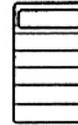




# IPSO FACTO



*The Newsletter of the International Psion Organiser User Group*

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Editorial Office: 130 Stapleford Lane . Toton . Beeston . Nottingham . NG9 6GB . UK

Phone: (0602) 735482 . Telecom Gold Mailbox 72:MAG11839

## Editorial

As we start the new Volume I would like to extend a hearty welcome to all our new subscribers in the hope that we can produce something of value and interest for everyone each month. Perhaps this is the time, also, to remind you all that this is *your* newsletter, and I will try to publish what *you* want. I have some very interesting items in my IN TRAY for future issues and wish to thank all those who have taken the trouble to contribute to the Newsletter, no matter how small the item.

As I now have a PC (OPUS) - which is being used to produce this issue - I welcome material in the form of a standard PC floppy disk (360k format). I can, of course, also download any items sent by Email (my Mailbox number is at the head of each newsletter).

## Local Groups

With the appearance of advertisements in Psion News for our two established Local Groups - London & Swindon - a certain amount of confusion has arisen, especially among non-IPSO members. Both of these Groups are sub-Groups of IPSO, and as such are not in any way in competition with us. As always, I consider it part of the IPSO Service to publicise the existence of Local Groups and we take an active part in helping new Local Groups to form.

## IPSOMEET 89

Because of the excellent response to my notes on the Renewal Form, I have had to revise my plans for IPSOMEET 89. I can now tell you that the MEET will be on both SATURDAY and SUNDAY, 8 & 9 JULY '89. I have booked a suitable venue, which is less than 5 minutes from Exit 25 of the M1, has a big Car Park, and is at ground level (for any of our disabled friends).

We will have at least 6 Organiser Software Firms present, and, like last year, will have a Bring-and-Buy section. We will also feature Beginners and Machine Code 'workshops', etc.

The cost of the day will be £7 per person (inclusive of Morning and Afternoon Coffee and Buffet Lunch). There are also Bar Facilities.

I hope the new dates will be suitable (I have tried to give enough notice). However, if anyone wishes to change their original decision, please let me know, as we may have to restrict numbers, although I would wish to avoid this.

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## Swindon Ipsos Group

Fourteen people attended the Meeting in February which was enlivened by a member producing a "secret" photocopy of notes on file-handling that they had obtained from Technical Support at Psion, which is an excellent document and well worth a copy.

The Group is also going ahead with buying a block of Shares in Psion Plc.

The next two meetings are on Monday 3 April and Monday 5 June at the address below, at 7.30 p.m.

The Group has also started plans to establish a Computer Museum in Swindon!

### FOR SALE

Finance Pak (Offered at £23.95)

The address of the Group (which welcomes new members in Swindon & District) is:

14 Belmont Crescent  
Old Town  
Swindon  
Wiltshire  
SN1 4EY  
Tel: 0793 619664

# REVIEW OF XBASE

from Cubsoft  
by Philip Cook

As an enthusiastic user of FNKEY I was very interested to see that CUBSOFT had produced another package, this time a Database and Diary Manager. Given the elegance with which FNKEY works I wondered whether the same quality of use and function would be maintained or whether like so many PC software packages there would be one excellent package followed by a number of indifferent ones. I have to say that CUBSOFT have maintained the standard and in some areas improved it.

XBASE comes on a copy protected 16K datapack with a well produced and comprehensive manual.

There are four different modules on the datapack, MBASE which is a simple database, XBASE which is a more advanced database, QDIARY which is a diary management utility and MINIKEY which is effectively a cut down version of FNKEY. All the modules are designed to be memory resident and can be loaded in either LOW memory (Model XP only) or HIGH memory. This option is important for people who run the spreadsheet or comms regularly as these try to load in LOW memory first and if other packages have got there first load into HIGH memory with consequent loss of file space. If you are short of memory then XBASE, MBASE and QDIARY can be run as standard programs which are cleared out of memory when you have finished with them although to use them in this way means that you have to have the pack inserted into drive B: or C:. The manual covers the installation of modules very clearly.

A utility program is also provided which allows you to configure some of the MINIKEY and QDIARY features.

MBASE and XBASE are in their basic facilities identical packages. The main differences between the two packages are their size and an advanced selection facility in XBASE. The packages work in a very similar way to the top level FIND and SAVE utilities. By adding an extra function USE it is possible to select a file and then use FIND and SAVE in the normal way. If the file specified does not exist the system will, if requested, create it for you. Since you can create files, options to list the directory (PACK) and remove files (KILL) are also provided. The system remembers which file you were using last and unless another file is specified for FIND and SAVE will use that file. However the USE KILL and PACK commands will always start on drive A: which is very useful if, like me, you use FNKEY to automate file selection and use.

Where XBASE comes into its own is where you want to FIND information using more than one search criteria. In this case you use the VIEW feature. This allows you to MOVE COPY and DISPLAY records matching a multi criteria search. The MOVE and COPY options write the records to another file specified using the ALT command. There is also a STAT command in VIEW which shows the number of records matching the search as well as the amount of memory they occupy.

This coupled with the enhanced PACK option, which gives space available on drives, will tell you whether you have enough space to write the data. Another feature in XBASE is the JUMP option which works exactly like FIND but starts at the end of the file and works towards the beginning. The MOVE COPY and EDIT options work in the same way as with FIND.

There is an option when installing XBASE and MBASE as to whether you want mixed case edit or not. This sets the keyboard into upper or lower case when you use the package. One very neat feature is that if you are using Lower case and you use a "." instead of the space between words this is replaced by a space and the first letter of the next word is saved as an Upper case letter. So for example ".mary.had.a. little. lamb" is saved as "Mary Had A Little Lamb".

Both XBASE and MBASE have a DATA option which tells you the line number you are using when entering data; by using the UTIL program it is possible not only to set your own prompts but also to set the keyboard into numeric mode or lower/upper case.

The various features mentioned so far are the sort of feature you would expect in most database packages. What makes XBASE unique are its Sorting and Printing facilities.

The sort facility is called RANK and allows you to dynamically sort any file in any order on any key that you want. The sort data is created and held in RAM for as long as you need it and is cleared out when you have finished. The options allow you to choose which line you want to sort on, how much of the line you want to use and an offset, this would allow you to sort on the second line of a file on the 8 characters starting 4 characters in. The sort can be in ascending or descending alphanumeric or numeric data. A facility is offered to sort using the last word of the first line of a record, this is for sorting address files where the data is entered with the surname last.

The sort is very fast with 100 records sorted in 8 seconds. If there are a large number of duplicate records being used as the key this will slow down. The manual explains how to avoid situations like this occurring.

Once the records are sorted it is possible to print or display them using the PICK facility. This allows you to display particular lines of a record say for example the 1st, 3rd and 4th lines only or to display the 5th line first and so on. Using this PICK string it is possible to print out records in any way you want. You can also copy records using the PICK function so that it acts as a data filter.

It is the PICK facility together with the built in control for Epson FX and compatible printers and PSION printers that makes XBASE stand well above other packages. There is support for all the main print sizes on both printer types together with the ability to set the tabs on the Epson. Option settings allow you to set the number of records to be printed on a page, whether or not you want a form feed at the end of your print and the number of blank lines to be printed between records. Putting all these facilities together gives you a very versatile method of printing data.

*The XBASE and MBASE facilities are, as far as I am concerned unmatched by any other package I have seen*

# Machine Code Page

Cat: A practical application designed by Les Ball & Richard Parfitt

This program is almost self-explanatory, It will produce a printed CAtalog of ALL types of FILES present on a particular device. Apologies to pure MC buffs for the amount of OPL surrounding the MC bits!

```
CAT:
LOCAL
CODE$(24),FN$(11),F$(5),D$(96),DV%,FT%,C%,
LOCAL I%,F%,
J%
onerr err2::
DV%=0
LD::
PRINT CHR$(12);"DIR ";CHR$(DV%+%A);"."
C%=GET
IF C%=2
DV%=DV%+1
IF DV%=3
DV%=0
ENDIF
ENDIF
IF C%<>13
GOTO LD::
ENDIF
x::
PRINT CHR$(12);
IF NOT EXIST(CHR$(DV%+%A) +":MAIN")
[PRINT CHR$(16);CHR$(12);"NO PAK IN
";CHR$(DV% +%A);".";]
PRINT CHR$(15);"PRESS SPACE KEY";
PAUSE -100
KEY
ENDIF
L0::
FT%=1
L1::
[CODE$=CHR$(36)+CHR$(86)+CHR$(80+
FT%)+CHR$(97)+CHR$(42)+CHR$(86)]
[CODE$=CODE$+CHR$(00)+CHR$(CE)+CHR$(
21)+CHR$(87)+CHR$(A7)+CHR$(00)]
[CODE$=CODE$+CHR$(32)+CHR$(3F)+CHR$(
22)+CHR$(CE)+CHR$(21)+CHR$(87)]
CODE$=CODE$+CHR$(39)
FN$=USR$(ADDR(CODE$)+1,$100+DV%)
GOTO L4::
L3::
FN$=USR$(ADDR(CODE$)+1,DV%)
L4::
IF LEN(FN$)>0
IF FT%=1
F$="FILE "
ELSEIF FT%=2
F$="DIARY"
ELSEIF FT%=3
F$=" OPL "
ELSEIF FT%=4
F$="RS232"
ELSEIF FT%=5
F$="PLAN "
ELSEIF FT%=9
```

```
FN$="FNKEY"
ENDIF
I%=I%+1
F%=LEN(FN$)
J%=11-F%

DO
FN$=FN$+CHR$(32)
J%=J%-1
UNTIL J%=0
FULL::
D$=D$+F$+FN$
IF I%=6
LPRINT D$
PRINT "BUSY...";
PAUSE 20
BEEP 250,340
CLS
ENDIF
IF I%=6
D$=""
ENDIF
IF I%=6
I%=0
ENDIF
POKEB $73,0
POKEB $74,1
POKEB $20B0,13
GOTO L3::
ENDIF
EOD::
IF FT%<>15
FT%=FT%+1
GOTO L1::
ENDIF
L6::
LPRINT D$
BEEP 250,340
PRINT CHR$(13);"***END OF PAK***"
dv%=dv%+1
if dv%=3
POKEB $0073,$00
POKEB $0074,$01
POKEB $20B0,$01
STOP
ENDIF
GOTO x::
RETURN
ERR2::
ONERR OFF
PRINT CHR$(16): ERR$(ERR)
PRINT " PRESS SPACE KEY"
GET
```

*Les Ball welcomes ideas for this page. He can be contacted evenings on (0602) 289553*

# Third Party Hardware News

## Developments In Organiser Add-Ons

### Alternative to Datapaks

I have been convinced from the start that one of the serious drawbacks of the Organiser system has been the price of the add-ons, especially from Psion. In the early days, the price of a 128k datapak was more than the price of the XP Organiser itself, which was clearly a drawback.

Now, for the first time, another way of handling datapaks - or rather EPROMs - has been developed by one of our members. Although the idea is deceptively simple, it has taken quite a lot of work to make the idea a feasible proposition.

This device plugs into either of the datapak slots using a dummy datapak to make connection. The rest of the device is a narrow ribbon cable terminating in a neat box, about 2" by 3" by 1", which is topped by a ZIF (Zero-Insertion-Force) socket to take an EPROM. A small lever allows the EPROM to be easily exchanged for another, and a small switch lets you choose between 8/16k and 32k EPROMS.

If you are not familiar with EPROMS, then you have probably never had a datapak apart. Those in this position would perhaps care to be a bit adventurous and dismantle one of their datapaks. This is quite simple to do and there is absolutely no risk of damage if you are gentle! The dull-grey slab with 28 legs and a little round window is the EPROM.

Well, you may ask, what is the advantage of this gadget? In short, it means that you can keep the equivalent of a stable-full of datapaks in the form of bare EPROMS - and blank EPROMS are available from many sources at prices from £2.50 each (quite a saving!). It is a good plan to use colour coded labels for your EPROMS, which take up much less storage space than the equivalent number of datapaks.

The only restrictions seem to be that (for technical reasons) the EPROMS must be the 21volt type, and restricted to 8, 16, or 32k.

As far as I am aware this device has, as yet, no formal name (any suggestions?), but it is available to members, price £50, from:

Mr P. Littlewood  
Phone: 05436 71045

Editor's Note: I personally think that this is a neat device which could become a real alternative to datapaks and which would enable software developers to explore cheap alternatives.

### A New Printer Cable

One of the most expensive add-ons to the Organiser is the Comms Link. For once I am not saying that this item is overpriced - it is a wonderful piece of kit which I just could not do without - but, for anyone who only wants to connect his Organiser to the office printer £59 is often impossible. Until recently, anyone wanting to print at all from the Organiser was obliged to tool up, not only with a Comms Link, but also with some kind of adaptor (at least another £12.95).

All this changed with the arrival of the Organiser Printer, which allows you to dispense with a Comms Link (with the expense being the printer itself).

Now we have a third alternative. One of our members has designed a CENTRONICS type cable, which plugs directly into the top port of the Organiser and terminates in a standard AMPHENOL socket (which will plug in directly to any centronics printers (the usual interface with 95% of all printers)).

The PARALLINK is supplied with a datapak containing the software necessary to persuade the Organiser that it has a Centronics Interface (which of course it hasn't). The pak contains routines for producing a linefeed on the printer (which is usually available as a DIP switch option on the printer itself). There are also other routines to set printer WIDTH, printout your MAIN file in COMMA, SPACE, or NEWLINE format. So that the software doesn't take up a precious datapak slot, the essential driver program is capable of living unobtrusively in LOW MEMORY, so that the pak may be removed.

PARALLINK will be available from mid-March at the very reasonable price of £39.95, including VAT from:

IPSO  
(see Page 1 for full address)  
cheques made payable to:  
Silvertree Engineering Ltd

### Editor's Note II

Up to now, I have been driving any of my four printers from the Organiser by a combination of Comms Link and Serial/Parallel converter (from Transform) at a total cost of £98. While - as I explained above - I need the Comms Link for other purposes (including connecting the Organiser to my other computers). For anyone who wants to just print, the PARALLINK is a welcome addition to the Organiser armoury.

# Beginners Page

by Mike Nash

First thank you to Colin Meglashan for writing to ask about the CALC memories and their use in OPL. I think that the first thing to bear in mind when dealing with these useful memories is that they are FLOATING POINT VARIABLES rather than INTEGER VARIABLES

This is because the CALCULATOR'S DEFAULT MODE IS FLOATING POINT. The translation of this jargon is that CALC only uses INTEGERS when you tell it to. It is worth remembering that the PSION has permanently allocated space for these CALC memories to the tune of 8 bytes {or "memory boxes" ,in MIKE SHAW SPEAK} as opposed to two bytes for the largest possible integer. When space is at a premium in programming it may pay to use the CALC memories for any floating numbers you may be using in order to conserve memory . Supposing however that you sometimes have some values in these memories , and you don't want to lose them . In that case you must first store the memory value in a variable

eg store = m0

now you can play around with m0 in your program to your hearts content as long as , at the end you insert the line  
m0 = store

COLIN also asked about the display of these memories, and , of course they behave just like any other floating point number, displaying 12 decimal places unless controlled by FIX\$ OR perhaps INT

EG IF m0 = 123.456789123

PRINT m0 will give 123.456789123

PRINT FIX\$(m0,2,5) will give 123.45

PRINT INT(m0) will give 123

Lastly regarding floating point numbers , because of the way they are stored in memory any attempt to access them by PEEKS and POKES will result in an awful lot of confusion. This is because they are not stored in the same way as integers. For example MIKE SHAW'S first book tells you that the address in memory of m0 is 8447 {check this for yourself in CALC with ADDR(m0) . However you will find that if 1 for instance is stored in m0 and you peekb eight successive memory boxes from 8447 to 8454 you will find the value 16 at 8452. If you increase m0 to 2 , this increases PEEKB(8452) to 32 ! Further for every power of ten m0 is raised to PEEKB(8453) is incremented by 1. Confused ? I know I but, perhaps it would be better to leave the mysteries of floating point to a real expert.

I had the task of giving a talk to the LONDON GROUP last month on STRING HANDLING so I think i might as well give IPSO at large a chance to benefit from my labours

In order to illustrate my talk I wrote a number of procedures to illustrate different ways of handling screen display utilising the punctuation and control characters available . Above all I hope that study of these little routines may stimulate you to always look for the fresh approach .

