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## 1.INTRODUCTION

The Master ROM contains a collection of powerful commands developed to enhance the ADFS sideways RAM and real-time features of the Master 128 Compact and BBC micro. The main features of the Master ROM are:-

- \* A full feature disc menu displaying all the items in the current directory. ADFS sub-directories are highlighted and may be selected by the press of a key. The menu allows files to be marked for subsequent Copying, Deletion, or Renaming, directly from the menu.
- \* A control panel which displays all the Master's preset options as well as all available ROMS. Current status settings may be saved away to disc for subsequent re-loading at any time.
- \* A wealth of new disc commands to help the user to fully exploit the power of the ADFS.
- \* A powerful printer buffer using sideways RAM in selectable banks of 16,32,48, and 64k. You can print from Wordwise, View, Basic or virtually any other software, while using the machine for any other task.
- \* A disc based diary with reminders of any date in the year. An alarm option allows the computer to sound an alarm when it is switched on at (?) or after the set date or dates.
- \* A selection of commands to implement a RAM disc using up to 64k of sideways RAM.

### Compatibility

The Master ROM is compatible with the Master 128, Master Compact, BBC model B and BBC model B+. To make full use of the Disc Menu and Disc Commands you will need an ADFS (Advanced Disc Filing System) fitted to your computer. This is supplied as standard on the Master 128 and Master Compact. but is an optional extra on the BBC Micro.

Also, BBC Micro users will require sideways RAM fitted to make use of the printer buffer and RAM disc. There are also differences in the operation of the Control Panel and Diary depending on the computer being used. These are documented in the corresponding sections of this guide. The Master ROM is

fully compatible with Acorn hard disc systems.

#### Master ROM workspace

On the Master 128 all commands except those listed below may be called from languages such as Basic, Wordwise, View and Interword without corrupting the data held in memory. If you want to use any of the following commands you should save your program or data first.

- \*DIRCOPY

- \*FCOPY

- \*FCOPYNQ

- \*FORMAT

- \*FORMATV

In addition to the above, on a BBC Micro the Disc Menu uses main memory for workspace. So before calling \*MENU please save important programs or data to disc. For further details please refer to Appendix A.

## 2. GETTING STARTED.

### Fitting the Master ROM

Your Master ROM should be plugged into any vacant sideways ROM socket in your computer or in a ROM cartridge on the Master or Compact. If you are unfamiliar with installing sideways ROMS, you should refer to your dealer.

Warning:-IT IS ABSOLUTELY ESSENTIAL TO INSERT YOUR ROM IN THE CORRECT ORIENTATION. FAILURE TO DO SO WILL DESTROY THE ROM.

If the Master ROM is plugged into the highest priority No.socket on a model B or B+ then on power-up your computer will automatically call the Disc Menu described in Section 2. This can be very useful as it gives an instant menu for the disc in the default drive.

If you are using a Master 128 you can insert the ROM into any allowable ROM socket, but still use this feature by setting your Master ROM to be the default language. This is easily achieved using the control panel described in Section 4.

If the ROM is not fitted into the highest priority socket you can check that the ROM is correctly installed by switching on the computer and typing:-

\*HELP

You should see a message similar to the following on the screen.

Master ROM 1.00

The number displayed is the version number of the ROM and may be different to that printed above. Please make a note of the version number and always refer to it in any correspondence about the product.

### Calling Master ROM Commands

A complete list of all Master ROM commands available can be displayed by typing

\*HELP MASTER-ROM

or just

\*HELP MAS.

All commands may be accessed by using star (\*) commands. This takes the form of an asterisk \* followed by the command name. and then any parameters that are required. For example:-

\*FIND utility

will find the file utility. The command may be entered in either upper or lower case letters, so the following commands are all legal, and identical in effect.

\*FIND utility

\*find utility

\*Find utility

The commands may also be abbreviated with a full stop, though at least the first three letters must be supplied. For example

\*FIN.utility

Although each command has its own unique command name, you may find that some of these clash with the names of commands in other ROMs. The Master ROM has a special feature to resolve command name clashes. If, for example, you entered the command \*FIND and found that it was intercepted by a ROM other than the Master ROM, simply preface the command name with a B (for BEEBUG). For example:-

\*BFIND utility

This will ensure that it is intercepted by the Master ROM rather than any other ROM.

#### Command Parameters.

Many of the commands require parameters to control their actions. Numeric parameters may be specified in decimal or hex if preceded by an ampersand (&). Some parameters are optional, and are enclosed in double angle brackets. For example:-

\*MAP<<drive>>

If an optional parameter is omitted from a command, then a sensible default value will automatically be used. Parameters in this manual are shown enclosed in angle brackets, the angled bracket should not actually be typed in.

Further details about the parameter used by a particular command can be found at the start of the section describing the command.

### 3. DISC MENU.

#### Overview

The Disc Menu is intended for ADFS (Advanced Disc Filing System) users and provides a menu-driven front end allowing easy movement through the disc's directories and subsequent selection of files to be CHAINED or \*RUN. A special feature is available to allow almost any type of file to be loaded such as Wordwise, View and Interword files. The menu also provides a method of marking selected files for block deleting, renaming, copying etc.

Although designed for the ADFS, the menu can be used with the normal DFS with the limitations listed at the end of this section. The description which follows is for ADFS users

#### Calling the Menu

The menu is called with the command:

\*MENU

or simply:

\*M

This displays a menu of the files in the current directory in 80 columns. This is the default display, but you may toggle between 80 and 40 column modes by pressing CTRL W (remember W for width) When the menu is subsequently called on a Master 128 the width chosen will be that previously used since this information is stored by the Master ROM in CMOS RAM.

If on calling the menu you get the error message Bad FS map or Disc changed, this usually means that your ADFS disc has not been 'mounted'. To do this simply press twice the numeric key for the drive containing the disc. For example, for drive 0 press 0 twice and the menu should appear

To exit from the menu press ESCAPE. This will take you back to the language from which the menu was called. Alternatively you may press CTRL T to toggle the Control Panel described in section 4.



### Menu screen display

When the menu is called you are presented with the title of the current directory across the top of the screen and small windows on the left show the current filing system, current drive, current directory, current library, and the number of bytes free on the disc. The large window displays a menu of the items in the current directory, and has sufficient space for the full allocation of files and directories.

If you wish to change the screen colours, you may use CTRL F to change the foreground colour, and CTRL B to change the background colour. On a Master 128 these colours and the currently selected screen width are stored in the battery-backed RAM for use next time you use the menu, control panel or diary (the diary screen width is always 40 columns). You may enter any star (\*) command by simply pressing \* and entering the command name. Once the command has executed, press any key to re-display the menu. A print-out of the contents of the current screen can be achieved by pressing SHIFT COPY.

### Selecting items from the menu

Each item in the main menu has a single letter displayed before it; this is used to select that item. If the letter is displayed in inverse video it indicates that the item is a directory.

