The Plus D Hacker
The Plus D Toolkit
The Plus D Filer

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NOTE: The original instructions were
received as small dot matrix printed
pages, all stapled together. Also the
software all came on the same disk,
as a +D 3.5 disk. This version might
be different from any other version
sold on tape.

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PLUS D TOOLKIT

PLUS D HACHER

Extended Basic Commands.

Plus D Filler

PLUS D TOOLKIT

Introduction

Plus D Toolkit is for use on the Plus D using system DOS 2/2a*
Boot up your own system DOS containing the number of Drives you
have, printer codes etc. Then type LOAD   and play in the Tape.
You should see the following files on the Disc :-

```
4 TOOLKIT  1  4  CDE   16384,2023
5 TOOLKIT  2  4  CDE   16384,2009
6 TOOLKIT  3  5  CDE   16384,2062
7 TOOLKIT  4  4  CDE   16384,1943
8 TOOLKIT  5  2  CDE   16384,559
```

LOAD P number (4-8) to load and initialise the Extended Basic.
The Extended Basic uses no Spectrum memory whatsoever, resetting
or RANDOMIZE USR 0 and NEW cannot destroy the routines that are
held in a special area inside Plus D Ram.

TOOLKIT 1 Disc repair commands

RUN *t   **TEST**

Insert the Disc into drive 1 you would like to test for Bad sec-
tors, warning routine will corrupt data on disc make sure there
are no files you want held on the Double Sided Disc.
The whole process takes 35 minutes printing any bad tracks and
sectors on the screen, whether they are unreliable or permently
damaged. If however you see the message,   **CANNOT REPAIR DAMAGE**
then one of the first 40 sectors   (Directory Catalogue sectors)
has been damaged, therefore the Disc cannot be repaired.
After the comprehensive 35 minute testing, a file will be saved
at the end of the Cat directory Program no 80 as:-
80 zzzzzzzzzz number of bad sectors   CDE 0,no of bytes damaged
This file holds the bit map of all the Bad sectors on the Disc
So when you save other files on the Disc the special file will
make sure it does not save on those Bad sectors.
Also save this file on Disc;—
SAVE dl"discmap001" CODE 13917,400 this holds the bad sectors so
when you next want to Format this faulty Disc again use it with
the RUN *a command, see below.   ...
So If you have a faulty Disc that when you Format it, it drops
back to Basic with sector error,   don't throw away the Disc use
the test command to repair the Damage. If you have been to the
ZX Microfair its easy to find many Double sided double Density
Discs which are faulty, selling at only 50p each, with this
routine you can now repair these Bad Discs and use them, I would
recommend they are used for Backing up other Discs rather than
use them to hold important data which are constantly being saved
and loaded such as Assembler work. Remember these faulty discs
can only be repaired if the Cat Directory sectors are all right

RUN *m   **MAP**

This command will Repair Damaged Discs like the above command in
just 1 minute using the discmap which was saved earlier.
Load this file in by **LOAD dl"discmap00l"** CODE then type in :-
RUN *m to repair the damaged disc

RUN *r"filename",drive,type,   **RESTORE**
RUN *r exolon ,2,5   will restore filename exolon which was
previously erased, from dive 2, file type Snapshot 48K.
type value defined as follows:-

1 Basic   **7 Screens**
2 Numeric Array   **8 Special File**
3 Character Array   **9 Snapshot 128K**
4 Machine Code   **10 Open File.,**
5 Snapshot 48K   **11 Execute File**
6 Microdrive File   **12 WHAT?**

error messages are given if filename exceeds 10 characters, drive
is not 1 or 2, type not in range from 1-11

TOOLKIT 2 Tape,clock,data routines

RUN *t   **TAPE**
This command will transfer Tape Software to Disc Automatically
When the message Play Tape appears on the screen then press Play
on the Tape Recorder. The first header will be loaded after dis-
playing the Header of that file with all the relevant intonation
then the second header is loaded containing the program data.The
file will then save to Drive l, the overwrite (Y/N) will appear
if the same file exists on the Disc. Loading error may come up
now and again meaning the file loaded from tape is faulty, and
will not Be transferred to Disc. If when a file is loading from
Tape and you do not want it to save to Disc press SPACE to load
in the next file from tape. Pressing key B and SPACE together
will return you back to basic. If file type error is printed then
the file loaded from tape is not Basic, Numeric Array, Chara-
cter Array or Machine code.   Note even Machine code 16384,49152
which use all spectrum memory can be copied to Disc.

