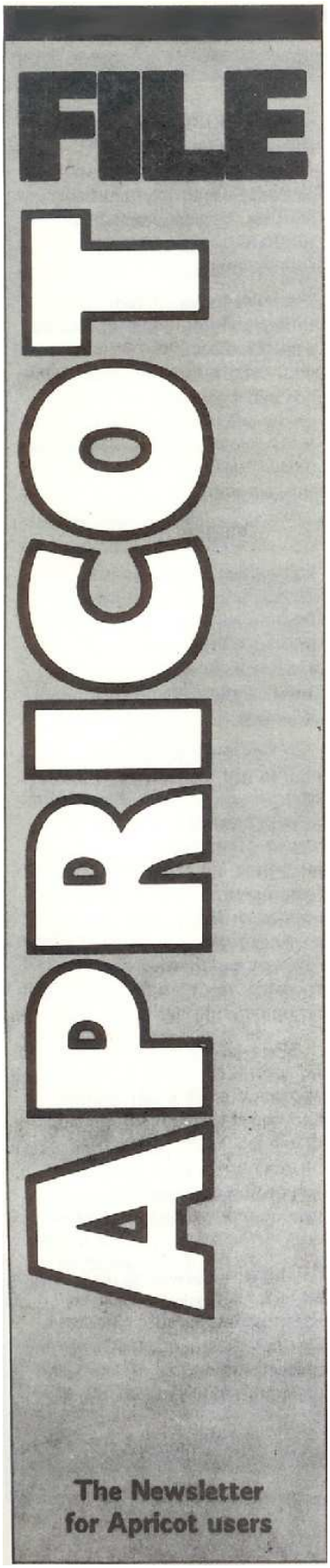
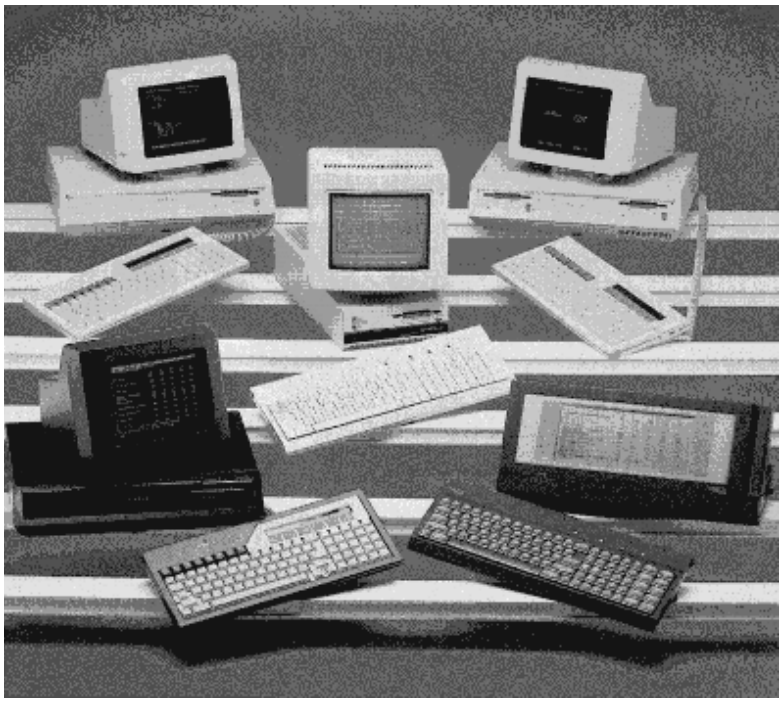


Apricot File 1_3



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Release 1.3

December 1985

FILE APRICOT

The Newsletter for Apricot users

Apricot anguish

It's stiff upper lip time at **Apricot Computers plc**. The interim results for the six months ending 30 September had **sales up** by 34 per cent ... but trading **profits slipped** by two-thirds. And when the write-offs had been taken, the company showed a substantial **net loss** after tax.

The details are an increase in sales to **£35.7 million**, with earnings 67 per cent lower at **£1.3 million**. Subtract the exceptional provision of **£5.1 million** against stocks of the discontinued Portable, allow **£775,000** against "other marginally profitable products", and make another provision of **£1 million** to cover the closure of Apricot Computer GmbH — and you're left with a pre-tax loss of **£4.6 million**. With a net gain on taxes, that leaves Apricot **£3.4 million** in the red.

Naturally the City was quick to show what it thought of this kind of report from a once-favoured son: the share price finished the week of the announcement at **55p**. That compares with a high of **280p** back in the Spring. More pertinently, the shares had struggled back up to around **70p** only a fortnight before, having suffered grievously when Apricot first intimated that the half-year figures would look awful.

And given the advance warnings, things aren't as bad as they might have been. Some analysts were expected a £5 million half-year loss — though truth to tell the tax benefits have rather fudged the bottom line.

It's clear that the major problems for Apricot are in three areas:

- **reduced profitability**: despite a commendable enough increase in sales, the trading profit — before all those 'exceptional items' — was way off. In the equivalent six months of last year, Apricot's profits were **10.7** per cent of sales: this time they're below **4.3** per cent. Clearly there's some work to do there
- **expensive expansion**: the failure of Apricot GmbH is allowed a million, but there's also **£838,000** for 'related company losses'. That includes the sluggish performance of France (still loss-making) and "the reorganisation and refurbishment costs" of the AT Computerworld (still stuttering, but at least Apricot says it won't be spending any more money there). Apricot Inc is also proving a *very* slow starter; although Apricot claims 400 dealers and 4,000 sales in the States now, it's "unlikely" that US shipments will exceed 25 per cent of production this year
- **the Portable**: well, not much more needs to be said about this (mis)adventure. Apricot may have come up with a somewhat duff

▸ CONTINUED ON PAGE 3

In this issue

GSX Workshop: part three 4
The Disinformation Column 9
Apricot Bulletin Board 11
Workshop: Hex codes 13
Company news 14
Workshop: Font, Logo, Key editors 20
Review: P.A.S.D. 21
SuperCalc Workshop: consolidation 23
Subscriber report 25
Apri-Soft-Exchange 27

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Write for us

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Apricot anguish

product, but more crucially it got the market hopelessly wrong ... along with a dozen other manufacturers, among them IBM. The dealers are discounting luggables like crazy right now.

The details announced with the interim results fit the warnings given by Apricot's directors a couple of months back, as we reported in APRICOT FILE Release 1.1. True, the inventory write-off on the Portable was higher than forecast — the figure of £3 million was being bandied around. And the scale of redundancies hadn't been anticipated; around 120 staff are to go, slightly more than ten per cent of the total workforce. Most of them are administrative jobs in the UK, 20 of them are in Germany.

Now there's much talk about Apricot being "slimmer and fitter than it's ever been" and the company anticipates "a strongly improving monthly trend in profits from January onwards".

The improved profitability is expected to come in part from the reduction program but primarily from a better margin per sale. Apricot quite explicitly states that it's getting out of the low-end low-profitability products in favour of three higher-value market areas:

- **corporate accounts**
- **government and higher education**
- **small- to medium-sized business**

The last of this is the company's traditional patch, of course, and it's probably the only one in which it can claim to be the pre-eminent supplier.

Meanwhile the 'market share' fuss we reported in Release 1.2 has been apparently settled — **Wharton Information Systems**, whose research suggested a somewhat aberrant picture for Apricot sales (only four per cent of the total in August), now says it methods may have been inaccurate. But its September figures, based on a changed survey panel, have Apricot at eight per cent — still well below the market shares indicated by other researchers (**Romtec** quotes 18 per cent for the month).

Most observers would agree that Apricot is losing market share. But then it's clear that the market is going backwards right now, and in those conditions the people who *are* still buying will tend to play safe. In the year to 31 October, the FT All-Share Index showed an overall gain of 23.4 per cent; and Flemings Electronics Index, which includes computer manufacturers and software firms, gained 10.8 per cent. But the index for computer manufacturers alone dropped nearly 65 per cent in the period; the software subsection was 32 per cent down; and distributors slipped nearly 17 per cent. It's tough all round. ◆

Writers in this issue

Dennis Jarrett is Editor of the newsletter. He was formerly the editor of 16 BIT COMPUTING, and his magazine credits before that include being founder-editor of OLIVETTI USER, COMMODORE USER, OFFICE AUTOMATION REPORT, PRACTICAL COMPUTING and WHICH COMPUTER? Books include THE IBM PC BOOK (not very thick), THE SIRIUS/VICTOR BOOK (very much thicker), THE ELECTRONIC OFFICE – A MANAGEMENT GUIDE (fairly thick), three titles about Commodore home computers (one thick, one a bit thick, one pseudonymous), and THE GOOD COMPUTING GUIDE (*really* thick and very cheap too at £2.95 — or £3.00 inc P&P from DEALS FOR READERS).

Henry Deckhand is a pseudonymous cynic whose role at the newsletter is to generate jaundiced opinions about the computer industry and the way it conducts itself in public.

Lindsay Doyle escaped from the dungeons of MICROCOMPUTER PRINTOUT in the confusion following that magazine's demise, and had contributed just one piece to 16 BIT COMPUTING before that magazine also crashed. But we don't hold that against him: he now resides in a specially-furnished cell deep beneath the editorial offices of APRICOT FILE, and there he is motivated by the promise of occasional bread and water to generate a series of articles about using the Apricot PC and Xi.

David Langford is a full-time writer and computer addict, whose latest novel LEAKY ESTABLISHMENT is "by no means" about his years at AWRE Aldermaston. He is inordinately proud of winning one of the 1985 Hugo Awards, Science Fiction's 'Oscars'.

Alec Wardrop is a freelance accountant who specialises in financial control and computerised accounting. Relatively new to using microcomputers for business purposes, he is now completely addicted to them.

Tim Hines is a structural engineer who has turned to supporting a mainframe structural analysis system for offshore rig design at an American software house. He uses an Apricot PC for communications and general office work, and is not above messing about with the Apricot to improve the configurations of programs that he runs on it.

The Fundamentals of GSX

Part Three — Using the GSX drawing functions

by Lindsay Doyle

This series provides a pragmatic introduction to the Apricot GSX graphics extension — how to use without necessarily needing to know how it works.

This time we'll look at using the GSX drawing functions. None of it will make much sense unless you have read installments 1 and 2, which have appeared in the two previous issues of APRICOT FILE.

Under way

Once GSX is loaded, your program must communicate with it by passing arguments in a parameter list that takes the form of five arrays. The number of cells in each array can vary depending on the application, but the values shown in the program here will usually be sufficient; I call these integer arrays G1% through G5%.

- **G1%** is the control array — it tells GSX what to do and how much data to expect. G1%(1) must always contain the 'opcode' of the desired operation; see Table 1 for a list of these codes. The contents of other cells in G1% vary depending on the application
- **G2%** is the 'input parameters' array. It may contain such things as text which you want to print, or default settings for line type, font, and other variables when you first open a workstation (all of which will be explained)
- **G3%** is where you put the co-ordinates of points you wish to use to define lines, text origins, polygons, or any other positionable elements
- **G4%** is for parameters that GSX generates. This isn't used often, but it can be very handy when you want to find out exactly what capabilities a particular device driver has — see line 55020 of the GSXSUBS.BAS listing for an example
- **G5%** holds GSX-produced co-ordinates. For example, after you've called up a cursor and moved it around the screen, G5% will contain the co-ordinates of the current cursor position.

Opcodes

For G1%, the control array, there are 33 possible 'opcodes'. They are explained more or less confusingly in Appendix C of a Digital Research book called GSX PROGRAMMER'S GUIDE; I recommend that you borrow a copy from some IBM PC installation and scan it before you actually put out ready cash for one — the APRICOT TECHNICAL REFERENCE MANUAL offers just five pages on GSX and won't tell you how to get graphics on to the screen (as the writer didn't seem to know himself).

(If anyone has any difficulty getting hold of the DR GSX manual, drop a line to the DEALS FOR READERS *service —Âwe can do them for around £28. Ed)*

Not all the opcodes are implemented for the Apricot; for example, a number of colour change commands are of no use to us. Most of those that do work are listed in Table 1: the exceptions are very arcane indeed and aren't likely to be of much use to you at this early stage.

The comments following are intended to clarify the table and its use.

Opening a 'workstation'

The first thing a program using GSX must do is dimension the five arrays. The second thing is open for use the device which it is intended to drive. You can't drive the screen and a printer at the same time; you must chose one. The screen, which is all we are considering for the moment, has device number 1 (as defined in ASSIGN.SYS).

Closing the workstation

In order to move from driving the screen to, say, driving a plotter, you have to first close the current 'workstation' and then open one for the new device. And to return to the normal Alpha mode with dignity, you must again close the workstation.

Clear and update

The first function simply clears the graphics screen. The second causes any pending graphics commands to be executed immediately. Use it to start output to a printer.

Writing modes

You wouldn't believe how obfuscating the Digital Research instruction book is about the four possible writing modes. But it's not really too complicated:

- **Mode 1** replaces anything it passes over as it draws a white line (ok, a green line)
- **Mode 2** allows you to see what was there previously through the new trace
- **Mode 3**, also called XOR or Exclusive OR mode, causes a previous white dot covered by a new

white dot to appear as a black dot (A or B but not both) — you can have a lot of fun with this generating moire or interference patterns (a subject I will cover in a later installment)

- **Mode 4** draws a black line: it can be used to erase a white line or to draw black lines on a white field.

