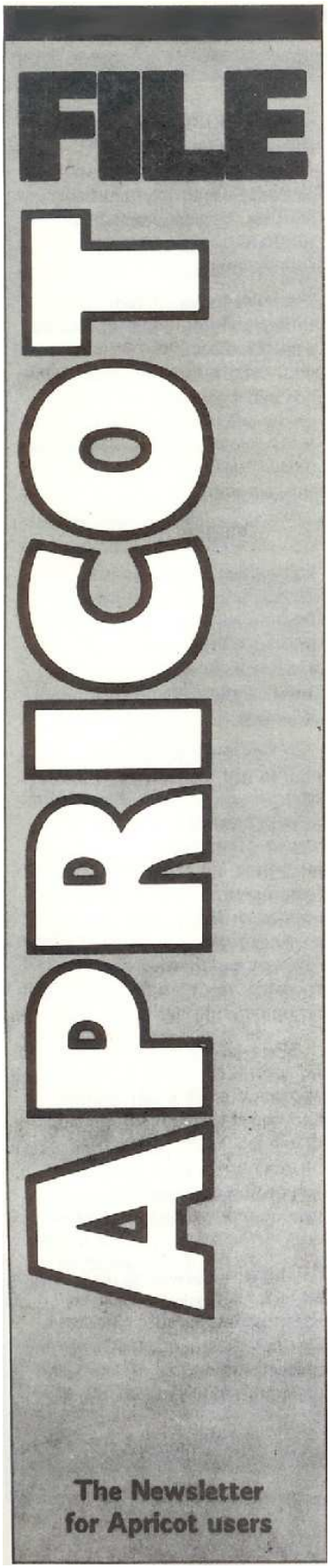
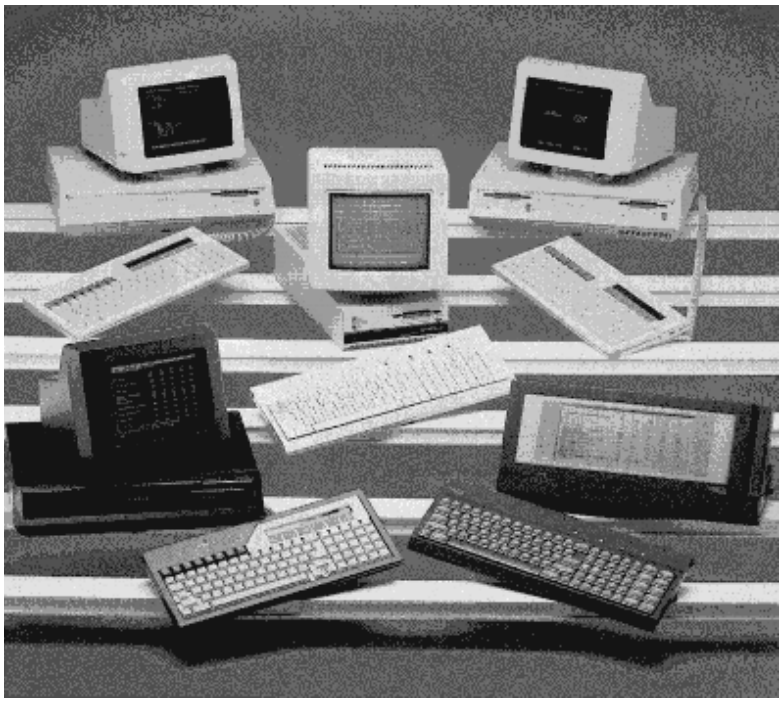


Apricot File 1_11



Scans courtesy of www.actapricot.org

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Release 1.11

August 1986

FILE APRICOT

The Newsletter for Apricot users

Apricot reports

Whistling in the dark can be quite tuneful

By Simon Potter

Apricot plc held its AGM a couple of weeks ago, and the Stock Market obviously liked chairman Lindsay Bury's report — the share price jumped from 43p to 50p overnight. It's slipped back since then to hover around 45p, but the takeover rumours appear to have died down ... until the next interim report, perhaps.

Anyhow, Bury told the assembled punters that Apricot sales since the 20 June price reductions "have been very strong". By the end of September the company expects to have shifted "all material stocks" of these machines — the PC, Xi and F series.

Not surprisingly, group profits for June and July were ahead of budget. Of course, taking a massive write-off on these machines in the previous financial year would have helped: but dealers we spoke to were indeed selling the late Apricots hand over fist — one Birmingham dealer said "I've been reordering practically every day".

As for the Xen and Xen-i, Mr Bury's language was more guarded. Sales have been "satisfactory", which is often AGMspeak for "only slightly below target". On the other hand, the group's cash position was *also* described as "satisfactory", which in this case could mean "we're awash with money and are looking for ways to reduce the embarrassing cash surplus before the taxman and dividend-demanders spot it".

At least the Xen-i is still new enough to be awaiting industry reactions. "Strong sales" are expected for it "by the late Summer", however.

Given that sales and profits from Apricot's software and maintenance arms continue to be "strong", Lindsay Bury said Apricot plc was expecting to return to overall profitability in the first half of the current year. That gives him until the end of September; so maybe a dabble at 45-47p might not be too bad an option for taking a quick profit ...

Incidentally, many subscribers will be sorry to hear that Apricot MD **Roger Foster** has a performance-related salary. The troubles with Apricot's performance last financial year accordingly impacted his take-home pay quite severely: he has to get by on £107,000, compared with £155,000 the year before. ◆

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Our aim is to provide a complete editorial and information service to users of Apricot computers.

Except in the normal course of day-to-day contact, sub sales and the like, we are not affiliated with or supported by Apricot plc or any of its dealers. Nor for that matter are we sponsored by or directly associated with any user group or any other such organization, though in principle our goals and guiding intentions are very similar to the declared aims of many such bodies.

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Write for us

We're always interested in articles and other submissions for publication — particularly product reviews, 'how-to' articles, technical tips and amplifications on specific packages.

If you have something you'd like to say, contact the Editor first to talk about it. Thereafter articles can be submitted in two ways — transmitted via **electronic mail** (Micromail, Telecom Gold, The Source, or Easylink): or in word processor format on **disk** (we can take Apricot, Victor and IBM PC disks. And we can handle most WP formats, but it's safest to send an accompanying hard copy too).

Material for publication should be accompanied where appropriate by a self-addressed and correctly stamped envelope or mailer. We'll do our best, but otherwise we cannot be responsible for the return of unsolicited manuscripts, disks, etc.

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■■■ ISSN 0268-6066 ■■■

The Disinformation Column

Requiem for Apricot

By David Langford

At certain turning-points in life, you have to pause and look wonderingly back at the glories which have passed away forever. Tears came to my eyes as I contemplated the strange, bittersweet destiny which linked my life with Apricot's ... (*For God's sake, keep this stuff for Mills & Boon — Ed.*)

I saw my first Apricot PC some while before they were released. It was one of six prototypes hastily packaged in rough-edged plywood, and the MicroScreen didn't work. Start as you mean to go on, that was Apricot's motto. Still, it was an impressive machine and I gave it a good write-up in *Micromania*, an allegedly witty survey of the then computer scene by Charles Platt and me — now a major remainder. (The prototype? Sources inform me that it never found its way back home, and that its 'owner' is thinking of getting it French-polished.)

I put the *Micromania* royalties towards a fund for buying myself an Apricot, and eventually managed it — my dream computer! At that time I hadn't seen the bootleg listing of the good old original PC BIOS which was going the rounds. Parts of this were written in assembler so they'd go fast, while the more frequently-used bits were in sedate Pascal. Buried in the code were programmers' comments and grouses, a joy to read, something like this:

> *Disk Verify Procedure.* This is rather a fudge version. Since this bloody stupid 8089 type thing does not have a verify mode, I'm just going to read back the data, throw it away and hope that any errors are detected by the FDC's CRC checking ... [Technical stuff omitted here.] So there ya go, Bruce, if ya don't like it, you fix it.

But my own Apricot PC (none of that Xi FD nonsense in those days) was just great. It had BIOS 2.4, in which the bugs had been moved around quite a lot. Admittedly it came without a mains cable, the monitor focus had to be adjusted by a friend of my dealer's (thus luckily saving me the cost of sending the thing back to Birmingham), and despite having double-sided drives the supplied version of MANAGER/DISK would only format single-sided disks ... but I was in love and didn't mind these little foibles.

A brief interruption

Filled with enthusiasm, I rushed out to buy the *Technical Reference Manual* and learn all the subtle stuff about interrupts. The *Technical Reference Manual* cost six times as much as a mere ordinary hardback, but I knew this sort of information was dearly bought.

Later, much later, I discovered all I needed to know about interrupts, via bootleg versions of .DOC files released to select software developers. Would you care to guess how many interrupts were documented in the all-knowing *Technical Reference Manual*? One. (And that one is the egregious Interrupt FCH, the Control Device, that generic BIOS control interface which was to operate across the entire Apricot range and is implemented differently on every single one.)

If you're interested and want to experiment, some of the interrupts that are particularly worth intercepting are FFH (the 20ms timer tick), F9H (keyboard, with the ASCII character value appearing in registers AL and BL) and F5H (mouse, with a 'packet' of mouse data in AX). One that's worth *calling* should you write in assembler is F1H, the guaranteed high-speed way to send a character (in register AL) to the screen — no slothful MS-DOS delays.

Actually the Control Device also has its moments if you're writing memory-resident programs (which for boringly technical reasons can't call MS-DOS) or if you need to do one of the things MS-DOS can't (like swap between serial and parallel printer output without rebooting). Several Control Device functions documented as working only with the F series will work happily with later PC/Xi BIOS releases: again, it's worth experimenting.

Xen and the art of promotion

At this point I sweep aside the mask and remind readers that I was not always thus. Beneath the scarred exterior of an Apricot addict and the many white hairs (one for each BIOS incompatibility) there beats, or used to beat, the heart of a professional author. It was in that capacity, in 1985, that I was summoned to a London agency to discuss scripting the promotional video for a thrilling new computer.

I don't know how they hit on me, but you've guessed it: the wad of stuff thrust into my hands was marked 'APRICOT' and 'RED-HOT COMMERCIAL SECRETS' and ... '*CANDYFLOSS*'. Yes, it was about the Xen. Biting back the obvious questions ("When do I get a free one for research?"), I listened to PR people waving their arms about the unique wonderfulness of the product and saying things like "I understand it's a very advanced computer with windows in it; nobody's thought of putting windows in a computer before."

Because I had pals in the business, I'd heard about the predictability of promotional videos. Impressive pan shots of irrelevant scenery, elemental forces of nature, and a voice-over whose doom-laden tones seem more appropriate to the Second Coming than the launch of another little plastic box. So I started outlining something slightly wittier, concentrating on the speediness of the machine: tortoise and hare comparisons came into it a lot, and the only scene I can now remember

involved the user of A Rival Brand struggling with a recalcitrant tortoise connected to his machine in place of the Xen-user's mouse. There were better bits, too. I hope.

I didn't get paid, not even the promised travelling expenses; and if anyone from Blackrod Promotions is reading this, (*expletives deleted — Ed*). My wife went down with 'flu, the doctor ordered me to stay home and look after her rather than travel to daily script conferences, and I bequeathed my rough draft to whoever might follow in my awesome footsteps. It was duly round-filed ...

"So we went to the promotion conference," my mole informed me gleefully, "and we'd all been betting it would be just like every other Apricot video, and they started with this impressive scene of wind sweeping over a desert, and then this hollow voice-over said 'The Pow-er of Ap-ricot Xen', and we all fell off our chairs laughing.

"No witty ideas. Or tortoises," he added, sadly. Well, I did my bit. Nearly.

Decline and fall

The Portable came and went. Ditto the F Series. Ditto, now, the PC and Xi. The Xen does not appear to have a long and healthy career ahead of it.

To Roger Foster it's the merest ripple in the smooth process of receiving £155,000 a year for masterminding such business acumen. To *Apricot User* it's yet another opportunity to pester us to advertise: "Think of all those cut-price machines! You could really clean up!" (Chris Priest: "Can you guarantee that a copy of *Apricot User* with our ad will go into the box with each remaindered Apricot?" Sudden silence. The dumped F series machines are already boxed with *old* copies of *AU*. Mind you, it would still have been a good time to book a multi-page ad in full colour with hologram inserts and a free pull-out F1 with every copy: the swift demise of *Apricot User* would have saved us not only the money but also the strain of reading the misprints ...)

At Ansible Information we had the feeling that the end of the world had happened without our being told, as in some rotten SF novel. Out there, people suddenly stopped buying Apricot software. At APRICOT FILE the reaction was somewhat different: we rang up and an unrecognisable (actually all too recognisable, but there are libel laws) voice said happily "Oh ... wow ... we're all stoned here" (*lies, all lies — Ed*).

Apocalyptic madness seized me and I bought a remaindered F10, a hard disk machine for less than the price of a hard disk.

Within half an hour the F10 keyboard failed. Nothing too serious. The supplied batteries were mouldy and discoloured. and had obviously been quietly rotting away since (going by the *Apricot User* in the box) February.