Screen\$: I RECOMMEND in particular as a way of stabilising your screen displays

```
LEC2:          REM DEMONSTRATE USE OF SEMI COLON AND COMMA
PRINT"HI      THERE";
PRINT "PSION","U";CHR$(%S);"ERS"
PRINT REPT$("=",16)
GET
```

```
LEC3:          REM THIS PROC PRINTS ">" TO THE SCREEN ACCORDING TO
                REM THE PERCENTAGE OF A MINUTE THAT 'SECOND' IS EQUAL TO
LOCAL ESC%,STORE
STORE=M0       REM PRESERVE ANY VALUE IN CALC MEMORY M0
DO
M0=SECOND     REM PUT VALUE OF SECOND IN m0
PRINT CHR$(14);REPT$(">",16*(M0/60)) REM THIS PROCEDURE ILLUSTRATES HOW
PRINT CHR$(15);SECOND      REM REPT$ MIGHT BE USED TO PRINT A
ESC%=GET          REM WITH LPRINT TO CREATE A BARCHART
UNTIL ESC%=%Q    REM FOR EXAMPLE
M0=STORE         REM RESET M0
```

```
LEC4:          REM USUALLY WE EXPECT MENU TO HAVE A STRING OF IF-ENDIFS AFTER IT
LOCAL ESC% REM NOT HERE. BY COMBINING STRING AND NUMERIC FUNCTIONS
PRINT DIR$(CHR$(64+MENU("Adir,Bdir,Cdir"))) REM WE END UP WITH QUITE A COMPACT
DO REM FUNCTION
PRINT dir$("")
UNTIL DIR$("")=""
```

## Beginners Page II

```
LEC5:          REM AS ABOVE BUT USING SCRNS:
PRINT DIR$(CHR$(64+MENU("Adir,Bdir,Cdir")))
DO
SCRNS:(DIR$(""),num$(FREE,6))
UNTIL DIR$("")=""
```

```
SCRNS:(L1$,L2$)          REM USE CONTROL CHARACTERS INSTEAD OF 'AT'
PRINT CHR$(14);LEFT$(L1$,16); REM SEMICOLON STOPS DEFAULT LINEFEED
PRINT CHR$(15);LEFT$(L2$,16); REM
GET
RETURN L1$+L2$
```

```
lec6:  REM THIS JUST LOOPS THROUGH ALL THE CONTROL CHARACTERS
LOCAL i% REM TAB CHR$(9)IS QUITE INTERESTING
i%=8    REM TRY LEAVING OUT THE SEMICOLONS
DO
i%=i%+1
PRINT CHR$(i%);
GET
PRINT i%,"psion";
GET
PRINT chr$(i%);
GET
PRINT i%,"four";
GET
PRINT CHR$(i%);
GET
PRINT i%,"user";
GET
UNTIL i%=16
```

That's all for now folks! More on File Handling next month. Any PCFOUR/EXCHANGE/ARCHIVE users out there, please drop me a line.

Mike Nash  
6 Hazlemere Court  
26 Palace Road  
London SW2 3NH  
Phone: 01 671 8644 Sunday 10.00 to 12.00  
Email: 72:MAG32832

### Glasgow Local IPSO Group

There has been considerable interest in the formation of a local group in the Glasgow Area (and there are certainly enough members there to make this worth while), so would any member within easy reach of Glasgow who is interested in meeting other Psioneers care to contact the following member who is willing to help to form this group:

Mr John N.H. Cameron  
15 Kirklee Terrace  
Glasgow G12  
Tel: (041) 357 2516

### Slough & District IPSO Group

Also about to form, this Group already has a Venue. All that is needed is loadsa Members! IPSO certainly has enough members in this area to form a substantial Group.

Anyone interested should phone:  
Stephen Chapman on (0494) 27788  
(evenings or weekends)

### Leominster Local IPSO Group

If there are any members in the LEOMINSTER Area of Herefordshire who are instered in forming a small Local IPSO Group, would they please contact:

Mark Waters  
50 Westgate  
Barons Cross  
Leominster  
Herefordshire  
BR6 8SA

Tel: (0568) 5348

Would YOU like to form your own Local Group? If so, let me know and I will gladly publish details. Remember, a couple of hours instruction from another Psioneer may be all you need!

## Progs & Procs

Two programs which involve the new Organiser Printer

**BPRO**  
by Mark Wilding

This procedure may be helpful to those who not only own a new Psion printer, but also own and use Mike Shaw's new book "File Handling. . ." (previously mentioned in this noewsletter). With Mike Shaw's permission it alters the procedure printed in his book which was aimed at an Epson printer (see Page 168). The published procedure uses a 60 column setup and gives a nice neat row of columns spaced across the paper. This procedure adapts the original to produce a layout compatible with the Psion printer.

```
bpro:
LOCAL t$(1)
t$=CHR$(9)
USE B
FIRST
LPRINT CHR$(23)+"STANDING ORDERS"
LPRINT
[LPRINT fil$:( "NAME",8);" AMOUNT";" NOP";t$;"
LAST PAID"]
DO
[LPRINT fil$:(B.i$,8);FIX$(B.a,2,-9);NUM$(B.nop%,-
10);" ";]
LPRINT mn$:(B.pm%)
NEXT
UNTIL EOF
LPRINT
LPRINT
USE A
FIRST
LPRINT CHR$(23)+"RECORDS"
LPRINT
LPRINT "DATE ";" REF ";" AMOUNT ";" DETAILS
";" BALANCE"
DO
LPRINT NUM$(A.dv%,2);mn$(A.mn%);
LPRINT RIGHT$(NUM$(A.yr%,4),2);" ";
LPRINT fil$:(A.r$,4);FIX$(A.s,2,-10);" ";fil$:(A.d$,15);
LPRINT FIX$(A.b,2,-8)
NEXT
UNTIL EOF
```

**GPR**  
by Reg Watson

This is a program which synthesises SINE WAVES (on the Printer II). In its simplest form, it prompts for and accepts input of fundamental magnitudde, harmonic number and harmonic amplitude. The two waves and their sum are then displayed on a base equal to 2PI referred to the fundamental. By simple addition to the program, more harmonics may be added. Any of the harmonics may be given phase displacement. A d.c. component may also be added.

By alterations to some of the parameters the base length can be extended or compressed and number of waves changed. A grid can be added to facilitate measurements.

```
gpr:
LOCAL j%,e%(128)
GLOBAL s,fa%,ha%,hn%
PRINT "Enter amplitudes";
PRINT" (max.total,64)"
GET
CLS
PRINT "Fundamental:";
INPUT fa%
PRINT "Harmonic:";
INPUT ha%
PRINT"Harmonic No:";
INPUT hn%
j%=1
WHILE j%<256
POKEB(ADDR(e%( )))
DO
GP:
UNTIL s>2*PI
```

```
gp:
LOCAL d%(128),n%,b%,i%
d%(64)=255
i%=1
b%=128
DO
c%(INT(fa%*SIN(s))+64)=b%
d%(INT(ha%*SIN(hn%*s))+64)=b%
d%(INT(fa%*SIN(s)+ha%*SIN(hn%*s))+64)=b%
s=s+.03
b%=b%/2
i%=i%+1
UNTIL i%=8
POKEB(ADDR(d%( ))) ,n%
GPRINT:(256,ADDR(d%( )))
```

Editors Note:

Maybe someone out there would like to adapt the above procedures to run on the TANDY CGP 115. It would plot so much better than the Psion Printer II. Nevertheless this is a valiant effort to stretch the new printer with a GRAPHICS PLOTTING program.

## FOR SALE

HARVESTER SUPER CHIP c/w manuals  
£45.00  
Contact:  
Chris Rees  
PO Box 88  
Hazlemere  
GU27 2RF  
or Phone (0428) 61515

## Odds & Ends

Corrections to

"File Handling & Other Programs"  
by Mike Shaw

Any member who has this very handy book may have come up against one or two mistakes in the printing. I have been asked by Mike (a member) to point these out.

Page 16

Line 2 should read:

CREATE "A:TESTFILE",A,FIELD1,FIELD2,FIELDEND

Page 25

Line 9 should read:

IF(V%=%.)OR (V%=%-) OR ((V%>47) AND (V%<58))

Page 93

Line 33 should read:

VIEW("Press a key when Printer ready")

Page 113

Line 25 should read:

PRINT CHR\$(237);TV

Line 31 should read:

VIEW(1,A.I\$+"low by"+NUM\$(A.ROL%+1-A.Q%,5))

Page 190

There is a problem with DAYFIND: (and with the FTOD: routine in particular). As currently written it incorrectly returns the last day of any month from March through to December as the '0' of the next month.

The problem can be cured by making a very simple adjustment to one of the Lines in FTOD: (Page 192):

Line 25 should be:

IF ND<1

---

### Contacts

The following member is in LAND SURVEYING and has developed some very useful routines for this profession, as well as a CIGAR LIGHTER POWER ADAPTOR for the Epson P40 Printer. Any other Land Surveyors interested should contact:

Neil Draycott on (0332) 880663

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### For Sale

Last month I missed out a bit from a 'small-ad', so:

A few 128k DATAPAKS available at £70.00ea

Anyone interested should phone:  
Ian Nicholls  
on 01 441 7954

### For Sale (cont)

Organiser, LA Model, Case, Mains Adaptor, Comms Link & Adaptor, Serial-Centronics Adaptor, Pocket Spreadsheet, Harvester Superchip, FNKEY, Widget Pak, AutoScribe, Finance Pak, SpellChecker, 64k datapak, 32kRAMPAKS, Mike Shaw Book

£500 the lot.

BROTHER EP44 Electric Typewriter/Printer, Mains adaptor, Case, PaperRoll holder  
Excellent printer for Organiser,  
May also be used as full size keyboard for entering on Psion  
Instruction Manual

£160

EPSON PX8 Laptop System,  
including RAMDISK, PF10 disk drive, P80x printer  
4 cables, CALCSTAR, WORDSTAR,SCHEDULER,  
CARDBOX PLUS, UTILITIES, BASIC, WSX  
all chargers, manuals, leather case for complete system

£650 the lot

For all three of the above items contact:

Sean Sailes  
57 Brailsford Road  
Brockwell Park  
London  
SW2 2TB

or Phone: 01 671 5090 (home)  
or 01 628 4477 ext 2387 (work)

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### Blunders

There were a couple of slight omissions from Ben Clay's excellent program Grafix2: (Vol II Page 87):

Lines 19 & 20 should be:

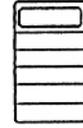
[ELSEIF k%=5 : row%(r%+1)=(row%(r%+1)+1)  
AND 31]

[ELSEIF k%=6 : row%(r%+1)=(row%(r%+1)-1)  
AND 31]

APOLOGIES ALL ROUND!



# IPSO FACTO



*The Newsletter of the International Psion Organiser User Group*

Volume III, No. 2, April 1989

Editorial Office: 130 Stapleford Lane, Toton, Beeston, Nottingham, NG9 6GB, UK

Phone: (0602) 735482, Telecom Gold Mailbox 72:MAG11839

## Editorial



### IPSO To Help Ecology

We are planning a trip to Antarctica for all those members equipped with FORMATTERS or EPROM ERASERS. The idea is that, if there are enough of us, we can help to fill the hole in the Ozone Layer. (For the uninitiated, all EPROM erasing devices produce ozone when in use!). More news of this venture next month.

### IPSO in Holland

During the period 3 April to 13 April the whole of the staff of IPSO, (BOTH of us), will be visiting Holland. We cordially invite any members in Holland (or near) to meet us during this period. We will be based at

Boterbloem Pad 2,  
3202 GJ SPYKENISSE

during this period and can be contacted by telephone on:

1880 13745.

### Illustrations in IPSO FACTO

As this newsletter is now produced via FINESSE, a GEM-based DTP program on the OPUS PC, I am hoping to start to use one or two illustrations in future. Any aspiring artists, (and we have one or two members who have already aspired), should submit material in either GEMPAINT or GEMDRAW format. I can also SCAN small (6" x 4" approx) illustrations - preferably line drawings or contrasty black & white photos.

### ... and Layout

After asking whether you, the members, objected to me changing the format of the newsletter, I must say that the overwhelming majority of "those who expressed a preference" wished the single-sided, punched A4 format to remain. This was to keep continuity and enable members to use a ring binder for keeping their copies in a handy form. One member (from abroad) asked if the "small ads" and Group meeting details could be on a separate sheet. I am considering the implications of this.

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### A Service for New Software Authors

If you have produced some marketable software for the Organiser and wish to sell it yourself, through IPSO, you may have been put off by the cost of producing and distributing leaflets. This has usually meant designing the leaflet, having the required number printed or photocopied, and getting the large package to me in time to make the next posting date for IPSO FACTO.

I am now in a position to produce a finished leaflet (from your own rough draft) - up to A4 size - AND produce the required number of copies for a total cost of around £160 (at the current membership level). I will, if required, supply a copy of the leaflet to the author as a check, before distribution.

### A Word to New Members

May I take this opportunity to welcome the large number of new members who have joined our ranks in the last couple of months, and also to thank our old stalwarts, many of whom have renewed for their THIRD YEAR! IPSO FACTO always welcomes articles, anecdotes, jokes, even OPL programs from any member, no matter at what level of expertise. We all had to start somewhere, and, compared with some of our members, I personally still have quite a lot to learn.

# Review - Psion Printer II

by Jonathan Hurwitt

I expect everyone has seen a picture of the Psion Printer II by now but, just in case, I will describe it. The printer is roughly ten inches deep, six inches wide and rises from one inch at the front to three inches at the back. It's made of the same grey plastic as the Organiser II itself and seems to be made to the same standard. At the rear of the printer is a transparent cover which encloses the four-and-a-half inch wide paper roll. On the left-hand side is a socket for an external power supply and a duplicate of the Organiser top slot connector. The Organiser fits on the right-hand side of the printer and is enclosed by it, effectively becoming an integral part of the printer.

The Organiser can also draw power from the printer. The printer is supplied with one roll of thermal paper, a mains power supply and a top slot adaptor as supplied with the Organiser power supply. The mains unit is used to power the printer directly and to charge the built-in rechargeable batteries. It can also be used with the adaptor provided to run the Organiser by itself. The Organiser power supply cannot be used with the printer as it is not powerful enough and the connectors have different diameters to prevent any mistakes.

Pressing ON/CLEAR boots the printer software into the Organiser. This adds three new words to OPL: LPRINT, XPRINT% and GPRINT. LPRINT is exactly the same as PRINT but uses the printer instead of the screen. This command should be familiar to Comms Link users. If the Comms Link adaptor is fitted to the printer then XPRINT% is used to toggle LPRINT between the printer and the Comms Link adaptor. GPRINT is used to produce bit-image graphics. I have not yet tried this feature as my uses for the Organiser do not involve graphics so I cannot comment further on it.

The LIST command in the PROG menu also becomes available so programs can easily be printed. The other facilities of the printer software are to move the paper up three lines (SHIFT-LEFT) and to print the contents of the screen (SHIFT-EXE). The printer defaults to forty characters per line when switched on but is also able to print twenty, sixty and eighty characters per line. Underlining is also possible as is double height printing.

The various modes are set by using LPRINT to send codes to the printer. The various print modes are adequately explained in the manual but I would have liked more examples.

The first samples of the Psion Printer II suffered from appalling print quality. The print was very faint in forty column mode and was almost invisible in eighty. I'm pleased to be able to say that it is now much improved. The printer uses the mechanism from the Epson P40 printer and I was told by Psion Technical

Support that their printer should be as good as the Epson. Well, it's not quite the same print quality but I can't exactly say that it's inferior, just different, and I'm not quite sure which I prefer. It is, however, faster than the Epson.

The major remaining flaw is the price which is £225 including VAT. I feel this is somewhat high considering the features and print quality. After all, you can't really send your letters on 4.5 inch thermal paper! If you MUST have your Organiser and printer integrated then there is no alternative. If you are prepared to have a few wires hanging around then a Comms Link and an Epson P40 with serial interface (if you can still find one) will cost about the same and you also have the Comms Link into the bargain.

## IPSO London Group

The March meeting of the IPSO London Group was the last at New Scotland Yard, as we have outgrown the facilities available. We were honoured by a visit from MIKE LEIGH (alias CUBSOFT) who made the long journey from Salford just for the evening. Unfortunately, Mike's coach was held up and he was somewhat late as a result and this shortened his talk considerably. Mike loaded XBASE version 2 onto our Organisers and treated us to a guided tour. The improvement over version 1 is very impressive, especially the sorting and printing facilities, where the array of options became quite bewildering. I've been using XBASE version 1 almost daily since I bought it and had no hesitation in purchasing the upgrade on the spot. Quite a few people upgraded their XBASE or bought outright and FNKEY was also available for those who wanted it. Our sincere thanks to Mike for coming to visit us and we hope he'll return again with his next product and to a larger audience.

As I mentioned above, we will no longer be meeting at the "Yard" in future. Our police friends (yes, really!) have found us new, spacious accommodation not far away and this should be free of the tight security restrictions we had before. Due to circumstances beyond our control, the next meeting will be 25 April. After that the dates will be 16 May, 20 June, 18 July, 15 August, 19 September, 17 October, 21 November and 19 December. Please note that these are all TUESDAYS. I apologise to those who preferred Thursdays, but whichever day of the week we chose, someone would be disappointed. I no longer need people's names in advance, but please contact me on 01 - 568 - 4138 nearer the dates of the meetings, so I have some idea of numbers and can give the exact address

Jonathan Hurwitt

# Review - LACE from Beachcomber

reviewed by Glyn Pollington

LACE is a new multifunction organiser for the Psion Organiser II, providing comprehensive classification of actions, reminders, expenses and credit card useage. LACE itself is an acronym for Log Action Card Expenses which in fact forms the basis for the first menu one encounters when starting the package. The whole thing is menu-driven and therefore quite easy to use and yet contains some novel and advanced summary and analysis functions.

LACE arrives on a very full 32k datapak (4 bytes free on the review version!) and come complete with a comprehensive 29 page A4 instruction manual which on the whole was found quite easy to follow with just a few exceptions which will be discussed later.

