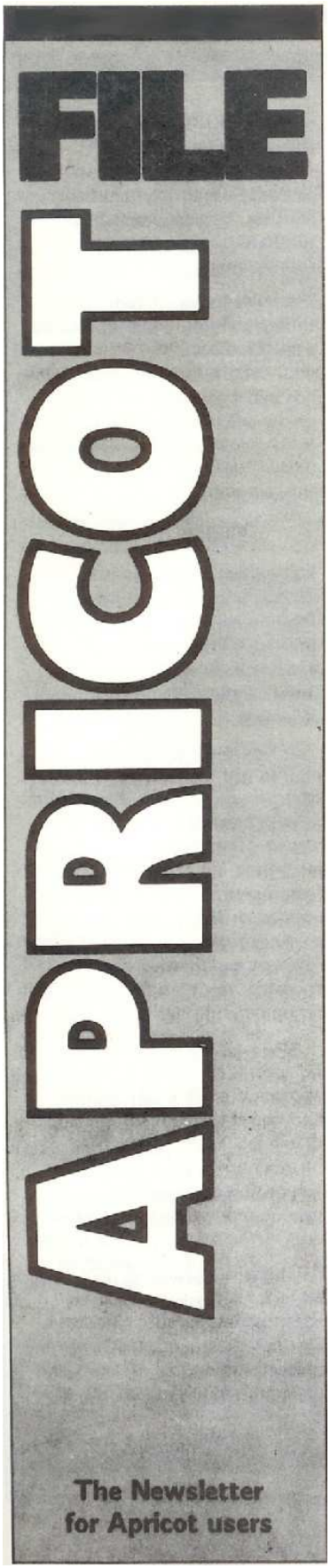
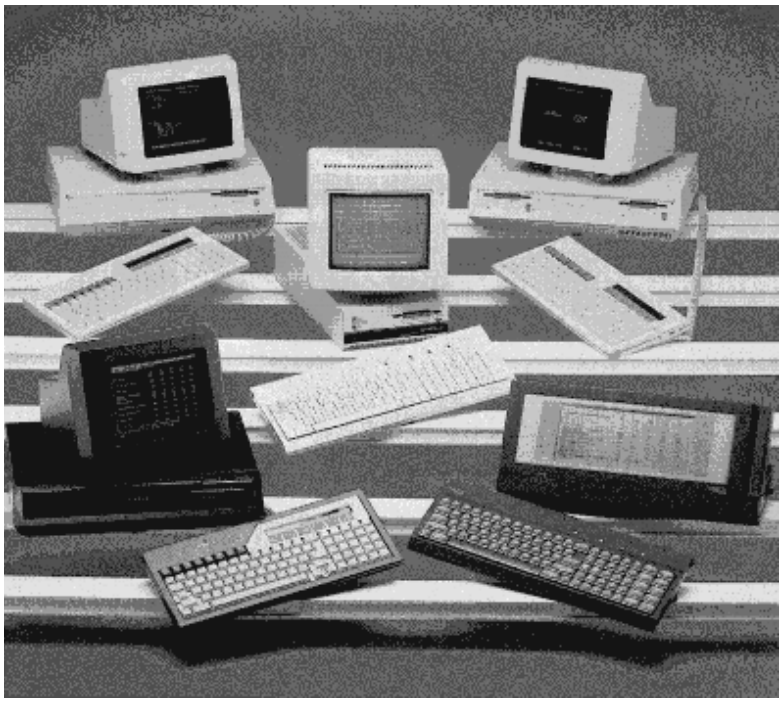


Apricot File 2_5



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Release 2.5

FILE

APRICOT

The Newsletter for Apricot users

February 1987

Apricot goes 386

Faster and cheaper than the opposition

By Henry Deckhand

First, the bad news: there will *not* be a £900 80386 upgrade for the Apricot-technology Apricots.

On the other hand, Apricot's announcement of a line of 386-based products has definitely confirmed our bullishness about the company's commercial prospects. Not that it salves any wounds among the 100,000 of us who bought the old-style 8086-based Apricots; but if you want to salvage something from your acquaintance with the marque, now might be the time to buy a few Apricot plc shares. As I write, the price is hovering around 65p (having been down to the mid-40s a fortnight ago); but the new product line should start an upswing, and the end-of-year results — due about June — ought to take the shares above 90p.

And what is the product? Well, it looks like an excellent participant in what Foster calls "the great 386 debate". Actually, it's not so much a debate as an anticipatory holding of breath; Foster's view (which presumably is the official position of Apricot plc) is that the 386 is "the most significant landmark since the 8086" in computerland, that machines built around the Intel 80286 are effectively stopgaps (including the Xen and Xen-i, one assumes), and that the technical qualities of the new microprocessor will redefine the guidelines for the next couple of years in the computer business.

In short, the 386 "will cause a revolution" because it genuinely brings minicomputer performance to the desktop at PC-type prices. Said prices start at £2,999 for the Xen-i 386/30, which gets a 30MB hard disk and 1MB memory — you pay extra for a screen and display controller card, with a choice from Apricot's existing options, but at least the keyboard is now included in the price.

The other announcement is a 386/45, which gets 2MB and a 45MB hard disk. That starts at £3,999. Both machines come with one floppy, either a 1.2MB 5.25in or a 1.44MB 3.5in.

The point is that those prices are not dissimilar to what a decently-configured AT-compatible will cost with a comparable hard disk — and the rather less powerful 286 processor. And prices like these will help to create a two-layer world for computer marketing once again, with low-cost 'consumer' computers priced at £2,000 and below while 'systems' users look for extra zap at £3,000 and above.

That's the semi-philosophical point. The red meat is that Apricot appears able to undercut all the serious contenders now in the 386 market — and to outperform them as well, if its own running of the *PCW* benchmarks is any guide. By comparison with a £2,999 Xen-i 386/30 and a £3,999 386/45, an equivalent configuration of the Compaq 386 — the only serious rival at present — weighs in at £4,348 and

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Apricot goes 386

£5,550 respectively. And the benchmarks have Apricot's 386 performing at least 13 per cent better.

And where does all the performance come from? Well, there's a fancy 16-layer motherboard which has obviously cost Apricot an arm and a leg in R&D — though prospective investors might care to note that the development appears to have been done with Apricot's own money, and Roger Foster assured your correspondent that there are no abnormal borrowings on the books.

That provides the boost. Apricot has also taken advantage of some other clever gismos, like Microsoft's EMM software emulation of the 'extended memory' hardware that allows PCs and ATs to get beyond the 640KB memory addressing limit imposed by MS-DOS.

Apricot also reckons it will be the first company to offer the 80387 maths co-processor, which on floating point operations works four times as fast as the 80287 — the new Apricots must be a natural for the 'workstation' market in engineering, scientific and design applications.

On the other hand, the margins don't seem to have been eroded. In Foster's words: "we believe Apricot has stolen a substantial march on the competition ... our pricing is nothing short of sensational" (*sic*). But we were also told that "these will be very profitable products, at least as profitable as anything else we've done"; and yet dealer margins will still be maintained at the familiar Apricot levels of between 30 and 40 per cent.

It's not entirely clear how Apricot has managed to do this, given that its 386 computers are at least as well specified as competitors priced much higher. There are some cost-cutters in the design, notably some clever twiddling which adds to the R&D budget but enables Apricot to avoid using the expensive static DRAM chips for its memory. And the 386s get a new keyboard without the pricey MicroScreen (which is still available, in the form of a drop-down Windows window on the screen) — although it's fully compatible with the IBM ATE, the keyboard is obviously cheaper to provide and less likely to require maintenance.

Primarily though it must be a mix of the new-look low-overhead Apricot plc and the range-compatibility that Foster describes as "our Unique Selling Proposition".

The USP is based on pluggable main circuit boards inside the same cabinetry, from the Apricot-technology Xens right up through to the top-of-the-line 386s. No other manufacturer appears to offer this on-site upgradeability, certainly not at such a good price — Apricot can turn a 10MB Xen HD into an IBM-compatible 30MB 386 for a shade over £2,000.

Whatever the reasons for the competitive pricing, Apricot's dealers should love the 386s — if only as go-faster single-user desktop systems. It comes with an Apricot-enhanced version of MS-DOS 3.2 (provides true concurrent processing in some areas like background printing) and the usual Windows applications. There's also a freebie spreadsheet, the very excellent VS-Planner from Paperback Software; this is a Lotus 1-2-3 workalike, so much so that Lotus is currently attempting to sue Paperback — see the story on page 30 ("we will not be contributing to the Adam Osborne Defence Fund" commented Mr Foster). The 386 is a whizz on spreadsheet work, needless to say.

More important, the new machines retain 16-bit peripheral buses and AT-type card slots. So existing boards can still plug in, and existing MS-DOS software can still use them.

Why not MS-DOS 4, which is apparently available? "Because it's a can of worms" said one off-the-record source. "Because it's a peripheral activity for Microsoft, a short-term product which offers no more functionality than MS-DOS 3" said Foster; "they don't even talk about it any more". It looks as though Apricot will wait for the forthcoming MS-DOS 5 before committing itself to an upgrade, but we hear that this might be delayed beyond belief while Microsoft and IBM wrangle about the specification.

In the meantime, Apricot is also offering Xenix-386. Importantly, it *is* Apricot that will sell and support this product; Logica does Xenix for the 286 machines, but Apricot has bought the developer's kit and some people to handle Xenix itself on the 386s. Roger Foster professes himself entirely converted to the marketability of Xenix and the opportunity it has to become the standard 386 operating system — and what Mr F thinks usually becomes company policy.

Xenix is primarily a multi-user operating system, of course. The 386s also appear as engines for a new line of multi-terminal products called the Xen VX, featuring Xenix and/or an update of the OmniNet-based Apricot Network — with some extras like new gateways to EtherNet and the IBM Token Ring network.

There's much more to VX, but again the bottom line is money and competitiveness. An Apricot VX configuration *sans* workstations but with 8MB memory, a gigabyte of disk storage, a tape streamer and a WORM optical drive for archival backup would go for £26,750 — which compares with a DEC MicroVAX of similar configuration and power for over £140,000.

The more predictable competitors will be Unix or Xenix systems from the likes of ICL, HP and Altos, but they still come in at nearly double the price. As it happens, Apricot's 386 press conference at the Dorchester was due to be followed by a VAR breakfast for people who currently sell precisely those systems ...

We are not apologists for Apricot, but it looks as though the company is finding its feet again. The new machines should have "a very significant effect" on profits next year, with sales expected to split 30:70 between 386s and 286-based systems; meanwhile, despite a somewhat sluggish start, the existing Xen-i line now appears to be doing rather well — Romtec's market research for December 1986 gave it 41 per cent of the market for AT-compatibles, a figure which makes it the clear market leader in the UK. Call your broker now ... ◆

The Disinformation Column

On the joys of support

By David Langford

"I say, I say, I say," remarked my hardware expert at our New Year party. "Why do Apricot technical support staff never look out of the window in the morning?"

"Er, why?"

"Because they like to save something to do in the afternoon."

Weeks later, at APRICOT FILE's extremely off-sober birthday party, I had the opportunity to tell this one to an ex-Apricot chap (Nick Wilson) but pity and cowardice stayed my hand. "This man wrote the first BIOS!" cried mischievous Roger Gann, in such tones as one might say "This is the chap who defoliated Vietnam" (or created AIDS, or brought Margaret Thatcher to power, or writes David St John Wallis's jokes).

"What's the matter with the BIOS?" said Nick in hurt tones.

"Um, well, I was amused by the presumption in the way earlier versions didn't even support Apricot's own documented screen-display interrupt."

"Yes, I suppose there was *that* ..."

This particular problem has long haunted my column. Let's try to dispose of it once and for all. Pour yourself a stiff Jameson's and slip your trusty snub-nosed DEBUG.COM from its worn leather holster. Down these mean streets a man must go ...

If I may interrupt

A few of you have asked for more background on my technical bits. 'Interrupt' is one of those words (like 'differential' from a motoring enthusiast or 'existential' from a literary critic) which instantly convince non-initiates that they aren't going to understand a syllable which follows.

The trouble with 'interrupt' is that it has two overlapping meanings, only one of which suits the name. An interrupt call in a program is just a souped-up version of a GOSUB call in Basic, or a call to a procedure in Pascal, Assembler, or whatever.

The difference is that with an interrupt you can call routines (a) which aren't part of your program and (b) which live at unknown addresses that might be anywhere at all in the Apricot's memory. MS-DOS is largely a collection of such routines. The Apricot BIOS is another.

The operating system automatically sets up a table of 32-bit interrupt routine addresses, 256 of them, filling the lowest 1K of memory. 32 bits will let you address anywhere in memory: one 16-bit word indicates the *segment* address (a segment is a 64KB chunk of memory) and the other gives the *offset* within the segment (the actual address at which the relevant routine starts).

This helps make sense of those peculiar addresses with colons in them, as seen in DEBUG and technical manuals. So 209A:0100 means segment 209A hex (in fact address 209A0 hex, an inconveniently big number), and the 0100 means that the wanted address is 100H bytes further on (ie. at 20AA0 hex). Manuals tend to say things like 'DS:DX' — a 32-bit address where the contents of the DS register give the segment and DX gives the offset.

You needn't worry about actual addresses. Once you know the code number for the interrupt routine, you can call it.

The confusion and the other (more logical) meaning of 'interrupt' arise from the fact that the Apricot *hardware* can also call interrupts whenever it likes — literally interrupting your own program. This happens whenever the built-in clock 'ticks' each 20 milliseconds, whenever you press a key, and so on. There's no direct effect on your program, because the interrupt service routines are carefully written to save and restore your program segment and offset, and the contents of all the registers. Gosh, how cunning.

Coming at last to the point ... Interrupt calls are there to save work and help keep some portability in programs. When you want to print an asterisk you write PRINT '*'; in Basic or Write('*'); in Pascal. The interpreter or compiler converts this to an interrupt call requesting the MS-DOS 'print character' function. MS-DOS makes various internal checks for redirection, pipes, filters and its other funny ways, and eventually calls the BIOS 'print character' interrupt. Your program can also call the BIOS directly, but it can't then be moved to non-Apricot computers.

(Screen accelerators like FAST, QUIK, HARE and all the rest work by short-circuiting the internal MS-DOS checks to speed screen output by a factor of a bit less than two. Because Apricot in its wisdom has made PC/Xi BIOS 3.1 and the various BIOSes for MS-DOS 3 much more sluggish, accelerators can achieve the same *proportional* speed-up — but they'll never match the zippiness of an accelerated BIOS 2.7, which is my personal PC/Xi favourite.)

The rest is soon told. MS-DOS calls the BIOS via its own special interrupt, number 29H. Apricot also documents the official BIOS 'print character' interrupt F1H, mentioned in previous columns. (The DEBUG assembler code to print an asterisk, ASCII character 2AH, is MOV AL,2A followed by INT 29 or INT F1.)

Inspection of the actual 32-bit interrupt routine addresses corresponding to the codes shows that (a) in PC/Xi BIOS 2.6 and all later versions to hand, the addresses for both interrupts are exactly the same ... so it doesn't matter which you use; (b) in PC/Xi BIOS 2.4 and all earlier versions to hand, interrupt F1H is set up as a dummy! Suddenly it *does* matter which you use, because F1H on early

BIOS versions will do nothing at all. (Don't ask me what happened to BIOS 2.5.)

"Who knows what damage it might be doing?" asks a nervous correspondent. Don't worry: the actual bit of program at the F1H interrupt address in duff BIOS versions is a harmless IRET, 'return from interrupt', transferring back to your own program without in fact doing anything.

So if you're programming, always use INT 29H and not INT F1H for guaranteed results — not to mention portability to other MS-DOS machines.

But what if you've bought a program written by some poor sod who believed the Apricot documentation? (See for example the Technote in APRICOT FILE Release 2.3.) If there is a mysterious lack of screen output and you have an early BIOS, check by loading DEBUG, entering A 100 [Return] to Assemble a bit of program at address 100H, and then typing the following lines. All lines should end with a Return:

```
MOV AL,2A
INT F1
INT 20
```

A blank line ends the Assemble stage: type G for Go and this awesomely intricate masterpiece of software engineering should produce an asterisk followed by DEBUG's 'Program terminated normally'. No asterisk means there's something wrong with either interrupt F1H or your typing; check by doing it again with INT 29 instead.

If the PC/Xi BIOS is indeed letting you down, you can either get hold of 2.7 or the sluggish 3.1 from someone; or enter another A 100 [Return] and create the following tiny program to solve the problem.

```
MOV AX,3529
INT 21
PUSH ES
POP DS
MOV DX,BX
MOV AX,25F1
INT 21
INT 20
```

After the blank line to end assembly, type R CX [Return] and then 10 [Return] to specify the 16-byte program size; N INTFIX.COM [Return] to name the program; and W [Return] to save it to disk. Leave DEBUG with Q and run INTFIX to make interrupt F1H perform at last.

How does this work? The first two lines call the MS-DOS function handler (INT 21H) with function code 35H or 'get interrupt address', referring to the interrupt number 29H in the AL register. (MOV AX,3529 has the same effect as MOV AH,35 plus MOV AL,29.) This address is returned in ES:BX. The next three lines copy this 32-bit address to DS:DX, and the two after that call the MS-DOS function handler a second time with code 25H or 'set interrupt address' and interrupt number F1H. This function takes its address from DS:DX. Finally, INT 20H is one of several ways to end a program.

The overall effect is make INT F1H call the same bit of code as INT 29H. Glory, glory. Putting the line INTFIX in your AUTOEXEC.BAT will do the trick henceforth.

I should add that Real Programmers always follow the Microsoft manual and refer to an interrupt address as a 'vector'. This again is a confusion ploy, since 'vector' is another of those words (this time from mathematics) which immediately shut down the outsider's comprehension.

