

## DragonMMC Quick Reference Guide

### Commands

#### **CAT** *"pattern"*

Lists the files in the current directory of the memory card that match the pattern. If no pattern is given, then all files are displayed.

#### **CATP** *"pattern"*

Lists the files in the current directory of the memory card that match the pattern. When no pattern is given, then all files are displayed. If the number of files exceeds what can be displayed on screen the results will be paged.

#### **CWD** *"dirname"*

Changes the current directory on the memory card to the specified directory.

#### **CWDS** *"dirname"*

Sets the directory where snapshots are saved. Dragon and CoCos have separate folders and must be set separately on each computer.

#### **HELP / HELPX**

Displays DMMC version information.

#### **MCARTLOAD** *"filename"*

#### **MCARTLOADA** *"filename"*

Loads the specified ROM file into the MMC card ram in the \$C000-\$FFEF area. Note: doing so will overwrite the MMC rom so MMC functions will no longer be available. MCARTLOADA allows the use of auto-starting cartridge images.

#### **MCAS**

Places the machine into cassette emulation mode, allows the use of emulator .CAS files with CLOAD, CSAVE etc.

#### **MDELETE** *"filename"*

Deletes the specified file from the current directory of the memory card, you will be prompted before deletion.

#### **MDISK ON**

Turns on disk emulation for the current platform and perform a cold reset.

#### **MDISK OFF**

Turns off disk emulation for the current platform and perform a cold reset.

**MDISKC** *driveno*, "*filename*"

Creates a blank disk image with the *filename* in drive *driveno* (1-4 for Dragon, 0-3 for CoCo). The disk image will require formatting before use (i.e. DSKINIT or DSKINI).

**MDISKI** *driveno*, "*filename*"

Mount disk image *filename* in drive *driveno* (1-4 for Dragon, 0-3 for CoCo).

**MDISKL**

List mounted disk images.

**MDISKO** *driveno*

Dismount disk image from *driveno* (1-4 for Dragon, 0-3 for CoCo).

**MFILEC** "*file1*", "*file2*"

Copy *file1* to *file2*.

**MFILER** "*file1*", "*file2*"

Rename (or move) *file1* to *file2*.

**MMIRROR** "*filename*"

**MMIRRORA** "*filename*"

Mirrors tape data as it's loaded into the computer to a CAS format file. Type CLOAD or CLOADM to load a program, once loaded, press the snapshot button to finish the process.

**MKDIR** "*dirname*"

Creates the specified directory, on the memory card.

**MLOAD** "*filename*"

**MLOAD** "*filename*", *location*

**MLOADA** "*filename*"

**MLOADC** "*filename*"

Load the previously saved BASIC or machine code program from the memory card. MLOADA will automatically RUN/Execute the program once loaded. MLOADC operates as MLOADA but first clears any active program and returns the machine to its power on state

**MLOADS** "*filename*"

Loads a previously saved snapshot from the memory card.

**MMOUNTC**

Closes the currently open cassette image file.

**MMOUNTR** *"casfile"*

Mounts a CAS file in read only mode.

**MMOUNTW** *"casfile"*

Creates and mounts a CAS file in write mode.

**MSAVE** *"filename"*

**MSAVEM** *"filename", start, end, entry*

Save the BASIC or machine code program to the memory card. Note: the filename is used as specified and no extension is added.

**MSETCFG** *flags*

**MSETCFG** *flags , <platform>*

Set the configuration flags for the interface, value should be a bitwise or of the following values. Valid *platform* is:-

- |   |        |
|---|--------|
| 0 | System |
| 1 | Dragon |
| 2 | CoCo   |

If no platform is specified then the current platform (Dragon or CoCo) is assumed.

Valid *flags* for the System (DMMC) platform:-

Hex	Dec	Purpose
&H80	128	Enable firmware updating from the memory card the next time it is rebooted. **
&H04	4	Enable auto .BAK creation when using MSAVE
&H02	2	Disable the display of files beginning with ‘ . _ ’ (dot)(underscore) or ‘ _ ’ (underscore). This allows hiding of Apple Mac meta data files.
&H01	1	Enable debugging information to be sent to the AVR’s TTL serial port.

\*\* The firmware update flag is reset after a successful firmware update.

Valid *flags* for the Dragon and CoCo platforms:-

Hex	Dec	Purpose
&H40	64	Enable execution of the “AUTOEXEC” file, this should be a BASIC program saved with MSAVE
&H20	32	Enable DragonDOS (Dragon) or RSDOS (CoCo) emulation using disk images. Also set by MDISK ON / MDISK OFF
&H10	16	Enable the display of real time clock data and time at boot up.
&H08	8	Enable the display of the firmware compile date at start-up.

**MSETCFG***C flags*

**MSETCFG***C flags , <platform>*

MSETCFG will clear any bit that is set in the config byte, and leave alone any that is clear.

**MSETCFG***S flags*

**MSETCFG***S flags , <platform>*

MSETCFG will set any bit that is set in the config byte, and leave alone any that is clear.

**MSETDT** *"YYYY-MM-DD hh:mm:ss"*

Set the real time clock date, used for date stamping files.

Format **MUST** be:-

<i>YYYY</i>	Year 2000-2099
<i>MM</i>	Month 01-12
<i>DD</i>	Day of month 01-31
<i>hh</i>	Hour in 24 hour format 00-23
<i>mm</i>	Minutes 00-59
<i>ss</i>	Seconds 00-59

Note, that you must use a leading zero for values less than 10!