Markers

The thickness of one line on the screen is 82 in NDC. So if you set the marker height to this size, it will appear as a dot; if you set it to 32767 it will be full screen height. The normal height is 16 lines or 1312 in NDC.

By entering a set of co-ordinate pairs rather than just one pair, it is possible to draw a set of markers with one command (DR calls this a 'polymarker').

Lines

The present implementation has seven different line *types* but only one line *thickness*; so thicker lines must be built up by writing adjacent lines — adjacent *dotted* lines with the dots offset form an interesting pattern.

If you want to erase a line, always set the line type to '1' first; then set the writing mode to '4' and redraw the line.

A line requires two pairs of co-ordinates to define it. By entering a set of co-ordinate pairs it is possible to draw a 'polyline', a set of connected lines, with just the one command. The polyline will not be closed unless you enter the starting point co-ordinates again as an end point.

Filled areas

A polygon can be drawn with the 'Lines' opcode or by using the 'Fill Polygon' code with fill type set to hollow. The difference is that the first will allow background material to show through, the second will blank out the background (it's not really hollow, it's filled with black).

You must set the fill style before drawing a filled polygon, a bar, a pie- slice, or a circle.

Text

Two fonts are currently implemented. Type 1 is a 'stroke' font, in which the characters are made up of short line segments at the required angles. This font may be presented at any size, like the markers; and it can also be shown at any angle — the angle selected is that of the baseline of the text.

Because the lines do not thicken up as the size is increased, type 1 looks very weak on the screen. You can overcome that by going to the trouble of rewriting the text a diagonal step or two away from its original position.

Type 2 is a 'dot' font, similar if not identical to the normal alpha font. Currently it does not sustain rotation or size change; but, unlike the alpha font, it can be placed anywhere on the screen.

Drawing

To draw a *bar* you first order up the desired fill style and type; then you specify the lower left and upper right corners; and finally you call the subroutine.

To draw an **arc** of a circle you have to specify centre, radius, and start and end angles in tenths of a degree.

To draw a **pie-slice**, first order the desired fill style and type and then proceed as for an arc.

To draw a **circle**, order the desired fill style and type and then specify the centre co-ordinates and radius.

Cursor

The cursor is a vertical cross which is the reverse of the background colour. When driven by the keyboard, it responds to the number pad or cursor keys; the number pad keys give eight directions for movement, the cursor controls give only four.

Pressing key 5 toggles the cursor motion between fast and slow (one dot at a time).

Pressing any key apart from the cursor arrows or the number pad causes the cursor to disappear; you'll be told the ASCII code of the key you hit and the current co-ordinates.

We'll see in a later installment how to use the cursor in combination with other functions to draw lines on the screen.

A set of GSX subroutines

GSXSUBS.BAS is a set of routines for passing arguments to GSX. Lines 100-280 list the parameter definitions used; lines 300-50000 are for your use in writing a program (which will always start with GOSUB 50010 followed by GOSUB 50100 for the reasons given above).

Note that for mnemonic convenience the second and third digits of the line numbers from 50100 to 53200 are the opcode number. All the opcodes are noted, even though some (like 51150) are not implemented on the Apricot.

Each subroutine has zero or more parameters which must be passed to it. For example, before the GOSUB 50100 you must set DV = 1 to select the screen. G2%(6) = 2 in line 50120 sets the default font to dot type; it can be omitted if you want to start in the stroke font.

A subroutine like 50600 requires two sets of X,Y co-ordinates to be passed to it. In line 50610 I have set G1%(2) = 2 to handle the two points which

define one line; if you want to draw a set of connected lines (or a polyline) with one command, you'll have to change G1%(2) to the actual number of vertices — counting the origin twice if it is a closed figure.

I have handled the markers subroutine at 50700 similarly.

Printing device characteristics

If you GOSUB 55000 immediately after opening the workstation and you have your printer or plotter waiting on line, a complete list of the characteristics of the selected device will be printed out. You might not want to encumber all your programs with this bumf, in which case you can make it into a separate program.

The switch to BIOS version 2.7

In the middle of 1985, ACT started shipping Apricots with a new release of the BIOS called version 2.7. Among other things, the BIOS decides how goodies buried inside the Apricot are actually called up by programmers; and this includes **font selection.**

These articles were written in the fond assumption that ACT wouldn't be changing anything very significant in the BIOS. But somewhat inconveniently the alterations for 2.7 include a completed reversal of the font selection numbers; up to version 2.6, the dot font was number 2 and the character font number 1 — but 2.7 has 1 as the dot font and 2 as the character font.

The listing here includes REMs in 300-420 that summarise this, and there's also a REM at line 50130 which indicates how the set-up parameters should be changed if you have BIOS version 2.7 (the start-up display should tell you which BIOS you have). Briefly, you should alter 50120 to read ...

```
50120 FOR Z = 2 TO 10: G2%(Z) = 1: NEXT Z: G2%(6)
= 1: GOSUB 54000: RETURN
```

(Actually you could just delete the G2%(6) parameter altogether since that will be the default.)

Thereafter — and in subsequent articles — you BIOS 2.7 users should change FO=1 to FO=2 and vice versa. ◆

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Coming soon: In subsequent instalments I shall use GSXSUBS.BAS as the skeleton of two programs; one gives a full demonstration of all the graphics goodies, the other will draw your own sketches in black on a white screen using the cursor.

GSXSUBS.BAS — subroutines for calling GSX

```
10      REM: GSXSUBS.BAS BY L. DOYLE
20      REM: SUBROUTINES FOR CALLING GSX
30      REM: 2ND & 3RD DIGITS OF LINE NUMBER = GSX
        OPCODE NUMBER
40      REM:
100     REM: CALLING PARAMETERS AND CONSTANTS
110     REM: X1, Y1 = COORDINATES OF FIRST POINT
120     REM: X2, Y2 = COORDINATES OF SECOND POINT
130     REM: XN, YN = COORDINATES OF Nth POINT
140     REM: R = RADIUS OF CIRCLE OR PIE SLICE
150     REM: SA, EA = START ANGLE, END ANGLE OF
        PIE SLICE IN TENTHS OF DEGREES
160     REM: RA = ROTATION ANGLE OF TEXT IN TENTHS
        OF DEGREES
170     REM: CH = CHARACTER HEIGHT IN NDC UNITS
180     REM: MT, MH = MARKER TYPE, MARKER HEIGHT
        IN NDC UNITS
190     REM: FT, FS = FILL TYPE, FILL STYLE
200     REM: N = NUMBER OF POINTS
210     REM: LT, LW = LINE TYPE, LINE WIDTH IN NDC
        UNITS
220     REM: WM = WRITING MODE: 1 = REPLACE; 2 =
        TRANSPARENT; 3 = XOR; 4 = ERASE
230     REM: Z IS RESERVED AS A COUNTING VARIABLE
        IN THESE SUBROUTINES
240     REM: DW, DH = DEVICE WIDTH AND HEIGHT IN
        NDC UNITS
250     REM: LS, CS = LINE AND CHARACTER SPACING
        IN NDC UNITS
260     REM: DV = DEVICE NUMBER (KEYBOARD = 1)
270     REM:
300     REM: FONTS FOR BIOS VERSIONS UP TO 2.6
310     REM: FO = FONT: 1 = STROKE FONT SUPPORTING
        ROTATION AND HEIGHT
320     REM: 2 = BIT IMAGE FONT
330     REM:
400     REM: FONTS FOR BIOS 2.7 ARE REVERSED
410     REM: FO = FONT: 2 = STROKE FONT SUPPORTING
        ROTATION AND HEIGHT
420     REM: 1 = BIT IMAGE FONT

50000   REM: GSX ARRAYS: CAN BE DIMENSIONED
        DIFFERENTLY TO SUIT APPLICATION.
50010   DIM G1%(10), G2%(80), G3%(16), G4%(45),
        G5%(12): RETURN

50100   REM: OPEN WORKSTATION: TEXT FONT 2 (BIOS
        2.6 ONLY — SEE LINE 50130)
50110   G1%(1) = 1: G1%(2) = 0: G1%(4) = 10:
        G2%(1) = DV
50120   FOR Z = 2 TO 10: G2%(Z) = 1: NEXT Z:
        G2%(6) = 2: GOSUB 54000: RETURN
50130   REM: FOR BIOS 2.7, USE "G2%(6) = 1" IN
        LINE 50120

50200   REM: CLOSE WORKSTATION
50210   G1%(1) = 2: G1%(2) = 0: GOSUB 54000:
        RETURN

50300   REM: CLEAR
50310   G1%(1) = 3 :G1%(2) = 0: GOSUB 54000:
        RETURN

50400   REM: UPDATE WORKSTATION
50410   G1%(1) = 4: G1%(2) = 0: GOSUB 54000:
        RETURN
```

```
50500  REM: ESCAPE OPERATIONS ******* NOT
       IMPLEMENTED

50600  REM: DRAW UP TO FOUR LINES [CAN BE
       EXPANDED]
50610  G1%(1) = 6: G1%(2) = N: G3%(1) = X1:
       G3%(2) = Y1: G3%(3) = X2
50620  G3%(4) = Y2: G3%(5) = X3: G3%(6) = Y3:
       G3%(7) = X4: G3%(8) = Y4
50630  G3%(9) = X1: G3%(10) = Y1: GOSUB 54000:
       RETURN

50700  REM: DRAW MARKER (CAN BE EXPANDED FOR
       POLYMARKER)
50710  G1%(1) = 7: G1%(2) = N: G3%(1) = X1:
       G3%(2) = Y1: GOSUB 54000: RETURN

50800  REM: WRITE TEXT: MAX = 80 CHARACTERS
       UNLESS REDIMENSION G2( ).
50810  G1%(1) = 8: G1%(2) = 1: G1%(4) = LEN(T$):
       G3%(1) = X1: G3%(2) = Y1
50820  FOR Z = 1 TO LEN(T$): G2%(Z) =
       ASC(MID$(T$,Z,1)): NEXT Z: GOSUB 54000
50830  RETURN

50900  REM: FILL POLYGON (IMPLEMENTED FOR UP TO 8
       VERTICES: COULD BE MORE)
50910  G1%(1) = 9: G1%(2) = N: G3%(1) = X1:
       G3%(2) = Y1: G3%(3) = X2: G3%(4) = Y2
50920  G3%(5) = X3: G3%(6) = Y3: G3%(7) = X4:
       G3%(8) = Y4: G3%(9) = X5
50930  G3%(10) = Y5: G3%(11) = X6: G3%(12) = Y6:
       G3%(13) = X7: G3%(14) = Y7
50940  G3%(15) = X8: G3%(16) = Y8: GOSUB 54000:
       RETURN

51000  REM: DISPLAY CELL ARRAY: [PASS CELL COLOR
       IN A2%□]
51010  G1%(1) = 10: G1%(2) = 2: G1%(4) = NC:
       G1%(6) = NCR: G1%(7) = NCR
51020  G1%(8) = NR: G1%(9) = WM
51030  G3%(1) = X1: G3%(2) = Y1: G3%(3) = X2:
       G3%(4) = Y2
51040  GOSUB 54000: RETURN

51100  REM: GENERALIZED DRAWING PRIMITIVES (GDPs)
51110  REM: DRAW BAR
51111  G1%(1) = 11: G1%(2) = 2: G1%(6) = 1:
       G3%(1) = X1: G3%(2) = Y1
51112  G3%(3) = X2: G3%(4) = Y2: GOSUB 54000:
       RETURN

51120  REM: DRAW ARC
51121  G1%(1) = 11: G1%(2) = 4: G1%(6) = 2:
       G2%(1) = SA: G3%(2) = EA
51122  G3%(1) = X1: G3%(2) = Y1: G3%(7) = R:
       G3%(8) = 0: GOSUB 54000: RETURN

51130  REM: DRAW PIE SLICE
51131  G1%(1) = 11: G1%(2) = 4: G1%(6) = 3:
       G2%(1) = SA: G2%(2) = EA
51132  G3%(1) = X1: G3%(2) = Y1: G3%(7) = R:
       G3%(8) = 0: GOSUB 54000: RETURN

51140  REM: DRAW CIRCLE
51141  G1%(1) = 11: G1%(2) = 3: G1%(6) = 4:
       G3%(1) = X1: G3%(2) = Y1
51142  G3%(5) = R: G3%(6) = 0: GOSUB 54000:
       RETURN

51150  REM: RULING CHARACTERS ******* NOT
       IMPLEMENTED
51160  REM: END OF GDPs
51200  REM: SET CHARACTER HEIGHT
51210  G1%(1) = 12: G1%(2) = 1: G3%(1) = 0:
       G3%(2) = CH: GOSUB 54000: RETURN

51300  REM: SET TEXT DIRECTION
51310  G1%(1) = 13: G1%(2) = 0: G2%(1) = RA:
       GOSUB 54000: RETURN

51400  REM: SPECIFY COLOUR INDEX VALUE *******
       NOT IMPLEMENTED

51500  REM: SET LINE TYPE
51510  G1%(1) = 15: G1%(2) = 0: G2%(1) = LT:
       GOSUB 54000: RETURN

51600  REM: SET LINE WIDTH
51610  G1%(1) = 16: G1%(2) = 1: G3%(1) = LW:
       G3%(2) = 0: GOSUB 54000: RETURN

51700  REM: SET LINE COLOUR INDEX ******* NOT
       IMPLEMENTED

51800  REM: SELECT MARKER TYPE
51810  G1%(1) = 18: G1%(2) = 0: G2%(1) = MT:
       GOSUB 54000: RETURN

51900  REM: SELECT MARKER HEIGHT
51910  G1%(1) = 19: G1%(2) = 1: G3%(1) = 0:
       G3%(2) = MH: GOSUB 54000: RETURN

52000  REM SET MARKER COLOUR INDEX ******* NOT
       IMPLEMENTED

52100  REM: SELECT FONT
52110  G1%(1) = 21: G1%(2) = 0: G2%(1) = FO:
       GOSUB 54000: RETURN

52200  REM: SET TEXT COLOUR INDEX ******* NOT
       IMPLEMENTED

52300  REM: SELECT FILL STYLE
52310  G1%(1) = 23: G1%(2) = 0: G2%(1) = FS:
       GOSUB 54000: RETURN

52400  REM: SELECT FILL TYPE
52410  G1%(1) = 24: G1%(2) = 0: G2%(1) = FT:
       GOSUB 54000: RETURN

52500  REM: SET FILL COLOUR INDEX ******* NOT
       IMPLEMENTED

52600  REM: INQUIRE COLOUR REPRESENTATION *******
       NOT IMPLEMENTED
52700  REM: INQUIRE CELL ARRAY ******* NOT
       IMPLEMENTED

52800  REM INPUT LOCATOR (IMPLEMENTED FOR
       KEYBOARD: CAN BE FOR MOUSE)
52810  G1%(1) = 28: G1%(2) = 1: G2%(1) = 1:
       G3%(1) = X1: G3%(2) = Y1
52820  GOSUB 54000: RETURN

52900  REM: INPUT VALUATOR ******* NOT
       IMPLEMENTED

53000  REM: INPUT CHOICE (SELECTS FUNCTION KEYS:
       CAN BE EXPANDED)
53010  G1%(1) = 30: G1%(2) = 0: G2%(1) = 1: GOSUB
       54000: RETURN

53100  REM: RETURN STRING FROM KEYBOARD, ECHO TO
       DEVICE. 80 CHARS MAX
53110  G1%(1) = 31: G1%(2) = 1: G2%(1) = 1:
       G2%(2) = 80: G2%(3) = 1
53120  G3%(1) = X1: G3%(2) = Y1: GOSUB 54000:
       RETURN

53200  REM: SET WRITING MODE
53210  G1%(1) = 32: G1%(2) = 0: G2%(1) = WM:
       GOSUB 54000: RETURN
```

```
54000  REM: CALL GSX ASSEMBLY SUBROUTINE
54010  DEF SEG = &H61: GSX% = 0: REM ASSIGN
       SEGMENT ADDRESS & OFFSET
54020  CALL GSX%(G1%(1), G2%(1), G3%(1), G4%(1),
       G5%(1))
54030  DEF SEG: RETURN

54100  REM: CONTINUE
54110  T$ = "PRESS SPACE KEY TO CONTINUE": X1 =
       10000: Y1 = 500: GOSUB 50800
54120  IF INKEY$ <> "" THEN GOSUB 50300: RETURN
54130  GOTO 54120

55000  REM: PRINTOUT OF DEVICE CHARACTERISTICS
55005  REM: CALL TO THIS SUBROUTINE MUST
       IMMEDIATELY FOLLOW 'OPEN WORKSTATION'
55010  LPRINT CHR$(27); "@": REM INITIALIZE
       PRINTER
55020  LPRINT "Display width in addressable
       increments: G4%(1) + 1
55030  LPRINT "Display height in addressable
       increments:G4%(2) + 1
55040  LPRINT "Capable of producing precisely
       scaled images? ";
55050  IF G4%(2) = 1 THEN LPRINT " no" ELSE
       LPRINT " yes"
55060  LPRINT "Width of one step in millimeters:
       "; G4%(4) / 1000
55070  LPRINT "Height of one step in millimeters:
       "; G4%(5) / 1000
55080  LPRINT "Number of character heights
       supported: "; G4%(6)
55090  LPRINT "Maximum character height in NDC
       units: "; G5%(4)
55100  LPRINT "Minimum character height in NDC
       units: "; G5%(2)
55110  LPRINT "Number of line types:
       "; G4%(7)
55120  LPRINT "Number of line widths:
       "; G4%(8)
55130  LPRINT "Maximum line width in NDC units:
       "; G5%(7)
55140  LPRINT "Minimum line width in NDC units:
       "; G5%(5)
55150  LPRINT "Number of marker types:
       "; G4%(9)
55160  LPRINT "Number of marker sizes:
       "; G4%(10)
55170  LPRINT "Maximum marker height in NDC
       units:    "; G5%(12)
55180  LPRINT "Minimum marker height in NDC
       units:    "; G5%(10)
55190  LPRINT "Colour supported?
       ";
55200  IF G4%(35) = 0 THEN LPRINT " no" ELSE
       LPRINT " yes"
55210  LPRINT "Simultaneous colours:
       "; G4%(14)
55220  LPRINT "Total colours:
       "; G4%(40)
55230  LPRINT "Number of fonts:
       "; G4%(11)
55240  LPRINT "Number of halftones:
       "; G4%(12)
55250  LPRINT "Number of hatchings:
       "; G4%(13)

55260  LPRINT "Generalized Drawing Primitive
       Functions (GDPs) & their attributes:
55270  FOR J = 15 TO 24
55280  IF G4%(J) = 1 THEN LPRINT "BAR          ";
55290  IF G4%(J) = 2 THEN LPRINT "ARC          ";
55300  IF G4%(J) = 3 THEN LPRINT "PIE SLICE    ";
55310  IF G4%(J) = 4 THEN LPRINT "CIRCLE       ";
55320  IF G4%(J) = 5 THEN LPRINT "RULING
       CHARACTERS"
55330  NEXT J: LPRINT

55340  FOR J = 25 TO 34
55350  IF G4%(J) = 0 THEN LPRINT "POLYLINE
       ";
55360  IF G4%(J) = 1 THEN LPRINT "POLYMARKER
       ";
55370  IF G4%(J) = 2 THEN LPRINT "TEXT
       ";
55380  IF G4%(J) = 3 THEN LPRINT "FILL AREA
       ";
55390  IF G4%(J) = 4 THEN LPRINT "NONE"
55400  NEXT J: LPRINT

55410  LPRINT "Text rotation supported?
       ";
55420  IF G4%(36) = 0 THEN LPRINT " no" ELSE
       LPRINT " yes"
55430  LPRINT "Fill area supported?
       ";
55440  IF G4%(37) = 0 THEN LPRINT " no" ELSE
       LPRINT " yes"
55450  LPRINT "Read cell operation supported?
       ";
55460  IF G4%(38) = 0 THEN LPRINT " no" ELSE
       LPRINT " yes"
55470  LPRINT "Number of locator devices
       available:   "; G4%(41)
55480  LPRINT "Number of valuator devices
       available:  "; G4%(42)
55490  LPRINT "Number of choice devices
       available:    "; G4%(43)
55500  LPRINT "Number of string devices
       available:    "; G4%(44)
55510  LPRINT: LPRINT "Device is ";
55520  IF G4%(44) = 0 THEN LPRINT "output only"
55530  IF G4%(44) = 1 THEN LPRINT "input only"
55540  IF G4%(44) = 2 THEN LPRINT "input/output"
55550  IF G4%(44) = 3 THEN LPRINT "device
       independent segment storage"
55560  IF G4%(44) = 4 THEN LPRINT "GKS Metafile
       output"
55570  LPRINT
55580  LPRINT "NDC = Normalized Device
       Coordinates, e.g. 32767 full scale"

55590  RETURN
```

