MRBackup

COLLABORATORS

	TITLE : MRBackup		
ACTION	*NAME*	*DATE*	*SIGNATURE*
WRITTEN BY		October 20, 2024	

REVISION HISTORY

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 occaisions (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
        ALink "MRBackup:Help/MRB_FileSelector.guide/main" }

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1.2   the backup modes

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

    AmigaDOS Backup Mode

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 essense, 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.

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.

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 acceptible.