The LACE package can really be broken down into three distinct areas of usage and I will attempt to review each area separately. These are firstly the Log Action section which is used for recording past events and as a full function personal memo service. The second area is the Card Expenses Petrol which features all the accounting and analysis functions. The third includes the backup utility and for the purpose of this review the printing functions.

## General Notes

Naturally LACE needs to create a number of files for storing not only the data that you input but also various categories and account details as its own working files. At various times you may be asked onto which pak these files should be created (A, B, or C) and the program will go no further until this is done. IT is best to create all files on the same pak to prevent accidental erasure of an important working file, and of course remember if you use pak A, a regular backup is advisable.

When viewing data, whichever function is in use the menus are very similar and always contain the options Browse and Find. Find invites the input of a search string and locates each occurrence in the file with the use of the EXE key. Browse is a more general and yet more useful feature as you can just flip through all the entries from the start or the end or skip a given number of entries by use of the + and - keys followed by the number of records to be skipped. A summary of the special features in each menu will be given later.

Dates are automatically included in all functions and in all but Log can be altered to include back-dating etc (very useful for expenses!). The editing method for dates is always the same and similar to that in the Goto option of the main Diary. There is however a very useful addition; instead of just using the cursor keys to move up and down the days, if + or - is entered the number of days to moved can be directly entered. This is very handy when entering weekly reminders and the kind.

## Event Logging

The Log option from the first menu is the easiest to use, and one that I found particularly useful. As a retrospective diary it is far better than the Organiser's own because you just enter the event or information you want to save and the program automatically date and time stamps your entry (no mucking around with half-hour steps).

In my work as a field service engineer, I found this function very good for logging which customers I had visited during each week. This may sound excessive but visiting 30 sites a week and covering 1000 miles makes it very difficult to recall where one was at any one time and the Log function was very heavily used.

Various menus are shown below

## Main LACE Menu The Log Menu The Review sub-menu

Log Action Card	Input Review	Browse Find Tidy
Expenses Petrol	Delete Print Off	Quit
Backup Quit	Quit	

Beware of the Delete function which checks if you are sure then completely erases the file. The manual refers to deleting up to a given date. To do that use the Tidy option from the sub menu - I learned that the hard way! You will notice the inclusion of Quit on all the menus. On the version I had, it was only possible to leave a menu with Q (not ON/CLEAR) which was rather frustrating to an old OPLer like myself, but I understand that later versions will include both options.

## The Action List Manager

The Action function permits the entry of personal reminders, memos and the like with some quite sophisticated options to input the owner and giver and associate of the action, its status, and its priority. Status and Priority lead to their own sub-sub-sub menus with the options Given, Started, Mailed, Cancelled and Finished for Status and Urgent, ASAP, Background and Sometime for priority. These must be included but usually only add 2 keystrokes. The Owner, Giver, Associate fields can be bypassed with EXE and will usually assign the values from the previous entry by default.

Some more menus please...

Action Menu	Review sub-menu	Which cat menu
Input Review Log	Browse Find Due	New Other Meals
Erase Print Off	Status Priority	Mileage Sundries
Quit	Tidy Quit	

The Log function in the Action menu facilitates the location of a previously logged entry and its conversion to an Action. The Erase is just as dangerous as the Delete earlier. The extra functions in the Review sub-menu permit the location of actions that have reached their "sell by" date as well as by a given status or priority. The Action function also permits alteration of the date at input and review of earlier entries by Status, Priority, and Due Date.

## The Expenses Manager

The Expenses function is very comprehensive and does involve a small learning curve to get the most from it. All entries are categorised to produce a very detailed breakdown. The only pre-allocated category is Mileage,

(cont. on next page)

## LACE Review - cont

which is a special case as it contains routines for calculating totals from the inputs of distance and rate. For my own use I started with just three categories (Parking, Meals, and Sundries) but added new ones later very easily.

Each entry consists of an incurred date (you are always offered the current date, but may change it as mentioned in the general notes), a free text description of the expense and whether VAT (aargh!) is included, excluded, exempt and the rate. Don't worry the program works it all out for you.

In the review stage the display is always shown in two parts, first the detail and the date and then the category and the amount (with VAT details). It is possible to review the expenses by category but the format is still the same. It is also possible to call up running totals on any or all of your categories. However, the real power of the Expenses manager lies in the quality and detail of the printed output. Each article is itemised and at the end there is a full breakdown of each category including dates, totals and VAT details. Although my company will only accept standard "in-house" expense forms these printouts certainly made the job easier. Credit Card and Petrol Management

The credit card management function allows you to keep track of as many cards as you want with facilities for credits as well as debits and can give a complete rundown and analysis of the current totals.

I will deal with petrol first as this is a special case and it gave me a few problems at first; the reason is this: Although the word Petrol occurs on the main menu, it is only for cash purchases and my first experiments were done that way. When selecting Petrol from the Card menu there are some extra stages to go through which I missed and lost all my inputs. After entering the mileage, you then have to specify which card you are putting the purchase on whereas, with a normal Access expenditure you specify the card at the outset.

With that little problem out of the way, the operation is very similar to Expenses except that you specify a card instead of a category. The program asks you if the expenditure you are entering is an expense and by means of a sub-menu takes you through the steps required to cater for both entries at one go.

### Which card

Card Menu	Review sub-menu	sub-menu
Input Review Log	Browse Find Due	New Other Meals
Erase Print Off	Status Priority	Mileage Sundries
Quit	Tidy Quit	

The above review menu has a few extra features; Balance, Analyse and Car. The first two allow you to follow very closely the expenditure on each card and report all the current totals one at a time. The Car option calculates the mpg since the last fill up, the average mpg and the average and max/min prices that you have paid. All these are stepped through one at a time with Q taking you back to the menu.

The which-card sub-menu is similar to the which category

one used for setting up expenses categories. In this case Petrol is already entered for you and each new card is set up by using the New function. The Other function is used if the number of menu options required exceeds the maximum that OPL can handle and an alternate menu is created. In practice I never found this necessary on either Expenses or Card, but I don't have that many credit cards.

Again, the printing quality from Card is very good, with individual statements and complete breakdowns available.

### Backup and Printing

I have grouped printing in the utilities section of this review because, although each of the functions have their own print options, they are all very similar and can be described as one.

Whenever the Print option is selected, LACE checks that the Comms Link is fitted and asks for the lines per page and then if printing is to a PC or a printer. If the printing is to a printer, LACE asks if you want Auto or Manual linefeed and even offers you the option to program in your own choice of end-of-page character. To print to a PC you must have the CL program running. I was unable to test this part but it seems very good as no further interaction seems necessary. To print to my Word Processor, I told LACE I was using a printer and used terminal mode.

Backup is very useful as it permits the storing of all file either to another pak or to a PC. Backup is quite important for two reasons. Firstly some of the files can eat up large amounts of datapak especially if a lot of editing of records is done and secondly because LACE creates so many of its own files, a manual backup could become very tedious. Again I was unable to test the PC version of backup and could not get around it as before but the datapak backup worked flawlessly.

### Conclusions

One the whole, I found LACE a very comprehensive yet flexible package if perhaps a little more thorough than my own needs would normally require. The manual is very well presented and clearly laid out. I did have some trouble with the Card/Petrol stages by the helpline service was very good and I was soon put on the right tracks. My only two niggles are the lack of the On/Clear escape from menus and the fact that printing a backing up to computers other than PCs is difficult.

### For Sale

MT Spirit 80 Dot Matrix Printer £80ono  
Fujitsu 120 Col Hi-Res Parallel/Serial dot-matrix  
printer, almost new £250ono  
Acoustic Coupler Modem with power pack £70ono  
OMNIS Apple Software  
(all with manuals)

Contact: Gordon Owen on 01 - 470 - 7075  
for full details. (Collection preferred)

# Bistro

## *Bistromathics on the Organiser*

by Robert J. Gautier

### 1. What it's for

Bistromathics is of course the branch of mathematics concerned with the behaviour of numbers when under the influence of restaurants, and a brief introduction can be found in Adams[1].

This program offers a partial solution to one of the classical problems of Bistromathics, namely that of sharing a restaurant bill fairly among a group of people.

As anyone who has tried to solve this problem, in real time, after a bottle or two of wine, and without a pocket computer, will have discovered that when bistromathical quantities are involved, the normal laws of arithmetic do not apply.

For example, no number (for example the bottom line on a bill) can be exactly divided by an integer (for example a number of people sitting around a table) without having someone point out that the fillet steak cost more than the fish, even taking into account the fact that the soup was included in the price whilst the prawn cocktail was £1.50 extra.

The precise relationship between the number of times on a bill, the cost of each item, the number of people at the table, and what each is prepared to pay is, of course, a matter for research, but it is possible to predict what the latter should be, based on the former, and then to exploit an individual's tendency either to be intimidated by them, in persuading them to cough up the cash.

### 2. How to use it

BISTRO first lets you enter a list of names of people partaking of the meal; initials usually work well. The Organiser's owner's initials are hardwired into the program for convenience, and are presented as the first name. You can edit this name if you wish. Up to 20 names may be entered; if you run out of names before that, move on to the next stage either by pressing EXE without entering a name, or by pressing CLEAR.

Next, you have to run down each item in the bill, find out who ordered it, and charge it to them. This is by far the hardest part, especially if you are in strange foreign restaurant and can't pronounce the names, or if the waiter can't write, or if most people are too drunk to remember what they had (*Note 1*) You are presented with a running total, and a prompt for the current item cost.

Having entered a number here, you are presented with a menu, which contains the payee names entered earlier, and three additional options: ALL, TAX, and QUIT. The last of these is just a quick way out back to the main Organiser menu.

Selecting any person's name from the menu allocates the current item entirely to that person. Selecting ALL allocates the item evenly amongst all payees (subject to bistromathical restrictions mentioned above). Selecting TAX allocates the cost of the item to all payees, in proportion to their current contribution. This is therefore useful for dealing with VAT, and also with tips, if you want to be horribly mathematically accurate in your tipping. To distribute tax items fairly, they should be entered after all

other items.

Note that there is no simple way of dealing with the three people who insisted on guzzling champagne while the rest of you drank lager.

When you have processed all the items, the total displayed should be equal to the bottom line on the bill, and you should press CLEAR to terminate this phase.

Now the Organiser displays each name, along with the contribution expected from that person. Pressing EXE steps to the next person, or to the first if you are currently displaying the last. It is up to you to collect the money and check that it adds up to at least the amount you wanted in the first place. Pressing CLEAR terminates the program.

### 3. How it works

The list of names is stored in array pr\$( ) and their current contributions are stored in array pmt( ). Names are currently limited to 8 characters, and no more than 20 payers are allowed. Each name is also appended to the string m\$ which is used to present a menu in the next stage. The position of the name in m\$ determines the pmt( ) element used to store the contribution from that person.

The limit of 20 people is chosen for two reasons; firstly it is much greater than the number of people that can place an order, listen to it read back to them, hold a referendum on red versus white wine, decide to have lager instead, have a show of hands by those who ordered pilau rice, order two bottle of house red after all, and change one of the birianis to a madras, before getting thrown out and having to start all over again somewhere else. Also, it is close to the limit imposed by the maximum length of m\$, which is of course 255 characters.

When accepting items, the variable tot, initially zero, is used to accumulate the total, and np%, the number of people, is used to identify the use of the ALL (np%+1), TAX (np%+2) and QUIT (np%+3) options. Note that up to five digits are allowed before the decimal point in amounts, which should cover most meals, in most restaurants, in most countries. Displaying the results is simply a case of calling VIEW( ) until CLEAR is detected. The small auxiliary procedure msgshow; is used to display messages and wait for the space key to be pressed - it should be self-explanatory.

(Note 1: But in cases like this you can usually charge them anything you like!)

### 4. Listing

You should change the string "RJG" to your own name or initials, or make it null to remove the default.

```
bistro:
LOCAL pr$(20,8), pmt(20), p$(8), m$(255)
LOCAL tot, a, p%, np%
np%=0
p$="RJG"
DO CLS
PRINT np%+1; "; ";
TRAP EDIT p$
```

(continued on next page)

## Bistromathics (cont)

```

IF ERR
BREAK
ELSEIF p$=""
BREAK
ENDIF
np%=np%+1
m$=m$+p$+","
pr$(np%)=p$
p$=""
IF np%=20
msgshow:("No more payers")
BREAK
ENDIF
UNTIL 0
m$=m$+"ALL,TAX,QUIT"
DO
DO
CLS
PRINT "Total:",FIX$(tot,2,8)
PRINT "Item : ";
TRAP INPUT a
IF ERR
IF ERR=206
GOTO doneit::
ELSE
msgshow:(ERR$(ERR))
CONTINUE
ENDIF
ENDIF
IF a=0
BREAK
ENDIF
p%=MENU(m$)
UNTIL p%
IF p%=np%+1
tot=tot+a
a=a/np%
p%=1
WHILE p%<=np%
pmt(p%)=pmt(p%)+a
p%=p%+1
ENDWH
ELSEIF p%=np%+2
p%=1
WHILE p%<=np%
pmt(p%)=pmt(p%)+a*(pmt(p%)/tot)
p%=p%+1
ENDWH
tot=tot+a
ELSEIF p%=np%+3
RETURN
ELSE
pmt(p%)=pmt(p%)+a
tot=tot+a
ENDIF
UNTIL 0
doneit::
CLS
WHILE 1

```

```

p%=1
WHILE p%<=np%
[IF VIEW(1,pr$(p%)+": "+FIX$(pmt(p%),2,8)=1]
RETURN
ENDIF
p%=p%+1
ENDWH
ENDWH

msgshow:(m$)
LOCAL k%
CLS
AT 1,2
PRINT "press space key"
DO
k%=VIEW(1,m$)
UNTIL k%=1 OR k%=32
CLS
RETURN k%=1

```

### 5. Disclaimer

No responsibility will be accepted by the author for any loss or damage incurred through the use of this software or consumption of food, drink or other substances prior to its use.

Bug report, suggestions for enhancements, and invitations to field tests may however be addressed to the author c/o:

Computer Science Dept  
 University College of Wales  
 Penglais  
 Aberystwyth  
 SY23 3BZ  
 UK  
 (0970) 523111 x3249  
 Email: rgj@uk.ac.aber.cs

### References

[1] Adams, Douglas, "Life, The Universe, and Everything", Pan Books Ltd., London, ISBN 0-330-26738-8, pages 39-40

### Tuition Offered

One of our members, with a good knowledge of programming the Organiser, and who is retired, is offering tuition in OPL, for anyone interested in the London Area.

For more details contact:

Bill Spragg  
 72 Eton Rise  
 Eton College Road  
 London NW3 2DA

Tel: 01 - 568 - 6512

# ???? Beginners' Questions & Answers ?????

by the Editor

*Q. Can I copy all my commercial datapaks, (Pocket Spreadsheet, Finance, Harvester paks etc.), onto a single pak to save me continually changing paks and carrying many around with me?*

A. The quick answer is that, if your commercial pak has been COPY PROTECTED, then you cannot copy it to another pak. There has been much debate in the computer world about whether software should be copy protected. There have been many instances of software being so heavily protected that even the original would not run properly. I think that the general trend, especially with non-game software has been to remove any form of copy protection. For instance, for anyone with a HARD-DISK system, it is patently ridiculous to be unable to transfer any software purchased on floppy disks to the hard-disk. With regard to software on datapaks for the Organiser, I have always thought that copy protection is not really necessary, although most available software is copy-protected. A notable exception has been WIDGET, who have never copy-protected their paks, and I have had noticed that this is appreciated by many of their customers (and our members), who have been able to compile a working pak with just the programs they require and keep the original in case of accident.

However, having said all that, it is often not desirable to compile a large datapak full of system software (even if it was possible) as the speed of operation can be quite noticeably affected by the position of a program on the pak.

*Q. Can I COPY/WRITE/READ protect paks I have written myself?*

A. This is really a three-part question, so I will give three answers:

1: Yes you can copy-protect your own paks, but think carefully before you do! Even you will be unable to copy your own pak, once you have copy-protected it.

2: You can also Write-protect your own pak (or combine this with copy-protection), as it is sometimes desirable that no data is written to a system pak by accident.

3: There is no way I know of to Read-protect a pak. I frequently get asked if it is possible to allocate a password to a pak only (rather than the easy procedure of using an overall password on the Organiser itself). If any member knows of a way of doing this, I would be very interested.

*Q. I would like to add a printer to my Organiser equipment. What are the options?*

A. As the Organiser is capable of driving a wide variety of printers and plotters, it seems a shame NOT to have a printer of some sort to attach to the Organiser. A printer has many uses, not only for writing letters. It is invaluable when developing programs to be able to print out as you

go along to keep track of things. However, up to recently, it has been quite an expensive business to couple the Organiser to a printer. Most (cheap) printers have a PARALLEL INTERFACE and the Organiser COMMS LINK is, of necessity a SERIAL device. This meant that, if you wanted to drive a parallel printer, you had to buy not only the £59.95 Comms Link, but also a serial-parallel adaptor (£39.95), which was well beyond the means of the average Organiser user. One cheap solution was to buy a cheap serial-interface printer (such as the Epson P40/P80s), then all that was required was a do-it-yourself adaptor (about £5 for the bits) to couple the Comms Link to the printer. Now, of course, you can buy the Psion Printer II (what happened to the Printer I?), but this is quite expensive compared with the alternatives, even allowing for the fact that the Comms Link is not required to drive it. If you already own, or have access to, a parallel printer, then the PARRALLINK at £39.95 (described last month) is by far the cheapest and most effective way of achieving this. If you look in the Computer Press you will see that it is now possible to buy good quality (daisy-wheel or dot-matrix printers) new for well under £100.

