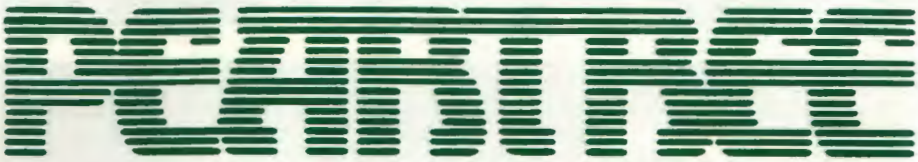

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(ACORN USER magazine review, April 1986)

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HARDWARE

BRANCHING OUT FOR BUSINESS

Roger Carus gets to the root of Pear Tree's version of the Beeb

Enthusiasts have always welcomed the logic and simplicity of the BBC micro, but wished for extended memory and a smarter, more business-like appearance. In the last year there have been real improvements and the number of small business users has grown rapidly.

Now Pear Tree Computers is marketing a version of the Beeb which aims to satisfy both these needs. With a built-in wordprocessor and supplied with a wide-ranging suite of accounting modules, it has much to offer, so how do the business capabilities measure up to the likely requirements?

It's fitted with Acornsoft's *View* wordprocessor which is a reliable and well tried system which you can read about in the comparative review of wordprocessors by Jacquetta Megarry (January 1985) as well as in several articles in the September 1985 issue of *Acorn User*.

The wordprocessor does not appear to be integrated into the business system generally, but stands alone, which is unusual these days when 'portability' of data calls for a system which can take, for example, a section such as the monthly profit report out of accounts and insert it in a wordprocessed chairman's report. I would have expected there to be a means of spooling text for transfer but this does not seem to be the case.

Pear Tree's KBL128 PC system: a modified Beeb with built-in wordprocessor and accounting modules

Accounting

In the accounting related areas the system integrates quite well and performs all of the functions so far available for the BBC micro. It is menu driven throughout, and reasonably easy to follow. Security is provided from the outset and I tried hard to find a way round it without success — you really do need to remember the password correctly. Frequently used information such as your company address, telephone and VAT numbers are entered once and for all.

You get a comprehensive suppliers database which is particularly user-friendly and holds data on 1100 suppliers, while the purchase ledger itself performs every task I could think of and takes 2050 transactions on a single disc side, with access in around one second. The option for recording 'Remittances and payments' is the best I have seen.

On the sales side there is an equally extensive provision with a customer database sufficient for 1100 clients, closely integrated with the sales ledger. This holds 2050 transactions and invoicing (with credit notes) units as well as a stock control able to hold data on about 1350 different items.

I'll take the sales ledger as an illustration of one module and show what it offers in detail. The unit menu offers you eight choices. The posting option allows you to insert a customer's invoice into the system. On payment of the account the second option prints receipt slips, updates the customer's account — even in the case of partial payment of multiple accounts from the same customer.

The third option produces and prints statements for individual customers, and then provides VAT records. The option for listing overdue accounts follows, with a facility to input individual accounts. There is then a process for credit notes and a summary procedure to close the sales ledger at the end of the chosen period.

The sales ledger is representative of the degree of detail offered by each of the modules and they appear to work well and to integrate where it is important.

They compare favourably with other packages I have seen.

On the purely accounting front the nominal ledger does not appear to be fully integrated, although this is not very important, and it has its own printing section which can produce postings, trial balances and profit reports as well as simple charts from these figures.

A useful and unusual petty cash control unit covers the need for internal book-keeping. There is also a module for bank account control which is likely to be enough for almost any small business, but which strangely seems to make no provision at all for working in foreign currency.

The final program in the suite (and the disc has 26 files) is one for producing proforma quotations which would be ideal for a business such as a small builder or other contractor who needs to create confidence when presenting estimates to public bodies.

It is a satisfying and comprehensive business package if these are the functions you need to

PHOTOGRAPHS BY DAVID KING

carry out, but I do have some reservations about features missing from it.

Apart from the problem of portability and its lack of integration, there is no database, spreadsheet, forecasting package, spelling checker (for the wordprocessor) or proper chart production unit.