RUN *d addr, len, linestart, step, dataperline   **DATACOMPILE**
RUN *d 0,256,10 5,8   will convert code from address.0
with a length of 256 bytes into data statements from line 10 in
steps of 5 with 8 data values per line.
Note place the above command in line 9999 and RUN 9999, don't
Use as a direct command.
addr can be from 0-65535 but address 0-16383 are Plus D area.
len can be any value so long as there is enough memory to do so.
linestart from 0-9999
step from 1-1000
dataperline maximum of 690
Note the Screen is used as a temporary buffer.
error messages are given if linestart is not in range of 0-9999
step exceeds 1000, dataperline exceed 690.

RUN *r line.no of x's   **REM**
RUN *r 10,64   will insert 64 x's in line 10. useful for ins-
erting machine code in REMs. error messages if line not 0-9999

RUN *c hour,min,sec   **CLOCK**
RUN *c 10,48,4 will set the interrupt clock to 10 hours 48 mins
and 4 secs.

RUN *a hour,min,sec   **ALARM**
RUN *a 12,0,0   will set the alarm for 12 o'clock, when the time
la reached the border will flash with a little noise,press key X
to stop alarm.

RUN *c turns clock and alarm off   **CLOCK OFF**

RUN *p line,col   **POSITION**
RUN *p 23,24 will position the clock digits to the bottom right
hand corner of screen.

TOOLKIT 3 Disc to disc

RUN *d   **DISC**
This command will catalogue all the 80 files held on Drive 1 on
the screen in 64 character mode. Key 6 and 7 moves the cursor up
and down the screen, Key 0 selects the files next to the cursor
pressing key 0 again will deselect that file. Key 1 selects all
files from cursor position downwards towards the last file P80.
Space will exit selection mode.   File types are as follows:-

```
  ERA  Erase           4 CDE  Machine code   8 SPE  Special
1 BAS  Basic           5 048  Snapshot 48K   9 128  Snapshot 128K
2 NUM  Numeric Array  6 MIC  Microdrive     10 OPN  Open file
3 CHA  Character Arr  7 SCR  Screen$ file   11 EXE  Execute file
```

Key E from the main menu will Erase the selected files from Drvl

Key R will recover selected files from Drive 1 that have been
erased, as each file is pointed by the cursor there will be a
pause, enter a number from 1-9 which represents the file type.
e.g. the cursor is pointing to a file called Snap A which has
been erased, pressing number 5 will recover the Snapshot 48K
file "Snap A" .

Key C will catalogue the next disc in drive 1.

Key F will format Drive 2, pressing Enter will Format the Disc
Space aborts in case you pressed Key F by mistake.

Key S will save all the selected files from drive 1 onto drive 2
However files ERA,MIC,SPE,128,OPN,EXE cannot be copied as there
was not enough space in plus D Ram to cater for all file types.
But files BAS,NUM,CHA,CDE,SCR,048 the most commonly used will.

Key SPACE will reset the Computer.

TOOLKIT 4 Snapshot 48K compressor

(2 drives)
RUN *c program number (1-80)   Compress Snapshot 48K files from
drive 1 starting at program number onwards.   RUN *c1 copies all
the 48K Snapshots. The Compressing process takes up to 5 minutes
to get the best possible compactness, you may see now and again
screen corruption this is normal. Once finished the file is tran-
sferred to drive 2.If.however you see red and black border lines
then the same file exists on drive 2
Press y to erase that file and to save the compressed file
OR Change Disc in Drive 2,   press n to save the compressed file
When finished loading all Snap 48K files, RANDOMIZE USE 0 sets
In Note however there, are a small number of Games that cannot
Be Compressed, if this is so the file will not be saved and the
Next file from drive 1 will be loaded.

