

## Using Floppy disks with Sun Workstations

### Preparing a 3.5" disk for usage:

On the Suns, it is not possible to put a low density format onto a high density floppy diskette. High density diskettes can be recognized by the high density detect hole in the lower right corner of the diskette, opposite the write protect hole in the lower left corner. Bad sector mapping is not supported by Sun on floppy diskettes. Therefore, a diskette is unusable if it has a bad sector.

It is recommended to use IBM formatted disks to transfer files to and from the Suns by means of mtools. "fdformat" followed by "mformat" will format floppies on the Suns.

You can use mtools to process MS-DOS diskettes. Mtools are accessed with DOS-like UNIX commands (eg: "mdir" is DIR, "mcopy" is COPY, "mmd" is MD, etc.) In general, the UNIX command is the DOS command preceded by the letter m. When you are finished, to remove the diskette from the drive enter "eject floppy". To see the various mtools commands type "man mtools" and then, for example, "man mwrite" to look at the mwrite command.

If you're working with a DOS text file (ie, an ascii file), once you have your DOS files on the UNIX you still have work to do unless you used the mtool "mread" or "mcopy" with the "-t" option to strip out the extra ^M's. Alternatively you could still treat the file as if it were a binary file and used the "dos2unix" command to strip the ^M's. Another UNIX command, "unix2dos" puts them back in.

Another problem with converting DOS files to UNIX and vice versa is that in DOS you are limited to 8 character names followed by 3 character extensions (total of 12 bytes counting the dot). Most UNIXes (including ours) have no such restrictions. There is no easy solution to this problem. Be warned that the various UNIX-to-DOS handlers have their own way of dealing with this problem (eg: truncating to 8 bytes, inserting tildes). I recommend sticking to DOS's naming conventions, even shell archiving your UNIX files first. The current version of **mtools** does support long filenames for windowsNT/95.

## MTOOLS

Mtools - a collection of tools for manipulating MSDOS files. Each program attempts to emulate the MSDOS equivalent command as closely as practical.

MSDOS filenames are optionally composed of a drive letter followed by a colon, a subdirectory, and a filename. Subdirectory names can use either the '/' or '\' separator. The use of the '\' separator or wildcards will require the names to be enclosed in quotes to protect them from the shell.

The regular expression "pattern matching" routines

follow the Unix-style rules. For example, "\*" matches all MSDOS files in lieu of \*.\*'. The archive, hidden, read-only and system attribute bits are ignored during pattern matching.

Not all Unix filenames are appropriate in the MSDOS world. The Mtools commands may have to alter Unix names to fit the MSDOS filename restrictions.

All options use the '-' (minus) flag, not '/' as you'd expect in MSDOS.

All the Mtools commands return 0 on success, 1 on utter failure, or 2 on partial failure.

mattrib	change MSDOS file attribute flags
mcd	change MSDOS directory
mcopy	copy MSDOS files to/from Unix
mdel	delete an MSDOS file
mdir	display an MSDOS directory
mformat	add an MSDOS filesystem to a low-level formatted diskette
mlabel	make an MSDOS volume label
mmd	make an MSDOS subdirectory
mrd	remove an MSDOS subdirectory
mread	low level read (copy) an MSDOS file to Unix
mren	rename an existing MSDOS file
mtype	display contents of an MSDOS file
mwrite	low level write (copy) a Unix file to MSDOS

### MCD

mcd change MSDOS directory

Syntax: mcd [ msdosdirectory ]

### MDIR

mdir display an MSDOS directory

Mdir will allow the following command line option:

w Wide output. This option will print the filenames across the page without displaying the file size or creation date. There is no /P (pause) option.

### MMD

mmd make an MSDOS subdirectory

Mmd will allow the following command line option:

v Verbose mode. Display the new directory name if the name supplied is invalid.

An error occurs if the directory already exists.

Allows multiple arguments, which does not follow the MSDOS convention.

### MREAD

mread low level read (copy) an MSDOS file to Unix

Syntax: mread [ -tnm ] msdosfile unixfile

In the first form, mread copies the specified MSDOS file to the named Unix file. The second form of the command copies

multiple MSDOS files to the named Unix directory.

Mread will allow the following command line options:

t Text file transfer. Mread will translate incoming carriage return/line feeds to line feeds.

n No warning. Mread will not warn the user when overwriting an existing file.

m Preserve the file modification times.

If the target file already exists, and the -n option is not in effect, mread asks whether or not to overwrite the file.

Unlike MSDOS, the destination directory may not be omitted.

## MWRITE

mwrite low level write (copy) a Unix file to MSDOS

Syntax: mwrite [ -tnvm ] unixfile msdosfile

In the first form, mwrite copies the specified Unix file to the named MSDOS file. The second form of the command copies multiple Unix files to the named MSDOS directory.

Mwrite will allow the following command line options:

t Text file transfer. Mwrite will translate incoming line feeds to carriage return/line feeds.

n No warning. Mwrite will not warn the user when overwriting an existing file.

v Verbose mode. Display the new filename if the Unix filename requires conversion.

m Preserve the file modification times.