It is perhaps a little unreasonable to look for all these features, and they could easily be added (although there are no explicit details about the number of free spaces for additional ROMs), but a package of this price should include them already.

Given the complexity of the system, I would also like to have seen a free training day offer – I certainly would need one before entrusting my records to it.

The manual is commendably brief at 38 pages but left me with a number of quite important questions unanswered. Oddly there is an excellent summary with capacities and access times, as well as the extent of integration, which is produced by Pear Tree as part of its marketing material, which gives almost all this information. It would have been sensible to have included it in the guide as an appendix.

Master

The model tested was based on the BBC B+ with 128k, fitted with operating system 2.0, 1770 Acorn DFS 2.20, ADFS 1.30 and *View* 3.0. As I was finishing this review the BBC Master was announced and this will be the basis for future issues of the KBL128 PC.

The first consequence of all the built-in software in the operating environment is that the micro does not 'feel' like an older BBC model and the various systems each modify what an experienced user is accustomed to. When these are taken into account together with the different arrangement of the keyboard, which is similar to that used by IBM, the confusion grows even more.

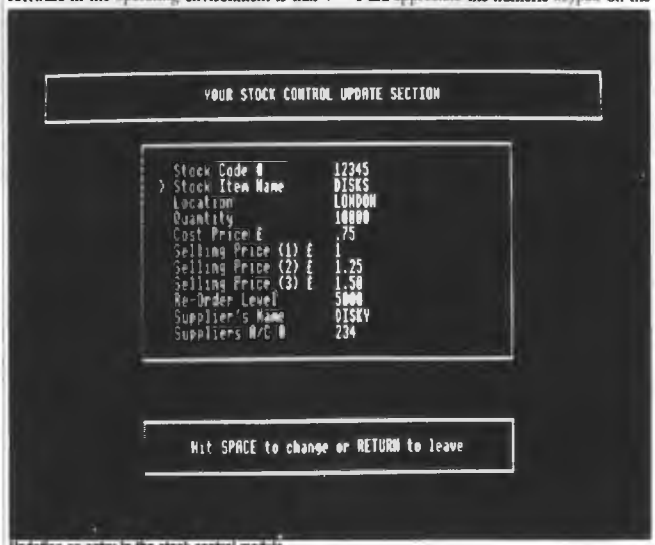
Of course you can sort it all out with the helpful manuals, and that brings you to the next problem because there's a total of 920 pages of micro, DFS, ADFS and *View* user guides to read (each with supplements and corrections), in addition to Pear Tree's guide, mentioned earlier.

Stock control	6
Customer database	8
Purchase ledger	8
Sales ledger	8
Nominal ledger	6
Invoicing and credit notes	8
Proforma quotations	10
Petty cash control	6
Bank A/C control	7

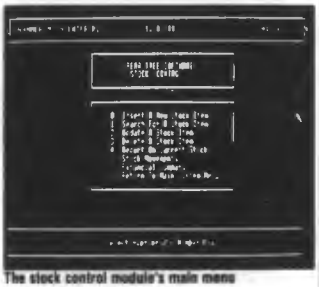
Table 1. The accounting modules scores out of 10

The layout of the keyboard is important because moving Shift Lock to where you expect to find Shift and also Caps Lock to where the second Shift key should be makes for mistakes and slows typing. Surrounding Return with a forest of keys also creates confusion. This doesn't matter if the operator uses no other machine, but that can scarcely be guaranteed.

I did appreciate the numeric keypad on the right-hand side of the keyboard and see that it is also a feature of the Master model. This is ideal for accounting and figure work and made me all the more sorry that there was no spreadsheet provided, which would integrate well with the module providing quotations.



Updating an entry in the stock control module



The stock control module's main menu

Conclusions

I rate the modules in the accounting software package in table 1 (marks are out of 10). This represents good quality business software compared to others on the market and I can recommend it.

However, the cost of the package including the hardware is less attractive. Comparable items to those featured in this system, according to current price lists, cost:

BBC B+ with 128k	£459
ADFS	£33
Cumana 800k CD800S	£252
Kaga 1201 G high resolution green screen monitor	£104
View wordprocessor	£69
Epson LX 80 dot matrix printer	£270
Total	£1187

As this package is selling at £1460 plus VAT or £1679 inclusive, you are paying at least £492 for the software and the repacking of the hardware in an IBM look-alike format.