**MTAPERUN** *"filename"*

Turns on tape emulation, mounts the specified file as read only and loads the first file from the emulated tape. The first file loaded is automatically executed.

**RETOKC**

Re-tokenize the BASIC program in memory from Dragon to CoCo.

**RETOKD**

Re-tokenize the BASIC program in memory from CoCo to Dragon.

**REWIND**

Rewinds the cassette image file (.CAS) loaded into the virtual DMMC tape recorder.

## **Functions**

Note: Functions ending in \$ return a string, all others return an integer.

### **CFTYPE**

Get the file type of the next file on an emulated cassette.

0 = BASIC, 1 = ASCII data/BASIC, 2 = Binary data or Machine Code, 255 = Invalid

### **CFTYPEE**

Get the EXEC address of the next file on an emulated cassette.

### **CFTYPEL**

Get the load address of the next file on an emulated cassette.

### **FINDFIRST\$** *"pattern"*

Finds the file first based on the pattern, subsequent calls should be made to FINDNEXT\$

Returns an empty string if no files are found.

### **FINDNEXT\$**

Finds the next file in the sequence started by FINDFIRST\$

Returns an empty string when no more files are found.

### **MGETCFG**

**MGETCFG** (*<platform>*)

Get the configuration flags, see MSETCFG for details, if no platform is supplied then the current platform (Dragon or CoCo) is assumed. See MSETCFG for details of the *flags* and *platform*. **MGETCFG(255)** can be used to find the current computer, 1=Dragon and 2=CoCo.

### **MGETDT\$**

Returns the current real time clock time, in the same format as MSETDT.

### **MGETINAME\$** *DriveID*

Returns the filename of the disk image mounted on the specified drive id, returns an empty string if no disk is mounted on the specified drive.

### **SD\$**

Returns the directory snapshot files are saved into. See CWDS.

### **WD\$**

Returns the current directory name.

## **Other Useful Information**

### **DMMC Explorer & Further Information**

To simplify the use of the DMMC, a file 'Explorer' is available, which simplifies loading of programs and making config setting changes. The explorer, along with a full manual and firmware updates can be found at the following address:

[http://www.archive.worldofdragon.org/index.php?title=DragonMMC\\_SDCard](http://www.archive.worldofdragon.org/index.php?title=DragonMMC_SDCard)

The designer of DragonMMC can be also contacted by email at:

dragonmmc AT ramoth DOT org DOT uk

(replace AT with @ and DOT with . remove all spaces!)

### **AUTOEXEC**

The DMMC allows automatic execution of a program on a cold boot. The AUTOEXEC file should be a BASIC program in the root directory of the memory card saved with MSAVE. To run the AUTOEXEC program at boot time, ensure the option is enabled with MSETCFG. There are separate AUTOEXEC files for Dragon and CoCo, this allows the same card to be used in both computers. Dragon has an AUTOEXEC file extension of .DGN and CoCo .CCO.

To bypass the running of the AUTOEXEC, press the space bar during the cold boot.

### **SETTINGS**

The DMMC saves the currently mounted virtual disks and the snapshot folder to the binary SETTINGS file in the root directory of the memory card. There are separate SETTINGS files for Dragon and CoCo, this allows the same card to be used in both computers. Dragon has a SETTINGS file extension of .DGN and CoCo .CCO.

### **Long File Names**

Whilst the Dragon (and CoCo) is limited to short filenames (8.3 format) on the memory card, long filenames on the card will be shortened to fit the short filename scheme.

Starship Chameleon.CAS	Modern long filename
Starsh~1.CAS	Displayed as short filename on a modern computer
STARSH█1.CAS	As displayed by the CAT command
STARSH↑1.CAS	As entered from the Dragon keyboard

How this is used on the Dragon:-

```
CAT
STARSH█1.CAS
MTAPERUN "STARSH↑1.CAS"
```

Filenames containing the “^” (caret symbol) are *not* supported.

## File Extensions

Recommended file extensions to distinguish different files types:-

Extension	File Type
BAS	BASIC programs saved direct to memory card (MSAVE).
BIN	Machine Code programs/data saved direct to memory card (MSAVE).
CAS	Cassette (emulator) images.
CCO	BASIC or Machine Code programs saved direct to the card (MSAVE).
CCC	CoCo cartridge (ROM) Image.
DGN	BASIC or Machine Code programs saved direct to the card (MSAVE).
DSK	CoCo Floppy Disk Image. DSK is recommended for CoCo format disks.
ROM	Dragon cartridge (ROM) Image.
VDK	Dragon Floppy Disk Image. VDK is recommended for Dragon format disks.

## DMMC Snapshot Button

Pressing the Snapshot button on the DMMC will pause the execution of the current program and show the snapshot menu.

Key	Function
W	Warm reset, the equivalent of pressing the reset button.
C	Cold reset, equivalent to when the power is turned on.
S	Saves the current state of the computer to the filename specified, to the folder specified in SD\$ by CWDS.
L	Loads a snapshot from the folder specified in SD\$ and returns the computer to the same state that it was saved.
U	For future expansion.
X	Exits the snapshot menu, has the effect of un-pausing the computer.

## Force Cold Reset Button

When running ROM (cartridge) images, pressing the Force Cold Reset Button whilst pressing the computers reset button will perform a cold reboot without using the power switch.

## FLEX & OS9 Operating Systems

To allow booting of the FLEX operating system please download the latest FLEX unities.

At the time of writing DMMC does not support OS9.

## Notes

This quick reference covers Dragon MMC F/W V1.2 onwards.