There are four types of item that can be selected from the menu:

- Directory
- Basic program
- ROM image
- Unrecognized file

An item is selected by pressing the appropriate letter.

### Directories and drives

If a directory is selected, the display is updated to show the contents of the new directory; again with the directory title at the top of the screen, and with the menu-selectable contents in the main window below. You can repeat this process to any depth of nesting you wish. Pressing the UP cursor key at any time will take you back to the root directory, while the DOWN cursor key will take you back to the previously displayed directory. The LEFT cursor key takes you to the parent directory i.e. the directory which contains the current directory. To change drives simply press the drive number you require twice in succession.

#### Basic programs

If a Basic program is selected, a message is displayed to confirm your choice. To run the Basic program press the same key again, or to load the Basic program press CTRL L.

#### ROM images

The disc menu will load and initialize ROM images automatically. If a ROM image is selected, the main menu window changes to display all the current ROMs in the computer, and those sockets that contain RAM. Simply select the desired RAM socket number or press ESCAPE to return to the menu. Please note that only ROM images with a load address of &8000 will be recognized.

#### Un-recognized files.

If a selected item does not come under any of the previous categories, the message:

File not Basic or ROM image

will be displayed. There are 5 actions that may now be taken:-

1. Press CTRL R to \*RUN the selected item.
2. Press CTRL L to \*LOAD the selected item.
3. Press CTRL E to \*EXEC the selected item.
4. Press RETURN to activate the loader described below.
5. Press any other key to return to the menu.

If RETURN is pressed the menu will attempt to \*EXEC a file whose name begins with !MENU stored in the current directory. The file !MENU is user-defined, and should contain all the necessary commands to auto-load the file selected. Although you can only have one !MENU file in a directory, you may have different ones in different directories, each loading different types of files. For example, if you have Wordwise files in directory Junetext then save the Wordwise loader given below with the name !MENUWW, say; in directory Junetext. If an unrecognized file is selected and RETURN is pressed, the file !MENUWW, will automatically call Wordwise and load the selected file.

The following examples will auto-load Wordwise Plus, View and Interword files. They should be typed into Wordwise, View or the Master Editor, and saved as !MENUext in the relevant directory, where 'ext' is an optional extension for the user's benefit (this extension is only available on the ADFS; DFS users should

always use !MENU instead of !MENUext).

Please note that this will not work on early versions of the BBC Micro with Basic 1. Note also that they re-define function key 0, but that keys may be re-loaded by the !MENU file. The filename of the selected file is always stored at memory location &100.

Wordwise Plus loader:-

```
OSCLI("KEY0*WORDWISE|M:NEW|M  2"+$&100+"|M")
*FX138,0,128                                (think the 2 is an error)
```

Wordwise Plus extended loader

```
day$=MID$(TIME$,5,2)
month$=MID$(TIME$,8,3)
year$=MID$(TIME$,12,4)
IF LEFT$(day$,1)="0" THEN day$=RIGHT$(day$,1)
$&380=day$;" "+month$+" "+year$
OSCLI("KEY0*WORDWISE|M:D$="+CHR$34+$&380+CHR$34+"|M:F$="+
      CHR$34+$&100+CHR$34+"|M:LOAD TEXT F$|M|M")
*FX138,0,128
```

View loader:-

```
OSCLI("KEY0*WORD|MLOAD"+$&100+"|M")
*FX138,0,128
```

Interword loader:-

```
OSCLI("KEY0*INTERWORD"+$&100+"|M")
*FX138,0,128
```

Please note that there must be a trailing RETURN character at the end of each loader definition. Note also that the Interword loader will not work if there is an Interword file already in memory.

This method is highly flexible and allows other operations to be added which can take place as the file is loaded. For example the Extended Wordwise Plus loader above, sets the Wordwise variables F\$ and D\$ to the filename and the current date on a Master 128. These are just four examples, and the principle can easily be extended to other wordprocessors, spreadsheets &c. For further details and examples see Beebug Volume 6. No.2.

#### Marking files for block operations

A powerful feature of the disc menu allows a number of files to be marked for block copying, deletion, re-naming and changing file attributes. Press CTRL M, and the message 'Mark files' will be displayed in the bottom left window. Now select the file to be marked, and you will notice that its name is inverted on the screen. To un-mark a file simply re-select it. When all the files you require have been marked, press RETURN or CTRL M to exit from the marking: the message 'mark files' will disappear. For ease of use, two other options are available outside of file marking mode:-

SHIFT CTRL M - mark all files

SHIFT CTRL U - unmark all files

Please note that issuing \* commands or re-cataloguing a disc will clear all markers.

There are four operations that can be carried out on marked files. Each operation is selected by pressing CTRL with another key given below.

#### ATTRIBUTES CTRL A

This will change the access attributes of the marked files. You will be prompted to enter the new attribute required. For example, enter L to lock all files. All the usual attributes are allowed ie.

E - execute only access (ADFS only)

L - locking a file

W - write access (ADFS only)

R - read access (ADFS only)

#### COPY CTRL C

This will copy the marked files to another drive or directory though not across filing systems. You will be prompted to enter the destination drive and directory. For example:-

:1.\$GEORGE

will copy all marked files to directory \$.GEORGE on drive 1.

#### DELETE CTRL D

This will delete all the marked files or directories. To prevent accidental erasure, CTRL D has to be pressed twice to delete the files. Please note that once the files have been deleted they cannot be recovered.

This will display each marked file in turn, and allow you to

enter a new name for it. The DELETE key may be used to delete characters behind the cursor. When you are happy with the new name simply press RETURN to proceed to the next file. Please note that re-naming will delete all markers.

#### DFS differences

If you use the menu with DFS, then please note the following differences to normal ADFS operation, which all arise for technical reasons.

1. Only the files in the current directory are shown in the main window, other directories are not displayed.
2. It is not possible to use the cursor keys to select and move from one directory to another.
3. The free bytes on the disc is not displayed (but this may be found with \*FREE).

#### 4. CONTROL PANEL.

##### Overview

The control panel in the Master ROM has three uses:-

1. Display/Alter battery-backed configuration settings.
2. Allow the internal clock to be set/adjusted.
3. A ROM menu giving save, insert and unplug options.

The first option can only be used on the Master series, and the second is only available on the Master128.

##### Calling the panel

The panel is called by typing the command:-

\*PANEL

or simply:

\*P

or by pressing CTRL T from the disc menu as described in section 3. This displays the control panel. The default display is 80 columns, but on the Master 128, the width selected will be that last used by either the Menu or the Panel, since this information is stored in the battery-backed CMOS RAM. Once the panel has been displayed you may toggle between 80 and 40 column modes by pressing CTRL W. To exit from the panel, press ESCAPE which will take you back to the language from which the menu was called. Alternatively, you may press CTRL T to toggle to the Disc Menu.