What happened to us in Edgbaston

I'm always nervous about mentioning mighty Ansible Information in this column: fascinated though everyone may be by a detailed grump about the difficulties of writing a WordPerfect macro editor for the Apricot, the cynical 95 per cent of the readership is apt to think that I merely want them to buy the thing (as, come to think of it, I do).

But the following searing exposé from Ansible's customer newsletter appears by editorial request. The use of 'we' is not because I think I am Queen Elizabeth or even Dennis Jarrett, but because much of this section was drafted by my celebrated partner, Chris Priest ...

It happened like this. In an idle moment we remembered a promise from the letter Roger Foster sent to Apricot customers back in June: "The company guarantees ... support ... for a minimum of five years from the date of shipment." Since two years had elapsed, the deadline seemed to be pressing in. We decided to ask for support.

So, bundling up the master disks supplied with the machine, we sent them with a polite letter to Mr Foster requesting "a copy of the most up-to-date operating system" plus "copies of all the latest versions of your utilities".

We had several motives for this. We are, after all, practically legitimate customers and users, and from "date of purchase" have never received any "support" through official channels. (Indeed, Ansible Information largely came into being because no one seemed able or willing to sort out the dozens of real problems that were arising daily.) There was the feeling of irritation that still lingers after the way in which the Apricot 'commodity' computers were ditched. Then there was a sense of innocuous goodwill, the belief that that sinister crew up at Apricot might not be such a bad lot after all ... so let's give 'em a chance, and why not? And finally, we had a slightly uncomfortable feeling that by a gradual process involving the undersides of counters and the backs of lorries we had *already* acquired all the "latest versions" of the utilities — and how nice it would be to have officially sanctioned copies.

After two or three days we received a phone call from a member of the Apricot staff. He was very civil and very friendly (and we didn't catch his name). He didn't seem to be sure what we were after, and wanted to check. He offered to send us BIOS 3.1 (oh all right), plus the latest version of ACTIVITY (not the idea *at all*).

When we demurred, he offered to let us have another copy of MANAGER. We pointed out that MANAGER and its associated programs wouldn't run properly under 3.1 (screen alignment problems as discussed in an earlier column). But the caller said that MANAGER had been revised recently, and was now under control. Thinking that up-to-date copies of DISK and SETUP (the two most useful parts of MANAGER) might come in handy, we accepted this. We hopefully mentioned FORMAT.EXE etc, but no promises were made. But we *were* offered the "latest version" of SuperWriter.

(While the conversation was going along in its friendly way we dropped in a little compliment on the new 'Xen-Xi' — the Xen-i with old-fashioned Apricot virtues, notably the 3.5in disk drives which are such a great advance on the clunky old 5.25in floppies that every IBM-compatible seems obliged to use. Was it, we asked, er ... compatible? (Meaning: would Apricot software run on it?) The compatibility turned out to be with IBM's 3.5in disk formats. We said, "But you do have an Apricot emulator for your existing customers who would like to upgrade one day? Don't you?" There was a pause. Then the friendly young man said, "You know, we never thought of that ...")

A few days later our disks were returned to us with a compliments slip. So we ran them, hope and optimism brimming from every pore. We found they had let us have a copy of MS-DOS 2.11 BIOS 3.1, so at least we are legitimate users of that. With luck, one day they'll catch up with APRICOT FILE and send us an official MS-DOS 3.2.

And SuperWriter? Not such good news here: it seems the "latest version" of SuperWriter is D1.09 ... which, for people still relatively new to all this, was in the real world replaced about 18 months ago by the slightly improved Version 1.03.

Out of curiosity we listed the spelling dictionary SW.DIC just to see if even this most basic part of the program had been modified in any way. It was as it ever had been, complete with the three SuperWriter specials: 'STRMUMMY', 'LONDONBERRY' and 'EMPERORESS'.

And we found ... ACTIVITY. Masses and masses of ACTIVITY, the little truck (with even more wheels in its latest version) helpfully dropping user-friendly programs on to the status line, and urging us to press any key to continue, forever. We did press a key: the Reset button.

You know, we can't help feeling fond of those extremely nice wallies up there in Edgbaston ...

Secrets of COMSPEC revealed!

Last column's plaint about the failure to work of the SET COMSPEC command brought some useful feedback. First to report a solution was Mark Wren, who found the vital clue in a Gateway User Group batch file: "they got some of it wrong but the basic idea was there."

The problem was that SET COMSPEC doesn't, as advertised, convince the Apricot that it should look for COMMAND.COM on your RAMdisk (thus saving you the bother of plugging in a COMMAND.COM disk when required). The solution is to use COMMAND.COM with the little-known /P switch, to 'instal' it on the RAMdisk.

Here's a sample AUTOEXEC.BAT which does the deed with reasonable efficiency:

```
ECHO OFF
COPY COMMAND.COM C: >NUL
SET COMSPEC=C:\COMMAND.COM
ECHO A: >C:AUTOEXEC.BAT
:YOURBITS
C:
COMMAND/P
```

Line 1 is a familiar one. Line 2 pops COMMAND.COM on to drive C (assumed to be a RAMdisk — if you're using a single-drive Apricot the RAMdisk will be drive B and you should change things accordingly). The >NUL bit merely tidies the screen by diverting the COPY screen message to the 'null device', a sort of black hole in MS-DOS for dumping unwanted output.

Line 3 is essential: if you mistype it, the final line of this batch file can leave you in an endlessly hung-up state, with MS-DOS demanding that you stick a COMMAND.COM disk into your RAMdisk ... which isn't easy.

Line 4, though not essential, is rather handy: it creates a new AUTOEXEC.BAT on the RAMdisk, containing the single command A: (ie. select drive A as the default disk). More of this in a moment.

Line 5, prefaced by a colon to make it a label rather than a command, is included to annoy the editorial person who removed the colons from three labels in my sample batch file last time (Release 2.3) thus causing it to look a trifle silly *(mea maxima culpa — Editorial Person)*. Also, this marks the place to put little start-up commands of your own: set VERIFY ON, load memory-resident utilities, and suchlike.

Line 6 switches to the RAMdisk, and Line 7 makes COMMAND do its mysterious stuff. Henceforth, COMMAND.COM will load swiftly and silently from the C drive (ignoring, as you might expect, any later changes to COMSPEC, unless they too are followed with a COMMAND/P instruction).

When COMMAND/P is executed a sort of 'warm boot' takes place, and MS-DOS looks for and runs AUTOEXEC.BAT. Should AUTOEXEC not be found, the boring 'Enter date' and 'Enter time' requests will be displayed. Hence the cunning creation of an AUTOEXEC via Line 4: you can substitute any command you like for that 'A:'. (The flaw in the sample file reported by Mark Wren was that further lines followed COMMAND/P — because this line does a sort of 'warm boot' followed by a search for AUTOEXEC on the new disk, subsequent lines aren't executed.)

Do you want to do something more complex? Like return to drive A and then auto-load, say, SuperWriter with the command SW? Add an extra line after line 4, as follows:

```
ECHO SW >>C:AUTOEXEC.BAT
```

The >> causes the line 'SW' to be added to the newly-created AUTOEXEC.BAT in drive C. You can imagine the possible variations. If not, try flipping through that useful technical reference manual *The Kama Sutra of Vatsyayana* (trans. Sir Richard Burton), which contains more variations than have occurred even to Peter Norton.

(More about COMMAND.COM *on RAMdisk in Ted Webber's 'Working with RAMdisk' Workshop elsewhere in this issue — Ed.)*

Apricot vindicated

Everybody's nasty to poor old Apricot plc. So when funny things started happening to our invoices (the printer kept beeping and hanging up for no apparent reason), the F10 was the prime suspect.

The other possibilities were: something wrong with the printer cable (unlikely); something wrong with my own software (utterly unthinkable); or an intermittent fault in the Epson printer itself (which according to the authorities is slightly less likely than a cosmological software error causing the sun to rise in the west).

I found my above-mentioned hardware expert under the table in a local pub and put the question to him. Despite the impeding beermug, his lip curled. "*Everyone* knows you can't trust the parallel printer port on the F series," he sneered.

I spent the next day swapping cables, printers, computers, wives, anything that seemed likely to help. When you have eliminated the impossible, then what remains, however improbable, must be the truth. The homemade software was fine; the frayed cable had not betrayed me; the F10 emerged without a stain on its character. "*J'accuse!*" I cried, and hastily replaced the Epson RX80 with a much niftier Panasonic KX-P1080.

The moral is that whatever one may personally think of Roger Foster, Apricot hardware seems surprisingly more reliable than most of the stuff one connects to it. I would expand fulsomely on this sentiment, possibly the first nice thing to be said in the long history of this column: but the Xi's MicroScreen has just packed up, and ... arrgh! ◆

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User Experience

You can take it with you!

Mobile computing with the Apricot

By Paul Lavin

In the beginning, I thought the Apricot Portable was, well, *portable.*

I had been used to carting my Apricot PC around. Its neat, little, unpadded handle attempting to make my fingers shorter by two joints. The 12in monitor in my other hand made sure that, even if I did look like I had been racked in some dungeon, at least my arms would be of equal length. Just trying to keep my tailor happy.

The FP *né* Portable is a much better machine for carrying about. No fragile, leaden monitor occupies your other hand, thus permitting the luxury of switching hands on long porterages as a respite from its 14 arm-aching pounds. The first Apricot to be dumped really didn't deserve its fate.

The Portable has/had a reasonable amount of memory, a disk capacity equal to two of you-know-who's, a complete (if awkward) keyboard, and lots of quirky features like voice control. One other thing it did have that it could have done without was a 5ft flex that kept one from computing deep in the shady woods or whilst relaxing on the beach at Tossa de Mar ...

Once you cross the line from pen and paper to word processing or advance from ledger books to 1-2-3, it's hard to go back. It was this reluctance to surrender keyboard and LCD that led to my acquiring some additional kit for travelling.

Coming round the mountain

The Fleet Street standard in portable computing has to be the Tandy 200. It's hard to beat. Complete with built in (rudimentary) word processor, spreadsheet, Basic, printer port and modem/comms package, it has *no* mains lead. Instead, it has a meagre appetite for Duracell AAs, four at a go. It only cost a hundred quid more than the Portable did at Dixons. It's no bigger than an A4 sheet of paper by 1in thick, and it weighs a full ten pounds less than the Portable.

But what *really* sold me on the Tandy was the RS232 interface and internal modem. It is via these orifices that communications with my stable of Apricots can be maintained.

Thus began my sordid relationship with ASYNC, the freebie comms package Apricot distributed to one and all. As comms packages go, ASYNC is a bit mean. On the PC or Xi I prefer the full-featured and often humourous Crosstalk XVI: if you want to do some serious, sophisticated hacking, er, I mean comms work, there is probably no better tool ... but it doesn't run on the Portable, so I usually end up using the bundled beauty.

A quick word about Apricot's Communiqué package. This works only with Apricot's pricey internal modem, and the documentation sinks to new lows even for Apricot; but it's great for setting up routines to keep the spear-carriers in your organisation from getting tangled up in needless technical detail. I run it on my Xen for exactly that reason: but for my own devious purposes I like more direct control, such as you get from ASYNC or Crosstalk. If you do go for Communiqué, make sure you get the latest version — 2.2.

I estimate that 90 per cent of comms headaches are caused by failing to get all the parameters straight. Reading the ASYNC *User's Guide* helped a little; but my true enlightenment came from *The New Hacker's Handbook* by the pseudonymous Hugo Cornwall (Century, £6.95). It's good reading and it has all the data communications nuts and bolts you'll ever need.

Once you're primed on the crucial elements, ASYNC itself is a breeze to use. Being menu-driven, your choices are continually on display. Good use is made of the Apricot function keys. The ability to save different terminal configurations to disk cuts down on the repetitious fiddling if you go from bulletin board to dial-up database to messaging service to hard-wired connection. With a little bit of brain-strain you can even use control files to automate log-on sequences. Not bad for a freebie.

Null modems

To link your Apricot to another computer directly without invoking the shade of Alexander Graham Bell, you will need a bit of cable with two suitably sexed connectors known as a null modem connector — so named because it connects the two without a modem.

The theory behind a null modem adaptor is quite simple. What one computer transmits, the other receives: and *vice versa.* The adaptors are commercially available but once you check the price you will probably dust off your soldering iron — Apricot has helpfully provided a wiring diagram in the back of the ASYNC handbook so that avid DIYers can get on with it. And that useless B-TRAN cable included with the Portable for BBC graduates can constitute a first step towards the construction of a null modem adaptor — just lop off the BBC end and buy an RS232 fitting for a few quid to match your other machine.

Pins 2 and 3 are cross-wired as are pins 6 and 20. Pin 7 is wired straight through. Pins 4 and 5 are connected together at both ends. Seven bright and shiny soldered connections at each end sees the job through. (As is usually the case, the foregoing assumes that both computers are in fact wired as 'Data Transmission Equipment', but the RS232 'standard' has quite a few kinks: more on that subject to follow.)

To get into action once your null modem adaptor is functional, fire up the comms program at each end — ASYNC for the Apricot and TELCOM for the Tandy, in my case. Make sure that the parameters

are compatible, enter terminal mode and shazzam! you're in business. Set the Apricot to receive and the other to send, and those blistering memos you prepared while locked in the grip of British Rail can be massaged with SuperWriter or WordPerfect and printed post haste.

Basic programs composed on the fly can similarly be downloaded to the Apricot. You can even exchange spreadsheet data and formulae if you have Multiplan running on the Apricot.

Real modems

If you need to link up from off premises, it gets a bit more expensive and complicated. Although the Tandy has its own built-in modem, you will need a modem at the Apricot end to decode the whistles and squeals that pass for information down a telephone line.

There are a zillion modems to chose from. But for my money (that's all I ever get to spend, sadly) the Miracle Technology WS4000 is difficult to top. It gives you the two most commonly used-speeds (300/300and 1200/75), autoanswer and autodial functions, and an extended Hayes-compatible command set — all for less than £150. Good documentation, too, and works just fine with ASYNC.

Once you've adjusted to the idea of larger telephone bills and bought/borrowed/stolen a modem, the next hurdle is connecting the lot. The phone line is no problem (unless you've got the old-style hard-wired BT box). The modem plugs into the BT socket, your phone plugs into the modem.

What about the connection to the computer? Here the plot thickens. Those in charge of thinking deeply about scores of prongs plunging tirelessly into willing receptacles have decreed that there will be two types of comms equipment, namely Data Terminal Equipment (DTE) and Data Communications Equipment (DCE). Additionally, you can't ignore the real-world complications of male-to-male and female-to-female difficulties for which you may require a 'gender bender'.

Most modems are DCEs but there are exceptions. Your Apricot is emphatically a DTE female. Apricot doesn't says so, but by dint of scientific deduction and a whole lot of resoldering I now *know* so. Not all computers are, though.

DTEs are connected to DCEs with straight-through connections — pin 2 at one end goes to pin 2 at the other, pin 3 goes to pin 3, and so on. Connecting like with like (DCE-to-DCE, for instance) requires a setup not unlike the null modem adaptor.

The important pins for most modems are 2-7 and 20. Be extremely careful of convenient but potentially deadly ribbon cables that connect all 25 pins straight through. A friend of mine wasn't. The smell of frying silicon will be with him always!

The moral: compare the pin assignments for both the computer and the modem, and connect only the necessary leads. When uncertain, you can usually squeak by using just pins 2, 3 and 7 (respectively the transmit, receive and signal ground leads).

Once you've got the hardware sorted out, load ASYNC, set your parameters to match your intended victim and enter terminal mode. If you've got an autodialling modem, the call can be made using the previously-mentioned control file facility of ASYNC or via the keyboard — you need never lift the receiver.

Your first stop in the world of comms, by the way, should be the GABBS bulletin board featured in APRICOT FILE Release 1.3. Steve Cole, who runs it, is a knowledgeable fellow who always seems willing to lend a patient hand to beginners. There is a section on the board devoted to Apricot problems and cures. GABBS can be reached on 0705 524805; use 300/300 or 1200/75 baud and set yourself up for eight data bits, one stop bit, no parity, and X-ON/X-OFF enabled. It's all free except for your telephone bill.

Apart from bulletin boards, everybody else charges. Electronic mail services like Telecom Gold (same as Apricot's Micromail), Easylink, One-to-One and The Source all have valuable facilities to link your roaming computer with your stay at home Apricots.

Getting organised

If even the Tandy 200 seems too cumbersome, by taking up half of your briefcase, there are even smaller and more portable Apricot-extenders available. The ultimate in coat-pocket computing has to be the Psion Organiser II: Psion magnanimously lent me one for this article and I was sorry to see it go back ... not so sorry that I will rush out and drop upwards of £150 for the ensemble, however.

The Organiser II is an electronic Filofax that outwardly resembles a four-function calculator from the early 1970s. In addition to the normal calculator functions, however, it has an alarm clock/calendar/diary and memory enough to store a largish address list and numerous note files of up to 254 characters each. The Organiser comes with both RAM memory (which is volatile) and EPROMs which will hold their info even if you let the 9V battery go flat.

Psion includes its own Basic-like programming language PPL. With this you can whip up a hierarchical to-do list to spur you onwards to greater daily achievement; Psion loaned me a machine that didn't have enough memory to test this feature meaningfully, however.

The major limitations that constrain your use of the Organiser II all relate to its modest size: the display is two lines by 20 characters and the keyboard is laid out alphabetically rather than QWERTY-wise. But you don't get something for nothing. Psion has incorporated an ingenious scrolling mode that ameliorates some of the display drawbacks but the keyboard does take some getting used to.