The easy way

This program along with the demos that are scheduled to appear in subsequent articles are available on an Apricot disk from our DEALS FOR READERS mail-order service — the disk also includes the complete text of the series. Ask for order no. AP005, price £15 including VAT and P&P.

The Disinformation Column

On the craving for speed

by David Langford

I have some unfond memories of Algol programming on an Elliot 803 (where you had to punch the program on paper tape before it could be fed to the actual computer); of Fortran on Oxford University's IBM 1130 (whose puny processor was dwarfed by a gigantic machine for tearing punched cards in half); of Fortran again at the Atomic Weapons Research Establishment (where cobwebbed decks of cards were placed in little cupboards from whence they would be carried by wizened messengers into the awesome presence of The IBM 370) ...

The idea of *running* a program *quickly* still seems weird and self-indulgent: when I found myself recompiling a Turbo Pascal routine for the fifteenth time in as many minutes, merely to achieve a nice screen format, I felt positively sinful.

Going faster

Speed produces a craving for even more speed. To digress: I eagerly grabbed the DEALS FOR READERS program FAST.COM, which was said to double Apricot screen-handling speed. Yes, on my PC it nearly does: SuperWriter rewrites its screen about 1.8 times faster, while the MS-DOS commands TYPE and DIR zoom along beyond the speed of literacy.

FAST has some odd side effects, though. TYPE no longer halts at an end-of-file mark. With SuperWriter-created documents you get mysterious junk at the end, representing the normally invisible Document History. And when FAST is installed, MS-DOS redirection blows a fuse: TYPE FILENAME > PRN and DIR > FILENAME *both* output to the screen ...

As indicated, Turbo Pascal is zippier than just about anything going. When I was foolish enough to mention this in a letter to Apricot Ltd, the man there reproved me for my youthful folly and recommended that I instead invest in one of the far slower and more expensive Pascal compilers which carried the Apricot Dealers' Profitability Seal of Approval.

Many Turbo routines fail to hit top speed on the Apricot, though. They've been developed on that fabled dinosaur the IBM PC, and thus fail to take advantage of Apricot escape sequences.

For example, ESCape followed by a capital E clears the Apricot screen. If asked nicely, the Apricot also accepts ANSI escape sequences — as used by IBM and such riff-raff. And to clear the screen with ANSI codes, you must write Escape, followed by a left square bracket, followed by the character 2, followed by a capital J. Points like this help explain the IBM's notorious slowness of screen-handling.

Escaping with ANSI

A practical example. When developing a program you (or at any rate I) often need some 'debug' output to find out what certain variables are doing. If the program uses the whole screen, such output can be awkward. This is my Turbo Pascal solution:

```
{$V-}
Type
 DebugString = String[40];
Procedure
Debug(Message:DebugString;
Num1,Num2:Integer);
Const
 SaveCursor =     ^['j';
 StatusLine =     ^[';';
 RestoreCursor = ^['k';
Var
 DummyChar: Char;
begin
 Write(SaveCursor,StatusLine);
 ClrScr;
 If Message<>'' then
Write(Message,' ',Num1,'
',Num2);
 Write(RestoreCursor);
 If (Copy(Message,1,5)='Pause')
then Read(Kbd,DummyChar)
end;
```

This procedure uses the escape sequences under 'Const' to save the cursor position, nip down to the status line, and put your 'debug' output there before returning to the former screen position. 'Num1' and 'Num2' could be changed to Reals if required. Note that a null message merely clears the status line, and a message starting "Pause" will pause the program.

Another useful escape-sequence trick is to slip characters into the Apricot

keyboard buffer. This second procedure, for example, exits from the Turbo program and issues a command at MS-DOS level complete with the concluding Return:

```
{$C-} {This directive must be
set to activate the keyboard
buffer.}
Type
 CommandString= String[40];
Procedure
Transfer(Command:CommandString);
Const
 PutChar= ^['\';  {transfer next
character to KB buffer.}
 Return= ^M;
Var
 DummyKey: Char;
 Index: Byte;
begin
 While KeyPressed do
Read(Kbd,DummyKey);    {clear
buffer}
 Command:= Command+Return;
 For Index:= 1 to
Length(Command) do
 Write(PutChar,Command[Index]);
 Halt
end;
```

With this you can give any MS-DOS command or transfer control to any other .COM, .EXE or .BAT file. No, I've no idea why you should want to do that: but doesn't it fill you with a feeling of power?

Curses on the cursor keys

Something we all need to do sooner or later (besides sacrificing AT Computerworld salesmen by the light of a gibbous moon) is to interpret the Apricot cursor keys ... which themselves generate escape sequences. The trick here is to spot these sequences via the Key Pressed function. As an example, here's a complete, tiny and useless program:

```
Program WANDER;
Const
  Escape= ^[;
  X: Byte = 1;
  Y: Byte = 1;
Var
  Key: Char;
Begin
  ClrScr;
  Repeat
    Read(Kbd,Key);
    If Key=Escape then begin
    If KeyPressed then Read(Kbd,Key);
      Case Key of
      'A': If Y>1  then Y:= Y-1;
{Up arrow}
      'B': If Y<24 then Y:= Y+1;
{Down arrow}
      'C': If X<80 then X:= X+1;
{Right arrow}
      'D': If X>1  then X:= X-1;
{Left arrow}
      end;
    GoToXY(X,Y)
    end
  until Key=Escape
end.
```

A screen editor like EDLIN which does everything but edit, this allows you to steer the cursor idly hither and thither. A few extra lines would permit the entry of actual text; a day's tinkering and you could have either a primitive word processor or a terrible headache.