*Q. What is an LA Model?*

A. LA is the code used by Psion (and IPSO) to denote the latest XP Model. When the Organiser II first appeared there were two models - the CM with 8k RAM and limited expansion facilities, and the XP with 16k RAM and the capability to connect all peripherals. Psion then developed a 32k model (which was, I think, originally to suit the American market requirements) and this has become the standard XP (or LA). To avoid confusion with the 16k model (of which many are still in use) we call the latest model the LA. Just to confuse everyone further, Psion label their packages with XP. Anyone who has either a CM or a 16k XP can have their Organiser upgraded by Psion. This takes a few weeks! at present and costs £70 for a CM and £50 for a 16k XP.

*Q. I keep getting BATTERY LOW messages and my batteries don't seem to last more than a couple of weeks. What is wrong?*

A. If you run your Organiser on either DURACELL or LITHIUM batteries, with average daily use your Organiser should run for at least a couple of months between battery changes. However, if you WRITE or COPY datapaks extensively this will drastically reduce the life of the battery. The series of clicks which you hear during the process denotes the minor miracle of a 9volt battery pumping up 21volts of power to write to your datapak. One answer here is to use the Mains Adaptor whenever possible while WRITE or COPY operations are in progress. Another answer is to use RAMPAKs, which have the triple advantage of speed, low-power requirement, and erasability. All the scares connected with RAMPAKs seem to have subsided and I find them extremely reliable when used with care.

## Reviews II (etc)

### QDIARY & MINIKEY

reviewed by Phillip Cook  
(continued from last month's review)

QDIARY, like FNKEY, makes you wonder how you did without it! Essentially it is another way into the diary system on the Organiser and makes full use of the keyboard to move around the Diary quickly. Features include a facility to mark up to 6 appointments and jump straight to them, tools to move backwards and forwards a week at a time, to configure the diary with timeslots of less than the standard 30 minutes. However, the most impressive feature is the ability to MOVE and COPY diary entries including their alarm settings. I used to use FNKEY for this but the QDIARY is much easier and quicker. I cannot fault QDIARY at all, but, if I could ask for an extra, it would be a graphic display of a week at a time showing occupied times.

#### MINIKEY

MINIKEY is a very cut down version of FNKEY. However, for most users, it has a number of useful tools including 12 function keys, access to punctuation keys and a case inverter. This works by pressing MODE UP and then a letter. If the keyboard is in lower case mode the caps will be displayed and vice versa. MINIKEY will not run with FNKEY, as both try to take control of the keyboard, but if you have FNKEY, you wouldn't want to run MINIKEY. Incidentally, if, as I do, you use the FNKEY program to check your key assignments, you will need to load it after QDIARY or XBASE/MBASE, otherwise you get an ALIEN SOFTWARE message.

In short, the package is excellent value with lots of features for a small overhead. The documentation is very easy to understand.

---

### For Sale

Organiser COMMS LINK . . . . £45.00 (was  
£59.95)

brand new, unwanted gift, including gender  
changer

AT Link Adaptor (9 pin). . . . £10.00 (was  
£12.95)

or £50.00 for both items

Anyone interested should phone Marc (in  
Reading)

on 0734 874271

### A Visit to Harvester

Harvester Information Systems Ltd have been on the Organiser scene for some time. Their DATA ORGANISER, INFORMED ORGANISER, FINGER ORGANISER, GAMES ORGANISER, and LETTER ORGANISER should be familiar to many of our members. Unfortunately, in the early days, Harvester programs (particularly the LETTER ORGANISER) did not have a very good image. However, recently Harvester have seen some radical improvements in both their programs and level of customer support. When we (IPSO) were invited to their new Headquarters near Scunthorpe, I was only too pleased to accept.

Thus we set off from Nottingham, three of us and two dogs - myself, my wife, and Les Ball (accompanied by Nesta, his guide dog) on the morning of March 1.

We found the way quite easily and were soon welcomed by Tony Rust and his team to their spacious open-plan complex in the new Ealand Science Park.

We were soon reminded that one of Harvester's most popular systems was SAMS (Staff Attendance Maintenance System), as their office access was controlled by an Organiser, itself controlling the door locks - most impressive.

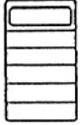
It soon transpired that there was an ulterior motive to our invitation. On the first Wednesday of every month, Tony gathers his complete staff together around a single enormous table for a 'pow-wow and 'fish-and-chip-and-sticky-bun' lunch. Apparently it is also their custom to invite some unsuspecting guest(s) who 'sing for their supper' in the form of a (thankfully short) after-dinner speech.

Both before and after lunch we were able to pick the brains of some of Tony's dedicated team, and very interesting it was. Harvester are not only updating all their existing software, they are also in the throes of translating their manuals into several different languages. They are also producing a PC version of their popular DATA ORGANISER, so that users can freely exchange data between Organiser based systems and matching ones on a PC. They are also working on some ingenious uses of card-swipe and bar-code readers.

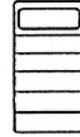


We hope to feature reviews of some of their systems at a later date. For now I can say that Harvester are emerging as, perhaps, the most significant force in third-party equipment for the Organiser, and we spent a most enjoyable day in their company.

N.B Harvester are offering discounts on the new PC software to all previous owners of their Organiser Systems.



# IPSO FACTO



*The Newsletter of the International Psion Organiser User Group*

Volume III . No. 3 . May 1989

Editorial Office: 130 Stapleford Lane . Toton . Beeston . Nottingham . NG9 6GB . UK

Phone: (0602) 735482 . Telecom Gold Mailbox 72:MAG11839

## Editorial

The bulk of this issue is given over to a full review of the new Organisers which were officially announced on Tuesday 18 April '89, thereby scotching all the rumours of an Organiser III, etc. Although there are already signs that many members will wish to upgrade from their CM/XP Models, the new models are so different that Psion are unable to offer much in the way of part exchange. The obvious thing to do is to sell privately, and some members have already approached me with ads. However, if you wish to get the best price for your old model, it would probably be best to try the local press, etc., as IPSO members have a better idea of the value of a used Organiser, so you are likely to only get in the region of £60-80 (depending on condition) for your 32k XP, especially as the new prices have been reduced by £20 in order to price the new models competitively.

## For Sale

Power Supply £6, 32k datapak £25, Finance Pak £30, Phone Chas Newport on 0202 623438 (evenings) or 0202 251071 (daytime)

Transform 'FILOFAX' Psion Holder, black leather, as new, cost £80, will accept £45. Phone Simon Lewin on 01 254 2721, anytime.

128k datapak (unused), £75, 32k datapak (unused) £25, 16k datapak (unused) £15, Maths Pak £20, Pocket Spreadsheet £30, FNKEY £30, Disassembler (Langdale) £30, Comms Link £40, Printer Adaptor £8, Mike Shaw Book I £5. Phone Simon Jones on (0376) 519979 (evenings)

Harvester Superchip £79.99, 2 x 32k datapaks £27.95, or £127 for all three items. Phone Simon Risley on 01 385 8816 (leave message)

Organiser 32k XP (mint) £65, Formulator £22, Filemaster £27. Phone Wm Rose on 01 242 8508

Casio PB1000, fitted 32k RAM expansion, FA7 interface (serial, parallel and tape), all handbooks incl Assembler, mint £150. Phone Mike O'Regan on (0602) 735482.

## Local Group Forming

Anyone in the Harrogate area is invited to contact John Cornforth on (0423) 886928 for details

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## Wanted

Psion Formatter or Eprom Eraser, Barcode Reader, also contact with any member with experience of Transform,s STOCK CONTROL/MOVEMENT. Contact:

D. Taylor  
7 Dunsmuir Grove  
Gateshead  
Tyne & Wear  
NE8 4QJ

## Organiser in Holland

On our trip to Holland last month, we were quite surprised to discover that the Organiser was conspicuous by its absence.

We scoured the computer shops in both Amsterdam and Rotterdam. Some of them said they had heard about the Organiser, but had never seen one - others didn't even know what we were talking about. There is even a chain of Dixons shops in Holland with very similar stocks to the British shops - but no Organiser! By contrast, the Cambridge Z88 was quite easy to obtain.

We asked the Dutch distributors, Pocket Brain, about the position, and were told that, although the Organiser was selling well to corporate users, there was, as yet no real demand from the retail sector.

I personally showed our Organisers to quite a few people during the visit, and without exception all were very interested and as surprised as we were that they couldn't buy one in the local computer shop.

The only places we saw Organisers for sale were in the *foyer of a motel* and at the Duty Free Shop at Schipol Airport.

# Hardware Review

## The New Models - LZ & LZ64

reviewed by Mike O'Regan

After months of speculation, during which the only things which we knew for certain were that new Organisers were being developed, they have now arrived in the shape of the LZ and LZ64 (Hereby nicknamed "Thin Lizzy" and "Fat Lizzy" respectively).

Many of you will already have seen the published specifications of the new models, (and a few lucky ones already have one!) so I won't dwell on these features, only mention them with a short explanation where needed. I will try to cover the points which are not covered in the leaflets.

I will separate this review into sections as follows:

1. Display
2. OPL Additions
3. Notepads
4. World Time
5. Calculator
6. Diary & Calendar
7. Time
8. Alarms
9. Data Handling
10. Utilities
11. Handbooks

### Summary

#### 1. DISPLAY

This is the first change you will notice after switching on. The new display is slightly larger (vertically) than the previous models, to accommodate a four-line by twenty character display. The new characters are much smaller than previously, but very clear. Although the Information Leaflet seems to indicate (though its illustrations) that there are two display modes - a four-line and an enlarged two-line arrangement - this is not so. As before the characters are built up on a matrix of 5 x 8 dots with the whole display consisting of 80 of these matrices. Apart from the ALARM display (more of this later) there is no standard larger display available. Existing programs, based on the two-line display, work by automatically masking the screen top and bottom lines and the first and last two characters of the middle two lines with ASCII character 245. You may change this to another character of your choice (or design) by POKEing \$2099. A curious feature of the default top-level menu is that, in order to accommodate a status ikon and running time signal on the top line, all 8 user definable characters are used. This means that any programs which use UDGs will have to re-define them each time the program is run - a bit of a bind. The top-level menu now runs to 13 items on five lines and each item is in upper and lower case, which looks more civilised.

#### 2. OPL ADDITIONS

With the size of the ROM increased to 64k! there have been several improvements and additions to OPL as follows:

Percentage function (%) - this has been included by popular demand and means that such expressions as 100+15%, 100>15%, 100<15% are valid. The first is self-explanatory, the second gives the sum less the stated percentage, and the third the value of the percentage.

ASIN(x), ACOS(x) - self-explanatory

COPYW - VERY useful, this one. It lets you copy from one device to another ANY type of file, including a wild-card \*.\* to copy everything!

DELETEW - the inverse of the above function, again VERY useful.

DIRW\$ - can be used to return any stated type of file on any device. Also responds to wild-cards.

FINDW - searches the current file for a "clue string". A very useful feature of this command is that multiple clues and wild-cards can be used by using \* to fill in the unknown characters.

STATISTICAL FUNCTIONS - These will be welcomed by many as really augmenting the maths side of the Organiser. They include both versions of SUM, MEAN, STD, VAR, MAX, and MIN.

MENUN - displays the defined items on one of three modes - a standard menu, a one-line menu, or a menu which is written on any of the four lines leaving the other lines intact. If you think about this, it has many, many uses.

CALENDAR FUNCTIONS, as follows:

DAYS(day,month,year) gives number of days since 1 Jan 1900

DOW(day,month,year) returns the day-of-week for that date.

WEEK(day.month,year) give the week number in that year.

DAYNAME\$(d%) converts a number from 1 - 7. e.g. 1=Mon.

MONTH\$(m%) does the same as above for months.

CLOCK(n%) - displays (or removes) a running clock at the right of line 1 of the display.

## Hardware Review - cont.

UDG x%,a%,b%,c%,d%,e%,f%,g%,h% - defines a user-defined character x% to the parameters in a%-h%.

### 3. NOTEPADS

This new feature reflects the popularity of using the Organiser for memos, etc. (Shades of Adrian Pegg's popular program?). The Notepad section is very comprehensive, allowing any number of notepads to be created. Each entry has its own calculator and optional password. In fact the Notepad sub-menu has no less than 15 options! - Find, Save, Load, New, Home, End, Calc, Sort, Number, Password, Print, Dir, Copy, Delete, Zap. I will not go into each of these in detail. Suffice it to say that this is a very significant addition to the Organiser facilities.

### 4. WORLD TIME

This amazing facility must have taken up a considerable amount of the available ROM. Not only does it give access to the time in 400 major cities of the world, but also their dialling code (where possible) from your base location (which you set up when first using your new Organiser). The Find facility works very much like the (awful) Oxford Spell Checker, in the each character you enter evokes a narrowing response until you either find the city/country of your choice or are told that there is no entry for your choice. This feature will sell a lot of Lizzies to the Jet Set, and is quite handy for International Organisations (I will have to watch my phone bill!)

### 5. CALCULATOR

Apart from the extensions to maths facilities mentioned above, the calculator only differs in a few minor points. Pressing <MODE> now displays the first of the calculator memories (and any existing contents). This may be changed using the up or down arrows to another memory. The contents, if any, of the current memory can be incorporated into the current calculation, and/or the result can be stored in a selected memory, if necessary using the + or - keys.

### 6. DIARY

One of the cribs with the original DIARY function on the Organiser was that, unless you printed-out your entries, it was hard to get an overall picture of your existing diary. The new DIARY function uses the bigger display to go a long way towards putting this right. Pressing D from the top-level menu instantly displays the whole of the current week on screen, with four positions against each day (representing morning, mid-day, afternoon, and evening respectively). If there are any entries, they are indicated by a small marker against the day and

period. A small flashing arrow indicates the current position and this may be moved by the cursor keys to zoom in on any particular entry and read the details. Scrolling left and right to the previous/next weeks is also possible. Pressing <MODE> gives an eight item sub-menu, Find, Goto, Tidy, Print, Save, Restore, Xrestore, and Setup. Organiser users will be familiar with most of these, but Xrestore will allow a dairy created on a CM/XP to be restored to a Lizzy, and Setup allows you to tailor the break-points between the various time zones for each day (morning, mid-day, etc.).

Diary entries can now be entered as start and end times for each entry and cut & paste are available to transfer entries to other locations. Whole-diary or selected printouts are now available for those who still require hard copy. Altogether, a lot of thought has gone into the additions and improvements to this section.

Another "Adrian Pegg" utility has been built in. If you miss a DIARY alarm or alarms, this is indicated when you next switch on with the facility to review the entries you have missed.

Month

In addition to the above Diary section, another new top-level command is MONTH which displays as much as possible of the current month as a calendar page. This can be scrolled backwards and forwards a month at a time and pressing <MODE> reveals the same sub-menu as DIARY.

### 7. TIME

The original TIME function has been considerably extended. The standard display is Day, Month, Year, and Week-of-year on the top line. The second line shows the time as Hr:Min:Sec am/pm. The third and fourth lines display the current base city and country respectively, in case world-travellers get confused.

Totally new additions are an accurate (to 0.05 sec) stopwatch with lap time facility and a countdown timer for those who need this facility (e.g. for timing car-parking etc).

### 8. ALARMS

The original 8 alarms are still available. However the method of setting them is much improved, making good use of the new display. There are now three different TYPES of alarm, Normal, Siren, and Chimes. In all three modes, the volume has been increased significantly with the inclusion of a TURBO BUZZER (which is said to use no more power than the previous one!). At first I thought these were mere gimmicks, but a little thought suggested that they can serve useful purposes, with the SIREN indicating URGENT ALARMS, etc. I would have liked the CHIMES to have just sounded once (rather than repeating ad infinitum), so that this could be set as an hourly

## Hardware Review - cont.

chime, but you can't have everything! Another novelty is that repeating alarms have a further option of being set to go off only on working days (Monday-Friday). All alarms (including the DIARY ones) display the time in DOUBLE HEIGHT.

### 9. DATA HANDLING

The new Organisers have even more powerful data handling facilities. You can now have any number of databases (not just MAIN) on any of your devices. You can now use the wild-cards \* (matches any group of characters) and + (matches any single character). Multiple "clues" can now be entered, each separated by a \*. A new feature XFILES is used to access files other than MAIN. The XFILES sub-menu has Find, Save, New, Open, Print, Sort, Dir, Copy, and Delete. PRINT allows you get hard copy of the whole - or selected records of the current file.

### 10. UTILITIES

This new top-level option gathers together most of the desirable utilities developed over the past couple of years as separate OPL programs by various agencies. The eleven choices on this menu are Search, Info, Sound, Dir, Copy, Delete, Password, Language, Reset, and Format.

