

# **ACORNUSER**

## **EDUCATION DISC**

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## *COPY40*

This is a 40 track disc and can be read directly on a 40 track drive or a 40/80 switchable drive set to 40 tracks. If you have an 80 track drive and a BBC Master or B+ you can simply type \*DRIVE 0 40 assuming the disc is in drive 0. Otherwise you can copy the contents of this disc onto a blank, formatted 80 track disc using the program COPY40 supplied. To do this, proceed as follows:

1. Format an 80 track disc ready to receive the programs.
2. Insert the Acorn User disc in your disc drive.
3. Type CHAIN"COPY40" and press the RETURN key.
4. If you have a dual disc drive, place the blank disc in the vacant drive.
5. The program will request source (40 track) and destination (80 track) drive numbers. Enter these pressing the RETURN key after each number.
6. Unless you are copying using a single drive the transfer will be completed automatically. If you have a single drive you will be prompted to swap the discs when necessary.

To run the disc, hold down the SHIFT key and press BREAK, then release the SHIFT key.

## *ALL MODE DUMP by George Hill*

(BBC B/Master/Electron. Filename: AllMode)

This is a screen dump routine for Epson compatible printers. Either incorporate it into your own listings or set up a screen and CHAIN" AllMode".

## *TELETEXT DUMP by David Acton*

(BBC B/Master. Filename: Tdump)

This will dump a mode 7 screen to Epson FX-80 compatible printers. Tdump is a machine code program designed to be used within your own programs. After a Mode 7 screen is drawn use the command \*Tdump to print it.

## *CAPITALS by Pete Gaunt*

(BBC B/Master/Electron. Filename: Capital)

This is a utility to force all text input to upper case. It can be used within your own programs or before loading a program. 'Capital' is an assembler program which creates a machine code file called CAPS. To use it, run the code by typing \*RUN CAPS (or simply \*CAPS if using discs). Then use \*CODE1 or \*FX136,1. After that, all text input will be converted to upper case. Turn it off again with \*CODE0 or \*FX136,0.

## *TAPE TO DISC by George Hill*

(BBC B/Master/Electron. Filename: TtoD)

This will transfer most types of files - not just Basic programs - from tape to disc.

*EASYPLOT by Martin Phillips*

(BBC B/Master/Electron. Filenames: Plot1, Plot2)

This is a drawing program contained in two programs - Plot1 loads Plot2 automatically. You will be asked which screen mode you wish to use, but the first three are available only to second processor users. Screens are saved in a special format which records the drawing operations rather than doing a pixel-by-pixel screen save - this saves a great deal on disc space. The program allows you to use user-defined characters for details which are too difficult to draw normally and contains a character generator to create these. Up to 20 can be handled on the Beeb (10 on the Electron). The characters are accessed using the function keys in conjunction with Shift and Ctrl. Save the definitions by pressing S, or clear them using C. After that, pressing E loads the main part of the program (Plot2).

A drawing area is then shown. The cursor is moved with the cursor keys (speeded up if you press Shift at the same time). Commands may also be entered and these are:

- R Draw a Rectangle. Move the cursor to one corner of the desired rectangle and press R. Now move it to the opposite corner and press the space bar.
- L Draw a Line. Pressing L fixes one end of the line. Move the cursor to the other end and press the space bar.
- C Draw a Circle. This actually draws a circle or any regular-sided polygon. Enter the number of sides (1 for a dot, 2 for a straight line, any number above 20 for a circle). The centre of the shape is determined by the cursor position when you first pressed C. Move the cursor out to required size of shape.
- F Follow Mode. Draw an irregular line using the cursor keys. This technique uses a lot of memory.
- P Print at. Used to enter text. After pressing P, enter the text then position it using the cursor keys.
- M Move and Redraw. Copy any part of the existing picture. Place cursor at start position for copy. Press M. The computer will ask if you want to continue for each stage of the drawing.
- D Define Colours. Alter logical colours (works in a similar way to VDU19 command).
- A Alter Colours. Selects new drawing colour.
- W Clear the Window. Erases picture from memory, clears the screen and resets the colours.
- S Save Picture. This can be done at any time.
- E Edit Picture. Allows picture to be edited step by step.
- I Infill shape with colour. The cursor must be inside the shape and the shape must be closed. In four and eight colour modes a block will be shown allowing you to select the colours within each pixel, allowing textures to be used.
- X Print Picture. This procedure has been left blank for you to incorporate your own printer dump routine.