Bedtime reading

Speaking of headaches brings us inexorably to Apricot documentation. There is no wholly reliable guide to escape sequences, especially when you move from machine to machine.

For example, I did think Escape M to delete the current line (as generated by the Turbo DelLine function) was pretty reliable. But one of my home-grown programs ran into all sorts of screen trouble on an F2, where Escape M deleted the line all right but didn't return the cursor to the left as advertised.

My favourite bit of misleading early documentation was the labelling of Escape £ as 'sendscreen to keyboard buffer' — rather than its correct designation, 'crash Apricot PC'.

And have you ever tried using the PC/XI TECHNICAL REFERENCE MANUAL to set graphics mode? This book (a close approximation to H P Lovecraft's awful tomes which reduce readers to delirium and guttural cries) manages to suggest that for graphics you should (a) write hordes of things to the CRT control registers; (b) do something complicated to the parallel interface; (c) make a system interrupt call to the Control Device.

The last of these works alone, but all you get is a funny-looking screen. The same funny screen, in fact, that you can achieve by a simple Escape } sequence (this right-hand curly bracket was once documented as 'unlock keyboard': but don't you believe it).

Having set this peculiar PC/Xi mode with its screen of 50x25 cells, each comprising 16x16 dots, you can do various things. Realise, for example, that the odd little points on the screen represent the font's position markers for strike-through and underline — see FONTEDIT. Return with a sigh of relief to the normal screen via the reset sequence Escape z. Or ... twiddle the screen with Turbo and follow the winding path to graphics *without* GSX. Yes, it can be done. Take that, Lindsay Doyle!

But that, Best Beloved, is another story ... ◆

A Bulletin Board for Apricot Users

Friendly and free!

Bulletin boards are generally a good thing: they're friendly, fun, free (apart from the cost of a phone call), and often very useful — for sales and wants, for advice, and generally for feeling that you're not entirely alone with your problems.

So we are keen to give some publicity to an Apricot-oriented system we've come across.

The **Gosport Apricot Bulletin Board (GABBS)** was set up and put on-line on 19 April 1985 by **Stephen Cole**. A little help was obtained from the sponsor, local dealer **Gosport Computer Centre**, who supplied a **Portman Interlekt** modem.

GABBS gives free access to anyone who cares to dial **0705 524805**. It runs 24 hours a day at 300/300 baud — set your system for 8 data bits, no parity and one stop bit. It can also run at 1200/75 if asked for, but the modem doesn't have automatic line speed selection (yet!) so you'll have to speak to Stephen and ask him to set that manually. (GABBS is actually capable of greater speeds — 9600 full duplex — but BT's phone lines aren't.)

GABBS is running on an Apricot XI with a megabyte of RAM and a 10MB hard disk for storage ... hence the word 'Apricot' in its name. But it also supports other micros, and indeed has a number of **'Special Interest Group' (SIG)** sub-sections for the likes of Atari and BBC owners. But naturally it features a quite extensive (and growing) Apricot section.

The DIY approach

The software currently in use was written by the SYSOP (that's bulletin-board parlance for 'system operator') and this is pretty unusual: most bulletin boards use off-the-shelf software deriving from the States, typically FIDO, CBBS or TBBS.

Stephen Cole says he couldn't get a working example on the Apricot of any of them, not one he regarded as error-proof and efficient, so he produced his own. His software enables the board to be expanded and modified quite easily to suit the requirements of the people who use it; in practice we've also found its general approach quite suitable, and quite as good as FIDO's.

And although GABBS has only been on-line since April of this year, it has already acquired an impressive reputation for its speed of log-on and message searches and its ease of use — all of which contrast with the norm for bulletin boards.

Speed is important because you don't want to spend 30 seconds or more waiting for a system to find you or your mail. You also want to avoid getting lost in miles of menus: using some bulletin boards can be rather like playing a particularly difficult Adventure game ...

The databases are pruned regularly to help keep the size down (it's all got to fit on to that 10MB disk) and obsolete or outdated messages are removed. One possible exception to this is the Jokes section; one or two of the examples there are *very* old Terry Wogan rejects. Anyhow, the housekeeping means that when the board displays the number of messages on the system this is the *exact* number of *active* messages.

Users

GABBS was originally set up to provide micro users with a local bulletin board system in the south: there are a few around London, and for some reason the majority of BBSs are North of Watford.

But the majority of regular callers to GABBS are *not* local — some aren't even from the UK. That's probably due to the availability and speed of the board.

Although there is no time limit at the moment, and callers may stay on for as long as they wish, the average time seems to be about 15 minutes to log- in, read the new messages, leave a message and log-off. This means the board is free for use throughout most of the day and night, and it also helps to keep your phone bills down.

It was soon realised that the Apricot section was going to take off faster than any other: people were having similar problems, many of these were ACT- related. As Stephen put it, "While ACT was quick to recommend and sell its products, the Technical Support to the end-user left much to be desired".

So gradually a sort of help-and-advice service seems to have grown up in the Apricot section: that's a classic development for a bulletin board system, with callers helping each other out and giving the rest of the world a chance to read the problems and solutions as well.

If the demand for this kind of thing continues to grow, Stephen may allocate it a section of GABBS to itself. Undoubtedly many people have benefitted up to now.

Originally all callers to GABBS were given the same privileges. But due to the national increase in cranks and WAR GAMES freaks, registration is required for access to certain parts of the board. This is only to give proof of who you are and where you are calling from: it doesn't prevent the cranks from *trying* to break into the system, but as the software was written by the SYSOP that ensures the only damage done is to their phone bill! It also ensures that no back doors into the system exist, unlike some BBSs ...

Using the system

If you want to try GABBS, here's the procedure. Set your system up for **300/300** baud, **8** data bits, **1** stop bit, and **no** parity; and dial the number — **0705 524805**.

When you've got the carrier whine and have switched to 'on-line', you should start seeing the opening message:

```
**************************
GOSPORT BULLETIN BOARD
A MEMBER OF THE
ASSOCIATION OF FREE
PUBLIC ACCESS SYSTEMS
**************************
```

You'll eventually be asked for your 'user number'. The first time you call the board, you won't have one: so hit Return and run through the mini-questionnaire — name and where you're calling from. It also asks whether your terminal needs line-feeds: if in doubt, type 'Y'.

You'll then be assigned a user number. Make a note of it, because it will speed up access to the board next time you call.

Thereafter you should see the board's main menu:

```
MAIN MENU

<N>   New Messages (read)
<G>   General messages
<F>   For sale messages
<B>   Bulletins
<S>   Other SIG'S
<L>   Log off or bye bye
<C>   Call SYSOP for chat
<J>   Jokes and Groaners
<E>   Electronic mail
<=>   Expert on/off
<+>   Relog (log again new
      params)
<U>   Upload programs or data
<H>   HELP File.
      Registered user's only
<*>   List of other BB's
<D>   Download
```

There's a lot of options here. To run through the main ones:

- **New Messages** will search for and list any messages posted on GABBS since you last called. This includes anything in any of the section, plus 'private messages' for your eyes only
- **General messages** is for messages that don't fit into other categories. You can post messages wherever you want
- **For sale messages** — self-explanatory
- **Bulletins** are mostly messages from the SYSOP (instructions, advice, information) or the sponsor (selling things)
- **Other SIGs** takes you into a sub-menu that lists the active sections. One of them is for Apricot messages, but it's worth browsing around — the Languages section is quite interesting
- **Call SYSOP for chat** will have the system 'page' Stephen Cole. If he's around, he will break in and you'll see a message from him to you start appearing on the screen
- **Jokes and Groaners** — some racist, some sexist, some awful, mostly old
- **Electronic mail** for posting and receiving messages directly to someone else
- **Upload programs or data** is for contributions to GABBS' own pool of public domain material — a bit thin at present
- **Download** is how you get at that stuff

Go on, give it a try. The more people use the bulletin board, the better it will be! ◆

Put a Hex on your machine

by Alec Wardop

Up to now you've probably been using your micro quite happily without a single thought of the benefits you can get from using files of hexadecimal ASCII character codes. If so, prepare for some eye-opening ...

For a start, if you are not familiar with the ASCII character set it will help to read up about ASCII somewhere — try the appropriate section of your manual or one of the numerous computer books. Or check out Friedman's Workshop on Escape Codes in 16 BIT COMPUTING March 1985 and on DEALS FOR READERS disk no AP002 as ESCAPES.TXT. (*We've been asked to reprint this complete listing of escape codes on the Apricots and the Sirius: can we have a consensus from the readership about the desirability of this? Ed*).

Briefly, each ASCII character has a corresponding code which can be represented either as a two-digit hexadecimal number or as a decimal number between 0 and 255. For example, a lower case 'm'is represented by 6D in hex and by 109 in decimal.

So what, I hear you say. Well, you may already have been using these codes without realising it. For example, to clear the screen in Basic you use PRINT CHR$(27);"E". That's an escape code.

As well as printable characters, ASCII also includes what are called 'Control codes'. They get your micro to do some really neat tricks. The Workshop on Escape Codes gives you the complete story on these right down to the last dot and comma.

Now, you can use those escape sequences under MS-DOS as well as in Basic. But you'll have to write and run the short Basic program outlined below to create a file containing ASCII-equivalent hexadecimal character codes.

Uses for hex codes

If you use the TYPE command followed by the name of a file containing two-digit hexadecimal codes, the corresponding ASCII characters will be printed on the screen — as you might expect.

But when the hex numbers relate to *Control* codes as well as printable characters, interesting things start to happen. For instance:

- 1B45 will clear the screen
- 07 rings the bell
- 1B2F3F switches on all the MicroScreen LEDs
- 1B2F00 will switch them off again

So you could set up a number of small files for some special function such as these, and then include them as required in BATch files by using the line ...

```
TYPE filename
```

If you string a whole lot of hex codes together, you can do some quite complicated things — like set up the MicroScreen as a row of special-function keys that call regularly-used commands or programs with a single keystroke. You'll also need to edit the Keyboard table in order to use this file; but by including it in AUTOEXEC.BAT the function keys will be set up automatically.

Playing with the MicroScreen

You can switch the Apricot PC/Xi's MicroScreen LEDs on and off from a Basic program using the escape sequence ESC / n, where n is a number between 0 and 63.

The format of the Basic statement you need for this is:

```
PRINT CHR$(27)+"/"+CHR$(n)
```

If n=0, all the LEDs are off: n=63 will switch them all on. And try the variations inbetween — use the decimal equivalent of eight-digit binary as a clue).

This is fine if you're running a Basic program: but what if you want the same effect under MS-DOS, say in conjunction with the MISCREEN KEY command as part of a batch file?

Well, again you can use the TYPE command followed by the name of a file containing two-digit hexadecimal codes. If the hex codes include the ESCape sequence code (27 in decimal, 1B in hex) you'll obtain the same effect as the Basic statement above. For instance, 1B2F3F will switch on all the LEDs; and 1B2F0010 will switch them off again. (Here 2F and 3F are the hex equivalents of '/' and '63').

Is that all?

Lord no. You can also set up .XQT Execute files for use with the ESC-X escape command in SuperWriter. Then those XQT files can be used for instance to replace a series of keystrokes like the SuperWriter commands needed to delete a block of text or to print a letter.

For example, this lot would delete a block of text from the cursor to the bottom of a file:

```
ESC / Ctrl-B ESC / ESC D B Y
```

All you do is note down the exact sequences of keystrokes that you use regularly, convert them to hex codes, and write the corresponding .XQT file.

If you need Control characters such as Ctrl-B, you can quite easily work out the equivalent in hex: Ctrl-A is hex 01, Ctrl-B is 02, and so on ... through to Ctrl-Z which is 1A.

Remember to keep the filename short. Otherwise you'll end up with more keystrokes to call the .XQT file than you had in the original command sequence!

You can't use the MS-DOS COPY CON filename facility to get the same effect as the Basic program when creating .XQT files. This is because Superwriter uses the Escape key in its commands; this confuses the COPY command such that the file you end up with will be completely useless.

Using the program

Before running the program, write down the exact sequence of hexadecimal codes you want to include in the file. Don't use spaces or separators between each two-digit hex code — this just won't work. And the last hex code in your sequence *must* be 1A, because this is recognised by MS-DOS as the end of a file; if you put 1A any earlier in the sequence, MS-DOS will just ignore anything that comes after it.

Set Caps Lock on and run the program. Enter the name of the file you are creating, type in the hex codes you've already worked out, press Return ... and there you are. ◆

```
100  REM H$ = input string
     representing Hex
110  REM H$ must be
     terminated by 1A (in
     Hex)
120  REM J$/J% evaluates
     H$ two at a time
130  C$="":REM C$ is to be
     a string of hex codes
140  INPUT "FILENAME ";F$:
150  INPUT "HEX-STRING
     ";H$
160  J$="&H"+LEFT$(H$,2)
170  J%=VAL(J$)
180  C$=C$+CHR$(J%)
190  H%=LEN(H$):
     H$=RIGHT$(H$,H%-2)
200  H%=H%-2
210  IF H%=0 THEN GOTO 220
     ELSE GOTO 160
220  OPEN "O",1,F$
230  PRINT£1,C$
240  CLOSE£1
```

Company News

A Round-up of rescues, revivals, removals and relapses

Apricot isn't the only company to have received a clobbering recently on the corporate news front. Here's a selection of Good and Bad News that may well affect the Apricot user ...

