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MASTER



User Guide Programs Disc

DABS
PRESS

Introduction

This disc, which is a 360k standard IBM format disc, contains a number of programs of use to Master 512 owners which are listed below. The programs are supplied as executable files, and in all cases the source code is supplied. The programs themselves are in the root directory of the disc, and the source files are in a subdirectory called SOURCE.

The disc cannot be read by the BBC in native mode, and you must first boot up DOS Plus. Before using the disc, make a copy of it, either using the DISK utility provided on Disc 1 of the Master 512 release discs, or by placing this disc in Drive A and a blank DOS Plus formatted disc in Drive B, and typing:

```
COPY A:*.* B:
```

For safety's sake, it is a good idea to write-protect this disc before you start. Note that the disc is not protected in any way, and the programs can be copied onto and run from any other format of hard or floppy disc. All the programs except DTYPE also run on the standard IBM PC or compatibles.

One of the programs supplied is a menu system which allows you to build a list of files in a text file, and run them from disc. We have set up the menu system to run the other programs on the disc. If you put your backup copy of the disc in your drive and type GO, you will be presented with a list of the other programs.

The files on the disc are:

GO.BAT	Batch file to run the menu
MENU.EXE	The menu program
MENU.DAT	The main menu sample data file
COPY.DAT	A submenu sample data file
BACKUP.DAT	Another submenu sample data file
MNU2.BAT	Batch file recreated every time you use MENU
APRINT.BAT	Batch file for the page printer
AP.EXE	The actual page printing program
SEC.EXE	The disc sector editor
VIEW.EXE	The text file viewer
HEX.EXE	The hex/ASCII file viewer
DUMP.EXE	The standard DUMP command
DTYPE.BBC	Disc format checker and cataloguer (does not need 512)

The programs can either be run from the menu, or individually, by typing their filenames (without the .EXE) from the DOS prompt.

The source files are in a subdirectory called SOURCE and are:

MENU.C	Source for the Menu program
AP.C	Source for the page printer
SEC.C	Source for the sector editor
VIEW.C	Source for the file viewer
HEX.C	Source for the hex/ASCII file viewer
DUMP.C	Source for the DUMP command

All the files were written in the Zortech C version 2 language, and can be modified and recompiled with that system.

The MENU program

This program allows you to set up a menu-based system for running programs, in which the user needs to know nothing about DOS to run programs, copy and backup files.

The main menu may have up to seven user-definable options in addition to the three fixed options which appear as Copy and Backup, and Quit (to DOS). The options are numbered consecutively from 1, starting with the user-definable options. The three fixed options appear after the last user-definable one, with Quit... always numbered as 0. For example, the menu supplied with this disc has five definable options, and therefore the fixed options are numbered 6 and 7.

1	Page Print
2	Disc Sector Editor
3	View Text File
4	View Hex File
5	Screen Colour Test
6	Copy
7	Backup
0	Quit

The Copy and Backup menus invoke two further menus, which may each have up to nine further user-definable options. There is one fixed option in these 'submenus' which is 0 Main Menu.

Note that if you are running from a floppy disc, it must not be write-protected, as the program creates a temporary file called MNU2.BAT. This enables the menu to exit and thus not take up room in memory.

Configuring the Menus

The menu options and associated commands are contained in three ASCII files, which must be present in the same directory as the MENU program. These must have the names MENU.DAT, COPY.DAT, and BACKUP.DAT, and can be created either using a text editor or COPY CON MENU.BAT (terminated with CTRL-Z). The format of the files are as follows:

```

<Menu text>
<Filename or DOS command>
<Menu text>
<Filename or DOS command>
.....
*
*
<Blank line>

```

The file format is very simple. The first line of text is shown as Menu Option 1, the second line is the name of the file or DOS command to be executed when you press 1. The third and fourth lines are the shown name, and filename for Menu Option 2, and so on. The last three lines must be two lines containing only an asterisk (*) followed by a final blank line. ie, press RETURN twice after the second asterisk. You can see the sample files we have supplied by typing

```

TYPE MENU.DAT           TYPE COPY.DAT           TYPE BACKUP.DAT

```

from the DOS prompt, and compare the contents to the effects when you run the menu. As you will have realised, MENU.DAT contains the data for the front menu, COPY.DAT contains data for the Copy Submenu and BACKUP.DAT contains data for the Backup Submenu.