The system has the advantage of offering operating systems in French, Greek and Arabic as well as English so it could be competitive in the export market.

My advice to prospective buyers is it is a good comprehensive business system and, if you are familiar with the BBC B and do not mind making the effort to understand how the Pear Tree works, you can buy it with confidence. If you already have a BBC-based system which works but are tempted to upgrade it, then there are easier ways of doing so. For the novice thinking of purchasing a system for business use, then this one is probably too complicated a choice.

KBL128 PC System. £1460 plus VAT, Pear Tree Computers, St. George's House, 14 George Street, Huntingdon, Cambs. PE18 6BD. Tel: (0480) 50595.

The black and white case for colour

Pear Tree are now offering the most powerful art package yet devised for the BBC Micro – Artist.

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ARTIST SOFTWARE	**£45.00**
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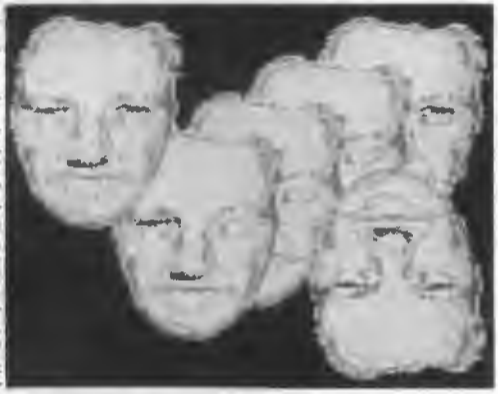
ARTIST AND MEGAMOUSE	**£85.00**

Trevor Attewell



FINE ART

Are you keen to paint, but find canvas too expensive, oils too messy, brushes too unwieldy and turpentine too smelly? This ROM sweeps away all your excuses!

The Artist is a 16K ROM which requires access to at least one disc drive. Initially this drive will contain the disc supplied as part of the package, containing some utilities and other handy material stored for your use. The Artist works only in Mode 2, giving eight colours (plus flashing colours in certain circumstances, which we will look at later). It is entirely mouse-driven, using the Wigmore House *Megamouse*, and keyboard input is required only for text or filenames. There are no CAD facilities apart from the usual basic line/circle/ellipse/rectangle ones, but this is a very sophisticated graphics package which, in the right hands, can produce some quite amazing drawings, with animation in suitable cases.

Menus galore

The Artist contains three menus and a drawing page, which are accessed separately, using the mouse buttons. The three mouse buttons will need to be referred to from time to time — in general button 1 (left) is used to "activate" the currently selected option, button 2 (centre) is used for erasing or for switching between two of the menus, while button 3 (right) is used to switch between the drawing page and a menu. The first advantage of the separation between menus and the actual drawing space is that there are no blocks of icons to limit the picture size. When The Artist is called, it first checks that a disc is present in drive 0, notes the filenames in those directories which it uses, and then offers the first menu, called the **I/O Menu**. As the letters suggest, this is concerned with loading and saving screen pictures, which may be in compressed format to save disc space, or normal screen saves. In addition, Complex patterns, Sprites, Brushes or User patterns may be loaded or saved — these will be explained later.

When any of the I/O options is selected (eg Sprites), a list of all the files of this type already stored on the disc is displayed at the

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top of the screen. Moving the cursor to one of these and pressing button 1 selects it as the filename to be loaded, which is then initiated using buttons 1 and 2. A catalogue option displays all the picture-type files on the disc, but not the various utilities. "Star" commmands can be issued in this mode, including cataloguing the whole disc. Lock and unlock options can be used on any file, any drive can be selected, and there is also a printer dump. This is Epson based, and produces a perfectly standard dump. A more complex one is available on the disc, and this will print in any of eight sizes, with or without colour inversion and/or linefeed. It can also reverse the picture about either or both the X and Y axes.