RUN *ldrive "filename"   same syntax as 128K version only this
loads in compressed 48K files.

RUN *b   will back up all Compressed Snapshot 48K files from
drive 1 and save them onto drive 2.

(1 drive)   All loading and saving on the **RUN *cprogno** and
RUN *b will use drive 1. Red and cyan border lines means insert
Disc for Loading, Yellow and blue for saving, ENTER will execute
the Disc process.

TOOLKIT 5 Snapshot 128K compressor

There are 2 commands plus another Snapshot button key.
CLEAR 32767: RUN *c. this will clear Extra Ram Pages 0,1,2,3,4.6
to byte zero which should be used before compressing Snap i28K
1'iles.Next load in the File you wish to compress, then press the
Snapshot Button, pressing key 5 will save a normal 128K File but
Key 6 will compress. the file to Disc. Compressing can range from
30K for a small Basic Program upwards.
To load in the Special file the normal **LOAD *d"filename"k** cannot
be used instead the following must be used;-

RUN *ldrive"filename"
RUN *l2"zub"   will load and uncompress file "zub" from drive 2.
Loading takes from 4-10 sees depending on length of file.

PLUS D HACKER

Introduction

Plus D Hacker is for use on the Plus D Interface using version
2/2a System Dos. The software on the Tape will automatically transfer
PDH to an empty Disk held in Drive 1.
To do this you will need to Load In your System from Disc by RUN
Which holds data on how many Drives you have, Printer codes etc.
With this Loaded, type LOAD """" an play in the tape.

```
1 +SYS  HACK 14 CDE 8192,6658
2 HACKER SJN 39 SPECIAL
3 +SYS GRAPH 14 CDE 8192,6656
```

The files take up 67 sectors or 33.5K this leaves 746.5K Space
on a Double Sided Disc for your use.
Turn your Computer Off then On again, then type RUN followed by
Enter to boot up and activate Plus D Hackers Initialising process
Next load in a game or type some Basic. Make sure PDH Disc is in
Drive 1, then press the Snapshot Button and then number zero.
After a short while (9 secs) you will be presented with a Menu
of 7 options described on the next page.
Key R will return you back to the place you pressed the Snapshot
button. This take 7 seconds.
When selecting the other 6 options from the Main Menu, you will
need to press key **Y** or **N**. If you are going to use the Printer or
not. If you are In 128K Mode then the Page number will need to
be typed in from 16-23 see table below.

Paging on the 128K Spectrum
In Spectrum 128K mode the memory layout is set out as 8 areas of
16K 3 of these are the normal 16384 – 65535 48K areas The other
5 extra RAM areas are paged into 49152-65535,   when inputting a
Page number on any of the Plus D Hacker routines use the numbers
16-23,   if using the Graphic Picture Searcher then use nos 0-7 0
```
0 16 NORMAL      49152,16384
1 17 EXTRA RAM1 49152,16384
3 19 EXTRA RAM2 49152,16384
4 20 EXTRA RAM3 49152,16384
6 22 EXTRA RAM4 49152,16384
7 23 EXTRA RAM5 49152,16384
```

Returning back to basic using key R
If you are playing a computer game and would like to Save parts
of memory then go into Pokes mode, enter **POKE 23730,23999** and **JP
to 4535**, when you then return back to a game   **CLEAR 23999:** NEW
comes into force clearing a little bit of space to enter for ex-
ample **SAVE d1 "filename" 24000,41536.**
Software using the stack in an unusual way. most of these are
scrolling games can crash the computer at certain points in the
Games when you return back using **Key R.** This is due to the way the
Plus D interface saves Registers and Interrupts when you press
the snapshot Button.
Also returning to 128K mode will sometimes cause a crash due to
a bug in both the Plus D Interface and the Spectrum 128.