##### Panel screen display

The panel screen display is divided into two parts: the configuration settings and the clock on the left-hand side, and the ROM menu on the right. If you are using 40 column display, only the configurations will be displayed; the ROM menu being displayed on a second screen. To toggle between the two screens press TAB.

If you wish to change the screen colours you may use CTRL F to change the foreground and CTRL B to change the background colour. On a Master 128 these colours are stored in the battery-backed RAM for use the next time you use the menu, control panel or diary.

Entering the command name

Once the command has executed, press any key to re-display the panel. A print-out of the contents of the current screen can be achieved by pressing SHIFT COPY.

## Configuration settings

The left-hand side of the display shows the battery-backed settings for configuring your computer at power-up. This feature is only available on the Master 128 and Compact, so BBC model B and B+ users should ignore the settings displayed. To alter a setting, simply use the cursor keys to move the inverse cursor to the setting required and then press SHIFT together with the cursor up and down keys to step through the allowable values. Each setting is described below, but for further details please refer to your computer reference manual.

Please note that the settings are only changed on the screen and not in the battery-backed RAM. To update the battery-backed RAM, press CTRL U. If you alter settings on the screen, but would like to re-display the battery backed settings, then press CTRL R to refresh the display.

## SCREEN SETTINGS

Mode	Power-up screen mode (0-7 or 128-135).
TV position	Vertical screen alignment. 1 means a movement of 1 line up, and -1 means a movement of 1 line down
Interlace	Interlace may be On or Off.
Scroll protect	If set, prevents the screen from scrolling if a character is placed in the last character position on the screen.

## RS423 INTERFACE

Baud rate	The baud at which the data is transmitted or received via the serial port.
Data format	Value representing the sequence of bits used to define the data format used by the serial port.

## KEYBOARD

Repeat rate	The delay between keys auto-repeating.
Delay	The initial delay before auto-repeating commences
Caps lock	Power-on settings for caps lock and shift lock.

## DISC SETTINGS

Boot option If ON, reverses the action of BREAK and SHIFT/BREAK  
Fdrive A decimal value configuring your computer to your disc drive.  
Dir If set, causes ADFS to initialize with the root dir selected.  
Hard/Soft If the system has both hard and floppy disc drives fitted, this selects which will be initialised at power-up.

## PRINTER SETTINGS

Printer type Sets the printer type on power-up.  
(Parallel/Serial/Sink/Network/User)  
Printer ignore Sets which character should be ignored, and not sent to the printer.

## TUBE SETTINGS

TubeNo/Tube Switches co-processor On or Off (Master128 only).  
Internal Selects either internal or external co-processor (Master 128 only).

## LANGUAGE/FILING SYSTEM

Language Sets the language entered on power-up.  
Filing system Sets the filing system selected on power-up.

## SOUND SETTING

Bell Sets the volume of the Bell character (VDU7) to full or half volume.



## Loading and saving settings

The configuration setting described above may be saved to disc for recall at a later date. To save them simply press CTRL S and enter a file name for them to be saved with. If you just press RETURN without entering a name, the settings are saved with a default name of 'status'. To load them back press CTRL L and enter the correct filename. Again if you just press RETURN then the default file 'status' will be loaded. Please note that the clock and ROM menu settings described below are not saved with this option.

The Master 128 maintains a clock calendar in the battery-backed RAM, which continues to operate even when the computer is switched off. The control allows you to easily set or adjust this clock. Simply move the inverse cursor to the clock panel and adjust the values using SHIFT together with the cursor up and down keys. The battery-backed RAM is updated immediately, so there is no need to update using CTRL U.

## The ROM menu

The ROM menu displays all the ROMs in your machine together with their type and size. Type S is a service ROM, and type L is a language ROM. A '2' following the L indicates that the ROM is re-locatable for the 2nd processor. Sockets containing RAM are indicated with the word RAM. If a RAM socket contains a ROM image, an R is displayed to the right of the ROM type. You may select a ROM by moving the inverse cursor to the ROM menu by pressing TAB, and then moving it over the required ROM. To return the cursor to the left-hand side of the screen press TAB. Once a ROM has been selected it may be 'unplugged', 'Inserted' or 'Saved'.

## Unplugging ROMs

To unplug the selected ROM, press CTRL U. If you need to unplug most ROMs, it may be easier to unplug them all with SHIFT/CTRL U and then insert the ones you require. Once a ROM has been unplugged in this way, it will remain unplugged until the ROM is inserted (see below). If you are using a BBC Model B or B+, the ROM only remains unplugged until the computer is switched off.

## Inserting ROMs

To insert the selected ROM press CTRL I. All ROMs may be inserted by pressing SHIFT CTRL I. Although this facility is instantaneous, some ROMs which claim workspace (such as the ADFS and DFS) will only be initialized correctly if CTRL/BREAK is subsequently pressed.

## Saving ROMs

ROMs may also be saved to disc by simply selecting the required ROM, pressing CTRL S and entering a filename. The disc menu described in section 3 has a facility to re-load ROM images saved in this way, back into sideways RAM. The Master ROM contains two extra commands relating to ROMs:

- \*INIT initializes all ROMs in the computer.
- \*KILL<rom No.> disables the ROM specified.

Although \*INIT is instantaneous, some ROMs which claim workspace (such as ADFS & DFS) will only be initialized correctly if CTRL/BREAK is pressed. Note that the ROM functions described above will not function correctly with ROMs over 16k which use hardware to switch between banks.

## 5 DIARY and ALARM

### Overview

The Master ROM makes use of the real-time clock in the Master 128 to provide a diary and an automatic alarm. The same features are available on the BBC Micro and the Compact but as these computers do not have a real-time clock, there are a couple of important differences (described at the end of this section). The description which follows is for the Master 128.

Essentially the diary provides a way of storing appointments and important memos for any day until the end of the millenium. On calling \*DIARY, a calendar of the current month is displayed together with the diary entry for today's date. An alarm can be set for any day or days and will automatically sound when the computer is switched on.

### Creating diary files

To use the diary you must create a file on disc for each year that the diary will cover. You can add new files as the years come along, so to start with you need only create a file for the current year. To create a file for 1987 type:-

```
*CREATED87
```

This will create a file called '1987' on the disc in the root (\$) directory on the current drive. The file will take a couple of minutes to be created and requires approximately 45k of free space on the disc.

### Using the diary

Before using the diary, ensure that you have created a file for the current year, and that the Master 128 clock is correctly set. If it is not set, then use the Control Panel described in section 4 to do so. Now type:

```
*DIARY
```

and a calendar of the current month will be displayed with today's date highlighted. You may move the cursor block to any other day in the month using the cursor keys. To move to a new month use SHIFT together with the cursor Up and Down keys. To move to a new year use CTRL together with the cursor Up and Down keys. Remember that to move to a new year, the diary file for that year must exist on the disc.