If the target file already exists, and the -n option is not in effect, mwrite asks whether or not to overwrite the file.

Unlike MSDOS, the destination directory may not be omitted.

## MFORMAT

mformat add an MSDOS filesystem to a low-level formatted diskette.

Syntax

mformat [ -t tracks ] [ -h heads ] [ -s sectors ] [ -l volume label ] drive:

Mformat adds a minimal MSDOS filesystem (boot sector, FAT, and root directory) to a diskette that has already been formatted by a Unix low-level format (fdformat).

The follow options are supported:

t The number of tracks (not cylinders).

h The number of heads (sides).

s The number of sectors per track.

l An optional volume label.

To format a diskette at a density other than the default, you must supply (at least) those command line parameters that are different from the default.

Doesn't detect (or record) bad block information.

## MLABEL

mlabel make an MSDOS volume label

Syntax mlabel [ -v ] drive:

Mlabel displays the current volume label, if present, and prompts the user for a new volume label. To delete an existing volume label, press return at the prompt.

Mlabel will allow the following command line option:

v Verbose mode. Display the new volume label

if the label supplied is invalid.

## MREN

mren rename an existing MSDOS file

Syntax: mren [ -v ] sourcefile targetfile

Mren renames an existing file on an MSDOS filesystem.

Mren will allow the following command line option:

v Verbose mode. Display the new filename if

the name supplied is invalid.

Mren may be used to rename directories.

Unlike the MSDOS version of REN, mren can be used to rename directories.

## MATTRIB

mattrib - change MSDOS file attribute flags

Syntax

mattrib [ -a|+a ] [ -h|+h ] [ -r|+r ] [ -s|+s ] msdosfile [ msdosfiles... ]

Mattrib will add attribute flags to an MSDOS file (with the '+' operator) or remove attribute flags (with the '-' operator).

Mattrib will allow the following command line options:

a Archive bit. Used by some backup programs to indicate a new file.

r Read-only bit. Used to indicate a read-only file. Files with this bit set cannot be erased by DEL. However, mdel is more cunning.

s System bit. Used by MSDOS to indicate a operating system file.

h Hidden bit. Used to make files hidden from DIR. However, mdir is more cunning.

Most MSDOS versions of ATTRIB don't allow this many options.

## MRD

mr - remove an MSDOS subdirectory Syntax

mr msdosdirectory [ msdosdirectories... ]

Mr removes a directory from an MSDOS filesystem.

An error occurs if the directory is not empty.

Allows multiple arguments, which does not follow the MSDOS convention.

## MDEL

mdel delete an MSDOS file

Syntax mdel [ -v ] msdosfile [ msdosfiles... ]

Mdel deletes a file on an MSDOS filesystem.

Mdel will allow the following command line option:

**v** Verbose mode. Echo the filenames as they are processed.

Mdel will ask for verification prior to removing a read-only file.

Allows multiple arguments, which does not follow the MSDOS convention.

**bar** Sun has dropped bar in Solaris2; "cpio -i -H bar -I /dev/diskette filename pattern " will extract files from a bar diskette.

gtar works similarly to tar with a few extensions.

**-z** includes gzip compression or decompression

**gtar tzvf abc.tar.gz** will give a long listing of all the files and directories in this compressed tar file.

**gtar xzvf abc.tar.gz** will create the directory structure contained in abc.tar.

**-M** Multi- volume archives

There is no man page for gtar , but gtar --help | less gives a command synopsis.

**info tar** shows an online gtar manual.

## Tar Tape Archive

### tar [c|t|x] vf archive file .....

tar archives and extracts files to and from a single file called a tarfile . A tarfile was usually a magnetic tape, but it can be any file, usually with a .tar extension. Compressed tar files ( \*.tar.gz or \*.tar.Z ) are commonly used to transfer files between machines. tar's actions are controlled by the key argument. The key is a string of characters containing exactly one function letter (c, t, or x) and one or more function modifiers, depending on the function letter used. Other arguments to the command are filenames (or directory names) specifying which files are to be archived or extracted. In all cases, appearance of a directory name refers to the files and (recursively) subdirectories of that directory.

The function portion of the key is specified by one of the following letters:

**c** Create. Writing begins at the beginning of the tarfile, instead of at the end.

**t** Table of Contents. The names of the specified files are listed each time they occur on the tarfile. If no filenames arguments are given, all the names on the tarfile are listed. With the **v** function modifier, additional information for the specified files is displayed. The listing is similar to the format produced by the **ls -l** command

**x** Extract, or restore. The named filenames are extracted from the tarfile and written to the current directory. If a named file matches a directory whose contents had been written onto the tarfile, this directory is (recursively) extracted. Use the file or directory's relative path when appropriate, or tar will not find a match. The owner, modification time, and mode are restored (if possible); otherwise, to restore owner, you must be the superuser. If no filename argument is given, the entire content of the tarfile is extracted.

## gtar Gnu Tar