Farewell Thorn EMI

Thorn EMI Computer Software, currently one of the biggest microcomputer software distributors, is being shut down by its parent. It's reported though that MD **Henry Kitchen** is organising a management buy-out, with Thorn itself putting up 49 per cent of the money ...

The decline in the **computer games** market is cited as the reason, but the firm also distributed a lot of 16 bit software — notably the rather good **Samna** word processor and the **Thoughtware** 'ideas processor' (both IBM-only) and the **Human Edge** packages.

Those will probably be taken on by the management buy-out, but Thorn itself is reportedly hanging on to the two lines it's acquired in the past few months: **Perfect Software** (separate but integratable WP, database, spreadsheet etc) and the **SMB** accounts packages.

Oberon update

Oberon International didn't make it. The maker of the award-winning and genuinely innovative **Omnireader** low-cost OCR reader has gone into liquidation with losses of £3.5 million on a turnover of £1 million. There's reported to be some interest in the unannounced follow-on Omnireader 2, not to mention the 17,000 unsold originals.

Interlekt lives

Modem maker **Interlekt** spent only a couple of months in receivership before being bought by **DCE**. Interlekt makes small, neat, cheap modems that fit well with DCE's more technical comms stuff; they will continue to be sold at more or less the old prices — starting at around £125 for the low-end V23 **Portman**, going up to Hayes-compatible auto-dial auto-answer units.

Ferranti & Craig RIP

As we went to press, the liquidator at Basingstoke dealer **Ferranti & Craig** was still taking offers for what assets remained. The company crashed a month ago. He confirmed that it was *not* being sold as a going concern: the assets would be sold piecemeal. Offers were still being taken and "a lot of interest had been shown" in the sale.

Intelligence rescued

But several weeks of speculation as to the fate of **Intelligence (UK)** have been ended. The software supplier and its associated hardware-building subsidiary **Intelligence Research** were both placed into receivership on 15 October, with debts reportedly topping £900,000. Now a company called **Switched Power Supplies** has at least acquired the hardware rump of Intelligence.

SPS is a cash-rich electrical engineering company of American extraction. It says it's purchased the "enhancement board assets" of Intelligence Research Ltd together with the right to use that name. The products include a variety of **expansion boards** for the Apricot and Sirius under the **Hyperam** label as well as a collection of RAM and multi-function boards for the IBM PC market.

Meanwhile the software arm (principal product: the now rather dated but otherwise good modelling package **MicroModeller** — first released *circa* 1980, 9,000 sales worldwide) doesn't form part of the acquisition. It looks like the three to four thousand users of MicroModeller may have to get used to an unsupported future ...

Fresh management has been brought in to run the 'new' company, including former Conservative MP **Tom Benyon** as its new MD. When we spoke to him he was keen to place great emphasis on keeping the existing user base 'sweet' — "our client base is very important to us" he said, confirming that his company will continue to support users of the board products. Someone sent us a draft of the press statement from Benyon, which concludes (in brackets) "if pressed, say Intelligence will review claims on an individual basis".

Among other things this means warranty claims for boards purchased previously will be treated "sympathetically". He also confirmed Intelligence Research's commitment to the future development of new board products; there's already at least one multi-function IBM board ready to go.

Dataflex doings

The demise of another maker of memory boards, **Dataflex**, is seriously limiting our add-on options. At least part of Dataflex — the software/dealer subsidiary called **Dataflex Consultants** — will survive; apparently it was due to be separated from the PCB side anyhow.

Dataflex's principal software product was the reportedly good financial planning system **MasterModeller**. Back in May, the package's authors **Planning Sciences** took back the distributorship (Dataflex became merely a major dealer) and has been selling and has been supporting MasterModeller itself. As the company puts it: "the cause of Dataflex's liquidation has nothing to do with MasterModeller", citing 500+ sales in the year it's been available. Planning Sciences is on **01-741 9620**.

Compsoft slips

And the successful USM debut of **Compsoft** earlier this year has been followed by a depressing set of half-year figures — the database-maker saw sales rise by a decent 17 per cent to £1.15 million, but operating costs in the period doubled (largely because of so-far-unproductive expansion in Europe) and the six-months profits were a mere £2,000. Still, Compsoft should recover; and from a high of 120p the USM shares are now a bargainish 50p ...

Some of the recovery should come from the networked version of its best- selling **Delta 4** database package. **Delta4-Net** is to be launched in the New Year and Compsoft promises that it will run on all MS-DOS 3.1/MS-Net networks; R&D manager **Andy Rigby** told us "IBM's comments regarding the Token Ring network have confirmed that DOS 3.1 is the correct direction".

Existing single-user Delta 4s will be able to upgrade. Interestingly, the single-user version runs on **Xen** and Delta4-Net runs under **Point 32**; but as Apricot has apparently elected *not* to release Xen as a Point 32 file server — presumably for marketing reasons, and presumably only for the time being — the mating of Delta4-Net and Xen must be a distinct possibility ...

Buy now!

On the other hand, Kettering-based **Brikat**, the company better known by its **Pegasus** accounting package, is doing very nicely — turnover more than doubled to £8.3 million and profits were up by 70 per cent to a year-end £1.3 million.

The company, which is another of those quoted on the USM, says it now has 12,000 users; there are 200 staff, own-label deals with IBM, and a solid base of Apricot sales (but the IBM business is now becoming dominant). Expect to see more direct retail outlets: Brikat started the year with two, finished it with ten, and expects to add more.

As we noted in Release 1.1, database house **SoSoft** (main product — the **Tomorrow's Office** file manager) has been bought out of receivership by the Brikat Group (purveyors of the top-selling accounting suite Pegasus). Support for existing customers is guaranteed; more to the point, the Pegasus **Information Manager package** is basically a rebadged Tomorrows's Office and Brikat wanted to protect that. ◆

Deals For Readers

In the DEALS FOR READERS lists you'll find ...

- **public domain software,** mostly games and utilities that aren't easy to obtain elsewhere — and many of these are unique to APRICOT FILE
- **deals on software,** typically useful items that aren't widely available
- **demo disks** for packages that we regard as pretty good

How to order

Send us a note with the item's name and the reference number as quoted in the list. We will normally be able to process orders within two working days.

Note that for orders totalling less than £50 we can only accept prepayments and only in Sterling, so a cheque or money order (made out to "TP GROUP") *must* accompany your order.

We will accept purchase orders if you want goods totalling more than £50, but if it's at all possible we would prefer cash with order — we just aren't big enough to provide the effort of chasing invoices and to cover the shortfall between despatch and delivery.

The prices quoted include VAT where applicable and despatch. Your order will arrive with a VAT invoice/receipt.

Overseas orders

Orders from outside the British Isles are at the same price. Anything we send abroad is free of the VAT sales tax, and since that 15 per cent levy just about approximates to the extra cost of overseas postage we thought we might as well simplify things.

This may however mean that bulky items or long-distance despatch will go by the postage rate that most closely fits the 15 per cent allowance — and sea mail can be interminable. So if you want to ensure swift despatch, or if there's any doubt, ask us to quote ...

Contribute!

We're always looking for contributions to further £15 disks. So if you've written something — a game, a utility, a helpful batch file — why not share it with other readers? And if the ideas and techniques therein would make a useful mini-article for the newsletter, we'd certainly be interested in printing it.

And that also applies to bugs. No-one can expect this stuff to have the same rigorous checking-out that you should expect from commercial packages. We do check the material on the public domain disks, but we can't do that exhaustively — so let us know if you come across any bugs. And let us have a copy of any fixes you can make ...

Public Domain Disks

These disks contain programs and text files culled from a variety of sources — some converted from other formats (mostly IBM PC and Victor) and checked out or revised for the Apricot: some taken from published programs: some written by contributors. As a result the disks are a bit of a miscellany, but we'd be very surprised if you couldn't find a dozen or more useful items on each ...

Apricot Disk No. 1

Order no:	**AP001**
Price:	**£15**

Virtually the same as the 16 BIT COMPUTING A001 disk, with over 40 files aboard. We've amended some of them and replaced a couple. Highlights now include:

AUTOEXEC with an improved PROMPT
SDIR and **FDIR** two handy sorted-directory utilities
VDEL and **DELQ** two selective DELete commands
WAIT and **ASK** two batch file commands, both more useful than PAUSE
STRIP makes WordStar document readable by other WP packages
WC counts characters, words, lines in a text file
GRAFCHAR a kind of EFONT in Basic for defining your own characters
ESCAPES the complete Escape codes for Sirius and Apricots
DUNGEON improved version of the Adventure-style game
OTHELLO a good implementation of the well-known board game
LEADTRAK and **ACCTRACK** two sales lead management systems

Apricot Disk No. 2

Order no:	**AP002**
Price:	**£15**

More or less as the 16 BIT COMPUTING disk A002 — 79 files. Highlights:
BASICKEYS single-key entry of Basic commands
DEBUG the complete Apricot MS-DOS 2.11 version
EPSON sets print modes on Epsons and compatibles
INDEX-84 complete index to 16 BIT COMPUTING 1984
KNEW copies only new files
MENU demo of simple batch-file menu system
MOVE moves files from one subdirectory to another
RENDIR rename subdirectories
SORTDISK sorts disk directory
TREEDIR lists *all* files on a disk — in their subdirectories
WHEREIS searches disk subdirectories for named file(s)

Apricot Disk No. 3

Order no:	**AP003**
Price:	**£15**

A bumper bundle of goodies you surely can't live withoutc. Highlights:
SWEEP excellent all-purpose file housekeeper
SCAVEN finds and locks out bad sector on microfloppies
MEMDUMP browse through memory
TURBOKEY key redefinition for aficionados of Turbo Pascal
SUPERWRITER XQT FILES a useful clutch of macros
HEXFILE create hex-coded ESCape sequences and the like — comes with some fun MicroScreen-driving demos

Games

Order no:	**AP004**
Price:	**£15**

A disk of public domain games — and nothing but games. Some in Basic, some in EXEcutable form. Includes the very tough flight simulator **747SIM** (fly your own Jumbo) plus old favourites like **AWARI**, **TOWERS OF HANOI**, and many more besides. A very full disk

GSX User's Disk

Order no:	**AP005**
Price:	**£15**

The complete GSX tutorial from Lindsay Doyle — includes a library of ready-to-use **Basic subroutines** that drive GSX, a set of five printable **Workshops** in text form (this series is running in APRICOT FILE now), **demo programs**, and Lindsay's improved HEXPAWN game **IMPHEX** (which among other things demonstrates something not unlike artificial intelligence)

Demo Disks

Try before you buy? Here's your opportunity to check out our selection of some of the best Apricot packages — and to do so without a salesman hassling you to write a cheque for them.

BusiPost Demo

Order no:	**AD002**
Price:	**£15**

Fast and flexible mailing list package. [Not for the F1.]

ChartMaker Demo

Order no:	**AD003**
Price:	**£15**

Scientific/technical graphics from keyboard input or database/spreadsheet files.

Letterer-Set Demo

Order no:	**AD005**
Price:	**£15**

Utility that lets you print on any dot-matrix printer any typeface that can be displayed on your Apricot screen.

Lotus 1-2-3 Tutorial

Order no:	**AD006**
Price:	**£15**

Thinking of 1-2-3? Here's a chance to see just what it can do first.

MENUGEN Demo

Order no:	**AD007**
Price:	**£15**

Demo for a fine menu-creation utility — menu selections can run programs, call other menus, execute MS-DOS commands, etc.

MicroSight 1 Demo

Order no:	**AD008**
Price:	**£15**

Everything you need for digitising an image and several facilities for manipulating it.

PC Programmer Demo

Order no:	**AD009**
Price:	**£15**

Demo for program generator: produce complex applications software with minimal effort, no need to learn a programming language.

Praxis MicroChart Demo

Order no:	**AD010**
Price:	**£15**

Business graphics package, ideal for presentation of spreadsheet data etc. [Not for the F1.]

Special software

This modest collection represents our first attempt at purveying conventional packages: these are not public domain items, and they are not discount deals on the kind of software your dealer will sell you. Instead we have gathered a few titles that (a) we feel will be useful to the average Apricot user and (b) aren't widely available elsewhere.

FAST Apricot Screen Accelerator

Order no:	**AS001**
Price:	**£25**

Ever suspected that your Apricot screen was a little sluggish? Well, you're right. The Apricot screen is slo-o-w-w ... especially when it comes to scrolling about a screenful of text. The rumour is that the designers of the Apricot chose to put various screen-handling impedimenta deep within the BIOS in order that it should not compete on performance too strongly with its then stablemate, the Sirius. And these screen delays have remained there ever since.

Until now. **FAST** is an accelerator for the Apricot screen: it bypasses certain screen interrupts. Simply running it in an AUTOEXEC.BAT will cause your Apricot to handle screen text as much as *twice as fast*. **FAST** doesn't affect CPU clock speeds and so it does not accelerate your graphics or supercharge your program execution times. But its effect on screen performance is pretty impressive, especially at system level.

Works on all Apricots *except* those with colour screens.

BPS Disk no. 2 — RAMdisk with WordScan

Order no:	**AS002**
Price:	**£40**

The **RAMdisk** is better than the Apricot's freebie; the **Wordscan** word/line/character counter is *very* fast and always useful for anyone who writes text on their computer. Normal RRP is at least £70.