To make an entry in the diary, move the cursor to the correct day and press CTRL E (E for Edit); you may now type your text in the window below the calendar. The cursor keys may be used to move the cursor to any position allowing you to correct mistakes by OVERTYPING. There are two special editing facilities in addition to the DELETE key:

SHIFT/SPACE - Insert a character at the cursor.

SHIFT/DELETE - Delete the character under the cursor.

To finish editing press ESCAPE.

You may set an alarm for any date by pressing CTRL A; a small bell symbol will appear next to the date to indicate that it is set. You may print out the currently displayed character and all diary entries for that month by pressing SHIFT/COPY

To leave the diary press ESCAPE. At this point the earliest alarm after today's date, is automatically copied to the battery-backed RAM. On future power-ups the alarm date is compared with the actual date, and if they are the same, or if the date has already passed, the alarm will sound. You may then enter \*DAIRY to view the diary entry and at this point the next alarm date will be written to the battery-backed RAM. If you do not enter \*DAIRY then the alarm will not be cleared and will sound again on future power-ups. The only other method of clearing an alarm is to use the command \*ALARM described below, to set it for a future date.

If you are using the diary to remind yourself of important events, you should bear in mind how often you use the computer. If you only use your computer every few days then set your diary a few days early to make sure you receive the warning.

Warning:- always remember to exit from the diary with ESCAPE, pressing BREAK or switching your machine off may corrupt the diary data file.

Other Commands.

There are two further commands relating to the diary and alarm; the first is:

`*ALARM <<date>>`

If called without a parameter, it will display the date of the alarm currently set. Date specified. This will overwrite any alarm already set up. For example:-

`*ALARM 12 10 87`

will set the alarm for the 12th October 1987.

The second command is:-

`*CALENDAR <year> <month>`

which displays a calendar for the specified month. If called without a parameter <month>, the whole year will be displayed

#### Master Compact & BBC Model B differences

The BBC B, B+ and Master Compact do not have a realtime clock, so to use the diary you must enter today's date e.g. 25 8 87 after power-up. Simply enter the command:

`*DATE`

You will be prompted to insert your Diary Disc file (ie the one containing the files created by `*CREATE`) and to enter today's date eg 25 8 87. The program then checks the disc to see if an alarm is set for that date, and if so, enters the diary automatically.

Please note that the command `*ALARM` described above will only work on the Master 128.

## 6 DISC COMMANDS.

### Overview

This section describes the set of disc commands available in the Master ROM and not already covered in the previous sections. They are designed primarily for the ADFS (Advanced Disc Filing System), and provide many useful utilities which are not normally available to ADFS users. For completeness, commands have been where possible, made compatible with the Acorn DFS (Disc Filing System). Details of filing system compatibility is given with each command description.

### Command Parameters

The following parameter types are used in this section:-

<drive no>	Drive number on DFS =0,1,2,3 on ADFS =0-5
<drive spec>	Drive specification =:<drive no>
<dir name>	Directory name on DFS =up to 1 character on ADFS =up to 10 characters
<pathname>	Pathname (ADFS) =<dir name>.<dir name>... ie a sequence of directory names separated by dots
<dir spec>	Directory specification on DFS = <dir name> on ADFS = <pathname>
<filename>	Filename on DFS = up to 7 characters on ADFS = up to 10 characters
<object>	Object = <<drive spec>><<dirs spec>><filename>

Parameters should be separated by spaces.

## BACKUP

Compatibility:-ADFS & DFS

Function:- Copy the contents of one disc on to another.

This command copies the entire contents of the disc in the source drive, to the disc in the destination drive. The first parameter after the command is the source drive and the second parameter is the destination drive. The optional third parameter <tracks> is described later and can normally be ignored. All data on the destination disc is overwritten when this command is used. If the destination drive is the same as the source drive then the backup is performed using one drive only and the user will be prompted to insert source and destination discs when necessary.

You cannot use \*BACKUP to copy a DFS disc on to an ADFS disc or vice versa, but you can use it to copy one disc to another of a different size. For example you can:-

```
copy a 40 track DFS disc to an 80 track DFS disc
copy a Small ADFS disc to a Medium ADFS disc
copy a Medium ADFS disc to a Large ADFS disc
```

You cannot copy a disc onto a disc of a smaller size, unless the number of tracks to be copied are specified.

The optional third parameter is used to specify the number of tracks, and can be any number between 1 and 80. Using this parameter you can copy the first 40 tracks of an 80 track disc onto a 40 track disc. Any program or data on the last 40 tracks will not be copied. For example:-

```
*BACKUP 1 0 40
```

Please note that if you only back-up part of a disc's surface, you may transfer only part of a file or program. Although its name may appear correctly in the destination disc's catalogue, the file will be incomplete and will not run correctly.

The speed of \*BACKUP is dependant upon the amount of free memory available for its buffer, so try to select mode 7 or one of the shadow modes before using it.

Warning:- Using this command may overwrite the contents of memory, so please make sure you save any important programs in memory, before using it.

CATALL

Syntax:-\*CATALL<<drive no>>

Compatibility:-ADFS only

Function:-Catalogue an AFDS disc.

Unlike the normal catalogue command \*CAT, this command displays catalogue information for the current directory and any nested directories. To catalogue an entire disc, the current directory must be the 'root' directory (\$). There is one optional parameter <drive>, which specifies which disc drive to catalogue, and the operation will take place from the root directory of that drive. Giving the current drive number as a parameter will thus force \*CATALL to search from the 'root' directory of the current drive. Once the command has completed, if a drive was specified, you will be left in the root directory of the drive you have just catalogued.

The following display is typical:-

```
*CATALL 1

$D
!boot
DATA D
  records
  info
PROGRAMS D
  APPLICS D
    database
    graphs
    s/sheet
  UTILITIES D
    find
    replace
    search
  words
```

\*CATALL shows directory names highlighted in colour (in Mode 7) or in inverse video (in other modes). Alternatively, on printout directories are indicated with a D after the name (as shown above). Filenames and directories are indented across the screen to show different levels of nesting.

In the example above, the root directory (\$) contains 3 files (!boot, info and words). and 2 directories (DATA and PROGRAMS). The directory DATA contains one file called records. The directory PROGRAMS contains 2 further directories APPLICS and UTILITIES, each containing three files, (database, graphs, s/sheet) and (find, replace, search)



#### COMPARE

Syntax:- \*COMPARE<object><<object>>

Compatibility:- ADFS/DFS

Function:- Compare the contents of 2 files .

This command compares 2 files byte-by-byte, to determine if they are the same. Two files on disc can be compared by specifying both filenames after the command:-

```
*COMPARE util1 :1$.util6
```

will compare the file util1 on the currently selected drive, with util6 on drive No.1. Alternatively, you can compare a file in memory with a file on disc, by specifying only one filename. For example the command:-

```
*COMPARE general2
```

will compare the file held in memory at PAGE (if there is one) , with the file general2 in the currently selected directory.

