer. This has the advantage that writing can be suspended unlimitedly between tracks and multisession would be possible. Selecting the length of the pauses would only be possible in the disc-at-once mode. MakeCD will offer both modes alternatively as soon as possible.

Question:

Is there a possibility to copy a CD with multiple tracks without pauses despite of the fact that writing will add pauses?

Answer:

It is possible, however, the copy will consist of one large track. You have to select the first track of the original CD as source and set its length to the total length of all tracks (= "end last track" - "start first track" + 1). MakeCD will read all tracks in one piece.

1.72 MakeCD.guide/FDATA

Questions about Data CDs

Question:

I have read that MakeCD is able to write AMIGA Protection Bits and file comments. I wrote an image file with Rock Ridge and AMIGA Attributes turned on -- but when I mount this image, all files have standard protection bits. The script bits are still lost. What is wrong here?

Answer:

You need a filesystem that supports AMIGA Protection Bits. The freely distributable AmiCDFS2 supports them since version 2.30. AsimCDFS supports them starting with version 3.7 (note that there's an old version string "AsimCDFS 3.6 (05.11.96)" in L:AsimCDFS). The author of CacheCDFS has promised to follow soon and has a working beta version.

Question:

I have created an ISO image of my data. But after I've written it to my CD-R, I noticed that you have put MakeCD into the image, too. I am a registered user, and I really don't like that! Please turn that off!

Answer:

We didn't put MakeCD into your ISO image on intention. You did it yourself. ;-) When you used the ISO settings to select the paths, that are supposed to be written to the image, you pressed the "New" button too often. So empty entries appeared in the list. This causes MakeCD to scan the directory "", which usually is the directory that contains MakeCD. So just make sure you don't have empty entries in that list.

Question:

Every time when I am going to burn a AMIGA CD, I browse through all directories to locate all directory levels that are more than eight levels deep, in order to avoid creating a corrupt image. When can I expect such a function in MakeCD?

Answer:

Don't worry -- even if you use more than eight directory levels, your image won't be corrupt. On the AMIGA, such images are even readable without any problems. Just DOS PCs are not able to change into those deep directories. But that's not a problem for most of the AMIGA users. However, we are going to implement such a function, as soon as we find time for it.

Question:

OK, now I know that the limit with the eight directory levels is not important for the AMIGA. But what's the restriction on the AMIGA? How many directory levels can I put on CD?

Answer:

There is no such limit on the AMIGA. But of course, directories are not easy to handle (very long pathnames etc.) if they are too deep. Many applications will probably crash or do wrong things, when they have to handle such long path names.

You should be able to write any AMIGA directory with all its subdirectories on CD-R.

Starting at some depth (undefined, because this is subject to change), MakeCD will run out of stack though, and your AMIGA will crash. But this requires really very deep directories.

Question:

I want to create a multivolume CD, by just copying the data tracks of some empty CDs on one single destination CD-R. I have tried this by simply copying the tracks one after another and by fixing the session between the tracks -- without success. Just the 1st track is readable. What's wrong?

Answer:

Every multi session or multi volume track, which is not the very first track of the CD-R, has to be created especially for this CD-R, because every data track looks different -- depending on the

block number on CD-R, where the data track is going to be stored. You can not write a track, which has been created for basis block 0, to a different block on the CD-R. MakeCD warns against this from V2.0 on, but previously tracks were written without protest, because baseblocks were not yet supported at all.

Question:

Now I have created a multi volume CD. I tried some CD-ROM filesystems, but I either can see the very first or the very last volume. Where are my other volumes?

Answer:

Unfortunately, this still is a problem with multi volume: there are only a few filesystems, which support this at the moment. However, multi volume updates for AmiCDFS, CacheCDFS and AsimCDFS already have been announced. Stand by.

Question:

My Workbench says, that e.g. Meeting Pearls II uses 650 MB. But when I ask DirOpus to calculate the size in bytes, I don't get 680,525,824 bytes as expected, but about 50 MB less. What happened to those 50 MB?

Answer:

A CD has to be written with blocksize 2048 bytes. This means that you loose 1024 bytes in average for each file, because file length usually are not a multiple of 2048 bytes. If there are 50,000 files in your image, this sums up to 50 MB.

Now you can count how many files (and directories) DirOpus counts.