Good old Apricot, consistent to the last. When shall we look upon their like again? ◆

Writers in this issue

Dennis Jarrett is Editor of the newsletter. He was formerly the editor of 16 BIT COMPUTING, and his magazine credits before that include being founder-editor of OLIVETTI USER, COMMODORE USER, OFFICE AUTOMATION REPORT, PRACTICAL COMPUTING and WHICH COMPUTER? Books include THE IBM PC BOOK (not very thick), THE SIRIUS/VICTOR 9000 BOOK (very much thicker), THE ELECTRONIC OFFICE — A MANAGEMENT GUIDE (fairly thick), three titles about Commodore home computers (one thick, one a bit thick, one pseudonymous), and THE GOOD COMPUTING GUIDE (*really* thick and very cheap too at £2.95 — or £3.00 inc P&P from DEALS FOR READERS).

Alan Craxford is an orthopaedic surgeon in the North East. Weaned on a TRSty-80 expanded beyond anything Tandy would have recognised, he probably owns the only 'home micro' Xen in captivity ... Although he says he uses WordPerfect for manuscripts and Delta 4 for research purposes, these seem more at home dropping notes to the mum-in-law and keeping track of the family finances.

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

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

Roger Gann works full-time running the DEALS FOR READERS section of the newsletter as well as contributing words, ideas, humour, hints, legal advice, spittle for mass-mailings, etc. He was formerly the principal writer on 16 BIT COMPUTING; before that he was a builder (and a pioneer Sirius user), a lawyer, and a kind of grandiose bank clerk.

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'. ◆

The Workshop

Accounting with SuperCalc

Two spreadsheet templates: VAT and PAYE

By Daniel Kantorowich

I was interested to see the SuperCalc accounts spreadsheet in May's APRICOT FILE. We think our SuperCalc 1 version may be of interest as it writes down the entries the way accountants want them, with *net* values in the various columns.

We also have to make adjustments to certain bills like those for heating and electricity to take account of the fact that part of these costs are for personal use. For instance, we can only enter 90 per cent of motor expenses. So 10 per cent of the total is entered in the 'cash drawings' column; 90 per cent divided by 1.15 goes into the 'VAT' column; and the remainder is put into the 'motor' column. I'm sure that others who would consider a home-brew purchase ledger would also require to make similar concessions to the taxman.

We hit upon the same ideas as David St. John-Wallis for posting codes (0 to 12 in the example) and for indicating the applicability of VAT (a code of 1 or 0). We also use the checksum to ensure that all entries are covered, except that ours displays the same value as the gross total.

We run two versions of the spreadsheet, for cash and petty cash, and it is not practical to put three months' data on to a single worksheet. So the VAT return is still done in longhand by totalling three months' worth of sheets. We're working on a complementary spreadsheet that will give the figures for the boxes in VAT returns, but we are using SuperCalc 1 — and as far as we can tell, SuperCalc 1 can't select individual cell values from several spreadsheets for incorporation on other spreadsheets. If there is a way to do that, would someone please let me know ...

The other spreadsheet here is a sample PAYE Deductions Working Sheet. It is childishly simple, but it runs very nicely and is very easy to update for changes in salary, NI, tax code, tax rate, and so on. ◆

A sample Cashbook worksheet

	A	B	C	D	E	F	G	H	I	J	K
1	CASH - May 1986										
2	DATE/PAYEE/CHQ No	vat	code	TOTAL	VAT	CASH	SUB-CON	MATERLS	P.P.S.	CAPITAL	TEL/FUEL
3											
4	01.5.86 J Bollam/72	1	2	23.18	3.02	.00	.00	20.16	.00	.00	.00
5	03.5.86 Goodwoods/73	1	2	26.54	3.46	.00	.00	23.08	.00	.00	.00
6	06.5.86 Protimeter/74	1	4	20.70	2.70	.00	.00	.00	.00	18.00	.00
7	09.5.86 Carmagic/75	1	7	46.00	5.40	4.60	.00	.00	.00	.00	.00
8	12.5.86 TP Group/76	0	9	35.00	.00	.00	.00	.00	.00	.00	.00
9	12.5.86 Burlington/77	1	7	45.37	5.33	4.54	.00	.00	.00	.00	.00
10	13.5.86 Ansible Inf/78	1	4	46.00	6.00	.00	.00	.00	.00	40.00	.00
11	15.5.86 Apricot UK/79	1	4	23.00	3.00	.00	.00	.00	.00	20.00	.00
12	20.5.86 Data Prot Reg/80	0	9	22.00	.00	.00	.00	.00	.00	.00	.00
13	21.5.86 Harrow Bor/81	0	11	53.00	.00	.00	.00	.00	.00	.00	.00
14	23.5.86 Ansible Inf/82	1	4	69.00	9.00	.00	.00	.00	.00	60.00	.00
15	27.5.86 Prestel/83	1	5	18.00	2.11	1.80	.00	.00	.00	.00	14.09
16	28.5.86 Europcar/Access	1	7	63.00	7.40	6.30	.00	.00	.00	.00	.00
17	30.5.86 J Hamilton/84	1	2	5.75	.75	.00	.00	5.00	.00	.00	.00
18	30.5.86 D Lockyer/85	0	10	397.42	.00	.00	.00	.00	.00	.00	.00
19											
20	893.96		TOTAL	893.96	48.17	17.24	.00	48.23	.00	138.00	14.09

	L	M	N	O	P	Q	R	S
1								
2	TRAV/SUB	MOTOR	BOOKS	SUBSCRPS	STAFF	CLIENT	DISUNDRIES	
3								
4	.00	.00	.00	.00	.00	.00	.00	
5	.00	.00	.00	.00	.00	.00	.00	
6	.00	.00	.00	.00	.00	.00	.00	
7	.00	36.00	.00	.00	.00	.00	.00	
8	.00	.00	.00	35.00	.00	.00	.00	
9	.00	35.51	.00	.00	.00	.00	.00	
10	.00	.00	.00	.00	.00	.00	.00	
11	.00	.00	.00	.00	.00	.00	.00	
12	.00	.00	.00	22.00	.00	.00	.00	
13	.00	.00	.00	.00	.00	53.00	.00	
14	.00	.00	.00	.00	.00	.00	.00	
15	.00	.00	.00	.00	.00	.00	.00	
16	.00	49.30	.00	.00	.00	.00	.00	
17	.00	.00	.00	.00	.00	.00	.00	
18	.00	.00	.00	.00	397.42	.00	.00	
19								
20	.00	120.81	.00	57.00	397.42	53.00	.00	

```
|          T            ||  U   ||  V   ||  W   |
 1|                                                                  RECEIPTS - May 1986
 2|DATE/REF/INVOICE No          TOTAL    SALES    SUNDRIES
 3|-------------------------------------------------------------------------------------------------
 4|20.5.86 S Lau (139) on accnt  5000.00  5000.00      .00
 5|                                                    .00
 6|                                                    .00
 7|                                                    .00
 8|                                                    .00
 9|                                                    .00
10|                                                    .00
11|                                                    .00
12|                                                    .00
13|                                                    .00
14|                                                    .00
15|                                                    .00
16|                                                    .00
17|                                                    .00
18|                                                    .00
19|-----------------------------------------------------
20|                             5000.00  5000.00      .00
```

Building the Cashbook worksheet

Cell	Content	Comment
A1	"CASH - May 1986	Title
T1	"RECEIPTS - May 1986	Title
A2	"DATE/PAYEE/CHQ No	Heading text
B2	"vat	Heading text
C2	"code	Heading text
D2	" TOTAL	Heading text
E2	" VAT	Heading text
F2	" CASH	Heading text
G2	"SUB-CON	Heading text
H2	"MATERLS	Heading text
I2	"P.P.S.	Heading text
J2	"CAPITAL	Heading text
K2	"TEL/FUEL	Heading text
L2	"TRAV/SUB	Heading text
M2	"MOTOR	Heading text
N2	"BOOKS	Heading text
O2	"SUBSCRPS	Heading text
P2	"STAFF	Heading text
Q2	"CLIENT DISB	Heading text
R2	"SUNDRIES	Heading text
T2	"DATE/REF/INVOICE No	Heading text
U2	"TOTAL	Heading text for checksum column
V2	"SALES	Heading text
W2	"SUNDRIES	Heading text
A3	'-	Repeated text for rule
A4	"01.5.86 J Bollam/72	Sample entry
B4	1	VAT code
C4	2	Posting code
D4	23.18	Sample value
E4	B4*(D4-F4)*15/115	VAT calculation
F4	IF(C4=0,D4,IF(AND(B4=0,C4=5),D4*2/3, IF(OR(C4=5,C4=7),D4/10,0)))	Calculates CASH entry allowing for part-allocation
G4	IF(C4=1,D4,0)	Calculates SUB-CON entry
H4	IF(C4=2,D4*100/115,0)	Calculates MATERLS entry
I4	IF(AND(B4=1,C4=3),D4*100/115, IF(AND(B4=0,C4=3),D4,0))	Calculates P.P.S. entry allowing for VAT
J4	IF(C4=4,D4*100/115,0)	Calculates CAPITAL entry allowing for VAT
K4	IF(AND(B4=0,C4=5),D4/3,IF(AND(B4=1,	

```
        C4=5),D4*100/115*0.9,0))          Calculates TEL/FUEL entry allowing for VAT and part allocation
L4      IF(AND(B4=1,C4=6),D4*100/115,
        IF(AND(B4=0,C4=6),D4,0))          Calculates TRAVEL/SUB entry allowing for VAT
M4      IF(C4=7,D4*100/115*0.9,0)         Calculates MOTOR entry allowing for VAT and part allocation
N4      IF(C4=8,D4,0)                     Calculates BOOKS entry
O4      IF(C4=9,D4,0)                     Calculates SUBSCRPS entry
P4      IF(C4=10,D4,0)                    Calculates STAFF entry
Q4      IF(AND(B4=1,C4=11),D4*100/115,
        IF(AND(B4=0,C4=11),D4,0))         Calculates CLIENT DISB  entry allowing for VAT
R4      IF(AND(B4=1,C4=12),D4*100/115,
        IF(AND(B4=0,C4=12),D4,0))         Calculates SUNDRIES entry allowing for VAT
T4      "20.5.86 S Lau (139) on accnt     Sample entry
U4      5000                              Sample entry
V4      5000                              Sample entry
W4      U4-V4                             Calculates SUNDRIES on receipts

.....                                     replicate E4:R4 and W4 as required for subsequent entries (in the
                                          case of this example, down to row 18)

A19     '-                                Repeated text for rule

A20 L   SUM(E20:R20)                      Calculates VAT total
B20     "TOTAL                            Heading text
D20     SUM(D4:D18)                       Calculates net total
E20     SUM(E3:E18)                       Calculates VAT subtotal
F20     SUM(F3:F18)                       Calculates CASH subtotal
G20     SUM(G3:G18)                       Calculates SUB-CON subtotal
H20     SUM(H3:H18)                       Calculates MATERLS subtotal
I20     SUM(I3:I18)                       Calculates P.P.S. subtotal
J20     SUM(J3:J18)                       Calculates CAPITAL subtotal
K20     SUM(K3:K18)                       Calculates TEL/FUEL subtotal
L20     SUM(L3:L18)                       Calculates TRAV/SUB subtotal
M20     SUM(M3:M18)                       Calculates MOTOR subtotal
N20     SUM(N3:N18)                       Calculates BOOKS subtotal
O20     SUM(O3:O18)                       Calculates SUBSCRPS subtotal
P20     SUM(P3:P18)                       Calculates STAFF subtotal
Q20     SUM(Q3:Q18)                       Calculates CLIENT DISB subtotal
R20     SUM(R3:R18)                       Calculates SUNDRIES subtotal
U20     SUM(U4:U18)                       Calculates receipts total
V20     SUM(V4:V18)                       Calculates SALES subtotal
W20     SUM(W4:W18)                       Calculates SUNDRIES subtotal on receipts
```

A sample PAYE worksheet

	A	B	C	D	E	F	G	H	I	J
1	NAME:	WILSON A.N			NI No:	AB123456C		TAX CODE: 220L		5 APR 87
2	TAX REF:	997 PY 82588								
3										
4	MONTH	TOTAL NI	EMP'S NI	SICK PAY	PAY/Mnth	TO DATE	FREE PAY	TAXABLE	TAXtoDATE	TAX/Mnth
5										
6	1	90.18	45.09		500.00	500.00	184.09	315.91	94.50	94.50
7	2	99.18	49.59		550.00	1050.00	368.18	681.82	197.49	102.99
8	3	99.18	49.59		550.00	1600.00	552.27	1047.73	303.63	106.14
9	4	99.18	49.59		550.00	2150.00	736.36	1413.64	409.77	106.14
10	5	99.18	49.59		550.00	2700.00	920.45	1779.55	515.91	106.14
11	6	99.18	49.59		550.00	3250.00	1104.54	2145.46	622.05	106.14
12	7	99.18	49.59		550.00	3800.00	1288.63	2511.37	728.19	106.14
13	8	99.18	49.59		550.00	4350.00	1472.72	2877.28	834.33	106.14
14	9	99.18	49.59		550.00	4900.00	1656.81	3243.19	940.47	106.14
15	10	99.18	49.59		550.00	5450.00	1840.90	3609.10	1046.61	106.14
16	11	99.18	49.59		550.00	6000.00	2024.99	3975.01	1152.75	106.14
17	12	99.18	49.59		550.00	6550.00	2209.08	4340.92	1258.60	105.85
18										
19	TOTALS	1181.16	590.58	.00	6550.00					1258.60
20										
21	TOTAL PAY	6550.00								
22	TOTAL TAX	1258.60								