Search - looks EVERYWHERE for a search clue, in diary, data files, notes and even OPL procedures!

Info and Sound - are both self-explanatory

Dir - shows a directory of all types of files on the chosen device although you may choose your type of file from All, Files, Notes, OPL, Comms, Plan, Pager, or XDiary.

Copy - will copy ANY type of file

Delete - will delete ANY type of file

Password - will allow overall password protection of the Organiser

Language - on the English machine the alternatives are French or German. This means that the default displays of the built-in functions will be displayed in the chosen language. Before you ask, it doesn't mean that the whole of OPL is translated into another language (for instance).

Reset - as before

Format - formats a RAMPACK (not DATPAK!!!), which is a welcome addition that obviates the need for an OPL routine to do the same.

### 11. HANDBOOKS

The new machines are provided with TWO handbooks - an Operating Manual and a Programming Manual. There is also a quick reference card supplied. The manuals have been completely re-written and are a great improvement on previous ones.

### SUMMARY

Before the arrival of these two new machines, the word in the computer world was that the Organiser was beginning to show its age (this despite it outselling any previous pocket computer). The Lizzies show that Psion have kept their ear to the ground whilst developing machines which are realistically priced and up with or exceeding the facilities offered by the opposition (Agenda, Sharp IQ, Atari Pocket PC, etc.). The ability of the Lizzies to do many of the things which we Psioneers have been busy writing in OPL for the past couple of years, **using in-built functions** is tremendous. The new models will ensure that Psion remains in the forefront of the Pocket Computer world for some time to come.

### Prices

For the record, the prices of the complete Organiser range are now:

CM(8k) - £79.95  
XP(32k) - £109.95  
LZ(32k) - £149.95  
LZ64(64k) - £189.95



LIZZY!!

# Games Review

## Peterson James Games

reviewed by Mike O'Regan

Either you like games on the Organiser or you hate them. To my knowledge the split is about 50/50. If you are one of the pro 50% you will appreciate Peterson James Games - (Both Kent Peterson and Bryan James are members).

PJG comes on a 32k datapak with a seven page booklet of instructions. Although most of the games are well known, these are excellent implementations.

There are nine games on the pak and a SETUP (to adjust SOUND, SCROLL RATE, and CLICK), which is sensible, as you might like to play the games during your tea-break at the office. The games are: BEEPS, BOUNCE, DIGITS, GOLF, HANGMAN, HILO, MEMORY, REVERSAL, and MONSTER.

BEEPS - is an Organiser version (with graphics) of the once popular game SIMON. You try to remember a sequence of notes (if sound is ON) and their respective positions on the screen. There are different speeds which can be chosen, although personally I found the default speed to be too slow. This is one of those games where, if the speed is slow, it becomes more difficult to remember the sequence just because it is spread over such a long time-span. A simplified version of this was published in PIG Journal earlier.

BOUNCE - is as near as you will get to space invaders on the Organiser. The direction is horizontal rather than vertical, for obvious reasons. There are three versions, NOVICE, EXPERT, and PROGRESSIVE. In the progressive mode the action increases in speed as the game progresses, until it becomes impossible.

DIGITS - puts up a series of digits on the screen for a limited period. You are then asked to type in the same sequence. If you get it right, you are given a different sequence which is one digit longer than the previous one until you get so a sixteen digit sequence. This game is quite instructive in training yourself to remember - for instance - telephone numbers and it is a good chance to try out various methods of remembering (blocks of differing numbers of digits, etc.)

GOLF - I have played Golf simulations on many computers over the years, so I thought it would be impossible on the Organiser. This is obviously not a GRAPHICS implementation. It is all dependent on the time you hold the C key (which determines the length of the shot). I personally didn't rate this game highly, but this is possibly because I could never get a reasonable score. You may play any number of holes between 1 and 18.

HANGMAN - I must admit to being a word-game fan and Hangman is my particular favourite on this pak. The words are carefully chosen and the game can be quite difficult. If I have any criticism of this game, it is that the graphics which comprise the scaffold are too

quickly drawn - I would have welcomed a few more chances to get it right before dangling at the end of a rope!

HILO - at first I thought that this would be a re-hash of my own game of the same name (see IPSO FACTO Vol. 1). However, it turned out to be a version of the popular Bruce Forsyth's "Get Your Cards Right". In its way, it is quite a nice little game, if you have only limited time to play. I would have liked a better portrayal of the cards (UGSs?).

MEMORY - this is another ex-TV Game, simplified for the Organiser display, but with the same strategy. I have played this game on another machine where it was known as Matchup, complete with "wild cards" and graphics. This version is just about playable and a valiant effort on th part of the author made this possible.

REVERSAL - this game (and previous versions of it on other machines) leave me totally baffled. You have to rearrange a sequence of letters into alphabetical order in as few moves as possible. Good stuff for those who are into it, but I always find this one impossible to work out and I never know how I did it if it comes out well.

MONSTER - this game probably takes up most of the pak. Believe it or not, it is an adventure game in which you search for treasure and fight monsters along the way. I am not a fan of adventure games generally (on any computer), so it was rather a relief that I got a syntax error message when trying to run this game. Obviously part of the program was missing.

By and large, I found the games on this pak to be well worthwhile, and the pak is available for very little more than the price of the blank pak from:

Kent Peterson  
Psion Interest Group  
41 Greenridge Avenue  
White Plains  
NY10605.  
USA

(Editors Note: For those new members who haven't got the back numbers of IPSO FACTO here is a short note on Psion Interest Group. PIG (unfortunate name!) is a sister group to IPSO, who produce a nice newsletter on a bi-monthly basis. Kent Peterson is the Editor and Co-Ordinator of the Group. There is no set subscription to the Group, but they expect a contribution towards the production of the journal, either in monetary form, or in the form of editorial matter suitable for publication)

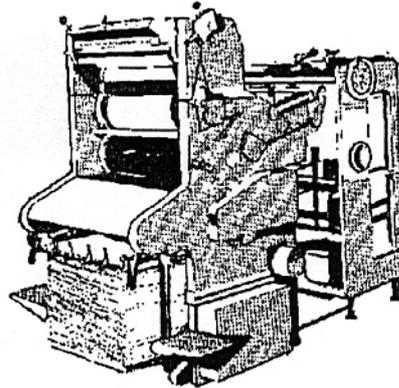
# Beginners Page

by Mike Nash

This month I want to wrap up our FILEHANDLING PROJECT by providing primitive printing and viewing routines for readers to use with the programs already printed.

First the print routine. As our file is an address file I think that we need to be able to either print all the records or to view the records and print them individually, so this is what we shall do.

```
PRADD:
LOCAL K%
DO      REM MAIN 'DO' LOOP
  K%=DISP(-1,"")  REM DISPLAYS CURRENT RECORD
  K%=GET
  IF K%=%N      REM TESTS FOR 'N' KEY
  NEXT         REM MAKES NEXT RECORD CURRENT
  ELSEIF K%=P   REM TESTS FOR 'P' KEY
  PRNTONE:     REM CALLS PRINT ROUTINE
  ELSEIF K%=%A  REM TESTS FOR 'A' KEY
  DO          REM SUB 'DO' LOOP
  PRNTONE:
  NEXT       REM KEEPS PRINTING UNTIL
  UNTIL EOF REM END OF FILE
ENDIF
UNTIL EOF OR K%=%Q REM ENDS LOOP ON KEYTEST OR END OF FILE
```



```
PRNTONE:  REM PRINT SUBPROCEDURE
LPRINT A.F1$ REM SHOULD ENABLE YOU TO
LPRINT A.F2$ REM PRODUCE STANDARD
LPRINT A.F3$ REM 3x1 7/16 LABELS
LPRINT A.F4$
LPRINT A.F5$
LPRINT A.F6$
LPRINT A.F7$
LPRINT A.F8$
LPRINT A.F9$
LPRINT    REM FEEDS YOU TO NEXT LABEL
```

That's all for now folks, I think that I have done enough to give you all a good taste of what is required in a filehandling project. If any of you would like to submit additional features, by all means send them in.

In the next couple of months I hope to touch on algorithms for the sorting of files which is the area which has generated the most queries recently.

Finally any of you in the Central/south London area who require Tuition in OPL may like to contact me at the number below.

MIKE NASH  
6 HAZLEMERE COURT  
26 PALACE RD  
LONDON SW2 3NH 01 671 8644 SUNDAY 10.00 -12.00 MAG32832

## Another Useful Utilities Pak - KPROG from Kirsta Computers Ltd

KPROG is very nicely produced on a 16k pak, with a 36 page manual. It is described by the makers as "Utilities for the Professional Programmer" and some of the features are not exactly everyday utilities for the amateur. Nevertheless, everything is quite simple to use and works well. The options are HEX - a full function HEX calculator with 32bit integer arithmetic. GRAPH for designing UDGs. KEYS which allows access to the full character set from the keyboard at any time, ASCTAB which displays the full Organiser character set and allows "translations" between different characters, CONF - to customise scroll rates, key click, switchoff time etc, LINK - provides improved Comms facilities, FILES - all the usual file-handling facilities, SPACE - is self-explanatory, ERRORS - lists error code numbers with their explanations, and OFF - lets you switch off and re-enter at the program menu level. *KPROG costs £39.95 and is available from:* KIRSTA PRODUCTS LTD (Tel: 0236 54626)

# Machine Code Page

(Article & Procedures by John Morris)

Maybe I'm just paranoid, but I live in perpetual fear of losing my Organiser. It has become a constant tool in my everyday life. I also get worried by the prying fingers - little and otherwise - which cannot resist tapping on those tempting keys. Having got the Organiser nicely tuned to my personal requirements the last thing I want is for it to be "re-arranged" by somebody who does not know what they are doing. Or even worse, somebody who does know what they are doing!

At least part of the answer is to add a password program, and several of these have appeared in various places over the last couple of years. The problem is that I have got accustomed to turning off my Organiser by pressing the "O" button. I try, so far as possible, to give all my main menu entries different first letters, so I can go straight to any one with a single key press.

Wouldn't it be nice if I could replace the built-in "OFF" with an OPL one of my own, I thought. Of course, the one thing you cannot do on the Organiser main menu is delete "OFF"!

The solution is program "ZAPOFF". This looks through the main menu in the Organiser's memory until it finds the entry for OFF. It then replaces the associated machine code address with zero. To the Organiser this means that when the entry is selected it should go and look for an OPL procedure called "OFF".

When ZAPOFF is run it displays the old machine code location for OFF. Make a note of this value. If you ever want to go back to the built-in OFF you will have to run ZAPOFF again, but with the zero in the POKEW two lines from the end changed to the value displayed. After running ZAPOFF, if you select "OFF" from the main menu you will get a "MISSING PROCEDURE" error, complaining about the lack of an "OFF" to run. So write one!

You can write your own "OFF" from scratch, or take any of the password programs published in odd places with the name changed, or use the one I do, as listed. Change the string in line 3 from "Beethoven" to whatever password you like. Shorter is probably better.

The string in m1\$, as set in line 4, will be displayed across the top of the Organiser display if anyone turns it on and does not enter the correct password. This can be as long as you like, as it will scroll across the screen. The string in m2\$ will be displayed on the second line of the display. This can also be as long as you want, but it is probably best to keep it down to 16 characters, as it will not scroll unless the finder deliberately moves the cursor down. A phone number, as shown, is a good idea. But put your number there not mine!

Once you have written your "OFF" program try it by selecting OFF from the main menu. The Organiser should turn itself off, as usual. Then, when you turn it

back on, it should demand a password. Get it right and you will return to the main menu. Get it wrong and the messages in m1\$ and m2\$ will be displayed. Press any key to have another go at entering the password. It will give you three chances to get it right before turning off again, when the whole cycle repeats.

So now, as long as I remember to switch my Organiser off from the main menu, it is adequately protected against casual fingering. If I do lose it then it will tell any finder where to return it. Of course, nothing can prove the Organiser against the battery being taken out, but at least I now have some safeguard against accidents.

By the way - don't forget your password! The only way out that I know is to remove the battery!

```
ZAPOFF:
LOCAL i%,j%,l%,n$(16)
i%=PEEKW($2002)
DO n$=""
  i%=PEEKB(i%) :i%=i%+1
  IF i%=0 :BREAK :ENDIF
  WHILE i%
    n$=n$+CHR$(PEEKB(i%))
    i%=i%+1
    l%=l%-1
  ENDWH
  i%=i%+2
UNTIL UPPER$(n$)="OFF"
IF n$=""
  PRINT "OFF not found!"
ELSE i%=i%-2
  j%=PEEKW(i%)
  PRINT "OFF code is",HEX$(j%)
  POKEW i%,0
ENDIF
GET
```

```
OFF:
LOCAL ip$(16),i%,pwd$(16),m1$(80),m2$(80)
pwd$="Beethoven"
m1$="Property of John Morris"
m2$="Call 0383 419545"
ESCAPE OFF
WHILE 1
  OFF
  i%=3
  WHILE i%
    CLS
    PRINT "Enter Password"
    TRAP INPUT ip$
    IF UPPER$(ip$)=UPPER$(pwd$)
      ESCAPE ON
      RETURN
    ENDIF
    DISP(1,m1$+CHR$(9)+m2$)
    i%=i%+1
  ENDWH
ENDWH
```

# Progs & Procs I

## Machine Code Page (Cont.)

by John Morris

I use this little VAT routine regularly when filling in expense claims. (Yes, I have tried Psion's FINANCE PAK, but that is just a bad joke. It assumes that VAT is one everything - maybe they should have a chat wil Nigel Lawson!)

```
VAT:
LOCAL t,b,v,k%
CLS
WHILE 1
  CLS :PRINT "Price including VAT? ";
  TRAP INPUT t
  IF ERR=206
    BREAK
  ENDIF
  b=t/1.15 :v=b*0.15
  CLS
  PRINT "Amount = ";FIX$(b,2,-7);
  PRINT " VAT = ";FIX$(v,2,-7);
  KSTAT 4 :k%=GET :KSTAT 1
  IF k%=1 :BREAK :ENDIF
  POKEB $76,k%
ENDWH
```

The POKEB at the end POKEs the key pressed into the keyboard buffer, so that there is no need to press a key to clear one answer and then type in the next number. Just typing in the next amount clears the display automatically. This may be a technique that could be used by other programs.

## A Disk Drive for the Organiser?

Cristy Electronics have announced a device called the Retriever, which they claim will couple to any pocket computer with RS232 facilities and provide data storage on 3.5in disks. They also provide a "Copydisc5P+" to "increase compatibility between various computers". The device will work from both battery and mains. The Retriever uses double-sided 3.5in disks to store data in a universal format.

The bad news is that, including carrying case it will cost a mere £650 retail.

Further details can be obtained from:  
Cristy Electronics on (045382) 3611

## CGP1

by Roger Walker

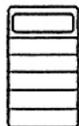
This program (for the TANDY CGP 115 Plotter/Printer) will print the complicated circular pattern shown on the CGP 115 box. *(I hope it will stimulate further interest in this great little printer, for those of us fortunate enough to still own one. Ed.)*

```
cgp1:
[LOCAL
c%,p%,d%,x%(11),y%(11),l%,n%,j%,s,a,aa,x$(3),
y$(3)]
LPRINT REPT$(CHR$(10),16)+CHR$(13)
p%=11 : d%=400
x%(1)=240 : y%(1)=0
a=PI/p% : aa=a
s=2*d%*8SIN(a/2)
l%=1
PRINT "Calculating..."
DO
  l%=l%+1
  x%(l%)=s*COS(aa)+x%(l%-1)
  y%(l%)=s*SIN(aa)+y%(l%-1)
  aa+aa+2*a
UNTIL l%=p%
LPRINT CHR$(18)
LPRINT "I"
c%=2
n%=0
CLS
PRINT "Drawing..."
DO
  BEEP 400,200
  n%=n%+1
  c%=c%+1+4*(c%=3)
  LPRINT "C"+NUM$(c%,1)
  LPRINT "M240,0"
  j%=n%+1
  l%=0
DO
  l%=l%+1
  x$=NUM$(x%(j%),3)
  y$=NUM$(y%(j%),3)
  LPRINT "D"+x$+","+y$
  j%=j%+m%
  IF j%>p% : j%=j%-p%
  ENDIF
UNTIL l%=p%
UNTIL n%=p%/2
LPRINT "A"
LPRINT REPT$(CHR$(10),6)
```

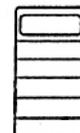
If any member knows of a source for

**ARTFOLIO**  
CLIP-ART

in the UK, please let the Editor know



# IPSO FACTO



*The Newsletter of the International Psion Organiser User Group*

Volume III . No. 4 . June 1989

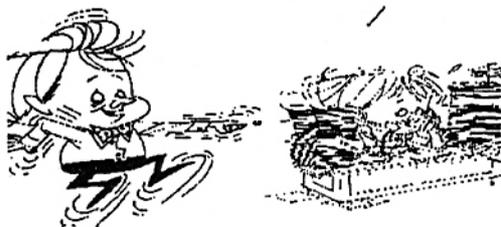
Editorial Office: 130 Stapleford Lane . Toton . Beeston . Nottingham . NG9 6GB . UK

Phone: (0602) 735482 . Telecom Gold Mailbox 72:MAG11839

## IPSOMEET IN JEOPARDY!

Up to going to press, I have had less than a hundred IPSOMEET Bookings! When I first announced that we would have our annual meeting in March/April, more than 400 members indicated their interest. On the strength of this I booked the venue for 2 days (8 & 9 July), but I am afraid that, unless I get a significant increase in bookings during the next few days, I will have to seriously consider cancelling IPSOMEET 89 for lack of interest!