First throw the main switch

When first starting to use The Artist, you will probably want to start drawing something of your own. Pressing button 3 displays the **Main Menu**, on which the various drawing options can be selected, after which the same button toggles between this menu and the drawing page, which will be blank (if nothing has been loaded) except for a cursor in the form of a cross. By default the drawing mode will be rubber-line drawing. The Main Menu is a screenful of word icons except for a palette along the top — with which the required ink colour is selected, and four white squares near the bottom — the uses for which are described later.

The various options are divisible into two groups — those in the left-hand and upper middle columns are drawing options, referred to as Commands. Only one can be selected at any one time, and is highlighted in red. Those in the right column are concerned with the numerous ways in which each command can be used to give special effects. They are called **flags**, and may be used in combination, those currently active being highlighted in blue. Provision is made to cancel all flags in one operation, for which confirmation is demanded.

Taking the simple options first, many of those in the left-hand and centre columns require little explanation. **Line**, **Circle**, **Ellipse**, **Triangle** and **Rectangle** are all rubber-banded functions of conventional type, used in the normal way. Circles and ellipses are defined by marking the centre, after which the circle diameter (or ellipse axes) are set by moving the mouse until the dotted figure on screen is correct, when it is confirmed with button 1, becoming a solid line. Ellipses may have only horizontal or vertical major axes. If the **Solid** flag is set, the areas concerned will be filled with the selected colour — alternatively they can be filled subsequently using **Fill area**. Freehand drawing uses **Draw** plus **Continuous** to produce a line one dot wide, but combining this with **Solid** gives a line width which increases with speed of movement. This may be used decoratively, or to produce letters like those made by an old-fashioned wide nib. It also gives a combined rubber line and freehand capability. Thicker lines can be drawn using a brush.

More repeats...?

It is simple to repeat any filled or unfilled geometrical shape, using the **Use Size** flag. The Artist remembers the size of the figure drawn, and will repeat it as often as desired anywhere on the screen. If the **Continuous** flag is also set, the figure will be drawn continuously as the mouse is moved, completing each figure before the next is started. By varying the speed of movement anything from a line of individual figures to a solid tunnel-like structure may be drawn. In all cases, any closed areas can be filled with any colour (or pattern, see below) using the normal fill command. If colour leaks from a hole, pressing button 2 on the mouse will stop it, but the fill is fast, and you will need to be quick!

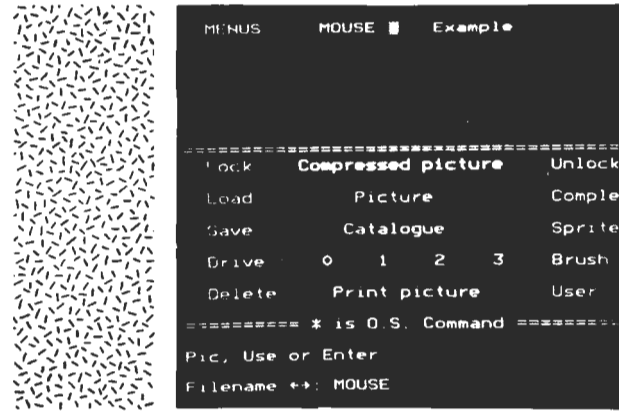
Corrections are possible in various ways. On the drawing page button 2 displays a rectangular rubber, but does nothing else until button 1 is pressed, when the area under the rubber is deleted. There is also a colour change routine using **Replace**, which allows any colour on screen to be changed for another, including the background colour. This can be useful in removing large errors. If the part to be corrected is small, then there is a splendid device called **Big Bits**, which has many uses. This is selected from the main menu, before returning to the drawing page and setting the cursor over the part to be modified. On pressing button 1 a much magnified picture of the small area round the cursor will fill the screen, the area covered being 18 x 18 Mode 2 pixels.

