

Introduction

Welcome to the MasterISO Version 2 Users Guide. This manual documents all of the features and options within MasterISO Version 2 along with some useful tips and some general information.

Each chapter was written to focus on a particular project type. The Advanced project type spans numerous chapters, due to its size and complexity.

The chapters devoted to a single project type were written as a self contained synopsis of that particular project type. This has led to certain parts of the manual seemingly being repeated in numerous chapters. This was done intentionally so there was no need for the user to span several chapters to obtain the necessary information.

We have also included an extensive Appendix in the manual as well. The Appendix contains information that, while not directly necessary for the mastering of CDs, is quite informative on many aspects related to CD mastering.

The Appendix provides information for general knowledge as well as for aiding the user in trouble shooting basic problems with the setup and use of CD-R/RW hardware. Both the novice and the expert user alike will find the information in the Appendix quite useful.

As developers, we have listened to the criticisms levied against the MasterISO Version 1 Users Guide and taken many of our users' suggestions to heart. The changes made are reflected in the Version 2 Users Guide.

Without delay, Asimware Innovations Inc. presents the MasterISO Version 2 Users Guide.

Installation

Prior to installing MasterISO Version 2, it is necessary to present the system requirements for the software.

System Requirements

MasterISO Version 2 has the following operational requirements which must be met for the software to function at the most base level:

- Amiga computer
- AmigaOS v2.0 or better
- 4 MB of fast RAM
- Hard drive
- Supported SCSI CD-R or CD-RW drive
(with appropriate SCSI controller) OR
- Supported ATAPI CD-R or CD-RW drive
(for A1200 and A4000 users)

For a complete list of supported SCSI and ATAPI CD-R/RW drives, please refer to the Addendum directory in the MasterISO_v2 directory or visit the technical support area of our web site at:

<http://www.asimware.com>

For the more advanced features of MasterISO, the following requirements must be met:

- Fast SCSI controller (SCSI-2 or better)
- 16 MB of fast RAM
- AsimCDFS v3.x or higher
- AsimCDFS supported SCSI or ATAPI CD-ROM drive
- CPU accelerator
(68040 or better - DAO data encoding will require a 68060)
- Large hard drive

If the user cannot determine whether their CD-R/RW mastering system is capable of performing certain tasks within MasterISO, the software contains a

System Check project type which allows the user to test the various components of their system.

The following listed items are recommended for use with MasterISO, however, they are not required. The items listed do not add any functionality to the software:

- 3rd party video card
- 3rd party sound card
- Audio editing software
- AmigaOS v3.1

Backing Up The MasterISO Diskette

It is always advisable to make a backup of original software diskettes. Since MasterISO is not copy protected, the Commodore diskcopy command or utility will suffice in copying the diskette. If the user is unfamiliar with diskcopy, please refer to the AmigaDOS manual for further instructions.

By not installing a copy protection method on the master disk, we are relying on the honesty of the user. We ask that the user spread the word about MasterISO and not the disk.

Software Installation

To install MasterISO Version 2, simply place the MasterISO Version 2 diskette into a floppy drive. Double click on the MasterISO_v2_Install icon with the left mouse button.

Double clicking the appropriate install icon will begin the installation procedure. Follow the on-screen instructions. To ensure that MasterISO Version 2 has been successfully installed, it is advised to use the Novice installation option.

Securing The MasterISO Master Diskette

Once the backup and installation of the original MasterISO Version 2 diskette has been completed, place the diskette in a safe and secure area. The complete MasterISO program and related files will be installed to the hard drive, no longer necessitating the use of the original diskette.

Starting MasterISO

MasterISO may be started through Workbench or by means of a Command Line Interface (CLI) window.

Starting MasterISO From Workbench

Simply double click the MasterISO icon found in the MasterISO_v2 directory. The MasterISO_v2 directory will be found on the source drive it was installed to by the user.

Starting MasterISO From CLI

MasterISO may be started from a CLI window by typing the following command, followed by a return:

```
MasterISO:MasterISO
```

The path of the MasterISO_v2 directory may be explicitly defined as well. For example, if MasterISO Version 2 was installed on hard drive dh0:, MasterISO may be started from a CLI window by typing the following command, followed by pressing the 'return' key:

```
dh0:MasterISO_v2/MasterISO
```

The user may also load MasterISO with a particular settings file. The syntax is as follows:

```
MasterISO:MasterISO SETTINGS <<settings name>>
```

or using the example from above:

```
dh0:MasterISO_v2/MasterISO SETTINGS <<settings file>>
```

Loading A MasterISO Project From CLI

The syntax to load a project by means of a CLI window is:

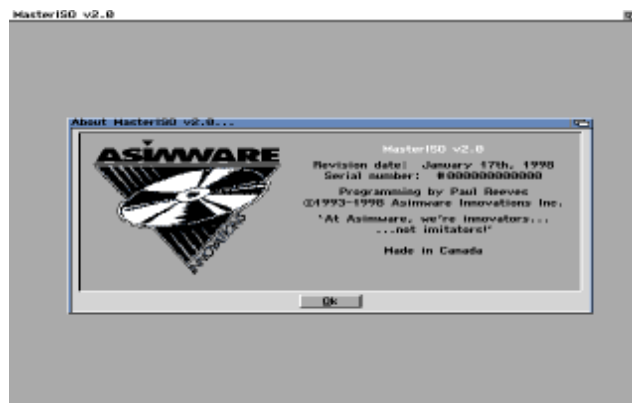
```
MasterISO:MasterISO PROJECT <<project name>>
```

or using the example from above:

```
dh0:MasterISO_v2/MasterISO PROJECT <<project name>>
```

About MasterISO

Once MasterISO has been started, the user is presented with the *About MasterISO v2.x* window.



This window contains the following information:

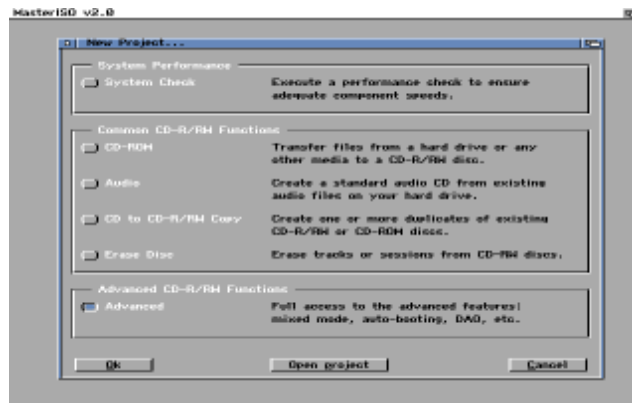
- Version
- Revision date
- Serial number
- Copyright information

The information contained in the above window is necessary for any technical support issue.

To exit the window, simply select the **Ok** gadget, located at the bottom of the window or press the left mouse button anywhere within the window.

New Project

After closing the *About MasterISO v2.0* window, the user is presented with the *New Project* window.



This window allows the user access to all of the project types available in MasterISO. The *New Project* window is divided into three main sections: *System Performance*, *Common CD-R/RW Functions* and *Advanced CD-R/RW Functions*.

System Performance Section

The *System Performance* section contains the *System Check* project type. This project type allows the user to test all of the components that comprise a CD-R/RW mastering system.

The more advanced features of MasterISO require high CPU speeds and I/O throughput. The *System Check* project type presents the user with the tools to determine if their system fulfils such requirements.

The *System Check* project type is covered in greater detail in a subsequent chapter.

Common CD-R/RW Functions Section

The *Common CD-R/RW Functions* section contains project types geared towards the novice to intermediate user. These project types include *CD-ROM*, *Audio*, *CD To CD-R/RW Copy* and *Erase Disc*.

The *CD-ROM* project type allows the user to create a standard data CD-ROM, with a variety of file systems, in Track At Once (TAO) mode only.

The *Audio* project type allows the user to create a standard audio CD in TAO mode only.

The *CD To CD-R/RW Copy* project type allows the user to backup an existing CD, directly to a CD-R/RW drive, using an AsimCDFS mounted CD-ROM drive.

The *Erase Disc* project type allows those users with CD-RW drives the capability to manage their erasable media.

All of the above listed project types are covered in greater detail in subsequent chapters.

Advanced CD-R/RW Functions Section

The *Advanced CD-R/RW Functions* section contains the *Advanced* project type. This project type is geared towards the expert user.

Within the *Advanced* project type, the user is given access to the entire MasterISO feature set.

The user has the capability to create CDs in Disc At Once (DAO) or TAO modes, with a variety of file systems.

The number of features in the *Advanced* project type are too numerous to list. The *Advanced* project type is covered in greater detail in subsequent chapters.

Selecting A Project Type

To begin a particular project, simply select the desired project type and select the **Ok** gadget.

The user may also load a saved project by selecting the **Open Project** gadget, located at the bottom of the *New Project* window. By selecting this gadget, the user is presented with a standard Amiga requester to load their previously saved project.

This gadget only appears when MasterISO is executed for the first time. This gadget does not appear when the user returns to this window from another part of the program.

Selecting the **Cancel** gadget will close the *New project* window. To start a project, the user must select the **New** or **Open** menu item from the *Project* menu.

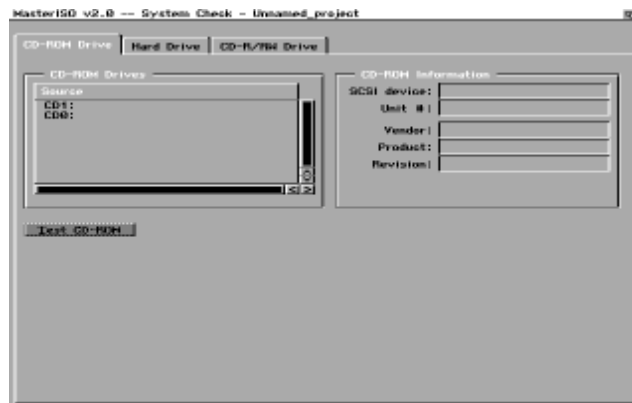
System Check Project Type

This section of MasterISO allows the user to test the various components that will be utilized for CD-R/RW mastering. The possible test components include: CD-ROM drives, hard drives, and CD-R/RW drives.

CD-ROM Drive Tab

Selecting the *CD-ROM Drive* tab allows the user to test the read speed of their CD-ROM drive. This test determines if the CD-ROM drive is able to do CD to CD-R/RW copying. It should be noted that MasterISO only supports AsimCDFS mounted CD-ROM drives for this testing and writing procedure.

When the user selects the *CD-ROM Drive* tab, they are presented with two distinct sections: *CD-ROM Drives* and *CD-ROM Information*.



CD-ROM Drives Section

The *CD-ROM Drives* section contains all AsimCDFS mounted CD-ROM drives that are attached to the system. These CD-ROM drives can either be SCSI or ATAPI based. For a complete list of AsimCDFS supported CD-ROM drives, please refer to the Technical Support area of our web site.

CD-ROM Information Section

The *CD-ROM Information* section contains the technical information concerning the CD-ROM drive. The items include:

SCSI Device: name of the controller the CD-ROM drive is attached to

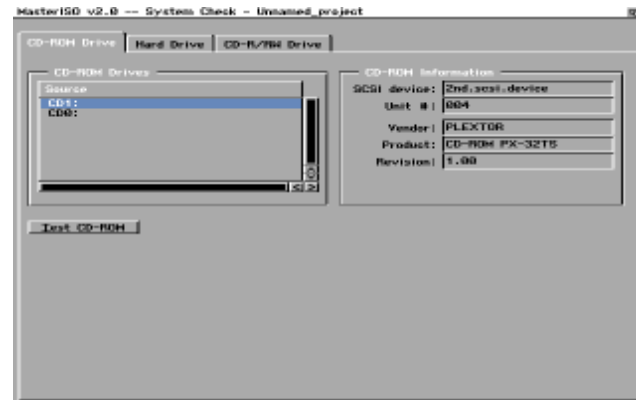
Unit #: ID number the CD-ROM drive is set to

Vendor: manufacturer of the CD-ROM drive

Product: model number of the CD-ROM drive

Revision: version of the CD-ROM drives internal firmware

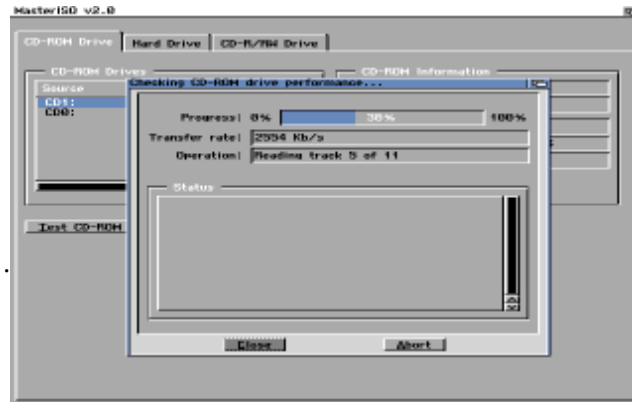
This section will only become active when a CD-ROM drive is selected in the *CD-ROM Drives* section.



Testing The CD-ROM Drive

Once the user has selected the CD-ROM to be tested, selecting the **Test CD-ROM** gadget will bring up the *Checking CD-ROM Drive Performance* window.

At this point, insert a CD into the CD-ROM drive. For an accurate test, the inserted CD should be indicative of the type of CD the user will be using most in the future.



The *Progress* indicator visually exhibits the percentage of the test completed.

The *Transfer Rate* field displays the time averaged data transfer rate of the CD-ROM drive.

The *Operation* field denotes the actual operation the drive is performing at any given time.

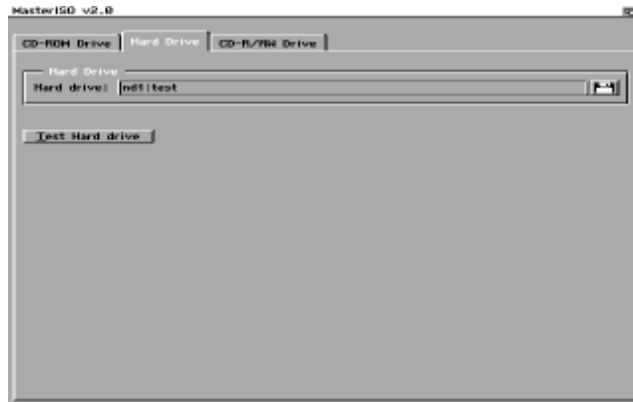
The *Status* window displays any messages or error notices encountered during the test phase. Upon completion of the test, a report is displayed in this window.

Once the test has been completed, select the **Close** gadget to exit from the test. If the user does not wish the testing to proceed to completion, select the **Abort** gadget to manually exit the test.

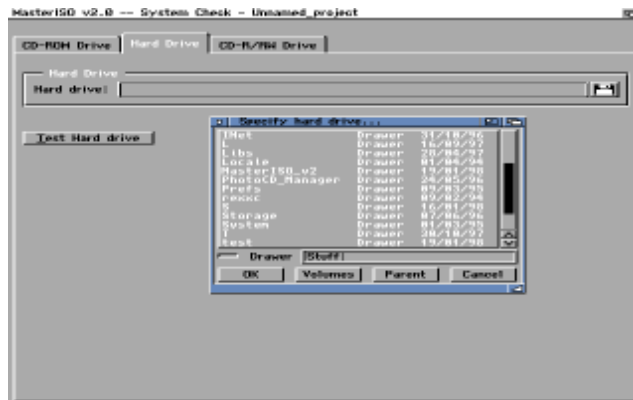
It should be noted that the abort process may not be instantaneous. MasterISO may be required to delete temporarily buffered files before returning control of the software back to the user. This behaviour is normal.

Hard Drive Tab

Selecting the *Hard Drive* tab allows the user to test the read speed of their hard drive. This test determines if the hard drive can supply the data to the CD-R/RW drive in a continuous stream. It is imperative that the hard drive be functioning properly prior to testing. MasterISO has no provisions to repair or alter problematic hard drives.



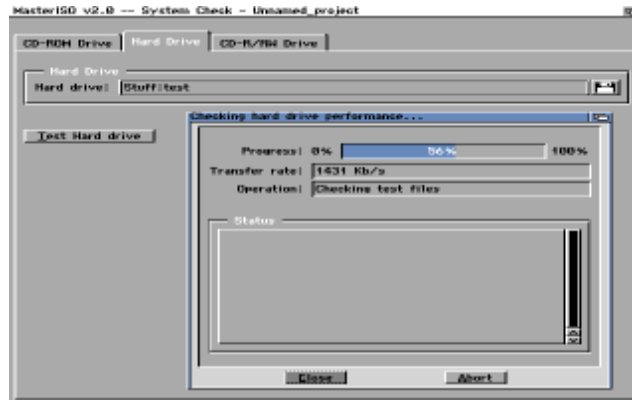
The user must define which hard drive is to be tested. This can be accomplished by selecting the disk icon. By selecting the icon, a standard Amiga requester will appear. The user must then select the hard drive to test, and the drawer into which the test files are written.



If no drawer is explicitly specified within the requester, the root directory of the selected drive is used. It should be noted that this procedure does not erase or damage the drive in any way. Any temporary files that are stored on the drive for testing purposes are removed upon completion of the test.

Testing The Hard Drive

Once the user has selected the hard drive to be tested, selecting the **Test Hard Drive** gadget display the following *Checking Hard Drive Performance* window.



The *Progress* indicator visually exhibits the percentage of the test completed.

The *Transfer Rate* field displays the time averaged data transfer rate of the hard drive.

The *Operation* field denotes the actual operation the drive is performing at any given time.

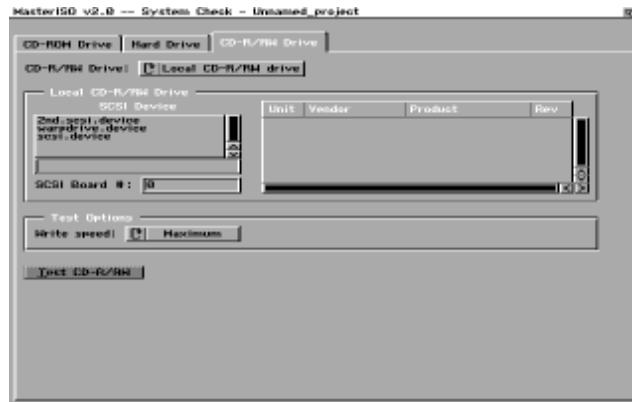
The *Status* window displays any messages or error notices encountered during the test phase. Upon completion of the test, a report will be displayed in this window.

Once the test has been completed, select the **Close** gadget to exit from the test. If the user does not wish the testing to proceed to completion, select the **Abort** gadget to manually exit the test.

It should be noted that the abort process may not be instantaneous. MasterISO may be required to delete temporarily buffered files before returning control of the software back to the user. This behaviour is normal.

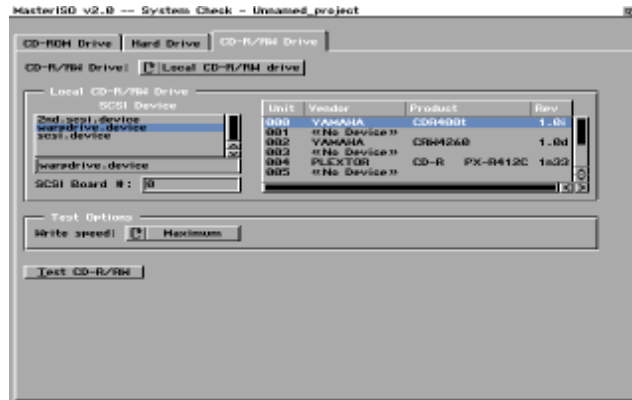
CD-R/RW Drive Tab

Selecting the **CD-R/RW Drive** tab allows the user to test the writing speed of their CD-R/RW drive. During this test, the drive attempts a simulated write procedure. The drive simulates all aspects of the writing procedure without activating the write laser. It is imperative that a new CD-R/RW disc be present in the drive for the test to be conducted. The blank media will **NOT** be written to.



The user must define which CD-R/RW drive is to be tested. First, the controller the drive is attached to must be selected in the *SCSI Device* window, under the *Local CD-R/RW Drive* section. ATAPI drives are selected via the *SCSI Device* window as well.

Once this has been completed, all properly configured devices attached to said controller appear in the right hand window. Simply select the device to test with the mouse.



Included in the right hand window is information concerning all of the devices attached to the selected controller. This information includes:

Unit: ID number the device
Vendor: manufacturer of the device
Product: model number of the device
Rev: version of the device's internal firmware

Each of these columns are fully resizable.

If no device is available at a particular ID number, <<No Device>> will appear.

If a controller does not auto-configure, it will not appear in the *SCSI Device* window. The user may manually input the SCSI device name used by the controller in the field directly below the *SCSI Device* window. Any previously selected device will appear in this field.

The SCSI Board # input field is used to distinguish between different SCSI chains on a multiple chain SCSI controller or between multiple SCSI controllers in one Amiga that use the same SCSI device name. This is most commonly seen with multiple GVP SCSI controllers in one Amiga or with the Newtek Flyer.

For most circumstances, this field should be defaulted to 0.

If the CD-R/RW drive is attached and powered on yet it does not appear in the list, it has not been configured properly. Please refer to our ATAPI or SCSI

information sections in the Appendix or the manufacturer's ATAPI or SCSI interface manual.

Test Options Section

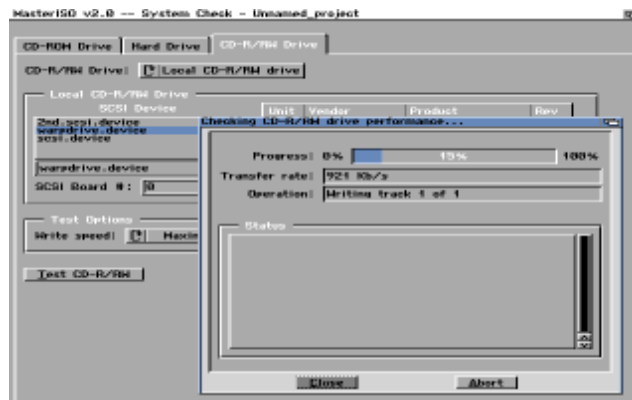
The user has the option of testing a specific write speed of the drive. This option is set by means of the **Write Speed** cycle gadget in the *Test Options* section.

The options include:

- **1X (150K/s)**
- **2X (300K/s)**
- **4X (600K/s)**
- **6X (900K/s)**
- **Maximum**

Testing The CD-R/RW Drive

Once the user has selected the CD-R/RW drive to be tested, selecting the **Test CD-R/RW** gadget displays the following *Checking CD-R/RW Drive Performance* window:



The *Progress* indicator visually exhibits the percentage of the test completed.

The *Transfer Rate* field displays the time averaged data transfer rate to the CD-R/RW drive as being tested by MasterISO. For an accurate test of the

transfer rate, the test should be completed. The test being conducted is measuring the data transfer rate to the drive and not the actual speed of the data being written to the disc.

The *Operation* field denotes the actual operation the drive is performing at any given time.

The *Status* window displays any messages or error notices encountered during the test phase. Upon completion of the test, a report is displayed in this window.

Once the test has been completed, select the **Close** gadget to exit from the test. If the user does not wish the testing to proceed to completion, select the **Abort** gadget to manually exit the test.

It should be noted that the abort process may not be instantaneous. MasterISO may be required to delete temporarily buffered files before returning control of the software back to the user. This behaviour is normal.

Additionally, the CD-R/RW drive may perform some internal 'housekeeping' when the write operation is prematurely aborted. This may last from a few seconds to several minutes, depending on the drive model.

CD-ROM Project Type

This section documents all of the features available to the user when making a standard data CD using MasterISO. With the *CD-ROM* project type, the user is able to create a standard data CD that can be read on various platforms of computers which support the ISO 9660 standard.

The *CD-ROM* project also allows for the creation of CDs utilizing the Rock Ridge (standard and Amiga specific) and Joliet file naming standards. Rock Ridge is the CD file system standard used on most UNIX and Amiga based systems. Joliet is the CD file system standard used by Windows 95.

For more information on the ISO 9660, Rock Ridge and Joliet standards, please refer to the Appendix.

The *CD-ROM* project type only allows the user to master data CDs using the Track At Once (TAO) recording method. For mastering data CDs using the Disc At Once (DAO) recording method, please refer to the *Advanced* project type. DAO data recording is available ONLY in *Advanced* mode.

For more information on TAO and DAO recording methods, please refer to the Appendix.

The *CD-ROM* project type masters data CDs ‘on-the-fly’ or in real-time. To do so, MasterISO requires ample CPU power and I/O throughput. If the user is unsure their particular system is able to provide the necessary CPU power, it is suggested that they attempt a simulated write first. For more information, please refer to the *Write Options* tab section later in this chapter.

It should be noted that writing data CDs by means of an ISO image is available via the *Advanced* project type only.

Directory Tree Tab

When the *CD-ROM* project type is selected, the user is first presented with the *Directory Tree* tab.



The *Directory Tree* tab is composed of two major areas. The first, and largest area, is the directory tree list window. This window allows the user to see the directory structure and the files within this structure to be written to the CD, prior to its creation.

The second major area of the *Directory Tree* tab is the tree manipulation tools. The tools used to modify and change the directory tree list are located as gadgets along the lower portion of the tab.

It should be noted that any work done on the directory tree list does not affect the sources files. All editing, deleting, renaming, etc., is done on the list only.

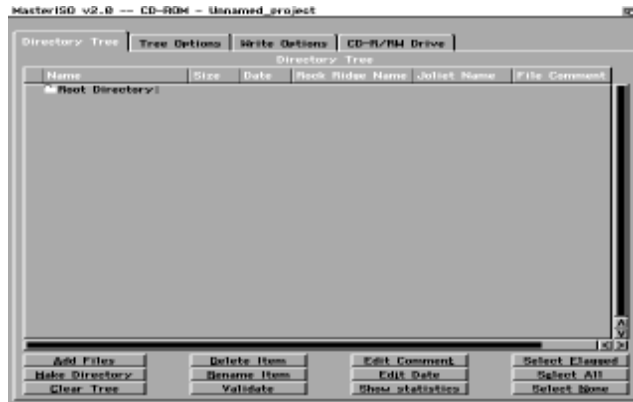
The directory tree list always contains the following resizable columns:

Name: file name (without path)

Size: file size (in bytes)

Date: file date (as taken from AmigaDOS)

Depending on the options set in the *Tree Options* tab, certain resizable columns may also appear, as seen in the following screen shot:



Rock Ridge Name: Rock Ridge name of the file
This column appears when the **Create Rock Ridge Volume** option is selected in the *Rock Ridge Extensions* section on the *Tree Options* tab.

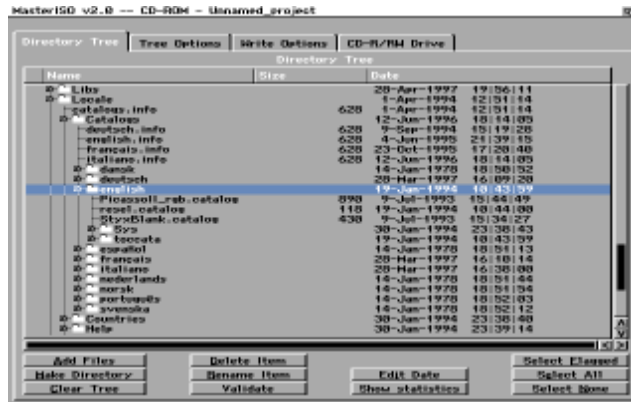
Joliet Name: Joliet name of the file
This column appears when the **Create Joliet Volume** option is selected in the *Joliet Volume* section on the *Tree Options* tab.

File Comment: file comment associated with the file
This column appears when the **Use Amiga-Specific Extensions** option is selected in the *Rock Ridge Extensions* section on the *Tree Options* tab. When selected, the **Edit Comment** gadget also appears in the tree manipulation tools section.

It should be noted that if the Rock Ridge and Joliet file names are identical to the file name in the *Name* column, they will **NOT** appear, unless the **Always Show RR And Joliet Name** option in *Settings* menu is selected. If the Rock Ridge and/or Joliet file name is modified from the original file name (by means of the **Rename Item** or **Validate** features), they will appear in the list.

Directory Tree List Terminology

Prior to explaining how to navigate the directory tree list or the function of the directory tree manipulation tools, it is imperative that the terminology used when explaining the directory tree list is described.



Above is a sample of a directory tree list with multiple files and directories.

An entry is **ANY** item on the list, be it a directory or a file.

A node is a directory that contains files or additional directories within it. In the directory tree above, they are represented by click boxes. For example **Libs** is a node.

Children are files or nodes that are located within a node. For example, both **resel.catalog** and **Sys** are children of the **english** node. The node **Catalogs** is also known as the Parent Node for any of these children.

A leaf does not have any files or nodes below it in the directory structure. For example, the file **italiano.info** is a leaf.

Navigating The Directory Tree List

Navigating through the directory tree list can be accomplished by means of the mouse or keyboard equivalents.

Using the terminology described above, the following list will help the user navigate through the directory tree quickly and efficiently, with the keyboard.

Key Stroke	Placement On	Action
RETURN	Collapsed node	Expand node
	Expanded node	Collapse node
CURSOR UP	Any entry	Select entry up a position
CURSOR DOWN	Any entry	Select entry down a position
CURSOR RIGHT	Collapsed node	Expand node
	Expanded node	Select first child
CURSOR LEFT	Collapsed node	Select parent node
	Expanded node	Collapse node
	Leaf	Select parent node
SHIFT+CURSOR UP	Any entry	Select previous flagged entry
SHIFT+CURSOR DOWN	Any entry	Select next flagged entry
CTRL+CURSOR UP	Any entry	Select first entry
CTRL+CURSOR DOWN	Any entry	Select last entry

With the mouse, the user is able to move to any entry by means of the scroll bar on the right hand side of the window.

To expand and collapse nodes with the mouse, simply double click the node. This can also be done by clicking the small click boxes attached to a node.

Selecting Entries Within The Directory Tree List

Please refer to the section on Selecting List Entries Within MasterISO Interfaces found in the Appendix.

Adding Files Or Directories To The Directory Tree List

To add a single file, multiple files or directories to the directory tree list, simply select the **Add Files** gadget located just below the directory tree list window.

By selecting the gadget, a standard Amiga requester appears, enabling the user to add one or more files or directories to the directory tree list.

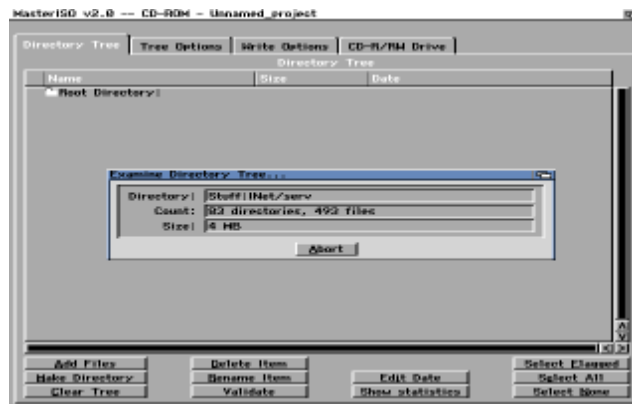
If no entry is highlighted in the directory tree list, the added files or directories are added to Root directory.

If a directory is highlighted in the directory tree list, the added files or directories are added to that particular directory.

If an individual file is highlighted in the directory tree list, MasterISO reports an error.

If multiple files and/or directories are highlighted, MasterISO once again reports an error.

Once the user has chosen which items to add to the directory tree list, the following *Examine Directory Tree* window appears:



This window displays the following information:

Directory: directory from which the source files are being read

Count: real-time number of files and directories added to the directory tree

Size: real-time approximate size of the files added

If the user wishes to stop the process, select the **Abort** gadget located in the bottom middle of the window. If **Abort** is selected, all items added to the directory tree list, up to the time of the abort, will remain in the list. However, due to the nature of the adding algorithm, empty directories may appear in the directory tree list as well.

Deleting Entries From The Directory Tree List

It is often necessary to remove entries from the directory tree list. These entries may include an individual file, multiple files, whole directories, or the whole tree itself.

Simply highlight the entries to be deleted from the directory tree and select the **Delete Item** gadget. The gadget is located in the tree manipulation tools section.

When a node is deleted from the list, all children of that node, regardless of their type, are subsequently removed.

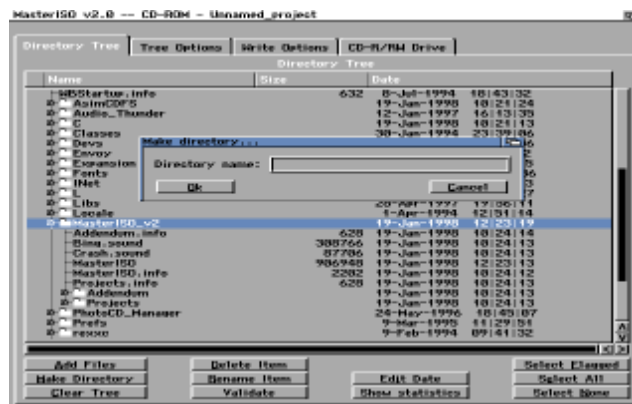
When entries are deleted from the directory tree list, it is their inclusion in this list that are being deleted. The actual source items are left untouched.

To remove the entire directory tree list, select the Root Directory entry and then the **Delete Item** gadget. The user may also clear the entire tree by selecting the **Clear Tree** gadget.

Making A Directory Within The Directory Tree List

To make a directory within the directory tree list, select the **Make Directory** gadget in the tree manipulation tools section.

Doing so produces the following *Make Directory* window:



It is necessary to input the name of the directory in the **Directory Name** field and then select the **Ok** gadget. Pressing the 'return' key has the same effect as selecting the **Ok** gadget.

If no entry is highlighted in the directory tree list, the new directory then becomes a child of the Root directory.

If a node is highlighted in the directory tree list, the new directory then becomes a child of that node.

If a file is highlighted in the directory tree list, MasterISO reports an error.

It is possible to add a directory to multiple highlighted directories.

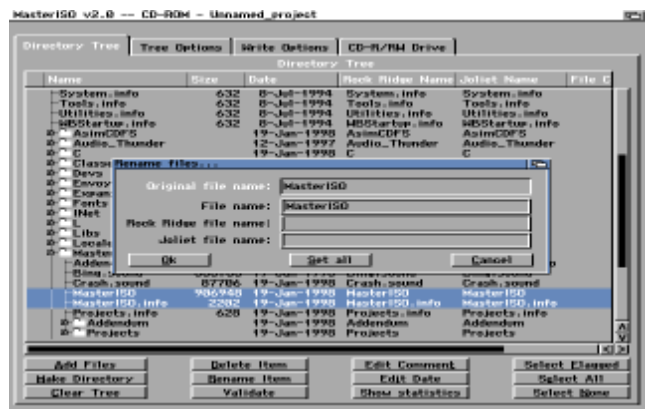
The new directory added to the directory tree list will not be validated to ensure that it conforms to the specifications of the selected file system chosen on the *Tree Options* tab. It is left to the user to validate the directory tree again.

Renaming Entries In The Directory Tree List

This features allows the user to rename any entry in the directory tree list.

Simply highlight the entry or entries to be renamed from the directory tree and select the **Rename Item** gadget. The gadget is located in the tree manipulation tools section.

Doing so produces the following *Rename Files* window:



The *Rename Files* window contains the following fields:

Original File Name: This field displays the original file name as it was read from the source hard drive or CD-ROM drive. This field cannot be edited by the user. This field remains unchanged, regardless of the number of changes made to the entry in the directory tree list.

File name: This field displays the ISO 9660 name of the selected entry. The user can also alter the ISO 9660 name directly within this field.

If this field is left blank, the ISO 9660 file name will revert back to the original file name.

Rock Ridge File Name: This field displays the Rock Ridge name of the selected entry. The user can also alter the Rock Ridge name directly within this field.

This file name does not need to be similar to the ISO 9660 file name. This field only appears when the **Create Rock Ridge Volume** option is selected in the *Rock Ridge Extensions* section on the *Tree Options* tab.

If this field is left blank, there are two possibilities as to how MasterISO interprets what to use as the Rock Ridge file name. If the **Rock Ridge Names Automatically Assume Original Name** option on the *Tree Options* tab is selected, the original file name is used as the Rock Ridge file name. If this option is not selected, the ISO 9660 file name is used as the Rock Ridge file name.

Joliet File Name: This field displays the Joliet name of the selected entry. The user is also able to alter the Joliet name directly within this field.

This field only appears when the **Create Joliet Volume** option is selected in the *Joliet Volume* section on the *Tree Options* tab.

If this field is left blank, the Joliet file name assumes the original file name. This file name does not need to be similar to the ISO 9660 file name.

When multiple entries are selected for renaming, the **Set All** gadget appears in the *Rename Files* window. This gadget allows the user to set all of the selected files to **ONE** file name. This is most useful for returning the directory tree list to its original state. Simply select all of the entries in the directory tree list and leave all of the fields in the *Rename Files* window empty. This returns the directory tree list to its original state.

It should be noted that when entries are renamed in the directory tree list, it is their names in this list that are being renamed. The actual source items are left untouched.

Validating The Directory Tree List

To ensure the CD the user is about to create conforms to the standards of the chosen file system(s), MasterISO has instituted a comprehensive validation system for the directory tree list.

Selecting the **Validate** gadget presents the user with two options: **File Names** and **File Information**.

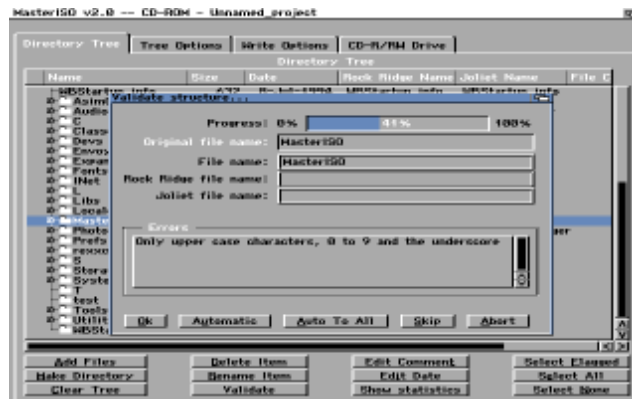
All flagged entries from a previous validation operation are cleared when a subsequent validation operation is done.

Validating File Names

To validate file names, the user must select which files are to be validated from the directory tree list and then select the **Validate** gadget in the tree manipulation tools section.

If no entries are selected within the directory tree list, the entire tree is validated.

Selecting the **Validate/File Names** gadget displays the *Validate Structure* window.



The *Validate Structure* window contains the following fields:

Progress: This indicator displays the real-time percentage of the completed validation cycle.

Original File Name: This field displays the original file name as it was read from the source hard drive or CD-ROM drive. This field cannot be edited by the user. This field remains unchanged, regardless of the number of changes made to the entry in the directory tree list.

File name: This field displays the ISO 9660 name of the selected entry. The user can also alter the ISO 9660 name directly within this field. If this field is left blank, the file name assumes the original file name.

Rock Ridge File Name: This field displays the Rock Ridge name of the selected entry. The user can also alter the Rock Ridge name directly within this field.

This file name does not need to be similar to the ISO 9660 file name. This field only appears when the **Create Rock Ridge Volume** option is selected in the *Rock Ridge Extensions* section on the *Tree Options* tab.

If this field is left blank, there are two possibilities as to how MasterISO interprets what to use as the Rock Ridge file name. If the **Rock Ridge Names Automatically Assume Original Name** option on the *Tree Options* tab is selected, the original file name is used as the Rock Ridge file name. If this option is not selected, the ISO 9660 file name is used as the Rock Ridge file name.

Joliet File Name: This field displays the Joliet name of the selected entry. The user is also able to alter the Joliet name directly within this field.

This field only appears when the **Create Joliet Volume** option is selected in the *Joliet Volume* section on the *Tree Options* tab.

If this field is left blank, the Joliet file name assumes the original file name. This file name does not need to be similar to the ISO 9660 file name.

Errors: This section displays the reason a particular entry did not conform to the standards set by the user.

Below the *Errors* section, there are many different gadgets the user may select to speed up the validation process.

These items include:

Ok: This gadget accepts the current entries in the fields, provided they conform to the standards of the file system(s) chosen.

Automatic: This gadget automatically adjusts the name of the current entry to conform to the standards of the file system(s) chosen by the user.

Automatic To All: This gadget automatically adjusts the name of all the selected entries to conform to the standards of the file system(s) chosen by the user.

It should be noted that MasterISO uses a proprietary renaming system to ensure that the files adhere to the standards of the file system(s) selected by the user. MasterISO attempts to keep the original file name as much as possible.

Skip: This gadget skips the validation of the current entry.