You can get all sorts of plug-in preprogrammed PROMs — I had the Concise Oxford spelling

dictionary to play with — but the real clincher for this little package is a plug-in connector with its own on-board comms software that allows connection direct to your Apricot. The comms parameters are no more difficult to set up than ASYNC and you are aided every step of the way by excellent documentation.

I used this to download the code for a to-do list program prepared on my Apricot using WordPerfect; the communications link worked perfectly the first time (unfortunately, as I mentioned above, I was deprived of the chance to see the results in action). The RS232 Link can also be used with an external modem to communicate with the Apricot back home, and I even used the Organiser to log into the Apricot bulletin board — it worked a treat once I soldered up an appropriate adapter (it's DCE), but things sure did scroll by fast on the tiny screen. Still, it did prove the concept. At a pinch, the Psion could even be used to send Telexes via electronic mail services.

As a hi-tech Filofax and a superlative executive toy, the Psion gets top marks. If you are tempted to buy one, plump for the 16KB version as the 8KB version is underpowered. But the RS232 Link and Apricot Adaptor really extend the usefulness of both the Organiser and your mains-bound Apricot. ◆

Products referenced

Tandy 200	'laptop' computer with 24KB RAM, built-in software (Basic, comms program). Price £684 including VAT from Tandy computer stores and AT Computerworlds
WS4000	Hayes-compatible autodial autoanswer modem for 1200/75 and 300/300 baud speeds. Price £172.44 including VAT and power transformer from dealers, or £178.77 including P&P direct from **Miracle Technology** — tel 0473 216141
Organiser II	hand-held computer with plug-in options. Price £139.50 for 16KB version including VAT; add £60.94 for RS232 Link option. Available from from dealers, or contact **Psion** — tel 01-723 9408

Contributors in this issue

Dennis Jarrett is Editor of the newsletter. His magazine credits include being founder-editor of 16 BIT COMPUTING, OLIVETTI USER, COMMODORE USER, PRACTICAL COMPUTING and WHICH COMPUTER? Books include titles about the IBM PC, the Sirius, three on Commodore home computers, THE ELECTRONIC OFFICE – A MANAGEMENT GUIDE, and THE GOOD COMPUTING GUIDE (*really* thick and very cheap too at £2.95 — or £3.00 inc P&P from DEALS FOR READERS).

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.

Ronald Ellison is a metaphysician for hire who supports his habits of being with computer consulting, training and writing. He swam through the sea of CP/M, early MS-DOS and into the vast oceans of Unix and Xenix before he washed ashore on the steps of the TP Group. Having spent much time in the field in the States, he's now staying more around town to farm out his skills.

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'.

Paul Lavin is an American who succumbed to the wiles of an English woman and the siren song of the long British raspberry season over three years ago. He is a legal consultant and has recently renewed his love affair with computeroid machines. Unable to get beyond the third attack wave in *Space Invaders*, he has become conversant with the world of business software and the excruciating application of the Data Protection Act to the unsuspecting small business computer user.

Simon Potter is a business systems consultant with a speciality in word processors, file managers and spreadsheets. He says he'd like to like computers but can't find one that likes him enough to warrant that.

Bob Smith has worked his way from big computers that did little to big computers that did a lot to little computers which did little once but now do a lot. This took some 18 years to accomplish, usually with big firms in big towns, but he now tries to do a lot for a little with an Apricot and a minicomputer for a company in a small town in the West Country.

David St. John-Wallis is a sort of psychologist who runs an export marketing consultancy, sells bits and pieces for the Apricot, and writes *enormously* thick marketing books about the developing world which don't sell very well. He says the greatest achievements of his 44 years were getting a disk volume named after him and proposing to the Governor of Puerto Rico.

The Workshop

Font Tricks on the Apricot

Graphics without GSX or GW-Basic

By Lindsay Doyle

This article explains the special requirements of SAVEing, PEEKing and POKEing the Apricot screen. It includes a small program with which you can paper the screen with any of the 256 characters provided or any new graphic blocks you have whipped up using FONTEDIT.

Graphics without graphics

Those of us who grew up with a Commodore Pet, a Sorceror, or a CBM 64 will be aware that a great deal of useful graphics can be generated by using a special predesigned character set.

While most home computers have at least a set of simple half-cell block characters, the Commodores *et al* were supplied with a set of 128 special graphical symbols with which quite complex screens could be developed. Such a character could be printed to the screen from the keyboard, or its ASCII number could be POKEd from Basic.

Now, our Apricots are blessed with a nice utility for making up any desired special character in a 10x16 dot block as well as another utility for assigning any character to any key. So we should be able to take advantage of these to generate graphics in the same way.

While the technique doesn't have the complete flexibility (nor the complexity) of GSX, it will serve to make pretty backgrounds for presentation screens and menus as well as to substitute to some extent for the non-existent sprite facility for games. Besides, I am sick and tired of writing about GSX *(Lindsay is responsible for the six GSX Workshops we ran in* APRICOT FILE *Release 1 — all excellent stuff, and a vast improvement on the 'official' documentation. Ed.)*

Saving and loading an Apricot screen

The normal alphanumeric screen display is not stored in the same place in memory as the graphics screen (which was described in APRICOT FILE Release 1.7). Instead it starts at hex address F0000; so in MS-Basic we can address it with

```
DEF SEG &HF000
```

(Yes, drop the zero). Each of the 2,000 cells on the screen — 80x25, remember — has two bytes or 16 bits assigned to it at its memory address. The first 11 bits (0 through 10) contain a pointer to the desired cell in the font memory. Bit 11 is 'software reserved' (whatever that means); bits 12 through 15 contain the flags for strike-through, underline, intensity, and reverse video in that order (and *not* as described in the notorious *Apricot Technical Reference Manual*).

Thus 2,000 pairs of bytes of screen memory are required, starting at address F0000; and 4096 are actually reserved there, such is the power of the binary system. If we ignore screen line 25, however, we need save only 4,000 bytes — 80x2 = 3840 bytes. This can be done in MS-Basic by

```
BSAVE FILENAME$, 0, 3840,
```

which specifies an offset of 0 and a length of 3840 bytes from the previously-defined segment.

With these two commands, and a cautious DEF SEG subsequently to return to the default segment, you can save any alpha screen to disk as a file. To recall it, just use BLOAD FILENAME$. (If not told otherwise, BLOAD will load the picture back into the same piece of memory from which it was saved.)

Poking the screen

Having digested the above, you can easily see how to POKE any selected character to any selected spot on the screen.

The origin is in the upper left, as is usual these days. If you want to address the screen by row and column you can use something like:

```
POKE 2 * (80 * ROW + COL), CHARACTER-NUMBER
```

If you should wish to move a character about on the screen, the best thing to do is to PEEK the background and save it to replace after you have moved the character:

```
START-CELL = 2 * (80 * ROW + COL)
  FOR I = START-CELL TO START-CELL + 80 STEP 2
  PK = PEEK( I)
  POKE I, CHARACTER-NUMBER
    FOR J = 1 TO DELAY: NEXT J
    POKE I, PK
  NEXT I
```

This will move your character 40 steps across any background pattern at a rate set by DELAY.

You can't do an exactly equivalent thing using PRINT because you have no way to know what it is you are writing over so that you can replace it as you move along. Besides, PRINT is slow; you have to decide whether to turn the cursor off; and you have to compute the screen position in a separate step or with one of those accursed ESC codes.

One minor complication ensues if you want your special character, game piece, or what-have-you to be (approximately) square: it must be made up of two font cells, and you will have to POKE each of them separately.

Setting intensity and reverse

I probably don't need to tell you how to set intensity high/low or reverse video on/off for a selected cell: you can work it out for yourself with the information above if I mention that you can get reverse video and low intensity by

```
POKE CELL-ADDRESS, 128
```

and reverse video in high intensity by

```
POKE CELL-ADDRESS, 192
```

... and so on. It's just a matter of working out the decimal equivalent of the binary number which will poke 0s or 1s into the desired bit slots. (Anyone who's off the track at this point will have his hacker's badge removed and trampled on, but can write me care of APRICOT FILE. Please cringe, and remember to enclose SAE and loose return postage.)

SIMPLEDRAW

SD.BAS stands for SIMPLEDRAW, and that is the name of the appended MS-Basic program for preparing pretty screens full of whatever wondrous characters you have invented using FONTEDIT. I wrote it to simplify the task of preparing racecourse layouts such as is shown in Figure 1 for a thinking person's racing game called ACCELERACE (see below).

SIMPLEDRAW utilises the MicroScreen buttons and display for nine special functions, and the instructions in lines 500 to 700 explain the operation pretty well.

Using KEYEDIT, I have made up my own key assignment set which has the single-line box characters assigned to the shifted number-pad keys and the double-line box characters to the control number-pad keys — very convenient and rational if you want to draw boxes now and then. Figure 2 shows the layout. The SIMPLEDRAW instructions assume that this set has been loaded, but it is not essential.

Considerable use is made of ESC codes, which will mitigate against anyone transcribing the program into GW-Basic. What can I say? The remarks should make the program pretty legible anyway.

I refer to the ASCII characters 0 to 31 as the 'funny face' or FF characters: these and the other normally-inaccessible characters can be printed when you have toggled the FF function key. Remember to toggle it back when you're through with them; otherwise the instruction printouts will be illegible!

Note that in line 330 and elsewhere I have included periods in string expressions to show where spaces should be: you should accordingly replace them with spaces.

It is often desirable to have special graphics symbols which are nearly square: these can be made up of two cells and are catered to by line 1020 and its follow-ons.

Line 1070 allows you to determine exactly how many characters shall be printed in a row. You can alternatively use the repeat function by holding down the Period key if you don't know how many cells you want to fill.

Lines 3000 to 3060 slowly change the entire screen to reverse video: would anyone like to supply a fast machine code to do the job?

Lines 4000 to 4040 turn the cursor on or off: it is often desirable to have it off for static displays or while dumping a screen to the printer.

There is a glitch (I think it is in MS-DOS) which causes an occasional unsolicited carriage return. The delay in line 11000 was inserted to get around this bug, but is not foolproof. Surely one of the readers will see what it is that causes the trouble and will write me care of the editor ... ◆

The Easy Way

ACC.BAS is the file name for ACCELERACE, a game for up to four players in which each player has a vehicle to manoeuver around a track. Three different tracks of increasing complexity are incorporated, and the user can draw personalised additional tracks with SIMPLEDRAW. Each vehicle has an initial velocity vector which can be modified on the player's turn by increasing it or decreasing it by one increment in the X and/or Y direction.

Considerable cogitation is required by a player before each move is entered. Beginners go off the track with great regularity and have to restart from zero velocity.

The original version of the game was designed by some anonymous genius at least 30 years ago to be played on graph paper, with the racetrack being drawn beforehand to the satisfaction of the players. As implemented for the Apricot, the game makes use of the non-GSX graphics facilities described above and has a number of unusual bells and whistles including the option to allow the computer to assign suitable nicknames to each player.

ACCELERACE is available from DEALS FOR READERS — disk no. AP019. The disk also contains SIMPLEDRAW; the necessary special font, ACC.CHR; a special key assignment set, ACC.KB, as described for use with SIMPLEDRAW; data files delineating the three courses; and batch files to load and run everything with convenient rapidity.

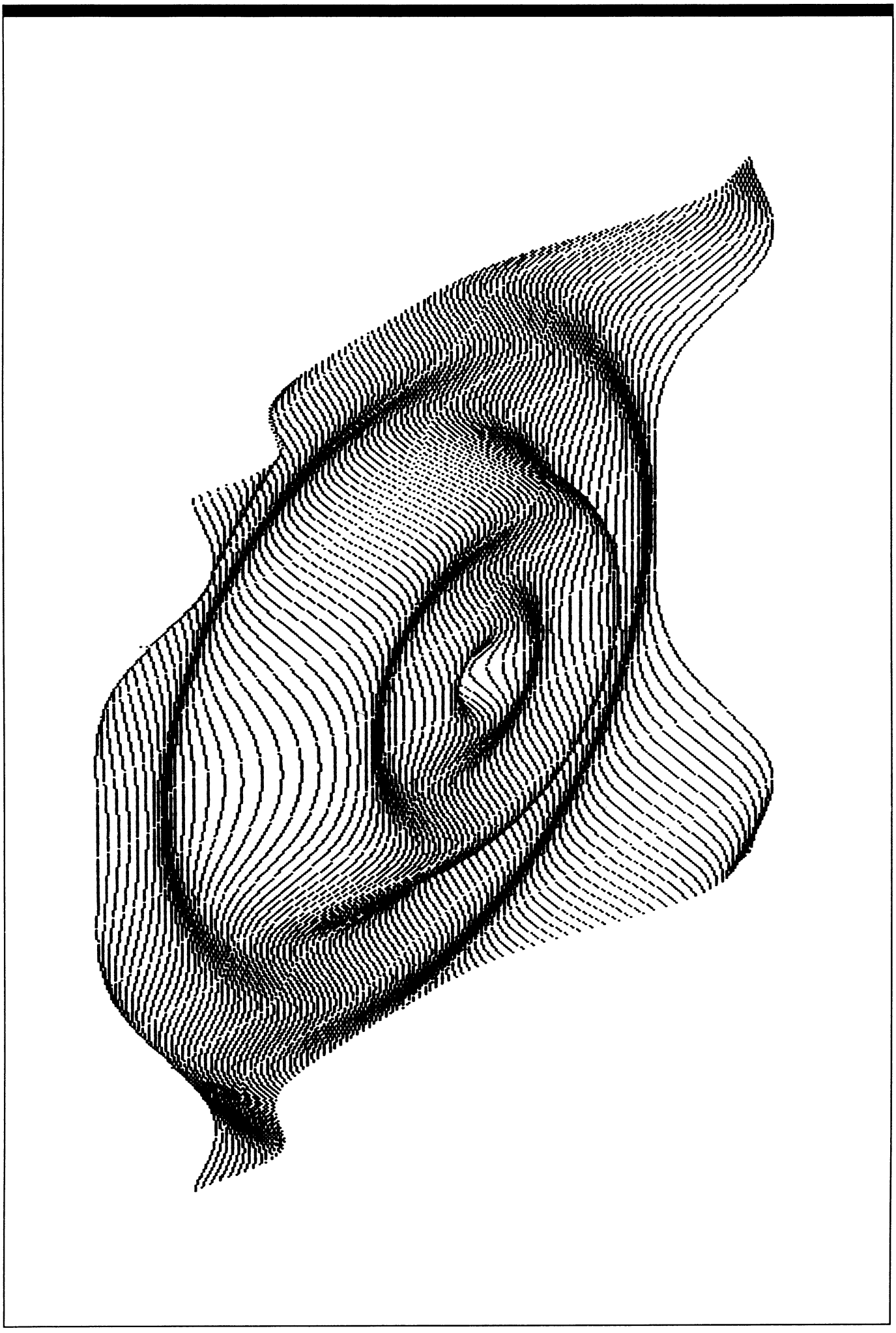


Figure 1: A track for ACCELERACE

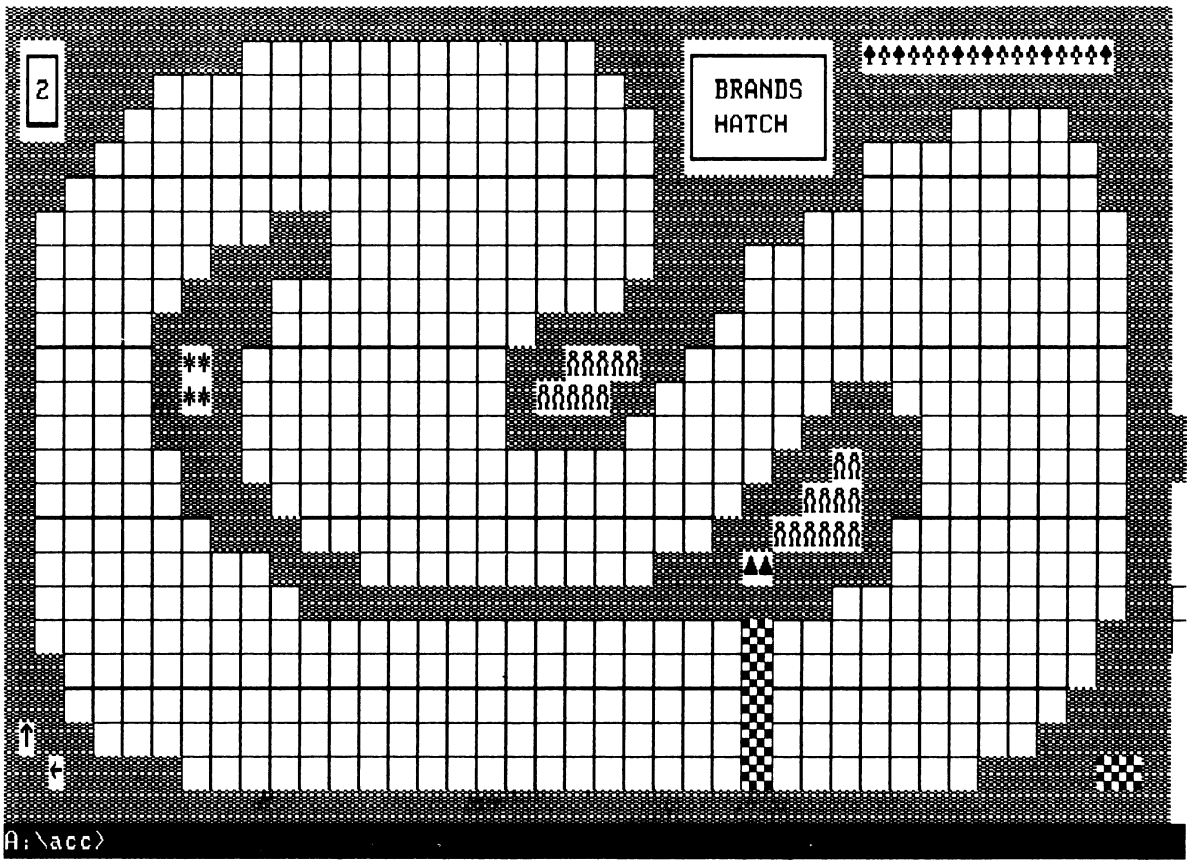
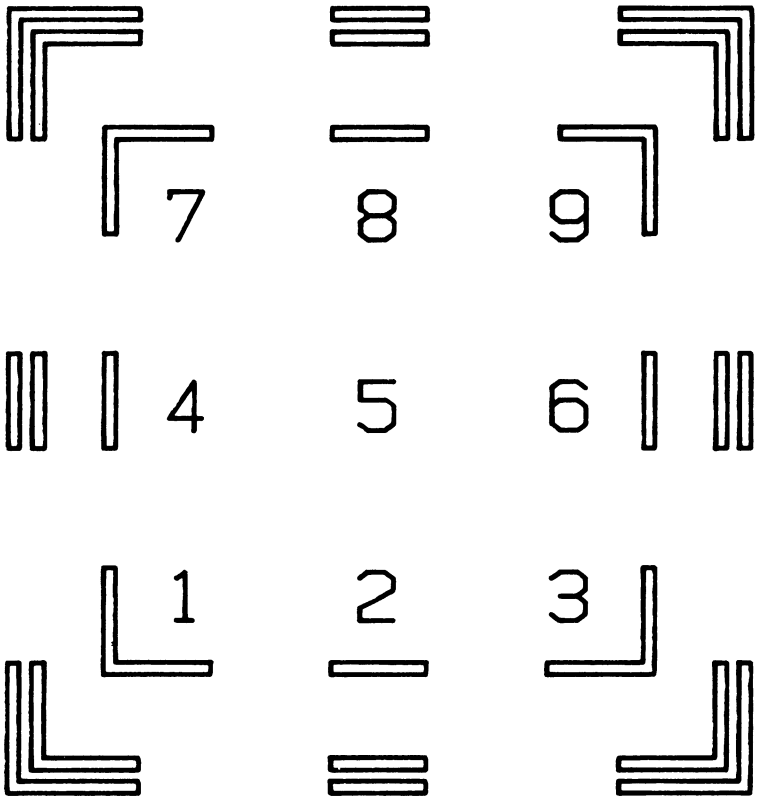