If the files are not the same, this command displays the memory offset (ie the position in the file, or the offset in memory) at which the difference occurs, and the differing bytes in both Hex and ASCII. If the files are different in length, then the shortest file is indicated. When comparing BASIC programs, the command \*COMPAREB below will be found more informative.

#### COMPAREB

Syntax:- \*COMPAREB <object><<object>>

Compatibility:- ADFS/DFS

Function Compare 2 Basic programs.

This command operates exactly the same as \*COMPARE but should be used for Basic programs only. It prints out the Basic lines where any differences occur. If the files are of different lengths, then the shortest file is indicated. As with \*COMPARE specifying one file name only will instigate a comparison of that file with the program held in memory, and residing at the current setting of PAGE.

DIRALL

Syntax:- \*DIRALL <<drive no>>

Compatibility:- ADFS only

Function:- Display directory names on a disc.

This command displays the current directory name, and the names of any nested directories. To display all the directories on a disc, the current directory must be the 'root' (\$) directory. There is one optional parameter <drive>, which specifies which drive is catalogued, and the operation will take place from the 'root' directory of that drive. Giving the current drive number as a parameter will thus force \*DIRALL to search from the 'root' directory of the current drive. Once the command has completed, if a drive was specified, you will be left in the root directory of the drive you have just catalogued.

The following is typical:-

```
*DIRALL

$
  DATA
  PROGRAMS
    APPLICS
    UTILITIES
  SCREENS
```

The directories are indented across the screen to show different levels of nesting.

In the above example, the 'root' directory (\$) contains 3 directories (DATA, PROGRAMS and SCREENS), and the directory PROGRAMS contains 2 further directories (APPLICS and UTILITIES).

#### DIRCOPY

Syntax:- \*DIRCOPY <<drive spec>> <dir spec> <<drive spec>> <dir spec>

Compatibility:- ADFS only

Function:- Copy all or part of a directory structure.

This command will copy all or part of a directory structure, including nested directories and their contents, to a new area on the same (or on another) disc. The first 2 parameters specify the source drive (which is optional), and the source directory. The last 2 parameters are the destination drive (which is optional), and the destination directory. The directories should be specified as full pathnames from the source directory. The wildcard character \* can be used in the usual way to abbreviate long pathnames, and '@' can be used to denote the current directory (and implicitly also, the currently selected drive)

If both destination and source drive are specified and they are the same, then the copy will be performed using one drive only. The user will be prompted to insert source and destination discs when necessary.

In the example below, DIRCOPY will copy all the files and sub-directories in the directory PROGRAMS.DATA on drive 0 to the destination directory FILES on drive 1.

```
*DIRCOPY :0.$.PROGRAMS.DATA :1.$.FILES
```

The whole directory structure is copied including nested directories and all the files contained in them. New directories will be automatically created on the destination disc where necessary.

A prompt allows you to overwrite existing files of the same name in the destination area, although locked files cannot be overwritten. Source files without read access will be ignored.

Warning:- Using this command may overwrite the contents of memory, so please make sure you save any important programs in memory before using it.

## FCOPY

Syntax:-\*FCOPY <object> <<drive spec>><dir spec>

Compatibility:- ADFS/DFS

Function:- Copy files from one disc to another.

FCOPY allows files to be copied:-

- From one directory to another.

- From one disc to another.

- From one disc filing system to another.

The source and destination directories can be specified and the wildcards \* and # are permitted. The first parameter is the source < object> which may consist of a drive number, directory and filename. The second and third parameters are the destination drive and destination directory. If both source and destination drives are specified, and they are the same, then the copy is performed using one drive only. The user will be prompted to insert source and destination disc when necessary.

You can copy files from one filing system to another by preceding the drive specification with the letter D for DFS and A for ADFS.

```
*FCOPY D:1.S.PROG* A:0.$.FILES.DATA
```

This command copies all the files starting with the letters PROG in directory S on the DFS disc in drive 1, to the directory \$.FILES .DATA on the ADFS disc in drive 0. The following example copies all the files on the DFS disc in drive 3 to the current ADFS directory.

```
*FCOPY D:3.*.* @
```

Please take care if you copy ADFS files to DFS; long ADFS filenames are truncated to 7 characters. This can sometimes lead to files having the same name and overwriting each other.

Files can be copied from one directory to another on the currently selected drive by simply omitting the drive numbers.

```
*FCOPY TEST.data $.PROGRAMS
```

This command will copy the file 'data' in the directory TEST to the directory PROGRAMS. No drive or filing system is specified, so the current settings are assumed, and it will be assumed that the directory TEST is an immediate subdirectory of the currently selected directory (since no full pathname is given from the root directory). The character @ can be used in the usual way, to denote the current directory.

The command \*FCOPY will always prompt Copy Y/N for each filename allowing you to copy only selected files. Another prompt allows you to overwrite existing destination files, although locked destination files cannot be overwritten. Source files without read access will be ignored.

Please note that unlike \*DIRCOPY, this command will not create new directories on the destination disc or within the destination directory. In addition, when using the command to copy DFS files to ADFS, all DFS directory names are removed from the filenames.

Warning:- Using this command may overwrite the contents of memory, so please make sure you save anything important in memory before using it.

#### FCOPYNQ

Syntax:-\*FCOPYNQ <object> <<drive spec>> <dir spec>

Compatibility:- ADFS/DFS

Function:- Copy files with no queries.

This command is very similar to the previous command \*FCOPY, but no prompts are made during the copying. This means that ALL the files specified by <object> will be copied and existing destination files of the same name will be overwritten (unless locked).

## FIND

Syntax:- \*FIND <name>

Compatibility:- ADFS only

Function:- Display pathname for ADFS file or directory.

This command searches an ADFS disc for the name specified (whether this is a directory name or a filename) displaying its full pathname. Wildcard characters are allowed in the parameter <name> and pathnames for all the matches are displayed. For example:-

```
*FIND prog*
```

```
$.APPLICS.program  
$.UTILS.GENERAL.prog3  
$.UTILS.PRELIM.prog4  
$.UTILS.PROGRAMS  
$.PROGRAMS  
$
```

From the list displayed you can identify the file or directory required and use the pathname to locate it.

Please note that the search commences from the root directory and unlike \*GOTO the current directory is not changed.

## FORMAT

Syntax:- \*FORMAT <drive no> <40/80/160/S/M/L>

Compatibility:- ADFS/DFS

Function:- Format a disc.

This command will format the disc in the specified drive to the specified number of tracks. The format used (ADFS or DFS) depends on the currently selected Disc Filing System.