Key S Disassemble:-
Input the start address from 0-65535 (128K mode Input page no)
0 16383 disassembles Plus D ROM/RAM area.
The Diss routine will cope with the   696 Full Standard Op-codes
plus a further 102 undocumented Ziglog codes making a Total 798
op-code Disassembly.   You may find BAD OPCODE appearing now and
then, indicating a non existant opcode this may be part of Grap-
ic data or Table Maps of sows sort.   **Key M** returns back to Menu
ENTER will pause diss, **SPACE** to re-input another address

Key T Text Listing:-
Key controls the same as Dissemble. The Listing is shown as:-
23296 00 34 45 58 54 OD 06 3A OTEXT.:
^addr ^ 8 hex bytes   ^32-127 the ASCII form, 1-32 and
128-255 shown as a dot, byte zero as an inverse 0

Key Q Graphic Picture Search
W- Fast forward   Graphics up screen
S- Fast Backwards Graphics down screen

Z- Fine tuna Graphics up screen
X- Fine tune Graphics down screen
Q- Fine tune scrolling left
A- Fine tune scrolling right

E- Alter size of screen upward
D- Altar size of screen downward
0- Alter size of screen to the left
P- Alter size of screen to the right

R- Re input Address
M- Return Back to Main menu
0-7 page in spectrum 128 extra Ram
8 or 9 examine screen 1 In Spectrum 128K mode

C- Colour, Most large graphics with plenty of colour will store
the attributes after the Picture Data.   So If you position the
Graphic exactly on the screen especially keys Z,X, then press C
to show the attributes for the picture. If random colour is shown
then press keys Q,A,0,P to search out the attributes.
SPACE win abort colour Mode.

B- Block Screen$ searches for 8creen$ or thirds held in memory
      W- Fast forward through memory
      S- Fast backwards through memory

      Q- Fine tune forwards
      A- Fine tune backwards
      0- Fine tune to the left
      P- Fine tune to the right

      C- Hold down to show colour
      0-7 page In Spectrum 128 extra Ran
      SPACE aborts Block Screen$ mode

Key S Search String
Input a string of text up to maximum of 30 characters
Text must be enclosed in quotes, dose not matter if text to be
searched is Upper or Lower case or spaces between e.g. you
would like to search for Game Over Just type;- "GAMEOVER". Note
use SYM SHIFT to get a quota. Numbers are separated by a commas
use CAPS SHIFT to get a coma,   number can be in the range of
0-235 these are treated as a single byte, unless you place a D
before the number which would make the number a Double byte.
Numbers in the range of 256-65535 are treated as Double bytes.
You can also search for mixed text e.g. "TEXT",l3,D128,"S"
SPACE is the delete key, When text is being searched ENTER will
pause, M to abort to Main Manu.

Key I Infinite Lives Search
This will search for the following opcode:-
LD HL, nn This is a common way to decrease lives.
DEC (HL)   By pokeing the opcode to NOP i.e. byte zero will stop
the lives counter reaching zero, when the Infinite lives search
runs you will see address by poking one address with zero at a
time (Go Into Pokes mode to do this),   than return back to the
Game to see if the Inf lives works, If not poke the next address
with zero (as found from Infinite lives search). until you have
the correct address that works.

Key F Find Blocks
This will search out blocks of 256 or More bytes occurring of
the same type. First the Start-End address is shown followed in
brackets the number of bytes this takes up,   lastly which data
byte is held in that area.

Key B Block Fill
This option allows you to poke a block of bytes to a certain
area, e.g. to Clear the UDG`s type 65368 65538 0,in Spectrum
128K mode you will be asked for the page number.