Figure 2: Rational key assignments for drawing boxes



SIMPLEDRAW

```
40     REM  SD.BAS
50     REM  SIMPLEDRAW BY L.DOYLE
60     REM  for Apricot characters and 24 x 80 screen
70     REM  30/9/86 for MSBASIC
75     REM
80     REM  to be used with font ACC.CHR and keys ACC.KB

100    REM               PARAMETERS
110    REM  Function keys are numbered from the left of the keyboard
120    REM  First MicroScreen function key is no 9
130    REM  N = normal, S = shifted
140    RT$ =  CHR$(130);  REM  Function key 11N  -- toggles Reverse on or off
150    CT$ =  CHR$(132);  REM  Function key 13N  -- toggles Cursor on or off
160    SA$ =  CHR$(134);  REM  Function key 9S   -- calls Save function
170    LO$ =  CHR$(128);  REM  Function key 9N   -- calls Load function
180    RVS$ = CHR$(136);  REM  Function key 11S  -- reverses entire screen
190    EX$ =  CHR$(138);  REM  Function key 13S  -- exits program
200    DT$ =  CHR$(129);  REM  Function key 10N  -- toggles dim/bright
210    FF$ =  CHR$(133);  REM  Function key 14N  -- toggles funny-face characters
220    AS$ =  CHR$(135);  REM  Function key 10S  -- enters ASCII selection mode
285    REM
290    E$ = CHR$(27): C$ = E$ + "H" + E$ + "E": BOT$ = E$ + ";" + E$ + "1"
295    REM

300    REM              SET UP FUNCTION KEY LABELS
310    REM  Note: replace periods in 330, 340 with spaces when transcribing
320    PRINT E$; "/w"; REM set LEDs
330    PRINT E$; "c"; E$; "r"; E$; "W"; E$; "f"; "SAV   E...ASC....SCREEN.RVS....EXIT......."
340    PRINT "LOAD...DIM....LOCAL.RVS.....CURSOR...FF.";
350    PRINT E$; "V";
495    REM

500    REM             INSTRUCTIONS
510    PRINT E$; "z"; E$; "x5"; E$; "("; E$; "O"; SPC(35);E$; "0"; "SIMPLEDRAW"; E$; "1"
515    REM  RESET, CURSOR OFF, HI BRIGHTNESS, UNDERLINE
520    PRINT: PRINT "Draws lines of duplicate characters from left to right."
530    PRINT: PRINT "Use any keyboard character by holding down key. Use any ASCII character"
540    PRINT "by pressing ASC function key and following the prompts, then holding down"
550    PRINT "the period key for further repeats. Also accepts groups of two characters."
560    PRINT "End ASCII mode by pressing any desired key other than period.
570    PRINT: PRINT "See other function keys for SAVE, LOAD, DIM, LOCAL RVS, SCREEN RVS,"
580    PRINT "CURSOR, and EXIT. FF gives characters 0-31. Turn it off when through!
590    PRINT: PRINT "The number pad shifted keys draw single-line boxes and the controlled keys"
600    PRINT "draw double-line boxes. The 5 and 0 keys also have special symbols assigned."
610    PRINT: PRINT "HOME, CLEAR, and CURSOR keys are implemented."
620    PRINT "Control <INSERT> enters insert mode; control <DELETE> enters write-over mode.
630    PRINT "<DELETE> key deletes character on which it is placed.
640    PRINT "<INSERT> key is not implemented.
675    REM
680    PRINT BOT$; "Press any key to begin."
690    I$ = INKEY$: IF I$ = "" THEN GOTO 690
695    REM

700    REM              INITIALIZE
710    PRINT E$; "y5"; E$; "2"; BOT$; C$;
715    REM  CURSOR ON, BLINK, CLEAR LINE 25, HOME AND CLEAR SCREEN
720    DEF SEG = &HF000: R = 1
795    REM

800    REM              START OF DRAW ROUTINES

900    REM  SELECT CHARACTER TO WRITE WITH
910    REM  IF ASC KEY THEN SELECT BY ASCII NUMBER
920    I$ = INKEY$: IF I$ = "" THEN GOTO 920
930    IF I$ <> AS$ THEN GOTO 2000

1000   REM  ENTER BY ASCII NUMBER
1010   PRINT E$; "j"; BOT$; " ASCII character number";: INPUT A
1020   PRINT BOT$; "Second ASCII character number or <RETURN>";: INPUT B
1030   PRINT BOT$; CHR$(A);:IF B THEN PRINT CHR$(B);
1040   PRINT " Is this correct? (Y or N) ";
1050   I$ = INKEY$: IF I$ = "" THEN GOTO 1050
```

```
1060   IF I$ = "N" OR I$ = "n" THEN GOTO 1000
1070   PRINT BOT$; "How many";: INPUT Q
1080   IF Q < 0 OR Q > 79 THEN GOTO 1070
1090   PRINT BOT$; E$; "k";
1100   FOR I = 1 TO Q
1110     PRINT CHR$(A);: IF B THEN PRINT CHR$(B);
1120   NEXT I
1125   REM
1130   REM  PRINT
1140   I$ = INKEY$: IF I$ = "" THEN GOTO 1140
1150   IF I$ <> "." THEN GOTO 930
1160   PRINT CHR$(A);: IF B THEN PRINT CHR$(B);
1170   GOSUB 11000: GOTO 1130
 2000    REM  LOCAL REVERSE TOGGLE
2010   IF I$ <> RT$ THEN GOTO 3000
2020   IF RE = 0 THEN PRINT E$; "p"; ELSE PRINT E$; "q";
2030   RE = 1 - RE: GOTO 900

3000   REM  REVERSE TOGGLE ENTIRE SCREEN
3005   REM  should be replaced with a machine code for speed
3010   IF I$ <> RVS$ THEN GOTO 4000
3020   PRINT E$; "j";
3030   FOR I = 0 TO 1919  REM  24 LINES
3040     POKE 2 * I + 1, PEEK(2 * I + 1) XOR 128
3050   NEXT I
3060   R = 1 - R: PRINT BOT$; "OK"; E$; "k";: GOTO 900

4000   REM  CURSOR TOGGLE
4010   IF I$ <> CT$ THEN GOTO 5000
4020   IF C = 1 THEN PRINT E$; "y5"; E$; "2";: ELSE PRINT E$; "x5";
4030   C = 1 - C
4040   GOTO 900

5000   REM  SAVE
5010   FILENAME$ = "SDSCREEN"
5020   IF I$ <> SA$ THEN GOTO 6000
5030   PRINT E$; "j"; BOT$; " SAVE: ENTER <FILENAME> ";: INPUT FILENAME$
5040   IF FILENAME$ = "" THEN FILENAME$ = LASTNAME$
5050   BSAVE FILENAME$,0,4000: LASTNAME$ = FILENAME$
5060   PRINT BOT$; E$; "k";: GOTO 900

6000   REM  LOAD
6010   IF I$ <> LO$ THEN GOTO 8000
6020   PRINT E$; "j"; BOT$; "LOAD: ENTER <FILENAME>";: INPUT FILENAME$
6030   IF FILENAME$ = "" THEN FILENAME$ = LASTNAME$
6040   BLOAD FILENAME$: LASTNAME$ = FILENAME$
6050   PRINT BOT$: PRINT E$; "k";: GOTO 900

8000   REM  LOCAL DIM TOGGLE
8010   IF I$ <> DT$ THEN GOTO  8500
8020   IF D = 0 THEN PRINT E$; ")";: ELSE PRINT E$; "(";
8030   D = 1 - D
8040   GOTO 900

8500   REM  FUNNY FACE CHARACTERS TOGGLE
8510   IF I$ <> FF$ THEN GOTO 9000
8520   IF F = 1 THEN GOTO 8550
8525   REM  NOTE: REPLACE PERIODS IN 8530-8560 WITH SPACES WHEN TRANSCRIBING.
8530   PRINT E$; "F"; E$; "W"; E$; "f"; "SAVE...ASC....SCREEN.RVS....EXIT.....*."
8540   PRINT "LOAD...DIM....LOCAL.RVS.....CURSOR...FF."; E$; "V";: GOTO 8570
8550   PRINT E$; "G"; E$; "W"; E$; "f"; "SAVE  ...ASC....SCREEN.RVS....EXIT......."
8560   PRINT "LOAD...DIM....LOCAL.RVS.....CURSOR...FF."; E$; "V";
8570   F = 1 - F
8580   GOTO 900

9000   REM  CURSORS AND CLEAR, HOME
9010   IF I$ = CHR$(27) THEN I$ = INKEY$: PRINT E$; I$;: GOSUB 11000: GOTO 900

9500   REM  EXIT PROGRAM
9510   IF I$ <> EX$ THEN GOTO 10000
9520   DEF SEG: PRINT BOT$; CLR$; E$; "s"; E$; "z"; E$ "(": SYSTEM

10000  REM  OTHER
10010  PRINT I$;: GOSUB 11000: GOTO 900

11000  REM  DELAY TO GET AROUND TIMING PROBLEM WHICH CAUSES <CR>S IN MIDDLE OF LINE
11010  FOR I = 1 TO 10: NEXT I: RETURN
```

The Workshop

Numbering Your Days

Handling dates in Lotus 1-2-3

By Ronald Ellison

Because working with calendar dates has become such an integral part of our public and private lives, it's natural to require this capability in the software we use everyday. But measuring the passage of time, and making calculations based on that measure, is often one of the trickier tasks for a programmer.

When it came to assembling Lotus 1-2-3, with its database and programming capabilities, it was natural to include facilities to handle date calculations. This, however, was not as simple a matter as it may seem.

One of the most common procedures used by many programmers has been to convert the date in question from a straightforward format such as DAY / MONTH / YEAR to the less æsthetic but more useful Julian date. This can provides a numeric count for the DAY in question within its current year. Comparison with any other such 'numbered' DAY will easily yield the number of days between them, providing a way to determine such things as the ever-important 30-60-90 day account ageing. The procedure works very well and only gets a bit more involved when comparing dates in different years.

Back at Lotus, the boffins of 1-2-3 (release 1A) decided to take a somewhat grander approach — pick two dates to serve as endpoints and count everything inbetween. And the selected dates are 1st January 1900 and 31st December 2099. Why these dates? Pure function, perhaps, to cover the 20th century and a few dates into the 21st.

Their trick, then, is to take any given date and assign it a 'serial' number equal to the number of days since that magic New Year's Eve of 1899. Simple enough; it just looks real funny. In total the 199-year range covers some 73,049 days! Anyway, it only looks unusual until you get used to it (or work around it).

Assuming most users would rather not do the work for the spreadsheet, let's discuss getting around it.

Functional dates

There are a total of five Date functions in Lotus 1-2-3: @DATE, @TODAY, @DAY, @MONTH and @YEAR. Probably @DATE and @TODAY get the greatest use, but the others deserve a look as well.

@TODAY is useful for 'date-stamping' a record with the current date. As its name implies, it shows today's date — but it is not psychic. It gets this date from MS-DOS. If MS-DOS does not have the accurate date, either because you skipped the date on system start-up or the wrong date has been entered, @TODAY will also be inaccurate. You may not immediately recognise any difference, though, since @TODAY displays in the *serial* number format. Give it a try anyhow: it will show you the serial format, plus tell you the number of days since the start of the 20th century. How's that for a trivial pursuit?

@DAY, @MONTH and @YEAR each are reversing functions, in that they operate on a date's serial number to produce the more usual numbers of days (1-31), months (1-12) and years (0-199). To use any of them requires a serial number with which to work. The command format is ...

```
@COMMAND(x)
```

... where x is the appropriate serial number (either entered directly or by pointing to a relevant cell). Or to put it another way:

```
@DAY(x)
@MONTH(x)
@YEAR(x)
```

From this it is possible to extract pertinent date information, or reconstruct dates if need be.

You will notice that the years are a bit different from usual, since they range between 0 and 199. This is, of course, simply to count the number of years between 1900 and 2099.

If an accurate year is desirable, and it will not interfere with any other date calculations, one easy way is to add the year number (0-199) to the starting point year 1900. The resulting display would show the appropriate four-digit year. As we shall see, this may be unnecessary because of the flexibility of @DATE.

As for @DATE, it operates a bit differently. In general, it requires the more usual numbers of the year, month and day in question and the command looks like this:

```
@DATE(year,month,day)
```

As above, these numbers may be entered directly or by pointing to relevant cells. The result of the command will be to produce the appropriate date serial number, between 0 and 73049.

Experiments

With the first four functions at your fingertips, it is easy to experiment using them together. Start up an empty worksheet; in any cell, say A1, type '@TODAY' and Return.

You should see the cryptic date serial number. Go to B1 and type '@DAY('. Now instead of

entering the serial number itself, just use the arrow keys and point to A1. Next type the closing bracket. The formula in B1 should now look like @DAY(A1). When it does, press Return.

Assuming your system knows the correct date, the number of the current day should appear. Try it successively with @MONTH(A1) in C1 and @YEAR(A1) in D1, using the same approach.

To continue the experiment, we'll use @DATE to undo what was done above. Go to E1 and type '@DATE('. Use the arrow keys to point to D1, and then type a comma. Point to C1 and type another comma; point to B1 and type the closing bracket. The formula should look like @DATE(D1,C1,B1). When it does, press Return.

The result should be a date serial number exactly equal to that in A1, since we have simply reversed the process. Again, leave the worksheet as it is.

These little tests have given us all the basic tools for making and using date calculations. Most important is the method of breaking up the day, month and year for easing the use of the @DATE function. All that remains is to mention the ability to smarten up the appearance of those serial numbers with the use of the Format command.

Back at the computer, the cursor should still be on cell E1. If you now enter '/RF', you will see the Range Format menu. Among the options is one for Date. Type 'D' to select from the three Date Formats:

1 (DD-MMM-YY)
2 (DD-MMM)
3 (MMM-YY)

As a test, type '1' to see the format for the entire date. Finally, to indicate E1 as the range simply press Return.

Assuming you started with a system date that was current and correct, you should see a nice representation of today's date. This certainly is much easier to read than the contents of cell A1.

A Live One

With all these components in mind, we can now do some interesting work with dates. The example below is a simple worksheet using two date functions and the procedures illustrated above; it's a modest little accounting record which could be used for either receivables or payables.

	A	B	C	D	E	F
1						
2	CURRENT DATE:					
3	30-Jan-87					
4						
5		DATE DUE				DAYS
6	NAME	DAY	MON	YEAR	AMOUNT	PAST DUE
7	----------					
8	Heath	13	5	86	2000.00	262
9	Cleese	31	12	85	300.00	395
10	James	20	11	86	550.00	71

The @TODAY function is used in cell A3 to yield the current date. It has been Formatted for the sake of clarity. Again assuming that the system date in MS-DOS is correct, and because @TODAY is a function (and not any specific date), it is worth noting that this cell will change and should always be up-to-date. So if this worksheet were saved and then loaded on successive days of a week, it would show the correct date each time it were loaded.

Because the CURRENT DATE should always be current, the DAYS PAST DUE column will also stay current. The number of DAYS PAST DUE in Column F is found by a formula which subtracts the @DATE of the appropriate cells of columns B, C and D from the @TODAY number kept in cell A3. To illustrate, the formula entered in cell F8 is +A3-@DATE(D8,C8,B8).

