

**MRBackup**

<b>COLLABORATORS</b>
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	<i>TITLE :</i> MRBackup		
<i>ACTION</i>	<i>NAME</i>	<i>DATE</i>	<i>SIGNATURE</i>
WRITTEN BY		January 8, 2025	

<b>REVISION HISTORY</b>
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NUMBER	DATE	DESCRIPTION	NAME

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## Chapter 1

# MRBackup

### 1.1 Backup Operations

The data and programs on your Amiga might well be worth more to you (in terms of cost to replace) than the machine itself. Hard disks fail. Systems "crash", causing irrecoverable damage to hard disk partitions. Backups are insurance against such probabilities. However, they often don't get done. The excuses are many and varied. "I'm too busy", "I meant to, but...", "I don't have enough floppy disks", etc. We are all guilty to varying degrees. Even the author of this backup program has been caught "with his pants down" on a couple of occasions (excuse #1). Needless to say, backups are not a fun way to use your Amiga and they require discipline to be done on a regular and effective basis. MRBackup goes a long way toward making this chore more pleasant.

MRBackup preserves all file attributes when backing up and restoring files. The file protection word (HSPARWED), comment and modification date are all maintained. This is true for all backup modes.

The Backup Modes

Backup Schemes

The Backup Process

The Backup File Selector

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ALink "MRBackup:Help/MRB_FileSelector.guide/main" }
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Go to Top Level

### 1.2 the backup modes

In a previous section, we touched briefly on the fact that MRBackup supports three backup modes:

AmigaDOS Backup Mode

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Fast Disk Backup Mode

SCSI Tape Backup Mode

MRBackup provides you the flexibility to choose the mode that is best suited to your needs (or budget!).

### 1.3 amigados backup mode

The AmigaDOS backup mode provides full compatibility with AmigaDOS and its tool set. That is, you can manipulate the files in an AmigaDOS save-set with the standard Amiga tools such as DIR, LIST, COPY, TYPE, etc. When backing up to diskette, MRBackup creates disk volumes which are accessible to the AmigaDOS filesystem. MRBackup also employs no hardware-specific "tricks" in this mode. If the disk hardware is supported by standard Amiga software, MRBackup will handle it (if you find an exception to this, please let us know!).

One important item to note is that you are not required to backup files to floppy diskettes. If you are fortunate enough to have a "spare" hard disk, a hard disk with removable media, lots of extra space or if you are connected to a network file server, you can use any of these for your backup destination. You can also perform backups from one directory to another.

### 1.4 fast disk backup mode

The Amiga's original filesystem, while providing a great deal of recoverability, suffers from poor performance. This is especially notable when accessing floppy disks. This can be overcome somewhat by adding more disk buffers via the AddBuffers command or by using a floppy disk accelerator (caching program) such as ASDG's Facc-II. The new, improved Fast File System (FFS) enhances performance a great deal but is still slow when working with floppy disks.

MRBackup addresses this problem by providing a new diskette format. This format is called MRBackup Fast Disk Format (real catchy name, eh?). In a sense, this format is analagous to a streaming tape drive. Floppy disk head movement is minimized. The diskette is formatted as data is written to it and slightly more data can be written to the diskette (without using any compression techniques). Also, files are automatically split across volumes in Fast Disk mode, meaning that there is no unused space on your backup diskettes. At the same time, a high degree of integrity and recoverability has been designed in. Though this format cannot be read by the AmigaDOS filesystem(s), you will most likely prefer to use it for most general-purpose backups because it is so fast.

Another interesting feature of Fast Disk mode is that you can BACKUP TO A FILE OR ANY STREAM-ORIENTED DEVICE! This capability, in essence, simulates a very large capacity floppy diskette. You can then manage this backup

file as a single entity. If you're fortunate enough to be connected to a networked file server with lots of available disk space, the advantages are tremendous! You can perform a full backup without changing disks, saving your backups in remote files while fully preserving the AmigaDOS attributes of the original files.

## 1.5 scsi tape backup mode

As you might have guessed, this mode supports a streaming tape drive with a SCSI (Small Computer Systems Interface) interface. It is essentially the same as Fast Disk mode, except that additional support and modified error-handling behavior are invoked for the tape drive. Refer to the section titled @{"MRBackup SCSI Tape Support" ALink "MRBackup:Help/MRB\_SCsITape. ← guide/main" } for specific information.

## 1.6 backup schemes

You may not have even thought of it, but there are several approaches to backing up your system. Each has its advantages and disadvantages. You may use one or more of them, depending upon your use of the Amiga. MRBackup is so flexible that you may come up with several other approaches not detailed here.

The Full Backup

The Incremental Backup

The Project Backup

## 1.7 the full backup

A full backup is the most desirable method if time and available backup media are not limiting factors. A complete "snapshot" of your hard disk partition(s) is taken, fully reflecting the state of your machine at that point in time. If you are using floppy disks to backup a large partition, however, you may find this approach quite burdensome. Given MRBackup's flexibility, however, you will quite likely find a mix of backup techniques that satisfy your needs.