Abort: This will exit the current validation cycle. All previous changes remain intact.

It should be noted that when entries are renamed in the directory tree list as a result of the validation process, it is their entries in this list that are being renamed. The actual source items are left untouched.

Validating File Information

The **Validate/File Information** feature examines the entries in the directory tree list. The comparison is done between the time the entries were first added to the directory tree list, to the present.

This feature is especially useful for updating the information stored in a saved project.

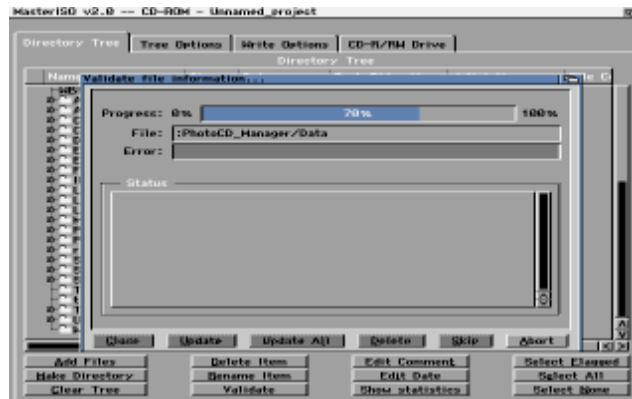
The following items are checked during the validation of file information:

- Entry existence (file or directory)
- Entry date (file or directory)
- File size
- File comment
- File type
- File protection bits

To validate file information, the user must select which entries are to be validated from the directory tree list and then select the **Validate/File Information** gadget in the tree manipulation tools section.

If no entries are selected within the directory tree list, the entire tree is validated.

Selecting the **Validate/File Information** gadget displays the *Validate File Information* window.



The *Validate File Information* window contains the following fields:

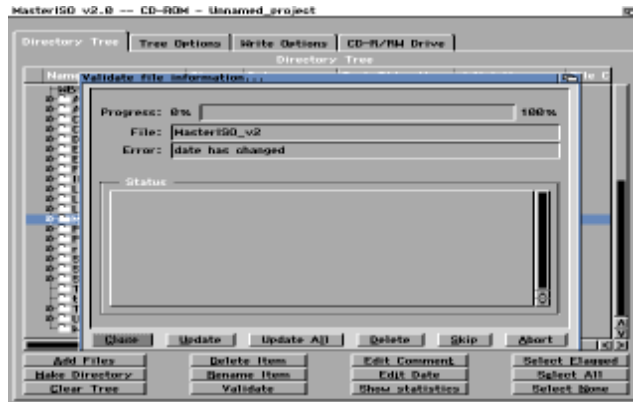
Progress: This indicator displays the real-time percentage of the completed validation cycle.

File: This field displays the entry being validated.

Error: This field displays any changes that have been made to an entry, based on the above criteria. Once done, the gadgets along the bottom of the window become available to the user.

Status: If an error has been encountered and acted upon, the action taken to rectify the situation is displayed in this section.

Below the *Errors* section, there are many different gadgets the user may select to speed up the validation process. These gadgets are only available to the user if a change in an entry has been detected.



These gadgets include:

Close: This gadget is available once the validation cycle is complete.

Update: This gadget updates the current entry with the new information.

Update All: This gadget updates all the selected entries that contain new information.

Delete: This gadget deletes the entry from the directory tree list.

Skip: This gadget causes the validation cycle to skip the error found with the current entry.

Abort: This gadget allows the user to exit the *Validate File Information* window. All changes made previously will remain in effect.

Editing Entry Dates

It is possible to change the date and/or time of the entries in the directory tree list.

It should be noted that when dates and/or times are changed in the directory tree list, only these attributes in the list are changed. The actual source items are left untouched.

Simply select one or more entries from the directory tree list and then select the **Edit Date** gadget.

Doing so produces the following *Edit Date And Time* window:



The *Edit Date And Time* window contains the following:

Name: This field contains the name of the entry being modified. It cannot be edited by the user.

Year: This field contains the year to which the entry will be modified. This field can be modified by the user. Changing the value in this field will produce a different calendar to be displayed.

Month: This cycle gadget allows the user to set the month to which the entry will be modified.

The calendar allows the user to set the day to which the entry will be modified to by simply selecting the desired day with the left mouse button.

The **Current** gadget allows the user to set the date and time of the entry to the current date and time (as taken from the Amiga's internal clock and calendar settings).

The **Hours** and **Minutes** sliders allow the user to select the hour and minute the file will be modified to respectively.

The *Selected Time* field represents the new date and time to which the entry will be modified. This field cannot be directly edited by the user.

Once all of the date and time parameters have been adequately set, select the **Use** gadget for the change in the directory tree list to take effect.

If the user does not want the changes to take effect, simply select the **Cancel** gadget.

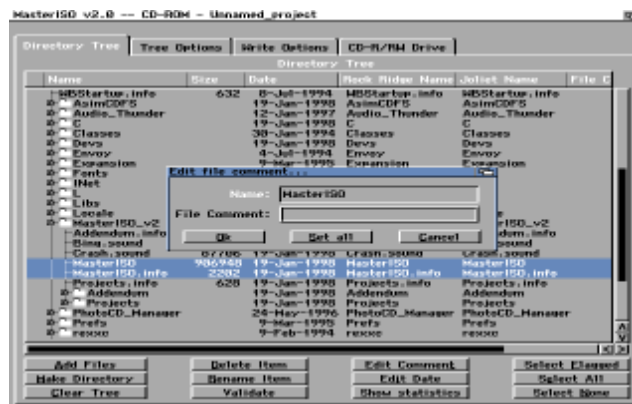
If more than one entry in the directory tree list is selected, the **Set All** gadget appears. This gadget allows the user to set the date and time attributes of all the selected entries to that seen in the window.

Editing File Comments

When the **Use Amiga-Specific Extensions** option in the *Rock Ridge Extensions* section on the *Tree Options* tab is selected, the *File Comments* column appears in the directory tree list, as well as, the **Edit Comment** gadget in the tree manipulation tools section.

The **Edit Comment** gadget allows the user to alter the file comments attached to a file or directory.

Simply select one or more entries from the directory tree list whose file comments need editing and then select the **Edit Comment** gadget. Doing so produces the following *Edit File Comment* window:



This *Edit File Comment* window contains the file comment to be modified in the **File Comment** field. This field can be directly modified by the user.

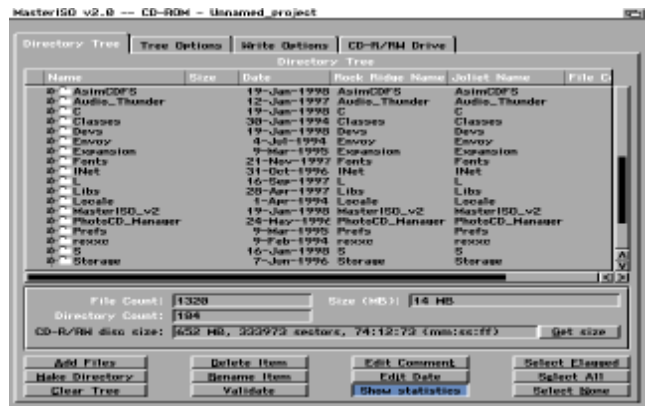
The name of the file or directory whose file comment is being modified can be seen in the *Name* field. This field cannot be modified by the user. This field only appears when multiple entries are selected.

To make the appropriate change to the file comment, the user must then select the **Ok** gadget. Selecting the **Cancel** gadget renders the changes made in the file comment field void. If more than one entry is selected in the directory tree list, the **Set All** gadget appears in the *Edit File Comment* window. Selecting this option allows the user to set a uniform file comment to all of the selected entries.

Directory Tree List Statistics

At any time during the creation or editing of the directory tree list, the user may obtain real-time statistics on the contents of the list.

By selecting the **Show Statistics** gadget in the tree manipulation tools section, the following adjustment to the *Directory Tree* tab occurs:



Selecting the **Show Statistics** gadget a second time causes this section to disappear.

The added section contains the following:

- File Count*: real-time number of files in the list
- Directory Count*: real-time number of directories in the list
- Size (MB)*: Approximate size of the entries in the list in megabytes (MB). The actual sector size of the source files is calculated at write time.

If a CD-R/RW drive is selected on the *CD-R/RW Drive* tab, and a blank CD-R/RW disc is located in the drive, the user may select the **Get Size** gadget. This allows the user to verify that they have ample room on the CD-R/RW disc to place all of their files. The information is displayed in megabytes (MB), sectors and time (minutes:seconds:frames).

Selecting Similar Entries

MasterISO has provided three gadgets that enables the user to perform common directory tree list selection operations more quickly and efficiently.

These gadgets are located on the bottom right corner of the *Directory Tree* tab. They include:

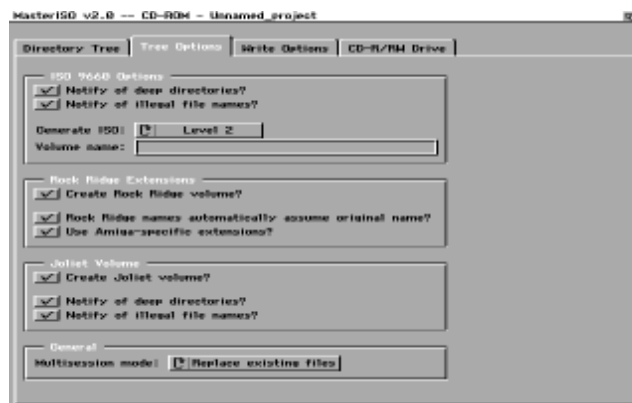
Select Flagged: selects all of the flagged entries in the directory tree list

Select All: selects all of the entries in the directory tree list

Select None: cancels any highlighted entries in directory tree list

Tree Options Tab

The *Tree Options* tab is used in close conjunction with the *Directory Tree* tab. Many items set in the *Tree Options* tab will reflect different configurations in the *Directory Tree* tab, most notably in the directory tree list.



The *Tree Options* tab provides the user with a wealth of options for customizing the file system and multisession types for their particular project.

The *Tree Options* tab is categorized into four main sections: *ISO 9660 Options*, *Rock Ridge Extensions*, *Joliet Volume* and *General*.

ISO 9660 Options Section

Notify Of Deep Directories: This option warns the user when their directory tree has surpassed the maximum number of directory levels allowable under the ISO 9660 Level 1 or 2 specification. The warnings are given when the directory tree is validated using the **Validate/File Names** option on the *Directory Tree* tab.

Disabling this option may cause the burned disc to be unreadable on some receiving CD-ROM file systems.

Notify Of Illegal File Names: This option warns the user when a file name, directory name or volume name has not adhered to the ISO 9660 Level 1 or 2 specification. The warning is given when the directory tree is validated using the **Validate File Names** option on the *Directory Tree* tab or the **Volume Name** is entered.

Disabling this option may cause the burned disc to be unreadable on some receiving CD-ROM file systems.

Generate ISO: This cycle gadget allows the user to select the ISO level (1 or 2), which is **ONLY** used for the validating of directory tree list entries.

Volume Name: This field allows the user to input the volume name that the CD will be burned with. The entered volume name must follow the ISO 9660 Level 1 or Level 2 specification.

The **Volume Name** field is only verified if the **Notify Of Illegal File Names** option is selected.

For more information concerning the ISO 9660 Level 1 and Level 2 specifications for file names, directory names, volume names and directory structures, please refer to the Appendix.

Rock Ridge Extensions Section

Create Rock Ridge Volume: This option allows for the creation of a Rock Ridge volume, built upon the ISO 9660 volume.

Selecting this option makes various changes to the *Directory Tree* tab and allows access to the various Rock Ridge options in this section.

Rock Ridge Names Automatically Assume Original Name: When this option is selected, leaving the *Rock Ridge File Name* field in the *Rename Files* or *Validate Structure* windows will cause the Rock Ridge file name to revert to the original file name. For more information on these two operations, please refer to the section on the *Directory Tree* tab.

Use Amiga-Specific Extensions: When this option is selected, any file comments attached to files or directories will be written to the CD. Selecting this option also allows for the editing of file comments on the *Directory Tree* tab. For more information on the editing of file comments, please refer to the section on the *Directory Tree* tab.

Joliet Volume Section

Create Joliet Volume: This option allows for the creation of a Joliet volume.

Selecting this option makes various changes to the *Directory Tree* tab and allows access to the various Joliet options in this section.

Notify Of Deep Directories: This option warns the user when the path length of the directory tree has surpassed the maximum number of characters allowable under the Joliet specification. The warning is given when the directory tree is validated using the **Validate/File Names** option on the *Directory Tree* tab.

Disabling this option may cause the burned disc to be unreadable on some receiving CD-ROM file systems.

Notify Of Illegal File Names: This option warns the user when a file name, directory name or volume name has not adhered to the Joliet specification. The warnings are given when the directory tree is validated using the **Validate/File Names** option on the *Directory Tree* tab or the **Volume Name** is entered.

Disabling this option may cause the burned disc to be unreadable on some receiving CD-ROM file systems.

General Options Section

This section contains the **Multisession Mode** cycle gadget which enables the user to set the various types of multisession modes possible for a data disc.

The cycle gadget has the following options:

None: This mode begins writing at sector 0.

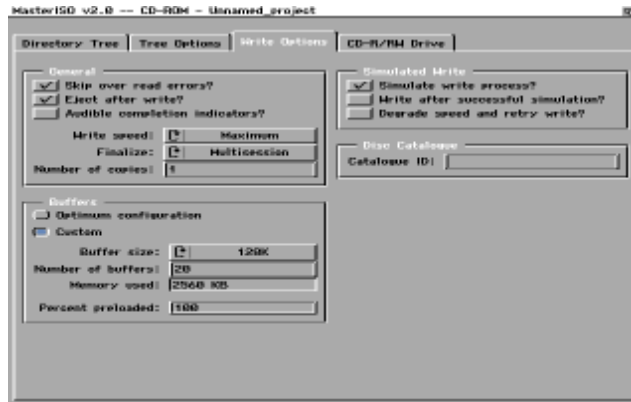
Ignore Other Sessions: This mode begins writing the data at the next writable address on the disc. The added session is a distinct session from the previous sessions. It should be noted that some CD-ROM drives and CD-ROM file systems cannot read the additional tracks added to a multisessioned data CD.

Replace Existing File Names: This mode replaces all the files with identical file names with the newer versions. All remaining files on the first session are left untouched and merged with the current directory tree. The CD that the files are being added to must be in the drive and a CD-R/RW drive selected on the *CD-R/RW Drive* tab.

Keep Existing File Names: This mode keeps original files intact when files with an identical file name is attempted to be added. The remaining original files will be merged with the current directory tree. The CD that the files are being added to must be in the drive and a CD-R/RW drive selected on the *CD-R/RW Drive* tab.

Write Options Tab

Once all of the files to be written have been added and arranged in the directory tree list, the user may then proceed to the *Write Options* tab. This tab enables the user to set the various options needed to create the data CD.



The *Write Options* tab provides the user with a wealth of options for customizing the writing process.

The *Write Options* tab is categorized into four main sections: *General*, *Simulated Write*, *Buffers* and *Disc Catalogue*.

General Options Section

Skip Over Read Errors: Selecting this option causes MasterISO to skip any over read errors on the source files. MasterISO replaces the corrupt information, as well as the remainder of the file, with ‘zero’ data on the CD.

Eject After Write: Selecting this option causes the completed CD to be ejected from the drive upon a successful write session.

Audible Completion Indicators: Selecting this option produces a sound upon completion of the writing process. There are two distinct sounds that are heard; one for a successful writing session and one for an incomplete write session. The user can customize the sound heard by replacing the existing sound files.

The two sound files that are located in the MasterISO_v2 directory are:

- Bing.sound - for a successful write operation
- Crash.sound - for a unsuccessful write operation

Simply copy the sound files to be used to the MasterISO_v2 directory and rename them as listed above. The sound files must be of a format supported by MasterISO and of a reasonable length (<10 seconds).

Write Speed: This cycle gadget allows the user to manually set the speed at which to write to the CD-R/RW drive. This gadget has the following options:

- **1X (150 K/s)**
- **2X (300 K/s)**
- **4X (600 K/s)**
- **6X (600 K/s)**
- **Maximum**

If the user sets a speed that is not supported by their particular CD-R/RW drive, MasterISO or the drive itself will attempt to use a more appropriate writing speed.

Setting the **Write Speed** to **Maximum** allows MasterISO to set the maximum available write speed for the user's particular CD-R/RW drive.

All drive specific parameters can be found in the Addendum directory in the MasterISO_v2 directory.

Finalize: This cycle gadget allows the user to set the status of the CD when writing is complete.

The available selections include:

- **Multisession**
- **Close Disc**
- **Don't Close Disc**

By setting the **Finalize** option to **Multisession**, the user has the ability to add additional files to the CD at a later time. However, the CD can still be read in any computer CD-ROM drive until that time. It should be noted that not all CD-ROM drives can read the additional information added to a multisessioned data CD. The user must ensure that their particular CD-ROM drive has multisession capabilities to be able to read any additional information that is added to the disc.

If the user sets the **Finalize** option to **Close Disc**, this allows for the creation of a standard data CD. This CD will be able to be used in any computer CD-ROM drive as is. No additional information may be added to the disc.

The last choice for the **Finalize** option is **Don't Close Disc**. With this option, the user may add additional information to the CD at any time.

When adding additional files to the CD, the user must have the unclosed CD-R/RW disc in the CD-R/RW drive. The procedure in adding the additional

information is identical to the adding of files to a new CD-R/RW disc. MasterISO recognizes the CD with the previously written information and makes the necessary changes to accommodate the included files.

When adding additional files, the **Finalize** options can still be set to any of the options listed above.

To determine how the added files are handled in comparison to the existing files on the CD, please refer to the **Multisession Mode** option description in the *General* section of the *Tree Options* tab.

It should be noted that while a disc is unclosed, it will not be able to be read in any CD-ROM drive. Only the CD-R/RW drive that initially wrote the CD will be able to read it. This is due to the fact that the unclosed CD-R/RW disc does not contain a table of contents (TOC).

Once all of the *General* options have been set, the number of copies required can be entered into the **Number Of Copies** field. Upon entering the number of copies needed, hitting the 'return' key is required for the information to be verified. A maximum value of 99 may be entered.

Simulated Write Section

The *Simulated Write* section contains options which can be used when testing a particular burn session, prior to actually burning the disc.

These options include:

Simulate Write Process: Selecting this option enables MasterISO to perform every aspect of a write session except for the activation of the write laser. If MasterISO completes a successful simulated write session, a real write session should be successful as well.

When the **Simulate Write Process** option is selected, the following options become available:

Write After Successful Simulation: Selecting this option allows MasterISO to automatically begin a real write session upon the completion of a simulated write session.

If the user owns a tray loaded CD-R/RW drive, MasterISO will automatically eject the blank CD-R/RW disc and reinsert it. This is necessary since the drive must be reset following a successful simulated write session.

If the user is using a caddy loaded CD-R/RW drive, the user must reinsert the blank disc after it has been ejected by the software to continue the process.

Degrade Speed And Retry Write: Selecting this option allows MasterISO to degrade the write speed of the CD-R/RW drive if the simulated write session fails. MasterISO will attempt the simulated write session at the next lower supported speed of the CD-R/RW drive.

This option can be used in conjunction with the previous options to account for all possible simulation permutations.

As with the previous option, tray loaded CD-R/RW drives will automatically be reset, while caddy loaded CD-R/RW drives must have the blank disc reinserted by the user.

Buffers Section

Please read the general information section on Data Buffering located in the Appendix before continuing.

The *Buffers* section allows the user as little or as much control over how MasterISO handles its internal buffering, as desired.

Optimum Configuration: Selecting this option allows MasterISO to use the optimal number of buffers and buffer size for the user's particular system.

If the user does not wish MasterISO to control the buffer parameters, the user may manually set them. This is done by selecting the **Custom** option.

Once this option is selected, the various parameters become available to the user. These parameters are:

Buffer Size: This gadget allows for the setting of a 128K or 512K buffer size. Certain drives operate more efficiently with a specific buffer size.

All drive specific parameters can be found in the Addendum directory in the MasterISO_v2 directory.

Number Of Buffers: This data field allows the user to set the number of buffers used. The maximum number of buffers possible is 999. Hitting the 'return' key is required before MasterISO will recognize the entry.

Memory Used: This field displays the amount of memory used by MasterISO for buffering based on the buffer size and the number of buffers entered. This data field may not be modified by the user.

If the calculated amount of memory used exceeds the amount of available fast RAM , MasterISO will use all fast memory possible, save and except, 512 K.

Percent Preloaded: As MasterISO begins the writing process, it will fill the buffer memory to the percentage entered before beginning the writing process. This field allows the user to set that percentage. This data field can have a value between 0 and 100. Hitting the 'return' key is required before MasterISO will recognize the entry.

Disc Catalogue Section

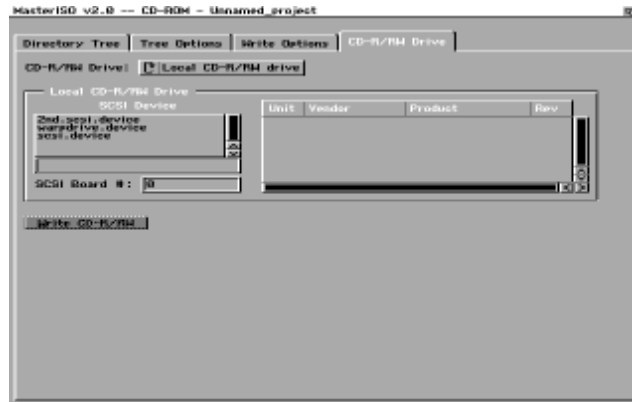
The final section of the *Write Options* tab is the *Disc Catalogue* section. This section allows the user to input a catalogue ID for the data CD.

This is done by entering the data into the **Catalogue ID** field and pressing the 'return' key. The catalogue ID is numerical only, with a maximum length of 13 digits.

If no catalogue ID value is entered, MasterISO will leave the area blank on the disc. Not all CD-R/RW drives have the capability to write a catalogue ID.

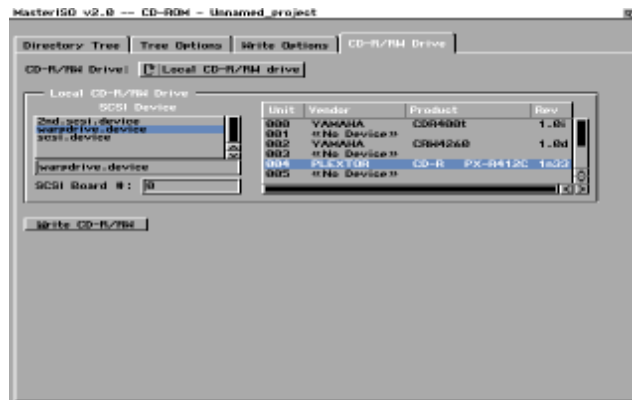
CD-R/RW Drive Tab

Once all of the write options have been set by the user, the CD-R/RW drive must be selected. This is done on the *CD-R/RW Drive* tab.



The user must first select the controller the drive is attached to in the *SCSI Device* window under the *Local CD-R/W Drive* section. ATAPI drives are selected via the *SCSI Device* window as well.

Once this has been completed, all properly configured devices attached to said controller will appear in the right hand window. Simply select the device to be used with the left mouse button.



Included in the right hand window is information concerning all of the devices attached to the selected controller. This information includes:

- Unit*: ID number the device
- Vendor*: manufacturer of the device
- Product*: model number of the device
- Rev*: version of the device's internal firmware

Each of these columns is fully resizable.

If no device is available at a particular ID number, <<No Device>> will appear.

If a controller does not auto-configure, it will not appear in the *SCSI Device* window. The user may manually input the device name used by the controller in the field directly below the *SCSI Device* window. Any previously selected device will appear in this field.

The **SCSI Board #** input field is used to distinguish between different SCSI chains on a multiple chain SCSI controller or between multiple SCSI controllers in one Amiga that use the same SCSI device name. This is most commonly seen with multiple GVP SCSI controllers in one Amiga or the Newtek Flyer.

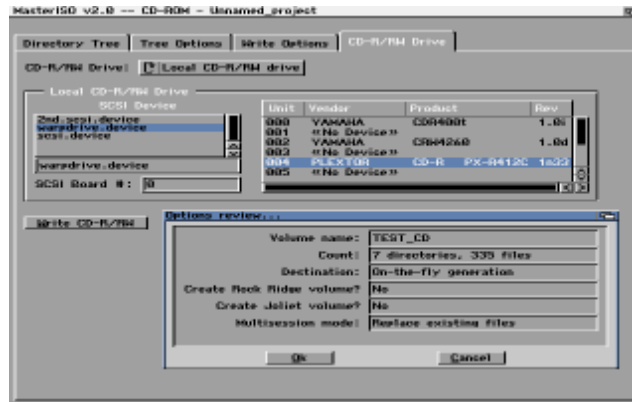
For most circumstances, this field should be defaulted to 0.

If the CD-R/RW drive is attached and powered on, yet does not appear in the list, it has not been configured properly. Please refer to our ATAPI or SCSI information sections in the Appendix or the manufacturer's ATAPI or SCSI interface manual.

Writing The Disc

Once the CD-R/RW drive has been selected, selecting the **Write CD-R/RW** gadget initiates the write process.

Prior to writing the CD, the user is presented with two *Options Review* windows. The first review window appears as such:



This window contains the following information:

Volume Name:

Count: (number of directories and files)

Destination:

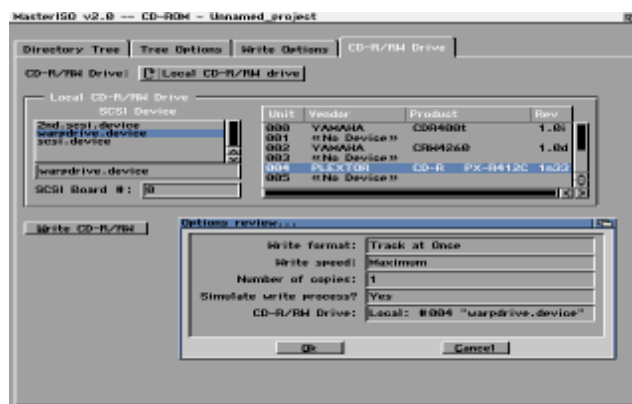
Create Rock Ridge Volume?

Create Joliet Volume?

Multisession Mode:

At this point, the user has the ability to continue with the process by selecting the **Ok** gadget or aborting the process by selecting the **Cancel** gadget.

If the user elects to continue, the second *Options Review* window appears.



This window contains the following information:

Write Format:

Write Speed:

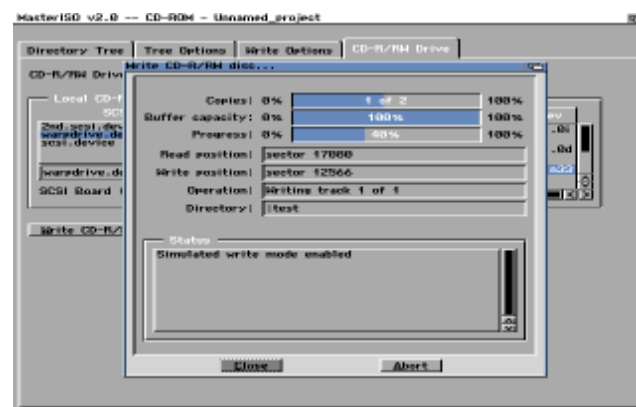
Number of Copies:

Simulate Write Process?

CD-R/RW Drive:

At this point, the user may exit the write process by selecting the **Cancel** gadget, or continue by selecting the **Ok** gadget.

If the **Ok** gadget is selected, the *Write CD-R/RW Disc* window is displayed and the writing process begins.



This window provides a plethora of information during the writing of the CD.

The *Copies* indicator displays the real-time percentage and the number of copies being written. This indicator is only present when multiple copies of the same data CD are requested via the **Number Of Copies** field on the *Write Options* tab.

The *Buffer Capacity* indicator displays the real-time percentage of the total amount of the buffer that is filled with data to be written.

The *Progress* indicator visually exhibits the real-time percentage of the completed write session.

The *Read Position* field displays the sector of the source file being read in real-time.

The *Write Position* field displays the sector of the CD being written to in real-time.

The *Operation* field denotes the actual operation the drive is performing at any given time.

The *Directory* field displays the directory the files are being read from as they are transferred into the buffer.

The *Status* window displays any messages or error notices encountered during the writing phase.

Upon completion of the writing session, a notification is displayed in the *Status* window. Selecting the **Close** gadget returns the user back to the program.

If, at any time, the user does not wish the writing of the CD to proceed to completion, selecting the **Abort** gadget manually exits the write process.

It should be noted that if the **Simulate Write Process** option was not selected, the disc may be rendered unusable.

It should also be noted that the abort process may not be instantaneous. MasterISO may be required to delete temporarily buffered files before returning control of the software back to the user. This behaviour is normal.

Additionally, the CD-R/RW drive may perform some internal 'housekeeping' when the write operation is prematurely aborted. This may last from a few seconds to several minutes, depending on the drive model.

Audio Project Type

This section documents all of features available to the user when making a standard audio CD using MasterISO. With the *Audio* project type, the user is able to create a standard Redbook audio CD that can be played in any home, car, portable or computer-based CD unit.

The *Audio* project type only allows the user to master audio CDs using the Track At Once (TAO) recording method. For mastering audio CDs using the Disc At Once (DAO) recording method, please refer to the *Advanced* project type. DAO audio recording is available **ONLY** in *Advanced* mode.

For more information on TAO and DAO recording methods, please refer to the Appendix.

The audio data stored on a standard audio CD is in the Compact Disc Digital Audio (CDDA) format. The audio is stored as a 16 bit stereo sample, sampled at 44100 Hz.

For more information on CDDA, please refer to the CDDA Data Specifications section found in the Appendix.

Audio Tracks Tab

When the *Audio* project type is selected, the user is able to view the *Audio Tracks* tab.



It is within this interface that the user is able to select which files will be written to the CD as audio tracks.

The track list window contains the following resizeable columns:

#: track number of the selected file

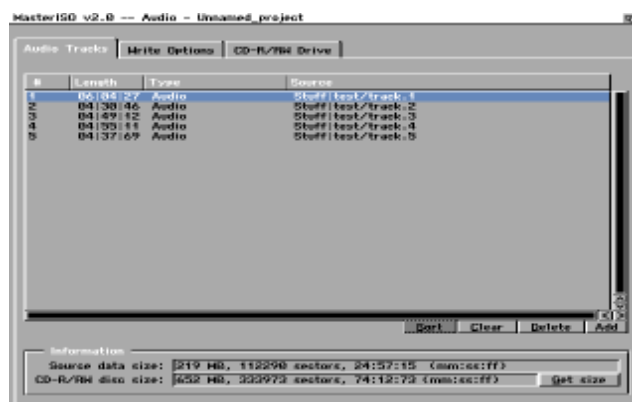
Length: length of the selected file The format of the time will be minutes:seconds:frames. A frame is 1/75th of a second.

Type: format of the selected file

Source: full path of the selected file

It should be noted that source audio file names are not transferred to the CD, since a standard audio CD does not contain specific track naming information.

An example of a track list is as follows:



Selecting Entries Within The Track List

Please refer to the section on Selecting List Entries Within MasterISO Interfaces found in the Appendix.

Double clicking an existing entry allows the user to reselect that entry by means of a standard Amiga requester.

Adding Entries To The Track List

To add an entry or entries to the track list, simply select the **Add** gadget located just below the track list window. Selecting the **Add** gadget produces a pull down menu that allows the user to add various types of audio files. This is explained in greater detail in the *Track File Types* section.

When the user selects one of the items in the **Add** gadget pull down menu, a standard Amiga requester enables the user to add one or more entries to the track list.

Any entry that is added to the track list is added below the current highlighted entry in the track list, regardless of the number of entries highlighted. This is done when a single entry, multiple entries, or a block of entries is highlighted.

Multiple files cannot be added to multiple track entries.

Track File Types

When the user selects the **Add** gadget, three possible choices are available:

- **DOS File**
- **Blank Space**
- **Audio File**

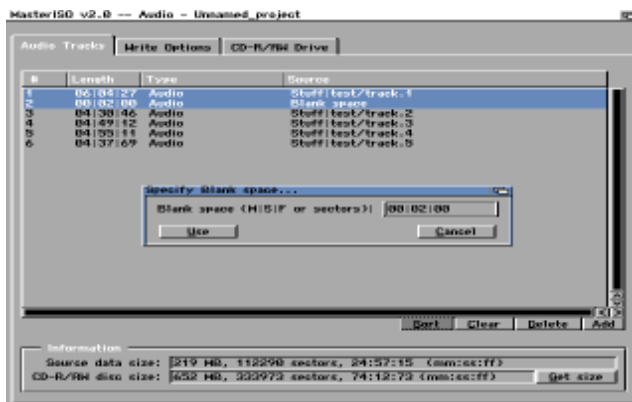
Adding A Source As A DOS File

When adding a source as a **DOS File**, MasterISO assumes that the file being added is a properly formatted CDDA file and it is of the proper byte order. Byte ordering of the file must match the user's corresponding CD-R/RW drive.

No converting or processing is done to the audio file. It is written 'as is'.

Adding A Source As Blank Space

Adding a source as **Blank Space** creates a track with no audible qualities. It is a blank track whose length is specified by the user. When **Blank Space** is selected, the following *Specify Blank Space* window appears:



The user has the ability to arbitrarily set the length of the blank space.

The length of the blank space may be entered in minutes:seconds:frames or in sectors. Once the length of the blank space is set, the user may select the **Use** gadget or hit the 'return' key for the entry to take effect.

Selecting the **Cancel** gadget causes any entry in the field to be void.

Any blank space that is added to the track list must be at least 150 sectors, or 2 seconds in length. If not, MasterISO will pad the entry until it is 2 seconds in length.

Adding A Source As An Audio File

When adding a source file as an **Audio File**, MasterISO attempts to identify the file format.

A list of supported audio file formats can be found in the Addendum directory in the MasterISO_v2 directory.

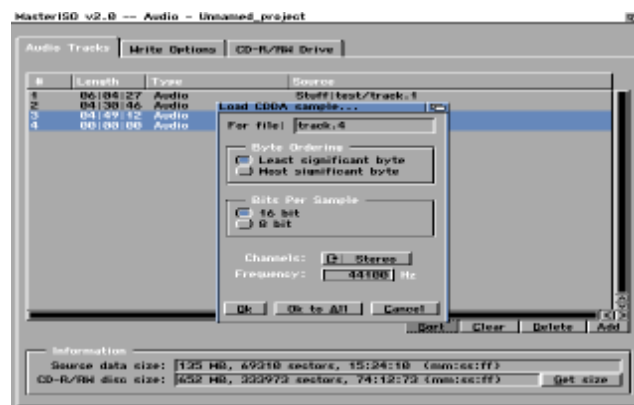
MasterISO automatically converts the supported file types to the properly ordered CDDA file format for the users particular CD-R/RW drive. This is

done ‘on-the-fly’, or in real-time. Resampling and byte reordering is also done as necessary.

For this type of processing to be done in real-time, the user must have sufficient CPU power. If the user is unsure as to whether or not their system is capable of converting and processing audio files in real-time, it is recommended that they pre-convert and preprocess the files. This can be done through the *Advanced* project type.

MasterISO supports all of the audio file formats as raw files only. No ‘specialized’ features of the audio files are supported. These specialized features include SMPTE time coding, looping, compression, indexing, etc.

If MasterISO is unable to identify the format of the source file added as an **Audio File**, the user is required to specify certain aspects of the file by means of the *Load CDDA Sample* window.



The items in the specification window include:

For File: This is the file whose parameters are being set. This item only appears if multiple files have been selected to be added to the track list. The field cannot be edited by the user.

Byte Ordering: Least Significant Byte or Most Significant Byte

Bits Per Sample: 16 Bit or 8 Bit

Channels: Stereo or Mono

Frequency: (in Hertz) (samples/second)

Once the user defined parameters have been set, the user must select the **Ok** gadget for the changes to take effect.

If more than one file has been chosen to be added to the track list, the user may set the attributes for all the selected files to the current settings in the window by selecting the **Ok To All** gadget. This item only appears if multiple files have been selected to be added to the track list.

Selecting the **Cancel** gadget causes the parameters in the window for a particular file to be ignored.

Any file that is added to the track list must be at least 150 sectors, or 2 seconds in length. If not, MasterISO will pad the entry until it is 2 seconds in length.

Navigating The Track List

Once the user has added all of the entries to the track list, it may be necessary to make modifications to the list.

Moving a particular entry is very easy using MasterISO's drag and move feature. Depress the left mouse button over the entry to be moved within the track list. While continuing to hold the left mouse button, move the selected entry to the desired position within the track list. Once done, release the left mouse button. The entry has now been repositioned.

Deleting Entries From The Track List

Once the user has added all of the entries to the track list, it may be necessary to delete certain entries from this list.

Simply highlight the entries to be deleted from the track list and select the **Delete** gadget, located adjacent to the **Add** gadget.

When entries are deleted, it is their entries in this list that are being deleted. The actual source files are left untouched.

To remove all of the entries from the track list, the user may select the **Clear** gadget located in the bottom right hand corner, just below the track list or simply select all of the entries in the list and select the **Delete** gadget. MasterISO queries the user to verify this action.

Sorting Track Entries

The **Sort** gadget alphabetically sorts highlighted track entries only.

This feature is especially useful for the arranging of numerous audio tracks for a standard audio CD.

The sorting algorithm is based on the file name of the entry and not the entire path name.

The sort feature is available to the user only when two or more entries are highlighted in the track list. For more information on the selecting of items in the track list, please refer to the Selecting Entries Within MasterISO Interfaces Section found in the Appendix.

Information Section

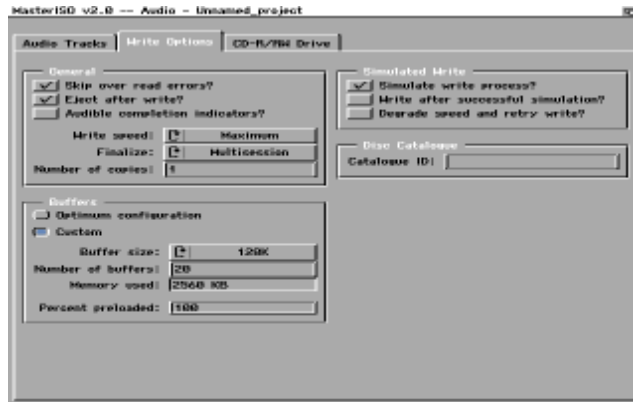
The *Information* section is located just below the track list.

This section displays the total size of the files located in the track list in the **Source Data Size** field. The information is displayed in megabytes (MB), sectors and time (minutes:seconds:frames). Pre-gap, post-gap and lead out time are not accounted for in this section. The actual total time of the source files is calculated at write time. This is due to the fact that CD-R/RW drives insert varying lengths of time between tracks.

If a CD-R/RW drive is selected on the *CD-R/RW Drive* tab, and a blank CD-R/RW disc is located in the drive, the user may select the **Get Size** gadget. This allows the user to verify that they have ample room on the CD-R/RW disc to place all of their files. The information is displayed in megabytes (MB), sectors and time (minutes:seconds:frames).

Write Options Tab

Once all of the tracks to be written have been added and arranged in the track list, the user may then proceed to the *Write Options* tab. This tab enables the user to set the various options needed to create the audio CD.



The *Write Options* tab provides the user with a wealth of options for customizing the writing process.

The *Write Options* tab is categorized into four main sections: *General*, *Simulated Write*, *Buffers* and *Disc Catalogue*.

General Options Section

Skip Over Read Errors: Selecting this option will cause MasterISO to skip over any read errors on the source files. MasterISO will replace the corrupt information as well as the remainder of the file with 'zero' data on the CD. This will appear as blank space.

Eject After Write: Selecting this option causes the completed CD to be ejected from the drive upon a successful write session.

Audible Completion Indicators: Selecting this option produces a sound upon completion of the writing process. There are two distinct sounds that are heard; one for a successful writing session and one for an incomplete write session. The user can customize the sound heard by replacing the existing sound files.

The two sound files that are located in the MasterISO_v2 directory are:

- Bing.sound - for a successful write operation
- Crash.sound - for a unsuccessful write operation

Simply copy the sound files to be used to the MasterISO_v2 directory and rename them as listed above. The sound files must be of a format supported by MasterISO and of a reasonable length (<10 seconds).