## FORMATTING A DFS DISC

To format a normal DFS (single density) disc, the current Filing System must be DFS. If you are unsure type:

\*DISC

Now type in the command, followed by the drive number and the number of tracks. For example:-

\*FORMAT 0 40

The number of tracks per disc will depend upon the type of disc drive you use. Usually an 80 track disc drive will work with either 40 or 80 tracks. If you specify 160 tracks then both sides of the disc will be formatted to 80 tracks. Note that the Acorn 1770 DFS contains the command \*FORM (DFS only), so if you are in DFS and type:

\*FOR.

you may engage the Acorn formatter.

## FORMATTING AN ADFS DISC

To format an ADFS (double density) disc, the current filing system must be ADFS. If you are unsure type:

\*FADFS

Now type in the command followed by the drive and the size of the disc you require. There are 3 sizes available:-

S=Small	-40	tracks single sided
M=Medium	-80	tracks single sided
L=Large	-160	tracks double sided

Warning:- Formatting a disc will completely erase information on it, so you will be prompted for confirmation before formatting commences. Using this command may overwrite the contents of memory, so please make sure you save any important programs or data before using it.

## FORMATV

Syntax:- \*FORMATV <drive no> <40/80/160/S/M/L>

Compatibility:- ADFS/DFS

Function:- Format & verify a disc.

This command will format a disc as described above, but will also verify it immediately afterwards. Please refer to the commands \*FORMAT and \*VERIFY for further details.

FREE

Syntax:- \*FREE <<drive no>>

Compatibility:- DFS only

Function:- Display the amount of free space left on the disc.

This command displays the amount of free space on the disc in the drive specified. If no drive is specified, then the currently selected drive is assumed. The free space is shown in sectors (in hexadecimal), and bytes (in decimal). Additionally, the amount of space used on the disc and the numbers of files on the disc is also shown. For example:-

25 Files	2CE Sectors	183,808 Bytes free
06 Files	052 Sectors	20,992 Bytes Used

Please note that this command is very similar to the existing Acorn command \*FREE, available with the ADFS and 1770 DFS. It is supplied in the Master ROM for those Model B and B+ users with only 8271 DFS.

Personal note:-Interpreting the above figures:  
20,992 bytes occupying 52 sectors have been used to create 6 files. A possible 25 files can still be created provide that they use no more than 183,808 bytes in total, and occupy no more than 2CE sectors.



GOTO

Syntax:- \*GOTO <name>

Compatibility:- ADFS only

Function:- Search for a file or directory.

This command searches for a file and selects its directory or searches for and selects an named directory. Wildcard characters are allowed in the parameter <name>. If the file cannot be found, an error message is displayed. The search commences from the root directory and proceeds through each nested directory in turn.

This command is useful when you know the correct name of the file you wish to locate, but not the directory it is in. It is also a simple and useful way to select any given directory without needing to type pathnames. You can enhance its use by saving a dummy file with a short (but unambiguous) and memorable name in your most commonly used directories. Thus if you save a file called 'mnet' in the directory

\$.JULYWORK.PROGRAM.TEST.MICRONET

you can go to this deeply nested directory very simply by typing:-

\*GOTO mnet

When \*GOTO selects a directory it informs you of the full pathname selected, as confirmation.

Please note that if there is more than one file with the same name on the disc, \*GOTO will only find the first match. Please refer to the command \*FIND if you wish to find ALL occurrences of an ambiguous filename.

GOTOC

Syntax:- \*GOTOC <name>

Compatibility:- ADFS only

Function:- Search for a file and catalogue target directory.

This command operates in exactly the same way as \*GOTO except that it catalogues the target directory when the file is found. Please refer to the command \*GOTO for further details of it's operation.

## MAP

Syntax:- \*MAP <<drive no>>

Compatibility:- DFS only

Function:- Display a map of free space.

\*MAP displays a map of free space available on the disc in the specified drive. If no drive is specified, then the currently selected drive is assumed. The map is simply a list of pairs of numbers. For example:-

Address	Length
00F	001
055	033
0BB	265

The first column gives the address of free space on the disc and the second column gives the size of the space. Both values are in hexadecimal sectors. In the above example, there is free space at &F, &55 and &BB

If there is a large number of entries in the list, then free space is becoming fragmented and you are advised to compact the disc using \*COMPACT.

Please note that this command is very similar to the existing Acorn command \*MAP, available with ADFS and 1770 DFS. It is supplied in the Master ROM for those Model B and B+ users with only 8271 DFS.

## MERGE

Syntax:- \*MERGE <object><<start line>><<end line>>

Compatibility:- ADFS/DFS

Function:- Merge a Basic program from disc.

\*MERGE loads a Basic program from disc and merges it with the current program in memory. New lines from the file replace the old ones in memory if they have the same line numbers. The parameter <object> specifies the file on disc to merge. If the last two parameters are specified, then only those lines falling between <start line> and <end line> will be loaded and merged. If <end line> is not specified, then all lines from <start line> to the end of the program will be merged.

This command can be used to great effect to load common functions and procedures that have previously been saved with the command \*PSAVE. If there is no program in memory \*MERGE can be used as a part-load command.

## PSAVE

Syntax:- \*PSAVE <object><<start line>><<end line>>

Compatibility:- ADFS/DFS

Function:- Save part of a basic program.

PSAVE will save any specified part of a Basic program to disc. It is particularly useful for saving procedures and functions, so that they may be used in other programs at a later date. The first parameter is the filename, followed by 2 parameters which specify the start and end lines of the section to save. For example, the command:-

```
*PSAVE applic 5000 5999
```

will save lines 5000 to 5999 in the file 'applic'. Once saved, this file can be merged into another basic program with the command \*MERGE. If the parameter <start line> is specified, but <end line> is not, then all lines from <start line> to the end of the program will be saved.

S

Syntax:- \*S

Compatibility:- ADFS/DFS

Function:- Intelligent auto-save for Basic programs.

This utility is ideal when saving a new version of your latest Basic program. Not only does it prevent you from inadvertently overwriting the previous version, but the latest name and any appended version number are automatically included in the program listing.

Essentially it allows you to keep the filename of the program anywhere in the first 3 lines of the program itself. It must be preceded by two identifying characters .> but may appear within a REM statement or a PRINT statement. For example:-

```
10 REM My program is called
20REM .>prog1
```

would form a valid header. If you type:-

```
*S
```

when the above header is in the computer, you will be prompted with:-

```
SAVE prog1
```

If that is the name you wish to save the program under, just press RETURN. If not you may edit the name supplied using DELETE. When you are satisfied with the new name, which might be incremented to prog2 to reflect a new version, just press RETURN

When RETURN is pressed, the disc will be checked to see if a file of the same name exists. If so, the user is prompted with:-

```
Replace old file (Y/N)
```

A negative response will take you back to Basic, whilst a positive reply will cause the new filename to be written into the Basic program before it is saved.

As can be seen, the routine is very easy to use, and makes frequent saving of new program versions a positive delight. It has the added advantage that the filename under which the program was saved is recorded in the program itself, so that if you have a printed copy of any program, you automatically know the filename you saved it under.