By the way, ISO9660 wastes only little space for management data (directory structure etc.).

1.73 MakeCD.guide/FBCKP

Questions about CD backups and copies

=====

Question:

How can I backup my CDs (also some with several tracks)?

Answer:

Go to the settings to the audio part. Enter 0 start blocks and 152 pause blocks. Go back to the main window and append the whole CD using the menu. If necessary (depends on the performance of your system), activate temporary images now. Then, write the CD.

With these settings you can successfully copy a lot -- but not all CDs.

1.74 MakeCD.guide/FVRIO

Various questions about burning CDs

=====
Question:

I cannot fix the CD-R! I have fixed all sessions and now I want to fix the CD-R, but this does not work.

Answer:

You can only fix the CD-R, if there are tracks written to the last session. By fixing a session, a new session (without any tracks) is opened. That's why you can not fix the CD-R, if you previously fixed the session and did not add any further tracks.

By fixing a session the Lead In of this session is being written. Beside other things, it contains the track list of this session, which is required by CD-ROM drives to find the tracks. That's why unfixed sessions are unreadable on CD-ROM drives. Furthermore, the Lead In contains information, where the next session starts -- even if it is still empty.

When fixing a CD-R, things are the same, except that there is a note that no more sessions will follow instead of information where the next session starts.

Since a drive browses through all sessions when it reads the track list, it will -- if the CD-R is not fixed -- stumble at the last session, because it tries to read unreadable data (blocks on CD-R that are still unused). That's not a bad thing, however it slows down reading the track contents. Therefore, we recommend to fix the CD-R if you are sure you don't want to add any further tracks.

Question:

When I try to choose my CD writer in the device requester, MakeCD crashes. My friend has this problem only sometimes and another friend never has this problem.

Answer:

We could not locate such a bug. We connected the Plextor CD writer to the A3000 and started HDToolBox. This also caused a crash while HDToolBox was scanning the SCSI bus.

MakeCD tries to find trackdisk compatible devices using NSD. If a device is buggy, it can cause a crash. Please use NSDQuery, which is located in Heinz Wrobel's NSDPatch archive, to locate that device, and tell us its name and version number. Just type in 'NSDQuery CHECKALL'. If possible, send us a copy of that crashing device. Thanks to NSDPatch, you can patch the device in a way that does no longer cause crashes, without loosing any features.

If you cannot choose the device using the device requester, you can activate the MakeCD program icon and choose "Info" from the workbench menu. Then, edit the tooltypes manually. Enter the correct values for 'WRITE_DEVICE', 'WRITE_UNIT', 'WRITE_DRIVER', 'READ_DEVICE', 'READ_UNIT' and 'READ_DRIVER'. You must not supply

the ``.device`` suffix for the ``#?_DRIVER`` tooltypes.

Question:

I have written a CD, but it seems to be damaged. My CD-ROM drive cannot access it. :-(

Answer:

You have to fix the session or the CD-R in order to access the CD in your CD-ROM drive.

Please do take care that you don't use any cracked/virus infected versions of MakeCD, because some cracker are very lame and destroy more than they think they "enabled".

Do not blame us for non-working cracked/virus infected versions of MakeCD.

Question:

I have created a data CD-ROM using MakeCD. Although no errors were shown, the image is obviously quite damaged, because some icons are missing on Workbench and a lot of archives on that CD-R are damaged, too. I tried a different version of MakeCD and got a 2nd damaged CD-R. Sometimes, the disk icon of that CD even does not appear on Workbench, and sometimes even the filesystem crashes. Didn't you test at all? My configuration is: A4000, Yamaha CDR 100, Toshiba 4101, Noname CD-Rs.

Answer:

I guess you tested the CD-Rs on your Toshiba CD-ROM drive. Toshiba CD-ROM drives (and CD-ROM drives of some other companies, too) are known to cause problems with some special CD-Rs. The same CD-Rs run without any problems on other drives. Try it! Your "damaged" CD-R will most likely run without any problem on some other CD-ROM drive. Read the "Compatibility" file. It contains the name of some CD-Rs which seem to be good.

Question:

I tried to copy a CD to CD-R. I read from my CD-ROM drive and wrote directly to my CD writer, without using a temporary file. This worked fine for a while. My CD-ROM drive reads in 12x speed and my CD writer writes in 4x speed. But suddenly, the CD-ROM drive delivered the data very slow and I got a buffer underrun. Another coaster. :-(Please fix this.