Write Speed: This cycle gadget allows the user to manually set the speed at which to write to the CD-R/RW drive. This gadget has the following options:

- **1X (150 K/s)**
- **2X (300 K/s)**
- **4X (600 K/s)**
- **6X (600 K/s)**
- **Maximum**

If the user sets a speed that is not supported by their particular CD-R/RW MasterISO or the drive itself will attempt to use a more appropriate writing speed.

Setting the **Write Speed** to **Maximum** allows MasterISO to set the maximum available write speed for the user's particular CD-R/RW drive.

All drive specific parameters can be found in the Addendum directory in the MasterISO_v2 directory.

Finalize: This cycle gadget allows the user to set the status of the CD when the writing is complete.

The available selections include:

- **Multisession**
- **Close Disc**
- **Don't Close Disc**

By setting the **Finalize** option to **Multisession**, the user has the ability to add additional tracks to the audio CD at a later time. However, the CD can still be read in any computer CD-ROM drive or standard audio CD player until that time. It should be noted that most home audio CD players and computer CD-ROM drives cannot read the additional tracks added to a multisessioned audio CD.

If the user sets the **Finalize** option to **Close Disc**, this allows for the creation of a standard audio CD. This CD can be used in computer CD-ROM drives and standard audio CD players alike. No additional tracks may be added to the disc.

The last choice for the **Finalize** option is **Don't Close Disc**. With this option, the user may add additional audio tracks to the CD at any time.

When adding additional audio tracks to the CD, the user must have the unclosed CD-R/RW disc in the CD-R/RW drive. The procedure in adding the additional tracks is identical to the adding of audio tracks to a new CD-R/RW disc.

MasterISO will recognize the CD with the previously written tracks and make the necessary changes to the track list to accommodate the adding these tracks. When adding additional tracks, the **Finalize** options can still be set to any of the options listed above.

If the user wishes to finalize a CD without adding additional tracks, use the **Finalize CD-R/RW** option located on the *CD-R/RW Drive* tab.

It should be noted that while a disc is unclosed, it will not be able to be read in any standard audio CD player or any CD-ROM drive. Only the CD-R/RW drive that initially wrote the CD will be able to read it.

Once all of the *General* options have been set, the number of copies required can be entered into the **Number Of Copies** field. Upon entering the number of copies needed, hitting the 'return' key is required for the information to be verified. A maximum value of 99 may be entered.

Simulated Write Section

The *Simulated Write* section contains options which can be used when testing a particular burn session, prior to actually burning the disc.

These options include:

Simulate Write Process: Selecting this option enables MasterISO to perform every aspect of a write session except for the activation of the write laser. If MasterISO completes a successful simulated write session, a real write session should be successful as well.

When the **Simulate Write Process** option is selected, the following options become available:

Write After Successful Simulation: Selecting this option allows MasterISO to automatically begin a real write session upon the completion of a simulated write session.

If the user owns a tray loaded CD-R/RW drive, MasterISO will automatically eject the blank CD-R/RW disc and reinsert it. This is necessary since the drive must be reset following a successful simulated write session.

If the user is using a caddy loaded CD-R/RW drive, the user must reinsert the blank disc after it has been ejected by the software to continue the process.

Degrade Speed And Retry Write: Selecting this option allows MasterISO to degrade the write speed of the CD-R/RW drive if the simulated write session fails. MasterISO will attempt the simulated write session at the next lower supported speed of the CD-R/RW drive.

This option can be used in conjunction with the previous options to account for all possible simulation permutations.

As with the previous option, tray loaded CD-R/RW drives will automatically be reset while caddy loaded CD-R/RW drives must have the blank disc reinserted by the user.

Buffers Section

Please read the general information section on Data Buffering located in the Appendix before continuing.

The *Buffers* section allows the user as little or as much control over how MasterISO handles its internal buffering, as desired.

Optimum Configuration: Selecting this option allows MasterISO to use the optimal number of buffers and buffer size for the user's particular system.

If the user does not wish MasterISO to control the buffer parameters, the user may manually set them. This is done by selecting the **Custom** option.

Once this option is selected, the various parameters become available to the user. These parameters are:

Buffer Size: This gadget allows for the setting of a 128K or 512K buffer size. Certain drives operate more efficiently with a specific buffer size.

All drive specific parameters can be found in the Addendum directory in the MasterISO_v2 directory.

Number Of Buffers: This data field allows the user to set the number of buffers used. The maximum number of buffers possible is 999. Hitting the 'return' key is required before MasterISO will recognize the entry.

Memory Used: This field displays the amount of memory used by MasterISO for buffering based on the buffer size and the number of buffers entered. This data field may not be modified by the user.

If the calculated amount of memory used exceeds the amount of available fast RAM, MasterISO will use all fast memory possible, save and except, 512 K.

Percent Preloaded: As MasterISO begins the writing process, it will fill the buffer memory to the percentage entered before beginning the writing process. This field allows the user to set that percentage. This data field can have a value between 0 and 100. Hitting the ‘return’ key is required before MasterISO will recognize the entry.

Disc Catalogue Section

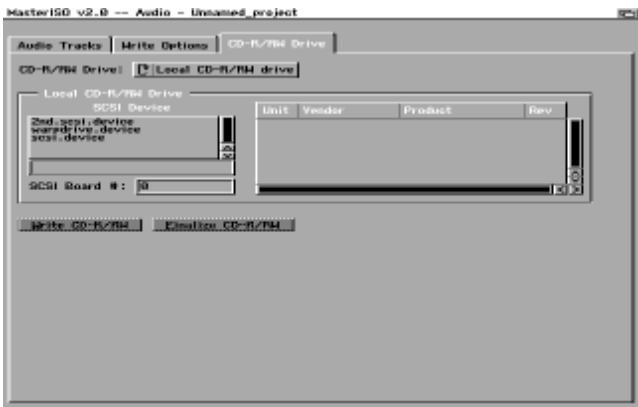
The final section of the *Write Options* tab is the *Disc Catalogue* section. This section allows the user to input a catalogue ID for the audio CD.

This is done by entering the data into the **Catalogue ID** field and pressing the ‘return’ key. The catalogue ID is numerical only, with a maximum length of 13 digits.

If no catalogue ID value is entered, MasterISO will leave the area blank on the disc. Not all CD-R/RW drives have the capability to write a catalogue ID.

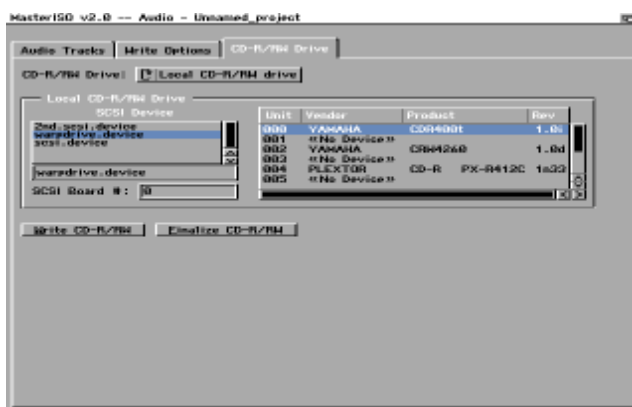
CD-R/RW Drive Tab

Once all of the write options have been set by the user, the CD-R/RW drive must be selected. This is done on the *CD-R/RW Drive* tab.



The user must first select the controller the drive is attached to in the *SCSI Device* window under the *Local CD-R/RW Drive* section. ATAPI drives are selected via the *SCSI Device* window as well.

Once this has been completed, all properly configured devices attached to said controller will appear in the right hand window. Simply select the device to be used with the left mouse button.



Included in the right hand window is information concerning all of the devices attached to the selected controller. This information includes:

Unit: ID number the device
Vendor: manufacturer of the device
Product: model number of the device
Rev: version of the device's internal firmware

Each of these columns is fully resizeable.

If no device is available at a particular ID number, <<No Device>> will appear.

If a controller does not auto-configure, it will not appear in the *SCSI Device* window. The user may manually input the device name used by the controller in the field directly below the *SCSI Device* window. Any previously selected device will appear in this field.

The **SCSI Board #** input field is used to distinguish between different SCSI chains on a multiple chain SCSI controller or between multiple SCSI controllers in one Amiga that use the same SCSI device name. This is most

commonly seen with multiple GVP SCSI controllers in one Amiga or the Newtek Flyer.

For most circumstances, this field should be defaulted to 0.

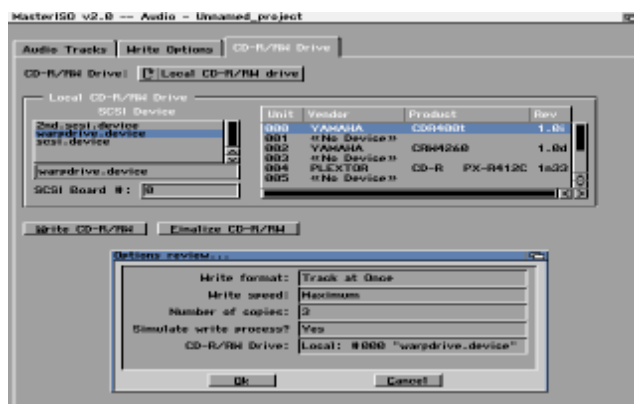
If the CD-R/RW drive is attached and powered on, yet does not appear in the list, it has not been configured properly. Please refer to our ATAPI or SCSI

information sections in the Appendix or the manufacturer's ATAPI or SCSI interface manual.

Writing The Disc

Once the CD-R/RW drive has been selected, selecting the **Write CD-R/RW** gadget will begin the write process.

Prior to writing the CD, the user is presented with an *Options Review* window.



This window shows the following information:

Write Format:

Write Speed:

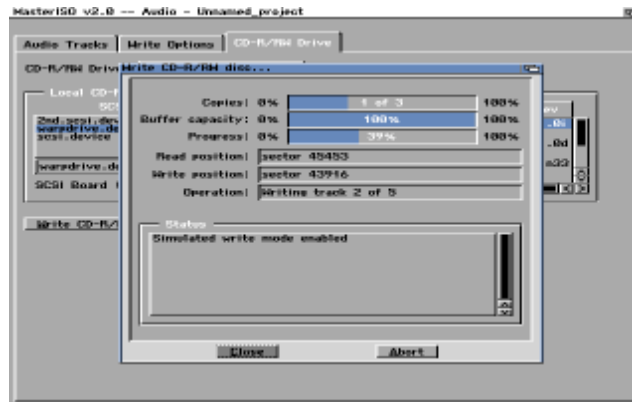
Number of Copies:

Simulate Write Process?

CD-R/RW Drive:

At this point, the user may exit the write process by selecting the **Cancel** gadget, or continue, by selecting the **Ok** gadget.

If the **Ok** gadget is selected, the *Write CD-R/RW Disc* window is displayed and the writing process begins.



This window provides a plethora of information during the writing of the CD.

The *Copies* indicator displays the real-time percentage and the number of copies being written. This indicator is only present when multiple copies of the same audio CD is requested via the **Number Of Copies** field on the *Write Options* tab.

The *Buffer Capacity* indicator displays the real-time percentage of the total amount of the buffer that is filled with data to be written.

The *Progress* indicator visually exhibits the real-time percentage of the completed write session.

The *Read Position* field displays the sector of the source file being read in real-time.

The *Write Position* field displays the sector of the CD being written to in real-time.

The *Operation* field denotes the actual operation the drive is performing at any given time.

The *Status* window displays any messages or error notices encountered during the writing phase.

Upon completion of the writing session, a notification is displayed in the *Status* window. Selecting the **Close** gadget returns the user back to the program.

If, at any time, the user does not wish the writing of the CD to proceed to completion, selecting the **Abort** gadget manually exits the write process.

It should be noted that if the **Simulate Write Process** option was not selected, the disc may be rendered unusable.

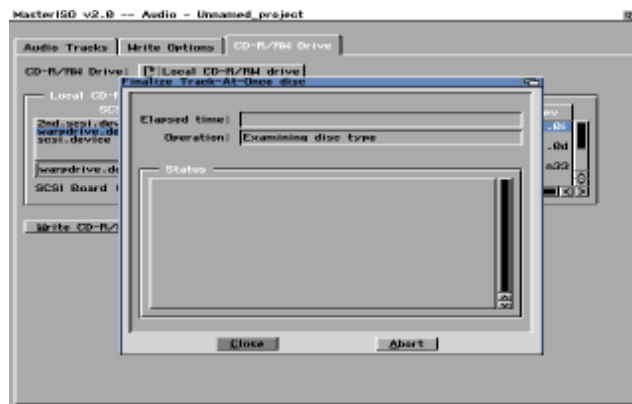
It should also be noted that the abort process may not be instantaneous. MasterISO may be required to delete temporarily buffered files before returning control of the software back to the user. This behaviour is normal.

Additionally, the CD-R/RW drive may perform some internal ‘housekeeping’ when the write operation is prematurely aborted. This may last from seconds to several minutes, depending on the drive model.

Finalizing An Unclosed Disc

If the user wishes to finalize an unclosed audio CD, it may be done by selecting the **Finalize CD-R/RW** gadget. The unclosed CD-R/RW disc must be in the drive for this operation to be successful.

Upon selecting the **Finalize CD-R/RW** gadget, the following *Finalize Track-At-Once Disc* window will appear:



The *Elapsed Time* field displays the amount of time the selected finalize process has been in operation. It is not possible to accurately determine the time of completion of a finalize procedure.

The *Operation* field denotes the actual operation the drive is performing at any given time.

The *Status* window displays any messages or error notices encountered during the finalize phase.

Upon completion of the finalizing operation, a notification is displayed in the *Status* window. Selecting the **Close** gadget returns the user back to the program.

If, at any time, the user does not wish the finalize procedure to proceed to completion, selecting the **Abort** gadget will manually exit the finalize procedure.

Aborting the procedure may render the disc unusable.

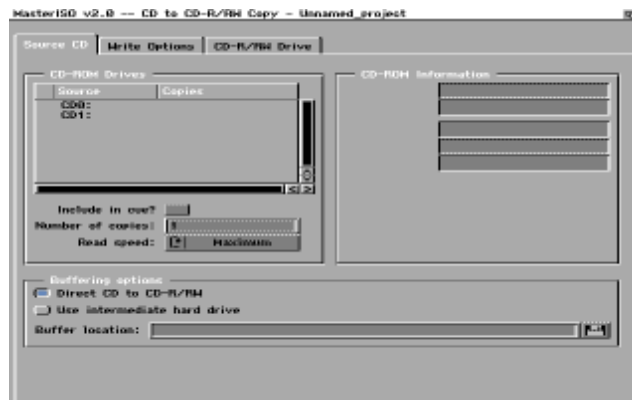
The CD-R/RW drive may perform some internal 'housekeeping' when the write operation is prematurely aborted. This may last from a few seconds to several minutes, depending on the drive model.

CD To CD-R/RW Copy Project Type

The situation often arises when the user needs to backup an existing CD. This MasterISO project type allows the user to effortlessly copy any CD directly from an AsimCDFS supported CD-ROM drive (SCSI or ATAPI) to a CD-R/RW drive. MasterISO Version 2 has enabled this procedure to be as easy as possible, without sacrificing functionality or stability.

Source CD Tab

To begin the copying procedure, it is necessary to select an AsimCDFS mounted CD-ROM drive. This is accomplished by means of the *Source CD* tab.



CD-ROM Drives Section

All mounted AsimCDFS CD-ROM drives appear in the *CD-ROM Drives* section. If no CD-ROM drives appear in the window, please exit MasterISO and mount the CD-ROM drives manually first.

The *CD-ROM Drives* section contains two columns, *Source* and *Copies*. The user may select a CD-ROM drive by simply clicking on it. Once the drive has been selected, all of the relevant options become available to the user.

Selecting the CD-ROM drive does **NOT** select the drive to be used for the *CD To CD-R/RW Copy* feature. For this feature, the user has two choices:

(1) Double click the CD-ROM drive in the *CD-ROM Drives* section

OR

(2) Highlight the CD-ROM drive in the *CD-ROM Drives* section and select the **Include In Cue** gadget.

Double clicking a CD-ROM drive that is already included in the cue will have it removed from the cue.

Once a drive has been selected to be included in the cue, a check mark appears to the left of the drive listing in the *CD-ROM Drives* section.

The user may use multiple CD-ROM drives for this feature if there are multiple AsimCDFS mounted CD-ROM drives available on the system. This gives the user the ability to perform a CD to CD-R/RW copy from multiple sources. Although multiple CD-ROM drives are selected as sources, the user must still change the CD-R/RW media when instructed to do so by MasterISO.

The user also has the ability to make multiple copies of a CD from the same source. Once the source drive has been selected, the number of copies required can be entered into the **Number Of Copies** field. Upon entering the number of copies needed, hitting the 'return' key is required for the information to be verified. A maximum value of 99 may be entered.

It should be noted that the multiple CD-ROM source and multiple copy feature **CAN** be used in conjunction with one another, effectively giving the user a multiple source duplication system (provided the necessary equipment is present). This is most commonly used with the jukebox version of MasterISO Version 2.

Depending on the speed of their CD-R/RW drive, the user may manually set the speed of each CD-ROM drive. This is done by means of the **Read Speed** cycle gadget. The options available correspond to the speeds of the various CD-R/RW drives currently available.

They include:

- **1X (150 K/s)**
- **2X (300 K/s)**
- **4X (600 K/s)**
- **Maximum**

With the maximum setting selected, MasterISO uses the maximum speed available from the users CD-ROM drive for their particular CD-R/RW drive.

CD-ROM Information Section

When a CD-ROM drive is highlighted in the *CD-ROM Drives* section, all of the technical information concerning the drive is listed in the *CD-ROM Information* section. The items include:

SCSI Device: name of the controller device the CD-ROM drive is attached to

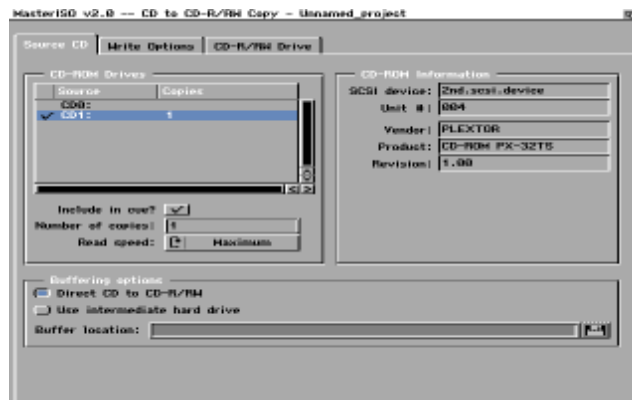
Unit #: ID number the CD-ROM drive is set to

Vendor: manufacturer of the CD-ROM drive

Product: model number of the CD-ROM drive

Revision: version of the CD-ROM drives internal firmware

This section will only become active when a CD-ROM drive is selected in the *CD-ROM Drives* section.



CD-ROM Formats Supported

For MasterISO to copy from the CD-ROM drive to a CD-R/RW drive, it should be noted that the CD-ROM drive must support the format of the CD trying to be copied.

For example, to copy a standard audio CD or a mixed audio/data CD, the user must ensure that their CD-ROM supports the transferring of CDDA (Compact Disc Digital Audio) data across the interface bus.

Documentation that came with the CD-ROM drive will provide information concerning which formats the drive supports.

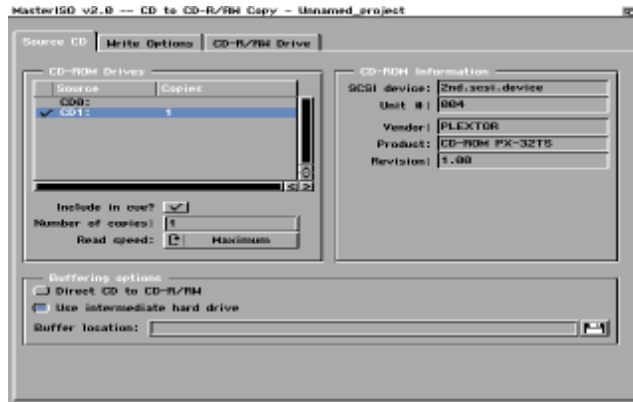
Buffering Options Section

Once the source CD-ROM drive(s) has(have) been selected, the user has the option of copying the information from the CD-ROM drive to the CD-R/RW drive directly or by means of a hard drive buffer first.

To copy the CD to a CD-R/RW drive directly, ensure that the **Direct CD To CD-R/RW** gadget is selected.

If there is some apprehension to using this method, the user can buffer all of the data from the CD to a hard drive prior to writing. This can be accomplished by selecting the **Use Intermediate Hard Drive** gadget.

The user must specify the hard drive and directory into which the data will be buffered by way of the **Buffer Location** field. The user may also select this buffer location by means of a standard Amiga requester called by selecting the disk icon. Once a choice has been made, the selected buffer directory will automatically appear in the **Buffer Location** field.

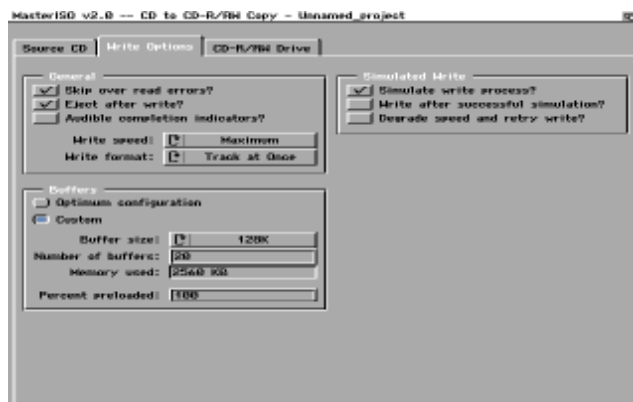


Once MasterISO has finished using the buffered data, it will automatically remove it from the hard drive.

MasterISO will **NOT** verify that the device containing the buffer directory has sufficient space for the buffered data. This is left to the user.

Write Options Tab

Once the necessary options are set on the *Source CD* tab, the user can then proceed to the *Write Options* tab. This tab enables the user to set the various options needed to duplicate a CD.



The *Write Options* tab provides the user with a wealth of options for customizing the writing process.

The *Write Options* tab is categorized into three main sections: *General*, *Simulated Write* and *Buffers*.

General Section

Skip Over Read Errors: Selecting this option causes MasterISO to skip over any read errors on the source CD on a sector by sector basis. Any sector that contains a read error will be written to the CD as 'zero' data. This is to maintain the relative sizing of the duplicated CD.

Read errors may be caused by a scratched or dirty source CD or a defective CD-ROM drive.

If many read errors are encountered, a buffer underrun may result when copying directly from CD to a CD-R/RW. If this occurs frequently, try setting the *Buffering Options* to **Use Intermediate Hard Drive** on the *Source CD* tab.

Any erroneous data that is skipped over will be replaced by blank data sectors on the CD being written to.

Eject After Write: Selecting this option causes the completed CD to be ejected from the drive upon a successful write session.

Audible Completion Indicators: Selecting this option produces a sound upon completion of the writing process. There are two distinct sounds that are heard; one for a successful writing session and one for an incomplete write session. The user can customize the sound heard by replacing the existing sound files.

The two sound files that are located in the MasterISO_v2 directory are:

- Bing.sound - for a successful write operation
- Crash.sound - for a unsuccessful write operation

Simply copy the sound files to be used to the MasterISO_v2 directory and rename them as listed above. The sound files must be of a format supported by MasterISO and of a reasonable length (<10 seconds).

Write Speed: This cycle gadget allows the user to manually set the speed at which to write to the CD-R/RW drive. This gadget has the following options:

- **1X (150 K/s)**
- **2X (300 K/s)**
- **4X (600 K/s)**
- **6X (600 K/s)**
- **Maximum**

If the user sets a speed that is unsupported by their particular CD-R/RW drive, MasterISO or the drive itself will attempt to use a more appropriate writing speed.

Setting the **Write Speed** to **Maximum** allows MasterISO to set the maximum available write speed for the users particular CD-R/RW drive.

All drive specific parameters can be found in the Addendum directory in the MasterISO_v2 directory.

Write Format: This cycle gadget allows the user to manually set the format the drive will use to write the disc.

This gadget has the following options:

- **Track At Once (TAO)**
- **Disc At Once (DAO)**

Please refer to the Appendix for an explanation of the differences between TAO and DAO recording methods.

If the user sets a format that is unsupported by their particular CD-R/RW drive, the user will be notified.

All drive specific parameters can be found in the Addendum directory in the MasterISO_v2 directory.

Simulated Write Section

The *Simulated Write* section contains options which can be used when testing a particular burn session prior to actually burning the disc.

These options include:

Simulate Write Process: Selecting this option enables MasterISO to perform every aspect of a write session except for the activation of the write laser. If MasterISO completes a successful simulated write session, a real write session should be successful as well.

When the **Simulate Write Process** option is selected, the following options become available:

Write After Successful Simulation: Selecting this option allows MasterISO to automatically begin a real write session upon the completion of a simulated write session.

If the user owns a tray loaded CD-R/RW drive, MasterISO will automatically eject the blank disc and reinsert it. This is necessary since the drive must be reset following a successful simulated write session.

If the user is using a caddy loaded CD-R/RW drive, the user must reinsert the blank disc after it has been ejected by the software to continue the process.

Degrade Speed And Retry Write: Selecting this option allows MasterISO to degrade the write speed of the CD-R/RW drive if the simulated write session fails. MasterISO will attempt the simulated write session at the next lower supported speed of the CD-R/RW drive.

This option can be used in conjunction with the previous option to account for all possible simulation permutations.

As with the previous option, tray loaded CD-R/RW drives will automatically be reset while caddy loaded CD-R/RW drives must have the blank disc reinserted by the user.

Buffers Section

Please read the general information section on Data Buffering located in the Appendix before continuing.

The *Buffers* section allows the user as little or as much control over how MasterISO handles its internal buffering, as desired.

Optimum Configuration: Selecting this option allows MasterISO to use the optimal number of buffers and buffer size for the user's particular system.

If the user does not wish MasterISO to control the buffer parameters, the user may manually set them. This is done by selecting the **Custom** option.

Once this option is selected, the various parameters become available to the user. These parameters are:

Buffer Size: This gadget allows for the setting of a 128K or 512K buffer size. Certain drives operate more efficiently with a specific buffer size.

All drive specific parameters can be found in the Addendum directory in the MasterISO_v2 directory.

Number Of Buffers: This data field allows the user to set the number of buffers used. The maximum number of buffers possible is 999. Hitting the 'return' key is required before MasterISO will recognize the entry.

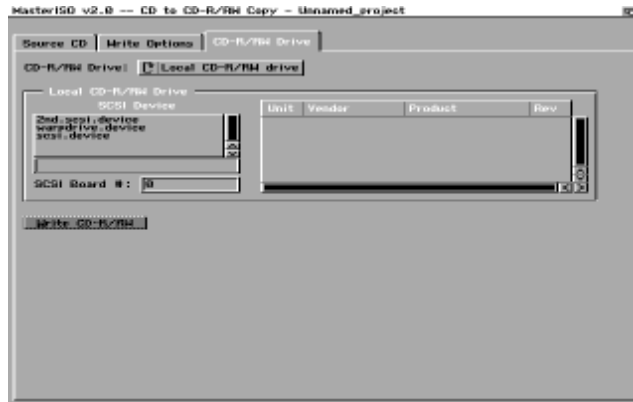
Memory Used: This field displays the amount of memory used by MasterISO for buffering based on the buffer size and the number of buffers entered. This data field may not be modified by the user.

If the calculated amount of memory used exceeds the amount of available fast RAM, MasterISO will use all of the fast memory possible, save and except, 512K.

Percent Preloaded: As MasterISO begins the writing process, it will fill the buffer memory to the percentage entered before beginning the writing process. This field allows the user to set that percentage. This data field can have a value between 0 and 100. Hitting the 'return' key is required before MasterISO will recognize the entry.

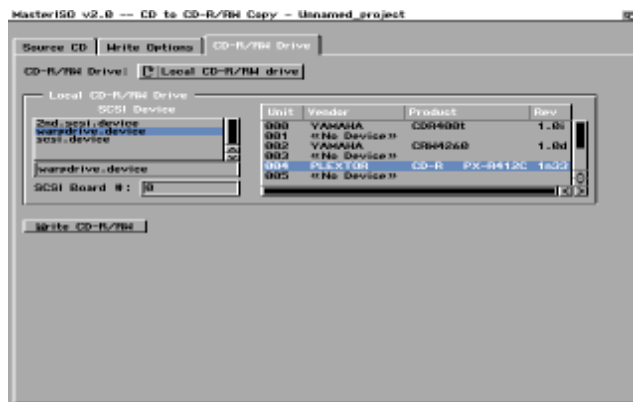
CD-R/RW Drive Tab

Once all of the write options have been set by the user, the CD-R/RW drive must be selected. This is done on the *CD-R/RW Drive* tab.



The user must first select the controller the drive is attached to in the *SCSI Device* window under the *Local CD-R/RW Drive* section. ATAPI drives are selected via the *SCSI Device* window as well.

Once this has been completed, all properly configured devices attached to said controller will appear in the right hand window. Simply select the device to be used with the left mouse button.



Included in the right hand window is information concerning all of the devices attached to the selected controller.

This information includes:

Unit: ID number the device

Vendor: manufacturer of the device

Product: model number of the device

Rev: version of the device's internal firmware

Each of these columns is fully resizable.

If no device is available at a particular ID number, <<No Device>> will appear.

If a controller does not auto-configure, it will not appear in the *SCSI Device* window. The user may manually input the device name used by the controller in the field directly below the *SCSI Device* window. Any previously selected device will appear in this field.

The **SCSI Board #** input field is used to distinguish between different SCSI chains on a multiple chain SCSI controller or between multiple SCSI controllers in one Amiga that use the same SCSI device name. This is most commonly seen with multiple GVP SCSI controllers in one Amiga or the Newtek Flyer.

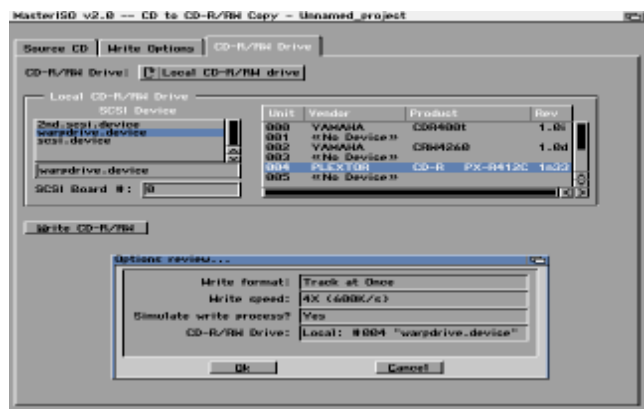
For most circumstances, this field should be defaulted to 0.

If the CD-R/RW drive is attached and powered on, yet it does not appear in the list, it has not been configured properly. Please refer to our ATAPI or SCSI information sections in the Appendix or the manufacturers ATAPI or SCSI interface manual.

Writing The Disc

Once the CD-R/RW drive has been selected, selecting the **Write CD-R/RW** gadget will initiate the write process.

Prior to writing the CD, the user is presented with an *Options Review* window.

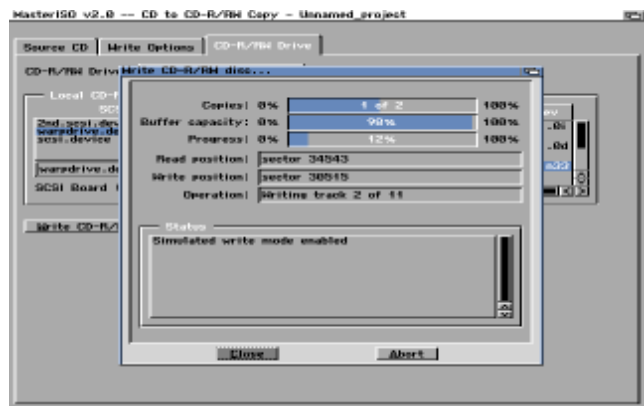


This windows contains the following information:

- Write Format:
- Write Speed:
- Simulate Write Process?
- CD-R/RW Drive:

At this point, the user may exit the write process by selecting the **Cancel** gadget, or continue by selecting the **Ok** gadget.

If the **Ok** gadget is selected, the *Write CD-R/RW Disc* window is displayed and the writing process begins.



This window provides a plethora of information during the writing of the CD.

The *Copies* indicator displays the real-time percentage and the number of copies being written. This indicator is only present when multiple copies from one source CD are requested via the **Number Of Copies** field on the *Source CD* tab.

The *Buffer Capacity* indicator displays the real-time percentage of the total amount of the buffer that is filled with data to be written.

The *Progress* indicator visually exhibits the real-time percentage of the completed write session.

The *Read Position* field displays the sector of the source CD being read in real-time.

The *Write Position* field displays the sector of the CD being written to in real-time.

The *Operation* field denotes the actual operation the drive is performing at any given time.

The *Status* window displays any messages or error notices encountered during the writing phase.

Upon completion of the writing session, a notification is displayed in the *Status* window. Selecting the **Close** gadget returns the user back to the program.

If, at any time, the user does not wish the writing of the CD to proceed to completion, selecting the **Abort** gadget manually exits the write process.

It should be noted that if the **Simulate Write Process** option was not selected, the disc may be rendered unusable.

It should also be noted that the abort process may not be instantaneous. MasterISO may be required to delete temporarily buffered files before returning control of the software back to the user. This behaviour is normal.

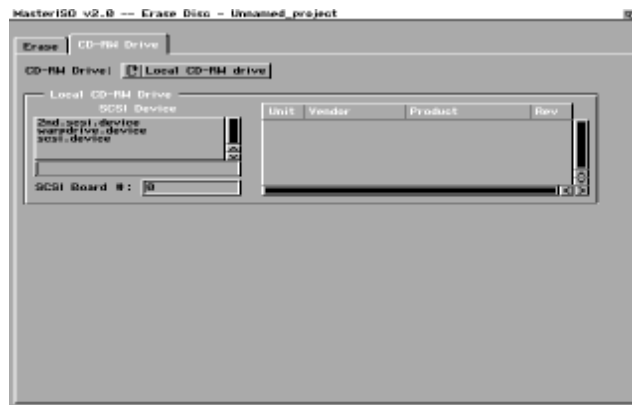
Additionally, the CD-R/RW drive may perform some internal 'housekeeping' when the write operation is prematurely aborted. This may last from seconds to several minutes, depending on the drive model.

Erase Disc Project Type

This section of MasterISO contains utilities to manage CD-R/W discs. These discs can only be used with supported CD-RW drives.

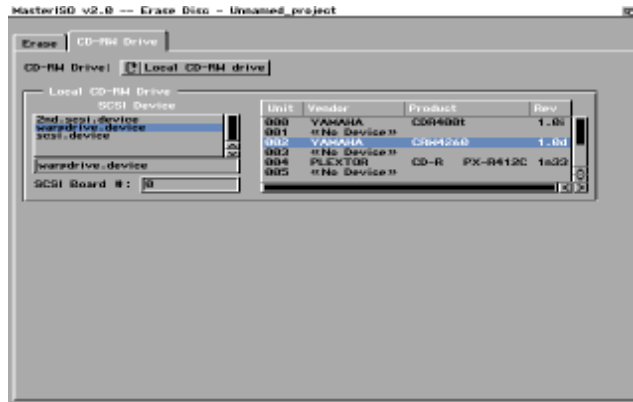
CD-RW Drive Tab

The user must define which CD-RW drive is to be used for managing the CD-RW media. This can be accomplished by means of the *CD-RW Drive* tab.



The CD-RW drive is defined by first selecting the appropriate controller in the *SCSI Device* window under the *Local CD-RW Drive* section. ATAPI drives are selected via the *SCSI Device* window as well.

Once this has been completed, all properly configured devices attached to said controller will appear in the right hand window. Simply select the device to be used with the left mouse button.



Included in the right hand window is information concerning all of the devices attached to the selected controller.

This information includes:

- Unit:* ID number the device
- Vendor:* manufacturer of the device
- Product:* model number of the device
- Rev:* version of the device's internal firmware

Each of these columns is fully resizable.

If no device is available at a particular ID number, <<No Device>> will appear.

If a controller does not auto-configure, it will not appear in the SCSI device window. The user may manually input the device name used by the controller in the field directly below the SCSI Device window. Any previously selected device will appear in this field.

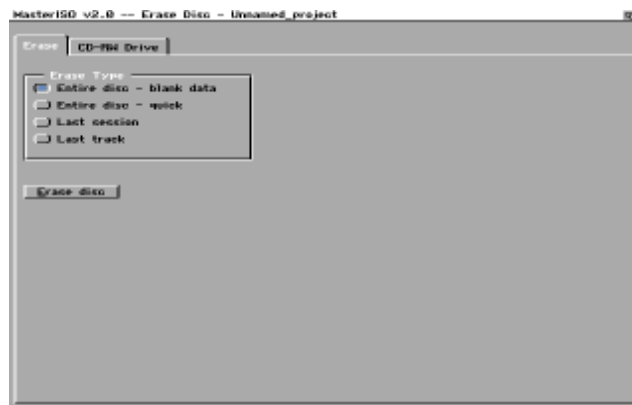
The **SCSI Board #** input field is used to distinguish between different SCSI chains on a multiple chain SCSI controller or between multiple SCSI controllers in one Amiga that use the same SCSI device name. This is most commonly seen with multiple GVP SCSI controllers in one Amiga or the Newtek Flyer.

For most circumstances, this field should be defaulted to 0.

If the CD-RW drive is attached and powered on, yet does not appear in the list, it has not been configured properly. Please refer to our ATAPI or SCSI information sections in the Appendix or the manufacturers ATAPI or SCSI interface manual.

Erase Tab

Once the CD-RW drive has been selected, select the *Erase* tab.



Within the *Erase Type* section, the user is given four possible erase options.

They are:

Entire Disc - blank data: erases all of the data on the disc
The drive itself handles the erasing.

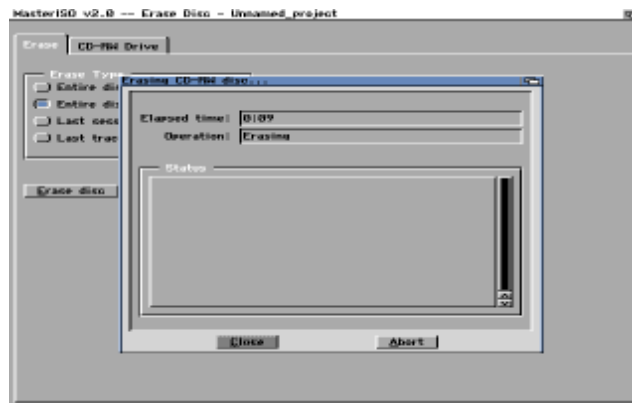
Entire Disc - quick: erases the disc by overwriting the Table of Contents (TOC).

Last Session: erases the last session of a multisession disc
This option can be performed numerous times to correspond with the number of sessions that appear on the disc. Only the last session may be erased at any one time.

Last Track: erases the last track on the disc
This method can only be performed on an unclosed disc. This option can be performed numerous times to correspond with the number of tracks on the disc. Only the last track may be erased at any one time.

Erasing A CD-RW Disc

Once the user has selected the erase type and the CD-RW drive, selecting the **Erase Disc** gadget will bring up the following *Erasing CD-RW Disc* window:



The *Elapsed Time* field displays the amount of time the selected erase operation has been conducted for. It is not possible to accurately determine the time of completion for an erasing procedure.

The *Operation* field denotes the actual operation the drive is performing at any given time.

The *Status* window displays any messages or error notices encountered during the erase phase. Upon completion of the erasing operation, a report is displayed in the *Status* window.

Once the test has been completed, select the **Close** gadget to exit from the erase operation. If the user does not wish the erasing procedure to proceed to completion, select the **Abort** gadget to manually exit.

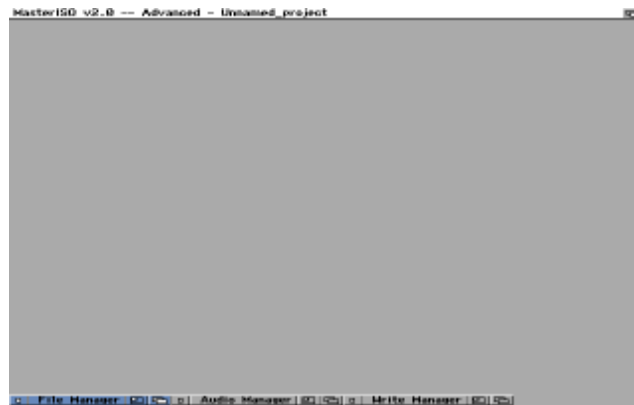
Selecting the **Abort** feature may render the CD-RW disc unusable ever again..