So it is up to you - send your booking NOW. There is still a lot of work to be done if we are to go ahead!



### Machine Code

Followers of Les Ball's excellent Machine Code articles will no doubt have noticed that we no longer feature Machine Code articles. The reason is that Les has changed his job and finds that his new business is taking an enormous amount of time, travelling the country. Thus he has found very little time to get his column ready.

I am therefore asking if any member would like to have a go at running the Machine Code Page. I would have a go myself, if I had time and, more importantly, if I felt I knew enough about the subject! Anybody out there who would like to have a go.

Finally, I would like to express my thanks to Les for not only contributing his columns, but also answering numerous phone-calls from members on the subject. Les tells me that he is still willing to answer any queries he can (if you can catch him in!).

Good Luck to Les in his new venture.

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### Letter to the Editor

Dear Mike,

Your recent review of Steve Knight's LACE pack has prompted this letter. I don't think the review really did it justice. I have been using this pack for the last six months and am not only pleased with it, but consider it is excellent value for money.

I have purchased both FNKEY and WIDGET programs find them both useful. However LACE (for me) is an ideal combination of both a spreadsheet and finance pack. I have spoken to Steve and he is hoping to have a new version available for the LZ64 in time for IPSOMEET, subject to Psion getting the new developer on the market in time.

The main advantage of the LACE pack is its versatility. My business now has a turnover of around £100,000 and I use it for quarterly VAT returns. The Credit section is far better than the Psion Finance Pak. I reckon I can get about three years business details on one 128k pak. If anyone else is interested in applications for this pack, they are welcome to give me a ring (or write)

Yours faithfully,  
A.J. Burns

Sorry that you thought our review was a bit short, Anthony. However it is nice to have unsolicited letters of praise like this (for the software).

The address is:

A.J. Burns  
86 Lodge Park  
Romford  
Essex RM2 5AJ (Tel: 0708 42627)

# Beginners Page

by Mike Nash

This month in response to many requests I have decided to provide a sorting routine so that neophyte programmer's can gain an insight into this very common and useful programming technique.

The program that follows generates random numbers between 0 and 16 (displaying them in hex to get 16 numbers across the screen) and then sorts them into order. Be warned that the length of time taken increases geometrically in proportion to the size of the array. If you take the worst case of an array

of 4000 elements in reverse order, this "bubblesort" algorithm would take two days to resort it!

This will be clearer if you study the sorting part of the program, which consists of two loops the first of which cycles as many times as there are elements in the array to be sorted. The second sort loop then forces the first loop to restart, again as many times as there are elements in the array! In other words the number of sort cycles is the size of the array SQUARED.

e.g. 16= 256 sort cycles  
32= 1,024 sort cycles  
4000=16,000,000 sort cycles

```
SORTBUB:
LOCAL DAT%(200)           REM DATA ARRAY
LOCAL IND%(200)           REM INDEX ARRAY
LOCAL C%,L%               REM PRINT POSITION VARIABLES
LOCAL I%                  REM LOOP COUNTER, ARRAY INDEX NUMBER
LOCAL N%                  REM SECONDARY SORT LOOP COUNTER
LOCAL A%                  REM SIZE OF SORT
START::
print "size 8-200",
input A%
IF A%<8 OR A%>200 :GOTO START:: :ENDIF
cls
POKEW $2046,$8000         REM UNTRAP
N%=0 :I%=A%              REM SET VARIABLES
REM=====REM LOOP TO GENERATE RANDOM NUMBERS
DO
  DAT%(I%)=RND*16
  I%=I%-1
UNTIL I%<1
REM=====REM PRINT DATA ARRAY
REM=====REM (IN HEX 0-F)
DO
  I%=I%+1
  PRINT HEX$(DAT%(I%));
UNTIL I%=16
REM=====REM FILL INDEX ARRAY WITH CONTENTS
REM=====REM OF DATA ARRAY
I%=0                      REM RESET LOOP COUNTER
DO
  I%=I%+1
  IND%(I%)=DAT%(I%)
UNTIL I%=A%
REM=====REM START OF SORT
AT 1,2 :PRINT MINUTE,SECOND
SORT::
I%=0
WHILE I%<A%-1
  I%=I%+1
  MO=IND%(I%) :M1=IND%(I%+1)
  IF MO>=M1              REM IF '<' IS CHANGED TO '>'
  REM=====REM THE SORT IS REVERSED
  REM=====REM IF FIRST ITEM
```

(Cont. on next page)

## Beginner's Page - II

```
REM=====REM IS GREATER THAN
REM=====REM NEXT ITEM DO NOTHING
REM=====REM OTHERWISE, SWAP
IND%(I%)=M1 : IND%(I%+1)=M0
ENDIF
ENDWH
REM=====REM REPEAT SORT n% times
IF N%<A%-1 :N%=N%+1 :GOTO SORT:::ENDIF
REM=====REM END OF SORT
PRINT::
AT 9,2 :PRINT MINUTE,SECOND      REM DISPLAY END TIME
GET
REM=====REM START OF SORT OUTPUT -PRINTING
I%=0 :C%=0 :L%=0 :CLS          REM RESET VARIABLES AND CLEAR SCREEN
DO
I%=I%+1 :C%=C%+1 :L%=L%+1
AT C%,L% :PRINT HEX$(DAT%(I%));
L%=L%+1
AT C%,L% :PRINT HEX$(IND%(I%));
IF L%=2 :L%=0 :ENDIF          REM LIMIT LINE VARIABLE
IF C%=16 :C%=0 :GET :ENDIF    REM LIMIT CHAR POSITION VARIABLE
UNTIL I%=A%
GET
RETURN
```

Of course many times the list will be in order before the computer has completed all the cycles but this program does not allow for this, it just ploughs merrily on . In the future we will look at a more sophisticated sorting program

Next month however I will be presenting a little routine which will return the device and filename which can be used with OPEN,DELETE,COPY,ETC

### A WORD TO BEGINNER'S

MIKE O'REGAN tells me I am going too far above your heads. The solution is in your hands . If you write to me with questions however trivial I will do my best to answer them in this column. Otherwise I will be forced to take my lead from the people who DO write to me. Don't be afraid to ask "silly " questions . In my view the only silly question is a question unasked.

As ever my address details below provide you with YOUR opportunity to contribute to this forum.

MIKE NASH                      TEL 01 671 8644  
6 HAZLEMERE COURT            GOLD 72 MAG32832  
26 PALACE RD  
LONDON SW2 3NH

### IPSO London Group Report

The April meeting of the IPSO London group was the first to be held at our new site in Monck Street and was the best attended meeting yet. About thirty-five IPSO members, police and guests were present to hear John Seymour from Psion describe the new Organiser LZ range. As the LZ was only released one week before the meeting I did not have time to advertise John's talk other than to people who rang me to ask about the meeting. However I think all present were convinced that Psion have made a great and timely step forward with the LZ. My thanks to John for his efforts in describing all the new LZ features in such detail. The May meeting was attended by about twenty-five people. There was no set topic for the evening so Mike Nash gave some informal instruction to the beginners. The rest of us just chatted and swapped programs. I attempted to give a demonstration of my bulletin board system for the Organiser but was defeated by lack of preparation. I hope Mike Nash will be able to restart his somewhat disrupted beginners series at the June meeting and I will give a talk on the mysteries of telecommunications. As usual, please phone me on 01-568 4138 if you want directions to the meeting or any other details about the London group.

Jonathan Hurwitt

# Progs & Procs - I

## Scale by Brod Mason

SCALE is a conversion program for converting measurements on scale drawings. It is set up for architectural scales, but could easily be converted for other uses. SCALE is largely menu driven and the first menu offers 3 choices. Pressing <ON/CLEAR> aborts the program, or you choose in which direction your conversion is taking place, either from "M" (model or drawing) to real size, or from "R" real size to model or drawing. The next menu lets you choose whether your scale is "M" (metric) or "I" (Imperial). Pressing "Q" will quit the program or <ON/CLEAR> will take you to the previous menu. Choosing "I" (Imperial) will take you to another menu, which offers a choice of 8 inch-to-foot scales and "O" (other), which takes you to the same point as metric from the previous menu. This prompts you for a 1:? scale. You are then offered a choice of 2 units (these depend on which direction you are converting, but will be 1 metric and 1 Imperial) in which to enter your measurement to be converted. Select by pressing the appropriate upper case key. You are then prompted for the measurement. Finally the display will show the converted value in metric and imperial. From here there are three choices:

1. Pressing <ON/CLEAR> will take you to the Metric/Imperial menu from which you can retreat further using the same key

2. Pressing <EXE> lets you enter another measurement with all other settings remaining unchanged.

3. Pressing <MODE> takes you back to the choice-of-units menu.

SCALE calls 2 other programs, SETUDG:, which is basically the program on page 160 of the Organiser Handbook, and EDNUM: which is a useful little program in itself that works exactly like EDIT, except on numbers rather than strings.

scale:

```

LOCAL a%,ma%,mb%,mc%,g%,u$(2),x,y,z
PRINT " SCALE ver 1.2(c)by Brod Mason"
setudg:(0,16,16,16,23,21,7,5,7):rem 1/8
setudg:(1,16,16,16,17,19,5,7,1):rem 1/4
setudg:(2,24,8,24,15,29,7,5,7):rem 3/8
setudg:(3,16,16,16,23,21,1,2,7):rem 1/2
setudg:(4,24,8,24,9,27,5,7,1):rem 3/4
PAUSE 20
a::
ma%=MENU("Model/real,Real/model")
IF ma%=0
RETURN
ENDIF
b::
mb%=MENU("Metric,Imperial,Quit")
IF mb%=0
GOTO a::
ELSEIF mb%=3

```

```

RETURN
ELSEIF mb%=1
c::
PRINT "Enter Scale"
PRINT "1 :.",
x=ednum:(x)
ELSEIF mb%=2
[mc%=MENU("3",1"+CHR$(3)+""",1""","+CHR$(4)+
""","+CHR$(3)+""","+CHR$(2)+""","+CHR$(1)+""",
+CHR$(0)+""",Other")]
IF mc%=4 :x=4
ELSEIF mc%=2 :x=8
ELSEIF mc%=3 :x=12
ELSEIF mc%=4 :x=16
ELSEIF mc%=5 :x=24
ELSEIF mc%=6 :x=32
ELSEIF mc%=7 :x=48
ELSEIF mc%=8 :x=96
ELSEIF mc%=0 OR mc%=9
mb%=1
GOTO c::
ENDIF
ENDIF
d::
CLS
PRINT "Measurement in"
IF ma%=1
PRINT "Cms or Inches"
ELSEIF ma%=2
PRINT "Metres or Feet"
ENDIF
e::
KSTAT 1
DO
g%=GET
UNTIL g%=67 OR g%=73 OR g%=1 OR g%=13 OR
g%=2 OR g%=77 OR g%=70
IF g%=1
GOTO b::
ELSEIF g%=2
GOTO d::
ELSEIF g%=73 AND ma%=1
a%=1
u$="in"
ELSEIF g%=67 AND ma%=1
a%=0
u$="cm"
ELSEIF g%=77 AND ma%=2
a%=0
u$="m"
ELSEIF g%=70 AND ma%=2
a%=1
u$="ft"
ENDIF
ENDIF
CLS
PRINT "Measurement(";u$;)"="
AT 1,2
INPUT y
IF ma%=1
IF a%

```

## Progs & Procs - II

```
y=y*2.54
ENDIF
z=x*y/100
CLS
PRINT FIX$(z,2,-9),"metres"
PRINT FIX$((z*3.28084),2,-9),"feet"
GOTO e::
ELSEIF ma%=2
IF a%
y=y/3.28084
ENDIF
z=y/x*100
CLS
PRINT FIX$(z,2,-9),"cms"
PRINT FIX$((z/2.54),2,-9),"inches"
GOTO e::
ENDIF

setudg:(x%,a%,b%,c%,d%,e%,f%,g%,h%)
POKEB $180,64+(x% AND 7)*8
POKEB $181,a%
POKEB $181,b%
POKEB $181,c%
POKEB $181,d%
POKEB $181,e%
POKEB $181,f%
POKEB $181,g%
POKEB $181,h%
```

```
EDNUM:(y)
LOCAL x$(16)
x$=GEN$(y,16)
KSTAT 3
EDIT x$
RETURN VAL(x$)
```

### Vatnum by Rodger Manson

In my job as a Chartered Accountant I am involved in the preparation and checking of VAT Returns. This involves inspecting customers invoices to ensure that VAT invoices are properly stated. This program was devised to ascertain whether a VAT No is valid (some unscrupulous traders have been known to falsely charge 15% extra and shove any old 9 digit number to support this!)

This program clearly indicates if the number is a valid VAT Number - it cannot of course check that it actually belongs to the person on whose invoice it appears.

(Listing in next column)

```
vatnum:
LOCAL t,a%(8),sum%,i,j,k,l
PRINT "Input VAT Number"
INPUT t
k=8
l=1
DO
a%(1)=t/(10**k)
t=t-a%(1)*(10**k)
k=k-1
l=l+1
UNTIL l=8
a%(1)=t
sum%=0
i=1
j=8
DO
sum%=sum%+j*a%(1)
j=j-1
i=i+1
UNTIL j=1
DO
sum%=sum%-97
UNTIL sum%<0
IF a%(8)+sum%=0
PRINT "Valid VATNum"
ELSE
PRINT "Invalid VATNum"
ENDIF
ENDIF
GET
```

### Notes on Program Listings from the Editor

In future all listings will be tested to ascertain whether they will run satisfactorily on all models. Those programs written specifically for a particular model will have an indication to this effect. Please check the top of each listing, so that you do not waste any time keying in a program which will not run on your model (or, worse still, make it CRASH!). Both programs listed in this issue will run on ANY Organiser II.

And just to re-cap on the FORM of listing (as some people are still not conforming to our conventions, some of which have been stated before):

1. Please use lower case characters for procedure names, variable names, and label names.
2. Use CAPS for all OPL words
3. Try to indent loops (for clarity)
4. Only one statement per line (unless there is a good reason for a multi-statement line)

# The Pocket Computer

- a review by Mike O'Regan

## General

I suppose that it might be said that the pocket computer arrived with the first pocket calculators. The very early models, with just the basic four functions were certainly quite limited when it came to processing power. However, when these became programmable, they could at last be said to be real computers, dedicated to number operations.

Today the position seems to be changing again. Programmable calculators, with very few exceptions such as the Hewlett-Packard 41 series, are being replaced by the much more powerful pocket-computers, of which there have been many examples since the first one (the Sharp PC1211). Almost without exception those which had programming languages had a form of BASIC.

## Memory

With limited RAM being the rule until quite recently, and interpreted BASIC programs being wasteful of memory, programs tended to be fairly limited.

Naturally, limited memory extended to ROM. This, in turn, more or less decided the extent and power of not only the language but also the number of other facilities provided. Many of the early models stopped at just the language, but it has become the practice to try to take advantage of non-volatile memory by including more and more other facilities. Now the circle has turned so far in this direction that the latest models have so many features that there doesn't seem to be room for a language at all!

Of course, this is sometimes regarded as an advantage - many computer users think of programming yourself as a last resort! And who is to say that they are wrong? However, the time comes when the built-in facilities just can't cope. We have all experienced this at some time or other, even with the extensive features supplied by the Organiser. That is where there is no other solution but to use a programming language, and, if this is not available, then that is the end of the story.

## Language

The real advantage in this area is OPL. Quite simply, it is not only brilliant, but a wonderful introduction to the addictive world of programming, especially for the 'first time' user. One of the main uses of any computer is manipulating information in the form of a database. OPL was specifically designed to make database operations both powerful and simple.

## Displays

The very first pocket computers had quite simple 8 x 5 dot matrix displays on a one line display, which were only capable of UPPER CASE display. Again the one exception to this was (and still is) the Hewlett-Packard 41 series, which uses a unique and most peculiar segmented character set which can be a pain to read at all. Later models, particularly from Sharp and Casio, have featured

contiguous dot-matrix displays which open up possibilities for miniature graphics, double-height characters, etc. In a way it is a pity that Psion decided to go for discrete 5 x 8 characters for the first Organisers, as this seems to have extended to the new four-line models (no doubt in an effort to retain compatibility throughout the range).

## Keyboards

All pocket-computer keyboards are a compromise - some more than others. Much has been written about the virtues (and otherwise) of the so-called QWERTY keyboard. As used on many pocket-computers, QWERTY is something of a gimmick. In any case, hands up those who can touch-type even on a full-size keyboard. At present the ONLY pocket device capable of accepting true touch-typing is the MicroWriter Agenda. (*I must confess that this article is written entirely on an Agenda, at various odd times*). Much more serious is the attempt to save space by using a small number of keys in conjunction with various shift keys, etc, to make up for the lack of prime keys. The Organisers are dreadful in this respect, especially the numeric keys, as anyone who has much alpha-numeric input knows. As far as I am aware the Organiser is the only current machine which does not have a separate numeric keypad! I am also rather surprised that Psion did not include an effective single-key shift option for CAPS on the new models.