Building the PAYE worksheet

Cell	Content	Comment
A1	"NAME:	Heading text
B1	"WILSON A.N.	Sample entry
C1	"	Blank line
E1	"NI No:	Heading text
F1	"AB123456C	Sample entry
H1	"TAX CODE:	Heading text
I1	"220L	Sample entry
J1	"5 APR 87	Heading text
A2	"TAX REF:	Heading text
B2	"997 PY 82588	Sample entry
A4	"MONTH	Heading text
B4 TR	"TOTAL NI	Heading text
C4 TR	"EMP'S NI	Heading text
D4 TR	"SICK PAY	Heading text
E4 TR	"PAY/Mnth	Heading text
F4 TR	"TO DATE	Heading text
G4 TR	"FREE PAY	Heading text
H4 TR	"TAXABLE	Heading text
I4 TR	"TAXtoDATE	Heading text
J4 TR	"TAX/Mnth	Heading text
K4 TR	"Net Pay	Heading text
A5	'-	Repeated text for rule
K5	"---------	End of rule
A6	1	Starting month number
B6	C6*2	NI calculation
C6	IF(INT(E6)/2-INT(INT(E6)/2)=0, (INT(E6)+1)*0.09,INT(E6)*0.09)	Employee's NI calculation
E6	500	Sample entry (monthly salary)
F6	F4+E6	Pay-to-date calculation
G6	184.09	Sample entry
H6	F6-G6	Taxable pay calculation
I6	INT(H6)/(10/3)	Tax-to-date calculation
J6	I6-I4	Tax-in-month calculation
K6	E6-(C6+J6)	Net pay calculation
A7	A6+1	Increments month number
B7	C7*2	NI calculation
C7	IF(INT(E7)/2-INT(INT(E7)/2)=0, (INT(E7)+1)*0.09,INT(E7)*0.09)	Employee's NI calculation
E7	550	Sample entry (monthly salary)
F7	F6+E7	Pay-to-date calculation
G7	G6+184.09	Increments tax-free pay calculation
H7	F7-G7	Taxable pay calculation
I7	INT(H7)/(10/2.9)	Tax-to-date calculation
J7	I7-I6	Tax-in-month calculation
K7	E7-(C7+J7)	Net pay calculation
.....		replicate A7:K7 as required for subsequent entries (in the case of this full-year example, down to row 17)
A18	'-	Repeated text for rule
K18	"---------	End of rule
A19	"TOTALS	Heading text
B19	SUM(B6:B17)	Total NI
C19	SUM(C6:C17)	Total employee's NI
D19	SUM(D6:D17)	Total sick pay
E19	SUM(E6:E17)	Total gross pay
J19	SUM(J6:J17)	Total tax to date
K19	SUM(K6:K17)	Total net pay
A20	'-	Repeated text for rule
A21	"TOTAL PAY	Heading text
B21	E19	Copies total
A22	"TOTAL TAX	Heading text
B22	J19	Copies total

Review

DEBUG displaced?

Keele Codes' BYTES reviewed

By David Langford

BYTES.EXE is a file-tinkering utility from Keele Codes Ltd. The first traditional task of a software review is to bitch about the price: difficult, as it's only £15.00 plus the infamous VAT. Next item for the pillory is normally the documentation: no problems, though, with the several help screens or the 11-page A5 booklet in its stiff-backed folder. Copy protection? Thankfully, no, despite pages of terrifying legalese.

What's more (gosh, we're really falling back on a reviewer's last resort now), the program actually works!

My main reservation is that despite being billed as vital to everyone in the universe, BYTES is a mite specialist. In the words of awesome Tony Hill as he sent it to me, it's like a limited but user-friendly version of DEBUG.

Several features are in fact familiar from DEBUG: screen 'dumps', changing individual bytes in a file, hexadecimal arithmetic throughout (with the saving grace of a 'wally' function for those who can't add up in hex), and a hyphen as prompt.

Additions: text-format display (supposedly shows word processor files legibly, omitting print controls — ok with WordStar, but SuperWriter text is scrambled even more uselessly than by the MS-DOS command TYPE), byte-by-byte file comparisons, a quick way to protect or unprotect a file, various safety nets against disaster, and a measure of programmability — you can make up a text file of BYTES commands and execute them automatically by typing BYTES PROGFILE rather than just BYTES. A worked example of creating such a command file would be a useful addition to the next print run of the booklet.

Omitted DEBUG facilities include everything to do with assembler, running programs, individual disk sector access (no directory tampering) and additions to or deletions from files (you can only *change* bytes, not insert or remove them), plus four of the handiest editing functions: Fill, Move, Search and the entering of text in quotes (only hex numbers are allowed in BYTES). To be fair, some of these omissions can be called safety precautions!

With all this gone, it's mildly surprising that BYTES is — at 23K — so much bigger than DEBUG. Besides the copious help text, investigation discloses an 8K block of zeroes in the middle of the .EXE file. H'mm.

The intended purpose of BYTES' idiosyncratic abilities is revealed in the booklet. It's meant for program maintenance via patching. If I find a way to cure a problem in SuperCalc by altering a few bytes, I would normally issue detailed instructions for using DEBUG to patch the SuperCalc program SC.COM. Users will then hit me in the mouth when they try it, make a mistake, and mess up their program file.

Were I to put the corresponding commands into a file of BYTES instructions, the veriest clot could enter BYTES SCPATCH or whatever, and automatically make the change. (Of course, if this person has a different version of SC.COM the results might still be disastrous! There is no way to add the further safety net of making the patch conditional, unless it's done by hand and checked by eye.)

The file comparison function can then be used to check any particular copy of SC.COM against an untouched master, to find whether the relevant bytes *have* been altered. Changes are clearly displayed, in hex.

Since it's a 'dumb' and not a 'smart' comparison — that is, it makes no attempt to resynchronise with the file contents after spotting a mismatch — it's useless for comparing things like word-processed text files. After the first insertion or deletion, everything else in two otherwise identical files is reported as mismatched.

As noted, this is rather a specialist utility. If you frequently need to carry out such fiddly program maintenance, BYTES is good value. But with caution and experience, the far more powerful and widely used DEBUG will perform all the same tasks (bar file comparisons), at a saving of up to £17.25. ◆

This review originally appeared in the newsletter of GATEWAY USERS, a self-help users' group for owners of the Apricot F series. We gratefully acknowledge permission to reprint it, and we enthusiastically recommend that any F series user join the group — details from 85 Edna Road, Raynes Park, London SW20 8BS.

BYTES

Description:	File amendment utility
Supplier:	Keele Codes
Address:	University of Keele Keele Staffordshire
Telephone:	0782 629221
Price:	£17.25, including carriage and VAT
Configuration:	any Apricot
Conclusion:	Ok for detailed program maintenance, but DEBUG is available on a DEALS FOR READERS disk with much else besides and at a lower price ...

User's View

The Perfect Word Processor?

Opinions on WordPerfect

By Alan Craxford

I came to the Apricot fold almost by accident. Last year I decided to upgrade from a TRS-80; by a series of coincidences I was introduced to the Xen (via the Tandy 2000 — a story in itself). I had become accustomed to a certain standard in word processing functions having graduated from Scripsit (version 1) which uses fairly unsophisticated dot codes (shades of WordStar!) to SuperScripsit.

This latter gives many functions found on the latest business packages including column manipulation and right-justified proportional spacing on printers that support it. The package (just over £100 when I bought it) also came with a simple but comprehensive manual as well as a series of tutorial audio cassettes.

So for my new computer I was interested in obtaining a package that would be similar to use and allow me to interface with some of my existing equipment.

My brief flirtation with the Tandy 2000 introduced me to Multimate, which despite its greater magnitude of operations and functions was rooted in similar procedures (namely function keys that were logically actioned rather than esoteric dot codes or commands). I had hoped that I could proceed with this package on the Xen: but it was not available.

After some further comparisons I settled on WordPerfect, from Satellite Software International via Apricot *(Alan has version 4.1, the latest offering. It's as far ahead of version 4.0 as that one was over 3.0 — Ed)*. There were two main reasons for my choice. First, I had generated a number of important documents using Multimate: and there was an option in WordPerfect to read those files directly. Second, SSI's advertising emphasises wide-ranging printer support: that too was very attractive. What follows are my early experiences with WordPerfect.

Getting started

It took some little time even to acquire the package. After several weeks I received a parcel which contained the loose-leaf pages of the manual (but no binder) and three disks. There was a return slip but no registration card — and in fact no indication as to whether Apricot or SSI would be supporting the package. WordPerfect also turned out to be labelled for the PC/Xi, and the card keyboard template obviously fitted the Xi.

I contacted SSI immediately to check that I had the correct version. I was told that there *were* plans for a Xen implementation, but that it had been delayed because the keyboard that had been planned for the American launch of the Xen wasn't the same as the British version. A Xen-specific template was not available: but if I would like to cut up the Xi template and reverse the function key labels ...

Installation time! Disks 1 (WordPerfect itself) and 2 (the printer drivers and utilities) loaded without much difficulty; but the Spell Checker disk was blank and had to be returned. The program booted with no problem (I'm using it to write this article!) but the next task was to persuade it to talk to the printer.

As mentioned, one of this package's main selling points is that it promises support of many printers (198 are listed in the directory) and my existing daisywheel was identified there — albeit as one provided with "limited support". It's a particular Radio Shack version of the Ricoh 1300, particular in the sense that it has its own built-in line feed generator and no external DIP switches to disable any of the functions. It supports 10- and 12-pitch printwheels as well as proportional spacing (apparently from its own ROM) but it can also accept external instructions from software.

WordPerfect is provided with three files that are supposed to test out your printer, its built-in fonts and character sets. The first of these diagnostics ran with no major problems ... on the first occasion. The next time around the output could only be described as looking like 'Welsh underlined'.

This was the cue to look at the control codes provided by the printer control program. This is documented in a 32-page subsidiary manual held as a text file on the disk: fortunately it did print out. And this was where the fun really began — the language used by SSI bore no resemblance to the descriptions of the machine in the Tandy manual.

After two days of trial and error, painstakingly altering a single code and then re-entering WordPerfect to see the effect, I did manage to make the printer work. I am still not entirely happy as not *every* feature works, but the panel lists some of the alterations that have been required. (If any readers do have a Tandy DWP410 daisywheel printer that they want to use with

WordPerfect I would be only too willing to let them know what I put into each section of the set-up program to achieve this level of compatibility.)

On the Xen

Other quibbles have come to light over these last two weeks. There is no doubt that this is the straightforward Xi/PC version of WordPerfect 4.1 ported over to the Xen. It works, but no thought has been given to the hardware differences between the two machines.

In fact the port to the Xi wasn't too hot either. A template of the keyboard on one of the help screens is the original IBM one. The IBM version obviously sets Alt-shifted keys for various functions. These are assigned to the MicroScreen on the Xi, which I assume does not have the Alt key alternatives. The Xen does: but the quick reference card still talks about the old Apricot standard. For instance, the 'next page' key on the IBM version is PgDn; on the Xi it's Shift Down-arrow. Now, the Xen *has* a PgDn key which is supposed to be IBM-compatible ... but which is not enabled in this version of WordPerfect.

I did in fact try loading up the Xen's IBM.KB keyboard before loading WordPerfect and a very curious hybrid was produced. Certainly some of the Alt keys beccame live: but the actual order of keys did not fit the IBM template. I can only assume that SSI will produce a proper Xen upgrade of this package in due course to take account of its full keyboard (maybe when version 4.2 comes out). It would be a pity if it takes so long that I have become used to the current key assignments and would have to relearn a complete new format ...

I have now received a working copy of the Spell Checker/Thesaurus and I have also acquired a registration form labelled ACT Pulsar and referring to a software licence for WordPerfect version 3. Close enough, I suppose!

So after all this, what do I think of the package?

In fact it is a superb word processor. I have admittedly only just scratched the surface but already I am totally hooked. The only intrinsic anomaly amongst the formatting capabilities for which I have not found an answer concerns the form letter merge facility: there seems to be no way to close up the blank line when a field is empty. Apart from this, I have communicated with several computer-affiliated companies who have knowledge of my particular combination of equipment and have received universal acclaim of the output that they have seen.

WordPerfect promises all I expect from a word processor: to be perfect I need to see it totally integrated with my hardware. As yet it is not, but I live in hope. ◆

Implementing the DWP410

Default options:

WordPerfect immediately switches the printer into External Program Mode (EPM). The main problem with this is that all its ROM-based features are bypassed. The standard printwheels do not require EPM; so this feature requires to be removed (by deleting codes {27}{24} in the initialisation string).