Advanced Project Types

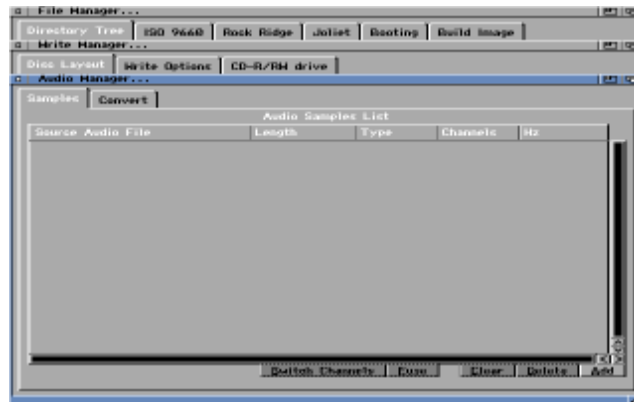
This section documents all of the features and options available to the user in the *Advanced* project type.

This project type allows the veteran user access to **ALL** of the features MasterISO provides. It is highly recommended that only users with extensive knowledge of CD-R/RW mastering use this particular option. With the *Advanced* project type, the user can fully customize their CD, and create just about any type of CD possible.

When the *Advanced* project type is selected, the user is presented with the following screen:



The user has access to the *File Manager*, *Audio Manager*, and *Write Manager* windows simultaneously.



Each *Manager* can be used separately or seamlessly integrated with one another, depending on the options needed by the user.

The *File Manager* is built upon the *CD-ROM* project type. It is used mainly for the creation of data CDs or the data component of a mixed mode CD. As the user will notice, the *File Manager* contains the same options as the *CD-ROM* project type, as well as many more.

Through the *File Manager*, the user is able to create custom data CDs with the extensive tree creation tools provided. The data CD to be created can be done so in a variety of formats.

One such format is ISO 9660 (Level 1 or Level 2). This standard can be read on most platforms of computers. The *File Manager* also has provisions for the creation of CDs utilizing the Rock Ridge (standard and Amiga specific) and Joliet file naming standards. Rock Ridge is the CD file system standard used on most UNIX and Amiga based systems. Joliet is the CD file system standard used by Windows 95.

MasterISO gives the user the ability to set every available option in each of the above file system. If it is in the specification, it is in the *File Manager*!

For more information on the ISO 9660, Rock Ridge and Joliet standards, please refer to the Appendix.

In addition to the above formats, the *File Manager* also allows for the creation of CDTV and CD³² CDs (with the appropriate trademark file to be supplied by the user).

For slower systems, where real-time writing is not a possibility, the *File Manager* also has full ISO file creation capabilities. The user may create the ISO file to a dedicated device or to a file.

The *Audio Manager* is similar to the *Audio* project type. It is used mainly for the converting of audio files for the creation of audio CDs or the audio component of a mixed mode CD. The user will notice, the *Audio Manager* contains similar options as are found in the *Audio* project type, as well as additional features.

By means of a simple interface, the user may add audio tracks of any supported type directly into the track list. Track ordering and simple processing can then be done very easily.

For slower systems, where real-time audio reordering and processing is not a possibility, the *Audio Manager* provides full off-line conversion capabilities.

The *Write Manager* contains the many options the user needs to complete their custom CD.

With full DAO and TAO recording features, as well as multisession capabilities, the *Write Manager* allows the user to write their CD in a variety of formats.

For more information on TAO and DAO recording methods, please refer to the Appendix.

The *Write Manager's Disc Layout* area automatically adjusts to the users recording preference. A simple to follow interface makes the creation of complex CDs a snap. The number of different track types supported by MasterISO is astounding.

The various write options in the *Write Manager* give the user as much or as little control over the writing process as they wish. Buffering and simulated write options are just a few of the items the user may wish to customize.

As a result of the length and scope of the various managers in the *Advanced* project type, each specific manager is given its own section.

Advanced Project Type File Manager

This section documents all of the features available to the user when using the *File Manager* in the *Advanced* project type.

The *File Manager* is built upon the *CD-ROM* project type. It is used mainly for the creation of data CDs or the data component of a mixed mode CD. As the user will notice, the *File Manager* contains the same options as the *CD-ROM* project type, as well as many more.

Directory Tree Tab

When the *File Manager* window is opened, the user is first presented with the *Directory Tree* tab.



The *Directory Tree* tab is composed of two major areas. The first, and largest area, is the directory tree list window. This window allows the user to see the directory structure and the files within this structure to be written to the CD, prior to its creation.

The second major area of the *Directory Tree* tab is the tree manipulation tools. These tools used to modify and change the directory tree list are located as gadgets along the lower portion of the tab.

It should be noted that any work done on the directory tree list does not affect the sources files. All editing, deleting, renaming, etc., is done on the list only.

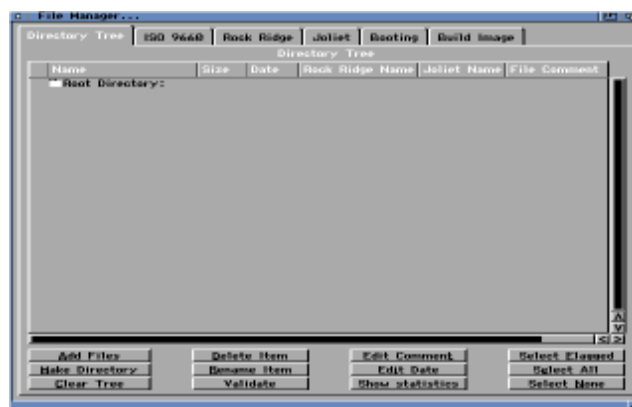
The directory tree list always contains the following resizable columns:

Name: file name (without path)

Size: file size (in bytes)

Date: file date (as taken from AmigaDOS)

Depending on the options set in the *Rock Ridge* or *Joliet* tabs, certain resizable columns may also appear as seen in the following screen shot:



Rock Ridge Name: Rock Ridge name of the file

This column appears when the **Create Rock Ridge Volume** option is selected in the *Rock Ridge Extensions* section on the *Rock Ridge* tab.

Joliet Name: Joliet name of the file

This column appears when the **Create Joliet Volume** option is selected in the *Joliet Volume* section on the *Joliet* tab.

File Comment: file comment associated with the file

This column appears when the **Use Amiga-Specific Extensions** option is selected in the *Rock Ridge Extensions* section on the *Rock Ridge* tab. When selected, the **Edit Comment** gadget also appears in the tree manipulation tools section.

Directory Tree List Terminology

The screenshot shows a 'File Manager' window. On the left is a 'Directory Tree' with the following structure:

- Locale
 - Catalogs.info
 - Catalogs
 - Swedish.info
 - English.info
 - French.info
 - Italian.info
 - Swedish
 - Swedish

On the right is a table listing files and their sizes:

Name	Size	Date
1-Apr-1994	12:51:14	
1-Apr-1994	12:51:14	
12-Jan-1994	19:14:05	
9-Sep-1994	15:19:28	
4-Jun-1995	21:29:15	
23-Oct-1995	17:20:48	
14-Jan-1996	10:14:05	
14-Jan-1996	10:14:05	
28-Mar-1997	16:09:20	
9-Jul-1999	15:44:49	
9-Jul-1999	10:44:00	
20-Jan-1994	22:20:42	
19-Jan-1994	10:42:59	
14-Jan-1994	10:51:13	
20-Mar-1997	16:10:14	
20-Mar-1997	15:25:00	
14-Jan-1997	10:51:14	
14-Jan-1997	10:51:14	
14-Jan-1997	10:52:02	
14-Jan-1997	10:52:12	
20-Jan-1994	12:28:40	
20-Jan-1994	12:29:14	
14-Jan-1997	10:52:11	

At the bottom of the window are several buttons: 'Add Files', 'Delete Item', 'Select All', 'Make Directory', 'Rename Item', 'Edit Date', 'Clear Tree', 'Validate', 'Show statistics', and 'Select None'.

A leaf does not have any files or nodes below it in the directory structure. For example, the file **italiano.info** is a leaf.

Navigating The Directory Tree List

Navigating through the directory tree list can be accomplished by means of the mouse or keyboard equivalents.

Using the terminology described above, the following list will help the user navigate through the directory tree quickly and efficiently, with the keyboard.

Key Stroke	Placement On	Action
RETURN	Collapsed node	Expand node
	Expanded node	Collapse node
CURSOR UP	Any entry	Select entry up a position
CURSOR DOWN	Any entry	Select entry down a position
CURSOR RIGHT	Collapsed node	Expand node
	Expanded node	Select first child
CURSOR LEFT	Collapsed node	Select parent node
	Expanded node	Collapse node
	Leaf	Select parent node
SHIFT+CURSOR UP	Any entry	Select previous flagged entry
SHIFT+CURSOR DOWN	Any entry	Select next red flagged entry
CTRL+CURSOR UP	Any entry	Select the first entry
CTRL+CURSOR DOWN	Any entry	Select the last entry

With the mouse, the user may move to any entry by means of the scroll bar on the right hand side of the window.

To expand and collapse nodes with the mouse, simply double click the node. This can also be done by clicking the small click boxes attached to a node.

Selecting Entries Within The Directory Tree List

Please refer to the section on Selecting List Entries Within MasterISO Interfaces found in the Appendix.

Adding Files Or Directories To The Directory Tree List

To add a single file, multiple files or directories to the directory tree list, simply select the **Add Files** gadget located just below the directory tree list window.

By selecting the gadget, a standard Amiga requester appears, enabling the user to add one or more files or directories to the directory tree list.

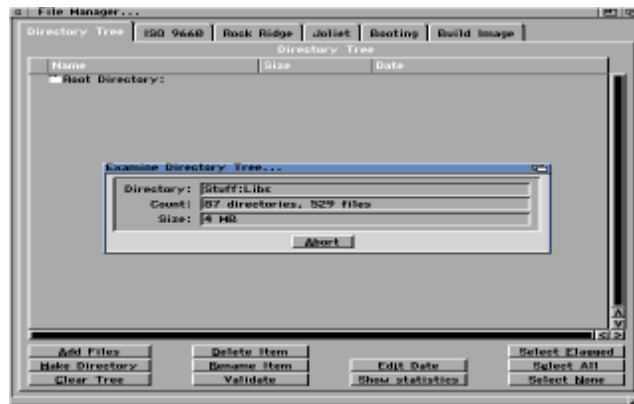
If no entry is highlighted in the directory tree list, the added files or directories are added to the Root directory.

If a directory is highlighted in the directory tree list, the added files or directories are added to that particular directory.

If an individual file is highlighted in the directory tree list, MasterISO reports an error.

If multiple files and/or directories are highlighted, MasterISO once again reports an error.

Once the user has chosen which items to add to the directory tree list, the following *Examine Directory Tree* window appears:



This window displays the following information:

Directory: directory from which the source files are being read

Count: real-time number of files and directories added to the directory tree

Size: real-time approximate size of all the files added

If the user wishes to stop the process, select the **Abort** gadget located in the bottom middle of the window. If **Abort** is selected, all items added to the directory tree list, up to the time of the abort, will remain in the list. However, due to the nature of the adding algorithm, empty directories may appear in the directory tree list as well.

Deleting Entries From The Directory Tree List

It is often necessary to remove entries from the directory tree list. These entries may include an individual file, multiple files, whole directories, or the whole tree itself.

Simply highlight the entries to be deleted from the directory tree and select the **Delete Item** gadget. The gadget is located in the tree manipulation tools section.

When a node is deleted from the list, all children of that node, regardless of their type, are subsequently removed.

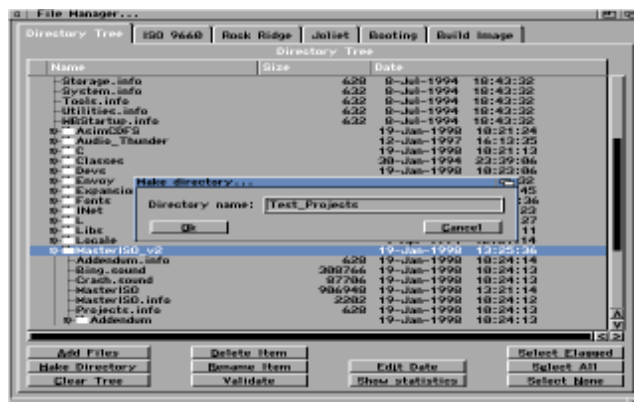
When entries are deleted from the directory tree list, it is their inclusion in this list that are being deleted. The actual source items are left untouched.

To remove the entire directory tree list, select the Root Directory entry and then the **Delete Item** gadget. The user may also clear the entire tree by selecting the **Clear Tree** gadget.

Making A Directory Within The Directory Tree List

To make a directory within the directory tree list, select the **Make Directory** gadget in the tree manipulation tools section.

Doing so produces the following *Make Directory* window:



It is necessary to input the name of the directory in the **Directory Name** field and then select the **Ok** gadget. Pressing the ‘return’ key has the same effect as selecting the **Ok** gadget.

If no entry is highlighted in the directory tree list, the new directory then becomes a child of the Root directory.

If a node is highlighted in the directory tree list, the new directory then becomes a child of that node.

If a file is highlighted in the directory tree list, MasterISO reports an error.

It is possible to add a directory to multiple highlighted directories.

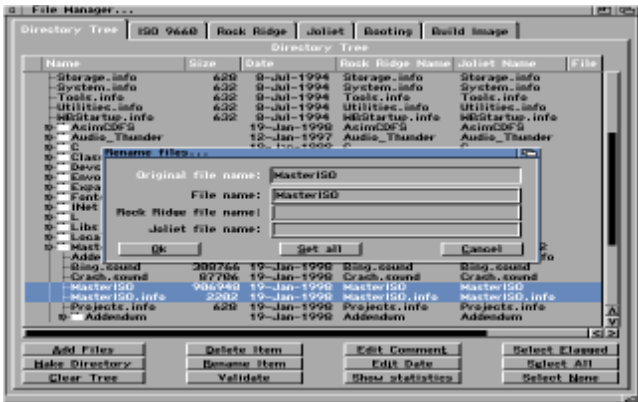
The new directory added to the directory tree list will not be validated to ensure that it conforms to the specifications of the selected file system chosen on the *Tree Options* tab. It is left to the user to validate the directory tree again.

Renaming Entries In The Directory Tree List

This features allows the user to rename any entry in the directory tree list.

Simply highlight the entry or entries to be renamed from the directory tree and select the **Rename Item** gadget. The gadget is located in the tree manipulation tools section.

Doing so produces the following *Rename Files* window:



The *Rename Files* window contains the following fields:

Original File Name: This field displays the original file name as it is read from the source hard drive or CD-ROM drive. This field cannot be edited by the user. This field remains unchanged, regardless of the number of changes made to the entry in the directory tree list.

File name: This field displays the ISO 9660 name of the selected entry. The user can also alter the ISO 9660 name directly within this field.

If this field is left blank, the ISO 9660 file name will revert back to the original file name.

Rock Ridge File Name: This field displays the Rock Ridge name of the selected entry. The user can also alter the Rock Ridge name directly within this field.

This file name does not need to be similar to the ISO 9660 file name. This field only appears when the **Create Rock Ridge Volume** option is selected in the *Rock Ridge Extensions* section on the *Rock Ridge* tab.

If this field is left blank, there are two possibilities as to how MasterISO interprets what to use as the Rock Ridge file name. If the **Rock Ridge Names Automatically Assume Original Name** option on the *Rock Ridge* tab is selected, the original file name is used as the Rock Ridge file name. If this option is not selected, the ISO 9660 file name is used as the Rock Ridge file name.

Joliet File Name: This field displays the Joliet name of the selected entry. The user is also able to alter the Joliet name directly within this field.

This field only appears when the **Create Joliet Volume** option is selected in the *Joliet Volume* section on the *Joliet* tab.

If this field is left blank, the Joliet file name assumes the original file name. This file name does not need to be similar to the ISO 9660 file name.

When multiple entries are selected for renaming, the **Set All** gadget appears in the *Rename Files* window. This gadget allows the user to set all of the selected files to **ONE** file name. This is most useful for returning the directory tree list to its original state. Simply select all of the entries in the directory tree list and leave all of the fields in the *Rename Files* window empty. This returns the directory tree list to its original state.

It should be noted that when entries are renamed in the directory tree list, it is their names in this list that are being renamed. The actual source items are left untouched.

Validating The Directory Tree List

To ensure the CD the user is about to create conforms to the standards of the chosen file system(s), MasterISO has instituted a comprehensive validation system for the directory tree list.

Selecting the **Validate** gadget presents the user with two options: **File Names** and **File Information**.

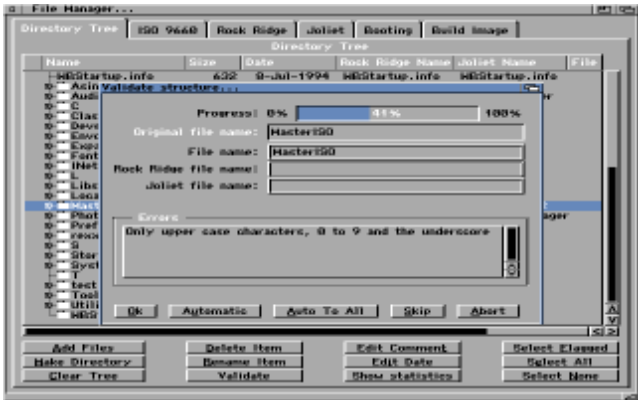
All flagged entries from a validation operation are cleared when a subsequent validation operation is done.

Validating File Names

To validate file names, the user must select which files are to be validated from the directory tree list and then select the **Validate** gadget in the tree manipulation tools section.

If no entries are selected within the directory tree list, the entire tree is validated.

Selecting the **Validate/File Names** gadget displays the *Validate Structure* window.



The *Validate Structure* window contains the following fields:

Progress: This indicator displays the real-time percentage of the completed validation cycle.

Original File Name: This field displays the original file name as it was read from the source hard drive or CD-ROM drive. This field cannot be edited by the user. This field will remain unchanged, regardless of the number of changes made to the entry in the directory tree list.

File name: This field displays the ISO 9660 name of the selected entry. The user can also alter the ISO 9660 name directly within this field. If this field is left blank, the file name will assume the original file name.

Rock Ridge File Name: This field displays the Rock Ridge name of the selected entry. The user can also alter the Rock Ridge name directly within this field.

This file name does not need to be similar to the ISO 9660 file name. This field only appears when the **Create Rock Ridge Volume** option is selected in the *Rock Ridge Extensions* section on the *Rock Ridge* tab.

If this field is left blank, there are two possibilities as to how MasterISO interprets what to use as the Rock Ridge file name. If the **Rock Ridge Names Automatically Assume Original Name** option on the *Rock Ridge* tab is selected, the original file name is used as the Rock Ridge file name. If this option is not selected, the ISO 9660 file name is used as the Rock Ridge file name.

Joliet File Name: This field displays the Joliet name of the selected entry. The user is also able to also alter the Joliet name directly within this field.

This field only appears when the **Create Joliet Volume** option is enabled in the *Joliet Volume* section on the *Joliet* tab.

If this field is left blank, the Joliet file name assumes the original file name. This file name does not have to be similar to the ISO 9660 file name.

Errors: This section displays the reason a particular entry did not conform to the standards set by the user.

Below the *Errors* section, there are many different gadgets the user may select to speed up the validation process.

These items include:

Ok: This gadget accepts the current entries in the fields, provided they conform to the standards of the file system(s) chosen.

Automatic: This gadget automatically adjusts the name of the current entry to conform to the standards of the file system(s) chosen by the user.

Automatic To All: This gadget automatically adjusts the name of all the selected entries to conform to the standards of the file system(s) chosen by the user.

It should be noted that MasterISO uses a proprietary renaming system to ensure that the files adhere to the standards of the file system(s) selected by the user. MasterISO attempts to keep the original file name as much as possible.

Skip: This gadget skips the validation of the current entry.

Abort: This gadget exits the current validation cycle. All previous changes remain intact.

It should be noted that when entries are renamed in the directory tree list as a result of the validation process, it is their entries in this list that are being renamed. The actual source items are left untouched.

Validating File Information

The **Validate File/Information** feature examines the entries in the directory tree list. The comparison is done between the time the entries were first added to the directory tree list, to the present.

This feature is especially useful for updating the information in a saved project.

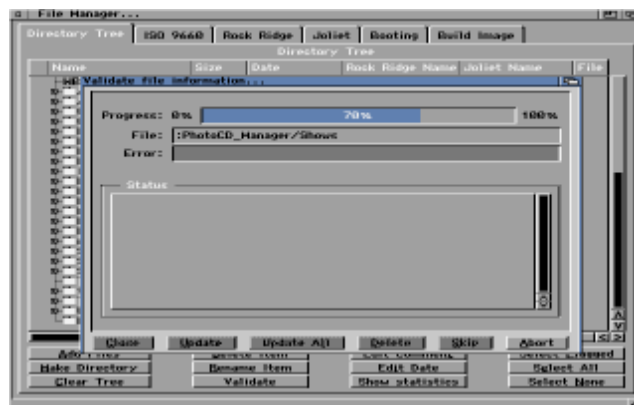
The following items are checked during the validating of file information:

- Entry existence (file or directory)
- Entry date (file or directory)
- File size
- File comment
- File type
- File protection bits

To validate file information, the user must select which entries are to be validated from the directory tree list and then select the **Validate/File Information** gadget in the tree manipulation tools section.

If no entries are selected within the directory tree list, the entire tree is validated.

Selecting the **Validate/File Information** gadget displays the *Validate File Information* window.



The *Validate File Information* window contains the following fields:

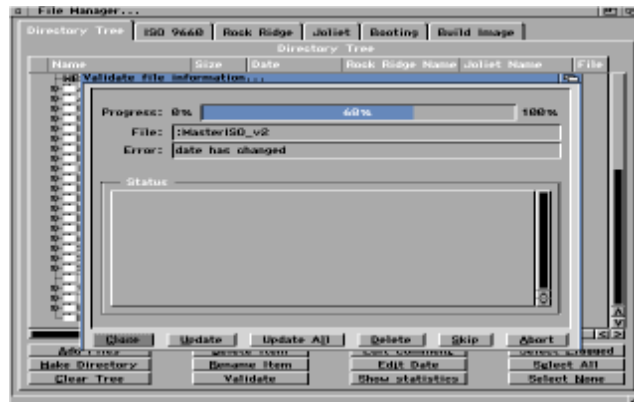
Progress: This indicator displays the real-time percentage of the completed validation cycle.

File: This field displays the entry being validated.

Error: This field displays any changes that have been made to an item, based on the above criteria. Once done, the gadgets along the bottom of the window become available to the user.

Status: If an error has been encountered and acted upon, the action taken to rectify the situation is displayed in this section.

Below the *Errors* section, there are many different gadgets the user may select to speed up the validation process. These gadgets are only available to the user if a change in an entry has been detected.



These gadgets include:

Close: This gadget is available once the validation cycle is complete.

Update: This gadget updates the current entry with the new information.

Update All: This gadget updates all the selected entries that contain new information.

Delete: This gadget deletes the entry from the directory tree list.

Skip: This gadget causes the validation cycle to skip the error found with the current entry.

Abort: This gadget allows the user to exit the *Validate File Information* window. All changes made previously will remain in effect.

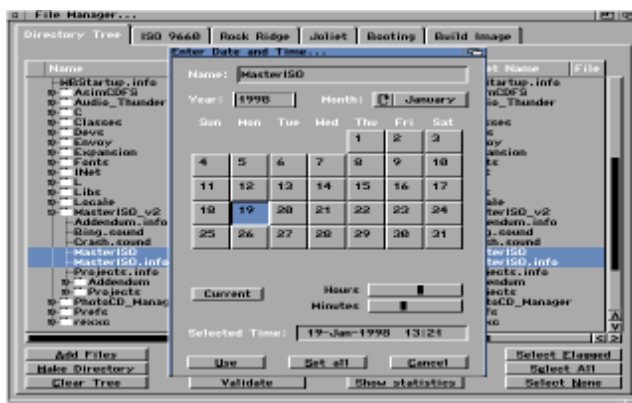
Editing Entry Dates

It is possible to change the date and/or time of the entries in the directory tree list.

It should be noted that when dates and/or times are changed in the directory tree list, only these attributes in the list are changed. The actual source items are left untouched.

Simply select one or more entries from the directory tree list and then select the **Edit Date** gadget.

Doing so produces the following *Edit Date And Time* window:



The *Edit Date And Time* window contains the following:

Name: This field contains the name of the entry being modified. It cannot be edited by the user.

Year: This field contains the year to which the entry will be modified. This field can be modified by the user. Changing the value in this field will produce a different calendar to be displayed.

Month: This cycle gadget allows the user to set the month to which the entry will be modified.

The calendar allows the user to set the day to which the entry will be modified to by simply selecting the desired day with the left mouse button.

The **Current** gadget allows the user to set the date and time of the entry to the current date and time (as taken from the Amiga's internal clock and calendar settings).

The **Hours** and **Minutes** slider allows the user to select the hour and minute the file will be modified to respectively.

The *Selected Time* field represents the new date and time to which the entry will be modified. This field cannot be directly edited by the user.

Once all of the date and time parameters have been adequately set, select the **Use** gadget for the change in the directory tree list to take effect.

If the user does not want the changes to take effect, simply select the **Cancel** gadget.

If more than one entry in the directory tree list is selected, the **Set All** gadget appears. This gadget allows the user to set the date and time attributes of all the selected entries to that seen in the window.

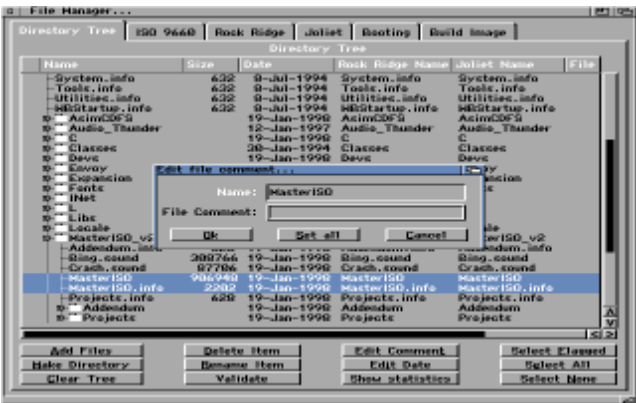
Editing File Comments

When the **Use Amiga-Specific Extensions** option in the *Rock Ridge Extensions* section on the *Rock Ridge* tab is selected, the *File Comments* column appears in the directory tree list, as well as, the **Edit Comment** gadget in the tree manipulation tools section.

The **Edit Comment** gadget allows the user to alter the file comments attached to a file or directory.

Simply select one or more entries from the directory tree list whose file comments need editing and then select the **Edit Comment** gadget.

Doing so produces the following *Edit File Comment* window:



This *Edit File Comment* window contains the file comment to be modified in the **File Comment** field. This field can be directly modified by the user.

The name of the file or directory whose file comment is being modified can be seen in the *Name* field. This field cannot be modified by the user. This field only appears when multiple entries are selected.

To make the appropriate change to the file comment, the user must then select the **Ok** gadget. Selecting the **Cancel** gadget renders the changes made in the file comment field void. If more than one entry is selected in the directory tree list, the **Set All** gadget appears in the *Edit File Comment* window. Selecting this option allows the user to set a uniform file comment to all of the selected entries.

Directory Tree List Statistics

At any time during the creation or editing of the directory tree list, the user may obtain real-time statistics on the contents of the list.

By selecting the **Show Statistics** gadget in the tree manipulation tools section, the following adjustment to the *Directory Tree* tab occurs:



Selecting the **Show Statistics** gadget a second time causes the this section to disappear.

The added section contains the following:

File Count: real-time number of files in the list

Directory Count: real-time number of directories in the list

Size (MB): Approximate size of the entries in the list in megabytes (MB). The actual sector size of the source files is calculated at write time.

If a CD-R/RW drive is selected on the *CD-R/RW Drive* tab, and a blank CD-R/RW disc is located in the drive, the user may select the **Get Size** gadget. This allows the user to verify that they have ample room on the CD-R/RW disc to place all of their files. The information is displayed in megabytes (MB), sectors and time (minutes:seconds:frames).

Selecting Similar Entries

MasterISO has provided three gadgets that enables the user to perform common directory tree list selection operations more quickly and efficiently.

These gadgets are located on the bottom right corner of the *Directory Tree* tab.

They include:

Select Flagged: selects all of the flagged entries in the directory tree list

Select All: selects all of the entries in the directory tree list

Select None: cancels any highlighted entries in directory tree list

File System Tabs

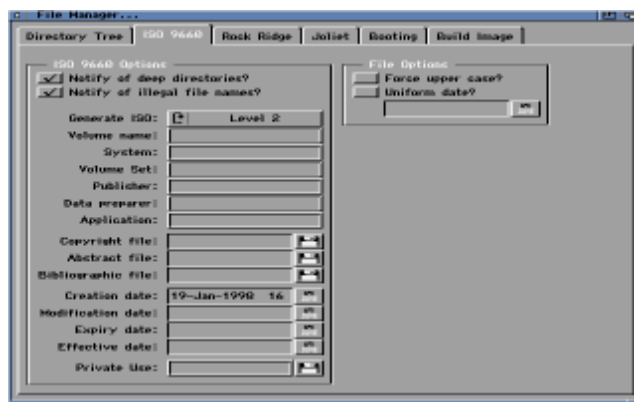
The *File System* tabs (*ISO 9660*, *Rock Ridge* and *Joliet* tabs) are always used in close conjunction with the *Directory Tree* tab. Many items set in these tabs reflect different configurations in the *Directory Tree* tab, most notably in the directory tree list and in the validation features.

The *File System* tabs provide the user with a wealth of options for customizing the file system type for their particular project.

A created disc is not limited to using one CD file system only. A CD may contain numerous CD file systems simultaneously.

ISO 9660 Tab

This tab allows the user set all of the options in MasterISO associated with the ISO 9660 volume of the disc.



The ISO 9660 tab is categorized into two main sections: *ISO 9660 Options* and *File Options*.

ISO 9660 Options Section

Notify Of Deep Directories: This option warns the user when their directory tree has surpassed the maximum number of directory levels allowable under the ISO 9660 Level 1 or 2 specification. The warning is given when the directory tree is validated using the **Validate/File Names** option on the *Directory Tree* tab.

Disabling this option may cause the burned disc to be unreadable on some receiving CD-ROM file systems.

Notify Of Illegal File Names: This option warns the user when a file name, directory name or volume name has not adhered to the ISO 9660 Level 1 or 2 specification. The warning is given when the directory tree is validated using the **Validate/File Names** option on the *Directory Tree* tab or the **Volume Name** is entered.

Disabling this option may cause the burned disc to be unreadable on some receiving CD-ROM file systems.

Generate ISO: This cycle gadget allows the user to select the ISO level (1 or 2) which is **ONLY** used for the validating of the directory tree list entries.

Items In The Primary Volume Descriptor

The following items describe the various components that the user may set or assign to the Primary Volume Descriptor (PVD) of the ISO 9660 volume.

All components of the PVD that are calculated or set by MasterISO cannot be edited by the user.

The descriptions of the following items were taken from the ISO 9660:1988(E) document.

For more information concerning the ISO 9660 Level 1 and Level 2 specifications, please refer to the Appendix.

It should be noted that none of the items in the PVD need to be set for the user to create a valid CD. These items may be set by the user, if they so desire.

Volume Name: This field shall specify an identification of the volume.

Character Type: d-characters

Maximum Field Length: 32

It is suggested to hit the 'return' key after entering the data.

The **Volume Name** field is only verified if the **Notify Of Illegal File Names** option is selected.

System: This field shall specify an identification of the system which can recognize and act upon the content of the Logical Sectors with logical Sector Numbers 0 to 15 of the volume.

Character Type: a-characters

Maximum Field Length: 32

It is suggested to hit the 'return' key after entering the data.

The **System** field only is verified if the **Notify Of Illegal File Names** option is selected.

Volume Set: This field shall specify an identification of the Volume Set of which the volume is a member.

Character Type: d-characters

Maximum Field Length: 128

It is suggested to hit the 'return' key after entering the data.

The **Volume Set** field is only verified if the **Notify Of Illegal File Names** option is selected.

Publisher: This field shall specify an identification of the user who specified what shall be recorded on the Volume Group of which the volume is a member.

Character Type: a-characters

Maximum Field Length: 128

It is suggested to hit the 'return' key after entering the data.

The **Publisher** field is only verified if the **Notify Of Illegal File Names** option is selected.

Data Preparer: This field shall specify an identification of the person or other entity which controls the preparation of the data to be recorded on the Volume Group of which the volume is a member.

Character Type: a-characters

Maximum Field Length: 128

It is suggested to hit the 'return' key after entering the data.

The **Data Preparer** field is only verified if the **Notify Of Illegal File Names** option is selected.

Application: This field shall specify an identification of the specification of how the data are recorded on the Volume Group of which the volume is a member.

Character Type: a-characters

Maximum Field Length: 128

It is suggested to hit the 'return' key after entering the data.

The **Application** field is only verified if the **Notify Of Illegal File Names** option is selected.

Copyright File: This field shall specify an identification for a file described by the Root Directory and containing a copyright statement for those volumes of the Volume Set the sequence numbers of which are less than, or equal to, the assigned Volume Set Size of the volume.

File Name Character Type: d-characters
Maximum Number of Characters in File Name: 8
File Name Extension Character Type: d-characters
Maximum Number of Characters in File Name Extension: 8
Legal Separator Types: type 1 and 2

The **Copyright File** is selected by highlighting the desired file in the directory tree list and then selecting the disk gadget.

This data field can not be directly edited by the user.

Abstract File: This field shall specify an identification for a file described by the Root Directory and containing an abstract statement for those volumes of the Volume Set the sequence numbers of which are less than, or equal to, the assigned Volume Set Size of the volume.

File Name Character Type: d-characters
Maximum Number of Characters in File Name: 8
File Name Extension Character Type: d-characters
Maximum Number of Characters in File Name Extension: 8
Legal Separator Types: type 1 and 2

The **Abstract File** is selected by highlighting the desired entry in the directory tree list and then selecting the disk gadget.

This data field can not be directly edited by the user.

Bibliographic File: This field shall specify an identification for a file described by the Root Directory and containing bibliographic records interpreted according to standards that are the subject of an agreement between the originator and the recipient of the volume.

File Name Character Type: d-characters
Maximum Number of Characters in File Name: 8
File Name Extension Character Type: d-characters
Maximum Number of Characters in File Name Extension: 8
Legal Separator Types: type 1 and 2

The **Bibliographic File** is selected by highlighting the desired entry in the directory tree list and then selecting the disk gadget.

This data field can not be directly edited by the user.

Creation Date: This field shall specify the date and time of the day at which the information in the volume was created.

This time is automatically set to the time that MasterISO was started, as taken from AmigaDOS.

This data field can not be directly edited by the user. To set a new date and time, simply select the date gadget to the right of the field.

Descriptions of the items in the *Enter Date And Time* window can be found in the Editing Entry Dates section found earlier in this chapter.

Modification Date: This field shall specify the date and time of the day at which the information in the volume was last modified.

This data field can not be directly edited by the user. To set a new date and time, simply select the date gadget to the right of the field.

Descriptions of the items in the *Enter Date And Time* window can be found in the Editing Entry Dates section found earlier in this chapter.

Expiry Date: This field shall specify the date and time of the day at which the information in the volume may be regarded as obsolete. If the date and time are not specified then the information shall not be regarded as obsolete.

This data field can not be directly edited by the user. To set a new date and time, simply select the date gadget to the right of the field.

Descriptions of the items in the *Enter Date And Time* window can be found in the Editing Entry Dates section found earlier in this chapter.

Effective Date: This field shall specify the date and time of the day at which the information in the volume may be used. If the date and time are not specified then the information may be used at once.

This data field can not be directly edited by the user. To set a new date and time, simply select the date gadget to the right of the field.

Descriptions of the items in the *Enter Date And Time* window can be found in the Editing Entry Dates section found earlier in this chapter.

Private Use: This field shall be reserved for application use. Its content is not specified by this International Standard.

Selecting the disk icon gadget to the right of the field produces a standard requester from which the file is to be chosen. This file can be located anywhere the user wishes. The location of the file is not limited to an existing file to be burned on the CD.

The contents of the file, up to a maximum of 512 characters, is added to the disc at build time.

The **Private Use** field can be directly edited by the user.

File Options Section

Force Upper Case: This option forces all of the entries in the ISO 9660 volume to be upper case. This holds for all legal and illegal characters (according to the ISO 9660 standard).

The forcing of all the characters to upper case is either done at ISO file build time or at write time, depending on the write method chosen. The source files or the entries in the directory tree list are not modified.

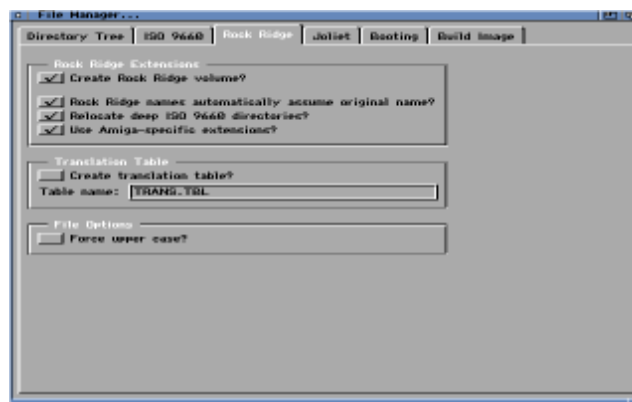
Uniform Date: This option forces all of the entries in the directory tree list (files or directories) to have the same date.

The field below this option can not be directly edited by the user. To set a new date and time, simply select the date gadget to the right of the field.

Descriptions of the items in the *Enter Date And Time* window can be found in the Editing Entry Dates section found earlier in this chapter.

Rock Ridge Tab

This tab allows the user set all of the options in MasterISO associated with the Rock Ridge volume of the disc.



The *Rock Ridge* tab is categorized into three main sections: *Rock Ridge Extensions*, *Translation Table*, and *File Options*.

Rock Ridge Extensions Section

Create Rock Ridge Volume: This option allows for the creation of a Rock Ridge volume, built upon the ISO 9660 volume.

Selecting this option makes various changes to the *Directory Tree* tab and allows access to the various Rock Ridge options in this section.

Rock Ridge Names Automatically Assume Original Name: When this option is selected, leaving the *Rock Ridge File Name* field in the *Rename Files* or *Validate Structure* windows causes the Rock Ridge file name to revert to the original file name. For more information on these two operations, please refer to the section on the *Directory Tree* tab.

Relocate Deep ISO 9660 Directories: The ISO 9660 standard allows the directory structure to be a maximum of 8 levels deep. The Rock Ridge specification allows for an unlimited number of levels.

To conform to the ISO 9660 standards, upon which Rock Ridge is built, MasterISO relocates the directories below the eighth level to a directory called RR_MOVED, located in the root directory. The rebuilding of the Rock Ridge directory structure and the ability to access the RR_MOVED directory is left up to the receiving CD-ROM file system.

Use Amiga-Specific Extensions: When this option is selected, any file comments attached to files or directories are written to the CD. Selecting this option also allows for the editing of file comments on the *Directory Tree* tab. For more information on the editing of file comments, please refer to the section on the *Directory Tree* tab.

Translation Table Section

Create Translation Table: Selecting this option creates a translation table file in each directory on the disc.

The name of the translation table is defined within the **Table Name** field.

This translation table shows each ISO 9660 file name and the corresponding Rock Ridge file name associated with it since each Rock Ridge file name is built upon an existing ISO 9660 file name, on a one to one basis.

The translation table is not part of the Rock Ridge specification and it is not required for the creation of a standard Rock Ridge volume.

The **Table Name** field can be directly edited by the user. It is suggested to hit the 'return' key after entering the data.

If the name entered in the **Table Name** field is identical to an existing file name, the translation table will overwrite the existing file.

If the name entered in the **Table Name** field is identical to an existing directory name, the translation table is not be created.

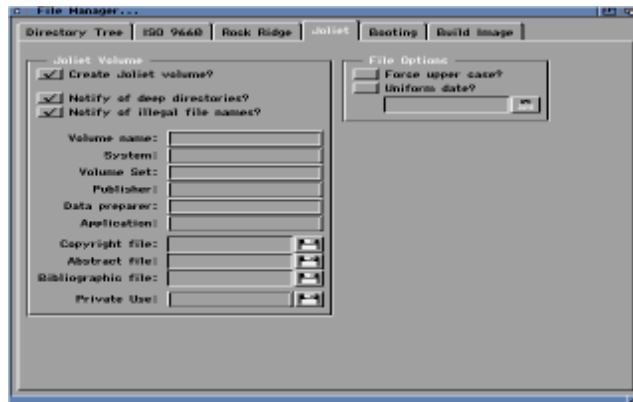
File Options Section

Force Upper Case: This option forces all of the entries in the Rock Ridge volume to be upper case. This holds for all legal and illegal characters (according to the Rock Ridge standard).