Another thing to remember is that much of your commercial software already has a backup – the original disk (or the backup you made of the original disk if you followed typical vendor's instructions). If you have lots of commercial software installed on your hard disk, you should probably consider excluding the files which don't change (programs, examples, etc.) via the backup filter. This will dramatically cut down on the time and media required for a "full" backup.

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## 1.8 the incremental backup

Incremental backups provide a reasonable alternative to the full backup if the proper procedures are followed. The incremental backup consists of a full system backup followed by one or more partial backups. The partial backups record only the files that have changed since the full backup was performed.

Incremental Backup Based On File Modification Date

Link "Incremental Backup Based On File Modification Date" }

Incremental Backup Based on Archive Bit Setting

Link "Incremental Backup Based on Archive Bit Setting" }

## 1.9 incremental backup based on file modification date

Each time a file is written (modified), the AmigaDOS filesystem sets the file's modification date to the current date and time, as set in the Amiga's time-of-day clock. MRBackup can take advantage of this fact by comparing file modification dates against the Test Date setting in the main window. Only files changed on or after the Test Date are selected for backup.

A typical backup scenario for a date-sensitive backup might be:

- Perform a full system backup to backup media set 1.
- Perform incremental backup to backup media set 2.
- Perform incremental backup to backup media set "n".
- Repeat the sequence starting with step 1.

In the sequence above, there is an implied delay between steps. Depending upon your requirements and confidence level (degree of self-discipline?), the delay may range from several hours to a week or more (not much more!). You might choose a one month cycle (i.e. step 1 is repeated on the first Saturday of each month). Notice that multiple media sets (tapes, floppies, files, etc.) are required. When performing incremental backups, you must not destroy your previous save-set(s).

There is some room for variation here, however. You might want to maintain just two sets of backup media. The first set would contain the full backup, while the second set would contain all files which changed since the full backup was done. In this case, each time you perform the incremental backup, more backup media will be required to hold the additional files, assuming a dynamic system where files are being changed on a daily basis.

## 1.10 incremental backup based on archive bit setting

In addition to maintaining the file modification date, AmigaDOS also maintains an archive indicator bit in each file protection word. Specifically, AmigaDOS clears the archive bit whenever a file is modified. Backup software, such as MRBackup, can set this bit when a file has been successfully backed up. When the Test Archive Bits gadget is set to ON, only files with cleared archive bits will be backed up. If the Set Archive Bits gadget is also on, MRBackup will set the archive bits of all files which have been backed up.

The sequence to observe when performing the archive bit backup is similar to that used for the date sensitive backup. However, you **MUST** use a different set of backup media for each unique step.

As an aside, MRBackup does not prevent you from doing a backup which combines date testing with archive bit testing. However, it is advised that you choose one method or the other for desirable results.

## 1.11 the project backup

If you're a developer, you may be concentrating all of your work in a specific directory hierarchy. Likewise, if you're a graphics artist, you may have a specific area in which you work. In these instances, it is recommended that you do daily "full" backups of these selected areas. This can be accomplished by setting the Home Path to the name of the topmost directory for the project area and setting the Test Date gadget to January 1, 1978 and setting the Test Archive Bits gadget to "No".

Also, you may wish to define specific backup and compression filters for each special project area.

## 1.12 the backup process

Once you're sure that all save-settings are correct, you may begin the backup process. This is done by selecting the Backup command from the Project menu or by typing the keyboard shortcut, Right-Amiga + B. MRBackup's main window will disappear and a smaller Status Display window will appear. This window informs you of the progress of the backup. As the backup proceeds, pop-up requesters will instruct you to insert/remove media as necessary as well as alert you to other bits of information, error conditions, etc.

The first backup step performed is a scan of all files specified by the Home Path. While MRBackup is scanning, the Current File or Directory gadget in the Status Display window will display the name of the directory being scanned. Once the scan is complete, MRBackup will present its file selector. The file selector displays the list of files that were considered eligible for backup, according to the backup parameters you have chosen. It then gives you the option to omit certain files (or groups of files) from this list. See the section entitled The MRBackup File Selector ALink "MRBackup:Help/MRB\_FileSelector.guide/main" } for details on its operation.

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Assuming that you completed the file selection process by clicking the OK button in the file selector window, MRBackup will proceed to backup your files. If you have selected either AmigaDOS or Fast Disk backup mode, you will be prompted to insert/remove diskettes as MRBackup requires your assistance. MRBackup does not currently provide support for the Amiga Floppy Disk Carousel since, according to our knowledge, it doesn't exist!

When the backup is complete, make a quick check of the Errors gadget in the Status Display window. If it is non-zero, it would be a good idea to check the backup log to determine the nature of the errors before assuming that the save-set is acceptable.