Of course, this is a very basic model to illustrate the usefulness of date calculations. But the same principles could be used for almost any time-sensitive worksheet. For instance, this procedure can track *future* dates (such as days until payment is due for bills) as well as past dates — in the current example future due dates would then show up as negative PAST DUE numbers, but this could easily be changed vice versa.

Experiment with this model and see what you get: it's likely that *something* you do could make use of the Lotus date calculations. Besides, they're surely better than counting your days ... ◆

Commands and Functions used

@DATE(year,month,day)	Dated serial number, in the range 1 to 73049, for the date indicated by 'year', 'month' and 'day'.
@TODAY	Dated serial number as above, for the current day (system date).
@DAY(x)	The day number, in the range 1 to 31, of the dated serial number 'x'.
@MONTH(x)	The month number, in the range 1 to 12, of the dated serial number 'x'.
@YEAR(x)	The year number, in the range 0 to 199, of the dated serial number 'x'.
/RFD1	Formats a dated serial number to show the number of day, month and/or year.

CONTRIBUTE!

Hopefully there are some helpful ideas here. If you have any other topics you would like dealt with, or anything you would like to cover yourself, please let us know. We are as interested in your input as we trust you are in our output.

The Workshop

Of RAMs and BATs

Working with RAMdisk

By Ted Webber

Is your RAM BIOS-degradable? Does your pet BAT keep clear of the B:hive when it fouls the PATH? No? Then you must be out of environment space! And as I have just found a partial solution to that problem, perhaps you'd like to hear about it.

Ewe and ewer RAMdisk

The Quest started somewhere about the same place as David Langford found himself with his COMSPEC (APRICOT FILE Release 2.3, page 5). How do you implement a RAMdisk so that you can indeed escape from 'Insert COMMAND.COM disk in drive A'?

The solution (or the start of it) came from the Gateway Users Group, for whom Paul Ockenden runs a Public Domain catalogue. You send Paul a few bob and a blank disk (address at the end) and he will mail back true gold if you are a PD utilities collector. 'Gateway' refers to the Apricot F series, but most of the utilities and information on the Group's disks work equally well on the office Xis and my own Portable.

The item in question is found on the Gateway 'Summer Sampler' disk. The essentials for a single-drive machine like the Portable are found in an AUTOEXEC.BAT looking something like this:

```
ECHO OFF
VERIFY ON
PROMPT  $D $T AND FILL UP ABOUT 80 CHARACTERS
        ......... $P$G
PATH B:\;A:\;etc
SET COMSPEC=B:\COMMAND.COM
COPY \UTIL B: >NUL
B:
COMMAND/P
```

Did David perhaps not have that last vital line? And will someone please tell me what it means — are there other switches besides /P?

Anyway, it works. The copied directory \UTIL must contain another (different) AUTOEXEC.BAT and another copy of COMMAND.COM. Then the RAMdisk immediately comes alive from its own AUTOEXEC — which might be quite complex, of course, or it might be only a single line such as 'TYPE MENU'.

So what's that funny PROMPT all about? Environment space, of course! MS-DOS allocates an area of 128 bytes as the 'environment' for COMMAND.COM: type 'SET' alone to see what your environment currently includes, and you'll get something like this ...

```
COMSPEC=C:\COMMAND.COM
PROMPT=Drive $p$_Command:
PATH=C:\;C:\SYSTEM;C:\PROGRAMS
LOAD=C:
```

As you can see, the environment space includes the current settings for PATH and PROMPT. Long paths and extended prompts can quickly soak the space.

I first ran foul of this very small area when setting up a prompt on the status line (actually NPROMPT.BAT from DEALS FOR READERS disk AP003). Attempts to include all the directories in my PATH along with NPROMPT resulted in an 'out of environment space' message. But the odd thing about setting up the RAMdisk was that the less I put into the environment in the first AUTOEXEC, the more frequently this disturbing message appeared after going into RAMdisk. I found a solution was to make the prompt artificially long in the first AUTOEXEC, then reduce it to PROMPT PG in the second one. Why? I hope the experts will tell us.

Uses for RAMdisks

Why bother with a RAMdisk anyway? First, it is the type of file store which offers the fastest possible access, reputedly twice as fast as hard disk and five times as fast as floppy disk. Second, for single-drive machines a RAMdisk prevents you going spare with incessant disk changing.

Against those advantages, you must remember to make frequent backups to diskette in case of loss of power or other hazard, because the RAMdisk memory will disappear completely after a re-boot or if you switch off.

I tested the claims for increased speed by copying the SuperWriter dictionary file SW.DIC in several ways — it's all of 98,816 bytes — with Alan Solomon's SSDISK installed (it's on DEALS FOR READERS disk no. AS024 at £11.50). Here are the results:

```
1.  copy RAMdisk to RAMdisk            2.28 secs
2.  copy RAMdisk to floppy disk       13.80 secs
3.  copy floppy disk to RAMdisk        7.50 secs
4.  copy floppy disk to floppy disk   18.36 secs
5.  copy hard disk to hard disk        7.74 secs
```

The difference between tests 2 and 3 illustrates how much faster a floppy is read than written. Overall, it appears that RAMdisk operations are as much as eight times faster than floppy operations.

Clean clones

I bought an extra 512KB of memory to add to the 256KB on the Portable, thinking that with a total of 768K I would easily be able to copy a full 720KB floppy with a single disk swap. But the system files need quite a lot of room to work in, and I found the maximum RAM available for copying is about 690K — some 30KB short. So occasionally two swaps are needed.

The copying can be done one directory at a time, either with a batch file and maximum RAMdisk or with SCOPY.EXE and minimum or no RAMdisk. I timed it both ways using the Apricot-supplied master disk 1. Either way, copying the whole root directory of 620KB (there are no subdirectories) took eight minutes. So there is nothing to choose on grounds of speed.

SCOPY checks the destination disk to see if the file being copied will overwrite an existing file, and that's difficult (though not impossible) to arrange in a batch file. But SCOPY requires the destination directory to be the same as the source directory, and the copy-to directory must already exist on the destination disk. A batch file can be written to create a directory on the destination disk, and so have a different function to SCOPY. Such a batch file can be implemented as follows:

(a) a temporary directory is made in RAMdisk
(b) the source directory or files are copied to it
(c) the disks are swapped
(d) if the destination directory does not exist, it is created
(e) the files are copied from RAMdisk to destination disk
(f) finally the temporary directory is deleted from RAMdisk to make way for the next copy.

This batch file, which I call C.BAT, is similar to XICPYDSK.BAT on DEALS FOR READERS disk AP003, but is a bit more ambitious — so perhaps it is more prone to error. The command C \ copies the whole root directory; C \ *.BAT \BAKUP copies the batch files from the root directory of one disk and puts them in the directory \BAKUP on another.

Of course you could alternatively use DISKCOPY, and this too is speeded up by having plenty of RAM. But that copies *everything* on the disk while you may only want to copy one directory or perhaps all your .BAT files.

By the way, I found SCOPY.EXE on the Gateway Summer Sampler as well (*the very latest version of* SCOPY *is also on* DEALS FOR READERS *disk AP020 — Ed*). Hard disk owners with the usual single floppy drive will find it useful for copying between two different floppies.

FORMAT foibles

One quirk of RAMdisk is worth mentioning in connection with Apricot's FORMAT.EXE (which is on a Black Hole disk, comes with the Xen, and is also available from Gateway — and is on AP020 too). I thought it would be convenient to have FORMAT on the RAMdisk with C.BAT — it could even be an option within C.BAT for a new disk.

But when I tried to format a floppy from my 680KB RAMdisk, all I got was an error message to say the disk was write-protected when the wretched tab was definitely closed! Yet FORMAT worked perfectly without the RAMdisk — it just required more disk swaps. By trial and error, I found that formatting was feasible so long as the RAMdisk was less than 100K!

So now I have one special disk with almost nothing on it but C.BAT and a huge RAMdisk; and another with FORMAT and a few other utilities totalling 99KB in RAMdisk. Possibly this quirk is a foible of my very primitive RAM BIOS 1.6 on the Portable; there's no problem on the Xi with BIOS 3.1.

I have put FORMAT into a batch file which not only goes through the main options (copy system files, update system files, and the like) but also ensures that the format is done on the correct drive — it's all too easy on a hard disk to enter the lethal 'FORMAT A:' to format the hard disk inadvertently. Then the batch file runs VOLUME (from the Gateway Autumn sampler disk) to label the disk (the DEALS FOR READERS utility VOLSER has much shorter code, but I found it unwilling to re-label a disk).

Finally, it runs SCAVEN (DEALS FOR READERS disk AP003 or Gateway Autumn) to lock out any bad blocks on the disk — the /V verify option in FORMAT version 1.5.0 should do the same thing, but I found it very slow: it took 10 minutes to format, and I thought the computer had hung. I also noticed that version 1.5.0 copied RAMDRIVE.SYS with the system, but version 1.3 (which came with the Xi) did not copy it.

I tried loading the RAMdisk with system files, using CHMOD (from DEALS FOR READERS disk AP002) to get at them, so as to save disk swaps when copying the system. But FORMAT responded that it did not like RAMdisk as a source of system files.

Any dirty subdirectories?

Another use for RAMdisk is to tidy up subdirectories. SORTDISK from DEALS FOR READERS disk AP002 is an excellent housekeeping tool, but it works only on root directories. It differs from something like SDIR (DEALS FOR READERS AP001) because the sorting it does is permanent: a subsequent DIR gives the sorted directory. More important, it shunts deleted blocks to the end of the FAT, so file access is more efficient.

To SORTDISK a subdirectory, first make sure you have a backup disk in case of a slip up. Then set up a RAMdisk with nothing in it as drive B; copy the subdirectory to the RAMdisk; delete all files from the subdirectory in A; put a disk containing SORTDISK.COM in A and enter 'SORTDISK B'; and finally copy the sorted subdirectory back to its starting point.

Sound complicated, but it's easy to put into a batch file. Note that if you omit the deletion the files will just be copied back to their old sequence!

How to breed a RAMdisk

I've left to last what should probably come first: the selection of a RAMdisk system. What's wrong with the Apricot-supplied RAMDISK.SYS? Not much, except others may be better for your application. The choice includes SSDISK.SYS from DEALS FOR READERS and RAMDRIVE.SYS from Gateway. The comparison table overleaf was produced with the aid of SYSTAT.COM (a utility you'll find on DEALS FOR READERS disks AP001 and AP002).

The limitations of RAMDISK.SYS are apparent here. You want the largest possible size on some occasions: on others, you want the RAMdisk virtually to disappear without actually removing it from your system files. RAMDRIVE.SYS is the clear winner on available range of size.

There are several other features to consider, as indicated in the second box. And what does it all mean? A floppy can hold a maximum of 170

Size of RAMdisk systems

RAMdisk	requested	obtained	size	free memory	total memory
RAMDISK.SYS	10*64	na	64,000	671,440	786,432
	9*64	na	584,704	147,152	786,432
	1*64	na	64,000	671,440	786,432
SSDISK.SYS	720	96	... "insufficient memory"		
	680	96	688,640	34,624	786,432
	8	4	6,144	722,752	786,432
	4	2	... "invalid parameters"		
RAMDRIVE.SYS	720	96	... "insufficient memory"		
	680	96	696,320	23,376	78,832
	1	1	1,024	729,680	785,136
	0	0	... "invalid parameters"		
	Default	1	128		

RAMdisk features

RAMdisk	Max files	Default	Size	Erase?	Label?	Permanent?	Program size
RAMDISK	127	127	512	no	yes	yes	1536
SSDISK	511+	none	Nx512	no	no	yes	1024 [plus 13KB to change]
RAMDRIVE	511+	63	128	yes	yes	no	2560
Floppy disk	170	170	1024				
Hard disk	255 per directory		4096				

files, but RAMDISK.SYS is limited to 127. SSDISK requires you to enter the maximum number of files, so there is no default; there also appears to be no theoretical maximum. With RAMDRIVE, entry of the number of files is optional and unlimited: if the number is omitted, 63 are available by default.

SSDISK has a 'cluster' option. A cluster is 512 bytes, the minimum size for a file. If the minimum size is made say eight clusters (common on hard disk systems), access is speeded up considerably, but small files waste a lot of space. RAMDRIVE has a minimum file size of only 128 bytes; so small batch files do not waste space, and a floppy copied to RAMDRIVE may fit even if it is apparently bigger than the memory available.

The 'erase' option is connected with the mode of installation, and this is different for each system. RAMDISK and SSDISK both require the computer to be rebooted each time the size is changed before they are effectively installed. Of course, this destroys anything in the RAMdisk memory. RAMDRIVE, in contrast, requires this type of installation once only per RAMdisk: after that, size changes can be made on-line. By contrast, changes in the size of RAMDISK can be made only by editing CONFIG.SYS.

The volume label appears at the start of directory lists and in the output of SYSTAT. SSDISK reports 'volume not labelled', though there is nothing stopping you labelling it with VOLSER or VOLUME.

The 'permanent' option indicates how easy it is to re-establish a RAMdisk. Once a size has been set with SSDISK, that size is installed at every boot without further action; so it is not necessary to have SSDISK.COM (about 13KB) on the boot disk unless a change is to be made.

Conversely, RAMDRIVE.COM has to be run at every boot — otherwise your RAMdisk will have only the default size of 128 bytes. You can just include it in your AUTOEXEC.BAT as RAMDRIVE /S=680 /D=170 (say) to set up for 680KB and 170 files. After copying CONFIG.SYS, RAMDRIVE.SYS, and RAMDRIVE.COM to RAMdisk, the size can be changed from *within* the RAMdisk without losing any files. It even sets ERRORLEVEL 1 if you attempt to make the size too small for existing file contents.

The last column gives the total bytes needed by each system on the boot disk for their SYS and COM files — not much to choose between the candidates there.

Well, you must have guessed which I recommend — RAMDRIVE. But if you have a constant requirement less than 600KB, RAMDISK will probably suffice. ◆

Editor's note: RAMDRIVE is a proprietary program, and when run it displays a copyright notice from its authors at White Crane Systems. It is not a public domain program. We don't know whether Gateway has Guy Gordon's permission to sell the program in Apricot format at public domain prices, and we don't know whether Gateway pays Guy a royalty on such sales. But it is not our policy knowingly to purvey proprietary software on public domain disks, which is why APRICOT FILE *does not include it in our own* DEALS FOR READERS *lists.*

Gateway Public Domain disks

Non-members can obtain these from:
Gateway PD Service
156b Eastern Road
Brighton
East Sussex BN2 2AE

How it all works

This is how I utilise the RAMdisk. The files in the root directory (drive A) are listed in the first panel; files copied to RAMdisk are in the UTIL subdirectory.

Files in the root directory

```
UTIL          <DIR>
P        BAT      634
AUTOEXEC BAT      166
COMMAND  COM    16512
EDLIN    COM     4480
SYSTAT   COM     2944
VOLUME   COM    12573
CONFIG   SYS       44
SSDISK   SYS      652
```

Files copies to RAMdisk

```
MENU              505
1        BAT     1280
10       BAT      222
11       BAT      519
2        BAT      256
3        BAT       90
4        BAT       50
5        BAT       45
6        BAT      141
7        BAT      384
8        BAT       42
9        BAT      112
AUTOEXEC BAT       31
ASK      COM      384
CHKDSK   COM     6528
CLEAN2   COM      640
COMMAND  COM    16512
DELETE   COM      768
DISKCOPY COM     1536
SCAVEN   COM     1280
SORTDISK COM     1152
SYSTAT   COM     2944
VOLUME   COM    12573
FORMAT   EXE    27236
SCOPY    EXE    14120
CONFIG   SYS       44
SSDISK   SYS      652
```

Note that BAUTO.BAT — which simply TYPEs the menu for the numbered batch files — would be actually named \UTIL\AUTOEXEC.BAT; the name has been changed here to prevent confusion.

The numbered batch files simply run the required program with some ECHOed information and screen settings.

The Disk Utilities Menu

```
1.      Format disk
2.      Label disk — VOLUME
3.      Scavenge bad sectors — SCAVEN
4.      Check the disk — CHKDSK
5.      Clean the read/write head. Needs
special cleaning disk
6.      System memory status, including disk —
SYSTAT
7.      Sort the disk root directory — SORTDISK
8.      Delete files selectively — DELETE *.*
9.      Copy complete disk — DISKCOPY
10.     Single file copy — COPY /S
11.     Multi file copy — SCOPY
```

The copy-via-RAMdisk BAT file mentioned in the text is C.BAT: type 'C' alone for explanation. CSET.BAT clears the temporary directory in RAMdisk if that should be necessary.