The forcing of all the characters to upper case is either done at ISO file build time or at write time, depending on the write method chosen. The source files or the entries in the directory tree list are not modified.

JolietTab

This tab allows the user set all of the options in MasterISO associated with the Joliet volume of the disc.



The *Joliet* tab is categorized into two main sections: *Joliet Volume* and *File Options*.

Joliet Volume Section

Create Joliet Volume: This option allows for the creation of a Joliet volume.

Selecting this option makes various changes to the *Directory Tree* tab and allows access to the various Joliet options in this section.

Notify Of Deep Directories: This option warns the user when the path length of the directory tree has surpassed the maximum number of characters allowable under the Joliet specification. The warnings are given when the directory tree is validated using the **Validate/File Names** option on the *Directory Tree* tab.

Disabling this option may cause the burned disc to be unreadable on some receiving CD-ROM file systems.

Notify Of Illegal File Names: This option warns the user when a file name, directory name or volume name has not adhered to the Joliet specification. The warnings are given when the directory tree is validated using the **Validate/File Names** option on the *Directory Tree* tab or the **Volume Name** is entered.

Disabling this option may cause the burned disc to be unreadable on some receiving CD-ROM file systems.

Items In The Supplementary Volume Descriptor (SVD)

The following items describe the various components that the user may set or assign to the Supplementary Volume Descriptor (SVD) of the Joliet volume.

All components of the SVD that are calculated or set by MasterISO cannot be edited by the user.

The descriptions of the following items were taken from the ISO 9660:1988(E) and the Extension for Unicode Version 1 documents.

For more information concerning the Joliet specifications, please refer to the Appendix.

It should be noted that none of the items in the SVD need to be set for the user to create a valid CD. These items may be set by the user, if they so desire.

Volume Name: This field shall specify an identification of the volume.

Character Type: UCS-2 with noted exceptions

Maximum Field Length: 32

It is suggested to hit the 'return' key after entering the data.

The **Volume Name** field is only verified if the **Notify Of Illegal File Names** option is selected.

System: This field shall specify an identification of the system which can recognize and act upon the content of the Logical Sectors with logical Sector Numbers 0 to 15 of the volume.

Character Type: UCS-2 with noted exceptions

Maximum Field Length: 32

It is suggested to hit the 'return' key after entering the data.

The **System** field is only verified if the **Notify Of Illegal File Names** option is selected.

Volume Set: This field shall specify an identification of the Volume Set of which the volume is a member.

Character Type: UCS-2 with noted exceptions

Maximum Field Length: 128

It is suggested to hit the 'return' key after entering the data.

The **Volume Set** field is only verified if the **Notify Of Illegal File Names** option is selected.

Publisher: This field shall specify an identification of the user who specified what shall be recorded on the Volume Group of which the volume is a member.

Character Type: UCS-2 with noted exceptions
Maximum Field Length: 128

It is suggested to hit the 'return' key after entering the data.

The **Publisher** field is only verified if the **Notify Of Illegal File Names** option is selected.

Data Preparer: This field shall specify an identification of the person or other entity which controls the preparation of the data to be recorded on the Volume Group of which the volume is a member.

Character Type: UCS-2 with noted exceptions
Maximum Field Length: 128

It is suggested to hit the 'return' key after entering the data.

The **Data Preparer** field is only verified if the **Notify Of Illegal File Names** option is selected.

Application: This field shall specify an identification of the specification of how the data are recorded on the Volume Group of which the volume is a member.

Character Type: UCS-2 with noted exceptions
Maximum Field Length: 128

It is suggested to hit the 'return' key after entering the data.

The **Application** field is only verified if the **Notify Of Illegal File Names** option is selected.

Copyright File: This field shall specify an identification for a file described by the Root Directory and containing a copyright statement for those volumes of the Volume Set the sequence numbers of which are less than, or equal to, the assigned Volume Set Size of the volume.

File Name Character Type: UCS-2 with noted exceptions
Maximum Number of Characters in File Name: None
File Name Extension Character Type: UCS-2 with noted exceptions
Maximum Number of Characters in File Name Extension: None
Legal Separator Types: type 1 and 2

The **Copyright File** is selected by highlighting the desired file in the directory tree list and then selecting the disk gadget.

This data field can not be directly edited by the user.

Abstract File: This field shall specify an identification for a file described by the Root Directory and containing an abstract statement for those volumes of the Volume Set the sequence numbers of which are less than, or equal to, the assigned Volume Set Size of the volume.

File Name Character Type: UCS-2 with noted exceptions
Maximum Number of Characters in File Name: None
File Name Extension Character Type: UCS-2 with noted exceptions
Maximum Number of Characters in File Name Extension: None
Legal Separator Types: type 1 and 2

The **Abstract File** is selected by highlighting the desired entry in the directory tree list and then selecting the disk gadget.

This data field can not be directly edited by the user.

Bibliographic File: This field shall specify an identification for a file described by the Root Directory and containing bibliographic records interpreted according to standards that are the subject of an agreement between the originator and the recipient of the volume.

File Name Character Type: UCS-2 with noted exceptions
Maximum Number of Characters in File Name: None
File Name Extension Character Type: UCS-2 with noted exceptions
Maximum Number of Characters in File Name Extension: None
Legal Separator Types: type 1 and 2

The **Bibliographic File** is selected by highlighting the desired entry in the directory tree list and then selecting the disk gadget.

This data field can not be directly edited by the user.

Private Use: This field shall be reserved for application use. Its content is not specified by this International Standard.

Selecting the disk icon gadget to the right of the field produces a standard requester from which the file is to be chosen. This file can be located anywhere the user wishes. The location of the file is not limited to an existing file to be burned on the CD.

The contents of the file, up to a maximum of 512 characters, is added to the disc at build time.

The **Private Use** field can be directly edited by the user.

File Options Section

Force Upper Case: This option forces all of the entries in the Joliet volume to be upper case. This holds for all legal and illegal characters (according to the Joliet standard).

The forcing of all the characters to upper case is either done at ISO file build time or at write time, depending on the write method chosen. The source files or the entries in the directory tree list are not modified.

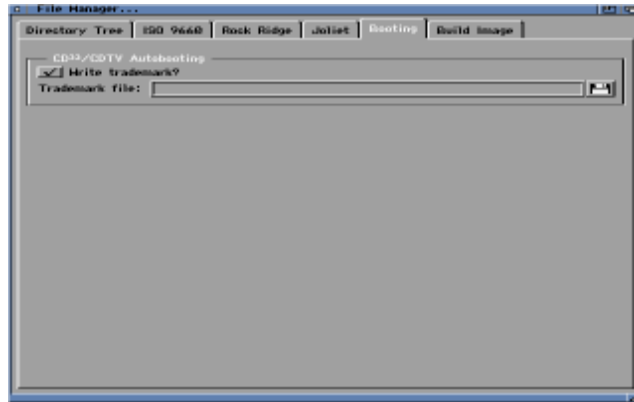
Uniform Date: This option forces all of the entries in the directory tree list (files or directories) to have the same date.

The field below this option can not be directly edited by the user. To set a new date and time, simply select the date gadget to the right of the field.

Descriptions of the items in the *Enter Date And Time* window can be found in the Editing Entry Dates section found earlier in this chapter.

Bootling Tab

This tab contains only one section, the *CD³²/CDTV Autobooting* section.



Within this section is the **Write Trademark** option. Selecting this option enables MasterISO to write the CDTV or CD³² trademark file to the CD, allowing it to be autobooting on an appropriate system.

The trademark file must be supplied by the user. This file is not supplied by Asimware Innovations Inc. and its use is subject to the rules and regulations of the owners of Commodore's intellectual properties.

Once the option is selected, the location of the trademark file must be given to MasterISO. This can be done by either typing in the path of the file in the **Trademark File** field or by selecting the file by means of a standard requester.

This requester is activated by selecting the disk icon to the right of the **Trademark File** field.

It should be noted that by enabling this option, it does not **AUTOMATICALLY** make any CD autobooting. The user must ensure that the correct directory structure and boot files exist in the directory tree list before the CD will be able to be autobooted.

Build Image Tab

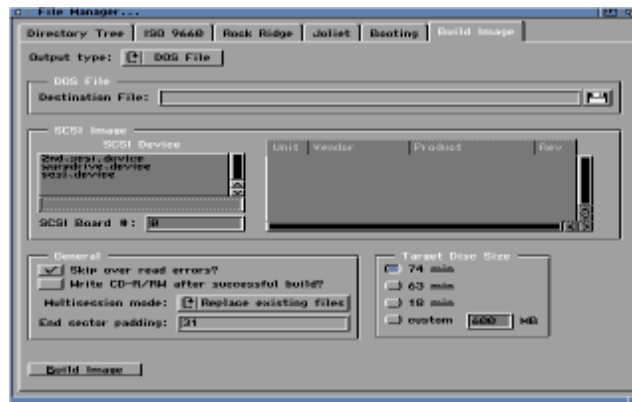
The final tab in the *File Manager* window is the *Build Image* tab. This tab contains all the necessary tools for the creation of an ISO image.

There are two possible methods for the mastering of a data CD. For faster and more powerful systems, the user is able to burn the information to the CD 'on-the-fly' or in real-time.

However, not all systems have the CPU capacity to do so. In this case, the user will want to create the image of the CD on a hard drive prior to burning it. This method requires the creation of an ISO image.

The ISO image is an **EXACT** duplicate of the CD to be burned. The information in the ISO image is exactly as it will appear on the final burned CD.

By selecting the *Build Image* tab, the user is presented with the following:



There are four main sections on the *Build Image* tab: *DOS File*, *SCSI Image*, *General* and *Target Disc Size*.

The user must first decide which type of ISO image to create. This is done with the **Output Type** gadget at the top of the tab. The cycle gadget has two options:

- **DOS File**
- **SCSI Image.**

By selecting **DOS File**, the user is able to create the ISO image to a file on an existing AmigaDOS storage device.

The AmigaDOS storage device chosen must have sufficient space for the ISO file and be in proper working order. This is left to the user to verify.

Selecting the **DOS File** type allows the user access to the *DOS File* section.

By selecting **SCSI Image**, the user is able to create the ISO image to a storage device.

The storage device chosen does not have to be formatted under AmigaDOS. However, the device chosen must have sufficient space for the ISO file and be in proper working order. This is left to the user to verify.

WARNING: Any existing information on the chosen storage device is destroyed when the ISO image is written to it.

Selecting the **SCSI Image** type allows the user access to the *SCSI Image* section.

DOS File Section

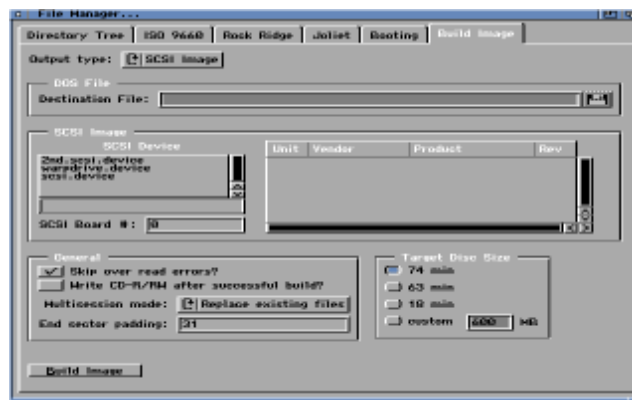
This section is only available when the **Output Type** is set to **DOS File**.

The location and file name of the ISO file to be created must be given to MasterISO. This can be done by explicitly typing in the path and file name in **Destination File** field or selecting a file by means of a standard requester.

This requester is activated by selecting the disk icon to the right of the **Destination File** field.

SCSI Image Section

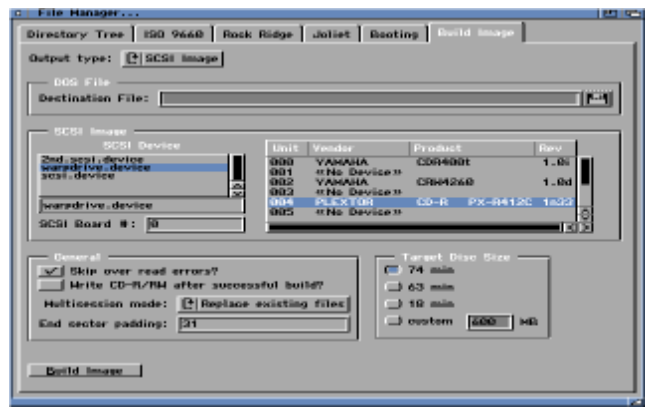
This section is only available when the **Output Type** is set to **SCSI Image**.



The user must specify which storage device to store the ISO image.

The user must first select the controller the device is attached to in the *SCSI Device* window, under the *SCSI Image* section. ATAPI drives are selected via the *SCSI Device* window as well

Once this has been completed, all properly configured devices attached to said controller will appear in the right hand window. Simply select the device to use with the left mouse button.



WARNING: Any existing information on the chosen storage device is destroyed when the ISO image is written to it.

Included in the right hand window is information concerning all of the devices attached to the selected controller. This information includes:

- Unit:* ID number the device
- Vendor:* manufacturer of the device
- Product:* model number of the device
- Rev:* version of the device's internal firmware

Each of these columns is fully resizeable.

If no device is available at a particular ID number, <<No Device>> will appear.

If a controller does not auto-configure, it will not appear in the *SCSI Device* window. The user may manually input the device name used by the controller in the field directly below the *SCSI Device* window. Any previously selected device will appear in this field.

The **SCSI Board #** input field is used to distinguish between different SCSI chains on a multiple chain SCSI controller or between multiple SCSI controllers in one Amiga that use the same SCSI device name. This is most commonly seen with multiple GVP SCSI controllers in one Amiga or the Newtek Flyer.

For most circumstances, this field should be defaulted to 0.

If the CD-R/RW drive is attached and powered on, yet does not appear in the list, it has not been configured properly. Please refer to our ATAPI or SCSI information sections in the Appendix or the manufacturer's ATAPI or SCSI interface manual.

General Section

Skip Over Read Errors: Selection this option causes MasterISO to skip over any read errors on the source files. MasterISO will replace the corrupt information as well as the remainder of the file with 'zero' data in the ISO file.

Write CD-R/RW After Successful Build: Selecting this option allows MasterISO to automatically begin a real write session upon the completion of the ISO build step.

For this process to function, the user must chose a CD-R/RW drive on the *CD-R/RW Drive* tab in the *Write Manager* window.

Multisession Mode: This cycle gadget allows the user to set which type of multisession mode the disc will be written in, if the **Finalize** option on the *Write Options* tab in the *Write Manager* window is set to **Multisession**.

The cycle gadget has the following options:

None: This mode begins writing the disc at sector 0.

Ignore Other Sessions: This mode begins writing the data at the next writeable address on the disc. The added session is a distinct session from the previous sessions. It should be noted that some CD-ROM drives and CD-ROM file systems cannot read the additional tracks added to a multisessioned data CD.

Replace Existing File Names: This mode replaces all the files with identical file names with the newer versions. All remaining files on the first session are left untouched and merged with the current directory tree. The CD that the files

are being added to must be in the drive and a CD-R/RW drive selected on the *CD-R/RW Drive* tab in the *Write Manager*.

Keep Existing File Names: This mode keeps original files intact when files with an identical file name are attempted to be added. The remaining original files are merged with the current directory tree. The CD that the files are being added to must be in the drive and a CD-R/RW drive selected on the *CD-R/RW Drive* tab in the *Write Manager*.

The last remaining field in the *General* section is the **End Sector Padding** field.

AsimCDFS has the ability to read an entire CD as one large ISO file. Certain CD-ROM drives have difficulty reading a CD as one large ISO file when the end of the CD is encountered abruptly.

This field allows the user to add an arbitrary number of blank sectors to the end of the image so that these problematic CD-ROM drives do not hang on reaching the end of the ISO file when transferring it.

The adding of these sectors does not affect the disc in any way.

Since most drives do not read more than 30 sectors ahead, the default setting of 31 should suffice. However, this field can be edited by the user..

It is suggested to hit the 'return' key after entering the data.

The maximum number that can be entered is 9999.

Target Disc Size Section

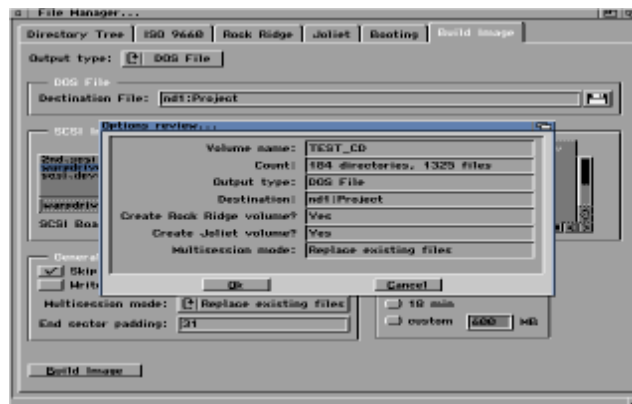
This section enables the user to specify the size of the disc the ISO image will eventually be burned to. The options include:

- **74 minutes** (commercially produced CD-R/RW discs)
- **63 minutes** (commercially produced CD-R/RW discs)
- **18 minutes** (commercially produced CD-R/RW discs)
- **Custom**

The **Custom** field accepts a maximum value of 9999 MB (megabytes). It is suggested to hit the 'return' key after entering the data.

The **Target Disc Size** section is **ONLY** used for monitoring and error messages. It does not limit the user from creating an ISO image that surpasses the capacity of the media chosen.

Once all of the options have been set, select the **Build Image** gadget in the bottom left hand corner of the tab to begin the ISO generation process. Doing so produces the following *Options Review* window:



This window contains the following information:

Volume Name:

Count: (number of directories and files)

Output Type:

Destination:

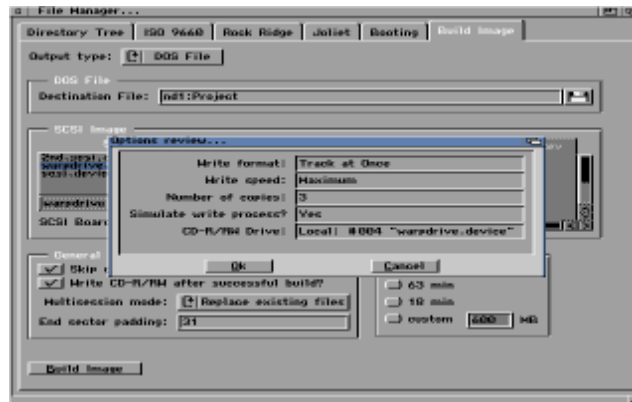
Create Rock Ridge Volume?

Create Joliet Volume?

Multisession Mode:

At this point, the user has the ability to continue with the process by selecting the **Ok** gadget or aborting the process by selecting the **Cancel** gadget.

If the **Write CD-R/RW After Successful Build** option is selected, a second *Options Review* window appears. This window only appears if the above mentioned option is selected.



This window contains the following information:

Write Format:

Write Speed:

Number Of Copies:

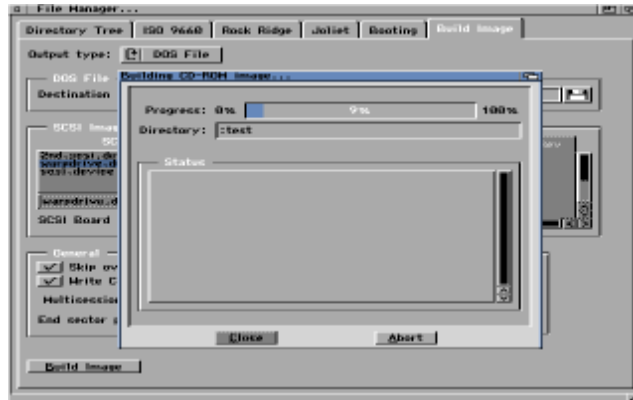
Simulate Write Process?

CD-R/RW Drive:

All of the above items are set in the *Write Manager*. For a more in-depth look at the above options, please refer to the section on the *Write Manager*.

At this point, the user may exit the process by selecting the **Cancel** gadget, or continue by selecting the **Ok** gadget.

If the **Ok** gadget is selected, the *Building CD-ROM Image* window is displayed and the ISO file generation process begins.



This window provides information on the ISO file generating process.

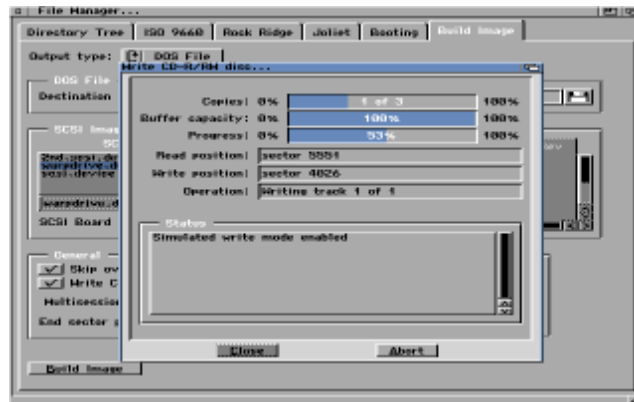
The *Progress* indicator visually exhibits the real-time percentage of the completed ISO file generation process.

The *Directory* field displays the directory the files are being read from as they are transferred into the ISO file.

The *Status* window displays any messages or error notices encountered during the ISO file generation phase.

Upon completion of the ISO file generation process, a notification is displayed in the *Status* window. Selecting the **Close** gadget returns the user back to the program.

If the **Write CD-R/RW After Successful Build** option is selected, the *Building CD-ROM Image* window is automatically closed and the following *Write CD-R/RW Disc* window appears:



This window provides a plethora of information during the writing of the CD.

The *Copies* indicator displays the real-time percentage and the number of copies being written. This indicator is only present when multiple copies of the same data CD are requested via the **Number Of Copies** field in the *Write Manager*.

The *Buffer Capacity* indicator displays the real-time percentage of the total amount of the buffer that is filled with data to be written.

The *Progress* indicator visually exhibits the real-time percentage of the completed write session.

The *Read Position* field displays the sector of the source file being read in real-time.

The *Write Position* field displays the sector of the CD being written to in real-time.

The *Operation* field denotes the actual operation the drive is performing at any given time.

The *Status* window displays any messages or error notices encountered during the writing phase.

Upon completion of the writing session, a notification is displayed in the *Status* window. Selecting the **Close** gadget returns the user back to the program.

If, at any time, the user does not wish the writing of the CD to proceed to completion, selecting the **Abort** gadget will manually exit the write process.

It should be noted that if the **Simulate Write Process** option was not selected, the disc may be rendered unusable. It should also be noted that the abort process may not be instantaneous.

The CD-R/RW drive may also perform some internal 'housekeeping' when the write operation is prematurely aborted. This may last from a few seconds to several minutes, depending on the drive model.

Advanced Project Type

Audio Manager

This section documents all of the features available to the user when using the *Audio Manager* in the *Advanced* project type.

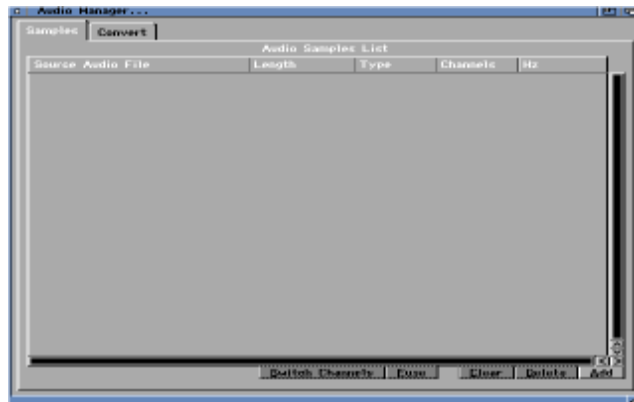
The *Audio Manager* is similar to the *Audio* project type. It is used mainly for the converting of audio files for the creation of audio CDs or the audio component of a mixed mode CD. The user will notice that the *Audio Manager* contains similar options as are found in the *Audio* project type, as well as additional features.

The function of the *Audio Manager* is two fold. Firstly, the *Audio Manager* allows for the storage and arrangement of the audio tracks to be written to a CD. The decision to write the CD in Disc At Once (DAO) or Track At Once (TAO) mode is decided on the *Disc Layout* tab in the *Write Manager*.

More importantly, the second function of the *Audio Manager* is to convert audio files, off-line, to a properly byte-ordered CDDA file. While MasterISO has the ability to do this in real-time during the writing of the disc, certain systems may lack the necessary CPU power to do so. It is the users of these slower systems who would benefit most with the off-line converting capabilities found in the *Audio Manager*.

Samples Tab

When the *Audio Manager* window is opened, the user is first presented with the *Samples* tab.



It is within this interface that the user may select which files are written to the CD as audio tracks and/or pre-converted.

The *Audio Samples List* window contains the following resizable columns:

Source Audio File: path and name of a selected file

Length: length of the selected file

The format of the time will be minutes:seconds:frames. A frame is 1/75th of a second.

Type: format of the selected file

Channels: stereo or mono

Hz: sampling rate of the source audio file

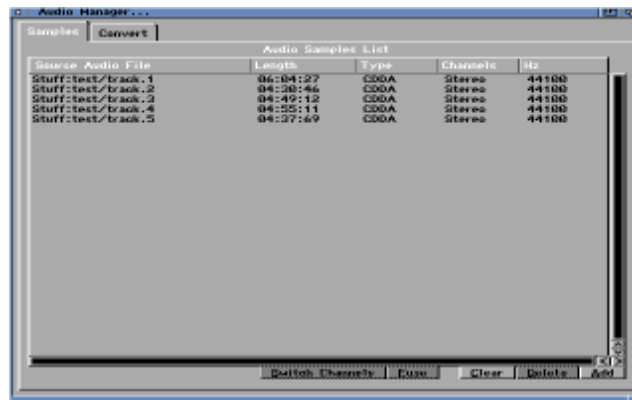
It should be noted that source audio file names are not transferred to the CD, since standard audio tracks on a CD do not contain specific track naming information.

Selecting Entries Within The Audio Samples List

Please refer to the section on Selecting List Entries Within MasterISO Interfaces found in the Appendix.

Adding Entries To The Audio Samples List

To add a file or files to the audio samples list, simply select the **Add** gadget located just below the *Audio Samples List* window. When the user selects the **Add** gadget, a standard Amiga requester enables the user to add one or more tracks to the audio samples list.



Any file that is added to the audio samples list is added to the bottom of the list. The user must ensure that they add the tracks in the desired order they wish. If not, the user may select each individual track in the *Disc Layout* tab of the *Write Manager*.

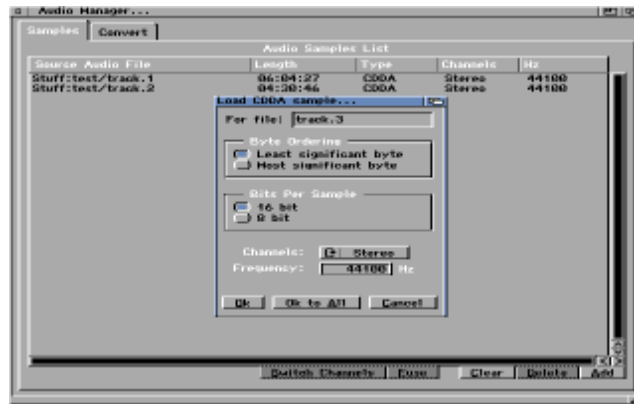
Supported Audio Formats

When adding a file to the audio samples list, MasterISO will attempt to identify the file format.

A list of supported audio file formats can be found in the Addendum directory in the MasterISO_v2 directory.

MasterISO supports all of the audio file formats as raw files only. No 'specialized' features of the audio files are supported. These specialized features include SMPTE time coding, looping, compression, indexing, etc.

If MasterISO is unable to identify the format of the source file added, the user is required to specify certain aspects of the file by means of the *Load CDDA Sample* window.



The items in the specification window include:

For File: This is the file whose parameters are being set. This item only appears if multiple files have been selected to be added to the audio samples list. The field cannot be edited by the user.

Byte Ordering: Least Significant Byte or Most Significant Byte

Bits Per Sample: 16 Bit or 8 Bit

Channels: Stereo or Mono

Frequency: (in Hertz) (samples/second)

Once the user defined parameters have been set, the user must select the **Ok** gadget for the settings to take effect.

If more than one file has been chosen to be added to the audio samples list, the user may set the attributes for all of the selected files to the current settings in the window by selecting the **Ok To All** gadget. This item only appears if multiple files have been selected to be added to the audio samples list.

Selecting the **Cancel** gadget causes the parameters in the window for a particular file to be ignored.

Deleting Entries From The Audio Samples List

Once the user has added all of the entries to the audio samples list, it may be necessary to delete certain entries from this list.

Simply highlight the entries to be deleted from the audio samples list and select the **Delete** gadget, located adjacent to the **Add** gadget.

When entries are deleted, it is their inclusion in this list that are being deleted. The actual source files are left untouched.

To remove all of the entries from the track list, the user may select the **Clear** gadget located in the bottom right hand corner, just below the audio samples list or select all the entries and then select the **Delete** gadget. MasterISO queries the user to verify this action.

Fusing Two Mono Samples

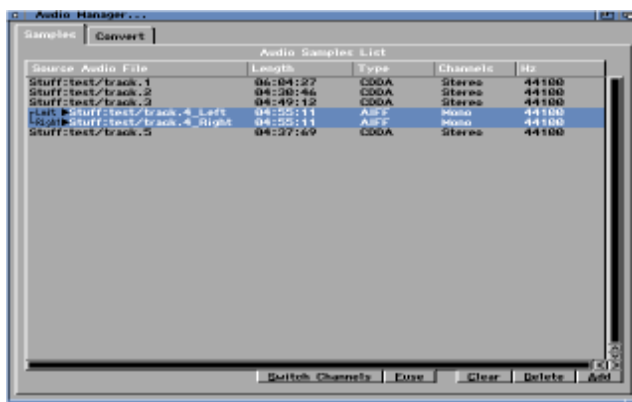
MasterISO has the capability to fuse two mono samples into one stereo sample. This feature is especially useful for those users who have sampled audio in distinct left and right channels.

There are two options available to the user when fusing two mono samples into one stereo sample. The **Fuse** and **Switch Channels** gadgets are only available to the user when two mono files are highlighted in the audio samples list.

To learn how to select multiple entries in the audio samples list, please refer to the Selecting List Entries Within MasterISO Interfaces section found in the Appendix.

Once the two mono entries have been highlighted, selecting the **Fuse** gadget gives the user a visual indicator that the two mono files will be fused into one stereo sample at write time.

This can be seen in the following screenshot:



When entries are fused together, it is their entries in this list that are being fused. The actual source files are left untouched.

If the user wishes to switch the placement of the left and right channels, selecting the **Switch Channels** gadget accomplishes this quite easily.

Convert Tab

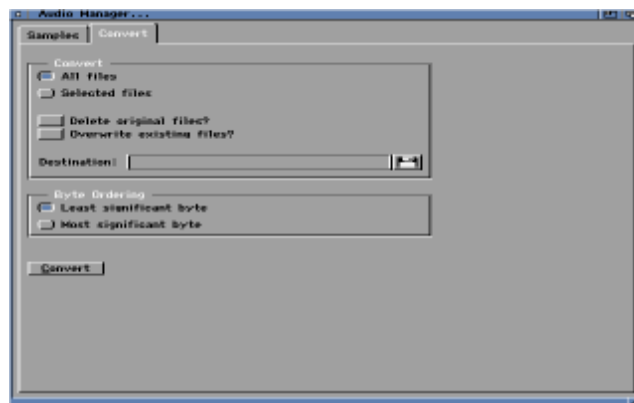
This tab provides the user with the ability to convert audio files from any supported audio file format to CDDA.

The audio data stored on a standard audio CD is in the CDDA (Compact Disc Digital Audio) format. The audio is stored as a 16 bit stereo sample, sampled at 44100 Hz. CD-R/RW drives either require the CDDA data to be in the least significant byte first (LSB) or the most significant byte first (MSB) format.

For more information on the CDDA format, please refer to the Appendix.

While MasterISO has the ability to do audio file conversions in real-time during the writing of the disc, certain systems may lack the necessary CPU power to do so. This is the reason MasterISO provides off-line converting of audio files.

When the *Convert* tab is selected, the user is presented with the following:



The *Convert* tab is split up into two distinct sections: *Convert* and *Byte Ordering*.

Convert Section

Within this section, there are two options as to which files the user can convert from the audio samples list. They include:

- **All Files**
- **Selected Files**

MasterISO also provides the user with some tools to manage the original, unconverted files. These options include:

- **Delete Original Files**
- **Overwrite Existing Files**

It should be noted that the above option will delete the user's original audio files if selected.

Once the above options have been selected, the user must direct MasterISO to store the converted files on a particular storage unit. This can be done by either typing in the explicit in the **Destination** field, or by selecting the directory by means of a standard requester. This requester is activated by selecting the disk icon to the right of the **Destination** field.

Byte Ordering Section

This section allows the user to set the byte order of the CDDA files that are created.

All CD-R/RW drives either require the CDDA data to be in the least significant byte first (LSB) or most significant byte first (MSB) format.

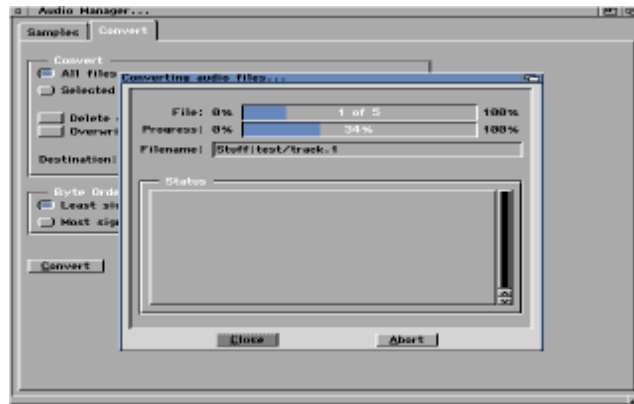
To determine which format the user's CD-R/RW drive requires, simply check the Addendum directory in the MasterISO: directory.

The two available options are:

- **Least Significant Byte**
- **Most Significant Byte**

Selecting the **Convert** gadget in the bottom left hand corner of the tab begins the conversion process.

Doing so produces the *Converting Audio Files* window.



The *Files* indicator displays the real-time percentage of the number of files converted.

The *Progress* indicator visually exhibits the real-time percentage of the overall converting process.

The *Filename* field displays the current file being converted.

The *Status* window displays any messages or error notices encountered during the converting session.

Upon completion of the converting session, a notification is displayed in the *Status* window. Selecting the **Close** gadget returns the user back to the program.

If, at any time, the user does not wish the converting of the audio files to proceed to completion, selecting the **Abort** gadget manually exits the process.

MasterISO may perform some internal 'housekeeping' when the converting operation is prematurely aborted. This may last a few seconds.

Advanced Project Type

Write Manager

This section documents all of the features available to the user when using the *Write Manager* in the *Advanced* project type.

The *Write Manager* contains the many options the user needs to complete their custom CD.

With full DAO and TAO recording features, as well as multisession capabilities, the *Write Manager* allows the user to write their CD in a variety of formats.

The various write options in the *Write Manager* give the user as much or as little control over the writing process as they wish. Buffering and simulated write options are just a few of the items the user may wish to customize.

When the *Write Manager* window is first opened, the user is presented with the *Disc Layout* tab. This tab will look **VERY** different depending on the mode chosen (DAO or TAO mode).

The ability to switch between DAO and TAO modes is done by means of the **Write Format** gadget found on the *Write Options* tab.

For more information on DAO and TAO recording methods, please refer to the Appendix.

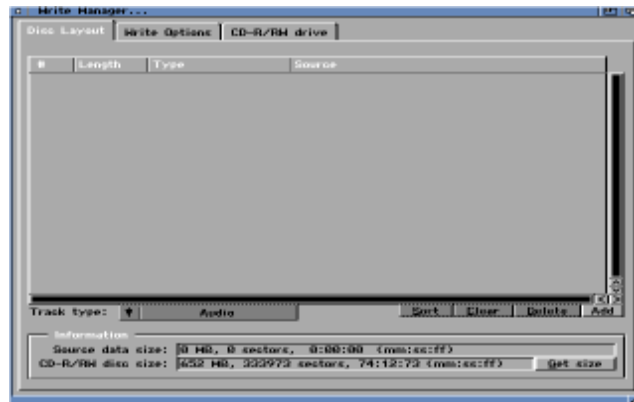
The following sections describe the look and functionality of the *Disc Layout* tab in DAO and TAO modes separately. Only one mode may be accessible at any one time.

Disc Layout Tab (Track-At-Once Mode)

It is imperative that the user read the sections on TAO and CD-R/RW Layout in the Appendix before proceeding.

The *Disc Layout* tab in TAO mode looks and feels very much like the audio samples list from the *Audio Manager*. The *Disc Layout* tab is split into two sections: the track layout window and the Information section.

Upon opening the window, the user is presented with the following *Disc Layout* tab:



It is within this interface that the user selects which items are to be written to the CD as separate and distinct tracks.

When writing tracks in TAO mode, a blank gap is left in between each track. The length of this gap is dependant on the CD-R/RW drive.

The track list window contains the following resizeable columns:

#: track number of the selected file

Length: length of the selected file

The format of the time will be minutes:seconds:frames. A frame is 1/75th of a second.

Type: format of the selected file

Source: full path of the selected file

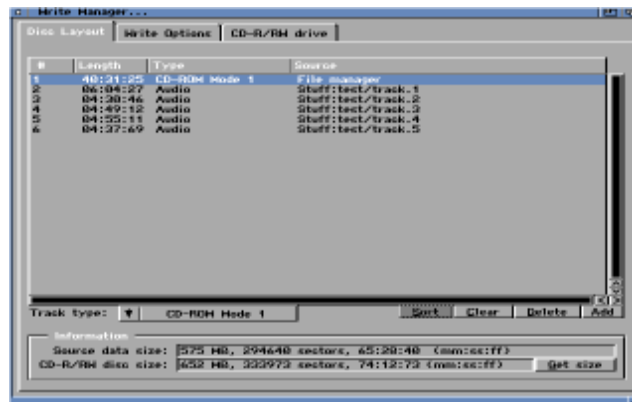
Selecting Entries Within The Track List

Please refer to the section on Selecting List Entries Within MasterISO Interfaces found in the Appendix.

Double clicking an existing entry allows the user to reselect that entry by means of a standard Amiga requester.

Adding Entries To The Track List

To add an entry to the track list, simply select the **Add** gadget located just below the track list window.



Selecting the **Add** gadget produces a pull down menu that allows the user to add various types of entries.

The possible entries include:

- **DOS File**
- **SCSI Image**
- **File Manager List**
- **Audio Manager List**
- **Blank Space**
- **Audio File**

These entries are described in further detail in the proceeding sections.

At all times, multiple files cannot be added to multiple track entries.

For information on how to move entries please refer to the Navigating The Track List section.

Adding A Source As A DOS File

When adding a source as a **DOS File**, MasterISO assumes that the file being added is properly formatted, according to the **Track Type** pull down gadget.

No processing or verification of the file is done. It is written 'as is'.

For example, if the **Track Type** is set to **Audio** and a **DOS File** is added to the track list, MasterISO assumes that the added file is a CDDA file and it is of the proper byte order.

Any DOS file that is added to the track list is added below the current highlighted entry in the track list, regardless of the number of entries highlighted. This is done when a single entry, multiple entries, or a block of entries is highlighted.

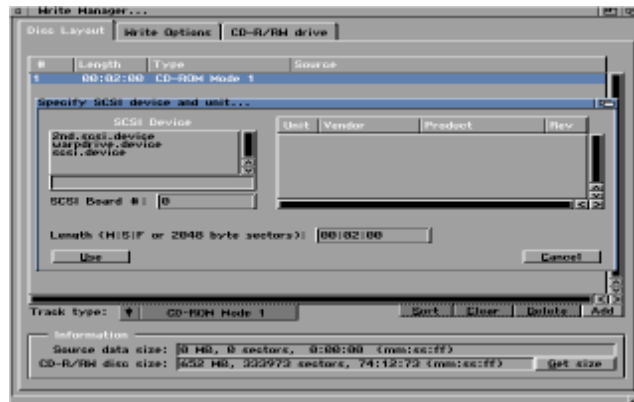
As a side note, source audio file names are not transferred to the CD, since standard audio tracks do not contain specific track naming information.