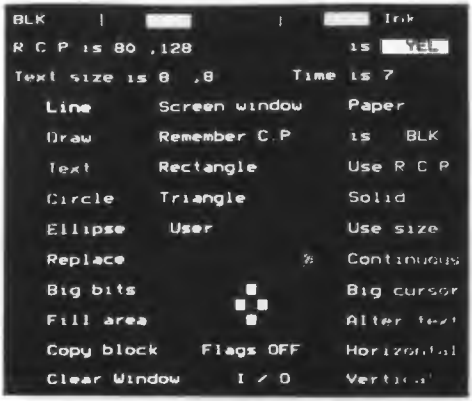
The Big Bits display shows the colour palette at the top, with the paper and ink colours identified. The selected area is defined by a rectangle of "plus" signs, with an asterisk in each corner. If the displayed part of the picture is not quite correct, or it is necessary to move it as correction proceeds, the cursor (a small square) is simply placed anywhere along the appropriate boundary, button 1 is pressed and cursor movement outwards will then move the whole area. By using one of the four corner asterisks the area can be moved diagonally. The cursor is also used to choose the ink colour, and to select the pixel which is to be filled or overwritten with that colour. Deletion of a pixel is done with the rubber, used as previously described. Big Bits is an invaluable facility, and it can save a very great deal of tedious work.

Where was it?

The Artist stores a cursor position, called the **RCP**, which stands for "remembered cursor position". This can be set by the user, and has a default value of 80,128, ie the middle of the screen. The current value is given near the top of the main menu. These coordinates reflect the Mode 2 pixel size, the Y coordinates running from 0 to 159 and the X coordinates from 0 to 255. The value of the RCP is also displayed in the Big Bits picture just below the top of the rectangle, and the screen position of the bottom left-hand corner of the magnified portion is given just above the bottom edge.

The RCP is used as a reference point when accurate positioning of parts of a drawing is required. Simple examples are the production of properly concentric circles, setting a "vanishing point" for perspective drawing, or accurately positioning blocks which are being copied. It is fixed by selecting the **Remember RCP** command, shifting to the drawing screen, moving the cursor to the desired position and pressing mouse button 1. This is quick, but not necessarily very accurate. Finer adjustment is obtained by going back to the main menu, selecting the **Use RCP** flag, then placing the cursor on one of four white pads near the bottom and pressing the mouse button — each press alters the chosen coordinate up or down (or left/right) by one increment. Small changes in RCP can be used to produce 3-D shadow effects when using text, Sprites, etc. Finally, for maximum accuracy, Big Bits is selected to





enclose the area in question. The last pixel placed in Big Bits is taken as the RCP, giving single pixel accuracy.

The written word

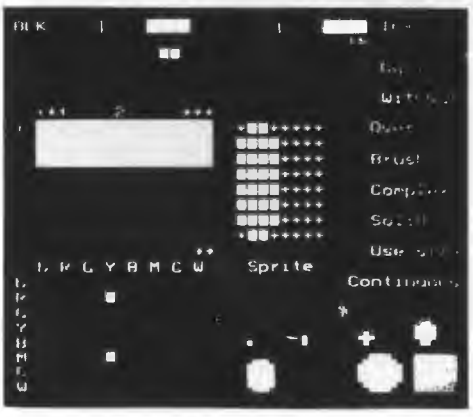
It is easy to use text as part of a picture, and to use any size, though the chunky standard BBC text is the only available font. The current **Text size** is given in the main menu, just below the remembered cursor position, and defaults to 8 x 8, the normal Mode 2 size. There are two ways in which the size and shape of the text can be changed — one is to select the **Alter** text flag and use the four white pads at the bottom of the main menu to change the height (top and bottom pads to increase or decrease) and the other two pads similarly for the horizontal size. This is suitable for small changes. The alternative is to select **Alter** text and switch to the drawing page, where a box can now be drawn to indicate the size and shape required for each letter.

Finally the **Use size** flag is activated — all following text will be in this size, which can be from 5 to 170 pixels in either direction. The former is smaller than the normal for the Mode, and will curtail parts of some letters. Text can be either horizontal or (using the **Vertical** flag) vertically downwards, but not at other angles. To reverse the writing about either axis (eg to obtain mirror writing) the **Copy block** command is used in conjunction with the **Vertical** or **Horizontal** flags.