10- and 12-pitch:

Without EPM, the ROM functions can be mustered by placing the enabling strings in the various menu options. Code {15} allows automatic underline; by entering {223} in the special character options, a double underline can also be enabled. Right-justification will work, but it is done by space addition and not by micro-spacing.

Proportional spacing:

WordPerfect requires HMI (horizontal motion indexation) to carry out right-justified proportional spacing — which I am reliably informed is *the* acid test of a word processing package. The DWP410 does support HMI, but the switch to enable this is also the code to switch into EPM. Consequently all the automatic ROM-based features disappear. As well as that, it's impossible to put this code into the printer initialisation string — it has to be placed in the HMI initialisation string. As there is no HMI disabling string the printer cannot be switched back out of EPM at the end of a document.

Two drivers:

In practice this means that it is impossible to mix proportional and non-proportional text in the same document. I have had to devise two printer drivers and switch between them when the form requires. Unfortunately this leads to complicated realignment of paper during a print run should I need more than one font on a page. For a time I was unable to persuade WordPerfect to double-underline in proportional spacing mode: but then I removed the automatic underline code and experienced a profound sense of achievement when the printer produced both single and double underlining on the same line!

User's View

WordPerfect on the Portable

A classic problem

By Paul Lavin

One outstanding feature of Apricot's previous marketing strategy was the bundling of a complete software suite with the machine. In the same box with our brand new toy, we inexperienced users were presented with workable applications programs that filled most of our initial needs.

SuperWriter and SuperCalc have their flaws. Basically they're good, dependable tools with many features; but they lack the power and capabilities of modern megaware.

SuperCalc is easily upgraded into a formidable contender to the 1-2-3 throne. But despite the massaging of Messers Langford and Priest at Ansible Software, Superwriter remains a sow's ear — a much *nicer* sow's ear for their attentions, but still distinctly different from the oft-sought silk purse of legend. At the price paid, though, you can't complain.

But my ego demanded unlimited document size. I hungered for a thesaurus and an on-line spelling checker. My uneasy mind sought respite in the form of timed, automatic backups. I longed for multiple, selectable printer support with a printing queue buffer. Columns! Type-through! Password protection! Sorting! Footnotes without pain! Maths functions, like having an embedded spreadsheet! Could such a perfect word processor exist this side of heaven?

The solution

To paraphrase the Beatles song, all you need is money; you can only appreciate the advantages of (free) SuperWriter when shopping for its replacement. After much research and a quick check with the bank manager, I decided to drop a bundle on WordPerfect Version 4.1. Deals abound (check with Ansible) and I managed to get mine for less than £400.

In the office I work with a Xen or an Apricot PC (oops, sorry, I mean Xi FD). But my main concern was getting WordPerfect implemented on my Portable for when I work at home, preferably in conjunction with my colour screen.

The classic problem referred to in the title is the age-old quandary of fitting three pounds of manure into a two-pound bag without getting it all over yourself. There are remarkable parallels to be drawn regarding installing WordPerfect on the Portable.

For 400 quid you get a boring box, a halfway decent manual and three 3.5in microfloppies. There is a supplementary guide for installing the little darling on an Apricot; and the README file on Disk 3 congratulates you for having a functioning printer and has some juicy tidbits on alternative keyboards and mystery files. Having had less than ecstatic experiences with software documentation, I supplemented this lot with *Using WordPerfect* by D & W Beecham (published by Que Corporation in 1985, UK price from various sources around £15.45).

The big problem with the package is its obvious orientation towards your very unfavourite pop group, IBM and the Clones. You're asked by the manual and the on-screen messages to press keys that aren't there: the same problem exists with the Beechams' book. As a sop to any Apricot owner unwary enough to buy his or her way into this private club, a keyboard template for the Xi series is included (Xen users must use their imagination or a pair of scissors) as well as a translation guide from IBM-speak to Apricot patois.

A function key map for the Portable is shown in Figure 1 for those like me who will not hesitate to spend almost as much on one software package as they did on their entire computer.

Installation

Three program disks, one drive slot? Fortunately, I've got a 512K RAM board that can be configured into a RAMdisk by declaring DEVICE = RAMDISK.SYS /X in the CONFIG.SYS file.

'X' for me was '4', but depending on how much memory you have got to spare it can be as big as you like in multiples of 64KB. So for my approach to this problem you would need at least 256K designated as a RAMdisk (four 64K chunks) and 384K of 'free' memory. If you are lucky enough to have a 512K Portable you will still need an expansion board of 128K; those with the 256K model will need 384K more. You can get by with less but you will sacrifice the ease of use and speed I've engineered into the setup.

Before getting down to the nitty-gritty of the installation, let me first offer a little of my computing philosophy. One of the little pains in life is waiting for disk access. With WordPerfect you can load the whole shootin' match into RAM so that you never need to wait for the little red light to go out again. By loading the thesaurus into the RAMdisk, you can have your vocabulary crutch available virtually instantaneously. This fits into my style of writing as I usually check my spelling at the end (another soul warped by SuperWriter at an early age). Dyslexics with big vocabularies can keep their spell-checker in RAMdisk and leave the thesaurus on a floppy (and wait for the red light when they want a substitute word).

The object of the exercise that follows is to create two disks that boot your system from cold, load the thesaurus into RAMdisk, and load and run the WordPerfect program. To keep the directory where you store your work as free of extraneous files as possible, a complicated little dance is necessary using sequential batch files spanning two disks and three directories.

Familiarity with FORMAT, SCOPY and MS-DOS is needed for the work ahead. None of what follows is to be found anywhere in the official documentation. (It's all my fault if it doesn't work!)

To start you are going to need at least five blank formatted disks. Three of those you are immediately going to use to make backup copies of the three issue disks like a good little person — believe me, it can save a lot of heartaches later. Of

the remaining two disks, label one 'Boot disk and thesaurus' and the other 'WordPerfect program disk and speller'. Copy the operating system files on to your boot disk.

Because of the size of the file containing the printer specification tables, you'll need to copy all the printer-related files from Disk 3 to your RAMdisk to install the hardcopy generators of your choice. Do this by starting the program with 'WP/S' and then just follow the menus. While you're in the installation mode, let WordPerfect know that you are going to be keeping the thesaurus on drive B and the speller in A:\WP.

On the disk labeled 'Boot', create two subdirectories using the MS-DOS MD command: call them \FILES (for your work) and \WP (for printer control bumph). Include the RAMdisk declaration discussed above in the CONFIG.SYS file in the root directory (using EDLIN or the 'COPY CON' route).

Then create an AUTOEXEC.BAT file in the root directory like mine below:

```
ECHO OFF
DATE
TIME
IF NOT EXIST B:TH.WP COPY TH.WP B:
CD FILES
ECHO Now put the WP disk in and type `RUN'
```

Copy into the \WP subdirectory on the boot disk the files WPRINTER.FIL, WPFONT.FIL, and WPFEED.FIL — these were created when you cranked up WordPerfect for the installation drill.

Now do a DIRectory. You should see your \FILES and \WP subdirectories, COMMAND.COM, CONFIG.SYS, RAMDISK.SYS, AUTOEXEC.BAT and TH.WP listed with about 450K free disk space. Enough room to write up a storm, eh?

If you are a glutton for spinning magnetic vacuum, create a separate disk for your files by making a \FILES subdirectory on another blank formatted disk; that will give you 720K of headroom for your first novel.

Turning your attention now to the 'program disk', create subdirectories named \FILES and \WP. Into the \WP subdirectory, copy all the WordPerfect goodies from your massaged backup program disk:

```
WP.COM
WP.EXE
WPFEED.FIL (if you have a sheet feeder)
WPHELP.FIL
WPFONT.FIL
WPKEYS.KB
WPRINTER.FIL
WPKEYS.COM
LEX.WP
```

In addition, copy into \WP a file called KEYS.EXE from one of the disks that came with your Portable.

In the \FILES subdirectory, create a file called RUN.BAT like this one:

```
PATH \WP;\FILES
WP/R/D-B:
CD \
```

The only remaining chore is to run WPKEYS.COM as per the README file provided with WordPerfect.

To use all this complex stuff, reset your machine and insert the boot disk. It will prompt you when to insert the program disk. After the disk access light goes out, replace the boot disk or insert your file disk and compose away! You will get an 'Insert disk with batch file' message if you don't put the program disk back in before you exit WordPerfect; using CNTRL-C fixes that.

Colour supplement

After weeks of unremitting eye strain from the lack of contrast on the Portable's LCD screen, I bought a colour monitor. WordPerfect likes to switch the colour monitor off when it starts up, though. According to Dave Whale of Link Designs, this may be because Apricot blundered when the screen escape control sequences for the Portable were published: those people at SSI (the authors of WordPerfect) should know better than to believe everything they read!

To use a colour monitor with WordPerfect on the Portable, you have to start the program using the LCD display. Then exit to MS-DOS using CNTRL-6-NUM and type these keys in sequence:

- ECHO (SPACE)
- ESC
- R73

(You must use a capital R there.) The colour screen will leap to life when you hit Return. Type 'Exit' to return to WordPerfect and the colour screen will remain lit. Make this into a batch file to ease repeated use.

Not all is quite word-perfect, however. To keep the screen full when you are composing you must keep fiddling with the SCROLL key or Function key 2 to prevent the screen from limiting itself to only two lines. Or use WordPerfect's magnificent macro facility to remedy this problem.

It's not too bad, though. I managed to write this article with it ... ◆

Key assignments

FUNCTION KEYS

	normal	SHIFTed	CONTROLled
F1	HELP	REVEAL CODES	SCREEN
F2	CANCEL/UNDO	TEXT IN/OUT	SWITCH
F3	MACRO	DEFINE MACRO	CENTRE
F4	CALC	MATHS/COLUMNS	TAB ALIGN
F5	PRINT	BOLD	FLUSH RIGHT
F6	LIST FILES	UNDERLINE	SPELL
F7	LINE FORMAT	PAGE FORMAT	PRINT FORMAT
F8	EXIT	RETRIEVE	SAVE

NUMERIC KEYPAD

	with CONTROL
1	search and replace
2	merge codes
3	foot- and end-notes
4	move (blocks)
5	sub- and superscripts, overstrike
6	exit to MS-DOS
7	insert date
8	merge/sort
9	outline/index function
0	block on/off

OTHER KEY COMBINATIONS

	with CONTROL
BACK	delete word
TAB	indent
HOME	go to
CLEAR	delete to end of page
INSERT	toggle overtype/insert mode
+	search forwards
–	search backwards

The Workshop

Turbo Pascal:

PRN-SCN.PAS

A screen dump utility for Epsons

By Quentin King

Anyone who read my Workshop article to run GSX from Turbo Pascal (APRICOT FILE Release 1.6) will recognise the program listed on the next pages.

When I wrote the original, I did consider the sickening task of writing a Procedure to print out the graphics display on an Epson: but I didn't think anyone would have the patience to sit and actually draw anything worth printing. As an illustrator myself I have a pretty low opinion of the graphic skill of micros.

If you are a Basic buff it shouldn't be too difficult to translate the Pascal procedure 'Dump_screen_to_printer' (ho ho!).

To access the Screen memory in Graphics mode (ie in GSX) you must set DEF SEG to 0 and POKE from location &H2800. This is the start of the 40000 bytes of memory needed to map out every single pixel of the Apricot PC's screen. For Pascal use :

```
Type
    cell = array[1..16]of integer;
Var
    DisplayArray : array[1..1250]of cell
    absolute $0000:$2800;
```

The screen is split up into 25 lines. Each line contains 50 Graphic or image cells, so the complete screen contains 1250 cells. Each cell is made up of 32 bytes in the following pattern:

```
bit 0 — bit 7   bit 8 — bit 15
|   byte 1     |    byte 2     |
|   byte 3     |    byte 4     |
|   byte 5     |    ......     |
|   ......     |    byte 32    |
```

Or in binary:

```
|   low         |        high   |
|   0000 0000   |   0000 0000   |
|   0000 0000   |   0000 0000   |
|   0000 0000   |   ......      |
|     .......   |   0000 0000   |
```

So you could think of a cell being made up of 16 integers one under the next but the highest valued bit on the right (*not* on the left, as you might normally expect).

Each bit of each integer now represents a dot on the screen. If the bit is set to '1' the screen is lit; if the bit is '0' it isn't lit.

Now all you need to do is to create a series of loops to examine each bit of the screen memory and put them in a form that the printer will understand.

GSX stores the lines backwards so that segment 0h, offset 2800h is the start of the 25th line on the screen, line 24 starts 1600 bytes later (at 2E40h). The first loop which counts the line numbers must therfore count downwards.

Since the printer head of an Epson works eight dots vertically in Graphic mode, each line of the screen must be scanned twice — for the top and bottom halves (integers 1 to 8, and then integers 9 to 16, of each cell).

Finally, each bit of each integer must be isolated to find out its value. The shifting of the bits to the left or right in Pascal is done by using SHL or SHR. (Basic writers will have to use multiplication.)