- @ Print remaining memory.
- Z Load Picture. This may add to the existing picture if memory permits.
- ESCAPE This allows you to escape from any routine - especially useful for the infill routine if it goes wrong.

*NOTICEBOARD by Martin Phillips*

(BBC B/Master/Electron. Filename: Notice)

This program builds up and displays screens created with Easyplot. The screens are displayed one after the other, with a user-defined time gap between each. After the last screen the program goes back to the first and repeats the process. In order that the program knows which files to use, the filenames are entered in DATA statements at the end, preceded by the relevant screen mode. With a mode 1 screen, for example, the entry might look like this:

5000 DATA 1,file

The last file is followed by the entry DATA 1,end (see listing). The program on the disc contains DATA statements for the three sample screens named SCREEN1, SCREEN2 and SCREEN3 on the disc.

*VUFOIL by Martin Phillips*

(BBC B/Master/Electron. Filename: Display)

This allows you to display screens created with Easyplot in place of an overhead projector display - ideal for lectures. The screens are stepped through one at a time by pressing the space bar. Between each vufoil the screen is blank. The screens must have been created in mode 1 (non-second processor users will have to work with cassette tape initially - disc based machines do not have enough memory. Once the screens are saved on tape they can be transferred to disc). Vufoil screens are saved to disc using simple numbers as filenames. These filenames are then entered in a DATA statement at the end of the program in the order in which the frames are to appear - eg, DATA 1,2,5,6,3,4,2. Overlays which don't wipe out the previous frame but simply add to it must use qualifying letters for their filenames - eg, overlays for frame 3 might be 3A, 3B and so on. Pressing ESCAPE allows you to reselect the start position for the sequence.

*BULLETIN by Jeff Tullin*

(BBC B/Master. Filenames: Bulmenu, BullBrd, BullDem)

This program converts your micro into an electronic message display. Strings of up to 255 characters can be displayed in large, sideways scrolling letters. The menu program 'Bulmenu' gives access to the two main programs:

'BullBrd' allows you to enter a string and then have it displayed.

'BullDem' is a demo program. The message string in the program could be replaced with one of your own for permanent messages.

*ECO-FAX by Joe Telford*

(BBC B/Master with Econet. Filenames: EcoMenu, Eco-Fax, Eco-Ed)

This suite of programs allows you to create a viewdata-type database on an Econet

system. 'EcoMenu' is a simple menu program which calls the other two. 'Eco-Fax' is the viewing program used to call up pages of text, and 'Eco-Ed' is used to create the pages. The program uses mode 7 screens with Teletext graphics.

ECO-ED: This program has three modes of operation. The first is command mode, allowing you to save, load and remove pages, quit the program and set the master cursor direction. The graphic mode is self explanatory. Alphabetic mode is used to display upper and lower case text numbers and control characters.

To enter command mode, press the RETURN key until the prompt COMMAND (SLRQ~V<>) appears at the foot of the screen. A page can be saved by pressing S when a prompt will appear. This is answered by typing in the page number which consists of three digits. If this page number already exists on disc the save will abort. If the save is successful you will get the prompt:

Page Type: M(ovie): S(till): L(ink)?

The first is for an automatic sequence of frames. The second is for a single frame. The third is for a linked sequence of pages. On pressing M or L you will be asked which page number this one should be linked to. To load frames in command mode, use L and type in the page number. Saved pages can be removed from command mode by using R. To quit the program use Q. The remaining four options allow you to select the direction of travel of the master cursor when entering text.

Pressing RETURN will take you into graphics or alphabetic mode. Both work on the same screen but the first gives teletext graphics symbols from the keyboard while the second allows you to type in text.

As well as placing text on the screen, alphabetic mode is used to set up some of the control characters that give access to things like graphics effects. The control characters are accessed using the function keys (see below). Control characters are always invisible, but Eco-Ed shows the character at the cursor as a code at the bottom right of the screen. The message ARED, for example, means the cursor is over an alphabetic red control character.

Control characters affect the rest of the line following them, until another control code is reached. Keys f1 to f7 give colours - shifted keys give coloured letters, Ctrl pressed with these keys gives colours with graphics characters. These are accessed by using lower case letters which will actually come out as graphics shapes on the screen. Upper case letters and numbers are printed as normal.

Function key f3 gives double height text. It must be used on two lines, or you will only get half the characters. Key f4 cancels the effect if you don't want it affecting the whole of the line. To create a new background colour for text press f6 after an alphabetic colour control. For example, to get a yellow background press SHIFT-f3 then f6. Pressing f5 makes it revert to black.