POLYPRINT

Order no:	**AS003**
Price:	**£30**

Pretty printing from your Apricot on any matrix printer — POLYPRINT lets you produce near-letter-quality printing (almost typesetting quality, in fact) on ordinary dot-matrix printers that are capable of printing graphics (which these days means just about any low-cost matrix printer). Menu-driven, uses only nine keys. Comes with 12 selectable typefaces, some of them very fancy. Accepts ready-to-print output from any word processor; will also work directly from WordStar files without your having to save them on disk first. Specify which printer you have when ordering — POLYPRINT comes customised for particular printers.

The Apricot Catalogue

Order no:	**AS004** [ASCII]
Order no:	**AS005** [CardBox]
Price:	**£50**

At list of all the software and hardware we know of for the Apricots with prices, addresses, description (with our comments when we have experience of the package), contact names and numbers (including Telex numbers) where we know them. Based on the lists originally printed in 16 BIT COMPUTING, but regularly updated by us; currently well over a megabyte of information. Available in two formats — ASCII can be read by any word processor or TYPEd, **CardBox** comes with a .FRM format (but not the file manager program!)

Catalogue Updating Service

Order no:	**AS006** [ASCII]
Order no:	**AS007** [CardBox]
Price:	**£25**

Regular updates on disk during the next year for purchasers of AS004 or AS005 — at least even three months, more frequently if the information changes substantially.

IANKEY Crash Course

Order no:	**AS008**
Price:	**£48**

The very best **keyboard tutor** we've seen for newcomers — beats TOUCH 'N' GO into a cocked hat. Sensible design based on serious research; clear on-screen instructions; takes only three or four hours to teach the basics of touch-typing. Our review of the Sirius version in VICTOR SIRIUS FILE concluded "I strongly recommend it as excellent value for money" — especially from DEALS FOR READERS, because the normal RRP with VAT and P&P is £58.65.

IANKEY Two-Fingers to Touch-Typing

Order no:	**AS009**
Price:	**£48**

An alternative **keyboard tutor** — converts a two-fingered 'hunt and peck' typist into a fast user; and it does so without wasting your time, forcing you to relearn the keyboard, or boring you stiff ... Included in those enthusiastic review conclusions, and again available from us at a price £10 below RRP.

The Lotus Pack

Order no:	**AS010**
Price:	**£65**

A parcel of classy utilities from **S&S Enterprises** for users of **Lotus 1-2-3** and **Symphony**:

- **THEPOUND** a 1-2-3 worksheet of the complete character set for the Apricot — including the Pound sign
- **SOLID123** consolidates many 1-2-3 or Symphony spreadsheets into a total
- **TRANSPOS** transposes rows and columns in a 1-2-3 worksheet
- **123RANGE** lists the ranges in a 1-2-3 or Symphony worksheet

BACK2123

Order no:	**AS011**
Price:	**£30**

Switch between 1-2-3 and Symphony — BACK2123 translates Symphony .WRK files back to 1-2-3 .WKS format. Converts data, labels, even formulae!

The Printer Pack

Order no:	**AS012**
Price:	**£40**

Mainly for spreadsheets:

- **SIDELINE** prints your wide spreadsheets sideways so that they fit on to the paper in an 80 or 132-column printer. Needs an Epson (or a compatible)
- **FXPOUND** sets up an Epson FX80, FX100, Canon or Kaga printer to print the Pound sign and the rest of the Apricot character set
- **SETFXPR** menu to set up an Epson (or compatible) for various print modes — emphasised, condensed, double width, and several other things

The Word Processing Pack

Order no:	**AS013**
Price:	**£50**

Three good WP utilities from S&S:

- **WSASCII** converts WordStar files to ASCII format so that

they can be read by other word processors
- **WORDNO** counts the number of words in a document; works with WordStar or plain ASCII files
- **READAGE** calculates the 'reading age' (ie the comprehensibility) for a piece of prose; also works with WordStar or ASCII files
- **SEARCH** searches a WordStar or ASCII file for all occurrences of a given phrase

The First-Aid Kit

Order no:	**AS014**
Price:	**£25**

Just what you need to make your computer palatable for the novice user:
- **DOSMENU** a fancy and clever menu 'front end' — lets you choose any application (eg 1-2-3 or WordStar) or any MS-DOS command with a single keystroke
- **HELP** shows a menu of Help files, then puts the one you choose on the screen or the printer

The File Protection Pack

Order no:	**AS015**
Price:	**£60**

Keep those prying eyes from your precious files!
- **SECRET** makes files invisible (or visible) to directory searches
- **READONLY** makes files read-only, so that they cannot be deleted or overwritten (you can also restore the normal read/write status)
- **ENCRYPT** encrypts and decrypts files according to a secret password
- **ZAP** kills files so thoroughly that they can't even be 'undeleted' by a disk editor like DISKTOOLS or UNDELETE

The Games Box

Order no:	**AS016**
Price:	**£25**

Two good games from **Alan Solomon**:
- **ADVENTURE** the original classic 'Colossal Cave' adventure
- **CASH CRISIS** arcade-style 'Space Invaders' with money!

UNDELETE

Order no:	**AS017**
Price:	**£20**

The essential brow-soother: lets you recover files that you have accidentally deleted from floppy disk; works in subdirectories. Everyone should have a copy, just in case ... *[Not for hard disk systems]*

Books

The Good Computing Book

Order no:	**AB001**
Price:	**£3.00**

A tubby and packed paperback for beginners, written by the Editor. Mostly a reference dictionary of computing terms, but also lots of introductory info. Claims to offer "everything you need to know and nothing you don't"; well, that may be blurb-writer's licence but Dennis is still pretty proud of the book ...

All prices include VAT and despatch. Send your order (with payment, if it totals less than £50) to:

APRICOT FILE
TP Group
PO Box 509
London N1 1YL
England

Queries: 01-609 3800

Cheques, money orders etc should be made payable to "TP GROUP".

We aim to despatch within 48 hours, but please allow 21 days for delivery before calling to complain ...

Bargain Corner

A few of the better buys in Apricot goodies that we've come across recently:

■■■ Big screen ...

The RRP for the **Emco AP1200** monitor (12in Apricot display) is **£179**, and that already beats Apricot's own alternative; Emco is doing a £20-off deal if you use a voucher found on its APRICOT USER ads (valid till 31 December)

■■■ ... better price

In any case the price for an AP1200 from **Advanced Microcomputer Applications** is just **£139** — allow another £8 for shipping if you don't live near Beeston, Notts. AMA is on **0602 255415.**

■■■ Cheap disks

We think you'll find it hard to beat the prices that Sydney Harrod's **Apri-Soft-Exchange** is providing on Sony micro-floppies. The price per box of ten is £26 for single-sided disks, £35 for double-sided — and that includes VAT and postage. Must be a bargain. Send money to Apri-Soft at **35 Tyler Avenue, Limavady, Northern Ireland, BT49 0DT.**

■■■ Read all about it

Sydney is also selling **Peter Norton's** MS-DOS AND PC-DOS USER'S GUIDE, one of the very best paperback guides you'll find on the operating system. Apri-Soft's price is **£12.95** inc despatch — and if you ask for it, at no extra charge he'll hand-annotate those sections of the book where Apricot practice differs from the norm.

Short cuts

Tricks with the Logo, Font and Key editors

by Tim Hines

No doubt your interest in the Apricot's logo editor was aroused by Lindsay Doyle's article in the August 1985 16 BIT COMPUTING. Well, there's an undocumented feature of the Logo, Font and Key editors which greatly improves the speed at which you can modify or create these useful files.

In addition to the use of the 'ladder' menus so beloved of the ACT/Apricot programmers, it's possible to use the character keys to perform the same functions. This can avoid a lot of manipulation of the menus in order to carry out simple or repetitive tasks.

The characters involved are usually (but not always) mnemonics of the operation required. For example:

S goes to the *source* font in Logoedit and Fontedit
T goes to the *target* font in Fontedit and the Logo display in Logoedit
K goes to the *keyboard* display in Keyedit.

The character mnemonics are of considerable use if you're carrying out a repetitive task like modifying a logo to be in the inverted form (black on white). Get to the logo display by typing **T**; then by repeatedly typing **L, I, P** and moving the cursor via the numeric pad you can respectively LOAD, INVERT and PUT the inverted cell back into the logo.

Similarly, to move the logo within the logo area you can use the L (LOAD) and **P** (PUT) options in conjunction with the numeric keypad cursor control to LOAD each cell into the edit area, move the cursor on to the logo cell, and PUT the cell into its new location.

The Table

The table shows the complete set of single character codes and their meanings. I have used the terms in the Apricot editors, so for instance 'bright mirror' mirrors the portion of the character that's shown brighter (columns 0 to 9) — these are the pixels that actually appear as the character on screen.

Columns A to F are not displayed, column E being used for the 'strikethrough' bit and column F for the underline bit.

Apricot editors' control characters

ASCII	Character	Font and Logoedit	Keyedit
8	BS	Edit/Logo(Target)/Source	
9	TAB	Edit/Source/Target(Logo)	
33	!	Edit cell	
46		Toggle point	
40	/	Normal bit select	
49	1	Cursor SW	
50	2	Cursor S	
51	3	Cursor SE	
52	4	Cursor W	
54	6	Cursor E	
55	7	Cursor NW	
56	8	Cursor N	
57	9	Cursor NE	
77	M	Bright mirror	
97	a	Vert. line set	Copy
98	b	Begin block	
99	c	Copy block	Control
100	d	Repeat line	
101	e	End block	Erase
102	f		Character font
103	g	[not used]	
104	h	Horizontal mirror	
105	i	Invert cell	
106	j	[not used]	
107	k	Clear cell	Keyboard table
108	l	Load cell (get)	
109	m	Vertical mirror	
110	n		Normal
111	o	Insert line	
112	p	Put cell	
113	q	Delete line	
114	r	Rotate	
115	s	Source font	Shift
116	t	Target font or Logo	
117	u	Horizontal line set	
118	v	[not used]	
119	w	[not used]	
120	x	[not used]	
121	y	[not used]	
122	z	[not used]	

Incidentally, you can set more than one bit in either of these: so rather than use the strike-through bit to cross out the letter (I cannot see the point of this on a refresh-type screen), you could set a pair of bits in order to do double-underlining by using the bits above and below the underline bit.

If the character was both underlined and 'struckthrough', you'd end up with a heavy underscore — thus giving you three alternative forms of underline for the price of two!

ACTIVITY options

Unfortunately there doesn't appear to be any equivalent mnemonic commands with the ACTIVITY editors supplied with BIOS 2.7 and later.

The ACTIVITY editors do however provide a few other useful features, such as the ability to define

characters of other than 10 by 16 pixels (for the F series machines). If you have access to both types of editor, it pays to think about the sort of modifications you want to carry out and to select the editor accordingly.

More musings

Lindsay brought up a point in his article about the names he would have preferred for various options in the menus called. This reminded me of an old version of the operating system that I had with one of the early Apricots; there were spelling mistakes in some of the Help screens.

Conveniently, ACT/Apricot Ltd has put all help messages in files with a .HLP suffix. These are standard ASCII text files, so they can be edited with a word processor (don't forget if you are using WordStar that these are non-document files!) to correct mistakes or improve the messages. The files are formatted in pages with a dollar sign between each page. Don't forget to save the original in case you mess up the file completely!

Anyway, to get back to Lindsay's point about the menu options; these also can be modified easily — all the menu titles, messages and the ladder options are stored in files with a .TXT suffix. For instance, Logoedit's is there as LOGOEDIT.TXT.

Providing you don't remove or add any lines, you can change the options by editing the .TXT files, perhaps to change the 'RESET' option to 'ERASE'. Don't forget to modify the message in the associated .HLP file similarly to say 'ERASE' ...

So with your freshly modified LOGOEDIT.TXT and LOGOEDIT.HLP files, you reload Logoedit — and surprise, surprise! The menu option and the help message are magically transformed.

You may ask why Apricot made these files so easy to get at. I believe there's more method in that madness than allowing you to correct spelling mistakes and idiosyncratic names. Imagine that you wanted to reconfigure the utility programs for use in say, France or Germany; all you have to do is to modify the .HLP and .TXT files with a little care. Presto! You have the program in another language.

A note about saving fonts

I'm much obliged to Lindsay for noting the 'escape i' method of producing the logo at any point on the screen: it makes a nice touch to programs to put a logo on title pages and the like.

But he wasn't quite correct in the naming of the file for saving the logo or font. Apricot chose *not* to allow the drive prefix to precede the filename, so it's necessary to put the disk you wish to save to (or for that matter load from) in the default drive ... unless you know otherwise! ◆

Copyright 1985 Tim Hines

Review

More SuperWriter

The 'Professional Author's SuperWriter Disk'

by Lindsay Doyle

SuperWriter-lovers, rejoice! **Ansible Information** has generated a disk full of useful additions and improvements to the word processor, over 70 files in all: and Ansible is asking a trifling amount for it.

As you can see from the list, some of the 70 are **batch** files that can speed up loading and running. Several offer new facilities for disk maintenance, backup, and other housekeeping jobs. A particular favourite, called Z.BAT, clears and resets the screen — even if you've gotten stuck in Graphics mode by mistake.