## Other Facilities

As mentioned above some recent machines (Agenda, Sharp IQ) have given priority to built-in utilities to the extent of omitting true programmability altogether as a built-in option. Of course this has been the practice for many years in the Business Computer world. However, in the case of pocket-computers, I personally think that it is almost essential to have the language in ROM (i.e. built-in). Both the Agenda and the IQ have promised languages for some unspecified future date - an obvious response to the new Organisers! It is also interesting to note that both these machines have followed Psion's lead by using ROM/RAM cards as additional storage devices.

## Conclusions

For the moment, Psion still retain their lead as the top of the pocketable computer world. The new models - the Lizzies - will certainly consolidate this position.



# News & Views - I

## Software Developments

Some of our members have been busy writing all manner of programs for the Organiser and others have been busy upgrading already successful programs, some with an eye on the new models (LZs). Below are some details:

### PSOFTSHARE

This venture has been developed by Will Chapman partly as an aid to members who have written small(ish) programs which they would like to market, but consider too small to justify doing this themselves. (A recent flyer gave full details). Recent additions to the Psoftshare range are:

**PsPC** - a system for creating and manipulating Psion data files on a PC (IBM or clone). It allows Organiser files to be created on a PC. These files are compatible with dBASE II, III, and IIIplus. PsPC can now handle Harvester data files plus printed instruction.

**Notepad** - fans of Adrian Pegg's original program will be pleased to know that a greatly enhanced version of this excellent program is now available through Psoftshare. The new program includes fully flexible record editing with line insertion and deletion, 25 definable and re-definable keywords which can be inserted anywhere, XOFF to monitor alarms, and a datapak search link. Current users will be able to use their present A:PAD file or records with the new program.

**Banking** - (an inexpensive bank account manager) also from Adrian Pegg

**Caltime** - another A.Pegg utility which allow calculation in hours, minutes, seconds (still not included on the LZ models! Ed.). This is compatible with 'timecodes' used in the television industry.

Details of the above programs and the others in this expanding range can be obtained from:

Psoftshare  
Gable Cottage  
13 Bower Road  
Queens Park  
Bournemouth BH8 9HQ (Tel: 0202 33146)

### ZIP Software

There are seven programs in the Zip list at present and all are available for £5 or less each. An innovation with this software is that there is an option (at an extra charge) to have the programs plus their editable listings.

The current list is:

**XDAY** - a quick way to scan DIARY entries on a particular day or successive days

**LIST** - Create any number of lists: "do" lists, shopping lists, etc.

**FILES** - gives a directory of all data files and allows you to copy, rename or delete any of them.

**WATCH** - a stopwatch. The Organiser may be switched off or other functions used, but WATCH displays the elapsed time since the start of the event as soon as you return to it.

**ENIGMA** - a game, ideally suited to the Organiser and great for doctor's waiting rooms, train journeys etc.

**CHRCODES** - for programmers only. COverts between ASCII character codes and decimal and hex values.

**PEEK** - also for programmers. Lets you look at the Organiser's innards.

Details of ZIP Software can be had from:

Chris Burton  
40 Lennox Road  
Gravesend  
Kent  
DA11 0ER

### FILM MAKERS UTILITIES

The following features are included:

**STOP** - gives T stop given all the factors connected with exposure.

**EXPOSURE** - gives the KEY LIGHT in footcandles given all the exposure factors

**DEPTH** - a depth of field program. Given the lens, distance and F stop the program gives the near and far distance of focus

**LAPSE** - time laps calculations

**LENS** - a series of lens calculation programs. Will give the lens, distance or height and width for all film formats.

**MIRE**D - colour correction program. Gives the colour filter needed for correcting different colour temperature light.

**HMI** - a series of programs for calculating frames-per-second, Hertz, and shutter angle.

**LENGTH/TIME** - two programs to convert film length to time and time to film length. For all film formats and filming speeds

**PAN** - recommended panning speeds for all lenses and formats. All programs are in metric and imperial for all film formats.

For more details contact:

Maxim Ford  
27 Birstall Road  
Tottenham  
London N15 5EN (Tel: 01 802 8791)

## News & Views - II

### News from CUBSOFT

XBASE is now fully compatible with the LZ and LZ64 models and it uses the four line display of these models - very useful for viewing and editing multiline records. Cost is still £49.95. Upgrades from Versions 1.1 to 2.2 are £15 and 2.0 to 2.2 are £8 on return of the original pak. Cubsoft are also looking for IDEAS (only!) for a word-processor and Games pak (to be written in machine-code by Cubsoft)

Further details of all the above from:

Cubsoft  
6 Okeover Road  
Salford  
M7 0JX (Tel: 061 792 2871)

### DATEBOOK

This handy little program will printout a calendar (complete with any appointments) for any month up to the end of 1999. It is available (on IBM standard 5.25" disk only) for \$10.00 from:

Bryan James  
211 State St  
Danville PA 17821  
USA (Tel: 717 275 1873)

### Widget News

Mark Needham tells me that Autoscribe Plus and Filemaster have now been translated into German, complete with manual. These programs are available from:

Wolfram Herzog  
Yellow Computing  
D7107 Bad Friedrichshalle  
W.Germany (Tel: 07136 20016)

### FOR SALE

Organiser (LA Model), 32k RAMPACK, Comms Link & Adaptor, Widget Autoscribe Plus, Cubsoft XBase, Harvester Database.  
£175 the lot  
Phone Peter Humphris on 0382 458629

Organiser (CM Model) with box & Handbook  
£50.00  
Phone Nicholas Holmes on 01 260 1657 (daytime)  
or write to 18 Balmoral Road  
Pilgrims Heath  
Brentwood  
Essex CM15 9PN

### For Sale (cont.)

2 Finance Paks (unused), one in original box  
Phone Michael Elliott on  
0602 654217 (after 7.30p.m.)

### Help Wanted

Will anyone who can help with advice on connecting a Spectrum 128 (with Plus D Disk interface) and an Organiser please contact:  
Jeff Jennings on 0527 63330

### Attention French & German Speaking Members

One of our multi-lingual members (located in Switzerland) is contemplating starting a French/German Organiser newsletter. Anyone interested in this idea should contact:

Peter Gaechter  
c/o CICR  
17 ave de la Paix  
1202 Geneva

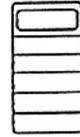
### Lizzy Notes

Here are one or two points for those lucky members who have (or are thinking of) an LZ Model:

1. Daylight Saving (TIME option)  
In short, someone has been too clever here. The daylight saving option on the TIME menu is useless. If you use this option it will put the clock at your base forward one hour, whilst leaving ALL OTHER UK CITIES AT THE ORIGINAL TIME! As many continental countries now have their own versions of daylight saving time, the best advice is to forget it!
2. NOTEPAD Files.  
You can open a named Notepad file and subsequently DELETE the file (either from the Notepad Menu or from the Utility Menu), but the filename will remain the default name until you either open another file, name a fictitious file NOTEPAD (then delete it), or hard reset your Organiser. Not serious, but niggling, as is the way that a Password controlled notepad cannot be bypassed to access another file, except by naming the other file on the Top Level Menu.



# IPSO FACTO



*The Newsletter of the International Psion Organiser User Group*

Volume III, No. 5, July 1989

Editorial Office: 130 Stapleford Lane, Toton, Beeston, Nottingham, NG9 6GB, UK

Phone: (0602) 735482. Telecom Gold Mailbox 72:MAG11839



## Gone Fishin'....

or Swimming, or watching the Tennis Finals. It isn't clear whether any or all of the above accounted for the almost total lack of support for IPSOMEET 89. Anyway, whatever it was, when the committed members were finally counted, only 72 were prepared to make an appearance on either 8 or 9 July. I was therefore obliged to call it off (as mentioned in my last Editorial).

It seems that, despite the long notice, July is not the right time for our meeting. I would be quite interested to find out the real reason why the other 300 odd people who said that they were interested in March suddenly decided against coming.

## Machine Code Page

I have had a reply to my request for someone to take over the Machine Code page previously written by Les Ball, so you can look forward to this popular feature re-appearing in the near future.

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## Discounts

I often get asked if I know of anyone selling Organisers and Peripherals at discounts. Well there are a few dealers who are offering reasonable discounts (usually mail-order) and I will let you know if I hear of any other sources, especially those who offer discounts to IPSO members.

For the present, here are a few details of a member of IPSO who will supply all models of Organisers, plus most of the well-known peripherals at discount.

A few examples from their price list:

- XP 32k Organiser - £99.95
- LZ 32k Organiser - £134.95
- LZ64 Organiser - £174.95
- Organiser Printer - £195.00

(All prices are inclusive of VAT, postage & packing)

For a full list write to:

Organised Software  
10 Rowley Way  
Knutsford  
Cheshire WA16 9AU

If anyone has details of any other sources of discounted Organiser equipment, I will be glad to let members know.

# Progs & Procs - I

## Analogue Clock & Conversion Programs by David Green

K is an analogue display of the Organiser built-in clock, accurate to the nearest five minutes. The program uses UDGs (user defined graphics) so the Organiser Handbook program u: is repeated below for your convenience. *[The Organiser display is not exactly helpful, but this is a good effort which David hopes to improve on for the Lizzy four-line display. A helpful tip when keying in listings which are mainly numeric is to switch on numeric mode <SHIFT NUM> and use the shift key to key in your alpha entries - Ed.]*

```
k:
LOCAL h,m
u:(1,31,16,16,16,16,16,16)
u:(2,31,0,0,0,0,0,0)
u:(3,31,0,0,0,0,0,0)
u:(4,31,1,1,1,1,1,1)
u:(5,1,1,1,1,1,1,31)
u:(6,0,0,0,0,0,0,31)
u:(7,0,0,0,0,0,0,31)
u:(0,16,16,16,16,16,16,31)
h=HOUR
m=MINUTE
IF h>12
h=h-12
ENDIF
IF m>54
h=h+1
ENDIF
IF h=1 :u:(3,31,0,0,0,4,8,16,16)
ELSEIF h=2 :u:(3,31,0,0,0,0,1,2,4)
ELSEIF h=3 :u:(3,31,0,0,0,0,0,0,31) :u1:(6,31)
ELSEIF h=9 :u1:(7,31) :u:(2,31,0,0,0,0,0,0,31)
ELSEIF h=10 :u:(2,31,0,0,0,0,16,8,4)
ELSEIF h=11 :u:(2,31,0,0,4,2,1,1,1)
ELSEIF h=12 :u:(2,31,0,0,0,1,1,1,1)
:u:(3,31,0,0,0,16,16,16,16)
ENDIF
IF m<5 :u3:(3,31,3,3)
ELSEIF m<10 :u4:(4,31,1,7,7)
ELSEIF m<15 :u:(4,31,1,1,1,1,1,1,7) :u1:(5,7)
ELSEIF m<20 :u:(5,1,1,1,1,7,7,1,31)
ELSEIF m<25 :u:(6,0,0,0,0,0,3,3,31)
ELSEIF m<30 :u:(6,0,0,0,0,0,16,16,31)
:u:(7,0,0,0,0,0,1,1,31)
ELSEIF m<35 :u:(7,0,0,0,0,0,24,24,31)
ELSEIF m<40 :u:(0,16,16,16,16,28,28,16,31)
ELSEIF m<45 :u1:(0,28)
:u:(1,31,16,16,16,16,16,28)
ELSEIF m<50 :u:(1,31,16,28,28,16,16,16,16)
ELSEIF m<55 :u3:(2,31,24,24)
ELSEIF m<60 :u3:(2,31,1,1) :u3:(3,31,16,16)
ENDIF
```

```
IF h=4 :u3:(6,4,2,1)
ELSEIF h=5 :u5:(6,16,16,16,8,4)
ELSEIF h=6 :u4:(6,16,16,16,16) :u4:(7,1,1,1,1)
ELSEIF h=7 :u5:(7,1,1,1,2,4)
ELSEIF h=8 :u3:(7,4,8,16)
ENDIF
AT 7,1
PRINT CHR$(1);CHR$(2);CHR$(3);CHR$(4)
AT 7,2
PRINT CHR$(0);CHR$(7);CHR$(6);CHR$(5)
GET
```

```
u1:(x%,a%)
POKEB $180,64+x%*8
POKEB $181,a%
```

```
u3:(x%,a%,b%,c%)
POKEB $180,64+x%*8
POKEB $181,a%
POKEB $181,b%
POKEB $181,c%
```

```
u4:(x%,a%,b%,c%,d%)
POKEB $180,64+x%*8
POKEB $181,a%
POKEB $181,b%
POKEB $181,c%
POKEB $181,d%
```

```
u5:(x%,a%,b%,c%,d%,e%)
POKEB $180,64+x%*8
POKEB $181,a%
POKEB $181,b%
POKEB $181,c%
POKEB $181,d%
POKEB $181,e%
```

The interest which was generated by our previous publication of a Conversion Program has prompted me to publish the following nicely structured program VERT which is not only self-explanatory but eminently suitable for extension by even beginners. Simply add the required extras to the menu on Line 4, include an extra ELSEIF in the right place, and write a simple c6:, c7:.....

```
vert:
GLOBAL a,b,c,d$(3),e$(3),m%
DO
m%=MENU("Temp,Mi-km,In-cm,Oz-gm,Pt-litre")
IF m%=0
RETURN
ENDIF
PRINT "Enter No. to be"
```

(cont. on next page)

# Progs & Procs - II

(vert: cont. from previous page)

```
PRINT "converted:"
AT 12,2
INPUT a
CLS
IF m%=1 :c1:
ELSEIF m%=2 :c2:
ELSEIF m%=3 :c3:
ELSEIF m%=4 :c4:
ELSEIF m%=5 :c5:
ENDIF
AT 1,1
PRINT a;e$;"="
AT 8,1
PRINT FIX$(c,2,-7);d$
AT 1,2
PRINT a;d$;"="
AT 8,2
PRINT FIX$(b,2,-7);e$
GET
UNTIL MENU("Again,Quit")<>1
c1:
u:(0,6,9,9,6,0,0,0,0)
b=(a-32)*5/9
c=a*9/5+32
d$=CHR$(0)+"F"
e$=CHR$(0)+"C"
RETURN

c2:
b=a/.62
c=a*.62
d$="km"
e$="M"
RETURN

c3:
b=a/2.54
c=a*2.54
d$="cm"
e$="in"
RETURN

c4:
b=a/28
c=a*28
d$="gm"
e$="oz"
RETURN

c5:
b=a/.57
c=a*.57
d$="l"
e$="pt"
RETURN
```

```
u:(x%,a%,b%,c%,d%,e%,f%,g%,h%)
POKEB $180,64+x%*8
POKEB $181,a%
POKEB $181,b%
POKEB $181,c%
POKEB $181,d%
POKEB $181,e%
POKEB $181,f%
POKEB $181,g%
POKEB $181,h%
```

*Note that the above program (reproduced from the Organiser Manual) is required by both the Clock and Conversion programs, if they are to run on the CM or XP models. LIZZY owners might like to omit this program and use the NEW OPL COMMAND UDG (now built-in), to amend the procedures which call u:*

## IPSO LONDON GROUP

The June meeting of the IPSO London Group was quite well attended by most of the 'regulars' plus three or four new people. I gave a talk on the mysteries of serial data communications. This cleared up a few misconceptions for some people but probably confused one or two as well!

Mike Nash was last seen writing a program on the white-board, surrounded by the beginners. I'm not sure exactly what he did, but everyone seemed satisfied. I hope he will be able to continue next month.

I would like to appeal for speakers for the London meetings. If you have a product or an interesting use for the Organiser and want to talk about it for up to an hour then please contact me. We now get between twenty-five and thirty people on a regular basis and should get more if enough advance notice is given via IPSO FACTO.

Please note that the July meeting is on the 18th as previously advertised but the August meeting will be a week later, on the 22nd. The meetings from September onwards should be back to the third Tuesday.

Please phone me on 01-568 4138 for directions if you have not been before.

Jonathan Hurwitt

# Odds & Ends

## Points to Ponder by Colin McGlashan

The computer-literate may find Gordon Brown's problems amusing, but his experiences resemble those of the majority of Organiser- owners. Not Organiser-users, because I suspect that most people who have bought or been given a machine play with it for a month then consign it to the bottom drawer. I don't blame them. The Organiser is marketed as a practical alternative to a Filefax. It is in fact a specialist tool, mainly useful to those who can devise and write their own applications, and it will remain so until it is sold as a package with user friendly software and instructions.

After 18 months, my Organiser is now useful, and easy and interesting to use. However, for the cost in time and money required to make it so, I could possibly have bought a secondhand PC and learned MS-DOS and WordPerfect! My advice to anyone without computer knowledge and with no special purpose in mind would be to stick to a Filofax and a calculator.