Your Epson printer must now be told to expect graphic information and its line spacing changed. Either of these will reset the printer and set line spacing suitable for graphics:

```
writeln(lst,#27+'@',#27+'1');
```

... Or ...

```
LPRINT (CHR$(27) + "@" + CHR$(27) + "1")
```

Note that using this spacing the eighth dot of a line will overlap the first dot of the next line. I prefer this since the proportions of the printed image closely represent that of the screen. If this overprinting worries you, either use printer spacing ESC A+CHR(8) or use cellInteger in the range 1 to 7 on the fourth loop so that eighth bit on the first half of each line is not printed.

These will tell the printer to expect 800 graphic characters, which equals one line:

```
writeln(lst,#27,'L',chr(32),chr(3));
```

... Or in Basic:

```
LPRINT (CHR$(27) + "L" + CHR$(32) + CHR$(3))
```

To understand fully the working of the printer's Graphic mode, take a peek at your printer manual — Epson is the one printer manufacturer I've found that can write an intelligible manual. ◆

PRN-SCN.PAS

```
Program Gsx_Graphics_demo_2;

Const                                          { fill style constants }

hollow   = 0;  halftone = 2;
solid    = 1;  hatch    = 3;
vlines   = 1;  hlines   = 2;
diaright = 3;  dialeft  = 4;
cross    = 5;

Type

str80               = string[80];
ar_type1            = array[1  9] of integer;
ar_type2            = array[1..79] of integer;
ar_type3            = array[1..200] of integer;
ar_type4            = array[1..45] of integer;
ar_type5            = array[1..12] of integer;
cell                = array[1..16]of integer;

Var
a1:ar_type1; a2:ar_type2; a3:ar_type3; a4:ar_type4; a5:ar_type5;
counter                 : integer;
txt                     : string[80];
CellInteger,bit,
cellNumber,c,c2,line    : integer;
GraphicCell             : cell;
displayArray            : array[1..1250]of cell absolute $0000:$2800;
{-------------------------------------------------------------------------------}


{***************************** SCREEN DUMP ROUTINE ****************************}

Procedure Dump_screen_to_printer;

begin
     writeln(lst,#27+'@',#27+'1');
     for line := 24 downto 0 do             { 1st loop to draw each line at a time }
begin
     if keypressed then halt;               { check that printing is to continue }
     write(lst,#27,'L',chr(32),chr(3));
     for cellNumber:=1 to 50  do { 2nd loop to count each cell on line }
     begin
          move(displayArray[(line*50)+cellNumber],GraphicCell,32);
          for bit :=0 to 15 do              { 3rd loop to count each bit per integer }
          begin
               C:=0;
               for CellInteger :=1 to 8 do  { 4th loop - each cell must be split
                                            into 2 parts since the printer head is
                                            only 8 bits deep, and the screen cell
                                            is 16 integers deep }
                    begin
                         c2:=0;
                         if ((GraphicCell[CellInteger]shr bit)mod 2) = 1
                            then c2:=(1 shl (8-CellInteger));
                         c:=c+c2;
                    end;
                    write(lst,chr(c));
          end; {of bit 0-15}
     end;      {of cellNumber 1-50}
     writeln(lst);

     if keypressed then halt;
     write(lst,#27,'L',chr(32),chr(3));
     for cellNumber:=1 to 50 do             { 5th loop to count each cell on line }
     begin
          move(displayArray[(line*50)+cellNumber],GraphicCell,32);
          for bit :=0 to 15 do              { 6th loop to count each bit per integer }
          begin
               C:=0;
               for CellInteger :=9 to 16 do { 7th loop - each cell must be split
                                            into 2 parts since the printer head is
                                            only 8 bits deep, and the screen cell
                                            is 16 integers deep }
                 begin
```

```
                        c2:=0;
                        if ((GraphicCell[CellInteger]shr bit)mod 2) = 1
                            then c2:=(1 shl (16-CellInteger));
                        c:=c+c2;
                    end;
                write(lst,chr(c));
            end;
        end;
        writeln(lst);
end; { of for line }
end; {of proc       }

{****************************** END OF SCREEN DUMP ****************************}


{--------------------------------------------------------------------------}


Procedure Clr_ar;
begin
fillchar(a1,sizeof(a1),0);
fillchar(a2,sizeof(a2),0);
fillchar(a3,sizeof(a3),0);
fillchar(a4,sizeof(a4),0);
fillchar(a5,sizeof(a5),0);
end;

{--------------------------------------------------------------------------}


Procedure Pascal_GSX(p1:ar_type1; p2:ar_type2; p3:ar_type3; p4:ar_type4;
                     p5:ar_type5);
Const    s =  2;  o  = 1;
Type
  registers =  record
  ax,bx,cx,dx,bp,di,si,ds,es,flags: integer;
               end;                          { record for calling interupt }
 pointer    =   array[o..s] of integer;
Var
  reg            :   registers;
  pblock         :   array[1..5] of pointer;
begin
  pblock[1][o]:=ofs(p1);     pblock[1][s]:=seg(p1);
  pblock[2][o]:=ofs(p2);     pblock[2][s]:=seg(p2);
  pblock[3][o]:=ofs(p3);     pblock[3][s]:=seg(p3);
  pblock[4][o]:=ofs(p4);     pblock[4][s]:=seg(p4);
  pblock[5][o]:=ofs(p5);     pblock[5][s]:=seg(p5);
{ pblock is loaded with the addresses of the parameter arrays }
with reg do
  begin
    cx := $0473;                          { the function code for interupt 224 }
    ds := seg(pblock);                    { ds holds the segment address of pblock }
    dx := ofs(pblock);                    { dx holds the offset }
{ together ds and dx make up a 4-byte pointer to pblock }
end;
intr(224,reg);                            { call interupt }
end;                                      { end of proc Pascal_GSX }

{--------------------------------------------------------------------------}


function XScale(x:integer):integer;
const Xmultiple = 40.95875;
var xreal       : real;
begin
if x > 800 then x:=800;
xreal:=x * Xmultiple;
XScale :=round(xreal);
end;
```

```
{-------------------------------------------------------------------------}


Function YScale(y:integer):integer;
const Ymultiple = 80.9175;
var yreal       : real;
begin
if y > 400 then y:=400;
yreal:=y * Ymultiple;
YScale :=round(yreal);
end;

{-------------------------------------------------------------------------}


Procedure Open_W_Station;
var counter:integer;
begin
a1[1]:=1;a1[2]:=0;a1[4]:=10;
for counter:=1 to 10 do a2[counter]:=1;
a2[6]:=1;
Pascal_GSX(a1,a2,a3,a4,a5);
end;

{-------------------------------------------------------------------------}


Procedure Write_Txt(x,y:integer;t:str80);
var counter   : integer;
begin
x:=XScale(x);
y:=YScale(y);
a1[1]:=8; a1[2]:=1; a1[4]:=length(t);
a3[1]:=x; a3[2]:=y;
for counter:=1 to length(t) do a2[counter]:=ord(copy(t,counter,1));
Pascal_GSX(a1,a2,a3,a4,a5);
end;

{-------------------------------------------------------------------------}


Procedure Set_Txt_Ht(h:integer);
begin
a1[1]:=12;a1[2]:=1;a3[1]:=0;a3[2]:=h;
Pascal_GSX(a1,a2,a3,a4,a5);
end;

{-------------------------------------------------------------------------}


Procedure Draw_Line(x1,y1,x2,y2:integer);
begin
x1:=XScale(x1);
y1:=YScale(y1);
x2:=XScale(x2);
y2:=YScale(y2);
a1[1]:=6;a1[2]:=2;a3[1]:=x1;a3[2]:=y1;
a3[3]:=x2;a3[4]:=y2;
Pascal_GSX(a1,a2,a3,a4,a5);
end;

{-------------------------------------------------------------------------}


Procedure Line_Type(t:integer);
begin
a1[1]:=15;a1[2]:=0;a2[1]:=t;
Pascal_GSX(a1,a2,a3,a4,a5);
end;

{-------------------------------------------------------------------------}
```

```
Procedure Draw_Bar(x1,y1,x2,y2:integer);
begin
x1:=XScale(x1);
y1:=YScale(y1);
x2:=XScale(x2);
y2:=YScale(y2);
a1[1]:=11;a1[2]:=2;a1[6]:=1;a3[1]:=x1;a3[2]:=y1;
a3[3]:=x2;a3[4]:=y2;
Pascal_GSX(a1,a2,a3,a4,a5);
end;

{-------------------------------------------------------------------------------}


Procedure Fill_Style(s:integer);
begin
a1[1]:=23;a1[2]:=0;a2[1]:=s;
Pascal_GSX(a1,a2,a3,a4,a5);
end;

{-------------------------------------------------------------------------------}


Procedure Fill_Type(t:integer);
begin
a1[1]:=24;a1[2]:=0;a2[1]:=t;
Pascal_GSX(a1,a2,a3,a4,a5);
end;

{-------------------------------------------------------------------------------}


Procedure Draw_Circle(x,y,r:integer);
begin
x:=XScale(x);
y:=YScale(y);
a1[1]:=11;a1[2]:=3;a1[6]:=4;
a3[1]:=x;a3[2]:=y;a3[5]:=r;
a3[6]:=0;
Pascal_GSX(a1,a2,a3,a4,a5);
end;

{-------------------------------------------------------------------------------}


begin                                          { start of main program }
{ zero the arrays before starting —  you never know what stuff there might be
lurking in them }
Clr_ar;
Open_W_Station;
Clr_ar;  Fill_Style(Hatch);
Clr_ar;  Draw_Line(50,50,50,350);
Clr_ar;  Draw_circle(400,300,7000);
Clr_ar;  Draw_Line(50,50,750,50);
Clr_ar;  Set_txt_ht(2000);
Clr_ar;  Write_txt(50,4,'Gsx demonstration by Quentin King');
Clr_ar;  Set_txt_ht(1000);
Clr_ar;  Write_txt(260,250,'This Circle is filled with hatch');
Clr_ar;  Draw_Bar(100,50,150,100);
Clr_ar;  Fill_Style(solid);
Clr_ar;  Draw_Bar(150,50,200,200);
Clr_ar;  Fill_Style(halftone);
Clr_ar;  Draw_Bar(200,50,250,230);
Clr_ar;  Fill_Style(hatch);
Clr_ar;  Fill_Type(hlines);
Clr_ar;  Draw_Bar(250,50,300,100);
Clr_ar;  Fill_Type(dialeft);
Clr_ar;  Draw_Bar(300,50,350,150);
Dump_screen_to_printer;
{close station}
a1[1]:=2;a1[2]:=0;
Pascal_GSX(a1,a2,a3,a4,a5);
end.
```

Review

Make even more of SuperWriter

Ansible's ASD2 disk reviewed

By Lindsay Doyle

```
10   REM: ANSIBLE ALGORITHM
100  IF NOT SW THEN GOSUB 500
110  IF SW AND NOT ASD1 THEN GOSUB 200
120  IF SW AND ASD1 THEN GOSUB 500
130  END
200  GET ASD1: RETURN
500  GET ASD2: RETURN: REM: IT CONTAINS MANY
     MS-DOS GOODIES
```

... which, being translated from the PIG-BASIC, means that if you have ASD1 (or 'PASD', as it was initially called — or 'ASD', as it was subsequently called for several days), you will very definitely want to get ASD2. Or if you don't have ASD1 but you do use SuperWriter, you will very definitely want to get ASD1. Then the first condition will apply.

If you don't use SuperWriter and are sick and tired of WordStar and looking for a new word processor, then you ought to try SuperWriter — after which conditions one and two will apply. If you like your present word processor, you will still find many worthwhile MS-DOS goodies in ASD2.

Yes, Ansible Software has come up with another winner. It contains over 80 files of COM, XQT, BAT and suchlike programs (two of which are in the public domain). The instruction material is clear, well-ordered, and complete, a statement which this writer has never made before about anything to do with Apricot. The text has no spelling errors, no grammatical errors, and no index. I hope that Ansible plans to add an index; it is difficult to keep the names of all those files clear in the mind, and it's time-consuming to have to run through the text to find one which you have forgotten.