Among the **command** files is one that takes a SuperWriter file and formats and prints it as two columns of text, side by side. Another allows you to step forwards backwards through text, page by page, at high speed: this makes 'Format on Screen' completely obsolete.

Several **dictionary** files are on the P.A.S.D. disk too. They will allow you to increase your dictionary to over 30,000 words, correct the Americanised spellings, and delete a number of errors — I was frankly horrified when I scrolled through the errors file to find how many and how egregious they were.

If this weren't enough, there are **configuration** files (among them an improved font — slightly smaller than standard, but with much more legible character definition): **custom key assignments** which at last make all the control keys *sensible*: an extensive explanation of how to write **SW.DEF** settings, including the basics of how to up SuperWriter automatically with all the default settings you prefer each time you load it: and a group of **recommended formats** for letters, manuscripts and even TV scripts for the BBC if you are into that. Well, it *is* a disk for *professional* authors; and the disk *was* produced by a pair of professional writers.

More? Yes, more! There's a parcel of **execute** files that can be called from within Edit. I particularly liked the 'save and resume' facility which, in the words of the authors, duplicates one of the few attractive features of WordStar. Using this, you can save text for safety reasons *and return to the same place* in the text as often as you want without the long process of reloading the file and finding where you were.

Another XQT file transfers from Edit screen to Print menu and back, for multiple slightly-altered letters. There is a search-and-replace that extends to more than one document (change the hero's name throughout your novel!). Another breaks up all hyphenated words into their constituents for spelling checks. Another makes the plural form of all the singular words in your dictionary. Another causes SW to start with a directory display instead of the main menu.

Oh, and there is a quantity of **public-domain software** thrown in for good measure — mostly from the DEALS FOR READERS disks: CHMOD, the famous DEBUG, KNEW, LOWER, UPPER, SORTDISK and STRIP: plus some of Ansible's own, like TURBOKEY which now appear on our newer DEALS FOR READERS disks. No charge for these: the authors just want you to be able to enjoy them if you don't have them already.

The disk is not copy-protected. An excellent 28-page booklet, which *is* more or less copy-protected against Xerox and the like by being printed on blue paper (smart move!) is included. I understood everything on the first or second reading, and I found no errors in it (Apricot please copy!).

Ansible's authors are already at work on the next version of P.A.S.D. It will have to spill over on to two disks, as the present one is full to the gunwales. Everything should be compatible with *all* Apricots, apart from minor deviations which are covered in the text.

This paragon of packages is available at only £46, VAT and P&P included. Obviously I can't mention each and every file on the disk: I can only say that there's no doubt whatsoever that you SuperWriters will find much here that you will clasp to your bosoms forever.

Conclusion? No doubt about it: if you want to make the most of SuperWriter, run to the nearest chequebook and do your bit to support David Langford and Christopher Priest, the two professional writers who have made SW into an even better professional tool.

Oh, and I thought you'd never ask: an **ansible** is a faster-than-light communications device which appears in the science fiction novels of Ursula K LeGuin. ◆

We were impressed with the conclusions to Lindsay's review, and we very much liked the content of the columns that David Langford of Ansible has started writing for APRICOT FILE — so we have added the product to our mail-order list. The P.A.S.D. disk is in the DEALS FOR READERS catalogue at an all-in price (including VAT and P&P) of £46; order no. AS012.

On the P.A.S.D. disk

```
Batch files:
  CHOP      BAT      CPROMPT   BAT
  DATADISK  BAT      DIC       BAT
  DICT      BAT      P         BAT
  R         BAT      RUN       BAT
  SEE       BAT      Z         BAT

Character sets:
  APRICOT   CHR      GENERIC   CHR
  F1THIN    CHR      F1THIN    DOC

COM files:
  2COLUMN   COM      PICK      COM
  PSETUP    COM      SHOW      COM
  SHOW1     COM      SNOOP     COM
  SWKB1     COM      SWKB2     COM

SW.DEF files:
  LETTER    DEF      MS        DEF
  SCRIPT    DEF      SWDEF1    TXT
  SWDEF2    TXT      SWDEF3    TXT
  SWDEF4    TXT

Dictionary:
  IN        DIC      ISE       DIC
  IZE       DIC      NONWORDS  DIC
  OUT       DIC

Keyboard definitions:
  SWKEYS1   KB       SWKEYS2   KB

XQT files:
  BOLDALL   XQT      BOLDNORM  XQT
  BORDER    XQT      BORDER    DOC
  D         XQT      DIC       XQT
  DICSP     XQT      DICSP2    XQT
  DIR       XQT      FMT       XQT
  LOWER     XQT      P         XQT
  R         XQT      RGEN      XQT
  S         XQT      SP        XQT
  SPOFF     XQT      UPPER     XQT
```

P.A.S.D.

Description	Diskful of extras, enhancements, utilities and explanations for the SuperWriter word processor
UK supplier	Ansible Information
Address	45b Princess Road Reading Berkshire RG21 111
Telephone	0202 762236
Price	£46.00 including VAT and P&P
Configuration	any Apricot
Conclusion	Excellent value — a practical and effective disk with something for everyone who'd like to make more of SuperWriter.

Working with SuperCalc

Consolidation

by Randall McMullen

This series, which began life in 16 BIT COMPUTING, aims to provide an easy and sensible tutorial on the more useful features of SuperCalc.

This month we turn the key to liberation from those spreadsheets which have grown too large for memory and for mankind. At some time you have probably accidentally loaded a new sheet on top of an existing sheet and and produced mysterious effects on the screen: well, the Consolidation option turns that vice into a virtue.

Quarterly figures, for example, can be carried forward from one spreadsheet and fed into appropriate cells to start the next spreadsheet. If that sounds like hard work then it can all be automated with a single eXecute command when the keystrokes are stored in a command file. Lotus-eaters call it a 'macro'.

The model used here shows the main features of a journal which analyses sales income. Expenditure and other features of small business accounts can also be added to produce a full-sized spreadsheet adapted for your own needs; indeed, if your bookkeeping is satisfied by the type of small traders' account book bought at a stationers, a good start is to mimic the layout of that book in your spreadsheet. Further features, such as columns for VAT, can be added when you need them (or when you are feeling strong enough!).

```
   | A || B || C|| D ||    E      ||    F   |
 1 MODEL
 2
 3 Date DetailAmntCode Product1      Product2
 4 Jan  Ace    33  1    IF(D4=1,C4,0)IF(D4=2,C4,0)
 5 Feb  Arrow  77  2    IF(D5=1,C5,0)IF(D5=2,C5,0)
 6 Mar  Acme   55  1    IF(D6=1,C6,0)IF(D6=2,C6,0)
 7
 8      Totals:SUM(C4:C6)SUM(E4:E6)   SUM(F4:F6)
```

```
   | A || B || C || D ||    E    ||    F   |
 1 SALES1
 2
 3 Date  Detail  AmountCode    Product1  Product2
 4 Jan   Ace        33   1        33        0
 5 Feb   Arrow      77   2         0       77
 6 Mar   Acme       55   1        55        0
 7
 8       Totals:   165             88       77
```

```
   | A || B || C || D ||    E    ||    F   |
 1 SALES2
 2
 3 Date  Detail  AmountCode    Product1  Product2
 4 Apr   Ace        44   1        44        0
 5 May   Arrow      11   2         0       11
 6 Jun   Acme       22   1        22        0
 7
 8       Totals:   77             66       11
```

The example shows just three typical entries. When you enter the date, the detail and amount, the spreadsheet automatically posts the figures from AMOUNT column into the appropriate PRODUCT column when you enter a suitable number into the CODE column.

This convenience is achieved by the SuperCalc IF function. That contains three expressions between the brackets. If the first expression is true (cell entry = code number) then the second expression is activated (display contents of AMOUNT column); otherwise the third expression is used (display zero).

In this simple example there are just two columns, labelled PRODUCT1 and PRODUCT2. In practice there could be many of these analysis columns over to the right of the sheet. When you're happy with them, the columns don't even have to be seen or printed. The totals of each column can be transferred to other locations for final display.

Building the sheet

Clear the SuperCalc screen if necessary (with the /Z Zap command) and place your spreadsheet title and other identifiers in Row 1. The initial display of the example spreadsheet shows the formulas used in columns E and F. Use these as a model for your own sheet, remembering that formulas are not normally displayed like this unless you use the /G F command.

Enter the first row of formulae into cells E4 and F4 and then build the rest of columns E and F quickly with the Replicate command:

```
/R E4:F4 , E5:E6
```

Similarly, enter the SUM formula shown in cell C8 (or the equivalent in your own spreadsheet) and replicate it across the remainder of the row:

```
/R C8 , E8:F8
```

We can end both the above replications with the Return key because we don't need to specify any fixed cell values within the formulas. We want all cell references to be changed to suit their new locations: this is the most common requirement and the SuperCalc default makes it as easy as possible.

If you do want to keep a cell constant within a replicated formula, remember to end the command with a comma rather than a Return.

Consolidating

Consolidation is one of the options of the /L Load command. It can be imagined as placing one spreadsheet on top of an existing spreadsheet without first clearing the screen. But instead of the second set of cells obliterating the first set of cells, we can tell SuperCalc to add and display the combined cell values.

This consolidation would be chaotic if you didn't expect it but it is very powerful when you plan the effect. The Load command also allows you bring in just parts of other spreadsheets; and, furthermore, these values can be directed to anywhere on the spreadsheet that suits you.

If your head is now spinning with possibilities let's first consolidate the Consolidate idea by using our example model — which may be simple but does demonstrate the important features.

The displays labelled SALES1 and SALES2 represent two quarterly sets of sales figures. The display labelled TOTAL1 shows a consolidation of the two sets of figures to give combined totals.

```
   | A || B || C || D || E || F |
 1 TOTAL1
 2
 3       DETAIL  AMOUNT  CODE PRODUCT1 PRODUCT2
 4       Ace         77     2      77        0
 5       Arrow       88     4       0       88
 6       Acme        77     2      77        0
 7
 8       TOTALS:    242            154       88
```

Make sure that you have saved two spreadsheets, such as SALES1 and SALES2, and that they share the same layout (an identical layout is not essential but it makes this first exercise easier).

Now use the /z Zap command to clear the spreadsheet and enter the first set of figures by using the PART option of the Load command. SuperCalc will ask you for the range of cells to be loaded FROM, which in this case is the block B3:F8. You then enter the upper left cell of the destination TO, which is B3:

```
/L sales1 , P B3:F8 , B3 , V
```

The use of the comma after the destination cell is important as it offers you further options. Choose the values option as this loads the numerical contents of cells rather than formulas — we don't normally want the formulas brought in as they can cause trouble when they try to calculate the spreadsheet and find cell references missing. This method of Loading also loses any special formats that you saved with the sheet.

Now for the consolidation. Leave the existing display on the screen and Load the second set of sales figures using the Consolidate option:

```
/L sales2 , C
```

You will see the figures combine in front of your eyes and the cells should now display the sum of SALES1 and SALES2. Notice that in this second command there was no need to specify the area of sheet as consolidation could only take place on top of an existing sheet.

Save the new sheet under a filename like TOTAL1.

As an experiment, try another consolidation on to the existing sheet. Choose the Part option again and enter a comma after the destination cell to give the further options.

If you have SuperCalc 2 or 3, note that you can also subtract values, not to mention multiply and divide: try them!

Command file

You may think that consolidation sequences would be too complicated or tedious for regular use. But they are good candidates for automatic execution by a command file. The commands are stored in a file, which is actually a spreadsheet with the borders removed.

Start a new sheet and increase the width of the first column so that commands fit each cell:

```
/F C , 20
```

Enter into cell A1 the sequence that was used to part-load the first sales sheet:

```
" / L sales1 , P B3:F8 , B3, V
```

Include the double quote mark but don't have any gaps in the sequence that you enter. Into cell A2 enter the the sequence for loading and consolidating the second sales sheet:

```
" / L sales2 , C
```

Remove the border with the command / G B and save the two cells as a disk file called SUMSALES.XQT:

```
/ O D A1:A2 , D sumsales.xqt
```

That .XQT suffix allows the file to automatically respond to the eXecute command without specifying a file suffix. Now Zap the screen and give the command / X. Specify SUMSALES as the filename ... then sit back and watch it all happen! ◆

Subscriber report

So far, so good ...

Analysis of the subscription cards

In October we mailed just over five thousand of those brown promotional letters and the white subscription cards to people who we thought might be interested in one or both of the newsletters.

It's normal in direct mailings like that to expect a response of between one-half and two per cent. Well, we had a very gratifying 11 per cent return. And because the Post Office loused up our overseas mailing — about a thousand of the 5,000 letters went beyond Europe, by slow sea mail rather than the air mail we'd contracted for — we can expect still more subscribers to join the club.

For which relief, much thanks. The four of us who run the newsletters (**Roger Gann** and **Terry Duggan** mostly on the admin and DEALS FOR READERS side, **Dennis Jarrett** and **Friedman Wagner-Dobler** on editorial and production) are still bare expenses and no salary out of the venture: but at least we've proved it can work, and we now have the cash resources to guarantee a full year's worth of high-quality writing.

We'd like to say — thank you.

What you've got

We've been analysing the information you provided on the tick-the-box part of the subscription cards, and it makes interesting reading. Here's the summary — it was done a couple of weeks ago, when subs stood at 393:

Which computer?