Answer:

There's nothing to be fixed. CD-ROM drives usually slow down when they have to read from a scratched surface. After passing the scratch, some of them go back to full speed, others stay at the slow speed. That's what happened in your case. Sorry. You should either get a firmware update for your CD-ROM drive which fixes that (if available) or you have to use a temporary file for scratched CDs. Another thing that could help is reducing the speed of your CD writer.

Question:

Transfer rate

My CD-ROM drive is faster than it is supposed to be -- at least it

seems so. The MakeCD writing window shows very fast transfer rates for it. Why?

Answer:

MakeCD measures the time from sending a read request to the CD-ROM drive until the read request comes back with the required data. That's all. There's nothing magic in it. However, many drives are using intelligent buffer methods, and during the time MakeCD is not accessing the drive, they fill their cache with some data -- hoping it's the data which the application will try to read next time. Often, that's really the data which MakeCD will request next time, and then the drive can send the data directly from the buffer to MakeCD and does not have to access the CD at all. That's why it is seems to be so fast. If there were no pauses for the drive between two requests, which can be used to fill the internal buffer, it would be slower.

Question:

The idea of using the track name as the filename for the ISO image filename is good and saves time but these files are always written into PROGDIR: unless the path is changed manually. When dealing with many ISO files this is cumbersome. Could you please add a feature to allow a default directory to be set?

Answer:

You mean the "base dir" string gadget at the upper left corner of the main window? Just enter your working directory there.

Question:

I want to read a CD with data and audio tracks. However, at the end of a data track MakeCD reports a read error!?

Answer:

When listing the contents of a CD MakeCD only tries to remove the pause at the end of a track from the track's length since V2.0. If you use the length suggested by older versions you will get a read error as soon as MakeCD reaches the pause after a data track, because pauses can only be read after audio tracks.

You can either reduce the size of the track before starting reading, or you can ignore the error by selecting "Use File" in the requester reporting the error -- or update to V2.0 :-)

Question:

Reading and writing of data tracks works fine even with disconnect, but I get into trouble when using other track types. Why that?

Answer:

Some controllers increase performance by making assumptions for example about the block size they are to transfer, e.g. block size is a power of two or an even multiple of x bytes (x = 32, 64, ...). These assumptions are wrong for such unusual block sizes like 2352 bytes (audio track) and the controller software fails.

Question:

With which CD writers can I use the repair option in the "Target

CD-R" window? Which kind of damage can I repair?

Answer:

When the writing is interrupted by a loss of power, then the Philips writers and compatibles offer a command to make the CD-R useable again -- however, only if the CD-R was not removed from the drive yet! This is the feature the Philips drivers use. The Yamaha writers don't support this kind of repair.

In case the data stream is interrupted while the writer is still working, most drives finish the last track automatically. The track is simply too short.

Question:

I accidentally removed a small label attached on a CD-R, together with a small piece of gold surface on the label side. Now there is a see-through hole near the centre of the CD-R. Can I put some paint on it to cover the hole? I've tried to stick back the piece but the disc is still unreadable. Any other way to rescue the disc?

Answer:

Nope, it's a coaster. Removing a label often removes the reflective layer, which destroys a CD-R.

Question:

I just have updated MakeCD. But the new version obviously does not work, because one of the .module files has a wrong version number. At least, a MakeCD requester tells me that.

Answer:

Of course, it could happen that we release a buggy update. But usually this misbehaviour is caused by something different. Both, the .module and the .driver files are libraries (although you NEVER should copy them to LIBS:). This means, that they stay in your memory after you left MakeCD, until a memory allocation flushes them. So they are reloaded only if that's really needed when you restart MakeCD. If you have started an old version of MakeCD, before starting the new version, this misbehaviour might happen. Just reset your AMIGA -- after that everything should work as usually. MakeCD V2.0 tries to do a memory flush itself.

1.75 MakeCD.guide/F-GUI

GUI related questions

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Question:

The online help of MakeCD causes trouble with CycleToMenu and MagicCX. What can I do against this?

Answer:

You should not install hacks. Well, probably you do not want to remove these hacks, do you? So after you have understood MakeCD, we suggest you to use the menu to turn off bubblehelp to

avoid the problem. Note that the bubble help is from triton.library and so we cannot change its behaviour.