## USED

Syntax:- \*USED <object>

Compatibility:- ADFS/DFS

Function:- Display disc space used by directories.

This command displays the disc space used in the files in the currently selected directory, and any nested directories. It is especially useful when an ADFS disc becomes full, for determining where disc space may be most effectively recouped.

## VERIFY

Syntax:- \*VERIFY <<drive no>>

Compatibility:- ADFS/DFS

Function:- Verify that a disc is correctly formatted.

\*VERIFY will check that the disc in the specified drive is correctly formatted. If no drive is specified then the currently selected drive is assumed. Discs which are incorrectly formatted or damaged will be detected. During verification the number of the track currently being verified is displayed. If the disc verifies correctly the message:

Verification Complete

is displayed. If the disc fails then an error message is given. \*VERIFY also prints out a checksum for the disc being verified. This is useful for determining if two (non empty) discs are exactly the same. If the checksums are identical it means that a perfect back-up has been made.

## WIPE

Syntax:- \*WIPE <object>

Compatibility:- ADFS only

Function:- Selectively delete files.

This command deletes the ADFS file or files specified by <object>. It is very similar to the command \*WIPE available on DFS, but sadly lacking on ADFS. The importance of \*WIPE is its prompting on wildcards, allowing fast selective deletion of files to clean up a directory or a whole disc. The parameter <object> specifies the drive, directory, and name of file or files to be deleted. For example:-

\*WIPE :1.\$ .UTILS.prog\*

The above example will delete all files starting with the letters prog in directory \$.UTILS on drive No.1. Each matching filename is displayed in turn, and the user is asked for confirmation before deleting.

## 7.THE PRINTER BUFFER

### Overview

The Master Rom contains 4 commands to enable you to use up to 64k of sideways RAM as a printer buffer. This allows you to continue using your computer for other work at the same time as printing long documents or programs. You may specify the numbers of banks to be used for the buffer, leaving any remaining banks free for other purposes (such as RAM disc described in section 8)

### Command parameters

The parameter <RAM no> used in this section refers to a ROM socket number containing 16k of sideways RAM. The Master 128, Master Compact and the BBC+128 all contain 4 banks of 16k sideways RAM making 64k in all. The BBC model B may be fitted with 16k of sideways RAM in a special carrier board but this is not supplied as standard. The banks of RAM are numbered as follows:-

Master 128 & Compact - banks 4,5,6 & 7.  
BBC B+128 - banks 0,1,12 & 13.  
BBC B - please consult your ROM board manual.

### BUFFON

Syntax:- \*BUFFON <<RAM no>><<RAM no>><<RAM no>><<RAM no>>

Function:- Switch printer buffer on.

This command switches on the printer buffer, and specifies the RAM bank it will use. On a Master128 or Compact you may specify up to 4 banks giving a printer buffer size of between 16k and 64k. If the command is called without any parameters a maximum of 32k will automatically be selected for the buffer. For example the command:-

\*BUFFON 5 7

selects RAM banks 5 & 7 for the printer buffer. Note that there should be a space between each number, The command:-

\*BUFFON 12 13

selects banks 12 & 13 on a BBC+ 128.

BUFFOFF

Syntax:- \*BUFFOFF

Function:- Switch printer buffer off.

\*BUFFOFF disables the printer buffer facility. Please note that printout will not normally stop immediately, but will continue until the printer's own built-in buffer is empty.

BUFFINFO

Syntax:- \*BUFFINFO

Function:- Display printer buffer status information.

This command shows if the printer buffer is active, which banks of sideways RAM are in use and how many bytes of information are in the buffer. For example:-

```
Printer is active
Banks in use
Bank: &4 16k
Bank: &5 16k
Buffer contains 17435 bytes
```

BUFFCLEAR

Syntax:- \*BUFFCLEAR

Function:- Clear the contents of the printer buffer.

BUFFCLEAR clears the buffer as set by \*BUFFON. It may be used to stop the printout without actually switching the printer buffer off with \*BUFFOFF

Please note that the printout will not normally stop immediately but will continue until the printer's own built-in buffer is empty.

## 8.THE RAM DISC

### Overview

The Master ROM contains a group of commands to enable you to use up to 64k of sideways RAM as a RAMdisc. This allows you to load and save up to 15 programs and files to the sideways RAM in your machine. It is useful for storing and manipulating screen memory, or saving commonly used Basic and Machine code utilities. Remember though that when you turn the power off, everything in the RAMdisc will be lost. One of the many advantages of the RAMdisc is it's extreme speed. For example it will load a 20k Mode 2 screen in just 0.2 secs. This is similar in speed to a hard disc. The ADFS with a floppy disc takes 4 seconds for the same task.

You may specify the number of banks to be used for the RAMdisc, leaving the other banks free for other purposes such as a printer buffer described in section 7.

### Making backups

Although there is no command available specifically to backup the RAMdisc to a normal disc, it can be quite easily achieved. Simply enter the Control Panel (described in section 4) and use the RAM/ROM save feature to save to disc the relevant banks of RAM used by the RAMdisc. Alternatively, if you are using a Master or Compact, you may use the following command to save each RAM bank:-

```
*SRSAVE ramdisc 8000+4000 n
```

where n is the bank number. To re-load the disc contents, simply switch on the RAMdisc with \*RAMON and then load the RAM banks back into the correct positions. If you have a Master or Compact you may use:

```
*SRLOAD ramdisc 8000 n
```

to load in each RAM bank. On a BBC Model B with an ATPL board fitted, use:-

```
*LOAD ramdisc 8000
```

For other boards consult the manuals.



## Command parameters

The parameter <RAM no> used in this section refers to a ROM socket number containing 16k of sideways RAM. The Master 128, Master Compact and BBC model B+128 all contain 4 banks of 16k sideways RAM making 64k in all. The BBC model B may be fitted by the user with add-on sideways boards of various makes and sizes. The banks of RAM are numbered as follows:-

Master128 & Compact - banks 4,5,6 & 7.

BBCB+128 - banks 0,1,12 & 13.

BBC model B - please consult your ROM board manual.

The parameter <filename> used in this section may be up to 8 characters long but cannot contain wildcards.

## RAMON

Syntax:- \*RAMON <<RAM no>><<RAM no>><<RAM no>><<RAM no>>

Function:- switch on the RAM disc.

This command utilizes the RAM disc filing system. If called without using any parameter, all available sideways RAM will be used for the RAMdisc. On a Master 128 this is 64k whilst on a BBC B it is 16k (if you have sideways RAM fitted). If you only want to use part of your RAM for RAMdisc then you must specify the bank you wish to use (in decimal) after the command name. For example, the command:

\*RAMON 6 7

selects banks 6 & 7 for the RAMdisc. If you try to use a RAM bank which is already in use you will get the error message:-

## Bad RAM bank

To clear the ROM image in the specified bank, use the command \*KILL described in section 5. Please note that the command \*RAMON completely clears anything previously held on RAMdisc.