Key P Pokes
You will Display all the Registers and Stacks used when
you pressed the Snapshot Button, JP is the address that will be
executed when you return back to the Game.   The two right hand
Columns show what is on the Stack.   SZ-H-PHC shows the state of
the Flags. S=Sign, Z=ZERO, H=HALT carry reset,, P=Parity/overflow
N=Add/subtract, C=Carry. 48K denotes 48K mode, 128K for 128 mode
also shown the page 16-23 that the game was using. To Alter the
registers type in number and Enter to alter the current high
light. Press CAPS SHIFT to move the highlight to the next Regis-
ter. If the Highlight shows a Big square you can input pokes by
Inputting the start address followed by the poke byte. Note nos
0-255 are treated as a single byte, 256-65535 as a double byte.
SPACE aborts pokes input, M return tack to the Main Menu.

Watch out for the updated version of Plus D Hacker for the
SAH COUPE Computer, which will use the full 80 column mode
and other new routines.

<center>**Extended Basic Commands.**</center>

INTRODUCTION

The file +SYS GRAPH is system file which when loaded
by P3 will allow extended Basic which is held in a special area
inside Plus D RAM using no spectrum memory whatsoever.
Note that the commands are in their shortest form example
the Delete command you could type RUN *del. or RUM *del p1us any
other character from a to z after it e.g. RUN *delete. or
RUN *delines. Just as long as you type in the minimum characters
and type a full stop at the end, this is an end marker

RUN *col.paper attributes, border colour   **COLOUR**
RUN *col.40,6 will at the attributes Paper 5, Ink 0, Border 6
attr worked out as **Paper * 8 + Ink + 64** if bright **+ 128** if flashing
border are from 0-7, higher values will alter the attr for input
report area (the last two lines of the screen)

RUN *del. Start, end lines   **DELETE**
RUN *del. 0,9999   will delete all lines from a Basic Program
Error reports are given if line no, not in the range of 0-9999
and start > end

RUM *free   shows the amount of free memory left   **FREE**

RUN *pe.address,type   **PEEK**
RUN *pe.23730,1   will print the Clear Ramtop value as a double
byte note the 1,   addresses 0-16383 peeks P1us D Rom/Ram
RUN *pe.235l10,0   will peek address 23550 as a single byte note
                   the zero

RUN *ins.start,"Text"   **INSERT**
RUN *ins.60000,"SPECTRUM"   will poke the text string "SPECTRUM"
from memory location 60000 upwards.
error reports are given if you try to insert text In the Plus D
memory area (0-16383) and if text to be poked exceeds 65535 e.g.
RUN *ins.65534,"123"   will poke 65534,1 and 65535,2 but 3 will
exceed 65535 causing an error.

RUN *sea.start,end,"Text"   **SEARCH**
RUM *sea.30000,40000,"THE"   will search for text "THE" from
memory locations 30000 to 40000   start variables from 1-65535
error report are given If "Text" does not have 2-2S5 characters
in the string. 0-16383 searches Plus D area.

RUN *udg.type,fo11owd by 8 data bytes separated by a comma   **UDG**
RUN *udg.A255,129,129,123,128,129,129,2B55 will define UDG A as a
box graphic character, this is the Basic equivalent to;-
10 FOR l=USR "a" TO USR "a"+7: READ n: POKE l,n: NEXT l
20 DATA 255,129,129,129,129,129,129,129,255
error report are given if UDG type is not in range of A-U

*RUN *dec.number (0-65535)   DECIMAL to HEX*
*RUN *dec.16384   will print the Hex value of decimal 16384*

*RUN *hex."TEXT"   HEX to DECIMAL*
*RUN *hex."CO8b" will print the decimal value of hex C08b*
error report are given if "TEXT"   is not 2 or4 characters in
length, text dose not contain values from 0-9 a-f or A-F
<center>*Note by SPT 27-06-04 - The above in Italics was crossed out in my*
Instruction so the commands my not be supported</center>

These commands are concerned with Graphics, useful with the Grap-
ics mode of Plus D Hacker in Printing and Animating the Graphics
Notice when searching through Graphics mode, a bar with variables
these can help you set up the below commands.
Error messages will be given if a Graphic will not fit on the
Screen using most of the commands.