Question:

I want to save the window sizes or open the windows on a public screen. Is this possible?

Answer:

Since the windows are from triton.library, you can use the Triton preferences editor to achieve both. You don't have to register Triton for this -- but of course Stefan Zeiger would be pleased if you do so nevertheless :-)

You can find the full Triton system with preferences editor on Stefan Zeiger's homepage '<http://home.pages.de/~szeiger/>'. See 'doc/Triton.readme' for more details.

Here's a part of the Triton documentation:

If you want to register, please send DM20, US\$15 or an equal amount in any other valid currency to me. See Support, for addresses.

Send money by EuroCheque (only in German Marks (DM!)), postal(!) money order or cash! It's impossible for me to cash in foreign cheques, even if the amount is in DM.

EMail:

'triton-support@laren.rhein-main.de'

Mail:

Stefan Zeiger
Seligenstädter Weg 24
D-63796 Kahl
Germany

Voice:

+49-6188-900712

1.76 MakeCD.guide/FSETT

Questions about the settings

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Question:

What is the difference between sequential and parallel reading/writing? Which one should I use?

Answer:

MakeCD 1.0 always used the parallel method: Two independent processes read or write simultaneously. In the sequential mode buffers of the same size are read and written alternating.

The parallel method is more demanding in regard to the system's

reliability. It works only well if disconnect is supported properly and is enabled for both harddrives, CD-ROM drive and CD writer or different controllers are used for source and target.

The sequential method avoids several potential flaws of controllers. It has another drawback: When a read request is delayed, the next write request cannot start and the data stream is interrupted even if the buffer is not empty, i.e. the buffer cannot compensate temporary fluctuations of read performance any more.

1.77 MakeCD.guide/MGLOS

Glossary

Sorry, this glossary is not yet finished. A lot of expressions still have to be explained.

Bug Report

Larger projects invariably contain some ugly errors which the user may encounter at some time. In such cases, we ask that the user submit a "Bug Report". This is a description of the error which has been encountered. Check the circumstances under which the error occurs and write down everything! Note the exact version of MakeCD which you are using and the configuration of your computer.

CD-R

A "CD-R" is a write once CD. It looks a bit like a normal CD, but uses a different color. The writable side usually is green, gold or blue. The non-writable side often covers some kind of label which you may write on. But sometimes, this side is totally unlabeled and unprinted, so some people get the idea to put the CD-R upside down into their drive.

CD-RW

"CD-RW"s are the new, rewritable CDs. This media can be written to up to 1000 times.

CD-ROM image

CD-ROMs, disks, hard disks or just single partitions can be written to a single file, by means of "unrolling" them so that the file contains blocks starting from the lowest (0) through to the highest-numbered block at the end. Such a file contains a "Disk Image". At some time thereafter, the file can be written to a CD-R to yield an exact copy of the original CD-ROM. The CD-ROM has, in principle, been copied.

However, if you want to save data from a hard disk to a CD-R, you can not just copy the image of the hard disk to CD-R. That's why you need the image creation part of MakeCD: it scans one or more directory trees and creates an CD-ROM image file that can be written to a CD-R.

Coaster

A "Coaster" is a damaged CD-R(W), which is totally useless (except you can put it under your programming cup).

Coffee Break

A coffee break is that amount of time required by a program to do a particular task in background. Most of the time, there's no precise indication of how long this is. Sometimes, it won't be long enough to get the kettle to boil, yet at other times, you'll have enough time to invite the neighbours around to share the latest gossip over some cake.

I'd like to take this opportunity to apologise to those who may have been misled that a single cup of coffee was sufficient, by my comments on "Meeting Pearls III". Of course, a bucket of coffee was what I meant. :-)

Device Unit

See "Unit".

Device Driver

Every hard drive and every CD writer requires a "Device Driver" so that it can be used in the AMIGA in a system-conformant way. This driver is responsible for reading data from, and writing data to the CD writer, amongst other tasks. Device drivers have a name ending in '.device'. For example; 'scsi.device', 'gvpscsi.device', 'omniscsi.device', 'z3scsi.device', 'dracoscsi.device', 'squirrelscsi.device', etc.