No doubt you won't find every one of the files useful in your particular circumstances, but I promise you that at least 80 per cent of them will be of interest. I have listed them all with a brief definition at the end of the article, as the editor won't stand for me treating each in detail, but here are some of the outstanding items:

- DOCTOR.COM is a sort of DEBUG for files. With it you can safely repair or restore files that have been overwritten or deleted accidentally. I *know* it works because I deleted all the backup files on my disk and then deleted the file of this manuscript: and not on purpose, either. DOCTOR saved the day. There is also a program called KILL.COM which *really* deletes a file so that it can never be recovered.
- MAILER.COM and associated files provide a simple but functional database for address and phone numbers, with facilities for selecting an address, installing it in a letter, printing it on an envelope, or printing labels with settable formats. Great minds think alike, but I got published first, so you may see some similarity between some of the functions of MAILER and Lindsay Doyle's Mail-Merge as written up in the May issue of APRICOT FILE; but Ansible's offering is much more complete and can be used outside of SuperWriter. I have found only one bug which is that the next line of text gets appended to an address under certain circumstances, but that will no doubt be fixed by the time you read this.
- Footnotes, notes in the left margin, and page numbering on alternate sides of the page are catered for. There are facilities for making a simple-minded printer print useable foreign accents and the pound sign by backspacing. Two very nice fonts without serifs (the little twiddly bits at the end of character strokes) are provided, and I wouldn't be surprised if you choose to use one of them as your standard. I have.
- You can use the SWITCH.BAT file from MS-DOS to call up a menu which offers 20 options selected from the goodies in ASD1 and ASD2, such as DOCTOR.COM, MAILER.COM, 2COLUMN.COM, and SHOW.COM.
- Among other miscellaneous functions that I particulary liked are ART.COM, reproduced from AnsibleIndeX, which searches for instances of two identical words appearing next to each other, such as "the the"; BORDER.COM for placing a double line border around any selected portion of the screen; CHAR.XQT for entering any normally-inaccessible character such as a funny face into text so that it will appear on the screen; DISPLAY.COM for use outside SuperWriter to send any character to the screen by ASCII code; DISPRN.COM to do the same on your printer; and ESC.COM to send escape sequences to the screen.
- The problem of UK-format dates is solved by TODAY.COM and TODAY1.COM which generate a file containing the desired text so that it can be automatically inserted in your letter format.
- Everyone will love TYP.COM, an improved version of TYPE.COM that accepts wild cards and stops at the end of each page; and VLABEL.COM which allows you to rename your disks with a freedom of format not available in previous public-domain programs designed to do the same job.
- There is an appendix to the dictionary corrections supplied with ASD1. You really need them both, as the original SuperWriter dictionary was full of egregious errors and

Americanisms. A program called GREASE.COM (those who have read the novel *Small World* will recognize the derivation) examines your text, analyzes it, and reports the frequency of use of each word. GREASE.DAT contains the 425 most-used words in English so that they can be omitted from the report.

Note that ASD2 expects the latest SuperWriter, to wit version 1.03. If you don't have it you should be able to get it from your dealer for free. ASD2 costs £57.50 delivered, although there is a rumour that the price will go up this autumn as someone has convinced Ansible Information that their prices are too low. No doubt APRICOT FILE will be offering it in DEALS FOR READERS at the usual best price *(sure will — Ed)*.

Incidentally, I hereby swear and affirm that I have never met David Langford or Chris Priest, the producers of this desirable goody. ◆

ASD2

Description:	Numerous utilities and other helpful extras for SuperWriter users in particular but any Apricot users in general
Supplier:	Ansible Software
Address:	94 London Road Reading Berkshire RG1 5AU
Telephone:	0672 62576
Price:	£57.50 (includes VAT and P&P)
Configuration:	any Apricot
Conclusion:	Buy this disk!

Files on ASD2

DISK REPAIR

DOCTOR.COM	Restores deleted or overwritten files. Command options are: U: Undelete [automatic] V: Veto [manual undelete] L: Lost cluster search A, B, or C: select disk drive D: Disk directory E: Examine disk sectors F: File allocation table H: Hunt I: Information about current disk L: Lost cluster search N: Name of recovery file P: Purge a disk S: Subdirectory selection T: Toggle format from text to hex-with-text W: Write to recovery file ESC: Exit from the program

LABELLING AND ADDRESSING

ADDLIST1	File containing addresses and phone numbers
MAILER.DEF	Inserts preset defaults for MAILER.COM if desired
MAILER.COM	A small database for addresses on letters, labels, and envelopes. Command options are: O: Options menu S: Searches menu ESC: Exit from the program [any other key]: read data file
AD.XQT	Moves selected address from ADDLIST1 to working text
AD1.XQT	Scans ADDLIST1 as an address book
DT.XQT	Deletes phone number from address before inserting in letter
ENV.XQT	Copies address from letter to envelope

TEXT RESUMPTION

TRET.XQT	Jumps to top of text, returns to place
BRET.XQT	Jumps to bottom of text, returns to place
RESUME.XQT	Saves place and exits to MS-DOS
RELOAD.BAT	Returns from MS-DOS to saved place in document
RELOADER	Temporary file for text, generated by RESUME.XQT

PAGE NUMBERING ON ALTERNATE SIDES

LR-FOOT	Makes footers with odd numbers at left
LR-HEAD	Makes headers with odd numbers at left
RL-FOOT	Makes footers with odd numbers at right
RL-HEAD	Makes headers with odd numbers at right

BLOCK MOVEMENT

BLOC.XQT	Like ESC M B except saves block for experimenting with placement
BLOCSAVE	Temporary file for BLOC.XQT
BLOX.XQT	Inserts multiple copies of BSAV
BSAV	Temporary file for BLOX.XQT

DELETING TEXT

D.XQT	Copies text to end of document into DELSAVE before deleting
DB.XQT	Copies block to DELSAVE before deleting
UND.XQT	Restores text from DELSAVE
DELSAVE	Temporary file for D.XQT and DB.XQT
F.XQT	Deletes all selected identical strings

FOOTNOTES AND MARGINAL NOTES

F1.XQT	[Called by FN.XQT]
FN.XQT	Places text entered with yen sign at foot of page
MARGIN.XQT	Places text entered with vertical bar in left-hand margin

M.XQT	[Called by MARGIN.XQT]

SPECIAL CHARACTERS AND FONTS

FOREIGN.XQT	Makes printer print certain foreign signs
POUND.XQT	Makes printer print pound sign
ANSIBLE2.CHR	Font with modified non-keyboard characters
AICLEAN.CHR	Sans-serif font incorporating ANSIBLE2
AIPORT.CHR	Sans-serif font for Apricot Portable

MENU OF OPTIONS

SWITCH.BAT	Generates menu of options which simplify use of the supplied utilities, etc. Use is optional
SWITCH.TXT	Called by SWITCH.BAT
1.BAT-20.BAT	Callable from SWITCH menu or MS-DOS
1.BAT	Loads SuperWriter with default format no. 1
2.BAT	Loads SuperWriter with default format no. 2
3.BAT	Loads SuperWriter with default format no. 3
4.BAT	Loads SuperWriter with same format as last used
5.BAT	Loads SuperWriter with its own default values
6.BAT	Loads SuperWriter with format last used before 5.BAT
7.BAT	Loads 2COLUMN.COM as supplied with ASD1
8.BAT	Loads SHOW.COM as supplied with ASD1
9.BAT	Loads DOCTOR.COM
10.BAT	Loads MAILER.COM
11.BAT	Changes MS-DOS prompt to that called by CPROMPT.BAT from ASD1
12.BAT	Restores normal MS-DOS prompt
13.BAT	Changes MS-DOS prompt to include inverse video line at bottom of screen which displays current date and persists into SuperWriter
14.BAT	Deletes the above
15.BAT	Displays directory of disk A in narrow format
16.BAT	Displays directory of disk A in wide format
17.BAT	Displays directory of disk B in narrow format
18.BAT	Displays directory of disk B in wide format
19.BAT	Reorganizes dictionary and writes backups
REORG.XQT	[Called by 19.BAT]
20.BAT	Loads SuperCalc
ERROR.BAT	[Error message if requested file not present]

MISCELLANEOUS

ART.COM	Searches for two identical words appearing next to each other. [Same as supplied with AnsibleIndex]
ACL.COM	Customises SuperWriter's dim-character codes
ACOLOUR.COM	Sets colours on F2 or F10, etc. Much more compact than Apricot-supplied utility
AUTOEXEC.BAT	Recommended boot file which calls several ASD1 and ASD2 files on startup
BEEP.COM	Generates beep, for use in batch files
BORDER.COM	Places double-line border around selected area of screen
CHAR.XQT	Enters any character into text by code number, eg funny face. [For screen only, not printer]
CONVERT.COM	Carries out various character conversions: H: Strips high bit [converts WordStar files to be readable] L: Converts all text to lower case S: Sets SuperWriter compatibility U: Converts all text to upper case
CONVERT.DAT	Table of desired conversions. Used with CONVERT.COM to replace any character with any other
DISPLAY.COM	Sends any sequence of ASCII characters and control codes to screen
DISPRN.COM	Like DISPLAY.COM but sends sequence to printer
ESC.COM	Sends escape sequences to screen. Like ESC.BAT from ASD1 but can be used in batch files
GREASE.COM	Analyses a text to determine frequency of word use
GREASE.DAT	Contains words for GREASE.COM to ignore
IN2.DIC	Supplement to the corrected dictionary supplied with ASD1
KEYCHAR.DAT	Displays all non-keyable characters and their codes
KILL.COM	Deletes files and makes them truly unrecoverable. Uses wild cards and "Yes", "No", ESC
NEW.COM	Lists files which were created or updated today
OPTION.COM	Improved way of escaping from a batch file
READ.ME	Contains copyright notice etc.
READ.ME2	Contains advertisements and supplementary text
RUN.BAT	Displays the READ.ME files
SCAVEN.COM	Public-domain program for finding bad sectors of disk. Useful with DOCTOR.COM
SCAVEN.DOC	Documentation for it
SW.HLP	Replaces the original 36352-byte HELP file with a 2048-byte file to free disk space
TODAY.COM	Generates a file containing today's date in UK format, eg `7 July 1986', which may be inserted automatically into SuperWriter text
TODAY1.COM	Like TODAY.COM but gives format `7/7/86'
TYP.COM	An improved version of TYPE — accepts wild cards, pauses at full screen, etc.
VLABEL.COM	Rewrites disk volume label [default is ``Apricot''] to your choice of name. Better than the public-domain programs previously available for this
XY.COM	Places cursor at selected column and row
Z.COM	Resets everything. Like Z.BAT from ASD1 but can be included in batch files.
Z1.COM	Same as Z.COM but resets to dim display
*PROTECT *	Prevents using COPY *.* but accepts DISKCOPY

Readers' Writes

Subscribers have their say ...

SmartPath revisited

Mr Bromhead's review of SmartPath in Release 1.9 has skimmed over some vital information needed to make the utility work properly.

Firstly, I'd like to say that he is right about the manual. It is the most useless guide to a software package that I have ever had the misfortune to use. It's not that the instructions are too complicated or too wordy or misleading: they are just simply non-existent. Not a single example is offered either. The only comments about using SmartPath is to use it in exactly the same way as the PATH command.

Secondly, it is not really very good value for money. At £45 for 1,280 bytes, or £36 per K, it's certainly the most expensive software I've ever bought. I know that this measurement is on quantity rather than quality, but I've words on the latter too.

We bought SmartPath in the firm belief that it would allow us to separate data from programs on a hard disk, therefore allowing different sets of data to be kept apart (by being in different subdirectories) yet only needing one set of programs to process all of these, ie no duplication of programs in each data subdirectory. We have managed to do this now for SuperCalc and SuperWriter, but not for dBase II. The crucial fact about SmartPath is that it will only force MS-DOS to look for overlay files with the suffix OVR or OVL. The main dBase II program is called DBASE.COM, the overlay is DBASEOVR.COM. Thus, SmartPath is no help with dBase II, so don't buy it if that's your only intended use.

According to both Caxton Software and the manual, OVR and OVL are the only file extensions recognised by SmartPath. Not true: I don't know how it does it, but HLP files are also picked up (at least in SuperCalc and SuperWriter).

As recommended by Mr Bromhead, I strongly advise that you do use batch files making sure that both PATH and SPATH are set to the same route. Further, make sure that the first path is through the root directory. For example, to use SuperCalc in directory SC3, we code ...

```
PATH=A:\;A:\SC3
SPATH=A:\;A:\SC3
```

We could not be certain of SmartPath working properly (and Caxton agreed) unless the root was specified.

Finally, beware of programs that load part of their overlays into memory immediately on loading the main program file. SuperCalc 3 does this and if allowed to continue will foil SmartPath completely. When you use SuperCalc 3 from another subdirectory, it may load all right; but as soon as you start using commands, things can go bonkers. You may get a message like 'divide overflow', or it may hang up completely, or SuperCalc 3 may exit gracefully back to MS-DOS with an error message. You can get round the problem (otherwise we would have sent SmartPath straight back to the makers).

Load SuperCalc 3 in its own subdirectory and use /GGID: this will take you to the Graphics Install Adjustments menu and the final D will set up the Disk option for overlays — gives you more spreadsheet room in memory as well, about 100K on my machine.

CONTROL-Z at this point will take you back to /GG, then take the S option to save the new configuration and update your SuperCalc program on disk.

Having done all this ourselves, we now maintain seven subdirectories for different spreadsheet applications, development work and training all using the one set of SuperCalc 3 programs in the parent directory. Similarly, there are a number of SuperWriter subdirectories for individual users all using the one set of SuperWriter programs.

On another topic, I read T J Mitchell's letter on uses of the dot notation and I felt that the matter could not rest there. His method of going *down* the tree can be shortened even further. Try CD BIN — in Mr Mitchell's example structure, this has the same effect as his CD .\BIN. Also then try CD .. (double dot). This will go *up* the structure. Go back to BIN and try CD ..\TEXT. This will go *across* the structure to the subdirectory TEXT at the same level as BIN.