RUN *bl.start,end,poke byte   **BLOCK**
RUN *bl.16384 to 22527   will poke byte zero into memory locations
16384 to 22527 in effect clearing the Display file but not the
attributes.
Error messages are given if start < 16384,start > end,start=end

RUN *mo.start,newpos, no of bytes   **MOVE**
RUN *mo. 16384,58624,6912   will move the Screen$ display to addr
58624 onwards.
error messages are given if mempos < 16384, and moving data past
05535 •.9. RUH ••0.23298,85884,3 Mill POKE 65S34,PEEK 23290 and
POKE 65635,PEEK 23297 but POKE 65536,PEEK 23298 exceeds 65635

RUN *pa.page number (0,1,3,4,6 or 7)   **PAGE**
RUN pa.1 will page in the first extra Ram on the 128K spectrum
Also see page 6 for more details.
error messages are given if you are not in 128K mode, RAMTOP not
below 49152, the Wrong page number.

RUN *gr.   **GRID**
This will Produce a grid of attributes to help position graphics
on the screen accurately with the below commands.

RUN *sp.line,col,linedown,charsacr,addr,type,speed   **SPRITE**
RUN *sp.0,10,64,4,32768,1,0
line 0-191 going down screen from Top 0 to bottom 192 PRINT AT
col 0-31 columns across screen, left most pos is 0   cords
line and col mark the Top left most position of Graphic, Sprite
linedown 1-192 the size of the Graphic in lines down screen
charsacr 1-32 the size of the Graphic in character squares
across screen.linedown and charsacr are taken from the variables
of the Graphic searcher on P1us D Hacker they are:-
DWN (Linesdown) ACR (charsacr)
addr 23296-65535 the address where the Graphic is stored
type 0-3 defined as follow:-
1 Graphic will be placed on the screen
0 Extract Graphic from defined area on screen, store it at addr
2 CLS defined area onscreen, addr could be any value
3 INVERSE defined area on screen, addr could be any value
speed 0 at full speed, any other value for slow speed

RUN *at.line,col,attrdown,attracr,addr,type   **ATTR**
RUN *at.0,10,8,4,40000,1
line and col same as sprite above
attrdown 1-24, attracr 1-32, size of the attributes colour area
type 0 or 1,   1 to place attributes to screen
                  0 to extract attributes from screen to addr

```
PUN *fra.line,co1,linedown, charsacr, addr, sprites, repeat, speed
RUN *fra.88,14,16,2,32768,8,3,5                                    FRAME
```
If you have sprites that are stored one after the other of the
game size which you would like to animate this command will take
a lot of variables set up for lots of RUN *sp. commands for each
sprite.
line,col,linedowm,characr,addr are the same as the *sp. command
only addr points to first graphic
sprites this is the number of sprite to animate
repeat the number of times you wish to repeat the animation
speed 255 for maximum speed, 0 to pause each frame 1-254 pause
speed, value 1 will animate each sprite 1/50 •ec   i.e each TV
scan frame,   although this will slow down If you are animating
very large graphics.
The above example command will animate 8 sprites one after the
other starting from memory location 32788 onwards,each sprite is
16 lines down by 2 characters across (the standard size for most
sprites), the animation is repeated 3 times, each frame printed
5/50 sec at position 88,14 the Middle of the screen.

```
RUN *scr.line,co1,linedown,characr,dir,scrolls,speed             SCROLL
RUN *scr.0,0,192,32,5,256,0
```
11ne,col, charasr same as sprite
linedown, if scrolling defined area in direction:-
5 or 8 then use up to 192 line, 6 or 7 then use up to. 191 lines
dir the direction of the defined area to be scrolled
5=left 8=right 7=up 8=down
scrolls the number of scrolls (max 255 pixels) in direction dir
0 taken as 256 scrolls
speed 0 for fast speed , any other for 1/50 a pixel scroll a sec
although this will slow down if scrolling large area of screen.