Installer Script

A unified method of installation for all software packages on the AMIGA was developed to make this as simple as possible. Every package includes a plain-text file -- the Installer script -- to be interpreted by the Installer program at installation time to make the installation process as easy as possible for the user.

Meeting Pearls

You don't know about Meeting Pearls? That's got to be fixed straight away! Meeting Pearls is Germany's most popular CD-ROM series for the AMIGA as well as being extremely good value for money as the creators don't demand any payment for their work (1), so only direct production and distribution costs need to be paid. As you most likely have a CD-ROM drive or a CD writer, it's well worth a look.

mkisofs

A program which is quite popular on Unix system and which is used to create "CD-ROM images".

Program Icon

Many programs have an icon -- a small symbol on which you can click when it appears on the Workbench. Icons belonging to programs are called "program icons". Further information about this can be found in your Workbench manual.

Progress Indicator

The "progress indicator" indicates what proportion of work has been

done by the use of a bar graph. On occasions, this indicator will move at a very uneven rate. This will occur if it hasn't been possible to pre-compute how long the particular operation will take or if your system is too busy to update the GUI elements.

Rock Ridge extensions

"Rock Ridge extensions" have been defined for Unix machines, because under Unix -- like on the AMIGA -- there are some file attributes which are available that are not available under MS-DOS and thus were not included in the ISO9660 standard. Rock Ridge extensions are extensions on ISO9660. Every correctly written CD-ROM, which has Rock Ridge extensions, can be also read by filesystems that don't support Rock Ridge. However, most likely some objects will look different.

Angela Schmidt and some other people have created a new AMIGA standard, that enables mastering software to write Amiga attributes for every single object on the CD-ROM to the CD-ROM. This is done by defining another Rock Ridge extension. Of course, MakeCD supports this special Rock Ridge extension, too.

Session

An empty CD-R always contains one open session, the 1st session. Before closing the session or the CD-R, you have to write at least one track into the session.

When closing the session, a new session is automatically opened, and you may write further data into it.

When closing the CD-R, no new session is opened, and you can't add any further data to the CD-R.

A closed session always contains one or more tracks, an open session does not have to contain any tracks.

A track must not be spread over several sessions.

Track

A track is a continuous stream of data on CD. As for music CDs, each song usually gets its own track. So you can easily select the desired song using the display of your CD player. All you have to know is the track number.

If you write a music CD, you should create a track for each song, and so a music CD often covers 10 to 20 different tracks.

A simple data CD only covers one single track, which contains all data. A multisession or multivolume CD covers several tracks, each containing data.

Unit

A particular device, which is usually connected to the SCSI bus, is identified by its "unit" or "device unit". Valid unit numbers are typically between 0 and 6 for SCSI devices. If you have external SCSI devices, they may have a switch for setting a number. The number is usually the unit number of the device. The device requester of MakeCD shows you all devices that are connected to

the SCSI bus.

Volume Name

The formatted name of a disk or partition is the "volume name". This name is also visible on the 'Workbench' screen. MakeCD can write such a volume name into an ISO 9660 image, if you are a registered user. However, according to the ISO 9660 specs, in ISO Level 1/2, only upper case characters, digits and underscores are allowed in the volume name.

----- Footnotes -----

(1) although donations are most welcome :-)

1.78 MakeCD.guide/MSUPP

Support

We do your best to offer you our support for MakeCD. If possible, we use the internet to support MakeCD since we think that this is a comfortable way.

Answering letters costs a lot of time - much more than writing an email. So we ask persons who don't have email access, to call us instead of sending a letter, since letters might stay unanswered. Sorry, our time is limited.

If you have internet access, we entitle you to use the possibility to get support from the internet.

Updates

Updates of MakeCD

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1.79 MakeCD.guide/SUPDT

Updates of MakeCD

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MakeCD is still in development. You will find the latest versions of MakeCD, new drivers for CD-Rs etc. in internet: `'http://makecd.core.de/'`

Additionally, you can get the latest version for free (you only pay shipping costs) from Katrin Schmidt. Of course, this offer is limited

to one disk per order. See Registerform.

1.80 MakeCD.guide/SMLLS

Mailing lists

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There are three different, English-spoken mailing lists for MakeCD:

`'ml-makecd@unix-ag.org'`

For discussions with other users of MakeCD. The authors of MakeCD will read this list, too. They can thus answer questions noone else possibly could. Sometimes the authors will ask you to comment about a new feature etc.