C.BAT — copy via RAMdisk

```
ECHO OFF
IF %1X == X GOTO EXPLAIN
IF %3X == X GOTO SAME
SET D=%3
GOTO CONTINUE
:SAME
SET D=%1
:CONTINUE
ECHO  Destination path is %D%
ECHO  Reload SOURCE disk if necessary.
PAUSE
B:
CD\
MD TEMP
COPY A:%1%2 B:\TEMP
ECHO  Insert DESTINATION disk in drive, with
      write-protect off (tab closed).
PAUSE
IF %D% == \ GOTO JUMP
ECHO  Ignore error message if %D% exists on
      destination disk.
MD A:%D%
:JUMP
COPY \TEMP A:%D% >NUL
ECHO
ECHO  Copy complete. Deleting temporary store
      in RAMdisk: answer Y at the prompt.
DEL \TEMP
RD TEMP
SET D=
ECHO  Ready to copy another directory.
GOTO END
:EXPLAIN
ECHO  SYNTAX:
ECHO  C [\]{source path} {\file} {\dest path}
ECHO  NB. Spaces are significant
ECHO
ECHO  Examples:
ECHO  C \                     Copy root dir of
                              source to root of
                              destination disk.
ECHO  C \ *.EXE               Copy .EXE files in
                              root to root of
                              destination disk.
ECHO  C \ *.* \UTIL           Copy root dir of
                              source to \UTIL of
                              destination
ECHO  C \UTIL \*.EXE \UTIL    Copy .EXE files in
                              \UTIL to \UTIL of
                              destination
ECHO  C                       Show this
                              explanation.
ECHO
ECHO  Note that "C \*.EXE" will cause a
      directory "*.EXE" to be set up.
ECHO  If the destination path does NOT exist, C
      makes it. If it does exist, C
ECHO  reports an UNABLE TO CREATE DIRECTORY
      error, but no harm is done.
ECHO  Use SCOPY to copy without overwriting: C
      does not check for file existing on
      destination
ECHO
ECHO  To reset after an error, use CSET.BAT --
      ie just type "CSET"
:END
```

W.BAT is explained in W.DOC. It loads the SWKB1 utility from Ansible Software's A.S.D.1 disk into SuperWriter, with RAMdisk as the default drive so that the XQT files can be kept there too. W.BAT uses LET.HED or DUMMY.DOC in setting up a new document.

W.BAT — sets up SuperWriter

```
ECHO OFF
ECHO  Loading SuperWriter. Disk=B: RAMdisk. No
      permanent record of doc until quit.
IF %3X == X GOTO DFLT
SET XTN=%3
GOTO CONTINUE
:DFLT
SET XTN=DOC
:CONTINUE
IF %2X == X GOTO EXPLAIN
IF NOT EXIST B:%2.%XTN% GOTO OK
ECHO  %2.%xtn% will overwrite a system file.
      Please use another name.
GOTO END
:OK
IF %1X == X GOTO EXPLAIN
IF %1 == D GOTO DOC
IF %1 == D GOTO DOC
IF %1 == L GOTO LETTER
IF %1 == L GOTO LETTER
IF %1 == S GOTO SORT
IF %1 == S GOTO SORT
IF %1 == C GOTO CLEAR
IF %1 == C GOTO CLEAR
IF %1 == R GOTO RESTORE
IF %1 == R GOTO RESTORE
GOTO EXPLAIN
:DOC
COPY DOC.DEF SW.DEF >NUL
ECHO  SW.DEF configured for 80 column screen.
GOTO LOAD
:LETTER
COPY LETTER.DEF SW.DEF >NUL
ECHO  SW.DEFined for letters and reports, 65
      columns.
IF EXIST A:%2.%XTN% GOTO OLD
ASK Do you want a letter head (Y/N)?
IF ERRORLEVEL 1 GOTO LOAD
COPY LET.HED %2.%XTN% >NUL
GOTO RESUME
:SORT
COPY SORT.DEF SW.DEF >NUL
ECHO  SW.DEFined for data lists, max. 250
      columns.
ECHO  Set tabs then "Save document history" to
      preserve them.
GOTO LOAD
:CLEAR
IF EXIST SW.DEF GOTO OUT
ECHO  There is no SW.DEF to be cleared.
GOTO LOAD
:OUT
IF EXIST SWDEF.BAK DEL SWDEF.BAK
REN SW.DEF SWDEF.BAK
ECHO  Last SW.DEF saved as SWDEF.BAK in RAMdisk
      (restore with W r).
GOTO LOAD
:RESTORE
IF EXIST SWDEF.BAK GOTO IN
ECHO  There is no SWDEF.BAK to restore as
      SW.DEF.
GOTO LOAD
:IN
IF EXIST SW.DEF DEL SW.DEF
REN SWDEF.BAK SW.DEF
ECHO  Previous "cleared" SW.DEF now restored.
GOTO LOAD
:EXPLAIN
TYPE W.DOC
GOTO END
:LOAD
IF EXIST A:%2.%XTN% GOTO OLD
ECHO
ECHO  NEW FILE will be A:%2.%xtn%  Press CTRL-C
                                   if wrong.
PAUSE
COPY DUMMY.DOC %2.%XTN% >NUL
GOTO RESUME
:OLD
COPY A:%2.%XTN% >NUL
:RESUME
SWKB1 B:%2.%XTN%
IF NOT EXIST %2.BAK GOTO COPY1
IF NOT EXIST A:%2.%XTN% GOTO COPY1
ECHO  Backing up previous %2.%xtn% on A: disk
      as %2.BAK.
COPY %2.BAK A:
:COPY1
ECHO  Saving %2.%xtn% on A: disk.
COPY %2.%XTN% A:
ASK Do you want to resume with same doc (Y/N)?
IF NOT ERRORLEVEL 1 GOTO RESUME
DEL %2.%XTN%
IF EXIST %2.BAK DEL %2.BAK
:END
SET XTN=
```

W.DOC — syntax for the W command

```
W D [filename]   to set up Document screen
                 format, justified across 79
                 columns
W L [filename]   to set up Letter/report format,
                 letterhead optional, justified
                 across 65 columns
W S [filename]   to set up data Sort format,
                 maximum 250 columns
W C [filename]   to Clear away all formats
W R [filename]   to Restore cleared format

Default file extension is .DOC. Enter any other
extension with a space instead of full stop.
```

The RENAME facility within SuperWriter must not be used when a document has been loaded by W.BAT. Maybe there's a better way!

P.BAT was developed for the Xi and an AUTOEXEC that sets up a prompt like NPROMPT. It cures two problems when echoing the screen to the printer, in my case a Centronics 136. First, I sometimes hit CTRL-P, do some printing, turn the printer's switch off-line to do a form-feed, and then forget to press CTRL-P again. Result — the computer hangs when the print buffer is full, half an hour later! P.BAT puts a highlighted 'P' in the status line when printer echo is on.

The second problem is that the echo of the prompt line to the printer causes it to go into a flat spin and switch itself off. But ^S (deselect) at the begining of the prompt and ^Q (select) at the end fix that. At the same time, a printer setup routine is run.

P.BAT — sets up printer

```
ECHO OFF
IF EXIST C:PRINTON GOTO PRINTOFF
REM  PSETUP.COM sets up an Epson printer
     interactively. Also works ok for
     Centronics 136
PSETUP
ECHO ^S
ECHO  For NLQ, proportional etc. use
      CENSETUP.BAS
COPY C:DUMMY.TXT C:PRINTON >NUL
ECHO ^[2
PROMPT $_^S$ej$e;$ep$e(S/K$e)SET RS Rpt pi Dmp
Zap DIR Ms2$e@$e($p$e)$t$h$h$h$h$h$d$e( P
$e)$eK$ek$eq^Q
GOTO END
:PRINTOFF
DEL C:PRINTON >NUL
ECHO ^[2
PROMPT $_^S$ej$e;$ep$e(S/K$e) SET RS Rpt pi Dmp
Zap DIR Ms2$e@$e( $p$e) $t$h$h$h$h$h$h $d
$eK$ek$eq$_^Q
:END
```

P.BAT requires a keyboard modification so that ^P, ^N, and PRINT keys have an added 'P' and a Return. Then it is automatically run when echo-to-printer is selected by pressing the key.

The copying of a dummy file and testing whether it exists looks like a steamhammer to crack a nut. One could surely SET a variable? But that takes up environment space, which I do not have to spare. Well, what about setting an ERRORLEVEL? Ok, SETERROR can do that; but what *clears* an ERRORLEVEL? SETERROR.DOC is silent on that. In general, it seems it's difficult to carry information between runs of batch files. ◆

Classified

Free Small Ads

Free!

■■■ COMMODORE CLEAR-OUT: another of our perennial Spring-cleans has thrown up a few items of stock relating to a previous venture in Commodore home computers. Specifically, we have a dozen or so copies of Dennis Jarrett's Complete Commodore 64 book and many cassette dust-covers. Free to a good home — ie a non-profit cause like a school. Contact Roger Gann on 01-833 3501.

Apricot Sales

■■■ APRICOT XEN FD needs a good home. Six months old, one careful owner; 512KB memory, dual floppies. Includes all standard software and a copy of A LA CARTE. Price £1,500 ono. Call 01-736 4281 office hours.

■■■ XEN HD with 20MB hard disk, 1MB RAM, paper-white monitor; plus SuperCalc and SuperWriter. Hardly used. Cost £3,500 plus VAT, will accept £2,500 plus VAT. Also available: WordStar 2000 and Epson LQ1500. Contact Mark Wardle on Gloucester 504294 (day) or 411402 (evenings).

Apricot Add-on Sales

■■■ APRICOT-FORMAT SOFTWARE: MicroModeller and dGRAPH (both unused). Also one lot comprising CBasic compiler, Access Manager, Display Manager and GSX manual. Also Epson MX-80 ribbons and 9in black Xi monitor for sale. Best realistic offer secures. Contact 065 122 667.

■■■ 128KB RAM BOARD — full working order, no longer required. £55. Phone Frank Sendall on 051-425 4811 evenings (keep trying if no reply!)

■■■ F1 INFRA-RED MOUSE with light pipe and software. Low mileage, well-behaved. £50 ono. Contact 0734 732512.

Other Sales

■■■ TOSHIBA TH-2100H high-quality printer and acoustic hood. Buyer must collect (from Milton Keynes). Any offer considered. Contact Eileen Periss on 0908 310866.

■■■ APRICOT WRITER 22 printer (really the best-selling Epson LX-80 with an Apricot badge). 100cps, 22cps in NLQ mode; twelve typestyles; supported by most WP packages. Ten months old, excellent condition — owner wanted something faster. £160. Tel Don Morrison on 01-235 1609.

■■■ OSBORNE 1 double-density disks, 64K, with SuperCalc, WordStar, MBasic, CBasic, all cables. £250 ono. Tel M Nash, 0742 307692 (home) or 0742 66922 (office).

■■■ COMMODORE 8030 — 32K memory expanded to 96K, twin 8050 disk drives; Pegasus ledgers, Landsoft WP, TLO program generator, CalcResult; all documentation and cables. Good working condition — £500 ono. Tel M Nash, 0742 307692 (home) or 0742 66922 (office).

■■■ WORDPERFECT Ver. 4.1 for use with Xen-i or any IBM-compatible. Unopened and complete. A bargain at £300 ono. Contact I Bryce on 0603 630326 in working hours.

■■■ EPSON RIBBON CARTRIDGES for sale — brand new, boxed, made by Epson and Caribonum. We've found half a dozen that we bought for an Epson we no longer have ... Price £5 including postage, or all six for £25. Phone Roger Gann on 01-833 3501.

■■■ PSION ORGANISER — original program and datapacks, RS232 link-up, documentation. Boxed. £40 ono. Contact Mike Nash on 01-671 8644 (home) or 01-584 5000 x 3545 (office).

Wants

■■■ WANTED: COMPILERS, MANUALS, etc. Can't find a dealer who will mail overseas. Have Apricot Portable with BIOS 1.6 only — want to upgrade to BIOS 3, NEC V30 chip, MSBASIC compiler, GWBASIC compiler, possibly CBASIC; Tech Reference Manual etc also required ... Ted Webber, Box 6066, Boroko, Papua New Guinea.

■■■ WANTED: Apricot Xi FD or HD with 512K and 9in monitor. Must be in good condition and full working order. Tel M Nash, 0742 307692 (home) or 0742 66922 (office).

■■■ WANTED: Delta 4 or Tomorrow's Office for Xi with 512KB and 10MB. Contact 0379 71246.

■■■ WANTED for Apricot 10Xi: Alpha, Simon or Multicard expansion box. Phone Brian on 0992 468870 evenings.

Misc

■■■ A0 PLOTTING — time on a Calcomp A0 plotter available for rent: Sirius or Apricot disks plotted on your paper or ours. Terms negotiable, but cheap. Phone James McEvoy on 01-859 4014 or 01-852 7981; or write to 16 Dunvegan Road, London SE19 1SA.

■■■ SIRIUS-APRICOT TRANSFER: any program and/or data transferred from Apricot to Sirius format and vice versa. Just send your disks along with £5 for the first one and £1 for each disk after that: P&R Miller, 8 Hillside Close, Hednesford, Staffs WS12 4DG.

Help

■■■ SANYO AND APRICOT: can anyone suggest how I might format 3.5in disks so that both my Sanyo MBC-555 and my Apricot can read me? Also, does anyone know where I can obtain Concurrent CP/M-86? Contact Bob Wilcock on 01-888 8304 (evenings).

■■■ SWITZERLAND: Apricot user would like to contact others, preferably in the Zurich area, to exchange experiences and help each other with problems. Contact John Solomir, Stockenstrasse 67, 8802 Kilchberg.

Holidays

■■■ HOUSE TO LET in the South of France at Agde, on the Mediterranean coast. Attractively converted 16th Century house with roof terrace: sleeps 4-5. Local British management. Phone 01-352 5925 evenings. ◆

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Readers' Writes

Your chance to have a say

WordPerfect comments

As David St.John Wallis has made passing reference to the way I use WordPerfect, readers may be interested in a little more detail.

Hard-disk users will probably wonder what all the fuss is about, but my machine has twin 720K drives; and MS-DOS plus WordPerfect into 720KB just won't go, so a compromise is made which gives maximum useful functionality on one disk while little-used features are contained on a second.

If you have plenty of memory, use of the /R switch helps to speed things up by loading all the overlays into memory. Further improvements can be achieved by RAMdisk or caching, but to hold both the Speller and the Thesauraus in RAM takes a lot of space and program loading becomes tedious.

I chose to omit the Thesauraus, saving some 200K of disk space. The Speller is beset with problems; it's basically an American lexicon with a few English words added. But the "UK English" sticker on the reference manual must be nudging the boundaries of the Trade Descriptions Act.

The sheer size of the Speller makes it run rather slowly. Fortunately a solution exists; in return for intimate details of my credit card account, Ansible Information responded with a disk of WordPerfect utilities including a speller based on the real English one they sell for SuperWriter. At just over 100K this takes up less space and runs faster. The disk also contains a rather neat program to convert SuperWriter files to WordPerfect format and some other goodies.

However you arrange the files on a floppy system, there will be times when a second program disk is needed. WordPerfect sets up overflow files on the default drive unless otherwise instructed, and that disk cannot be removed without causing confusion. In order to be able to swap program disks, the overflow files should be directed to drive B using the /D-B: switch.

When setting up WordPerfect from scratch (with WP/S) be sure to direct any timed auto-backup files to drive B as well. If you wish, drive A may then be used for another document disk — useful when 'borrowing' text from previous work, and made even easier by WordPerfect's ability to open two document files at once.

Both switches may be combined by starting WordPerfect with WP/R/D-B:, and gluttons for automation can append /M-<FILENAME> to run the macro FILENAME.MAC (perhaps to select a document subdirectory and display its contents).

Mike Florey
Croydon

Reader interest in WordPerfect and the apparent availability in Apricot format of the latest version — 4.2 — has persuaded us to commission a review of what sounds like the best off-the-shelf word processor now available for the Apricot. We'll also be looking at Ansible's WordPerfect utilities disk, as usual without fear or favour ...

The 8087 and the Xi

Can you give me some advice about installing the 8087 chip? And can I use it with Lotus 1-2-3 and Fortran?

Ted Webber
Boroko, Papua New Guinea

Installation of the 8087 maths co-processor into an Apricot Xi is simple — it just plugs in. Don't forget to align the notch on it in the same direction as all the other chips on the motherboard. The pins on it may be slightly splayed; lightly but firmly press each side of the chip against a flat surface until the pins are at right angles to the body of the chip. Carefully insert the chip into the socket — it will be a reasonably tight fit so you may have to apply a bit of force. Do *not* bend any of the pins!

It's all a bit of a fiddle but you can see the empty socket for it on the motherboard close to where the carrying handle protrudes. It might ease things to shift the upper part of the chassis which carries the disk drives — remove four screws and flip the assembly on its back.

There are no jumpers or DIP switches to adjust.

On the other hand, only Lotus 1-2-3 Release 2 supports the 8087 and this version is not available for the Xi. Luckily, MS-Fortran does and is.

GREP improved

GREP is a useful public domain program that reports occurrences of a character string within a file or group of files. Or at least it should do: but the program distributed on DEALS FOR READERS disk AP002 will not accept wildcard file descriptions.

This limitation proved to be a handicap when I was looking through my batch files to find references to a program I had renamed. The simple solution was to wrap the GREP command in the MS-DOS FOR command — for example:

```
FOR %A IN (*.BAT) DO GREP DOMESTOS %A
```

Capital letters should be used throughout the command line with the exception of the GREP character string. All being well, MS-DOS should very kindly find every file that matches the file spec and insert it into the GREP command at point %A.

So much for the simple solution.The next time I wanted to use the facility I couldn't remember the DOS line, so I wrote this BATchfile called EGREP:

```
REM  Bat file to enhance
     GREP.EXE; requires two
     parameters
ECHO OFF
IF %2Z==Z GOTO USAGE
ECHO ON
FOR %%A IN (%2) DO GREP %1 %%A
ECHO OFF
GOTO END
:USAGE
ECHO  Usage:
ECHO  EGREP [Regular
      Expression] [File Spec]
ECHO  eg EGREP CD\UTILS *.BAT
:END
```

A note of explanation: the ECHO is turned on to allow you to see which file GREP is interrogating. In the usage line, don't use the right-pointing greater-than character — MS-DOS will try to redirect anything that precedes the character into a file called that which follows the character.