*The Demo on side 2 of the enclosed tape will help to explain how
to set up the Graphic commands, to do this ensure you have loaded
the +SY8 GRAPH system file, then type LOAD "" and play Tape.*

Note by SPT 27-06-04 – The above Demo is not on the +D disk version of the software.

Plus D Filler.

Introduction

Plus D filer will work on any version of the Plus D Interface,
You will need a double sided Drive using Double sided Double
Density Discs.
To get started boot up your Plus D system file. Then LOAD in tie
Tape Software by LOAD "".   Then insert a Blank Disc into Drive 1
Press Eater to Format and Save the files to Disc.
It is important from this point on that you do lot erase or save
flies onto this Disc, you will see weird filenames when you cat
the Disc this is ok, more is explained on the Technical Info Page

Plus D Filer is a Random access filing system capable of storing
750 records, with each record containing up to 924 characters.
You can also Draw lines and colour in each record.
Each record is saved and loaded from Disc so it's important you
do not slide the tab on the side of the Disc to into Protect.

To load in the Plus D Filer from Disc simple type RUN plus ENTER
loading will take 11 seconds.   Next you will see a menu on tie
bottom 2 lines of the screens. Pressing keys A,L,N,E,W,S,N,C, will
access filer routines described below.

Add
Allots you to take a record and store it on Disc.
The text you type out is in 42-character mode. There are also 9
other function keys which help to enter text.

        Caps Shift +5 move cursor to the next position left
        Caps Shift +8 move cursor to the next position right
        Caps Shift +7 move cursor up one line
        Caps Shift +6 move cursor down one line

        Enter move cursor to the start of the next line down

        Caps Shift +2 toggle Caps lock mode
        Caps Shift +4 move text from cursor position to the right
        Caps Shift +3 move text from cursor position to the left
        Caps Shift +0 delete character on cursor position

Once you have finished typing out your text Press EMODE that is
Caps/Symbol shift pressed together, then press y to confirm just
in case you pressed EMODE by mistake, n will return you back to
text mode.
Next you will need to input the Paper Attributes for the screen
as a number between 1-255. Attributes worked out as PAPER number
*8 INK number +64 if bright +l28 if flashing. For example: -
Paper cyan, Ink black, bright on, would equal 104 (5*8)+0+64=104
Next the Border colour needs to be imputed as a number 0 to 7

Once the main screen colour has been set you can colour and draw
in lines over the text, 19 sets of colour and lines can be used.
First, the prompt COLOUR IN SCREEN y/n comes up, typing n goes on
to drawing lines.   Pressing y will allow you to colour in parts
of the screen. First the Attribute Paper colour needs to be inp-
uted like above. Then position the colour cursor using keys QAOP
to the top left position of where you like your colour attribute
box to start, then press Space. You can now alter the size of the

box using keys QAOP, once you are satisfied with the shape press
Space again. You will then be prompted for MORE COLOUR y/n
Press n to do into draw line code or y to colour in more of tie
screen. You will notice on the right hand side of the prompt a
number from 1 to 19 showing how many more colour boxes or drawi-
ng lines you can do. Once you reach zero you automatically go on
to saving the record menu.