`'ml-makecd-announce@unix-ag.org'`

No discussions, just announcements by the authors. For example, we will announce new versions and new drivers on this list.

`'ml-makecd-binaries@unix-ag.org'`

This list delivers all new MakeCD binaries, including new releases of MakeCD and new drivers, right to your mailbox. It is useful for those who do not have access to ftp servers or homepages on the internet and thus usually are unable to download new MakeCD archives.

To subscribe, send `'SUBSCRIBE <user@host>'` to `'<listname>-request@unix-ag.org'`, where `'<listname>'` is the name of the mailing list, e.g. `'ml-makecd-announce'`. Don't send requests to the lists themselves, i.e. don't forget the `'-request'` in the address! To subscribe the email address `'user@my.email.address'` to the announce list, send the following message:

```
To: ml-makecd-announce-request@unix-ag.org
Subject: Anything
```

```
SUBSCRIBE user@my.email.address
```

To unsubscribe, send a similar message, but replace `'SUBSCRIBE'` with `'UNSUBSCRIBE'`.

Send the following message to get further instructions:

```
To: listserv@unix-ag.org
Subject: Anything
```

```
HELP
```

1.81 MakeCD.guide/MAUTH

Authors of MakeCD

Two people worked on MakeCD for a long time.

E-Mail to both authors: 'makecd@core.de'

Patrick Ohly

Programmed the GUI, all SCSI related matters (including all drivers for COMPACT DISC burners and CD-ROM drives) and just about everything else in MakeCD, except for the generation of the ISO image. His postal address is:

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Germany
Telefon: +49 721 615662
E-Mail: 'patrick@core.de'

Angela Schmidt

Wrote the routines for ISO image generation (and everything to do with ISO images), the majority of the registration window and the installation script. Angela also takes care of the archive distribution and user manual Her postal address is:

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E-Mail: 'angela@core.de'

Please read through the manual and FAQ (Frequently Asked Questions) before you send any question to the authors since questions which are covered in this documentation will not be answered.

If you have problems with your SCSI devices, e.g. so that MakeCD can no longer communicate your SCSI devices and an error is not reported, then you should check either your SCSI host adapter or your COMPACT DISC. Unfortunately, we can not help if there is a problem with the hardware, if this is the case then you should contact the vendor of the SCSI hardware.

If on the other hand MakeCD generates a error report, please contact us. To help with this, enable the 'DEBUG' feature in the MakeCD icon then send the output to Patrick.

Before you turn to your vendor, you should always read the FAQ and the Compatibility list.

1.82 MakeCD.guide/MCRDT

Credits

Heinz Wrobel

- Valuable suggestions for a GUI that is easier to use.
- English translation of some parts of MakeCD.
- HWGCTRLscsi
- NSDPatch
- Hunting up JVC firmware bugs.

HiSoft, UK

- English translation of parts of the manual
- Distribution of MakeCD in the UK.

Oberland Computer, Germany

- Distribution of MakeCD in Germany, Austria and Swiss.

Larry Patrick

Sven Hansen

- English translation of parts of the manual
- Great/many bug reports/suggestions

Jean-Marc Boursot

- French translation
- MagicWB icon
- Testing with care and very useful suggestions

Eivind Olsen

- Norwegian catalog file

Fredrik Zetterlund

- Swedish catalog file

Francesco Dipietromaria

- Italian catalog file

Horváth Péter

- Hungarian catalog file (requires 'util/sys/Magyar.lha')

Frank Arlt

- He lent us a JVC XR-W2010 for many weeks

Matthias Supp

- Great/many bug reports/suggestions
- He lent us a Yamaha CDR 400

Oliver Kastl

- Help with questions about SCSI or CD-ROM technology

Christian Berger

Frank Zündorff

Friedhelm Bunk

Horst Brand

Jesper Tuck

Klaus Melchior

Magnus Bouvin

Martin Schulze

M. L. Lie

Michael Knoke

Mirko Schäfer

- Great/many bug reports/suggestions

Lars Eilebrecht

- MakeCD mailing lists

Michael van Elst

- CDDA sources

Michael-Wolfgang Hohmann

- Most of the icons used in the MakeCD distribution.

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