Adding A Source As A SCSI Image

Using the SCSI image as a track type can be useful for those users who have created an ISO image on a different platform and have transported said image to their own machine. Removable hard drives are usually the source for these images. This feature is also useful for those who have used MasterISO to create an ISO image as a SCSI image rather than a DOS file.

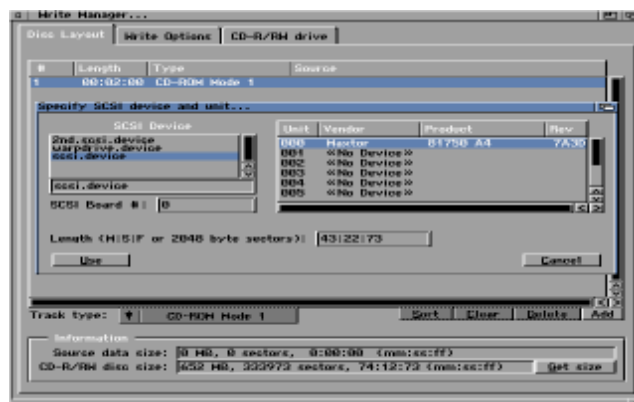
Always remember to document the length of the SCSI image created as it is pivotal in specifying it as a track source.

When adding a SCSI image as a track source, MasterISO displays the following *Specify SCSI Device And Unit* window:



The user must first select the controller the source drive is attached to in the *SCSI Device* window. ATAPI drives are selected via the *SCSI Device* window as well.

Once this has been completed, all properly configured devices attached to said controller will appear in the right hand window. Simply select the device to use with the left mouse button.



Included in the right hand window is information concerning all of the devices attached to the selected controller.

This information includes:

Unit: ID number the device

Vendor: manufacturer of the device

Product: model number of the device

Rev: version of the device's internal firmware

Each of these columns is fully resizeable.

If no device is available at a particular ID number, <<No Device>> will appear.

If a controller does not auto-configure, it will not appear in the *SCSI Device* window. The user may manually input the device name used by the controller in the field directly below the *SCSI Device* window. Any previously selected device will appear in this field.

The **SCSI Board #** input field is used to distinguish between different SCSI chains on a multiple chain SCSI controller or between multiple SCSI controllers in one Amiga that use the same SCSI device name. This is most commonly seen with multiple GVP SCSI controllers in one Amiga or the Newtek Flyer.

For regular circumstances, this field should be defaulted to 0.

If the source drive is attached and powered on, yet does not appear in the list, it has not been configured properly. Please refer to our ATAPI or SCSI information sections in the Appendix or the manufacturer's ATAPI or SCSI interface manual.

Once the desired SCSI device is chosen, the user must input the length of the SCSI image to use. This is done by means of the **Length** field. The user must enter the length of the image to use in minutes:seconds:frames or in the number of 2048 byte sectors. The reasoning as to why the 2048 sector size is being used is due to the fact that a SCSI image can only be added as a CD-ROM Mode 1 track type.

When adding a source as a SCSI image, MasterISO assumes that the image starts at sector 0 on the source device.

Once the device has been chosen and the desired length has been entered, selecting the **Use** gadget adds the appropriate entry to the track list. Selecting the **Cancel** gadget at any time exits the user from the procedure and no SCSI image entry is made into the track list.

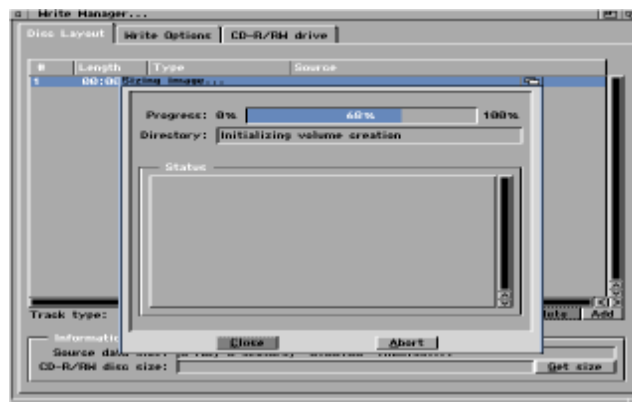
Any SCSI image that is added to the track list is added below the current highlighted entry in the track list, regardless of the number of entries highlighted. This is done when a single entry, multiple entries, or a block of entries is highlighted.

Adding A Source As A File Manager List

MasterISO has the ability to use the directory tree list from the *File Manager* as an entry in the *Disc Layout* track list.

Only one *File Manager* list may be added per disc. The **File Manager List** entry may only be set to the CD-ROM Mode 1 track type.

When the **File Manager List** item is selected from the **Add** menu, the following *Sizing Image* window appears:



The window contains the following:

The *Progress* indicator visually exhibits the real-time percentage of the completed sizing procedure.

The *Directory* field displays the directory from which the files are being read from.

The *Status* window displays any messages or error notices encountered during the sizing phase.

Upon completion of the sizing session, a notification is displayed in the *Status* window. Selecting the **Close** gadget returns the user back to the program.

If, at any time, the user does not wish the image sizing to proceed to completion, selecting the **Abort** gadget manually exits.

It should be noted that the abort process may not be instantaneous. MasterISO may be required to delete temporarily buffered files before returning control of the software back to the user. This behaviour is normal.

Adding A Source As An Audio Manager List

MasterISO has the ability to use the track list from the *Audio Manager* as an entry in the *Disc Layout* track list.

The **Audio Manager List** entry may only be set to the **Audio** track type.

All of the entries in the *Audio Manager* track list must be pre-converted before MasterISO adds it to the *Disc Layout* track list. Since the *Audio Manager* is primarily used for the pre-converting of audio files to the properly byte-ordered CDDA file, it is necessary to perform this function before adding the **Audio Manager List** to the track list.

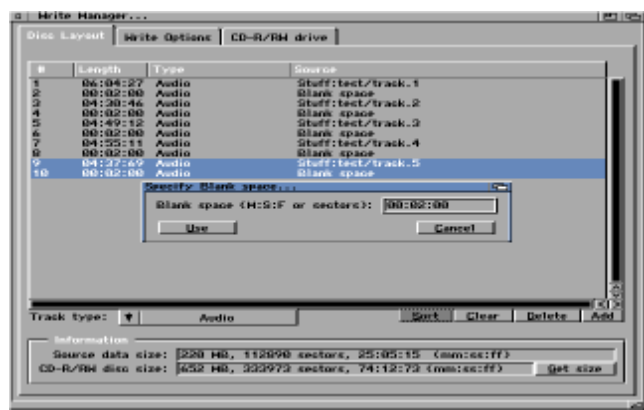
If the user wishes to add audio files that are not pre-converted in the *Audio Manager*, they are advised to do so by means of the **Add/Audio File** feature.

It should be noted that MasterISO uses the converted audio files instead of the original unconverted audio files when the *Audio Manager* list is added to the *Disc Layout* track list.

Adding A Source As A Blank Space

Adding a source as **Blank Space** creates a track with no audible or readable qualities. 'Zero' data is written to the disc. It is a blank track whose length is specified by the user.

When the **Blank Space** menu item is selected, the following *Specify Blank Space* window appears:



The user has the ability to arbitrarily set the length of the blank space.

The length of the blank space may be entered in minutes:seconds:frames or in sectors.

Any blank space that is added to the track list must be at least 150 sectors, or 2 seconds in length. If not, MasterISO will pad the entry until it is 2 seconds in length.

Any blank space that is added to the track list is added below the current highlighted entry in the track list, regardless of the number of entries highlighted. This is done when a single entry, multiple entries, or a block of entries is highlighted.

Adding A Source As An Audio File

When adding a source file as an **Audio File**, MasterISO attempts to identify the file format.

A list of supported audio file formats can be found in the Addendum directory in the MasterISO_v2 directory.

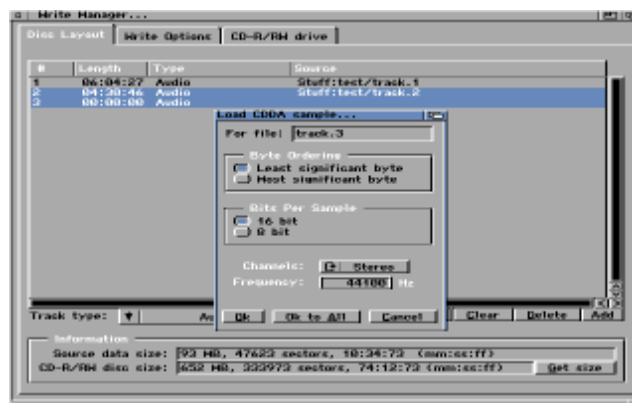
MasterISO automatically converts the supported file type to the properly ordered CDDA file format for the user's particular CD-R/RW drive. This is

done ‘on-the-fly’, or in real-time. Resampling and byte reordering is also done as necessary.

For this type of processing to be done in real-time, the user must have sufficient CPU power. If the user is unsure as to whether or not their system is capable of converting and processing audio files in real-time, it is recommended that they pre-convert and preprocess the files. This can be done through the *Audio Manager*.

MasterISO supports all of the audio file formats as raw files only. No ‘specialized’ features of the audio files are supported. These specialized features include SMPTE time coding, looping, compression, indexing, etc.

If MasterISO is unable to identify the format of the source file added as an **Audio File**, the user is required to specify certain aspects of the file by means of the *Load CDDA Sample* window..



The items in the specification window include:

For File: This is the file whose parameters are being set. This item only appears if multiple files have been selected to be added to the track list. The field cannot be edited by the user.

Byte Ordering: Least Significant Byte or Most Significant Byte

Bits Per Sample: 16 Bit or 8 Bit

Channels: Stereo or Mono

Frequency: (in Hertz) (samples/second)

Once the user defined parameters have been set, the user must select the **Ok** gadget for the changes to take effect.

If more than one file has been chosen to be added to the *Disc Layout* track list, the user may set the attributes for all the selected files to the current settings in the window by selecting the **Ok To All** gadget. This item only appears if multiple files have been selected to be added to the *Disc Layout* track list.

Selecting the **Cancel** gadget causes the parameters in the window for a particular file to be ignored.

Any file that is added to the track list must be at least 150 sectors, or 2 seconds in length. If not, MasterISO will pad the entry until it is 2 seconds in length.

It should be noted that source audio file names are not transferred to the CD, since standard audio tracks do not have track naming information.

Any file that is added to the track list is added below the current highlighted entry in that track list. The added track is inserted below the highlighted track entry, regardless of the number of entries highlighted. This is done when a single entry, multiple entries, or a block of entries have been highlighted.

Navigating The Track List

Once the user has added all of the entries to the track list, it may be necessary to make modifications to the list.

Moving a particular entry is very easy using MasterISO's drag and move feature. Depress the left mouse button over the entry to be moved within the track list. While continuing to hold the left mouse button, move the selected entry to the desired position within the track list. Once done, release the left mouse button. The entry has now been repositioned.

Deleting Entries From The Track List

Once the user has added all of the entries to the track list, it may be necessary to delete certain entries from this list.

Simply highlight the entries to be deleted from the track list and select the **Delete** gadget, located adjacent to the **Add** gadget.

When entries are deleted, it is their entries in this list that are being deleted. The actual source files are left untouched.

To remove all of the entries from the track list, the user may select the **Clear** gadget located in the bottom right hand corner, just below the track list or select all of the entries and then select the **Delete** gadget. MasterISO queries the user to verify this action.

Changing Track Types

At any time during the creation of the track list, the user may change the format or type of any track (with limitations stipulated below).

This is accomplished by selecting the entry whose track type the user wishes to modify and then selecting the new track type from the **Track Type** pull down gadget. For more information about the selecting of items in the track list, please refer to the Selecting List Entries Within MasterISO Interfaces section found in the Appendix.

The track types available are:

- **Audio**
- **CD-ROM Mode 1**
- **CD-ROM Mode 1 Raw**
- **CD-ROM Mode 2**
- **CD-ROM Mode 2 Raw**
- **XA Mode 2 Form 1**
- **XA Mode 2 Form 2**
- **XA Mode 2 Mix**
- **XA Mode 2 Raw**

For more information on the track types, please refer to the Appendix.

The following list describes track type limitations within the TAO track list:

- A track added as an **Audio** track cannot be modified.
- The **Audio Manager List** track entry is set to **Audio** and cannot be modified.
- The **File Manager List** track entry is set to **CD-ROM Mode 1** and cannot be modified.
- The **SCSI Image** track entry is set to **CD-ROM Mode 1** and cannot be modified.

Sorting Track Entries

The **Sort** gadget alphabetically sorts highlighted track entries only.

This feature is especially useful for the arranging of numerous audio tracks for a standard audio CD.

The sorting algorithm is based on the file name of the entry and not the entire path name.

The sort feature is available to the user only when two or more entries are highlighted in the track list. For more information on the selecting of entries in the track list, please refer to the Selecting List Entries Within MasterISO Interfaces section found in the Appendix.

Information Section

The *Information Section* is located just below the track list.

This section displays the total size of the files located in the track list in the **Source Data Size** field. The information is displayed in megabytes (MB), sectors and time (minutes:seconds:frames). Pre-gap, post-gap and lead out time are not accounted for in this section. The actual total time of the source files is calculated at write time. This is due to the fact that CD-R/RW drives insert varying lengths of time between tracks.

If a CD-R/RW drive is selected on the *CD-R/RW Drive* tab, and a blank CD-R/RW disc is located in the drive, the user may select the **Get Size** gadget. This allows the user to verify that they have ample room on the CD-R/RW disc to place all of their files. The information is displayed in megabytes (MB), sectors and time (minutes:seconds:frames).

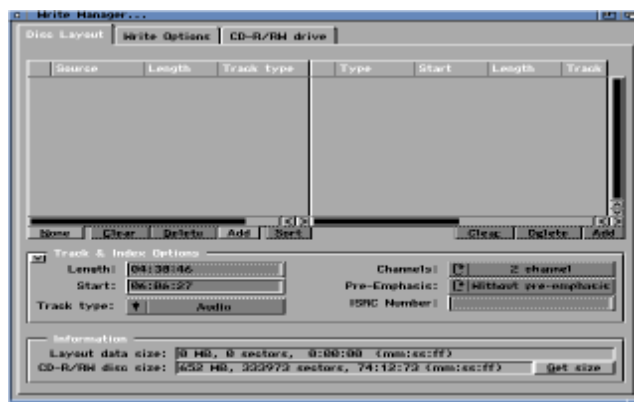
Disc Layout Tab (Disc-At-Once Mode)

It is imperative that the user read the sections on DAO and CD-R/RW Layout in the Appendix before proceeding.

The *Disc Layout* tab in DAO mode allows the user to set the placement of track and index points very precisely. The most common use for DAO is for the creation of highly customized audio CDs masters.

In DAO mode, the *Disc Layout* tab is split into four distinct sections: the *Source* window (left window), the *Layout* window (right window), the *Track And Index Options* section and the *Information* section.

Upon opening the window, the user is presented with the following *Disc Layout* tab:



The *Source* window contains all of the items to be added to the CD. It is within this interface that the user defines which sources are added to the CD and their type.

The *Layout* window contains the placement of all of the track and index marks associated with included source entries in the *Source* window.

Source Window

The *Source* window contains the following resizable columns:

Source: full path of the selected file

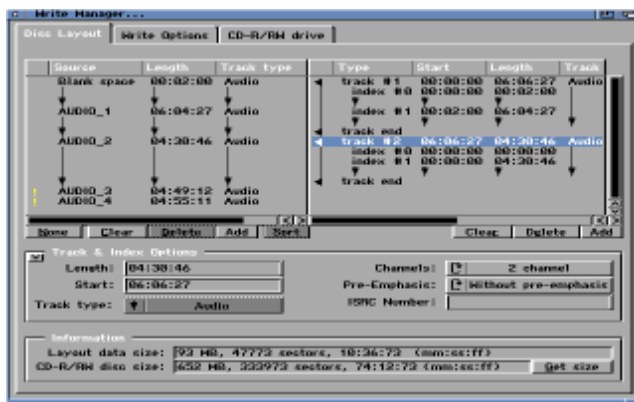
Length: length of the selected file

The format of the time will be minutes:seconds:frames. A frame is 1/75th of a second.

Track Type: track type of the selected file

The left most column in the *Source* window is known as the *Inclusion* column. If an entry has not been included in the layout of the CD, a yellow exclamation mark is located to the left of the entry. When the entry has been included in the layout of the CD, nothing appears in the *Inclusion* column.

This can be best illustrated in the following screen shot:



The first three entries have been included in the layout of the CD and contain no indicator in the *Inclusion* column. Entries four and five are not included in the layout. Therefore, they are marked with a yellow exclamation mark. Information on the laying out of tracks follows later in this chapter.

It should be noted that a flagged entry in the *Source* window is **NOT** written to the CD. Only those entries that have been included in the layout of the CD are written to the CD.

Selecting Entries Within The Source Window

Please refer to the section on Selecting List Entries Within MasterISO Interfaces found in the Appendix.

Double clicking an existing entry allows the user to reselect that entry by means of a standard Amiga requester. This feature is only available to those entries that have not been included in the layout.

Adding Entries To The Source Window

To add an entry to the *Source* window, simply select the **Add** gadget located just below the *Source* window. Selecting the **Add** gadget produces a pull down menu that allows the user to add various types of entries.

At all times, multiple files cannot be added to multiple track entries.

The addition of entries to the *Source* window is procedurally identical to the adding of entries to the track list in TAO mode. Therefore, please refer to the preceding sections in the TAO mode section:

- Adding A Source As A DOS File
- Adding A Source As A SCSI Image
- Adding A Source As A File Manager List
- Adding A Source As An Audio Manager List
- Adding A Source As Blank Space
- Adding A Source As An Audio File

For information on how to move entries, please refer to the proceeding Navigating The Source Window section.

Navigating The Source Window

Once the user has added all of the entries to the *Source* window, it may be necessary to make modifications to the order of the entries.

Moving a particular entry is very easy using MasterISO's drag and move feature. Depress the left mouse button over the entry to be moved within the *Source* window. While continuing to hold the left mouse button, move the selected entry to the desired position within the window. Once done, release the left mouse button. The entry has now been repositioned.

Moving entries that have already been included in the layout may greatly affect the placement of the track and index marks. It is advised to only move those entries that have not been included in the layout.

Deleting Entries From The Source Window

Once the user has added all of the entries to the *Source* window, it may be necessary to delete certain items from this window.

Simply highlight the entries to be deleted and select the **Delete** gadget, located adjacent to the **Add** gadget. Only those items that are **NOT** contained in the layout of the CD may be deleted.

To delete an entry that has been included in the layout, the layout portion of the entry must first be deleted. This is explained in a following section.

When entries are deleted, it is their entries in this window that are being deleted. The actual source files are left untouched.

To remove all of the entries from the *Source* window, the user must select the **Clear** gadget located adjacent to the **Delete** gadget. MasterISO queries the user to verify this action.

Using the **Clear** gadget also causes any and all layout marks to be removed from the *Layout* window. This is due to the fact that the layout marks are directly linked to the source entries.

The user may also clear all of the entries from the *Source* window by selecting all of the entries and then selecting the **Delete** gadget.

Sorting Source Window Items

The **Sort** gadget alphabetically sorts highlighted *Source* window entries only.

This feature is especially useful for the arranging of numerous audio tracks for a standard audio CD.

The sorting algorithm is based on the file name of the entry and not the entire path name.

The sort feature is available to the user only when two or more entries are highlighted in *Source* window. For more information on the selecting of items in the track list, please refer to the Selecting List Entries Within MasterISO Interfaces found in the Appendix.

Layout Window

The *Layout* window contains the following resizeable columns:

Type: track and index numbers

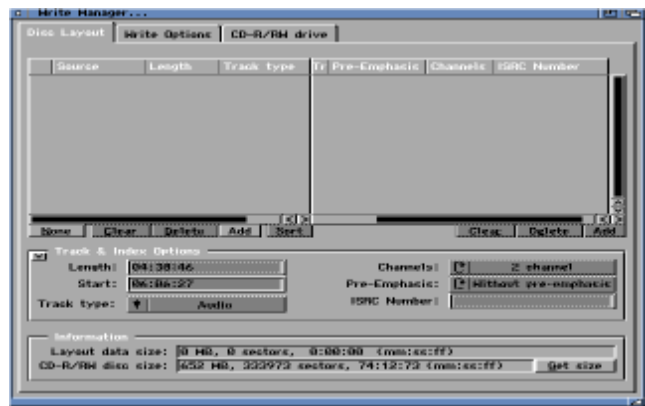
Start: start time of each track and index in minutes:seconds:frames

A frame is 1/75th of a second. All track times are relative to the start of the disc. Index points displayed are relative to the start of the track. The index points may be displayed relative to the start of the disc by selecting the **Index Points Use Absolute Timing** option in the *Settings* menu.

Length: length of the selected track or index
The format of the time is minutes:seconds:frames.

Track Type: track type as set by the **Track Type** gadget.

The remaining columns can be seen in the following screen shot:



Pre-Emphasis: Displays whether pre-emphasis has been enabled for a track. The enabling of pre-emphasis is denoted by a checkmark in this column. This column only pertains to the **Audio** track type.

Channels: Displays whether the track is set to 2 or 4 channels. This column only pertains to the **Audio** track type.

ISRC Number: Displays the user inputted ISRC number for a track. If no number is entered, the area is left blank on the disc. This column only pertains to the **Audio** track type.

Selecting Marks Within The Layout Window

Please refer to the section on Selecting List Entries Within MasterISO Interfaces found in the Appendix.

Adding Track And Index Marks

Within the *Layout* window, the user has the ability to arbitrarily set track and index points.

Once again, it is imperative that the user read and fully understand the sections on DAO and CD-R/RW Layout in the Appendix before proceeding.

The **Add** gadget contains the following options in the pull down menu:

- **Track Mark**
- **Index Mark**
- **Separate Track Marks**
- **One Track Mark**

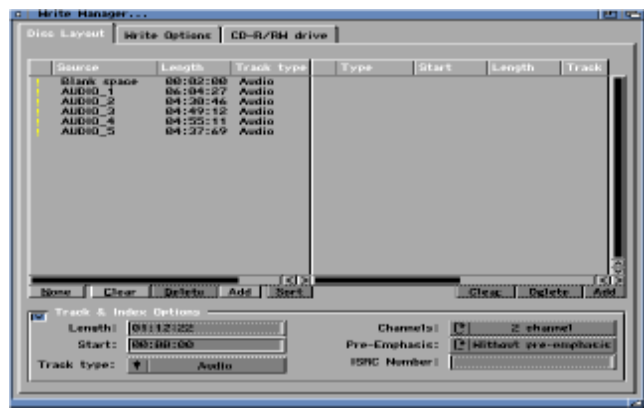
The options listed above are only available to the user at certain times. The limitations are listed below:

Adding	Entry	Window
Track Mark	One flagged entry	Source
	One track mark	Layout
	One index mark	Layout
	Multiple track marks	Layout
	Multiple index marks	Layout
Index Mark	One track mark	Layout
	One index mark	Layout
	Multiple track marks	Layout
	Multiple index marks	Layout
Separate Track Marks	Multiple flagged entries	Source
One Track Mark	Multiple flagged entries	Source

Adding Track And Index Mark Examples

The simplest method to illustrate the adding of track and index marks is by means of describing the various possibilities with the aid of screen shots.

As a basis, we performed the layout for a six source CD. This can be seen in the proceeding screen shot:



NOTE: The *Information* section has been minimized so that the display is easier to view.

The first source is a 2 second blank space. In DAO mode, it is advised to **ALWAYS** start with a 2 second blank space as part of your first track. This is due to the fact that a DAO disc must have a non-zero length index #0 for track #1.

The remaining 5 sources (AUDIO_1 through AUDIO_5), for the sake of argument, will be audio tracks. The user is not limited to using audio tracks only. The user may use any track type available in MasterISO.

Source Selected Window: *Source*

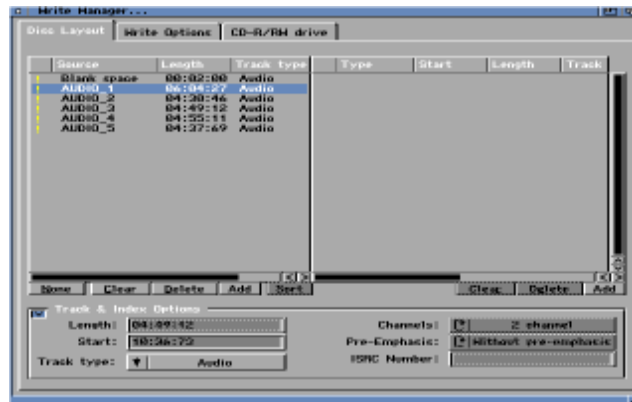
Item: One flagged entry

Operation: Added **Track Mark** as track number 1

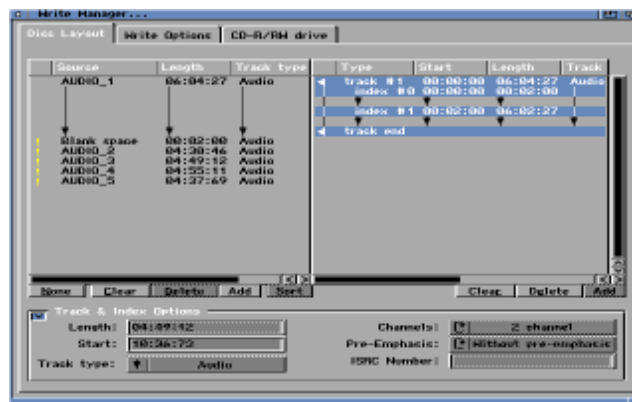
For this example, we added AUDIO_1 to the layout as track #1, effectively ignoring the blank space entry at the top of the *Source* window.

Recall, if an entry is not included in the layout, it is not written to the disc.

To start, AUDIO_1 was highlighted.



Then selecting **Track Mark** in the **Add** gadget pull down menu produced the following results:

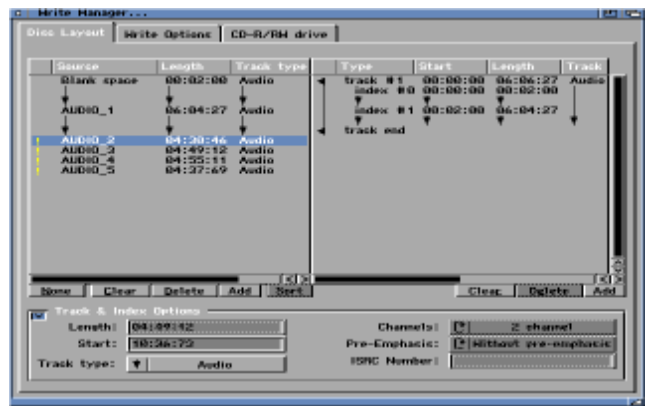


As seen in the screen shot, AUDIO_1 was added as track #1. Track #1 was divided into index #0 (2 seconds in length) and index #1 (the remainder of the source). The user could now adjust the length of each track or index individually by means of the *Track And Index Options* section. This section is explained in greater detail later in this chapter.

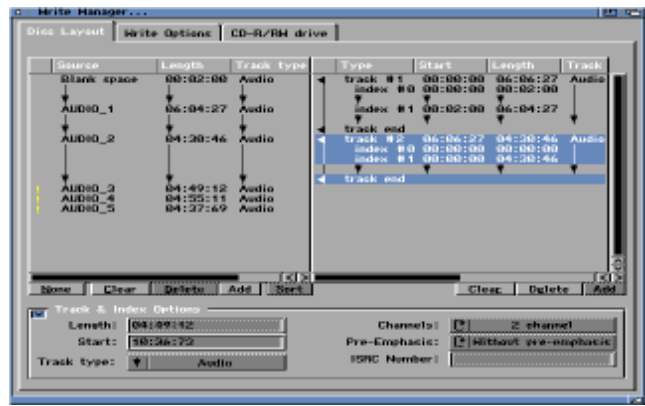
All entries added as track #1 are done in the above manner.

Source Selected Window: *Source*
Item: One flagged entry
Operation: Added **Track Mark** as any track (excluding track #1)

For this example, we added AUDIO_2 to the layout as track #2. The following example shows the effects of adding a single track to the layout as a track other than track #1.



Highlighting AUDIO_2 and then selecting **Track Mark** in the **Add** gadget pull down menu produced the following results:



As seen in the screen shot, AUDIO_2 was added as track #2. Track #2 was divided into index #0 (0 seconds in length) and index #1 (the whole file). The user could now adjust the length of each track or index individually by means of

the *Track And Index Options* section. This section is explained in greater detail later in this chapter.

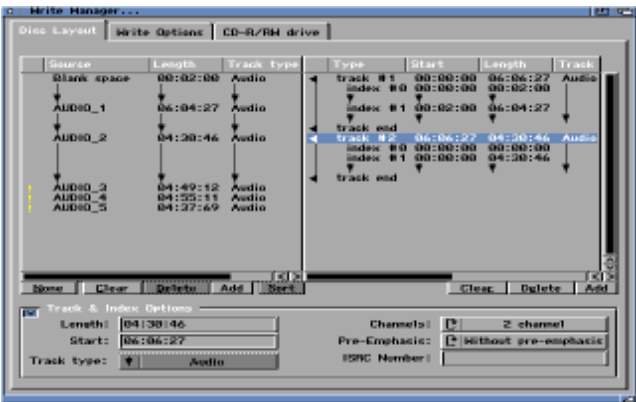
All entries added as a track other than track #1 are done in the above manner.

Source Selected Window: Layout

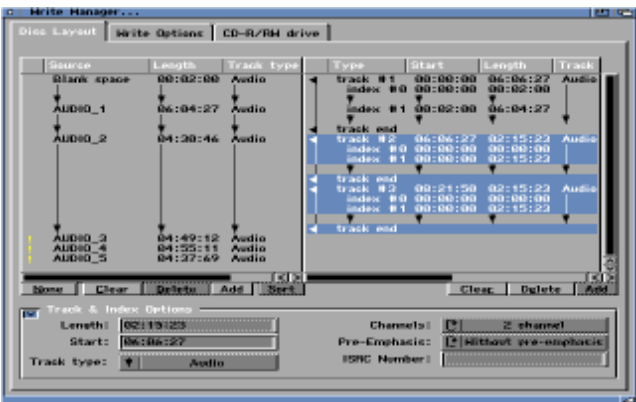
Item: One track mark

Operation: Added **Track Mark** as any track

For this example, we selected track #2 as the source (which is referencing AUDIO_2).



Highlighting track #2 and then selecting **Track Mark** in the **Add** gadget pull down menu produced the following results:

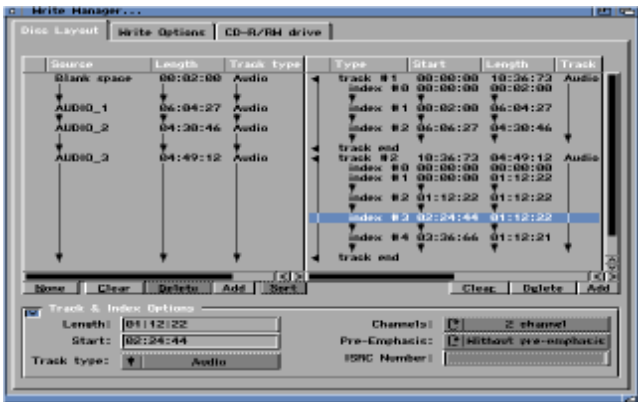


As seen in the screen shot, AUDIO_2 was divided into track #2 and track #3, each of equal length. The user could now adjust the length of each track or index individually by means of the *Track And Index Options* section. This section is explained in greater detail later in this chapter.

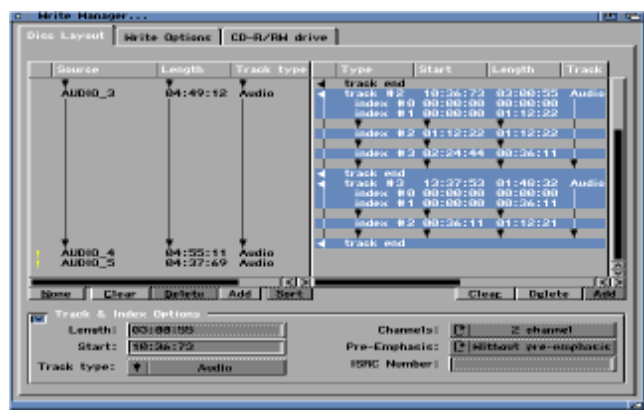
Whenever a track mark is added to an existing track mark in the *Layout* window, MasterISO searches out the next non-zero length index and divides it into two equal length tracks. In this case, the original index #1 was the first non zero-length index. This index was divided into two equal length tracks.

Source Selected Window: *Layout*
Item: One index mark
Operation: Added **Track Mark** as any track

For this example, we selected track #2 index #3 as the source (which is referencing AUDIO_3).



Highlighting index #3 and then selecting **Track Mark** in the **Add** gadget pull down menu produced the following results:

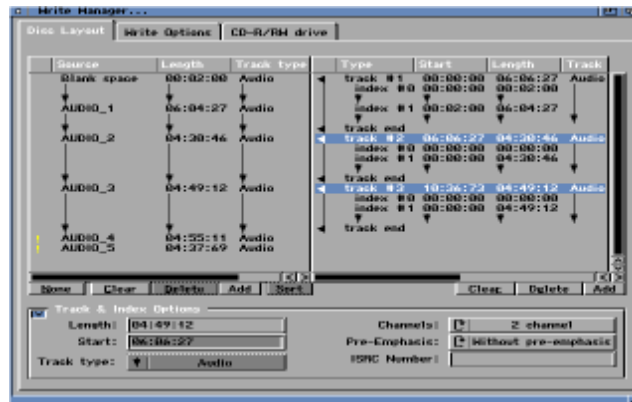


As seen in the screen shot, AUDIO_3 was divided into track #2 and track #3. The original indexes #0, #1 #2, and half of index #3 were attached to track #2. The remaining original half of index #3 and index #4 were associated with track #3. The user could now adjust the length of each track or index individually by means of the *Track And Index Options* section. This section is explained in greater detail later in this chapter.

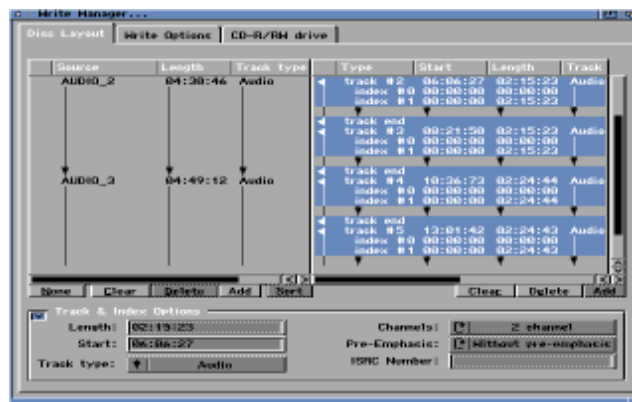
Whenever a track mark is added to an existing index mark in the *Layout* window, MasterISO searches out the next non-zero length index and divides it into two equal length tracks. Any index marks preceding the selected index mark remain with the original track. Any index marks proceeding the selected index mark are associated with the new track. The selected index is divided into two equal length tracks.

Source Selected Window: *Layout*
Item: Multiple track marks
Operation: Added **Track Mark** as any track

For this example, we selected track #2 and track #3 as the sources (which are referencing AUDIO_2 and AUDIO_3).



Highlighting track #2 and track #3 and then selecting **Track Mark** in the **Add** gadget pull down menu produced the following results:

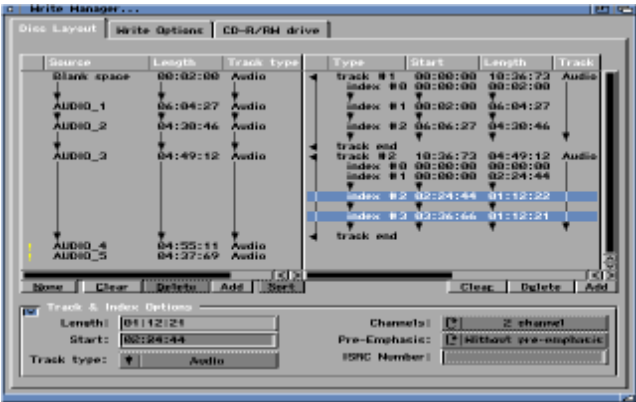


As seen in the screen shot, AUDIO_2 was divided into track #2 and track #3, each of equal length. Similarly, AUDIO_3 was divided into track #4 and track #5, each of equal length. The user could now adjust the length of each track or index individually by means of the *Track And Index Options* section. This section is explained in greater detail later in this chapter.

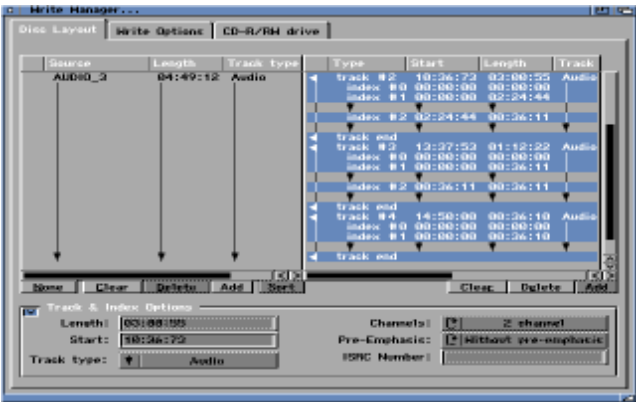
Whenever a track mark is added to an existing track mark in the *Layout* window, MasterISO searches out the next non-zero length index and divides it into two equal length tracks. In this case, the original index #1 in each track was the first non zero-length index. This index was divided into two equal length tracks.

Source Selected Window: *Layout*
Item: Multiple index marks
Operation: Added **Track Mark** as any track

For this example, we selected track #2 index #2 and index #3 as the sources (which are referencing AUDIO_3).



Highlighting index #2 and index #3 and then selecting **Track Mark** in the **Add** gadget pull down menu produced the following results:



As seen in the screen shot, AUDIO_3 was divided into track #2, track #3 and track #4. The original indexes #0, #1 and half of index #2 were attached to track #2. The remaining original half of index #2 was associated with track #3. The original half of index #3 was associated with track #3 while the remaining half of index #3 was associated with track #4. The user could now adjust the

length of each track or index individually by means of the *Track And Index Options* section. This section is explained in greater detail later in this chapter.

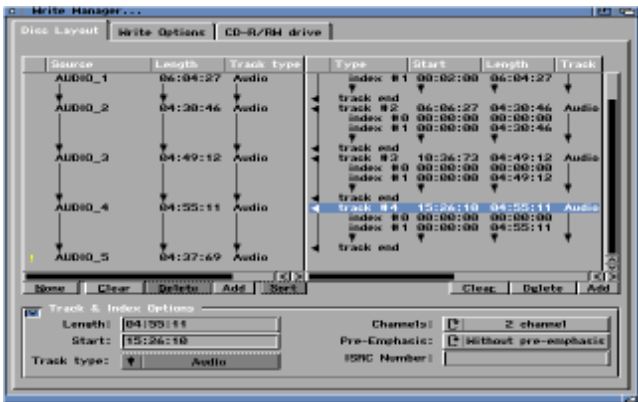
Whenever a track mark is added to an existing index mark in the *Layout* window, MasterISO searches out the next non-zero length index and divides it into two equal length tracks. Any index marks preceding the selected index mark remain with the original track. Any index marks proceeding the selected index mark are associated with the new track. The selected index is divided into two equal length tracks.

Source Selected Window: *Layout*

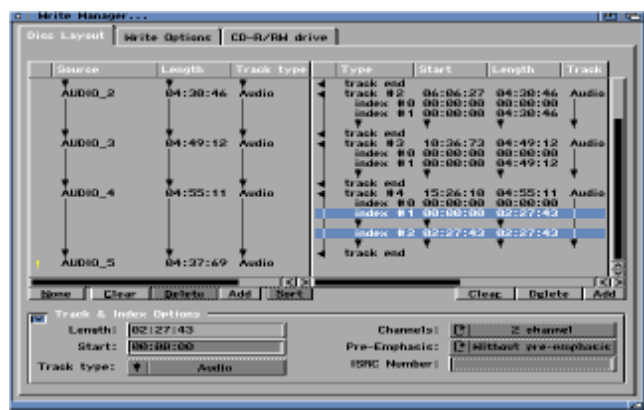
Item: One track mark

Operation: Added **Index Mark**

For this example, we selected track #4 as the source (which is referencing AUDIO_4).



Highlighting track #4 and then selecting **Index Mark** in the **Add** gadget pull down menu produced the following results:



As seen in the screen shot, AUDIO_4 was divided into index #0, index #1 and index #2 where index #1 and index #2 are each of equal length. The user could now adjust the length of each track or index individually by means of the *Track And Index Options* section. This section is explained in greater detail later in this chapter.