Robert I. Smith
Shapland & Petter, Barnstaple

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- **deals on Apricot hardware and software**, typically useful items that aren't widely available
- **anything else we think would be of value to readers**, such as relevant books.

Each issue has new entries and (occasionally) price changes. So keep looking! And we're always open to suggestions for additional items — if there's something you'd like to see in DEALS FOR READERS, **or if you've come across a handy utility or a good deal on hardware add-ins, let us know.**

How to order

Simple: just send us a note or a purchase order with the item's name and the reference number as quoted in the list. We will normally be able to process orders within two working days.

Note that for orders totalling less than £50 we can only accept prepayments and only in Sterling, so a cheque or money order (made out to "TP GROUP") *must* accompany your order. Or use a Girobank transfer — our National Girobank account number is **59 028 1909**. We welcome this method of payment, in fact, since it's (a) cheap for both parties and (b) quick. It's particularly good for overseas customers: transfers can be made through CCP, POSTGIRO etc.

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

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

Overseas orders

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

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

We recommend that overseas customers use Giro transfer for payment — that's the quick and simple method. Our National Girobank account number is 59 028 1909. Eurocheques and postal money orders are fairly easy, too, or you can ask your bank to raise a Sterling cheque.

Contribute!

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

Public Domain Disks

These disks contain public domain programs and text files which we have sorted, selected and tested. In many cases we have debugged, amended and documented the material too.

In response to popular demand — all the contents files for all our Public Domain disks for a fiver. This is a self-booting disk with BIOS 3.1 on board.

Public Domain Library

Order no:	**AP000**
Price:	**£5**

Apricot Disk No. 1

Order no:	**AP001**
Price:	**£15**

Over 40 files. Highlights now include:
AUTOEXEC with an improved prompt
SDIR and FDIR sorted-directory utilities
VDEL and DELQ selective DELetes
WAIT and ASK two batch file commands, more useful than PAUSE
GRAFCHAR define your own characters
ESCAPES list of Escape codes for Sirius and Apricot
OTHELLO good version of the board game
LEADTRAK and ACCTRACK two sales lead management systems.

Apricot Disk No. 2

Order no:	**AP002**
Price:	**£15**

Includes 79 files. Highlights:
ALTER and CHMOD change file attributes
BASICKEYS single-key entry of Basic commands
DEBUG the Apricot version
EPSON sets alternative print modes
KNEW copies only new files
MENU easy batch-file menu system

MOVE moves files from one subdirectory to another
RENDIR rename subdirectories
SORTDISK sorts directories
TREEDIR displays a DIRectory of all files on a disk — in their subdirectories
WHEREIS searches disk subdirectories for named file(s).

Apricot Disk No. 3

Order no:	**AP003**
Price:	**£15**

A bumper bundle. Highlights:
SWEEP all-purpose file housekeeper
SCAVEN finds and locks out bad sectors
MEMDUMP browse through memory
TURBOKEY key redefinition for aficionados of Turbo Pascal
SUPERWRITER XQT FILES a useful clutch of macros.

Apricot Disk No. 4

Order no:	**AP007**
Price:	**£15**

More indispensable tools and utilities. Highlights:
ASMGEN dissassembler
132-column screen configurator
Memory speed test benchmarks
Improved version of SETUP
DIARY year-planner
LABEL address label printer
BANNER prints fancy letterheads on daisywheel printer.

Apricot Disk No 5

Order no:	**AP009**
Price:	**£15**

A total of 38 files plus full documentation — includes John Lyth's imaginative MS-DOS menu front end, a suite of dBASE II programs to control your bank account, CHECKER to verify inputting in MSBASIC, DEBUG.PAS, a clutch of Spellbinder utilities, IBMBASIC (BASICA to MSBASIC converter) ... and much, much more!

GSX User's Disk

Order no:	**AP005**
Price:	**£15**

The complete GSX tutorial from Lindsay Doyle — includes a library of ready-to-use Basic subroutines that drive GSX, a set of five printable Workshops in text form, many graphics demo programs, and Lindsay's improved HEXPAWN game IMPHEX. Now with an amended screen driver capable of supporting the Epson FX-80.

Games No. 1

Order no:	**AP004**
Price:	**£15**

Includes the very tough flight simulator 747SIM (fly your own Jumbo) plus old favourites like AWARI, TOWERS OF HANOI, and many more besides. A very full disk.

Games No. 2

Order no:	**AP006**
Price:	**£15**

Includes CLEWDO (solve the mystery), TRUCKER (get a cargo across the States on time), and some games for the younger Apricot user (SPELL and HANGMAN). Plus for the first time a GWBASIC version of STARTREK (noises and all) and BACKGAMMON. Some of these are unsuitable for F Series and Portables.

Games No. 3

Order no:	**AP008**
Price:	**£15**

Only two games on this disk, but both excellent and quite realistic entertainments. GREAT BRITAIN LTD is a political-economic simulation — be Prime Minister, balance the books, win the election if you can. And INHERITANCE is an interesting investment/gambling game; you could get hooked on both!

GWBASIC Games

Order no:	**AP010**
Price:	**£15**

A miscellany of graphics-based games, some old and some new (some borrowed and some blue) — including some special sound effects and graphics demos. Highlights: OPERATOR (try running a large mainframe computer system), hunt for oil with WILDCAT, depress yourself with NUKE-LA and ALIEN.

Chess

Order no:	**AP016**
Price:	**£15**

Only three games — but what games! For the first time on an Apricot, a challenging public domain chess game with superb hi-res graphics — even supports an 8087 if you have one. As an hors d'oeuvre we include a version of PACMAN, for dessert a golf game. A self-booting disk with a free bonus: the latest version of MS-DOS with BIOS 3.1. Now comes with a special chess character set for the Portable and F Series.

The dBASE II Disk

Order no:	**AP017**
Price:	**£15**

Full of dBASE II program suites. Includes programs to control membership records, a dBASE routine library, a label printing program, the ubiquitous mailing list program, a product tracking system, a form letter generator and sundry dBASE utilities. Essentially for keen dBASE programmers.

Programmer's Disk 1

Order no:	**AP011**
Price:	**£15**

Our first disk for programming fans. Star attraction is a public domain implementation of LISP called XLISP; plus fifteen Turbo Pascal routines and utilities, a C cross referencer, an MS-BASIC programmers' toolbox, a program line indenter and useful batch file utilities.

Programmer's Disk 2

Order no:	**AP012**
Price:	**£15**

Features BSU, a program to unprotect protected MSBASIC programs; plus Ron Cain's Small C compiler, a trio of cross-referencers for Basic and C, an ASCII-to-Hex converter, a GWBASIC core dumper, the appendix that Microsoft omitted from the MACRO-86 manual, and a C source code checker.

Lotus 1-2-3 Disk No 1

Order no:	**AP013**
Price:	**£15**

No less than 25 WKS templates for 1-2-3, including the Asterix suite of business worksheets, and the macro library MACLIB.WKS.

Lotus 1-2-3 Disk No 2

Order no:	**AP014**
Price:	**£15**

A heap of technical notes and external utilities for 1-2-3 plus seven WKS files including an address label macro and PRNTMENU.WKS to manipulate your Epson printer.

PC File III

Order no:	**AP015**
Price:	**£15**

Our first Public Domain application program — an Apricot version of the well-known general-purpose database/filing package. Menu-driven, great documentation (over 100K of it on the disk), superb power and speed, very easy to use; handles everything from mailing labels to multi-page reports. Exchange data with 1-2-3, MailMerge, many other WP and spreadsheet programs. Indexing on all fields, searches includes 'soundex', multiple selection criteria ... Complete with the latest IBM emulator (which is required). For BIOS 3.1 only.

Special software

These are not public domain items, and they are not discount deals on the kind of software your dealer will sell you. Instead we have gathered a few titles that (a) we feel will be useful to the average Apricot user and (b) you won't find easily — or at all! — anywhere else.

FAST

Order no:	**AS001**
Price:	**£25**

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

FAST is very compact, less than 650 bytes; and it's modest price reflects that. For the money you won't find any better way of speeding up an Apricot with a single-line AUTOEXEC command. Not available for the Apricot F Series and Portables.

Polyprint

Order no:	**AS003**
Price:	**£30**

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

Polyprint Plus

Order no:	**AS021**
Price:	**£20**

For existing POLYPRINT users only: 13 new typefaces and additional facilities including the new capability of mixing typefaces in the middle of a document.

The Apricot Catalogue

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

A list of all the software and hardware we know of for the Apricot with prices, addresses, description (with our comments when we have experience of the package), contact names and numbers (including Telex numbers) where we know them. Regularly updated by us; currently well over a megabyte of information on six disks. The ASCII format can be read by most word processors or simply TYPEd, the Cardbox format can be read by Cardbox Plus and comes with a .FRM format (but not with the file manager program itself).

A.S.D. 1

Order no:	**AS006**
Price:	**£57.50**

Formerly known as P.A.S.D.: this is the latest (and much improved) version of the first (and only?) independently-produced package of upgrades to and tools for SuperWriter. A packed disk, and a good piece of work. Highlights:

- two-column formatting and print
- expansion, improvements, corrections for the dictionary
- full documentation of SW DEF plus a collection of useful formats
- improved (and more legible) display font
- keyboard configuration presets to speed up keying
- many XQT files to accelerate and simplify your routine work
- several batch files for disk housekeeping.

■■■ NEW ■■■

A.S.D. 2

Order no:	**AS027**
Price:	**£57.50**

A second bumper bundle of SuperWriter goodies from those Ansible boys. Includes DOCTOR (easy-to-use file recovery), MAILER mail-list program, a bunch of useful XQT files and BATch files, a disk labeller and three Ansible character sets. Some 90 files in all. Enthusiastically reviewed by Lindsay Doyle in Release 1.11.

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AnsibleIndex

Order no:	**AS022**
Price:	**£86.50**

Sophisticated SuperWriter indexing utility, even permits indexing of subjects and themes. Can handle documents chained across more than one disk, too. Only requires two marks per index item.

AnsiblePatch

Order no:	**AS023**
Price:	**£15**

Patches SuperWriter to improve the legibility of displayed text on F series Apricots and Portables.

IANKEY Crash Course

Order no:	**AS007**
Price:	**£48**

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

IANKEY Two-Fingers to Touch-Typing

Order no:	**AS008**
Price:	**£48**

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

FORTRAN Utilities

Order no:	**AS009**
Price:	**£50**

A collection of assembler utilities for MS-FORTRAN applications, complete with test programs and link instructions. Now features direct access to system calls and an interfaces to GSX. Also includes:

- set date and time
- current date and time
- get/change default drive
- delete/rename disk file
- read/get character from keyboard buffer
- print characters on printer.

SSDISK

Order no:	**AS024**
Price:	**£15**

Fed up with the inadequate RAMdisk software that came with your Apricot? S&S has produced a RAMdisk which is configurable up to a full 896KB with 128 directory entries per 'drive'.

DO-TO-ALL

Order no:	**AS010**
Price:	**£15**

Handy for hard disk users and anyone with multiple subdirectories: DO-TO-

ALL lets you issue just one command that is to be applied to all directories — to delete all BAK files in your subdirectories, for instance.

TRAN-SEND

Order no:	AS026
Price:	£97.75

Replaces The FTU in our lists because it's cheaper and better. A superior file transfer package enabling you to transfer data between Sirius, Apricot and/or IBM via the RS232 serial port with speed and ease. TRAN handles subdirectories and features remote operation with the option of transferring file using XMODEM protocols. Price is for three disks covering those three formats.

The File Protect Pack

Order no:	AS018
Price:	£60

SECRET makes files invisible (or visible again) to DIRectory searches, READONLY sets the attribute bit so that they can't be deleted or overwritten, ENCRYPT encrypts and decrypts files according to your password, ZAP deletes them so thoroughly they can't be 'undeleted' at all.

UNDELETE

Order no:	AS020
Price:	£20

The essential brow-soother — will attempt to recover files that have accidentally been DELeted, and does so with gratifying frequency. Not for hard disk systems, though.

SPLIT Disk Partitioner

Order no:	AS025
Price:	£56

Infosoft's clever disk partitioning utility for Xi hard disk Apricots — lets you 'partition' the hard disk so that it looks like up to 24 separate disks, each with a drive identifier and each with a size you specify. Thereafter the 'drives' can be treated as if they were real ones for reading, writing, copying, renaming, deleting files etc.

MXDUMP

Order no:	AS012
Price:	£75

Another classy little number from the programming pen of Friedman — produces exact screen dumps from your Apricot display on a standard Epson MX dot-matrix printer. Once loaded it sits quietly in MS-DOS waiting for you to call it (with a single keystroke). Lots of options: specify text or high-resolution graphics, normal or bold, standard- or double-width: and more ...

The Lotus Pack

Order no:	AS013
Price:	£65

Useful utilities from S&S Enterprises for Lotus users:

- THEPOUND lets you use all the displayable Apricot characters in worksheets — including the pound sign
- SOLID123 consolidates several 1-2-3 or Symphony worksheets into a total
- TRANSPOS transposes rows and columns
- 123RANGE lists worksheet ranges.