Among other useful commands is **Screen window**, which permits any part of the screen to be defined as a graphics window, to which the cursor is then confined. This is particularly useful in avoiding accidents while building up pictures in sections, and for deliberately "windowed" effects. **Copy block** does what one would expect, allowing any part of a picture to be replicated elsewhere on screen, as often as required. Since a part of the background may well be copied as well, means are provided to cope with this problem in the **Special Effects** menu, which we will deal with very shortly. Meanwhile, there are a few other items on the Main Menu still to be looked at. **User** allows extra options to be added by the user, provided that he/she is a reasonable machine code programmer! One example, for which a program is provided on the utility disc, sets up an invisible gridlock, so that the cursor can only be moved incrementally. Other obvious possibilities include rotation or scaling procedures. It has to be said that only artists with programming experience are likely to get involved with this command, but this is such a powerful utility that, hopefully, some users will publish a few applications for the public good!

Clear window does what one might expect, but only after a flashing **Are you sure?** message below the middle of the screen. To wipe everything out it is necessary to press the mouse button over this message, and pressing it anywhere else aborts the action. **I/O** takes you back to the **I/O Menu**, but it's much quicker in practice to use **Escape**. **Big cursor** produces a cross that always covers the entire screen, and this is very useful when lining up separate parts of a drawing. **Break** is fairly safe, in that any picture vanishes, but only after The Artist has attempted to save it as **P.RECOVER**. This will not work if

- there is insufficient room on the disc
- your machine restarts in a mode other than Mode 7 or
- you have locked the file. Nor is it too clever if **P.RECOVER** already contains a picture that you wanted to keep but have forgotten to back up!



Magimix colours

When in main menu mode mouse button 2 can be used to toggle between the main menu and the **SFX Menu** - the SFX stands for special effects. This has the usual palette at the top with confirmation of the current ink colour. Most of the right-hand edge is occupied by a list of flags, some of which are common to the Main Menu. The topmost flag is **Cycle**, and to its left are a number of coloured dots below the palette. If the Cycle flag is turned on and mouse button 1 is pressed successively while the cursor is moved over two or more of the pairs of dots, then the colour of lines drawn subsequently will change with each line in the selected sequence. If **Continuous** is also on, the colour of the resulting continuous line will change at fixed time intervals as it is drawn, and the length of line displayed in each colour will depend on how fast the mouse moves. The time interval can be changed by selecting **Time** at the top of the Main Menu, then placing the cursor over the "up" or "down" pad near the bottom and altering the time accordingly, again with the mouse button. This effect can also be used with the remembered cursor position to produce another range of multi-colour effects.

A problem with most drawing programs is the impossibility of preventing one colour from overwriting one or more of the others. One such case arises here when trying to copy a part of the picture to another position

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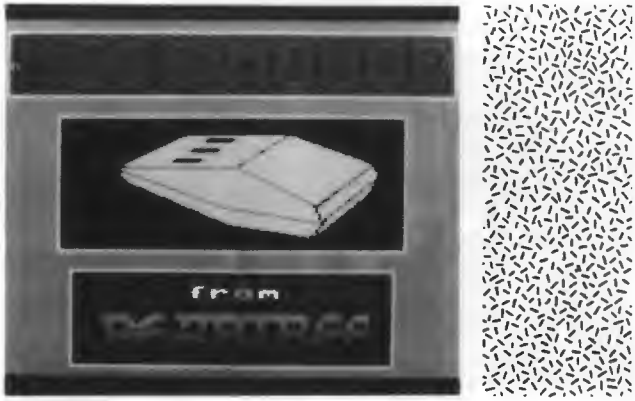
on the screen. The copied part is necessarily defined within a rectangle, and some unwanted background and/or foreground colour is almost certain to be copied along with the wanted portion. This is solved in the SFX Menu by using the **Without** flag. To the left of this is another set of colour dots below those used with Cycle. If mouse button 1 is clicked over one of these dots, the corresponding colour will be omitted from the copied object. Any number of colours can be included, so that, for example, only the blue parts of a multicoloured object could be copied elsewhere on the screen, leaving behind the background, green and magenta parts — or whatever. If the Solid flag is also in use, all copied parts which are not in the prohibited colour(s) will appear in the current ink colour. This can be used to create "silhouette" and "moonlight" effects.