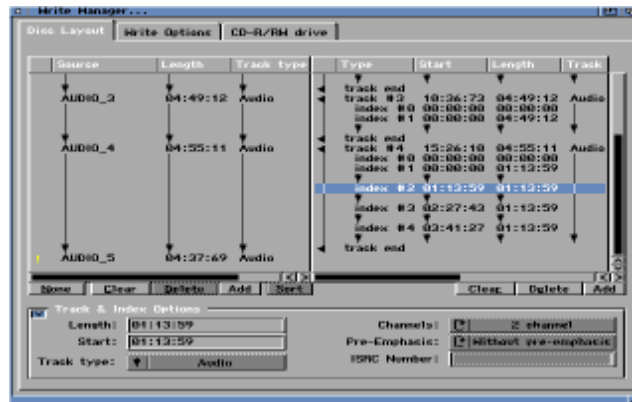
Whenever an index mark is added to an existing track mark in the *Layout* window, MasterISO searches out the next non-zero length index and divides it into two equal length indexes. In this case, the original index #1 was the first non zero-length index. This index was divided into two equal length indexes (index #1 and index #2).

Source Selected Window: *Layout*

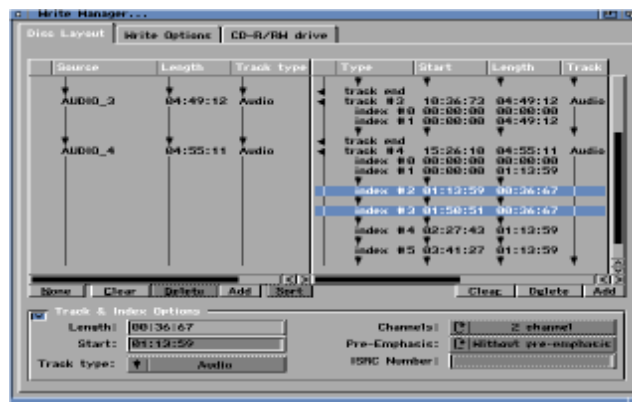
Item: One index mark

Operation: Added **Index Mark**

For this example, we selected track #4 index #2 as the source (which is referencing AUDIO_4).



Highlighting index #2 and then selecting **Index Mark** in the **Add** gadget pull down menu produced the following results:



As seen in the screen shot, AUDIO_4 was divided into index #0, index #1, index #2, index #3, index #4 and index #5. The original indexes #0 and #1 remained unchanged. The original index #2 was divided into two equal length indexes (index #2 and index #3). The original index #3 became index #4 and the original index #4 became index #5. The user could now adjust the length of each track or index individually by means of the *Track And Index Options* section. This section is explained in greater detail later in this chapter.

Whenever an index mark is added to an existing index mark in the *Layout* window, MasterISO searches out the next non-zero length index and divides it into two equal length indexes. Any index marks preceding the selected index

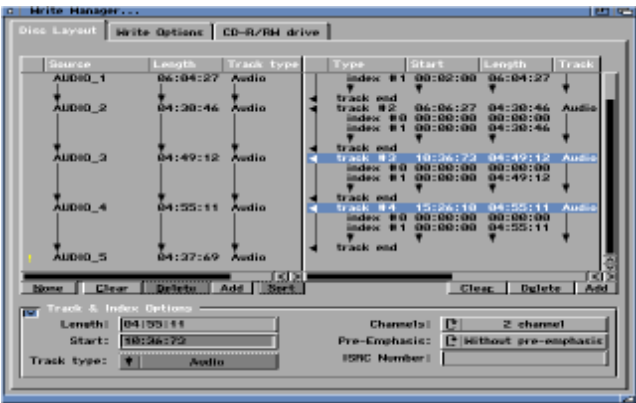
mark remained unchanged. Any index marks proceeding the selected index mark had their index number increased by one.

Source Selected Window: *Layout*

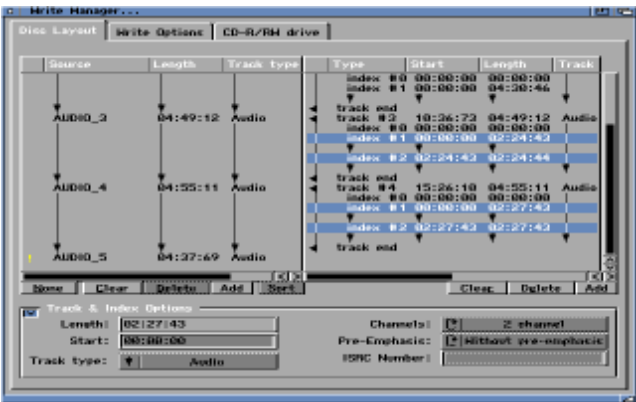
Item: Multiple track marks

Operation: Added **Index Mark**

For this example, we selected track #3 and track #4 as the sources (which is referencing AUDIO_3 and AUDIO_4).



Highlighting track #3 and track #4 and then selecting **Index Mark** in the Add gadget pull down menu produced the following results:

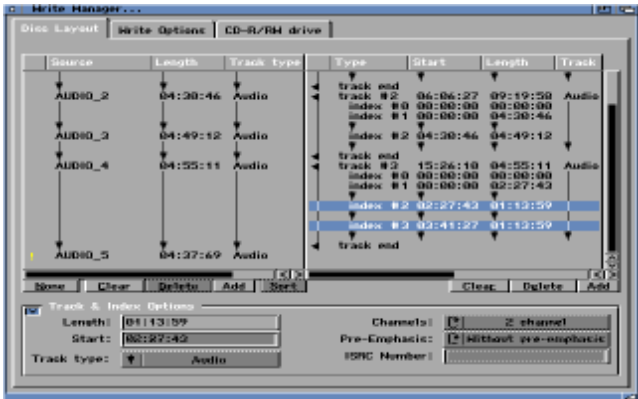


As seen in the screen shot, AUDIO_3 and AUDIO_4 were divided into index #0, index #1 and index #2 with index #1 and index #2 being of equal length. The user could now adjust the length of each track or index individually by means of the *Track And Index Options* section. This section is explained in greater detail later in this chapter.

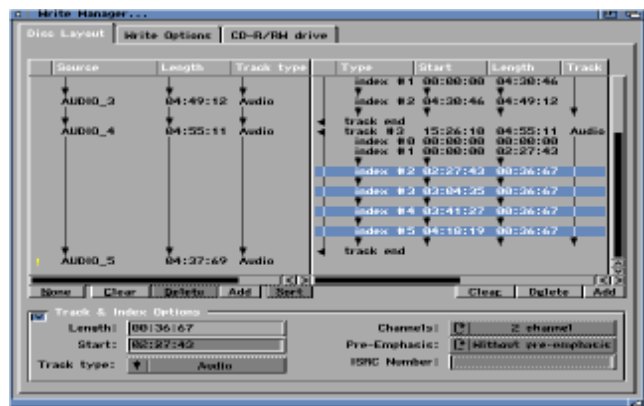
Whenever an index mark is added to an existing track mark in the *Layout* window, MasterISO searches out the next non-zero length index and divides it into two equal length indexes. In this case, the original index #1 in each track was the first non zero-length index. This index was divided into two equal length indexes.

Source Selected Window: *Layout*
Item: Multiple index marks
Operation: Added **Index Mark**

For this example, we selected track #3, index #2 and index #3 as the sources (which are referencing AUDIO_4).



Highlighting index #2 and index #3 and then selecting **Index Mark** in the **Add** gadget pull down menu produced the following results:

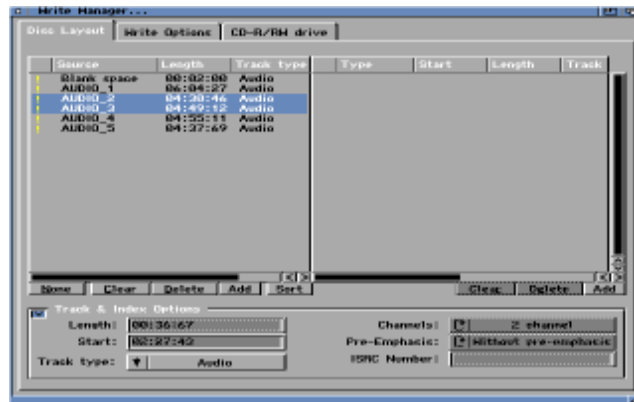


As seen in the screen shot, AUDIO_4 was divided into index #0, index #1, index #2, index #3, index #4 and index #5. Index #0 and index #1 were left unchanged. The original index #2 is divided into index #2 and index #3, each of equal length. The original index #3 was divided into index #4 and index #5, each of equal length. The user could now adjust the length of each track or index individually by means of the *Track And Index Options* section. This section is explained in greater detail later in this chapter.

Whenever an index mark is added to an existing index mark in the *Layout* window, MasterISO searches out the next non-zero length index and divides it into two equal length indexes. Any index marks preceding the selected index mark remained unchanged. Any index marks proceeding the selected index mark also remained unchanged. The selected index is divided into two equal length indexes.

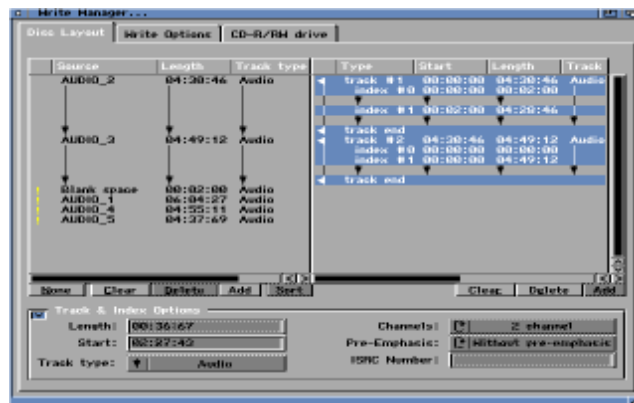
- Source Selected Window:** *Source*
- Item:** Multiple flagged entries
- Operation:** Added **Separate Track Marks** as any track (including track #1)

For this example, we selected AUDIO_2 and AUDIO_3.



These files were added to the layout as track #1 and track #2, effectively ignoring the blank space and AUDIO_1 at the top of the *Source* window.

Highlighting AUDIO_2 and AUDIO_3 and then selecting **Separate Track Marks** in the **Add** gadget pull down menu produced the following results:



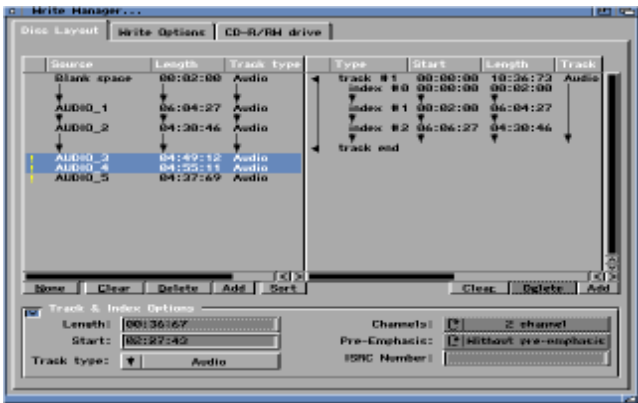
As seen in the screen shot, AUDIO_2 was added as track #1. Track #1 is divided into index #0 (2 seconds in length) and index #1 (the remainder of the file). AUDIO_3 was added as track #2. Track #2 was divided into index #0 (0 seconds in length) and index #1 (the remainder of the file).

The user could now adjust the length of each track or index individually by means of the *Track And Index Options* section. This section is explained in greater detail later in this chapter.

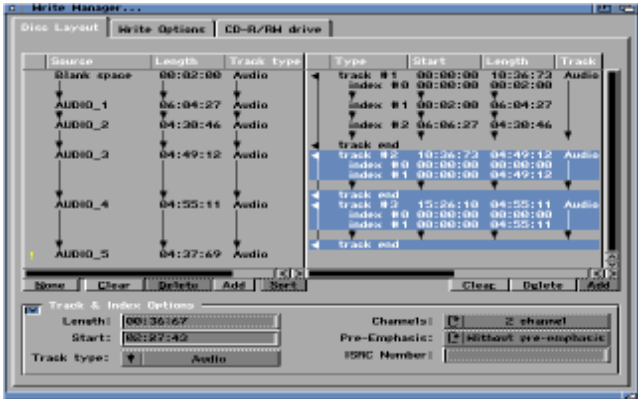
All tracks added to the layout, including track #1, are done in the above manner.

Source Selected Window: *Source*
Item: Multiple flagged entries
Operation: Added **Multiple Track Marks** as any track (excluding track #1)

For this example, we added AUDIO_3 and AUDIO_4 to the layout as track #2 and track #3. The following example shows the effects of adding multiple tracks to the layout as separate tracks, excluding track #1.



Highlighting AUDIO_3 and AUDIO_4 and then selecting **Multiple Track Marks** in the **Add** gadget pull down menu produced the following results:



As seen in the screen shot, AUDIO_3 was added as track #2. Track #2 was divided into index #0 (0 seconds in length) and index #1 (the whole file). AUDIO_4 was added as track #3. Track #3 was also divided into index #0 (0 seconds in length) and index #1 (the whole file).

The user could now adjust the length of each track or index individually by means of the *Track And Index Options* section. This section is explained in greater detail later in this chapter.

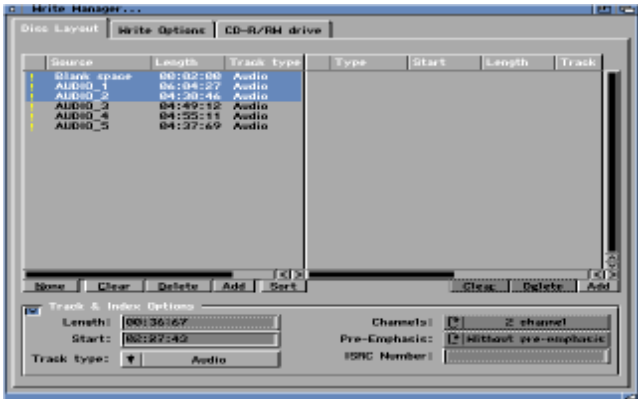
All multiple flagged sources files added as a multiple tracks are done in the above manner, provided none of the sources being added are added as track #1.

Source Selected Window: Source

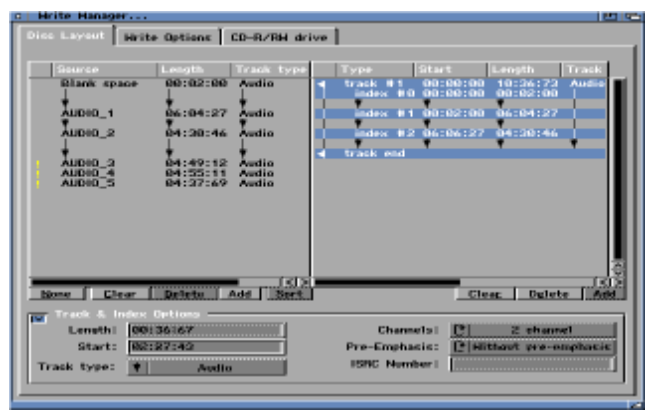
Item: Multiple flagged entries

Operation: Added **One Track Mark** (including track #1)

For this example, we added Blank Space, AUDIO_1 and AUDIO_2 to the layout as track #1.



Highlighting Blank Space, AUDIO_1 and AUDIO_2 and then selecting **One Track Mark** in the **Add** gadget pull down menu produced the following results:



As seen in the above screen shot, Blank Space was added as index #0, AUDIO was added as index #1 and AUDIO_2 was added as index #2,

It is advised to ALWAYS set track #1, index #0 to a 2 second blank space.

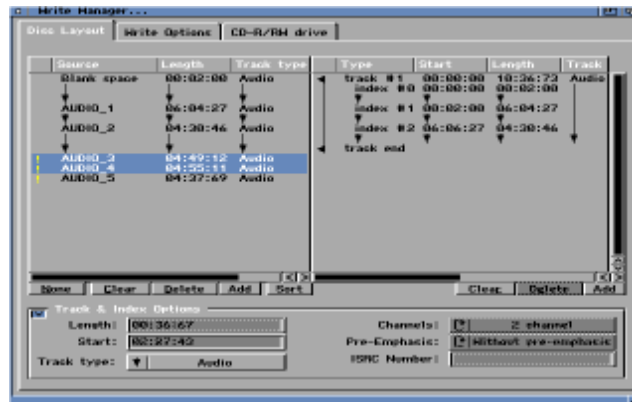
The user could now adjust the length of each track or index individually by means of the *Track And Index Options* section. This section is explained in greater detail later in this chapter.

Source Selected Window: Source

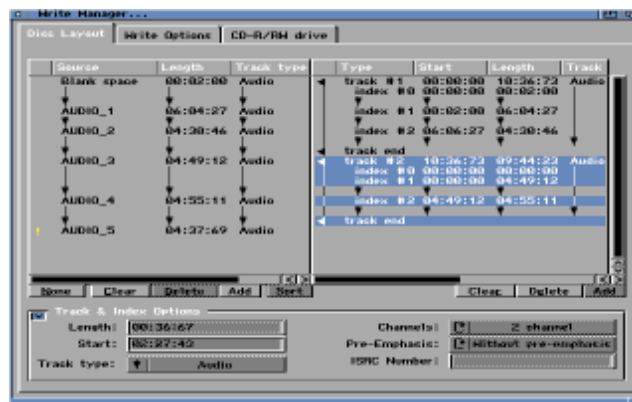
Item: Multiple flagged entries

Operation: Added **One Track Mark** (excluding track #1)

For this example, we added AUDIO_3 and AUDIO_4 to the layout as track #2. The following example shows the effects of adding multiple tracks to the layout as one track, provided that none of the tracks being added are added as track #1.



Highlighting AUDIO_3 and AUDIO_4 and then selecting **One Track Mark** in the **Add** gadget pull down menu produced the following results:



As seen in the above screen shot, both sources were added as track #2. Index #0 is 0 seconds in length. AUDIO_3 was added as index #1 and AUDIO #4 was added as index #2.

The user could now adjust the length of each track or index individually by means of the *Track And Index Options* section. This section is explained in greater detail later in this chapter.

All multiple flagged entries added as one track are done in the above manner, provided none of the entries being added are added as track #1.

Track And Index Options Section

This section contains all the options the user needs to customize their DAO layout.

Listed are the options and their descriptions:

Length: This field displays the length of the highlighted item in minutes:seconds:frames.

This field is only available to the user when a single track or index mark is highlighted in the layout window.

The **Length** field can be directly edited by the user. This allows the user to change the length of any track or index in the layout window. MasterISO makes the corresponding changes to the remainder of the layout to accommodate the change initiated by the user, if possible.

The **Length** field changes can either be made absolutely or relatively.

Absolute modifications are perceived by MasterISO as being the actual values entered. MasterISO takes the new value, replacing the old one.

Relative modifications are performed relative to the original value entered.

Modifications of the **Length** field can be made in the following manner:

Absolute Modifications (taken as the new value when inputted):

- frames or sectors
- :frames
- seconds:frames
- :seconds:frames
- minutes:seconds:frames

Relative Modifications (changes made relative to the original value)

- (+/-) frames or sectors
- (+/-) :frames
- (+/-) seconds:frames
- (+/-) :seconds:frames
- (+/-) minutes:seconds:frames

For reference, one frame = one sector.

Start: This field displays the start time of the highlighted mark in minutes:seconds:frames.

Access to the **Start** field and the modifications that can be made to it are identical to those that were described for the **Length** field. Please check the specifications for the **Length** field above.

Track Type: This pull down menu allows the user to set the track type of a source entry.

This is accomplished by selecting the entry whose format the user wishes to modify in the *Source* window and then selecting the new track type from the

Track Type pull down gadget. For more information on the selecting of entries in the *Source* window, please refer to the Selecting List Entries Within MasterISO Interfaces found in the Appendix.

The track types available are:

- **Audio**
- **CD-ROM Mode 1**
- **CD-ROM Mode 1 Raw**
- **CD-ROM Mode 2**
- **CD-ROM Mode 2 Raw**
- **XA Mode 2 Form 1**
- **XA Mode 2 Form 2**
- **XA Mode 2 Mix**
- **XA Mode 2 Raw**

For more information on the track types, please refer to the Appendix.

The **Track Type** gadget is only available to the user when a single source entry, that has **NOT** been added to the layout, is highlighted in the *Source* window. The source files that have not been added to the layout are characterized by a yellow exclamation mark to the left of them.

The reason that the track type must be set prior to its inclusion in the layout is that the track type determines the length of the track itself.

The following list describes track type limitations within the DAO layout:

- A source added as an **Audio** track cannot be modified.
- The **Audio Manager List** source entry is set to **Audio** and cannot be modified.
- The **File Manager List** source entry is set to **CD-ROM Mode 1** and cannot be modified.
- The **SCSI Image** source entry is set to **CD-ROM Mode 1** and cannot be modified.

Channels: This gadget allows the user to set the number of channels the source audio file is written in. The two available selections are **2 channel** and **4 channel**.

This gadget is only available to the user when one **Audio** track mark is selected in the *Layout* window. At no other time is the gadget available to the user.

It should be noted that MasterISO does **NOT** perform any processing on an existing two channel sample when the **Channels** gadget is set to **4 channels**. The supplying of a truly quadrasonic (4 channel) audio source is left to the user.

Setting a stereo sample to 4 channels does not produce any enhancements in the audio quality of the sample. Doing so may possibly introduce undesirable effects.

Pre-Emphasis: This gadget allows the user to enable or disable the CD-R/RW drives pre-emphasis circuitry. The two available selections are **Without Pre-Emphasis** and **With Pre-Emphasis**.

This gadget is only available to the user when one **Audio** track mark is selected in the *Layout* window. At no other time is the gadget available to the user.

Pre-emphasis circuitry was added to CD-R/RW drives to enhance the quality of audio tracks being written to a disc. This circuitry was necessary to compensate for the substandard quality of early audio digitization hardware.

ISRC Number: The International Sound Recording Code (ISRC) number is an identification number that can be assigned to each audio track.

This gadget is only available to the user when one **Audio** track mark is selected in the *Layout* window. At no other time is the gadget available to the user.

If no ISRC number is entered, MasterISO leaves the area blank on the track. The ISRC number is completely optional. It is not required for an audio track.

The ISRC number is composed of 12 digits. The syntax for the 12 digits is as follows:

Digits	Representation
1-2	Country Code
3-5	Owner
6-7	Year
8-12	Serial Number

Digits 1 through 5 are made up of the characters 0-9 and A-Z.

Digits 6 through 12 are made of the characters 0-9.

If any invalid characters are entered, MasterISO reports an error.

Information Section

The *Information* section is usually located just below the *Track And Index Options* section.

This section displays the total size of the files located in the layout list in the **Layout Data Size** field. The information is displayed in megabytes (MB), sectors and time (minutes:seconds:frames). Pre-gap, post-gap and lead out time are not accounted for in this section. The actual total time of the source files is calculated at write time.

If a CD-R/RW drive is selected on the *CD-R/RW Drive* tab, and a blank CD-R/RW disc is located in the drive, the user may select the **Get Size** gadget. This allows the user to verify that they have ample room on the CD-R/RW disc to place all of their files. The information is displayed in megabytes (MB), sectors and time (minutes:seconds:frames).

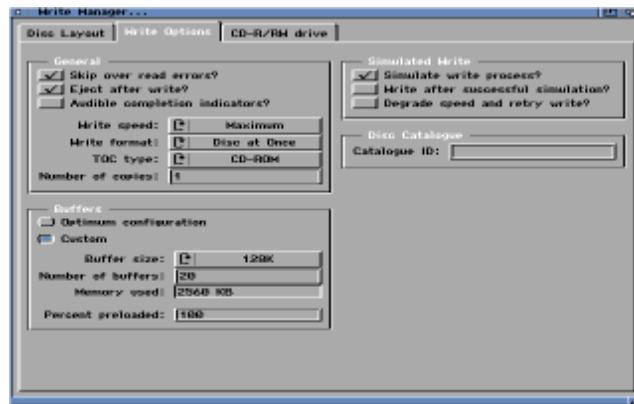
The *Information* section may be removed from the *Disc Layout* tab by selecting the small arrow in the top left hand corner of the *Track And Index Options* section. This allows the user more space within the layout section.

To return the *Information* section back to its original position, simply select the aforementioned arrow once again.

Write Options Tab

Once all of the items to be written to the disc have been added and arranged in the *Disc Layout* tab, the user may then proceed to the *Write Options* tab. This

tab enables the user to set the various options needed to create the customized CD.



The *Write Options* tab provides the user with a wealth of options for customizing the writing process.

The *Write Options* tab is categorized into four main sections: *General*, *Simulated Write*, *Buffers* and *Disc Catalogue*.

General Options Section

Skip Over Read Errors: Selecting this option causes MasterISO to skip over any read errors on the source files. MasterISO replaces the corrupt information and the remainder of the file with 'zero' data on the CD.

Eject After Write: Selecting this option causes the completed CD to be ejected from the drive upon a successful write session.

Audible Completion Indicators: Selecting this option produces a sound upon completion of the writing process. There are two distinct sounds that are heard; one for a successful writing session and one for an incomplete write session. The user can customize the sound heard by replacing the existing sound files.

The two sound files that are located in the MasterISO_v2 directory are:

- Bing.sound - for a successful write operation
- Crash.sound - for a unsuccessful write operation

Simply copy the sound files to be used to the MasterISO_v2 directory and rename them as listed above. The sound files must be of a format supported by MasterISO and of a reasonable length (<10 seconds).

Write Speed: This cycle gadget allows the user to manually set the speed at which to write to the CD-R/RW drive. This gadget has the following options:

- **1X (150 K/s)**
- **2X (300 K/s)**
- **4X (600 K/s)**
- **6X (600 K/s)**
- **Maximum**

If the user sets a speed that is not supported by their particular CD-R/RW drive, MasterISO or the drive itself attempts to use a more appropriate writing speed.

Setting the **Write Speed** to **Maximum** allows MasterISO to set the maximum available write speed for the user's particular CD-R/RW drive.

All drive specific parameters can be found in the Addendum directory in the MasterISO_v2 directory.

Write Format: This cycle gadget allows the user to set the mode in which the disc will be written. The two options are **TAO** and **DAO**. Each option produces a different interface on the *Disc Layout* tab.

For more information on TAO and DAO recording methods, please refer to the Appendix.

Finalize: This cycle gadget allows the user to set the status of the CD when writing is complete.

This option is **ONLY** available in TAO mode. This particular option does not appear when the **Write Format** gadget is set to **DAO**.

The available selections include:

- **Multisession**
- **Close Disc**
- **Don't Close Disc**

By setting the **Finalize** option to **Multisession**, the user has the ability to add additional items to the CD at a later time. However, the CD can still be read in any computer CD-ROM drive until that time. It should be noted that not all CD-ROM drives can read the additional information added to a multisessioned

data or audio CD. The user must ensure that their particular CD-ROM drive has multisession capabilities to be able to read any additional information that is added to the disc.

If the user sets the **Finalize** option to **Close Disc**, this allows for the creation of a standard CD. No additional information may be added to the disc at any time.

The last choice for the **Finalize** option is **Don't Close Disc**. With this option, the user may add additional tracks to the CD at any time.

When adding additional files to the CD, the user must have the destination CD-R/RW disc in the CD-R/RW drive. The procedure in adding the additional information is identical to the adding of items to a new CD-R/RW disc. MasterISO recognizes the CD with the previously written information and makes the necessary changes to accommodate the included files.

When adding additional files, the **Finalize** options can still be set to any of the options listed above.

To determine how the added files are handled in comparison to the existing files on the CD, please refer to the **Multisession Mode** option description in the *General* section of the *Build Image* tab in the *File Manager* window. This option must be set on the *Build Image* tab, regardless if an ISO image is being created or not.

It should be noted that while a disc is unclosed, it will not be able to be read in any CD-ROM drive. Only the CD-R/RW drive that initially wrote the CD is able to read it. This is due to the fact that the unclosed CD-R/RW disc does not contain a table of contents (TOC).

TOC Type: This cycle gadget allows the user to set the format of the Table of Contents (TOC) to be written to the disc. The TOC is based on the information being written to the disc.

The options include:

- **CDDA**
- **CD-ROM**
- **CD-ROM XA Mode 1**
- **CD-ROM XA Mode 2**
- **CD-I**

Most audio CDs have this option set to **CDDA**. Most data CDs have this option set to **CD-ROM**. The other options are included for the creation of highly specialized discs.

Once all of the *General* options have been set, the number of copies required can be entered into the **Number Of Copies** field. Upon entering the number of copies needed, hitting the 'return' key is required for the information to be verified. A maximum value of 99 may be entered.

Simulated Write Section

The *Simulated Write* section contains options which can be used when testing a particular burn session, prior to actually burning the disc.

These options include:

Simulate Write Process: Selecting this option enables MasterISO to perform every aspect of a write session except for the activation of the write laser. If MasterISO completes a successful simulated write session, a real write session should be successful as well.

When the **Simulate Write Process** option is selected, the following options become available:

Write After Successful Simulation: Selecting this option allows MasterISO to automatically begin a real write session upon the completion of a simulated write session.

If the user owns a tray loaded CD-R/RW drive, MasterISO will automatically eject the blank CD-R/RW disc and reinsert it. This is necessary since the drive must be reset following a successful simulated write session.

If the user is using a caddy loaded CD-R/RW drive, the user must reinsert the blank disc after it has been ejected by the software to continue the process.

Degrade Speed And Retry Write: Selecting this option allows MasterISO to degrade the write speed of the CD-R/RW drive if the simulated write session fails. MasterISO attempts the simulated write at the next lower supported speed of the CD-R/RW drive.

This option can be used in conjunction with the previous options to account for all possible simulation permutations.

As with the previous option, tray loaded CD-R/RW drives are automatically reset while caddy loaded CD-R/RW drives must have the blank disc reinserted by the user.

Buffers Section

Please read the general information section on Data Buffering located in the Appendix before continuing.

The *Buffers* section allows the user as little or as much control over how MasterISO handles its internal buffering, as desired.

Optimum Configuration: Selecting this option allows MasterISO to use the optimal number of buffers and buffer size for the user's particular system.

If the user does not wish MasterISO to control the buffer parameters, the user may manually set them. This is done by selecting the **Custom** option.

Once this option is selected, the various parameters become available to the user. These parameters are:

Buffer Size: This gadget allows for the setting of a 128K or 512K buffer size. Certain drives operate more efficiently with a specific buffer size.

All drive specific parameters can be found in the Addendum directory in the MasterISO_v2 directory.

Number Of Buffers: This data field allows the user to set the number of buffers used. The maximum number of buffers possible is 999. Hitting the 'return' key is required before MasterISO will recognize the entry.

Memory Used: This field displays the amount of memory used by MasterISO for buffering based on the buffer size and the number of buffers entered. This data field may not be modified by the user.

If the calculated amount of memory used exceeds the amount of available fast RAM, MasterISO uses all fast memory possible, save and except, 512 K.

Percent Preloaded: As MasterISO begins the writing process, it will fill the buffer memory to the percentage entered before beginning the writing process. This field allows the user to set that percentage. This data field can have a value between 0 and 100. Hitting the 'return' key is required before MasterISO will recognize the entry.

Disc Catalogue Section

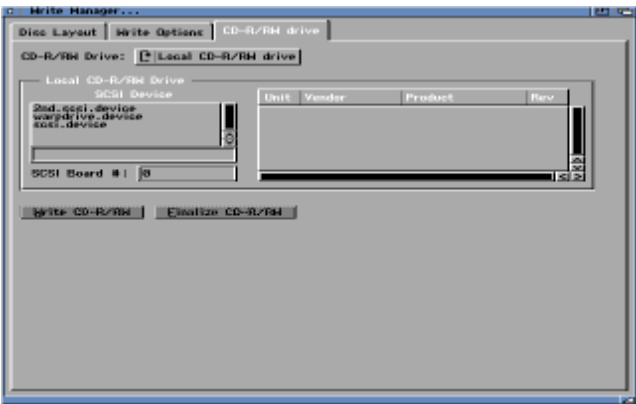
The final section of the *Write Options* tab is the *Disc Catalogue* section. This section allows the user to input a catalogue ID for the CD.

This is done by entering the data into the **Catalogue ID** field and pressing the ‘return’ key. The catalogue ID is numerical only, with a maximum length of 13 digits.

If no catalogue ID value is entered, MasterISO leaves the area blank on the disc. Not all CD-R/RW drives have the capability to write a catalogue ID.

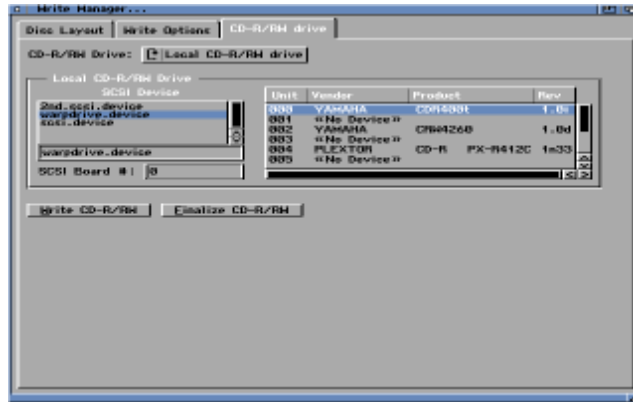
CD-R/RW Drive Tab

Once all of the write options have been set by the user, the CD-R/RW drive must be selected. This is done on the *CD-R/RW Drive* tab.



The user must first select the controller the drive is attached to in the *SCSI Device* window under the *Local CD-R/RW Drive* section. ATAPI drives are selected via the *SCSI Device* window as well.

Once this has been completed, all properly configured devices attached to said controller will appear in the right hand window. Simply select the device to use with the left mouse button.



Included in the right hand window is information concerning all of the devices attached to the selected controller. This information includes:

Unit: ID number the device
Vendor: manufacturer of the device
Product: model number of the device
Rev: version of the device's internal firmware

Each of these columns is fully resizeable.

If no device is available at a particular ID number, <<No Device>> will appear.

If a controller does not auto-configure, it does not appear in the *SCSI Device* window. The user may manually input the device name used by the controller in the field directly below the *SCSI Device* window. Any previously selected device will appear in this field.

The **SCSI Board #** input field is used to distinguish between different SCSI chains on a multiple chain SCSI controller or between multiple SCSI controllers in one Amiga that use the same SCSI device name. This is most commonly seen with multiple GVP SCSI controllers in one Amiga or the Newtek Flyer.

For most circumstances, this field should be defaulted to 0.

If the CD-R/RW drive is attached and powered on, yet does not appear in the list, it has not been configured properly. Please refer to our ATAPI or SCSI

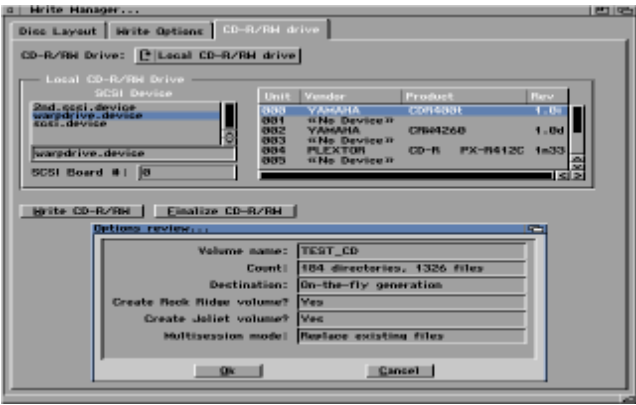
information sections in the Appendix or the manufacturer’s ATAPI or SCSI interface manual.

Writing The Disc (TAO or DAO mode)

Once the CD-R/RW drive has been selected, selecting the **Write CD-R/RW** gadget initiates the write process.

Prior to writing the CD, the user is presented with one or two *Options Review* windows. The first review window only appears if a **File Manager List** is included as one of the source entries in the *Disc Layout* tab.

The first *Options Review* page appears as such:

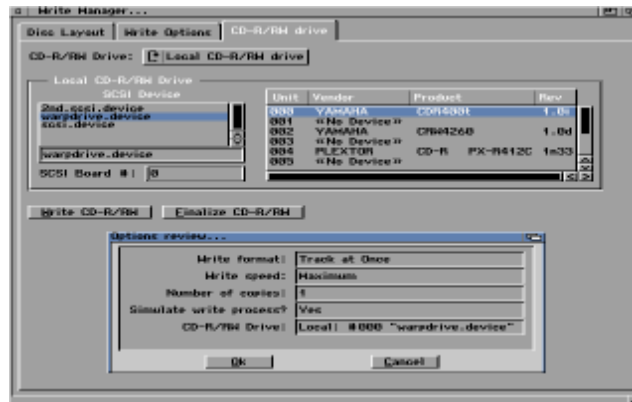


This window contains the following information:

- Volume Name:
- Count: (number of directories and files)
- Destination:
- Create Rock Ridge Volume?
- Create Joliet Volume?
- Multisession Mode:

At this point, the user has the ability to continue with the process by selecting the **Ok** gadget or aborting the process by selecting the **Cancel** gadget.

If the user elects to continue, or no **File Manager List** was initially selected as a source entry on the *Disc Layout* tab, the next *Options Review* window appears.



This window shows the following information:

Write Format:

Write Speed:

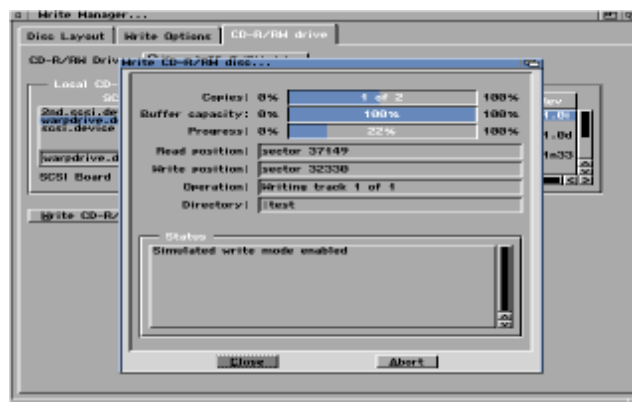
Number Of Copies:

Simulate Write Process?

CD-R/RW Drive:

At this point, the user may exit the write process by selecting the **Cancel** gadget, or continue by selecting the **Ok** gadget.

If the **Ok** gadget is selected, the *Write CD-R/RW Disc* window is displayed and the writing process begins.



This window provides a plethora of information during the writing of the CD.

The *Copies* indicator displays the real-time percentage and the number of copies being written. This indicator is only present when multiple copies of the same CD are requested via the **Number Of Copies** field on the *Write Options* tab.

The *Buffer Capacity* indicator displays the real-time percentage of the total amount of the buffer that is filled with data to be written.

The *Progress* indicator visually exhibits the real-time percentage of the completed write session.

The *Read Position* field displays the sector of the source file being read in real-time.

The *Write Position* field displays the sector of the CD being written to in real-time.

The *Operation* field denotes the actual operation the drive is performing at any given time.

The *Directory* field displays the directory the files are being read from as they are transferred into the buffer.

The *Status* window displays any messages or error notices encountered during the writing phase.

Upon completion of the writing session, a notification is displayed in the *Status* window. Selecting the **Close** gadget returns the user back to the program.

If, at any time, the user does not wish the writing of the CD to proceed to completion, selecting the **Abort** gadget manually exits the write process.

It should be noted that if the **Simulate Write Process** option was not selected, the disc may be rendered unusable.

It should also be noted that the abort process may not be instantaneous. MasterISO may require to delete temporarily buffered files before returning control of the software back to the user. This behaviour is normal.

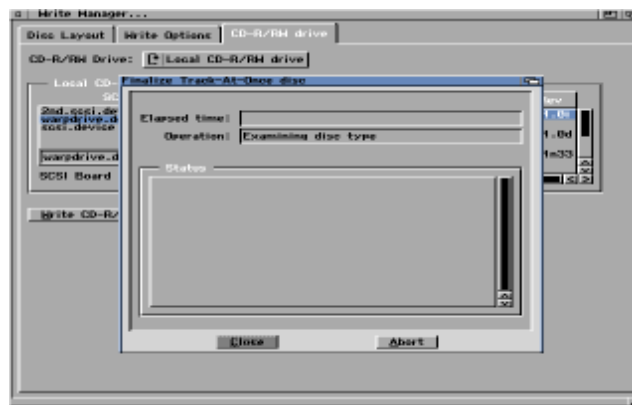
Additionally, the CD-R/RW drive may perform some internal 'housekeeping' when the write operation is prematurely aborted. This may last from a few seconds to several minutes, depending on the drive model.