The main use of this program is to present a simple menu frontend to users who know nothing about the machine. No provision has been made for entering filenames or program parameters, as the system is designed to completely shield you from DOS. If you wish to do this, write the appropriate programs or batch files, and call them from the menu. The source code is provided for full-scale customisation of the program.

Note that the program must be started with GO and applications need to be started with batch files ending in GO if you wish applications to exit to the menu and another to be selected correctly.

The APRINT page printer

This program was written primarily for use with the Ability program, but is useful as a general purpose printing routine. The reason the program was written is that Ability, like many other programs, was not designed with sheet-fed and laser printers in mind, and thus the print option does not send a formfeed (ASCII 12) at the end of each page. Whereas normal tractor-fed printers do not need this, as running with a page length of 66 automatically ensures that the next page is positioned correctly, the same cannot be said of either laser printers, sheet-fed printers, or for that matter, tractor-fed printers using A4 paper, which is between 70 and 71 lines deep.

Ability, and many other programs allow you to print to disc, and this is how the program is used. You 'print' to disc, and then run APRINT as follows

```

APRINT <filename> [lpp [nc [SID ]]]

```

where 'lpp' is the number of lines per page before a formfeed is issued, 'nc' is the number of copies required, and the last parameter selects single or double line spacing. If double line spacing is selected, then obviously only half as many lines of text appear on each page. The default values are 60 lines per page, one copy, single spacing. Before the program prints the text, it reports the settings on screen.

The program is also of use with sheet feeders etc. when printing out large text files such as those which accompany shareware documentation.

Using with Ability

When you wish to print a document from Ability, you may use APRINT in conjunction with a file generated by Ability's 'Print to File' option. APRINT allows you to define form feeds at the end of each page, multiple copies and double spacing, none of which are available normally under Ability.

Within Ability, select printing options as normal with the exception that the To-File option in the Print Menu should be used specifying the filename "SPOOL". Flip (F9) to the command screen and select the program AP.

When asked for the remainder of the command line you may simply press the Enter key to accept the default settings as shown above. If you prefer, you may change these settings by specifying the actual values e.g.

```

56 3 D

```

which will set 56 lines per page, three copies, and double spacing.

The number of lines per page should correspond to the value which was set in the Devices section of the command screen (in Ability) or your the relevant Page Setup section of other programs, not the value set in the actual document which does not take into account the top and bottom margins.

Lines per page may be set in inches rather than printer lines if you prefer—the print utility assumes that any value of 12 or less is inches, any value greater than 12, lines per page. We advise a page length of 10 in/60 lines.

If double spacing is selected, you will find that headers and footers appear on alternate pages as you would expect. To allow double spacing with headers and footers on every page, you can set the page length in the command screen Devices option to 5 inches and the document length to half its original value temporarily but still specify a page length of 10 inches or 60 lines when using APRINT.

Note: The AP program always prints a file called SPOOL. The APRINT batch file allows other filenames to be used. Note that it does this by renaming the file to be printed, which means that it will not work with write-protected discs.

Disc Sector Editor

This is a disc sector editor for DOS Plus and MS-DOS discs, allowing you to examine and change any byte on a disc. It will automatically recognise IBM 360k and 720k formats (and any other MFM variants), and Acorn 640k and 800k formats (being the only utility available for the latter). It will also deal with hard discs and calculate the size. The program works on any PC, and invoked by typing SEC. You could install the program on your system disc(s) or hard disc, in directory /DOS (or the current path directory). The front menu of SEC has four options.