Having used a graphics control code for a line, using f9 allows you to access the six individual pixels of each character (see later). CTRL-f9 reverses the effect. CTRL-f8 hides the rest of the line until R is pressed when viewing the page. SHIFT-f8 gives flashing text, and SHIFT-f9 makes it steady again.

The hold graphics code (f7) is an advanced teletext facility. It allows a graphics character to be held over a control character where otherwise there would be a break-up of text/graphics. For example, at the boundary between two colours you would get a black character where the control code for the new colour is held. Using hold avoids this by ensuring that the old colour continues until the new one starts, being held over the top of the control codes in the middle.

Graphics pictures can be designed using blocks and/or individual pixels. Provided the graphics control characters have been set up (CTRL-f1 to CTRL-f7), blocks of graphics can be set up using the space bar. A single press produces a single graphics block, a second press erases it. Movement across the screen is with the cursor keys.

Each graphics block is effectively a set of six pixels. If pixel graphics have been selected, these pixels can be toggled on and off using the following keys:

Q W

A S

Z X

The two marker keys, f1 and f2, can be used to invisibly mark a rectangle on the screen and copy it. To do this, place the cursor at the top left of the required rectangle and press f1. Then take the cursor to the diagonally opposite corner and hit f2. Note that the rectangle includes the character positions marked. It may now be copied to any point on the screen. Move the cursor until it is at the top left corner of the desired area and press SHIFT-f0. Alternatively the block can be deleted with CTRL-f0. The markers cannot be deleted. The screen can only be cleared by restarting Eco-Ed or by marking the whole page and deleting it.

To make the most of this program you should create your own function key strip. The functions are:

Key	Normal	Shifted	Ctrl
f0	Home	Block copy	Block delete
f1	Set mark 1	Redalpha	Redgraphic
f2	Set mark 2	Greenalpha	Greengraphic
f3	Large chars	Yellow alpha	Yellow graphic
f4	Small chars	Blue alpha	Blue graphic
f5	Black bckgnd	Magenta alpha	Magenta graphic
f6	New backgrnd	Cyan alpha	Cyan graphic
f7	Hold	White alpha	White graphic
f8	Release	Flash	Hide
f9	Split	Steady	Joined

ECO-FAX: At the start, this program will ask you for the date, page link delay and time. The date should be entered as three lots of two digits. The link delay is a two digit number which determines the time gap (in seconds) between pages in a linked display - a value of 10 is recommended to start with. After that, the initial page (page 100) will be called. Other pages are called by entering the page number (three digits)

and pressing return. Pressing R will reveal any hidden information, and pressing CTRL-@ returns you to the main menu.

*MODE 7 PLUS by Nigel Beasley*

(BBC B/Master. Filenames: Mod7Men, Mode7gf, Mod7Dem)

This adds some useful graphics commands to Mode 7. This mode uses the least memory while giving the greatest number of colours, but normal graphics commands cannot be used with it. 'Mode7gf' creates a machine code file called PLOT. This is designed to load in at &1700 so PAGE should be set to &1900 when using this program. Examples of how to use the program are given in the demo program 'Mod7Dem'. The location of the machine code routine is given in line 1150. If you relocate the routine, this line should be changed, as well as changing the load address in line 1090.

The three procedures which make use of the routine are PROCMOVE(x,y) which moves the cursor to a given location, PROC PLOT(x,y) which plots a point, and PROC DRAW(x,y) which draws a line from the last point visited to the location given. Screen colours are set by PROCGR("foreground col", "background col"). Graphics resolution in this mode is effectively 70 by 70.

*GRAPH by Nigel Jennings*

(BBC B/Master/Electron. Filename: Plotequ)

This program allows you to plot equations on the screen. It starts by briefly showing you the help page with a list of the available commands. Eventually the prompt Y= appears. You can then type in your equation - for example,  $Y=4 * (\text{SIN } X)$  - or one of the commands. Typing the command H gives you the help page again.

*TUNEMAKER by Colin Atkins*

(BBC B/Master/Electron. Filename: TuneMak)

This is a program for writing and editing tunes. Use the cursor keys to select the type of note or rest and to position the note on the music staves. The tune can be played back at a variety of speeds.

*TURTLE LOGO by Malcolm Banthorpe*

(BBC B/Master/Electron. Filenames: Iturtle, Turtle)

This is a simple version of the Logo language, with the emphasis on the turtle graphics. Full information on the available commands are given in the information program 'Iturtle'. This information can be dumped to a printer - just follow the prompts in the program.