People who insist on using GREP with flags can modify the command line to include the flag. Or, if different flags are required, another parameter could be used — as in one of these two examples:

```
FOR %%A IN (%2) DO GREP -N %1 %%A
FOR %%A IN (%3) DO GREP %1 %2 %%A
```

Trevor Mitchell
Stafford

COMSPEC revisited

Although I can shed no light on SET COMPSEC = C:\COMMAND.COM, I can give another solution to the pesky 'Insert COMMAND.COM disk in drive A' syndrome. Set up your RAMdisk in the usual way by booting up with a suitable reference in your CONFIG.SYS file, then copy COMMAND.COM to that drive. Assuming your RAMdisk is drive C, you may now enter the command 'COMMAND C:'. This works every time on my Portable.

Peter Tester
Bridgwater

In re. ScannerS

Further to the (apparently not) rave notices from various sources, including the perceptively clever Lindsay Doyle (APRICOT FILE Release 2.2) and the truly hilarious David Langford and Christopher Priest (in Ansible Information's own newsletter): in apology for ScannerS, now selling by the jiffybag-full, we can only say we were guided (to paraphrase it a bit) by Ralph Murphy's rule No.1 that we "should prepare no programs simply if a way can be found to make them more complex or wonderful."

It now seems that this in turn has been qualified by the Churchillian maxim "Sir, we must beware of needless innovation, especially when guided by logic."

At least ScannerS V1.10 is even more fantastical value than ever before since it now has new programs and will be sent out on approval. For details etc. consult previous issues since this is, of course, not an ad.

David St.John Wallis
OmrC Computers, Hindhead

Since it's not an ad, we felt able to edit this letter quite heavily ...

Verrry interesting — but wrong!

I ran the test outlined in David St.John Wallis's 'Spreadsheet Grand Prix' article (APRICOT FILE Release 2.4) using the spreadsheet functions in the Smart integrated package — and I don't get the same results.

I'm using an Apricot Xi HD with 767K memory, of which 320KB is set aside for a RAMdisk (which I didn't use for the test). I ran the test exactly as written, except that the LOG function in Smart is LOG10. The results: a time of 14.6 seconds, a result of -1.17936, and a file size of 50,408KB.

This should make Smart the clear winner and I suggest that Mr Wallis invests in a spreadsheet editor. Notwithstanding this, I would not recommend Smart products — I feel that Innovative Software has dumped the Apricot user. I heard this stemmed from Apricot plc not coming up with a Xen for Innovative to do testing on: any comments?

Kenneth Pantling
Florida Shoe Factory, Norwich

We heard the same rumour; a not-for-attribution source indicated to us that Apricot was reluctant to loan any more machines to software developers. On the other hand, we've also heard that several US software suppliers are refusing to implement any Apricot-format products with a substantial cash advance from Apricot plc as a guarantee against sales.

On the use of LOG and LOG10, see the comments in the following letter.

... And again

We have a couple of PCs with twin disks. Our general workhorse programs are the Psion Xchange suite — with which we have been very satisfied, incidentally — and I decided to try the 'Spreadsheet Grand Prix' test on Abacus. Versions 1.34 and 1.35 of the spreadsheet gave the same result — calculating by row (the default) gave a time of 129 seconds, calculating by column speeded this up to 66 seconds.

On the question of accuracy, Abacus gave a result of -2.715568 — similar to Smart's, as indicated in the article. But the supposed discrepancy is that the log function in Abacus (and, I assume, Smart) is to the base e (ie natural logarithm). Applying the correction to convert to base 10 logs gives a result of -1.7935622.

C S Myers
Wycliff Bible Translations, High Wycombe

Write on

We welcome any and all letters to APRICOT FILE, and we'll print any that seem of general (or even specific) relevance. Although we do reserve the right to edit for length, grammar and libel, as a rule the letters on this page are virtually as we received them.

If you'd like to express an opinion, pass on a tip, request some help or just sound off generally, write to:

APRICOT FILE
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PO Box 509
London N1 1YL

Report from Bandage & Plaster

Building and testing XQT files:

Some observations and ideas

By Bob Smith

Though the principles and the creation of XQT files has been explained well enough in previous issues (see APRICOT FILE Releases 2.1 and 2.2), some of the subtler characteristics of these little pieces of magic are worth knowing about.

In addition, I'll illustrate a few of the tricks we use here at Bandage & Plaster to control the development and testing of XQT files. We utilised these methods to develop a really useful set of XQTs for a SuperCalc project that will be described in detail next month.

On creating XQTs

First, do use a word processor like SuperWriter to create *all* your XQT files, even those for use with SuperCalc. That avoids keeping a CAL file as well as an XQT file.

We probably use SuperCalc more than SuperWriter and it was for the former that we wrote our very first XQT files (using SuperCalc itself). We soon started using SuperWriter to produce them and we naturally saved the result as a *system* file. When we came to trying our hand at XQTs for use with SuperWriter itself, we saved the results in the same way; I'm afraid we were so dumb that it took several weeks to figure out why they would rarely work and that we should have been saving them as *SuperWriter* files.

Try it yourself, especially with an XQT that has several cursor movement commands such as a string of ^J cursor-down commands one after the other. Some XQT commands will seem to work ok and you won't see the real fun until you bring up the system-format XQT file for re-editing by SuperWriter. Try using a program like SWEEP (DEALS FOR READERS disk AP003) to examine the differences in the Hex display between the ways SuperWriter stores control codes in SuperWriter-saved format versus system-saved format.

Slowing down XQTs — DON, DOF and DONK

XQT files really whiz along when they are running — which is fine when they are working, but a bit tricky if problems crop up during development. I use an XQT file called DON to insert several ^Ds at the end of every line of the XQT being developed. Each of these causes a half-second delay in processing (after the completion of every SuperCalc command), so there's a better chance to see what's going on.

The corresponding DOF.XQT removes the ^Ds. DON can be started at any point in the XQT being developed, not just the beginning.

DON and DOF are listed below. Note that they should be saved as SuperWriter files; they will also work for SuperWriter XQTs into which you may wish to introduce a processing delay.

For the latter, there is also a control that can be used within your SW.DEF file to vary the delay set by ^D. This is the XQTDELAY command. The setting XQTDELAY 2 in SW.DEF is equivalent to the default of one half-second. Since the XQTDELAY parameter can be any value from 1 to 250, there is enormous scope for slowing down your XQTs by this method.

By the way, the timing is pretty crude and seems inconsistent even within the same XQT. In general, expect a little less than half-a-second for the default setting and considerably less (up to a third) if you use XQTDELAY to lengthen the delay.

Note also that control characters cannot be placed into an XQT file for insertion *as control characters* into another document. Thus the required delay has to be stored as ^Ds in another file — called DELAYS — which DON.XQT 'includes' into the XQT under development. Awkward, but it works.

If you wish to increase or reduce the number of half-second delays, you must change both the number of ^Ds in DELAYS and the number of ^H^G sequences in DOF.XQT.

DON.XQT actually puts the ^Ds immediately in front of the Return character (the ~ symbol). In SuperWriter XQTs especially, there can be a fair amount of action before a Return is encountered; if you want to slow the XQT somewhere else, either insert ^Ds by hand or place the cursor at the appropriate place and use DONK.XQT — this does the same as DON but doesn't move the cursor.

Gobble, gobble ...

A word of warning about DOF.XQT. Use it only to remove delays inserted by DON, and *do not* use it to delete ^Ds inserted by DONK or by hand in the middle of lines.

Also, make sure the cursor is on a line with ^Ds at the end before executing DOF. It simply deletes the last *n* characters on the line, where *n* is the number of ^Ds (six, in my examples).

If you would like a new amusement on an old theme, remove the line containing that ampersand from DOF.XQT, rename it GOBBLE.XQT, and let it run without stopping. When it gets to the end of the file from which it is removing ^Ds, it will start to eat its way back through your XQT until there's nothing left!

If you have a lot of lines with delays to delete, the braver amongst you may seriously want to use DOF without the ampersand. I do sometimes, but I also have DON put delays into DOF first. There is then a small pause between each execution that gives me an opportunity to halt the thing before it does any damage.

Stopping XQTs outright

The last command in DONK.XQT is a ^Z character. When used within the SuperWriter editing mode, ^Z pushes the whole screen up one line. When used in an XQT file, though, it takes on a different meaning — it stops the XQT dead. Nothing past the ^Z is acted upon and control is returned to the user. (In SuperCalc, ^Z from the keyboard can be used both to interrupt and stop an XQT in full flight and to cancel altogether a command or data entry once started.)

The ^z character is a useful device for ending XQTs. Why? Well, SuperWriter insists that all documents finish with a Return — including XQT files. If you don't put one in, SuperWriter will do so. Because the Return is an active command, you may then find that it becomes inserted into the document by the XQT. For instance, DONK without ^z would place a Return at the end of the ^Ds just inserted, thus splitting the original in two. Not quite what's intended!

Pausing XQTs — AMON and AMOF

You can use the STOP button on your keyboard to suspend any XQT file; but for a more controlled pause, try AMON and AMOF. They work much like DON and DOF, except that they insert and remove an ampersand at the *beginning* of each line — a more useful place to pause an XQT, which is then halted until another '&' is entered from the keyboard.

Note that AMON has to 'include' the ampersand from another file (AMP) to get it into the development XQT. Also, make sure that your cursor is at the *start* of a line before executing either AMON or AMOF. Finally, don't worry about the lack of a pause within AMOF — it won't do any gobbling if you have inserted ampersands at the start of *every* line. If not, remove the ampersands by hand or put in a pause just before AMOF executes itself again.

DON.XQT — add delays to end of lines

```
^U              [cursor to end of line]
^[iDELAYS~      [include DELAYS file, then Return]
Y               [answer to 'has non-text
                 characters?']
a               [to include all of the DELAYS file]
^U              [cursor to end of same line again]
^G              [delete character at cursor — Return
                 inserted by DELAYS]
^L              [cursor one character to right,
                 ie on to next line]
^[xDON          [execute itself again]
```

DOF.XQT — remove delays inserted by DON

```
^U              [cursor to end of line]
^H^G            [cursor one character left, delete
                 that character]
^H^G            [... repeat for the number of ^Ds
                 in the file DELAYS]
^H^G
^H^G
^H^G
^H^G
^L              [cursor one character to right,
                 ie on to next line]
&               [pause the XQT, enter '&' to
                 continue execution]
^[xDOF          [execute itself again]
```

DONK.XQT — adding delays anywhere

```
^[iDELAYS~      [include DELAYS file, Return]
Y               [answer to 'has non-text
                 characters?']
a               [to include all of the DELAYS file]
^U              [cursor to end of same line again]
^G              [delete character at cursor — Return
                 inserted by DELAYS]
^Z              [stop XQT file here — prevents
                 inserting stray Return]
```

DELAYS

```
^D^D^D^D^D^D~   [six control D characters — you
                 can vary how many]
```

AMON.XQT — adding pauses

```
^[iAMP~         [include AMP file, Return]
Y               [answer to 'has non-text
                 characters?']
a               [to include all of the AMP file]
^L              [cursor one character right]
^G              [delete character at cursor — Return
                 inserted by AMP]
^U              [cursor to end of line]
^L              [cursor one character right,
                 ie on to next line]
^[xAMON         [execute itself again]
```

AMOF.XQT — remove ampersand commands inserted by AMON

```
^G              [delete ampersand character at
                cursor]
^U              [cursor to end of line]
^L              [cursor one character right,
                 ie on to next line]
^[xAMOF         [execute itself again]
```

AMP

```
&~              [a solitary ampersand!]
```

About SW.DEF

If present, this file is used by SuperWriter to set the defaults for up to 40 different functions from margins to identification of your printer. It is a normal text file that can be edited, and thus altered, by SuperWriter itself; but any changed defaults will not be actioned until SuperWriter is exited and re-entered.

Most of the functions that can be set this way are to do with printing, but a number of commands that affect editing are possible — among them the global settings for wordwrap, margins, tabs, visibility or otherwise of blanks, Returns, and SOLC — screen overlap.

Like XQTDELAY, the SOLC setting can only be changed by inclusion in SW.DEF. SOLC has a parameter value in the range 1 to 22 representing the number of lines that 'overlap' from one screen to the next when scrolling. (The default is three lines.)

Unfortunately, no official documentation of this very important feature appears to exist for the Apricot. I suspect that it was introduced with version 1.03 of SuperWriter, which includes an SW.DEF file. This contains a commented list of the PID (printer identification) codes recognised by SuperWriter 1.03, but no mention at all of the other 40 or so format commands that can be set this way! Apricot/Sorcim manuals actually describe the earlier D1.09 version. (That is not a misprint — D1.09 did come *before* 1.03!)

The best (only?) Apricot-version description that I have come across is in the manual that accompanies Ansible Information's A.S.D.1 disk, which also includes several sample DEF files — A.S.D.1 is available from DEALS FOR READERS at £57.50. ◆

Diary dates

On with the Shows

A round-up of potential relevance

February 1987

17-20 Which Computer Show *Birmingham.* The big one at the NEC, now touted as "the complete business solutions show". Should have all the major players (including APRICOT FILE, on Stand 1085) ... and 45,000 visitors. *Organiser: Cahners, tel 01-891 5051*

March 1987

3-5 Business Telecom *London.* Computers and communications converge for business users. *Organiser: Online, tel 01-868 4466*

3-5 Comdex/Japan *Tokyo.* Third annual Japanese version of the annual US Comdex shows geared to computer-industry marketeers. *Organiser: Interface Group, tel (USA) 617 449-6600*

11-12 PRIMIS 87 *London.* Computer systems for the printing industry. *Organiser: BPIF, tel 01-242 6904*

11-13 CIR 87 *Birmingham.* Computers in retailing. *Organiser: Arrow, tel 01-222 9090*

18-21 Australian Personal Computer Show *Sydney.* The eighth running for this Aussie equivalent of the PCW Show. *UK contact: Andry Montgomery, tel 01-468 1951*

24-26 ASSOCIATION *London.* New event aimed at those who run trade associations and similar groups. Sponsored by the Society of Association Executives. *Organiser: Interbuild, tel 01-486 1951*

24-26 CADCAM *Birmingham.* A classy event last year, with a lot of impressive hardware and software on show for engineers and architects. Another one associated with a 'User'-suffixed magazine from this publisher. *Organiser: EMAP, tel 01-608 1161*

24-27 Info 87 *London.* Now in its tenth year — information technology and office automation for the business community. The catch-all title indicates the range of products on offer; it's less technical and less computer-specific than most of the similarly long-lived business technology shows. Generally quite useful, rarely exciting. *Organiser: BED Exhibitions, tel 01-647 1001*

24-27 Electronic Printing and Publishing *London.* Second time out for this event aimed at the corporate publishing market — some desktop publishing, a lot of 'pre-print' products and services. Same organiser as and held next door to Info 87. *Organiser: BED Exhibitions, tel 01-647 1001*

25 Data Protection — what you need to do after registration *London.* With the Data Protection Act still causing massive befuddlement even among registrants, this one looks timely — especially as individuals will be able to request data from registered users after 11 November. The Registrar Eric Howe is among the speakers. *Organiser: NCUF, tel 0602 227990*

26-29 West Coast Computer Faire *San Fransisco.* One of the last hangovers of the early days of microcomputing, when it was all the province of long-haired ex-hippies all of whom knew each other. The name's the same, but this event has become just another micro-oriented end-user show. It's still big, and some of the better ideas still come out of California. *Organiser: Interface Group, tel (USA) 617 449-6600*

April 1987

6-11 Sicob *Paris.* The 'office system' half of the enormous French trade show (the computer-specific side has been moved to the Autumn, PC have been abstracted into a separate show). This one has some data processing and telecomms interest but majors on more conventional office equipment. Still, Paris in the Spring can't be bad ... *UK contact: French Trade Exhibitions, tel 01-439 3964*

14-16 Optica 87 *Amsterdam.* Small exhibition plus big conference on one of the potentially hot topics of the next few years — 'optical' publishing, using laser disks and the like to disseminate information. *Organiser: Learned Information, tel 0865 730275*

28-30 City Communications *London.* Comms equipment and systems for City institutions. *Organiser: Online, tel 01-868 4466*

May 1987

20-22 European Unix User Show *London.* Another chance to see what all the fuss is about, though last year's offering was a bit specialised and distinctly aimed at larger users. *Organiser: EMAP Exhibitions, tel 01-608 1161*

June 1987

1-4 Comdex/Spring *Atlanta.* The smaller (but still enormous) and infinitely more palatable of the two annual US Comdex shows. Las Vegas in the Autumn tends to get more product launches, but as a barometer of the American computer business this too is unmissable. *Organiser: Interface Group, tel (USA) 617 449-6600*

2-5 Office 87 *London.* Features office furniture and supplies but includes 'office machines' too. *Organiser: BED Exhibitions, tel 01-647 1001*

16-18 Networks 87 *London.* Network manufacturers and suppliers on show for the sixth year running, primarily looking for a corporate DP and telecomms audienc. *Organiser: Online, tel 01-868 4466*

16-18 Comdex/Europe *Nice.* The European version of the big US Comdex shows is now in its fifth running. Last year it was dire, but the South of France in June was pleasant ... *Organiser: Interface Group, tel (USA) 617 449-6600*

23-25 KBS 87 *London.* A second running for the 'Knowledge Based and Expert Systems Show' — still the only event devoted to the currently esoteric but definitely emerging world of applied AI ideas. *Organiser: Online, tel 01-868 4466*

August 1987

18-19 Scottish Accountants' and Solicitors' Exhibition *Glasgow.* A new one from the organiser of successful (separate) events for these professions South of the Border. Should include sensible systems and services, though other organisers have made the mistake of lumping together the two rather different professions. *Organiser: Truemist, tel 01-749 9535*

19-21 Comdex/Australia *Sydney.* Second running of the Aussie version of the show geared to computer-industry resellers and marketeers. *Organiser: Interface Group, tel (USA) 617 449-6600*

Doodles by David

Tips and Tricks

From the working day

By David St.John Wallis

This is not the first time this has happened, and so I suppose it could be an MS-DOS bug. But look at the subdirectory entries below — both of which were contained in the *same* subdirectory.

```
LL8687   WKS   265344   6/01/87   9:29
LL8687   WKS   265344   6/01/87   9:29
```

And there were six other pairs of these duplications too. Does anyone know why?