 Drawing lines, set the dot start position with keys QAOP pressing
Caps shift as well speeds up dot positioning. Press Space when
- finished, Next the direction of which the line will be draw by
pressing either QAOP. Then you can control the length of the line
by pressing keys QA or OP depending on which direction you used
pressing Caps shift as well speeds up line drawing. Once the line
is set press Space again to go to the prompt MORE LINE DRAWING
y for more lines or n to save the record.
Once on the prompt REC 1- 750,   input the records number you
would like the text to be held on, typing zero will get the rec-
ord number automatically to the next free record for the text to
be saved on. When you eventually go back to the main menu you
will see what record number was chosen by looking at the number
on the far right hand side of the Menu,
Don't worry if you accidentally typed in a record number that you
have already used the message :-
RECORD NUMBER EXISTS overwrite y/n comes up typing n will leave
the record alone and allow you to type in another one, if you
typed Y then the record will be overwritten and resaved.
Next type in a filename of up to 15 characters you would like
the record to be called, Note the first character of the record
cannot be a number 0-9 and you must type 2 characters or more
text for the filename. Once complete a short pause of 1 to 2 secs
for the record to save to Disc.

LOAD
This option will display a record from Disc to the screen, there
are two ways in which a record can be loaded, the first is by
directly typing in the record number from 1-750. If you typed in
a record number which you did not use then the message ;-
RECORD DOES NOT EXIST comes up.
The other way to access the record is by typing in the filename
you do not have to type the full name but must type at least
two characters it does not matter it the characters are upper or
lower case. Then the searching for the filename starts from rec-
ord l, if part of the filename is found the record is loaded then
the prompt **IS THIS THE FILE Y/N** is displayed, typing y will go to
the main menu, typing n will search for more files that may be
the same, if no more are found the message FILE NOT FOUND comes
up.

Next
This is similar to the Load option only this time no record num
ber or filename is Needed as this option will load in the next
used record that was last loaded or saved taken from the number
as seen on the main menu on the far right hand side.

Edit

If you need to update a record to put in new data or alter text
then this option will edit the record for you. You can type in
the record number directly or type in the filename just like the
load option. Once the record is found and displayed the message -
EDIT THIS RECORD y/n appears if you choose the filename option
typing n will search for more similar filenames. Typing y will
allow you to alter the text only on the record, you cannot alter
the colour or drawing lines. Press EMODE and the record will save
back automatically along with the colour and drawing line data.

Wipe

The option will erase and wipe out a selected record by either
typing in the record number or filename like the load option,
when selected record is found and printed to screen the message-
ERASE THIS RECORD y/n comes up press y to confirm to erase this
record, typing a will search more similar filenames, if you inp-
tted a record number directly then pressing n will go back to
tie Menu.

Search

This option allows you to search for text in each record. its a
slow process as each record has to be loaded from disc and sear-
ched individually it can take up to 8 minutes to search through
all 750 records. However the routine will not search records
that are not used it just skips these. You will need to input
the string of text to search for, at least 2 characters, Next the
record number you would like to search from needs to be inputted.
Once found the record is printed to the screen and the Message:-
SEARCH MORE TEXT y/n appears, n will go back to the Menu, y will
continue to search for more text. Note pressing space at any time
during the search will abort to the Main Menu.

Memory

Pressing key m will display how my records you used and how
many are free for adding more records.

Copy

This will copy what is shown on the screen to the printer, equiv-
elent to the Basic command COPY SCREEN$ 1 or pressing the Snaps-
hot button then key 1.

Pressing space from the Main menu goes back to Basic to access
the file record Catalogue which is programmed in basic for ease
of use to print the files to screen or printer.

Technical Info

Each records out of the 750 uses 2 Disc sectors (1k it length)
The first record save to sector 10,1 and 10,2 and so on to the
last 2 sectors on side two of the Disc (207,9 and 207,10).
The filenames for each records are held in the area used by the
Disc Catalogue 24 sectors are used starting from sector 1,1 up to
3,4, this explains why an unusual Catalogue is displayed after a
CAT command. There, are 32 filenames to each sector each filename
having a length of 16 characters, to test to see if a record is
free to he saved onto, the filename would be blank holding no
filename. when a record is being added to Disc and saved the text
is saved to 2 sectors. The filename is added to the set held in
memory and also to one of the Cat director sectors, So when you
next use the TextFiler program again the 750 filenames are load-
ed from the 24 Cat directory sectors.