1 Change disc

When you place a new disc in the same drive, select this option, and SEC will read the new disc, and report the disc type, and sector sizes. Use this option on a new disc before selecting Option 4.

2 Change drive

SEC starts up reading the currently logged drive. To read another, select this option, and type in the new drive letter, followed by RETURN.

3 Change sector

Use this option to select the sector you wish to edit. The number should be entered in hex in absolute terms.

4 Edit sector

When the right drive and sector have been selected, this option will display the sector. See below for the active keys.

Also shown on the front screen are the number of clusters found on the current disc, and the sector size, and number of sectors per cluster. All figures are given in hex. In keeping with DOS convention, in all disc formats, sectors are numbered sequentially from 0, and physical track and sector numbers are not used.

When you select Option 4, the sector data is displayed on screen, and can be edited by moving the cursor over the bytes, and altering them if desired. The following keys have special effects.

CTRL- →	Move to next sector
CTRL- ←	Move to previous sector
CTRL-PgUp	Move back 5 sectors
CTRL-PgDn	Move forward 5 sectors

ALT-X	Toggles halves of 1k sector
ALT-Q	Abandon edit
ESCAPE	Return to Main Menu

If an attempt is made to leave a changed sector, the opt line of the screen displays the message 'SAVE (Y/N)'. Press Y to write the altered sector to disc, or N to abandon the changes, leaving the disc copy unaltered.

Text File Viewer

This program allows text files to be displayed, a page at a time on the screen. This is more useful than the DOS TYPE command which only allows sequential display of the file from start to end. To use the command, type:

```
VIEW <filename>
```

or just type VIEW, and you will be asked for a filename.

On entry, the first twenty text lines are displayed. You can move from page to page using the PgUp and PgDn keys, (3 and 9 on the numeric keypad, or SHIFT-up and SHIFT-down arrow on a BBC) or scroll up or down one line at a time using the arrow keys. At any time, you may go back to the first page by using the Home key (7 on the numeric pad).

If the file contains non-printing characters, these are simply displayed as a space. This allows the utility to be used with non-ASCII files but which may contain text strings. Because the program works on lines of text, it is easier to pick out text strings than with a hex/ASCII dump.

Hex Dump File Viewer

This program works exactly as the text file viewer, however, instead of displaying text, a hex/ASCII display is used, which is a similar format to the *DUMP command on DFS and ADFS. As before, the arrow keys, PgUp, PgDn, and Home allow movement around the file. This file is invoked by typing HEX <filename>

Also provided on the disc is a DUMP utility which works in exactly the same way as the BBC command of the same name. This will dump a file sequentially to the screen, by typing DUMP <filename> or to the printer if you type DUMP <filename> > PRN

Disc Type Checker and Cataloguer

This program is a BBC BASIC program which should be run with the 512 switched off. As the distribution disc is a PC format disc, you will have to copy the file onto a BBC disc before you can use it. To do this, create a

RAMdrive on your 512, and copy into it the PUTFILE utility from Disc 1, and the DTYPE.BBC file from this disc. See Chapter 13 in the book for details. Then place a blank ADFS disc in Drive 0, and copy the file onto it. The full sequence of events is:

(Put 512 DISC 1 in Drive 0)

```
MEMDISK
COPY PUTFILE.COM M: (Now put this disc in Drive 0)
COPY DTYPE.BBC M: (Now put ADFS disc in Drive 0)
PUTFILE M:DTYPE.BBC :0.$DTYPE (Leave 512 system etc.)
*MOUNT 0
LOAD "DTYPE"
SAVE "DTYPE" (This strips off the spare bytes)
```

The program is CHAINED from the BBC/Master, and when run, will attempt to read any type of disc you place in the drive. If the disc is recognised, a catalogue is printed. It can recognise all BBC, Master 512 and PC formats (except HD). The purpose of the program is to check whether unlabelled discs lying about contain any data without loading several different filing systems.

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