The other thing that happened was odd too and has certainly never happened before. At least, not to me. I have only one subdirectory on my Winchester. It is called PROGRAMS. A DIR of the root directory therefore produces only this:

```
Volume ID for drive A: is OMR ComputerS
Directory of  A:\
PROGRAMS     <DIR>      11/12/86  13:12
  1 File(s)   3710976 bytes free
```

(Things like COMMAND.COM and CONFIG.SYS are hidden on my disk because it's tidier.) Now it is hard, but not impossible, to create a *file* called 'programs' so that the root directory contains the above plus the additional line:

```
PROGRAMS            2  25/01/87  12:39
```

Since the file was actually just a bit of bad usage of MS-DOS and contained only my customary junk, I just typed 'DEL PROGRAMS'. MS-DOS asked if I was sure. "Betcha sweet bippy, John" I riposted. And lo! The file disappeared ... *And so did all the* PROGRAM *subdirectory entries*. And in that there were (wait for it) *307* files totalling *3.9 megabytes*. Was I cross? Was Bismarck's kipper called Brian?

And the moral to be drawn from these woes: avoid spilling Barak (yes, that's Hungarian Apricot brandy) down your beard and on to the keyboard. The solution is retrospective: you should have backed up. Had I? Indeed yes, using DSBackup. But I must say I am still puzzled as to why these things happened. Perhaps I've got a breeding aphid lurking on my motherboard.

Subediting Winge

These ravings reference some twit muddling up my constant changes of mind about which spreadsheet was the best in last month's comparative review.

For the record, Lotus 1-2-3 is good because it's unprotectable. Abacus is good because it's faster than 1-2-3. Of the two, until I do switch to BIOS 3.1, I'm staying with 1-2-3.

(More about the Spreadsheet Grand Prix in the 'Readers' Writes' pages — Ed.)

Talent

Hugely talented Viv Parkins was the third in one week to announce that FORMAT.EXE didn't work. The trouble is that the other two chaps were not running identical systems — one was so old, it had a MS-DOS with a minus in front of it. I asked one blithe spirit when he had last formatted his Winchester. He said "What?" Quite rudely too.

The problem is something to do with the fact that some prehensile booting ROMs fitted *circa* 1983 cannot understand later versions of MS-DOS. If this has happened to you, you're going to have to use MANAGER or ACTIVITY until we've sussed it. We have a chap working all this weekend swapping umpteen boot ROMs in and out of a lot of Apricots with the various MS-DOS operating system versions and RAM BIOSes and hot sticky elbows and other rude bits. Report next month if I don't get to make my Singapore pirate ferreting trip.

Four Boring Batch Files

The trouble with a hard disk is that there is never enough of it, even if you SpliT it. So I thought I would write a jolly clever batch file to get rid of the bits you don't need. I call it CLOSE.BAT. It uses the DEALS FOR READERS utility DOTOALL and goes like this:

```
A:
CD\
DOTOALL DEL *.BAK
DOTOALL DEL *.BK!
DOTOALL DEL *.SAV
DOTOALL DEL TEMP*.*
DOTOALL DEL *.$$$
```

Well, you get the idea. Cleverer chaps will put in a few IF EXIST commands and the like.

Make this one BD.BAT. It copies the contents of a disk on to another drive:

```
KOPY B:*.* D:/P
PAUSE Next, or Control C?
KOPYBD.
```

If you haven't got KOPY.COM, use KNEW.COM (it's on DEALS FOR READERS Disk No. 2).

By the way, if you are good at fatally deleting the contents of disks, put everything on the floppies into subdirectories on floppies. (This gets you more directory entries too.) A batch file to create this might go something like this:

```
A:
MD THING
CD THING
B:
COPY *.* A:
MD THING
CD THING
A:
COPY *.* B:
DEL *.*
```

You may need a DEL *.* instruction for drive B too.

Did you know Lotus 1-2-3 will auto-load any file called AUTO123.WKS? This saves a keystroke or two. If you've got a big file you use a lot, make a batch file which goes:

```
REN BILLS.WKS AUTO123.WKS
123
```

You can call this 2.BAT. To reverse it, make a 1.BAT thusly:

```
REN AUTO123.WKS BILLS.WKS
123
```

And a note for critics: I have *never* seen a 1-2-3 manual. ◆

News of the Apricot world

Dial-up BBS

There's a new bulletin board system which could be of interest to Apricot users — **TRINITY** includes an Apricot-only message area and has a modest collection of downloadable Apricot-format public domain programs plus some generic MS-DOS material. It operates 24 hours a day on 300 or 1200/75 baud; use 8 data bits, 1 stop bit, no parity, and call **0367 81507**.

Why DOS 3?

The latest issue of the Compulink newsletter for IBM PC users includes what might be the best possible reason for considering an upgrade from MS-DOS 2 to 3 ... provided you have a large internal hard disk. Seems that with hard disks of 20MB or larger, DOS 2 allocates file space in multiples of eight sectors (8,192 bytes per segment); DOS 3 uses multiples of *two sectors*, 2,048 bytes. So a file that just overruns into another segment doesn't waste so much empty space. Compulink's writer found that this saved 3.5MB on a 20MB disk for his files ...

United Leasing sells out

United Leasing has sold its loss-making PC dealership **United Business Systems** to **MBS**. The price was **£1.3 million**; UBS, which got into the business by buying **Sumlock Bondain** in September 1984, apparently lost about the same amount in 1985 and was doing as badly in the current year. This deal means United Leasing can get back to the business it knows best — leasing IBM mainframes — and cements MBS's position as the premier UK dealer chain. MBS is buying stock (mostly IBM PCs), the UBS customer base, and one of UBS's five outlets.

Pegasus for Xen Xenix

Market-leading **Pegasus Software** has implemented its **Xenix Senior** accounts packages on the Xen "in response to end-user demand for Pegasus accounts software running on an inexpensive multi-user system". It's something of a vote of confidence for the Xen, though naturally the IBM-compatible Xen-i is also supported. The applications will be sold and supported by Pegasus's 50 Apricot-approved dealers (who take a compulsory one-day training course before they're let loose on the customer); **Logica**, which handles Xenix in the UK, will provide "all necessary support" for the operating systgm. Enquiries to Pegasus on **0536 522822**.

Join here

The Xen and Xen-i are also getting a new package from Apricot for **recruitment and employment agencies**. As Apricot puts it, this is "a potentially huge market with a high awareness of computerisation but low take-up levels" — there are 10,000 prospects in Britain, very few of whom have any computer at all. It's all part of Apricot's strategy to sell into vertical markets, and like all VM propositions will stand or fall on the ability of the dealers to promote the product appropriately. Meanwhile Apricot's VM manager is on **021-456 1234**.

Lotus lashes

Lotus Development Corp took its time about things, but it has finally filed suits in the States against the two most prominent purveyors of 1-2-3 lookalikes for the IBM PC and compatibles. On the receiving end are **Paperback Software** (with **VP Planner**) and **Mosaic Software**, whose package **The Twin** has also received good reviews. Both have been on the market for over a year.

The case could have interesting repercussions for the software business generally, given the dominance that relatively few big suppliers now have on the market. Once the likes of 1-2-3 and dBASE have set a *de facto* standard, with the buying public trained in and accustomed to their products, it makes natural marketing sense for smaller, keener vendors to offer lookalikes at a better price. If Lotus wins this one, it could establish precedents that might well remove many of the options on offer to us users.

Lotus alleges copyright infringements, false advertising, and "unfair trade practices" on the grounds that both products "deliberately recreate, with only trivial variations, the 'look and feel' of Lotus 1-2-3". Specifically mentioned are the names used for commands and functions, the choices in menus and sub-menus, and 1-2-3's Macro language. Of course, Lotus isn't interested merely in walloping the competition — said CEO **Jim Manzi**, "we expect that the successful prosecution of these suits will serve to channel energy away from imitation and back to the development of truly innovative products".

Adam Osborne of Paperback Software, never a man to lose an opportunity, declared himself "delighted" with the lawsuits "because they will bring us so much publicity". More pertinently, he's also been quoted as saying "the heart of the matter is that Lotus is attempting to stifle competition and maintain control of the market that allows them to charge their customers high prices for upgrades and add-ons".

By the by, Apricot is talking to Osborne about a Xen-i implementation of VP Planner and other Paperback products. "We're looking to expand the catalogue" said an Apricot spokesperson; apparently Apricot is talking to other potential suppliers too about own-branding some sexy packages.

The court case will presumably affect the negotiations — apart from anything else, we understand that this kind of deal could make the OEM buyer a co-defendant. Lotus is claiming $10 million from both Paperback and Mosaic, plus compensatory damages.

Paperback and Mosaic have joined forces to combat the suits, which makes sense — Lotus can certainly afford top legal advice and US observers anticipate a protracted court battle. There's some indication that a recent Californian judgement supports the Lotus case: **Broderbund Software** won a copyright infringement case on similar-sounding grounds, claiming that **Unison Software** had taken the 'look and feel' of Broderbund's PrintShop program.

First doesn't last

The current crop of reseller failures includes Slough-based **First Computer**, which finally stopped trading earlier this month. The high hopes of 1984 — plush West End offices, half a dozen top-location High Street showrooms, backing from Heron Corporation — had gradually been toned down; last April's reorganisation saw the 11 sites cut down to just two, with a central London shop and HQ plus maintenance in Slough. First Computer is said to have cost Heron some £7 million in all, and there was a chance of a management buy-out with £2 million reportedly being needed; but with prices and margins falling on PCs, it looks as though no-one was interested in the risk. Sixty people will be made redundant.

At least one enterprising dealer is interested in First's customers: **PC Support**, which says it's had an "association" with First Computer for two months, has set up a hotline on **0628 770688** with free support for your first call.

More Windows

Microsoft is beefing up its support for Windows-based applications development. "1987 is going to be a big year for Windows" said the company, promising "exciting announcements" (when were you last *excited* by a computing announcement?) and saying it's "vital" that programmers are "ready to take advantage of the opportunities". Microsoft is increasing the number of tech support people it has, but more important it has authorised the well-regarded **QA Training** to provide Windows development courses (four days, £680) at Microsoft's Reading HQ. Details from QA on **0285 69173.**

Expert systems poised

Expertech probably has the market leader among expert systems in Europe, with some 700 users for its **Xi Plus** system. It's also looked one of the best-organised and best-funded of British software firms to appear in the last few years; and the successful completion of a new **£1 million** equity financing round sounds like a major vote of confidence from the City. **Hill Samuel** organised the funding, most of the money coming from **Second Fountain Development Fund** — lots of pension funds in Second Fountain, including several who are Expertech customers.

Epson increases

Market leader **Epson** attributes the strength of the Yen to a round of **price increases** that apply across the range, with rises between five and 12 per cent. A couple of printer distributors we spoke too said they still had some stocks at the old prices, but no-one maintains too large an inventory. Epson's Sales Director said "despite these rises, Epson is still the best deal you can buy"; and the plans for UK production "by mid 1987" should mitigate future exchange-rate fluctuations.

Meanwhile Epson — which still appears to have nearly half the UK market for matrix printers — has added a new inkjet printer to replace the SQ-2000. At an RRP of **£1,345**, the **SQ-2500** claims a cleaner print impression and improved accuracy; it's also fast — 540cps in 12cpi draft mode, 180cps in NLQ mode. There are five in-built typefaces and a variety of typestyles. Epson is at **01-902 8892.**

The SoapBox — Release 2.5

Tell us what you do and don't like about this issue. Just complete the analysis panel and add any notes — what you'd like to see in the future, whether you want more or less of a particular author, or any remarks you'd care to make; then tear off the form or copy it, and send it to our FREEPOST address.

APRICOT FILE, TP Group, FREEPOST, PO Box 509, London N1 1BR

Article	< Interesting				Uninteresting >	Comments
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Doodles by David	☐	☐	☐	☐	☐	
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User experience:						
Mobile computing	☐	☐	☐	☐	☐	
Workshops and Technotes:						
Font tricks	☐	☐	☐	☐	☐	
Handling dates in 1-2-3	☐	☐	☐	☐	☐	
Working with RAMdisk	☐	☐	☐	☐	☐	
Regulars:						
News	☐	☐	☐	☐	☐	
Readers' Writes	☐	☐	☐	☐	☐	
Diary dates	☐	☐	☐	☐	☐	
Free Small Ads	☐	☐	☐	☐	☐	

New Telecom Gold arrangements

Telecom Gold has introduced new mail software "as a first step towards interconnection with other messaging services", which has to be good news. The changes are fairly minimal, but they do mean that e-mail sent to us from overseas should include the prefix 100. So outside Britain, our mailbox id is now **10081:JET 767.**

More Gold

And **Telecom Gold** says it now has 61,000 "active" customers for its electronic mail services (as of January 1987) and claims it's "continuing to expand rapidly". Which is Good News for TP Group, because our next newsletter — COMMS FILE — is due out early in March. More details (and our usual offer to existing subscribers) in our next issue.

Try e-mail before you buy

British Monomarks is a latecomer to the electronic mail business, but at least it's come up with one obvious but hitherto unused marketing idea — try before you buy. Set up for 300 baud, 7 data and 1 stop bits, and even parity; then dial **01-405 6062.** Most of what you see will be Monomarks' sales pitch, but it does give the flavour of things.

And if you'd like to try **Micronet** and **Prestel** for free, you'll need a 1200/75 modem: dial **01-618 1111,** respond with **4444444444** when asked for an ID number (that's ten 4s) and use **4444** as your password.

Microsoft settles with SCP

Microsoft has settled its long-running dispute over the ownership of MS-DOS, with an out-of-court settlement of **$925,000** paid to **Seattle Computer Products** at the end of last year. SCP wrote what was then the only 8088/8086 disk operating system, and Microsoft acquired at least some rights to that product when it was invited by IBM to produce a DOS for the PC — an operating system which subsequently became MS-DOS. SCP tried to sell all rights to MS-DOS when it put itself up for sale early in 1986; Microsoft blocked that move and SCP countered with a claim for damages of $60 million. Now all litigation is concluded, and Microsoft is the undisputed owner of MS-DOS.

Getting into the Act

With the **Data Protection Act** still causing massive befuddlement even among registrants, it's worth noting the **25 March** briefing on *Data Protection — what you need to do after registration* being run by the **National Computer Users Forum.** Given that individuals will be able to request data from registered users after 11 November, this one could be timely; the Registrar **Eric Howe** is among the speakers. Details from **0602 227990.**

Public Domain wrangles

A small fuss is brewing in the public domain business, with threats of legal action over unauthorised and/or rule-breaking distribution in the UK. Three user groups have reportedly been threatened with legal action by PC-SIG and ISD.

PC-SIG is the premier US source of public domain software and 'shareware' — packages which their authors allow to be freely copied and distributed, usually with a disclaimer (no warranty, no support) and a proviso that nothing may be charged for the software. **ISD** is the sole authorised distributor in the UK of the PC-SIG library. PC-SIG itself isn't a non-profit organisation, as it happens, and nor is ISD. PC-SIG has done a good deal of work in collecting, collating and cataloguing American public domain software, however, and reckons to have some 30,000 customers worldwide.

PC-SIG and ISD are saying that copyright applies to the PC-SIG library (the organisation of public domain software into named PC-SIG disks) and the text files (DISKIDs) on those disks that list their contents.

A number of IBM PC user groups here do (or did) distribute the PC-SIG library, but they're arguing that they don't sell software — they just offer a copying and distribution service, usually pretty well at cost. The programs are free.

But as far as we can make out, PC-SIG does have a case in that the catalogue *per se* and the DISKID files are theirs. So the user groups and others who currently distribute public domain software in the UK wouldn't be infringing any copyright if they eschewed the use of PC-SIG reference numbers and other identifications.

It all sounds rather petty — and squabbling over money must be directly contrary to the motivations of those software writers who have contributed to the public domain.

Incidentally, *none* of the DEALS FOR READERS disks we offer uses PC-SIG titles or DISKIDs — though some of the programs are indeed identical to or based on offerings from the same US user groups who supply the bulk of PC-SIG's titles. But we always sort and select the public domain we want, the USA is only one of several sources we use, and in many cases we have converted, amended and/or redocumented the Apricot-format programs on our disks.

How to use Smart

The **Smart** integrated package from **Innovative Software** is generally regarded in a good light, despite Innovative's apparent lack of interest in further support for the Apricot. We hear that **Que Corporation** has done one of its independent and detailed 'all you need to know' books on the subject, and Innovative will be supplying it. The title is *Using Smart*, the price is **£19.95**; Innovative is on **01-223 3876.**

Mixed blessings

A report in *Business Computing* magazine polled 275 microcomputer-using British managers to discover that three-quarters of them reckon PCs had increased their efficiency — but half were worried that they were doing jobs previously delegated to secretarial staff. Apart from the 25 per cent who saw no productivity gains, it's interesting to note that fully 29 per cent described their manuals as 'inadequate'.

TP at Which Computer

As a last-minute addition, we have a tiny stand at the Which Computer Show — stand no. 1085 in Hall 5, perched in a corner of Islington Council's mini-empire (no, we don't know why Islington Council has a stand at the Show), and it's about the size of a 3.5in disk. Still, subscribers and friends are welcome to drop in on us and bend an ear or two. The Show is at the National Exhibition Centre, Birmingham, on 17-20 February.