Responses:	250 [63.61% of total subs]
PC or Xi:	208 [52.93% of total machines]
F series:	52 [13.23% of total machines]

Obviously, not all subscribers filled in the card: and not everyone filled in *all* of the card. Still, two-thirds represents a reasonable sample.

These tables show what software you're using in the main product areas. The 'standardisation' index shows just how much variety there is in the packages used — we produced it by dividing the *total* number of packages cited by the number of *different* packages involved. So a high 'standardisation' figure indicates a high degree of commonality in usage.

Word processors

Responses:	196 [49.87% of total subs]
Total packages used:	260
Different packages:	37 [7.03 standardisation]
WordStar:	102 [52.04% of responses]
SuperWriter:	69 [35.20% of responses]
WordCraft:	8 [4.08% of responses]
Spellbinder:	7 [3.57% of responses]

This category includes some WP-related extras like spelling checkers. But clearly there's not much disagreement about which word processing software to use — even though SuperWriter must have come free with most Apricot purchases, WordStar outstrips it in popularity. And those two are a long way ahead of the field ...

Spreadsheets

Responses:	148 [37.66% of total subs]
Total packages used:	159
Different packages:	8 [19.88 standardisation]
SuperCalc:	123 [83.11% of responses]
Multiplan:	15 [10.14% of responses]
Lotus 1-2-3:	14 [9.46% of responses]

This one is more predictable. The choice of Apricot spreadsheet packages more limited than in other fields: SuperCalc came free: and it's a perfectly good choice anyway.

File managers

Responses:	137 [34.86% of total subs]
Total packages used:	153
Different packages:	21 [7.29 standardisation]
dBase II:	72 [52.55% of responses]
DMS/Delta:	22 [16.06% of responses]
Cardbox:	15 [10.95% of responses]

Another predictable one, with over half the respondents citing the market leader. And again there isn't really a huge choice of Apricot alternatives.

Accounts

Responses:	49 [12.47% of total subs]
Total packages used:	55
Different packages:	22 [2.50 standardisation]
Sage:	15 [30.61% of responses]
Pegasus:	13 [26.53% of responses]
Pulsar/Accountant:	6 [12.24% of responses]

This one surprised us a bit — not the wide range of different packages mentioned (hence the low 'standardisation' figure), more the poor showing of Apricot's own offerings. Of course there's a lot of options to go for, and we can certainly understand a dislike of Pulsar software at least. But we'd have

thought that most Apricot dealers would push Apricot's accounts software on to the buyers. Anyhow, it's good to see that Sage and Pegasus do so well — they're both accounting suites we like.

Graphics

Responses:	24 [6.11% of total subs]
Total packages used:	28
Different packages:	15 [1.87 standardisation]
AutoCAD:	5 [20.83% of responses]
Doodle:	4 [16.67% of responses]
Praxis Microchart:	3 [12.50% of responses]

This was the final category that produced enough responses to merit quoting some figures, but they're hardly significant statistically. Other areas we tried collating included modelling, comms, and programming: but apart from a score of 14 users for **Turbo Pascal**, nothing hit double figures.

Which leads us to conclude that Apricots are being used by subscribers for a very wide variety of tasks ... and not just the bog-standard accounts/WP/spreadsheet applications. After all, the total number of different packages cited came to 113.

Packages in use totalled 755 — nearly two per site (the question was "what are the *principal* packages you use"). Our overall 'standardisation' figure of 6.68 drop to 4.77 if WordStar and SuperCalc are omitted.

What you want

We also asked 'what else would you like to see in APRICOT FILE?', and this produced a massive response — with not much agreement.

So we have ended up with a long list of interesting-looking Workshops, Technotes and explanatory/tutorial pieces to be done. And topics that *did* strike a chord among several of you include these:

- **CAD** — we're looking for material to review. Any suggestions?
- **networking** — a subject dear to our own hearts since we're currently looking for ways to upgrade disk capacity and link dissimilar machines; so you can expect a good deal on this subject during 1986
- **Concurrent DOS** — we were surprised by half a dozen requests for more on CCPM, but we'll do our best
- **more about the BIOS** — expect updates, comments and info
- **assembler** — you asked for utilities, tips, tutorials and more. Is a beginner's series of interest? And is there anyone out there who'd like to do a regular Assembler Workshop for us?
- **reviews** — the consensus was that we shouldn't bother with mainstream packages like word processors and spreadsheets, since most subscribers would already have what they need. Instead we should concentrate on utilities and unusual packages, preferably in the form of WHICH?-style reviews with a grading system. All of that fits our own plans ...
- **interfacing instruments** and suchlike subjects, for instance to connect IEE488 devices — well, at present that's beyond our capabilities. Is there anyone out there who'd be interested in discussing an interfacing series?
- **using users** — there were a number of requests for "contributions from users on their experience of applications", "problems and successes of other users" and "readers' ways of overcoming problems". We'd love to carry this kind of thing ... but you have to tell us what you've done, what problems you've had, the pragmatic solutions. The phone lines are open now!
- **news**, especially of Apricot plc and new or updated products. This we're trying to do already
- **communications** — a lot of interest here. We've been asked for a summary of modem connections and control codes (not easy, but coming soon): a list of Bulletin Board Systems (there are a million, but we're starting on a descriptive round-up): reviews of comms packages and modems (coming Real Soon Now): using Telex and electronic mail services from the Apricot (ditto): and something about "worldwide information services" (in preparation)
- **more DEALS FOR READERS** — a lot of requests here, and several too for a 'Small Ads' service. We're doing both.

Apart from that list, we had several heart-warming comments on the forms — like "congratulations on getting yourselves off the ground again" and "keep the mix as in 16 BIT, one of the few publications which had many articles of reference quality in every issue" and "16 BIT was by far the most useful computer magazine". Many thanks.

And to conclude, here are a couple of the responses to 'what else would you like to see in the newsletter' that brought a wry smile to the lips:

- "HELP!!! We don't get any from ACT ..."
- "longevity"

We'll do our best in both departments.

Best buy in users' groups?

All about Apri-Soft-Exchange

APRI-SOFT-EXCHANGE was founded in August 1984 by **Sydney Harrod**. He was then a new Apricot owner; he says he established the club because he was "acutely aware of the problems of choosing the right software and had thought of a way to simplify them". Better use of better software is still Apri-Soft's main theme; but the Exchange has branched out into book reviews, supplies and equipment, and simple programming.

The guiding principle is that people who want to join in the scheme undertake to share their own knowledge for the benefit of other participants. A fairly detailed database is maintained: it includes some (confidential) information about members' skills, experience and interests, as well as about the software they use and what they use it for. The purpose is to help ensure that inquiries can be handled by the most suitable person available.

A monthly newsletter contains book and software reviews, questions and answers likely to be of general interest, and simple program listings, as well as news items.

There is also a regular software price update. For businesses, price may not greatly influence the choice of a software package; but APRI-SOFT-EXCHANGE caters for a high proportion of academics, professional people, and other self-employed Apricot owners who *do* have to take price into account.

Software choice

Because good, successful software is the likeliest to be made available for the Apricot, Harrod believes that Apricot owners can't afford to limit their choice to programs already offered for their computer without considering good material that may be coming out a little while later. So all generally applicable programs in CP/M-86 or MS-DOS are treated as fair game, and he lists the lowest prices published for them in British and US journals.

The relevance of American prices is that they often give signs of a downward movement, (which may be due to lack of sales of the poorer programs, hot competition to sell the fashionable ones, or the knowledge that an upgraded version is about to be launched) before it occurs in Europe.

A further value is that the prudent buyer needs to know when US programs are offered at exorbitant UK prices: that way, he or she can decide whether to wait, negotiate a discount, or import directly.

A library of about 400 software reviews is available to participants, and new titles are listed each month.

But undoubtedly the best service APRI-SOFT-EXCHANGE offers is the ability to get confidential verdicts from actual users before making a choice — though naturally it can't cover brand new programs.

Sydney Harrod, who says he's sometimes accused of being a perfectionist, still isn't satisfied. "The real problem is that people's applications differ, and so do their personal préferences," he says. "We are building up our loan library of demonstration disks; but there aren't many of these to be had, and I feel they don't always do justice to their programs.

"It really is very difficult to buy the right software without spending a lot of money on unsuitable programs first. We can help a bit by finding a second-hand buyer where that's legal; but what I'd really like to do is to run a loan service with the actual programs, and give people time to see whether they will be satisfactory. You couldn't do this with the general public, but I think we could work out a fair contract for established members of a user group ... Meanwhile, we're doing what we can by helping the right people to talk together before a purchase is made".

The subscription fee for 1986 is £10 (for those beyond the British Isles, £15); that buys a year's worth of the monthly newsletter, a disk containing the 'best of' 1985's newsletters plus some public domain and copyrighted programs, and access to Sydney's facility at fixing up helpful deals.

Such deals available to participants just at present include Sony disks (through bulk purchasing, Sydney is able to beat the Sony price from anyone else we've come across): a good price on a decent little daisywheel printer: and even discounts on small-business accounting software. It shouldn't be hard to recover the modest subscription fee in your first month ... ◆

More info

If you want to know more about APRI-SOFT, sent a stamped addressed envelope to:

APRI-SOFT-EXCHANGE
35 Tyler Avenue
LIMAVADY
Co Londonderry
Northern Ireland
BT49 0DT

The Apricot Computer Show

A big welcome for **The Apricot Computer Show**, the revived and revised version of the 16 BIT COMPUTING Apricot and Sirius Show with the word 'Sirius' now conspicuous by its absence ... *c'est la vie, sic transit gloria mundi*, etc. The dates are **5-7 February 1986**.

The new organisers are aiming for 85 or so exhibitors, all Apricot-based. They even include **Apricot plc** — should be a good chance to see the Xen and/or express an opinion about Apricot manuals/support/ user-friendly front-ends or whatever.

Also signed up at this stage are what looks like a good range of vendors — **Multisoft** (accounts), **Apricot Farm** (aka Carrington, so that company's graphics goodies will feature), **DBMan** (dBASEd database), **Alliance** (cheapest Apricots in the West), **Plus 5** (our favourite manufacturer of plug-in hard disks), **Simon Computers** (top-quality add-in boards), and more.

We'll be there with a **stand**, too; and we're also running three *free* **Question-and-Answer Clinics** in the afternoons. The Show is always pretty good, since it's not cluttered up with non-Apricot stuff and children; so is the venue (Kensington Town Hall's very pleasant Exhibition Centre).

See you there? Free tickets from the following number: **0256 83456**. Or write to **The Apricot Computer Show, 4 Manor Farm, Herriard, Basingstoke, Hants RG25 2PH.**

Blocks block in ASYNC?

The ASYNC **comms package** that used to come free with Apricots generally works well (albeit without error-checking) when piping a file between Apricots or Sirii. There seems to be a funny in the **IBM PC** version, though; a subscriber reports that ASYNC won't transfer more than 128 blocks before stopping dead. Has anyone else come across this?

Update to update

Last month's Back Page included what must have looked like a curious amendment to our review of **Keele Codes' CLIP** hard disk backup utility — we hadn't actually *printed* that review yet. But it's coming; and now that there's a **new version** (3.0) of the thing we'll do that one instead. The review *will* be printed in the New Year ...

Portables on the street

High-Street biggie **Dixons** currently has the **Apricot Portable** in its shops at **£499** ("Christmas bargain"). If this is the new target price, it might even be worth buying as a tool (or toy); we hear the display alone cost over £200, so Apricot's inventory write-off was truly dramatic. Dixons is selling the 256KB black portable, no longer in Apricot's catalogue: the white **FP** model — only significant difference is 512KB memory rather than 256KB — lists for **£1,395**.

League tables

Apricot Ltd — or at least the parent company, **Apricot Computers** — features in the FINANCIAL TIMES **Top 500** at number **344**. Last year it was at **228**. The FT list is organised by market capitalisation at the end of June, which translates as 'value according to share price'; just as well they didn't wait a couple of months ...

Best buy?

Apricot did rather better in the November issue of WHAT TO BUY FOR BUSINESS. The rather good subscription-only 'business consumer' equivalent of WHICH? ran its biggest-ever issue to cover **computers** and **printers**; and on balance it's just about the most readable intro we've seen — a few facts wrong, a few comments and conclusions we'd disagree with, but basically good-quality research.

Rated as **'Best Buys'** were the **Ferranti PC860, Commodore PC10** and **Zenith Z138** (all providing cheap IBM-compatibility) ... and the **Apricot F2**. Moving up-market, the **Future Computer** FX series scored among multi-user systems ... and there's the **Apricot F10**, "a best buy if you're in the market for a low-end hard disk system".

The **Apricot PC** and **Xi** both get a 'good value' stamp. The **F1** rates 'worth a look', though we'd argue that the single disk ought to disqualify it (the **F1E** was stomped on only because its disk is the single-sided 315KB version).

WordStar amnesty

MicroPro says it's sold 1.5 million packages, but reckons that "three to four times that number" are being used. Now it's trying to bring the pirates into the fold — send in your illegal disk with £40 and get one back with a valid serial number. The amnesty will run for "around three months", legitimisation gets you the chance "to apply for updates or exchanges through the normal channels".

We'd like to take this opportunity to thank you for your support; and to wish you a very happy Christmas, and a better 1986.