The Printer Pack

Order no:	AS015
Price:	£40

Mainly for Epson-compatibles, mainly for spreadsheets:

- SIDELINE prints worksheets sideways so that wide spreadsheets fit on to the paper
- FXPOUND prints the pound sign on FX-type printers
- SETFXPR provides a set-up menu for printer functions.

The WP Pack

Order no:	AS016
Price:	£50

Four handy S&S utilities for word processing:

- WSASCII converts WordStar files to ASCII format so that they can be read by other word processors
- WORDNO word counter
- READAGE calculates the reading age (ie the comprehensibility) of text
- SEARCH searches text for a given phrase.

The First-Aid Kit

Order no:	AS017
Price:	£25

Just what you need to make your computer more palatable to novice uses — the DOSMENU front-end option-choice menu and the HELP dial-an-explanation facility.

The Games Box

Order no:	AS019
Price:	£25

Two games from Alan Solomon: ADVENTURE is the original 'Colossal Cave', CASH CRISIS is 'Space Invaders' with money

Other extras

Good Computing Book

Order no:	AB001
Price:	£3.00

A tubby and packed paperback for beginners. Mostly a reference dictionary of computing terms, but also lots of introductory info. Claims to offer "everything you need to know and nothing you don't".

Expansion Memory

256KB	AH004
	£130
512KB	AH005
	£185

High-quality add-in memory cards from a well-known manufacturer at prices we think you'll find hard to beat — bearing in mind that they include VAT and despatch. The 512K board is particularly good value, perfect for RAM disks and big spreadsheets. But both boards are socketed, so if you can get the chips you can populate the board up to the 512KB maximum yourself.

All prices include VAT and despatch. Send your order with payment to:

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

Queries: 01-833 3501

Cheques should be made payable to TP GROUP.

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

Note that we can only accept payments IN STERLING, that we must have PREPAYMENT except for official Purchase Orders, and that PURCHASE ORDERS can only be accepted for orders totalling £50 or more.

Payment by Giro

We can now offer the facility of payment by postal Giro transfer for both our UK and overseas customers (including CCP, POSTGIRO etc). Our National Girobank account number is 59 028 1909.

Classified

Free Small Ads

This Classified Ads section is free to APRICOT FILE subscribers. Just let us have a sheet of paper with the words. To summarise the requirements:

- **indicate in which classification you'd like it to appear**
- **don't forget to include an address and/or phone number (we won't be operating a box number service)**
- **please try to limit yourself to 50 words or less**
- **let us know when you want the ad removed from the list!**

Send your ad to:
APRICOT FILE
P O BOX 509
LONDON N1 1YL

Jobs

■■■ STAFF WRITER REQUIRED FOR APRICOT FILE: Dennis is getting involved with new newsletters now that this one is established. Anyone interested in a full-time job (modest salary plus profit-sharing and a lot of fun) should write to him at our address.

Help

■■■ HELP FOR F1/F2/FP USERS: Gateway Users Group exists solely for users of these machines. Details from Tony Hill at 85 Edna Road, Raynes Park, London SW20 8BS.

■■■ Hot from the Gateway User Group: the Summer Sampler disk. A snip at only £6.00 inc VAT and P&P this disk comes in two varieties — single- and double-sided. Features some new and unusual PD programs together with DOC file versions of the GUG newsletter technotes. Really excellent value and the money goes towards a worthwhile cause too. Write to GUG, 85 Edna Road, London, SW20 8BS.

■■■ BIRMINGHAM AREA: any users of Apricot computers interested in forming a User Group for the exchange of ideas, software, etc please contact H Cohen on 021-454 2563 (evenings only) or write to 3 Fairlawn, Westbourne Road, Edgbaston, Birmingham B15 3TL.

■■■ 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 — phone 01/715 10 94.

■■■ HELP GROUP: Apricot users within striking distance of Reading, Berkshire, and interested in forming a friendly group to give and receive help on programming, communications, software packages and anything else legal are invited to contact David Holland on Reading (0734) 68860 — evenings only.

Sales

■■■ APRICOT Xi20S with 1MB RAM, 20MB hard disk, 12in monitor, Mouse, Internal Modem, Juki 6200 printer. Nine months old, hardly used. Price new was £7,000 — will accept £2,800. Also available: external 20MB hard disk and tons of software if required (not included in price quoted). Messages on 0772 719325.

■■■ APRICOT F1, bargain at £150. You need to use its light pipe, otherwise totally reliable. I'll part with a Philips monitor too if buyer needs one for £40. Contact 0403 44180.

■■■ For Sale: The Last Portable 512KB? Brand new, white Apricot FP complete with colour board and RGB socket plus infra-red mouse, GEM, all manuals. Only £480 plus VAT. Tony Hill, 01-543 2898.

■■■ SIRIUS TO APRICOT file transfer package. Official ACT version: cost £109, bargain at £45. Contact 061-428 5975.

■■■ APRICOT XiHD, new. Price only £1,275 inc VAT. Contact Mr Cohen 021-454 2563, evenings only.

■■■ APRICOT Xi, as new and boxed. 10MB hard disk, 720KB double-sided floppy, 9in monitor; SuperCalc, SuperWriter, SuperPlanner. Cost £3,444 — will accept £1,495. Dust covers and Securicor delivery included! Phone 061-428 5975.

■■■ XEN multi-user system with two 256KB Apricot PCs and Oki Microline 193 printer plus Delta 4 (networked), SuperWriter, SuperCalc. Cost £9,000 in March, will accept £5,750 now. A first-class system, but unfortunately the business did not materialise ... Details from 031-445 2218.

■■■ APRICOT INTERNAL MODEM with MicroMail software. £130 ono, or swap for 8087 co-processor. Contact Mick Kelly on 0603 610584.

■■■ 9in APRICOT MONITOR green screen, black case, includes carrying case. As new, used only on Sundays, etc. Price £100. Contact Paul Lavin on 01-451 1951.

■■■ CARDBOX electronic card index system: no longer required, £75. Also once-used Apricot single-sided disks: boxed in 10s, £17.50 per box. Phone 041-332 2505.

■■■ TYPEWRITER/PRINTER (Olivetti ET121) with serial interface. Can be used as printer for computer as well as conventional typewriter — currently used with a BBC Model B, but never mind that! 17in carriage, excellent condition, several different daisywheels and coloured ribbons available. Helpful advice on its use can also be provided ... Best offer secures. Contact Mike Penny on 0594 516207.

Wants

■■■ CHEAP TURBO PASCAL WANTED by student, to help with studies. Write to Martin Norman at 14 Spurr Court, Foxwood, York.

■■■ LOAN OF PORTABLE DISKS WANTED — Dixons muddled up the disks I should have received, say there's two months delay on replacement, and have certainly omitted at least the Voice disk. Can anyone help? Contact Paul Anderson, 01-868 4499 ext 263 (office hours) or 02518 3470 (evenings).

■■■ DR LOGO — can anyone alter DR LOGO for the F1/F1e to run on the F2? I have tried Apricot dealers without success and the long-promised £30 DR pack still hasn't materialised. Contact David Stirling at 28 Ingleston Avenue, Dunipace, Denny, Scotland.

■■■ MOUSE WANTED for Apricot F1. Serial mouse preferred, but willing to consider infra-red Apricot mouse if cheap. Contact Dr Cartwright, tel 045 383 4576.

■■■ DATABASE/FILING PACKAGE (Palantir or Cardbox preferred) and A.S.D. Superwriter disk. Exchange IANKEY touch-typing tutor, GRAMMATIK grammar checker, PROOFREADER spelling checker (full working copies with documentation) — cash difference either way. Phone 095 786 261.

Contribute!

■■■ HELP WANTED BY APRICOT FILE — we have some good Sirius comms programs that need a little tweaking before they'll run on the Apricots (serial port addresses etc) ... Contact Roger Gann on 01-833 3501. ◆

Laser by Apricot

Apricot has unleashed the **laser printer** it promised at the Xen launch. Turns out it's a rebadged **Kyocera**, which isn't at all A Bad Thing — Kyocera is one of those little-known but very large Japanese companies which makes things on which other people apply their labels (Tandy modems, those eight-bit briefcase portables from NEC, Olivetti and Tandy, PC- and AT-compatibles sold by Victor among others, several internal components). The laser printer was seen at last year's NCC in the States, and our man on the spot reports it to be "a pretty good current-technology product".

As the Apricot Laser it will retail for **£2,799**, which is a bit cheaper than market leaders Canon and HP: at 10 pages a minute, it's a bit faster than them too. Resolution is the standard 300 dots per inch. Some cost-savers are featured — 3,000 pages per toner cartridge, two interfaces built in (RS232 and Centronics), a megabyte of memory for fonts. You can have up to 50 typefaces resident in memory; a total of 36 standard faces are provided, including the ubiquitous typesetter-quality Helvetica and Times Roman (italics, boldface and other variants count as separate fonts), along with 38 printable bar-code patterns). Five more can be downloaded; Kyocera doesn't offer the plug-in font cartridges that characterise most of its competitors, so you'll have to find or build the extra faces yourself.

Printer controls emulated include two matrix printers (FX80 and IBM Graphics Printer), three daisywheels (Diablo, Qume, Spinwriter), and the HP LaserJet Plus. The Apricot Laser's own control language — called PreScribe — is reportedly a superset of HP's, too. Verdict? It looks ok.

Log switchboard calls

ATEL is a new package from **Autofile** that logs and monitors calls through a Mitel switchboard. It runs any Apricot plugged into the Mitel's RS232 port and records cost, duration and destination of calls. Autofile is on **0753 822221**.

UnFORMAT your hard disk

It's all too easy to wipe your hard disk — type 'FORMAT' and press any key. Of course, you'll do that because you want to format some floppies and didn't take care to specify drive B. But FORMATting is unstoppable — and irrevocable, unless you have Alan Solomon's new UNFORMAT program. This examines a formatted hard disk and dumps on to floppies anything it finds there. UNFORMAT can't tell one file from another, because FORMATting kills that information completely; so you'll have to use a word processor or something to sort out what you've got. But at least the chances are you will have *some* of your data. UNFORMAT costs **£195** from **S&S Enterprises** on **02403 4201**.

Turbo BOS

New from **BOS Software** is a gap-filler in its product line, a **Purchase Order Processing** package at £400 for single-user versions and £650 upwards for multi-screen systems. Also announced are a couple of products aimed at "vastly speeding" the development time for commercial BOS multi-user software. **SpeedBuilder** is a high-level extension to MicroCobol which should cut down on code-writing; **SpeedBase** provides consistency checks and automatic multi-user facilities like locking. BOS is asking **£4,000** for the two; info from **01-831 8811**.

BSF to revive?

Bristol Software Factory has been acquired by its two operational managers. The company, whose principal product is the **Silicon Office** database manager, has never realised the potential of a head start in microcomputing (it produced its first Commodore product in the late 70s) and didn't react to changing price-performance competition (Silicon Office is still very pricey). New products have been slow to emerge, too. A couple of years ago the prime movers — **John Kyle-Price** and **Mike Whitehead** — moved to the Channel Isles and took a back seat; they've sold out to the operational directors, **Mike McDonald** and **Richard Maugham**, who are promising "sweeping changes to pricing structure, new products, and significant enhancements to the existing systems".

Logistix updated

The **Logistix** spreadsheet-plus-'time planner' package from **Grafox** has appeared in a new version, numbered 1.1. That adds a 'learn' mode, an extended macro-writing kit, password protection, and support for multiple named printers: anyone who purchased Logistix after 1 April gets the upgrade free, anyone else can have it for £40. Grafox is on **0865 516281**.

Re-subscribe!

The junking of Apricot-architecture machines and the disappearance of Apricot User magazine mean that we Apricot owners need each other more than ever. Well, we'll still be there — waving the flag, agitating for support, providing a means for Apricot users to communicate with each other, filling the gaps in what passes for Apricot documentation, reviewing new products, and generally helping you get more from your computer.

The next issue of APRICOT FILE sees the end of Release 1: but in October we publish Release 2.1. We might take the opportunity to amend the newsletter's design slightly, but we won't be making massive changes to the style or the content. You can expect more on comms, we're looking at ways of doing a teach-yourself-assembler series, and many more Workshops and Technotes have been lined up; but basically it's the mixture as before — unless you ask for something different, and to date the feedback from subscribers has generally been positive.

Most subscriptions expire with the next issue, Release 1.12. Inevitably we're having to put up the subscription rate; all of our costs have increased, and we simply can't afford to hold the present price. From Release 2.1, new UK subscribers will pay £50 per year, and overseas subs will also rise proportionately.

But we appreciate your support so far, and we're keen to keep you with us as we go into our second year. So for a limited period we'll be offering a discount on the normal rate: existing subscribers can have another year's worth of APRICOT FILE for £40 in the UK, £45 in mainland Europe, £60 elsewhere.

Release 1.12 will include a sub form. Return this with payment before 1 November 1986 and you'll qualify for the reduced rate.