## RAMOFF

Syntax:- \*RAMOFF

Function:- Switch off the RAMdisc.

\*RAMOFF switches off the RAMdisc completely clearing all programs and files held on it.

#### RBLOAD

Syntax:- \*RBLOAD <filename>

Function:- Load Basic program from RAMdisc.

This command loads into memory the Basic program called <filename> from the RAMdisc. The program is loaded into memory at the address PAGE and will erase any Basic program currently in memory. To display the names of all the files currently held on RAMdisc use \*RINFO.

#### RBSAVE

Syntax:- \*RBSAVE <filename>

Function:- Save Basic program to RAMdisc.

This command saves the Basic program in memory onto the RAMdisc with the name specified by the parameter <filename>. If a file of the same name already exists it will be overwritten. Up to 15 files can be saved on the RAMdisc, each one with a name up to 8 characters. To confirm that the file has been saved correctly, use \*RINFO to catalogue the RAM disc.

#### RBCHAIN

Syntax:- \*RBCHAIN <filename>

Function:- Chain Basic program.

This command will load the Basic program specified by <filename> from RAMdisc and RUN it. It enables one program to load and RUN another program automatically.

#### RDUMP

Syntax:- \*RDUMP <filename>

Function:- Dump file to screen.

This command lists the contents of the RAMdisc file specified in Hex and Ascii. The screen layout of the dump is as follows:-

Offset	Hex Dump	Ascii Dump
0000	41 42 43 00 00 00 00 00	ABC.....
0008	9A DE 00 0E 33 35 31 00	....351.
0010	02 03 43 42 41 FF FF FF	..CBA...

In the Ascii part of the dump, any codes outside the normal printable range are shown as dots. This command is particularly useful for determining the contents of a file, without actually loading it.

RINFO

Syntax:- \*RINFO

Function:- Gives detailed catalogue information.

RINFO displays the information relating to the size, length and load address of files held on the RAMdisc. It also displays the RAM banks in use, the number of files on RAMdisc and the free memory available. For example:-

```
*RINFO
```

```
RAM Disc is active
Banks in use:
Bank &4 16k
Bank &5 16k
TEST 1F00 2000 0000 0001
Files:1 Used:8192 Free:24320
```

This example shows that there is one file on the RAMdisc called TEST. The 4 numbers after the name are the load address, file length, execution address and position on disc. The position is displayed as the number of 256 byte blocks from the start of the RAMdisc (absolute sector).

RLOAD

Syntax:- \*RLOAD <filename><<address>>

Function:- Load file from RAMdisc.

This command loads the specified file from RAMdisc to memory. The file is loaded at the default address held in the RAMdisc catalogue or at the address specified by the parameter <<address>>. For example:-

```
*RLOAD game1
```

will load the file game1 at the address from which it was originally saved, whilst the command:-

```
*RLOAD game1 3000
```

will force the file to be loaded into memory starting at &3000.

## RRUN

Syntax:- \*RRUN <filename>

Function:- Load and RUN a machine code program.

\*RRUN loads the machine code program specified by <filename> and then runs it. The load and execution addresses used are those which were specified when the file was originally saved. This command does not run Basic programs.

## RSAVE

Syntax:- \*RSAVE <filename><start><end><<exec>><<reload>>

Function:- Save an area of memory to RAMdisc

\*RSAVE saves an area of memory, such as a machine code program or screen memory to the RAMdisc. If a file of the same name already exists, it will be overwritten. The 2 parameters <start> and <end> specify the start address and the end address of the memory block to save. For example the command:-

```
*RSAVE TEMP 2500 4500
```

will save memory from &2500 to &4500 with the name 'temp'. Alternatively, the length in bytes can be specified instead of the end address. The following is equivalent to the last example:-

```
*RSAVEtemp 2500+2000
```

The last 2 parameters <execution address> and <reload address> are optional and may be omitted.

## RTYPE

Syntax:- \*RTYPE <filename>

Function:- Display an Ascii file on the screen.

This command prints the contents of an Ascii or text file on the screen. The file should only contain printable Ascii characters or teletext control codes.

## RWIPE

Syntax:- \*RWIPE <filename>

Function:- Wipe a file from the RAMdisc.

\*RWIPE deletes the specified file from the RAMdisc. After a file has been deleted, its name is removed from the catalogue and the RAMdisc automatically compacted. Once deleted the file cannot be recovered so take extreme care when using this command.

## APPENDIX A

### Master ROM Workspace

The Master ROM does not raise the value of PAGE but it does make extensive use of the following areas:-

```
PAGE 9   (&900-&9FF)
PAGE 10  (&A00-&AFF)
PAGE 12  (&C00-&CFF)
```

Furthermore if \*MENU is used on the BBC model B or B+, three pages of memory are used directly below HIMEM.

The Master ROM uses 3 bytes of battery-backed CMOS RAM on the Master 128. The bytes used are as follows:

```
byte 39 stores alarm.
byte 44 stores alarm.
```

A further byte is used to store the display width and the foreground and background colours. This byte is determined by:-

```
30+socket number.
```

where 'socket number' is the ROM socket containing your Master ROM. If for example your Master ROM is in socket 3, the current width and colours will be stored in byte 33, If you change the socket used by your Master ROM, you may need to re-set width and colour settings. Alarm data will not be affected.

## APPENDIX B

### Control Key Summary

#### Disc Menu

- CTRL M Toggle on/off file marking
- SHIFT CTRL M Mark all files
- SHIFT CTRL U Unmark all files
- CTRL C Copy files
- CTRL A Change file attributes
- CTRL R Rename files/Run program
- CTRL D Delete files
- CTRL W Toggle 40/80 column width
- CTRL F Change foreground colour
- CTRL B Change background colour
- CTRL T Toggle to Control Panel
- SHIFT COPY Print out screen

after selecting a file the following keys may be used:-

- RETURN \*EXEC special boot file !MENU\*
- CTRL R Run Basic or M/code program
- CTRL L Load Basic or M/code program
- CTRL E \*EXEC file

#### Control Panel

- CTRL R Refresh status
- CTRL U Update status/Unplug ROM
- CTRL L Load status
- CTRL S Save status/ROM
- CTRL I Insert ROM
- SHIFT CTRL I Insert all ROMs
- SHIFT CTRL U Unplug all ROMs
- CTRL W Toggle 40/80 column width
- CTRL F Change foreground colour
- CTRL B Change background colour
- CTRL T Toggle to Disc Menu
- SHIFT COPY Print out screen

#### Diary & Alarm

- CTRL E Edit diary entry
- CTRL C Clear diary entry
- CTRL A Toggle on/off alarm
- SHIFT COPY Print out summary

## APPENDIX C

### Command Summary

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