The **Over** flag is a very powerful creative tool. BASICally it prevents any specified colour of ink from being overlaid on any other specified colour. Any possible combination of colours can be selected. At the bottom left of the SFX Menu is a table of all the colours, laid out both vertically and horizontally. To prevent red from being superimposed on blue, for example, the cursor is moved down the table to the red line, then across to the blue column, at which point the mouse button is pressed and a blue square is displayed. Any combination of such prohibitions can be set up and used simultaneously. By such means it can be arranged that drawing in one or more colours is only possible over a specific area (eg the background), or that colours can be woven in and out of each other. Yet another application is a multicoloured airbrush that uses a pattern of colours to define the brush, together with Cycle to change the colours used. The Artist carries out colour cycling first, then checks for Over restrictions.

Fill 'em up!

We have already seen how simple lines are drawn, and how areas can be filled with plain colour, but it is possible to draw in various shapes and thicknesses and with multicoloured brushes (yes, striped paint at last!), and it is also possible to fill areas with complex patterns. The latter can vary from simple combinations of two colours used in alternate pixels to multi-coloured patterns. These effects again come from the SFX Menu, to the left of middle of which is an 8 x 8 blank grid. Any pattern can be built on this grid, using any colours (Cycle works here, too), and the resulting "complex pattern" can be used as a brush, a fill, or as a small Sprite. Up to 8 patterns can be stored, and selected by using mouse button 1 while the cursor is positioned over one of two groups of arrowheads above the grid. By default the grid is simply filled with the colour corresponding to its serial number, so that grid 1 is black, grid 2 is red, and so on. The serial number of the grid appears above it. By clicking the mouse button at any of the eight points down the left side and/or along the bottom, a smaller part of the pattern (starting from the bottom left-hand corner) can be identified, and this will be used instead of the whole pattern if **Use size** is selected, but this smaller part will be enlarged to the same overall 8 x 8 size when it is used.



Sprightly brushes

To the right of the complex pattern grid is a narrower 8 x 8 block used to design paintbrushes. Initially, this contains a set of alternate white and black blocks forming vertical stripes, with eight small copies of this block in two rows of four at the bottom right of the menu. The left-hand block on the top row is coloured in red. Using the cursor as a toggle, any square in the brush block can be filled or deleted to design a brush shape. Any of the 8 possible brushes is selected by pressing the mouse button over it, when it will be displayed on the main 8 x 8 block for use or modification as required. The complete set of brushes can be saved and reloaded via the I/O Menu, so that you can have a very wide range of ready-made brush shapes and sizes at your disposal.

Sprites can be designed, saved and reloaded. They are designed on the drawing page, and therefore can be of any size. Smaller Sprites are most conveniently designed using Big Bits, and it is also possible to use a suitably designed brush as a Sprite by drawing with it one "dab" at a time, with Continuous turned off. When a Sprite is reloaded, the outline is displayed on the drawing page, and is positioned with the mouse before fixing — this can be repeated as often as necessary.

A very useful degree of animation is possible from BASIC by using VDU19 for "colour switching", and flashing colours can be used, though not in compressed pictures. Utilities are included on the disc to expand compressed pictures, to change colours 0 to 7 into colours 8 to 15 and to enable the use of the mouse from BASIC. These are in addition to the Printer dump and Gridlock "User" programs mentioned above. For those wishing to delve further into the variables and subroutines used by The Artist, the program **A.Var** is available on the disc, and gives nearly 200 memory allocations, including temporary and permanent workspaces available to the programmer.

Conclusion

Without doubt this is the finest freehand graphics aid I have ever seen, and it was no surprise to hear that professional graphics artists have been taking more than a passing interest in it. It gives the immediate availabilty and security from corruption characteristic of a ROM, and the user feels completely secure against hang-ups and loss of work except from his or her own stupidity. The range of effects possible is quite incredible, and these screen shots cannot possibly convey The Artist's potential, particularly in terms of animation.

Some complexity is unavoidable with such flexibilty, and it does take time to master the full capabilities of this chip, but the actual operation is quick and friendly. The manual covers all the essentials without being too technical or verbose, and the various disc utilities expand the ROM's possibilities considerably. At £56.35 inclusive I can thoroughly recommend it.

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