Finalizing A Unclosed CD-R/RW Disc (TAO Mode Only)

When creating multisessioned TAO CDs, it may be necessary to finalize the disc at a later time. The **Finalize CD-R/RW** gadget allows the user to do so. The gadget only appears when the **Write Format** gadget on the *Write Options* page is set to **TAO**.

The unclosed CD-R/RW disc must be in the drive for this operation to be successful.

Selecting the **Finalize CD-R/RW** gadget displays the following *Finalize Track-At-Once Disc* window:



The *Elapsed Time* field displays the amount of time the selected finalize operation has been in operation. It is not possible to accurately determine the time of completion of a finalize procedure.

The *Operation* field denotes the actual operation the drive is performing at any given time.

The *Status* window displays any messages or error notices encountered during the finalize phase.

Upon completion of the finalizing operation, a report is displayed in the *Status* window. Selecting the **Close** gadget returns the user back to the program.

If, at any time, the user does not wish the finalizing of the CD to proceed to completion, selecting the **Abort** gadget manually exits the finalize process.

It should be noted that aborting a finalizing procedure may render the disc unusable.

It should also be noted that the abort process may not be instantaneous. The CD-R/RW drive may perform some internal 'housekeeping' when the write operation is prematurely aborted. This may last from a few seconds to several minutes, depending on the drive model.

Menu Items

This section documents all of the items located in the menus for MasterISO. Most options for MasterISO are located on the individual tabs throughout the program and therefore do not appear in the menus.

Project Menu



Starting a New Project

New: This item allows the user to start a new project. MasterISO queries the user whether or not to quit the current project. If the user selects **Yes**, they are returned to the *New Project* window. This option is available to the user at all times.

The hotkey for this option is Right-Amiga-N.

Loading A Project

Open: This item allows the user to load a previously saved project. MasterISO queries the user whether or not to quit the current project. Once the project has

been loaded, MasterISO relinquishes control back to the user. This option is available to the user at all times.

The hotkey for this option is Right-Amiga-O.

Saving a Project

Save: This item allows the user to save their current project. If a project has not been previously saved, a standard Amiga save requester appears, asking the user for a path and file name for the saved project.

If a project has been previously saved, selecting this menu item causes MasterISO to save the project with the same name, overwriting the previous version of the saved project.

This option is available to the user at all times.

The hotkey for this option is Right-Amiga-S.

Save As: This item allows the user to save their current project. A standard Amiga save requester appears, asking the user for a path and file name for the saved project. This option is available to the user at all times.

The hotkey for this option is Right-Amiga-V.

Closing a Project

Close: This item closes the current project being worked on. MasterISO queries the user whether or not to quit the current project. To begin a new project, the user must either select the **New** or **Load** menu item. This option is available to the user at all times.

The hotkey for this option is Right-Amiga-C.

Advanced Project Manager Items

File Manager: This item opens the *File Manger* window. This option is only available to the user in the *Advanced* project type.

The hotkey for this option is Right-Amiga-F.

Audio Manager: This item opens the *Audio Manger* window. This option is only available to the user in the *Advanced* project type.

The hotkey for this option is Right-Amiga-A.

Write Manager: This item opens the *Write Manger* window. This option is only available to the user in the *Advanced* project type.

The hotkey for this option is Right-Amiga-W.

Additional Project Menu Items

About: This option exhibits the *About MasterISO* window that is seen when MasterISO is first executed.

This window contains copyright information, version information and the serial number. To exit the *About MasterISO* window, simply click on the **Ok** gadget in the bottom center of the window, or anywhere within the window's boundaries.

This option is available to the user at all times.

Quit: This option allows the user to quit MasterISO. MasterISO queries the user whether or not to quit the current project. This option is available to the user at all times.

The hotkey for this option is Right-Amiga-Q.

CD Caddy/Tray Menu



The *CD Caddy/Tray Menu* contains the following items:

Load: This item allows the user to load the tray into the CD-R/RW drive. This feature works only with tray CD-R/RW drives. This option is only available to the user when a CD-R/RW drive has been specified in one of the *CD-R/RW Drive* tabs or the drive settings have been previously saved.

The **Load** feature is only available when the CD-R/RW tray is currently in the ejected state.

The user may still load the CD-R/RW drive manually.

The hotkey for this option is Right-Amiga-L.

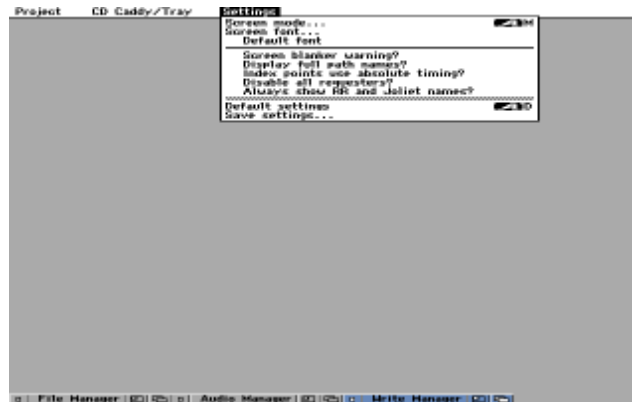
Eject: This item allows the user to eject a tray or caddy from the CD-R/RW drive. This feature works with both tray and caddy CD-R/RW drives. This option is only available to the user when a CD-R/RW drive has been specified in one of the *CD-R/RW Drive* tabs or the drive settings have been previously saved.

The **Eject** feature is only available when the tray or caddy is currently in the loaded state.

The user may still eject the disc from the CD-R/RW drive manually.

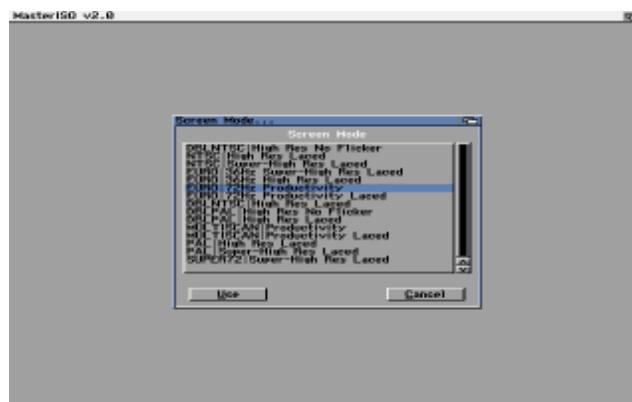
The hotkey for this option is Right-Amiga-E.

Settings Menu



Selecting a Screen Mode

Screen Mode: This item allows the user to set the screen mode MasterISO will use. Selecting this menu item produces the following screen mode requester:



Simply highlight the screen mode to use with MasterISO and select the **Use** gadget. Selecting the **Cancel** gadget nullifies the highlighted entry and returns MasterISO to the previously used screen mode.

This is the standard Amiga font selector requester.

Simply highlight the font type and size to use with MasterISO and select the **Ok** gadget. Selecting the **Cancel** gadget nullifies the highlighted entry and returns MasterISO to the previously used font.

The *Select Font* window presents the various fonts available. The various fonts that appear in the window are obtained from the FONTS: volume. If the user wishes to use a particular font, ensure that it is located in the aforementioned volume.

If the screen mode/font configuration selected does not allow MasterISO to display a window or tab correctly, MasterISO notifies the user and closes down

the window and/or project. The project type determines whether MasterISO closes down the offending window or the whole project.

The user may return to the project being worked on by selecting a font and font size which allows MasterISO to properly display the project and/or window.

This font selection option is available to the user at all times.

General Options

The *Settings* menu also contains five general options. They are:

Screen Blanker Warning: A message that warns the user to disable any screen blankers before writing a CD. Certain screen blankers may allocate valuable CPU and I/O resources away from MasterISO. This may cause a buffer underrun and subsequently, a misburned disc.

The warning is given just before the disc is about to be written.

Display Full Path Names: This option displays the full path names for files in the following interfaces:

- Audio Project Type - Track List
- Advanced Project Type - Audio Manager - Audio Samples List
- Advanced Project Type - Write Manager - Disc Layout List

If this option is disabled, only the file name is shown in the aforementioned lists.

Index Points Use Absolute Timing: Within the *Disc Layout* tab of the *Write*

in Disc At Once (DAO) mode only. By default, the times listed for the index points are relative to the start of their respective tracks. Selecting this option causes the timing for the index point to be relative to the start of the disc.

Disable All Requesters: This option disables **ALL** requesters in MasterISO. MasterISO defaults to the positive (or left) selection for any requester that would normally appear.

Disabling this requester should only be done by advanced users who thoroughly understand the software. The possibility exists to erase entire partitions and damage system files.

Asimware is **NOT** responsible for any damage caused by the enabling of this option. The user does so at their own peril.

Always Show RR And Joliet Name: This option pertains to the directory tree list found in the *CD-ROM* project type and the *File Manager* of the *Advanced* project type. If the user elects to create a Rock Ridge and/or Joliet volume, by default, the Rock Ridge and Joliet file names are **NOT** be displayed in the directory tree list when they are identical to the original file name.

This option allows the user to see the Rock Ridge and/or Joliet file names at all times.

It should be noted that this greatly reduces the scrolling speed of the directory tree list unless the user has a graphics card. Users with standard OCS, ECS, or AGA machines should not select this option.

Settings Files

Default Settings: This option loads the internal MasterISO settings that were set by Asimware. The settings chosen were with the novice user in mind.

This option is available to the user at all times.

The hotkey for this option is Right-Amiga-D.

Save Settings: This option saves the MasterISO settings file.

The last saved settings file is loaded each time MasterISO is run.

For more information on which items are contained in the Settings file, please refer to the Appendix.

Product Support

At Asimware Innovations Inc., we are committed to providing solid support for all our products. This support includes regular updates to the software, free technical support, free software updates via the internet (within the Version 2 family), and special pricing on our full line of Asimware products.

We at Asimware believe it is our support of you, the user, that sets us apart from other companies.

Technical Support

Asimware Innovations Inc. offers registered users free technical support.

If you experience any problems with the MasterISO diskette, or if you just have questions concerning the operation of MasterISO Version 2, please feel free to contact us.

We can be contacted by the following means:

Voice: (905)575-1042 (main)
(905)575-1507 (tech support)
Fax: (905)575-0095

Mail: Asimware Innovations Inc.
600 Upper Wellington Street, Unit #D
Hamilton, Ontario
Canada L9A 3P9

Asimware's normal hours of operation are Monday to Friday,
9:30 a.m. - 5:30 p.m. Eastern Standard Time (EST).

Asimware Innovations Inc. also has an extensive presence on the internet.

Here is the necessary contact information you may need when contacting Asimware by way of the internet:

WWW address: <http://www.asimware.com>
E-mail: support@asimware.com (Tech Support)
infosales@asimware.com (Sales Information)
infotech@asimware.com (Technical Information)
critters@asimware.com (Bug reporting)

When reporting MasterISO Version 2 bugs, or obtaining technical support, please ensure that **[MI2]** appears in the subject heading.

Technical Support Conditions

Technical support is provided to registered MasterISO Version 2 users only. To ensure that you are eligible for our free technical support, please remit the registration card accompanying the MasterISO software immediately to us.

We provide technical assistance to registered users **ONLY**. Our policy is adhered to, under all circumstances. There are no exceptions.

Technical Support Requirements

When contacting Asimware for technical support, please ensure you have the following information readily available:

- MasterISO Version 2 serial number
- MasterISO Version 2 registered name
- MasterISO Version 2 revision (e.g. v2.2)
- Amiga model
- Amiga OS version
- Total amount RAM available (chip and fast)
- SCSI controller type with firmware version (if applicable)
- CD-R/RW drive make and model with firmware revision
- CD-ROM drive make and model with firmware revision (if applicable)
- CD-ROM file system type and version (if applicable)
- Any additional hardware installed (SCSI controllers, graphics cards, accelerators, hard drives, tape drives, etc.)
- An exact description of the problem.

With all of the above information readily available, we will be able to better diagnose your problem and offer a solution in the shortest time frame possible.

Compatibility Lists

Current CD-R/RW and CD-ROM drive compatibility lists can be found in the Addendum directory in the MasterISO_v2 directory and on our web site.

Technical FAQ's

Any pertinent information or FAQ's concerning MasterISO Version 2 can be found on our web site.

Program Updates

MasterISO is not a static program. New drive support and features will be added to MasterISO Version 2 in future updates.

Here are the various upgrade options available to **REGISTERED** MasterISO Version 2 users in order to upgrade to a higher revision of Version 2:

- (1) **Via WWW**
Address: www.asimware.com
Cost: FREE
Requirement: Serial Number
Instructions: Fill out the request form in the Software Upgrades section
- (2) **Via Asimware Innovations Inc. (mail)**
Cost: \$10 US
Requirement: MasterISO Version 2 diskette
Instructions: Send a cheque or money order along with the diskette
- (3) **Via Asimware Innovations Inc. (phone or fax)**
Cost: \$10 US
Requirement: Serial number and credit card
Instructions: Call Asimware Innovations Inc. and order the update

The \$10 fee for the upgrade is used to cover administration, postage, and handling expenses.

Appendix

Selecting List Entries Within MasterISO Interfaces

The following section describes how to select entries within the following MasterISO:

Project	Window	Tab	Interface
CD-ROM		Directory Tree	Directory Tree List
Audio		Audio Tracks	Track List
Advanced	File Manager	Directory Tree	Directory Tree List
Advanced	Audio Manager	Samples	Audio Samples List
Advanced	Write Manager	Disc Layout	Track List (TAO)
Advanced	Write Manager	Disc Layout	Source Window (DAO)
Advanced	Write Manager	Disc Layout	Layout Window (DAO)

MasterISO gives the user many options when selecting entries within the various interfaces mentioned above.

To select a single entry, simply select the entry with the left mouse button.

To select multiple entries, hold the Shift key while selecting the desired entries with the left mouse button.

To select a block of entries, select the first entry, hold the CTRL key, and select the second. All of the entries bounded by the two selected entries should now be highlighted. The two original selections are also included.

General CD-R/RW Layout

A compact disc contains its information organized into one or more tracks, with a maximum of 99 tracks per disc. Each track consists of an index #0, an index #1, with optional indices #2 through to #99 also possible.

Index #0 is referred to as the pre-gap area. It usually serves as a transitional area between tracks. The start of index #1 is actually recognized as the start of the track. Even though index #1 is considered the start of the track, each track must still contain an index #0.

It is of paramount importance to note that the start of index #1 is actually recognized as the start of the track.

For data CDs, if the user data is placed into index #0, the receiving CD-ROM file system will usually disregard it and begin scanning for the user data at the beginning of index #1. This rather catastrophic shift of the data could render the entire CD unusable.

When creating audio CDs, placing the user data into index #0 for track #1 could possibly result in a 2-second loss of sound at the beginning of the disc.

However, for certain applications, placing the user data into index #0 (for other than track #1) can be a useful property. The index #0 area is played as the gap between tracks and is counted down as negative time. By properly positioning the index points, a continuously playing audio CD can be created without gaps or stops in the music.

For regular applications, however, a good rule-of-thumb is to start each track with a blank space source of 150 sectors. Set this entire source to index #0.

The following illustrates the most common configurations used for index #0 and index #1 marks:

Data CD (all tracks)

Index #0 Blank space

Index #1 User supplied data

The use of index #2 and greater in data tracks usually serves no useful purpose.

Regular Audio CDs (all tracks)

Index #0 Blank space

Index #1 User supplied audio

Continuous Play Audio CDs

Track #1 Index #0 Blank space

Index #1 User supplied audio

All remaining tracks

Index #0 User supplied audio

Index #1 Continuation of user supplied audio

For audio tracks, additional index marks allow for the marking of different movements.

Disc-At-Once (DAO) Recording

The disc-at-once (DAO) recording method allows for the recording of information to a CD-R/RW disc in one complete, uninterrupted session. Using this method results in a disc that is suitable for commercial duplication.

User Requirements

In DAO recording, the user has complete control over the placement of track and index points. In addition to the data being written, the user must supply all the aforementioned track and index points, following the relevant standards and rules. For more information on track and index placement, please refer to the section on Placement Of Tracks And Indices.

MasterISO Responsibilities

Unlike TAO recording where error correction is done by the CD-R/RW drive itself, DAO recording requires that the mastering software provide the user data, as well as, all the necessary error correction information. MasterISO will automatically generate the error correction information on-the-fly, as required. This process is extremely CPU intensive and may require a 68060 processor.

The process begins with MasterISO providing a list of tracks and indices to the drive in advance of the writing of the user data. The drive begins by first writing the table of contents (TOC) and lead-in area. Each track is then written, in order, starting with index #0, through to the last index. No linking blocks or pauses in between the tracks is permitted.

It is evident that the concept of 'tracks' is still used, even while using the DAO method.

Immediately after the writing of the last track, the drive writes the lead-out area.

Placement Of Tracks And Indices

For general information on tracks and indices, please refer to the section on CD-R/RW Layout.

The following rules and standards must be followed when the placing of track and index marks is performed:

- **ALL** tracks must begin with an index #0. For track #1, index #0 should be 150 sectors in length. For all other tracks, index #0 can either be 0 sectors, 150 sectors or greater than 150 sectors. This holds true for **BOTH** data and audio tracks.
- In between tracks of different modes (e.g. in between a CD-ROM Mode 1 track and an Audio track), an index #0 of 225 sectors should be used.
- Depending on the CD-R/RW drive used, certain track types may not be placed following one other. For example, some drives may not allow a data track to follow an audio track. Please refer to the documentation that accompanied the CD-R/RW drive or contact the manufacturer directly for this information.
- M:S:F 0:0:0 is equal to sector -150 (This is evident once the user fully understands the placement of index #0).

The following points are guidelines that should also be followed. They are merely helpful hints for creating CDs using DAO:

- Blank space should always be used for Track #1, index #0, regardless of the type of CD being produced (data, audio or mixed mode).
- When creating data CDs, any information stored in index #0 for any track is usually ignored by most receiving CD-ROM file systems. It is suggested to use blank space for all index #0 marks.
- When creating audio CDs, the user should use blank space for all index #0 marks if 'dead air' is desired in between tracks.
- When creating audio CDs, the user should use the audio files themselves for index #0 marks if the desired effect is to have the music continuously play.

The following are examples of properly formatted track layouts for DAO recording:

Data CD			
Track #	Track Type	Index #	Item
1	CD-ROM Mode 1	0	150 sectors
		1	User supplied data
2	CD-ROM Mode 1	0	0,150 or >150 sectors
		1	User supplied data
etc.			

Audio CD			
Track #	Track Type	Index #	Item
1	Audio	0	150 sectors
		1	User supplied audio
2	Audio	0	0,150 or >150 sectors
		1	User supplied audio
3	Audio	0	0,150 or >150 sectors
		1	User supplied audio
etc.			

Mixed Mode CD (data/audio)			
Track #	Track Type	Index #	Item
1	CD-ROM Mode 1	0	150 sectors
		1	User supplied data
2	Audio	0	225 sectors
		1	User supplied audio
3	Audio	0	0,150 or >150 sectors
		1	User supplied audio
4	Audio	0	0,150 or >150 sectors
		1	User supplied audio
etc.			

Track-At-Once (TAO) Recording

The track-at-once (TAO) recording method allows for the recording of information to a CD-R/RW disc on a track by track basis. The recording process may be interrupted or paused in between tracks and can be resumed at any time. This method is most commonly used for non-commercial CD-R/RW discs.

User Requirements

In most cases, the user needs only to supply the user data. The CD-ROM drive generates any required error correction information.

Disc Layout

For each track, the CD-R/RW drive typically writes five sectors of linking information and a predefined pre-gap (index #0). This is handled by the CD-R/RW drive. The user does not need to be concerned with the arrangement of this information.

Once the necessary pre-track information has been written, the drive begins writing the data the user has specified. All user data is placed into a single index (index #1). After completing the writing of the user data, the drive will 'close' the track by writing two sectors of additional linking information.

This process is repeated for as many tracks as the user has specified, up to a maximum of 99 tracks.

The disc is completed with a finalize step. During this procedure, the drive writes the table of contents (TOC) and the lead-in area at the beginning of the disc. The lead-out area is then written at the end of the disc. The disc can now be read in any CD-ROM drive or standard audio CD player (depending on the type of CD written).

If the disc has been finalized as a multisession disc, the appropriate pointers will be written by the drive to accommodate the seamless integration of additional information at a later time.

Placement Of Tracks And Indices

The user has no control over the generation and length of the recorded pre-gap areas (index #0).

SCSI Information

This section includes brief descriptions of the terms concerning the SCSI (Small Computer System Interface) protocol in addition to some general SCSI information. SCSI (pronounced 'scuzzy') is one the primary connection protocols used to attach peripherals to a computer.

Definitions

Asynchronous Mode

This is the default transfer mode used for devices along a SCSI bus. With this method, a data word is first sent, then an acknowledge for that word must be received before the next word is sent.

Synchronous Mode

Synchronous mode reduces transfer overhead by not requiring an acknowledge immediately after the transfer of each data word.

SCSI (later named SCSI-1)

SCSI was the original protocol used for SCSI devices. In the default asynchronous mode, the fastest theoretical transfer rate is 2.5 megabytes per second (MB/s). This theoretical limit was doubled to 5 MB/s in synchronous mode. It should be noted that actual transfer rates rarely reach their theoretical limits. Under the SCSI-1 protocol, the total length of the SCSI chain could not exceed six meters.

SCSI-2

Building upon the basis of the SCSI-1 protocol, SCSI-2 was created. This update included an extended command set as well as physical enhancements to the bus itself. SCSI-2 controllers were still able to handle SCSI-1 devices. Unless SCSI-2 devices support Fast Synchronous mode, they perform at the same theoretical speeds as SCSI-1. This Fast Synchronous mode that was part of the SCSI-2 protocol allowed SCSI-2 devices to run at double their normal synchronous rate. This 'Fast' SCSI-2 protocol has a theoretical transfer rate of

10MB/s. A drawback to this new transfer mode was that the maximum SCSI cable length was effectively halved to three meters.

SCSI Wide, Differential SCSI, and SCSI-3

SCSI normally transfers data over an 8 bit wide data path. A variation, called Wide SCSI, uses a 16 bit wide data path via an additional cable, potentially doubling transfer rates.

SCSI-3 is essentially Fast Wide SCSI-2 using only one cable.

Another variation is differential SCSI, which uses differential signal cables to provide a total bus length of up to 25 meters.

General Information

Cable Configurations

Internal SCSI devices are usually connected along a 50-conductor ribbon cable. 50-pin IDC (Insulation Displacement Connector) headers are crimped onto the cable for each device that is to be attached. "Stub" cables of no more than ten centimetres off the main cable are allowed by the SCSI standard. However, it is advisable not to have any branches from the main chain.

External SCSI device cables can use several connectors: Centronics 50-pin, DB25, or high-density 50-pin (commonly, but imprecisely, referred to as "SCSI-2", since many Fast SCSI-2 adapters use this type of connector). Adapter cables may have any combination of these three basic types.

The SCSI standard states that the total length of the SCSI bus, including internal and external cable, must not exceed six meters. For Fast SCSI-2, the limit was reduced to three meters. In practice, some devices and cable combinations may limit this severely, particularly poorly-constructed cables or those with DB25 connectors (by discarding all those “extra” grounds that helped make SCSI capable of running long distances in the first place). Conversely, some SCSI bus implementations can go farther than the standard suggests.

Number of Devices

The SCSI protocol allows for the connecting of seven SCSI devices per SCSI chain.

SCSI ID Numbers

SCSI ID numbers are used to distinguish between SCSI devices on the same chain. These ID numbers are usually set as a binary number via jumper blocks on each SCSI device. Jumper maps can usually be found on the device itself or in the accompanying documentation.

SCSI devices on the same SCSI chain must have distinct ID numbers. SCSI ID numbers range from 0 to 7 inclusive. ID #7 is usually reserved for the SCSI controller itself. Some SCSI controllers have the ability to change their ID number via jumpers or software. Setting a SCSI device’s ID number to #7 may result in odd SCSI behaviour.

SCSI ID numbers are not related to the actual physical order of the connected devices. The user may use any SCSI ID in any order they wish, provided only one device is assigned to each number.

Most SCSI controllers scan the SCSI bus sequentially, beginning with ID #0. Therefore, it is advantageous to set the ID for a boot hard drive to the lowest possible ID number.

Logical Unit Numbers (LUNs)

Logical Unit Numbers provide a way to access more than one device at a given SCSI address. With modern SCSI devices, LUNs are relatively rare, with the exception of CD-ROM changers. These devices often use a LUN to select which CD will be loaded.

Board numbers are used with SCSI controllers with more than one chain (e.g. Newtek Flyer) or for multiple SCSI controllers of the same type in the same machine (e.g. two GVP SCSI controllers in one machine).

A typical full SCSI ID number (with LUNs) contains three digits. Using 206 as an example, the digits are represented by:

- 2 - Board number
- 0 - Logical Unit Number
- 6 - SCSI ID number

Disconnect/Reconnect (or Reselection)

The SCSI protocol only allows one device along the chain to have access to the bus for data transfers. Although the controlling device is able to utilize 100% of the bus, this could be detrimental when two or more devices require access to the bus. To alleviate this problem, most, if not all, newer SCSI devices have a disconnect/reselect capability. These 'smart' SCSI devices are smart enough to realize that certain operations will take a long period of time. During these operations, the SCSI device 'disconnects' from the SCSI bus, allowing it to be available to other devices along the chain. When the SCSI device has completed its time consuming task, it has the ability to reselect the SCSI bus and continue with its data transfers. This feature is very important when mastering CDs since often time the CD-R/RW drive is on the same SCSI chain as the source hard drive or CD-ROM drive.

Compatibility

SCSI devices are backwards-compatible. Therefore, it is possible to connect a SCSI-1 device to a SCSI-2 controller without any problem. Subsequently, it is also possible to connect a SCSI-1 or a SCSI-2 device to a Fast SCSI-2 controller as well. The only drawback is that a lower version SCSI device attached to a higher version SCSI controller will not be able to operate at the SCSI controllers rated speed. In essence, SCSI-1 performance will be realized from a SCSI-1 device attached to a Fast SCSI-2 controller.

Termination

Unlike other types of bus systems, the SCSI bus requires that the user explicitly let the SCSI controller know where the chain begins and ends. This is done through the electrical property of termination.

Many people find termination to be complex. This complexity can be alleviated by remembering the one general rule when it comes to SCSI termination: the SCSI chain needs to be terminated at **BOTH** physical ends of the chain.

This termination is based on the physical method in which the devices are attached. It is **NOT** based on the ID numbers of the attached devices. SCSI bus systems require an impedance-matching terminator circuit at each end of the bus for reliable operation.

When attempting to determine the placement of termination, it is necessary to determine which devices and/or controller constitute the ends of the SCSI chain. When only internal devices are attached, the SCSI controller itself constitutes one end of the SCSI chain while the last physically attached device constitutes the other. Similarly, if only external devices are attached, the last device constitutes the one end of the chain while the controller remains as the other.

If devices are attached both internally and externally to the SCSI chain, the last physically attached internal and external device will be the resulting ends of the chain. The SCSI controller is in the middle of the chain and does NOT need to be terminated with this arrangement.

Termination Types

There are two types of termination associated with SCSI chains. These two types, passive and active, are physically different, yet they perform the identical function. The type of termination used is based on the SCSI controller. Mixing termination types is not advised and this may cause various problems along the SCSI bus.

Passive Terminators

Passive terminating resistors are usually SIP (Single Inline Package) resistor packs; they look like an integrated circuit that's been cut in half lengthwise. SIPs can be yellow, blue, black, or red, and there may be one, two, or three of them. These types of resistor packs are found mostly on older SCSI devices and

most SCSI controller cards. The terminators may either be socketed or soldered into place.

Most newer SCSI devices and controllers have terminating jumpers that are used to set the termination either on or off.

External terminators look like a connector with no cable attached, and can be found in Centronics 50-pin, DB25, and high-density 50 configurations.

Electronically, passive terminators connect each signal pin to +5V through a 220 ohm resistor, and to ground through a 330 ohm resistor. This voltage divider circuit provides impedance matching for the SCSI bus.

Active Terminators

The alternative to a passive terminator is an “active” terminator, which connects each of the SCSI signal pins through a 110 ohm resistor to a precision +2.85V regulator, which is powered by +5V.

Active terminators are superior to passive terminators due to their ‘active’ nature. An active terminators voltage regulator has the ability to track varying voltages and accordingly terminate the SCSI bus.

The only disadvantage of active terminators is that they have a tendency to be more expensive than passive terminators.

Termination Power

When the SCSI bus is properly terminated, it is necessary that at least one device along the chain supplies the termination power to the whole chain. Terminator power (+5V) needs to be supplied on pin 26 of the 50-pin IDC header.

Many SCSI devices do not have the ability to supply this termination power to the chain. Those devices that do have this capability, can usually have it enabled by means of a jumper on the device.

It is advantageous to have the controller card itself supply this termination power. External devices are not a wise choice since many of them may be manually powered down, thus removing the termination power to the chain. It is advantageous to have devices at both ends of the chain to supply termination power since the terminating resistors would not have to contend with voltage drop along the cable.

ATAPI Information

General Information

The ATAPI specification is an extension to the ATA (IDE) specification, allowing for the connection of CD-ROM and CD-R/RW drives using existing ATA hardware and cabling. Our `asim_atapi.device` adds ATAPI functionality to the existing ATA hardware interface found on the A4000 and A1200 computers.

Connecting ATAPI Devices

The ATAPI specification allows for the connection of only two peripherals to the host IDE interface. The first device is known as the master device, while the second device is known as the slave device.

The first device is set to 'Master' by means of a jumper. Please refer to the jumper map on the unit itself or to the documentation that accompanies the unit for the proper jumper to set.

The second device is set to 'Slave', also by means of a jumper.

Older units have a special setting when a slave drive is attached. This setting, commonly known as 'Master With Slave Present', is set by means of a jumper. Most newer IDE units set to master will automatically be configured if a slave unit is detected.

ATAPI Bus Deficiency

The ATAPI interface is limited in comparison to the SCSI interface due to its inability to service more than one of the devices at any given time.

Specifically, it will service a command to the first device and then wait for the entire command to be completed before servicing any other commands.

In CD-R/RW applications, this situation can produce disastrous effects. This limitation can usually be overcome by devoting the computer to the CD-R/RW application while a write operation is being performed. In essence, when using MasterISO with an ATAPI device, it is recommended that the user not use any other software that will access the IDE bus.

File System Specifications

ISO 9660 Naming Conventions

The ISO 9660 specification is separated into two distinct naming conventions known as levels. Level 1 is aimed primarily at the MS-DOS platform since the specifications are very close to that of the MS-DOS 8.3 format. Level 2 permits longer file names and is mostly used with Amiga and Unix-based systems. It is commonly referred to as 'ISO long file names'.

File And Directory Name Specifications

ISO 9660 Level 1

The ISO 9660 Level 1 naming convention places restrictive limitations on the characters and naming rules used for both file and directory names.

For directory names, the rules are:

- may contain only d-characters;
- the length may not exceed 8 characters.

For file names, the rules are:

- may contain only d-characters;
- may contain two parts
- a name part that may not exceed 8 characters and an extension part that may not exceed 3 characters. These two parts will be separated by a period '.'.

For more information on d-characters, please refer to the section on ISO 9660 Character Sets in the Appendix.

Within MasterISO, we have omitted the specification that states that all file names shall contain the separator after the name part, whether an extension exists or not. On the Amiga platform, enforcing this specification would be problematic, since the concept of a filename extension is not enforced by the

AmigaOS. After validating with MasterISO, most file names would have a trailing period appended to them. For example, c:list would be transformed into c:list.

ISO 9660 Level 2

The ISO 9660 Level 2 naming convention places more relaxed limitations on the characters and naming rules used for both file and directory names.

For directory names, the rules are:

- may contain only d-characters;
- the length may not exceed 31 characters.

For file names, the rules are:

- may contain only d-characters
- may contain two parts
- a name part and an extension part. These two parts will be separated by a period '.'. The length of the name part and extension part may not exceed 30 characters.

For more information on d-characters, please refer to the section on ISO 9660 Character Sets in the Appendix.

Within MasterISO, we have omitted the specification that states that all file names shall contain the separator after the name part, whether an extension exists or not. On the Amiga platform, enforcing this specification would be problematic since the concept of a filename extension is not enforced by the AmigaOS. After validating with MasterISO, most file names would have a trailing period appended to them. For example, c:list would be transformed into c:list.

Directory Structure Specifications

In each of the two levels, the ISO 9660 specification permits a maximum of 8 levels of nested sub directories.

Rock Ridge Naming Conventions

The Rock Ridge Extension Protocol builds upon the existing ISO 9660 specification and allows for the existence of an alternate naming space for files and directories. In general, for every Rock Ridge file and directory name, there exists a corresponding ISO 9660 directory or file name. Rock Ridge extensions are built upon the ISO 9660 layer.

The Rock Ridge volume simply enhances the existing ISO 9660 volume. For example, the user can specify a long file name, add a file comment, etc. The purpose is not to create an entirely separate and distinct volume.

File And Directory Name Specifications

The rules for Rock Ridge file and directory names are as follows:

- all characters are valid;
- file name length may not exceed 251 characters;
- directory name length may not exceed 251 characters;
- sub directories have no limit on the nesting count;
- support for file comments;
- support for file protection bits.

Directory Structure Specifications

The Rock Ridge protocol's maximum allowable levels within the directory structure is limited to the length of the media itself. In other words, the user can have an unlimited number of directory levels. The limitation is the length of the blank media.

Joliet Naming Conventions

The Joliet specification was written by Microsoft and is used primarily on Windows 95 based machines. The Joliet file names are created as a totally separate volume on the CD-ROM disc, independent of the ISO 9660 and Rock Ridge volumes. Joliet relaxes many of the ISO 9660's restrictive naming rules.

File And Directory Name Specifications

The rules for Joliet file and directory names are as follows:

- all characters are valid, except for:
 - control characters from 0x00 to 0x1f
 - */:;? \
- length may not exceed 64 characters
- the length of the entire path, including all directory names, separators and the filename, may not exceed 120 characters.

Directory Structure Specifications

The Joliet specification's maximum allowable levels within the directory structure is limited to the length of the path itself. In other words, the user can have an unlimited number of directory levels provided the overall length of the directory path does not exceed 120 characters.

ISO 9660 Character Sets

The ISO 9660 specification contains two permitted character sets.

These two sets are known as the a-character set and the d-character set.

The a-character set is defined as a subset of the ASCII character set. A-characters are used to specify the alternative items in the primary volume descriptor, such as Publisher. This set is defined as:

Space	0	@	P	`	p
!	1	A	Q	a	q
"	2	B	R	b	r
#	3	C	S	c	s
~	4	D	T	d	t
%	5	E	U	e	u
&	6	F	V	f	v
	7	G	W	g	w
(	8	H	X	h	x
)	9	I	Y	i	y
*	:	J	Z	j	z
+	;	K	[	k	{
,	<	L	\	l	
-	=	M	]	m	}
.	>	N	^	n	
/	?	O	_	o	

The a-characters are those which are not shaded.

The d-character set is defined as a subset of the ASCII character set.
D-characters are used to define file names, directory names and certain other identifiers such as the volume name. This set is defined as:

Space	0	@	P	`	p
!	1	A	Q	a	q
"	2	B	R	b	r
#	3	C	S	c	s
~	4	D	T	d	t
%	5	E	U	e	u
&	6	F	V	f	v
	7	G	W	g	w
(	8	H	X	h	x
)	9	I	Y	I	y
*	:	J	Z	j	z
+	;	K	[	k	{
,	<	L	\	l	
-	=	M	]	m	}
.	>	N	^	n	
/	?	O	_	o	

The d-characters are those which are not shaded.

The ISO 9660 specification allows for only two type of separators to be used in file names. They are listed below:

- SEPARATOR 1 - .
- SEPARATOR 2 - ;

CDDA Data Specifications

The audio data on a compact disc, also known as Compact Disc Digital Audio (CDDA), is stored as 588 pairs of 16 bit stereo data sampled at 44 100 Hz per sector. Therefore, one sector, or frame, of audio data is equal to 1/75th of a second.

The CDDA data is written in pairs, with the left channel preceding the right channel.

The format of the audio will be as such:

Sample Pair #	Channel
0	left
0	right
1	left
1	right
2	left ...
...	

Since these samples are stored in 16 bits, the byte order of the sample must be given special consideration. The data is expected to be in either least significant byte first or most significant byte first. Determination of which format to use is based on the users particular CD-R/RW drive model. All drive specific parameters can be found in the Addendum directory in the MasterISO_v2 directory.

For an arbitrary audio sample of \$56fa, the most significant byte ordering would store the data as \$56 followed by \$fa. Least significant byte ordering would store the data as \$fa followed by \$56.

Sector Formats

The following section explains the data layout for each sector type available to the user in MasterISO v2. The sector type used is dependant on the required project's specifications and the user's preference.

Audio Sector Type

Audio data can only be stored in one format. The audio sector type contains 2352 bytes of 16 bit audio, sampled at 44100 Hz. The byte ordering is dependent on the drive model.

The user simply supplies MasterISO with the audio data. Depending on the project and added file type, MasterISO may do converting, byte ordering and resampling if needed.

Data Sector Types

Data can be stored using many different sector types. Most users utilize the CD-ROM Mode 1 sector type only. This is the most common sector type used when storing regular data. Most commercially available CDs use this sector type.

With CD-ROM Mode 1, the user simply supplies MasterISO with the data to be written to the disc. Any additional items required for the CD are done automatically by MasterISO.

The remaining data sector types should be used by advanced users **ONLY**. All of the information listed for the respective sector type must be supplied by the user. If any of the supplied information is incorrect or is missing, the created disc may be unusable.

The data sector types available in MasterISO and their formats (in data sequential order) are listed below:

CD-ROM Mode 1

2048 bytes of user data.

CD-ROM Mode 1 Raw

12 bytes of sync

4 bytes of header

2048 bytes of user data

288 bytes of EDC and ECC

CD-ROM Mode 2

2336 bytes of user data.

CD-ROM Mode 2 Raw

12 bytes of sync

4 bytes of header

2336 bytes of user data

XA Mode 2 Form 1

2048 bytes of user data

XA Mode 2 Form 2

2324 bytes of user data

XA Mode 2 Mixed form

8 bytes sub header

either: 2048 bytes of Form 1 user data
276 bytes of padding

or: 2324 bytes of Form 2 user data

XA Mode 2 Raw

12 bytes of sync

4 bytes of header

8 bytes sub header

either: 2048 bytes of Form 1 user data
280 bytes of EDC and ECC

or: 2324 bytes of Form 2 user data
4 bytes of EDC

Data Buffering

The buffering of data to a CD-R/RW drive is a vital component of the mastering process. All CD-R/RW drives require that the data be streamed to the drive in one continuous flow. If this stream is interrupted, the potential for the drive to essentially ‘run-out’ of data is very high. This may result in an unusable disc.

While it is possible to salvage the unwritten portions of an unusable CD-R disc, this practice is frowned upon by the leading CD-R/RW manufacturers. As a result, MasterISO has no provisions for salvaging a disc that has been subjected to an unsuccessful write session.

For the reasons listed above, data is usually buffered before it is sent to the drive. This buffering allows the software to account for small changes in the data stream due to any number of external factors.

Most CD-R/RW mastering software packages rely heavily on the internal memory buffers of the CD-R/RW drive itself. Most CD-R/RW drives contain 0.5, 1.0 or 2.0 MB of internal buffer memory. While this may seem to be sufficient for most mastering requirements, many times it is not. It is for this reason that MasterISO uses system memory for its unique proprietary buffering system.

Saved Settings Items

The following items are saved when using the Save Settings option under the Settings menu.

If a particular option does not pertain to a specific project type, it is set internally by MasterISO.

The most recent Save Settings file is loaded each time MasterISO is executed.

Here are the saved items:

General Options

- Screen Blanker Warning
- Display Full Path Names
- Index Points Use Absolute Timing
- Disable All Requesters
- Always Show Rock Ridge And Joliet Names

Write Options

- Audible Completion Indicators
- Skip Over Read Errors
- Simulated Write Process
- Eject After Write
- Write Speed
- Write Format
- Finalize
- TOC Type
- Number Of Copies

Buffer Options

- Buffer Type (Optimum Configuration or Custom)
- Percent Preloaded
- Buffer Size
- Number Of Buffers

CD-R/RW Drive Settings

- SCSI Board Number
- SCSI Unit Number
- SCSI LUN Number

Screen Settings

- Screen Mode

Project Settings

- Project Type

Window Settings

- File Manager window size and position
- Audio Manager window size and position
- Write Manager window size and position