However, I can assure Mr Brown that with FNKEY and Filemaster (FM) he can quickly solve all his problems. Yes, the FNKEY manual is difficult to understand - it seems to be a rule that the people who can write brilliant software can't describe how they work in simple English. Perhaps you can find space for two matters - how to instal a £ sign useable in files, programs and the diary, and a method of using FNKEY and Filemaster that makes files available in two keystrokes, with FM's Find: command ready to use, and with HELP files listing all the FNKEY macros ready at hand.

### FNKEY £ sign.

1. press SAVE
2. set to lower-case
3. press MODE then press up cursor
4. press MODE then down-cursor
5. record on
6. press M (it should now return the £ sign)
7. record off
8. assign to a key - I suggest L
9. press MODE and up cursor
10. press MODE and down cursor

### Files using FNKEY & Filemaster

The best way to enhance the Organiser's FIND command is to delete it from the menu! Replace it with VU (FM's menu item), though in practice there's little need to use either. Now draw up a list of files you want

and the keys you want to assign them to. Mine are on a RAMPAK in the B slot, in this order: TEMP (temporary notes that can be SORTed or SELECTed to other files)

```
ABC DEF GHI JKL MNO PQR STU VWXYZ
HELPA HELPB HELPC HELPD
HELPE HELPF (explanation later)
```

Create these files in that order with FM, followed by any others you want. The 1st record in each file should have the 1st line blank - the 2nd line should consist of the filename, preceded by a symbol e.g.# ABC.

Now use FNKEY to record the keystrokes necessary to access each file, plus SPACE and F for FM's commands to open the file and Find: Assign each recording to a key, e.g. A for ABC. Pressing MODE then A now gives you the following display:

```
Find:
# ABC
```

Type a search clue, or press EXE to step through the records, then Q twice to return to the main menu.

The macros for the HELP files are created in a similar way, but there is no need to leave the 1st line blank or to use the Find: command, since there is only one record. There are 6 HELP files because I use banks of macros A - F (A and B for files, C for calculator, D for diary, E for spreadsheet, F for programming). Each HELP file is assigned to the H key in its respective bank, and consists of one record, e.g. HELPA:

```
BANK A (files)
A-ABC B-BANK
C-CAR D-DEF
E-EAT F-FLAT
G-GHI H-HELPA
I-INV J-JKL
K- L-£
M-MNO N-(now)
O- P-PQR
Q-? R-
S-STU T-TEMP
U- V-VWXYZ
W-(right arrow twice)
X-! Y-' Z-#
```

Notes:

1. The N key gives the next record in the diary. The punctuation keys are standard on banks A-D.

2. Pressing MODE then H will always tell you which bank of macros is currently in operation

*(cont. on next page)*

# Odds & Ends - II

I use more than 100 FNKEY macros, most of which I remember correctly most of the time. However, some are complex, e.g. printing or deleting part of a spreadsheet, or saving one spreadsheet and loading another. If you use lots of macros, you WILL crash FNKEY by hitting the wrong key, or by its unpredictable and exciting reactions to some other software. Be prepared - then you can sit back and enjoy the results. My favourite FNKEY crash is "Tokio Strikes Back" - hordes of Kanji characters, released from some secret prison, march endlessly down the screen. (The Editor's Germans are presumably also lurking in there waiting for their revenge).

*(Colin's article was written before the arrival of the Lizzies, but I guess that most of his points are still valid. Well, what do you think? Does YOUR Organiser gather dust in a bottom drawer??! Ed.)*

---

## Batteries

by John A. Gardner

I am a computer engineer and carry my Psion in a leather holster. I use it to record stock bin numbers, home finance, and most useful of all as a test instrument. Say I have a customer saying "won't print". I toddle along, whip out the Organiser, plug into the printer, and within a short while I know if it is the printer, the lead, or the system.

Some printers have special escape code sequences that put them in test mode. These are easily stored on the Psion with names like "QTEST" for the test sequence for a Qume printer.

In terminal mode I can emulate the customer's VDU and talk to their system. A common fault is a VDU that won't communicate in one or both directions.

When I first started using my Psion like this, I was getting through alkaline batteries at the rate of one every 3 weeks. I put the Organiser on a variable power supply and found the low voltage sensor on mine triggered at 6.1 volts. I bought 2 Ni-cad batteries and a charger.

Ni-cads have a slightly lower voltage than ordinary batteries, 8.4 volts for the 9 volt type. Inside are 7 cells giving 1.2 volts per cell. The Ni-cad cell is taken to be fully discharged when it reaches 1 volt per cell, or 7 volts for the 8.4 volt pak. This is perfect for the Psion. I carry a spare Ni-cad with me. When I get the "low battery" signal I swap over cells, take the flat one home and charge it ready to become the new spare.

With the use I have described it lasts about a week between changes. It is true that a 110 Ma/hr Ni-cad holds about a quarter of the charge of a new alkaline.

However, given that an alkaline battery costs about £2 when a Ni-cad costs £6-7 (I paid £4.25), and given that the alkaline can be used over 500 times, I will leave you to work out the economics!

---

## For Sale

Organiser XP, boxed £80

Write to:

Mr Suhail Ahmad  
Holliers Farm House  
Hagley  
DY90QP

---

Harvester Superchip - £60

Psion Maths Pak - £20

Both hardly used.

Handbooks included

Phone Ian on 0202 696619,  
after 6.30 p.m.

---

Psion Spreadsheet (Lotus compatible)  
for XP - £20

Psion Developer Pak for XP etc - £30

Contact Marc on Reading  
(0734) 874271 after 6 pm

---

Organiser XP 32k mint in box £80

Phone: A. Shine  
on 01 - 421 2552

---

## ShIPLEY & BRADFORD LOCAL GROUP

Anyone in the Shipley or Bradford Area who is interested in forming a local IPSO Group should contact:

Bernard Franks  
on 0274 586183

# Communications (etc)

## Communications News

I have tended to neglect the Comms side of the Organiser in this newsletter, so below are some details of a small MODEM, which is suitable for use with the Organiser and is reasonably priced. I thank David Owen for the information. Ed

### Datatronics Discovery 1200P Pocket Modem

The Discovery 1200P is an Autodial/Autoanswer (Pulse or Tone dialling) 300/1200 Baud, full Duplex Hayes compatible pocket modem.

It measures 96mm x 60 x 23mm and comes complete with a black plastic case, telephone lead and a 54 page manual.

It is switchable between Bell 103/212A and CCITT V21/V22 protocols by using the Hayes commands or the DIP switches in the battery compartment.

There are four sockets, the one on the end is a 25 way D socket for the Psion Modem Adaptor. The two American style phone sockets (one Line, one Phone) and a 9 volt power supply socket are on one side. An American-to-BT phone socket converter lead is supplied.

On the top are three LEDs to indicate Battery Low, High Speed (on=1200 Baud, off=300 Baud), and Carrier Detect. Call status can be monitored by the built-in speaker and the messages that are displayed on the screen.

Caution: There is also a 1200PN (no battery) version. THIS WILL NOT WORK WITH THE ORGANISER - the Comms Port does not give out enough voltage to power the modem.

#### Note 1

Because the Organiser does not implement DTR, the modem DIP switch no. 3 must be set to ON. This forces DTR on, but has the disadvantage of leaving the modem powered up at all times. You must disconnect the battery after use otherwise it will go flat overnight.

#### Note 2

When using BT's system, I was unable to get a connection on the 1200 Baud line, despite being able to hear the carrier tone. After a number of attempts, I rang Digital Matrix. They told me that they had heard of this problem before in the Manchester area (where I live). The problem seems to be with good old BT! Some of their modems are of the old valve type which put out a Bell tone first, then switch to CCITT tones. This switching of tones confuses the Datatronics

modem and it refuses to lock on to the carrier. Digital Matrix did offer me a full refund, but I decided to check out their comment first.

I rang the Microlink Help Line and spoke to a very helpful gentleman who had not heard of this particular problem before. He did, however, suggest that I try the Direct Dial and the Comshare 1200 Baud Port numbers. Both of these worked perfectly, as did the various Bulletin Boards that I tried.

I have since found out that this problem occurs on a couple of other PSS 1200 Baud Modes. Which these others are I do not know. BT say that they are upgrading these modems on "an ongoing basis"!

Despite the above comments, I had no hesitation in keeping the modem as it is an excellent performer at a nice price. It also required no re-wiring of the Psion Modem Adaptor - literally plug in and go.

The modem is available from:

Digital Matrix Ltd  
75 Willow Road  
Solihull  
West Midlands  
B91 1UF

Tel: 021 704 1399

Price is £85 + VAT

### Saving Money

As most of you know, Psion originally produced the Concise Oxford Spell Checker on a 64k datapak. At that time the price of a BLANK 64k datapak was £79.95, which meant an enormous £50 saving if the pak was erased for use as a datapak.

The price of the datapak was subsequently reduced by £20, but it was still a worthwhile proposition to erase the Spell Checker. Then Psion took the step of switching to a straight ROM for the SC, making erasure impossible.

However the Travel Pak, a more recent addition, is also on a 64k pak. With the price at £39.95 the saving is £10 less, but nevertheless still worthwhile.

I hope this news will not lead to a shortage of Travel Paks, as happened with the SC!

# Beginners Section

by Mike Nash

Thank you to Peter Sipple for an interesting letter.

Peter asks if there is any way to check the battery power level with a program and also if there is any way of displaying the space on the Psion's drives.

To the first question I would say that the "Low Battery" error message could be written into programs quite easily. However, if there are any machine coders who know how to check if a battery has used up 10% of its power say, perhaps they can write in.

In answer to Peter's second question I have provided two versions of the same program, one for the LZ and one for the XP or CM.

The program for the LZ was the prototype.

Note that I did not have to use the 'AT' command to specify the line numbers and positions until the end, because the Psion's default LINEFEED did the job for me. 'GEN\$' is used with a minus value for the second parameter so that the numbers are all neatly right justified.

```
roomlz:
LOCAL sp(3),t
PRINT "Bytes free"           REM display message. No room for this on XP!
TRAP OPEN "A:main,A,f1$     REM open "a:main file"
sp(1)=SPACE                 REM put bytes free on a: in the array
TRAP CLOSE                 REM close the file just opened
PRINT "A:" + GEN$(sp(1),-8) REM print the result to the screen
TRAP OPEN "B:main,A,f1$     REM repeat for B: and C: drives using TRAP
IF ERR < > 246              REM to force the program to execute even
sp(2)=SPACE                 REM if there is not pak. If there is a pak
PRINT "B:" + GEN$(sp(2),-8) REM the bytes free are put in the array
ELSE                        REM and the results are printed
PRINT "B: no pak"          REM if there is not a pak present the
ENDIF                      REM message is printed and the close
TRAP CLOSE                 REM will execute even though there is not file
TRAP OPEN "C:main,A,f1$     REM file to close
IF ERR < > 246
sp(3)=SPACE
PRINT " C:" + GEN$(sp(3),-8)
ELSE
PRINT " C: no pak"
ENDIF
t=sp(1)+sp(2)+sp(3)        REM t equals total of the array
AT 12,4
PRINT " " + GEN$(t,-7)     REM display total on fourth line
GET                        REM GET is essential to hold the display
                           REM on the screen
```

I have provided the second program because I think it is a good example of how a program can be improved and made more compact by the use of a loop. LZ users should be able to modify the first program to mimic these improvements.

The principle is much the same but geared to a two line screen. However, to save space, only one set of instructions is provided and enclosed in a loop which executes three times under control of the variable i%.

Worth noting is the 'GEN\$' command whose width varies according to i%. This is to allow for the fact that, whereas the value of the A: will never be greater than five digits wide, a 128k datapak would take up to six.

Now if you count the characters to be displayed on the first line, you will get fifteen, and we want sixteen, so that on the XP the third device name will never start on the first line. 'REPT\$' inserts a space when i%=0, which is just after printing the A: drive space.

# Beginners Section - cont

```
roomxp:
LOCAL i%
i%=0
DO          REM start loop
TRAP OPEN CHR$(%A+i%)+":MAIN,A,f1$  REM %A+i% changes pak letter
IF ERR<>246  REM no pak error
            REM print using lower case pak
            REM letter, clearer adjacent to numbers
PRINT CHR$(%a+i%)+": "+GEN$(SPACE,-5,-i%);REPT$(" ",((i%=0)*-1));
ELSE
PRINT CHR$(%a+i%)+": "+ "no pak";
ENDIF
i%=i%+1    REM increment i%
UNTIL i%=3  REM end of loop
GET
RETURN
```

Those of you who choose to modify the LZ program to include these improvements should consider using the i% variable in conjunction with the AT command to increment the line being printed.

Anyway, I hope that this program provides you with a useful (more comprehensible?) supplement to INFO on both the LZ and XP.CM models

Mike Nash            Tel: 01 671 8644 Sundays 9-12 a.m.  
6 Hazelmere Court    Ansaphone weekdays  
26 Palace Road  
London SW2 3NH        Microlink 72:MAG32832

## Auto Switch Off Time by Mike O'Regan

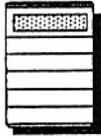
As a result of several enquiries from Beginners (and others!) about how to safely alter the Auto Switch Off time, I have written the following simple (to understand) procedure. I know that the handbook (Page 205 for XP/CM models and Appendix C of the LZ Programming Manual) has the information, but many beginners are - quite rightly - afraid of POKEing anything into memory (even if they know how!). The default switch-off time is 5 minutes and memory locations \$20CD and \$20CE contain this value (\$012C (hexadecimal) is equal to 300 (seconds) in decimal). What these pages do not mention is that they can be replaced by POKEing a DECIMAL number into these locations. Without being too technical - I hope - may I mention that a single memory location can only hold a number of 255 (\$FF) or less, hence the need for TWO CONSECUTIVE locations (and the POKEW (which POKES a WORD (or two consecutive BYTES) with the number which follows. The procedure which follows allows you to alter the time to Auto Switch Off in WHOLE MINUTES only. Obviously if you want to be more precise you can easily edit the procedure so that the time is in SECONDS, but remember that the lowest acceptable time is 15 seconds (anything less will be

automatically adjusted to 15 seconds).

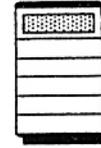
```
swoff:
LOCAL min%
PRINT "Mins to AutoOFF"
INPUT min%
min%=min%*60  REM omit this line for "seconds"
POKEW $20CD,min%
BEEP 200,100
PRINT "AutoOFF is"
PRINT min%/60,"mins"  REM omit the "/60" for
GET                  REM seconds
```

## Beginners Page Notes

There have been comments from various sources that the "beginners" page is becoming more "advanced". I have discussed this with Mike and he is giving some thought to some way of going back to "square one" and producing something for the true Beginner, rather than those who have been following his Pages through the various stages. Ed.



# IPSO FACTO



*The Newsletter of the International Psion Organiser User Group*

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Editorial Office: 130 Stapleford Lane . Toton . Beeston . Nottingham . NG9 6GB . UK

Phone: (0602) 735482 . Telecom Gold Mailbox 72:MAG11839

## Editorial

This issue has a full four pages devoted to OPL programs (by popular request). However, there is no Beginners Page owing to factors beyond my control. I hope to resume both this page and the Machine Code Page in the next issue.

---

## Meeting Members

With the cancellation of IPSOMEET 89 we regret most of all the opportunity to meet our members. Last years meeting was the starting point for many friendships among our members and the beginning of at least one Local Group. It looks as if it will be next year before we can organise another IPSOMEET, probably in April, which seems to suit many people.

However, we hope to meet some of you at the PERSONAL COMPUTER SHOW in September. Details of our location and dates will be in the next issue.

---

## Note for LZ Programmers

from Adrian Pegg

The new FINDW command in the LZ models cannot directly replace the FIND command in OPL program. The equivalent to returning FIND with an empty string (which finds everything) has to be FINDW(""). So to emulate the working of FIND but allow wildcards you have to make sure that the first and last characters of the string are the character "".

## Contents

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## New Multilingual Newsletter for the Organiser

As mentioned in a previous issue, our member Peter Gaechter is launching a newsletter aimed at Continental Organiser Users. The new publication is called "CURSOR ON".

The first issue is due out this month, so anyone interested in this venture should contact Peter at the following address:

The Editor  
CURSOR ON  
34 pl Bourg de Four  
1204 Geneva  
Switzerland

# Software Review - I

## KPROG from Kirsta Products Ltd

Reviewed by Mike O'Regan

KPROG is described by Kirsta as "utilities for the programmer" and, while this package does contain some very useful features for the serious programmer, many of the features are even more useful to the beginner-programmer and even the non-programmer. I will mention these later in this review.

KPROG comes on a stylish black datapak which has only 1413 bytes left, and there are 23 programs on 16k datapak. (Incidentally it is a pity that the LIZZY's Info Utility doesn't show the size of a protected pak). KPROG is protected. The pak autoboots (two presses of ON/CLEAR will install it ready for use on the top level MENU). Autobooting KPROG does other things as well (more of this later).

Pressing K then brings up the KPROG Main Menu, consisting of ten options as follows:

HEX, GRAPH, ASCTAB,  
CONF, FILES, SPACE,  
KEYS, LINK, ERRORS,  
OFF.

1. HEX - is undoubtedly the most sophisticated PROGRAMMER's utility on this pak. I don't think I have ever seen such a comprehensive HEX/DEC manipulator (it is much more than a calculator) ANYWHERE before. Hex allows almost any mixed HEX/DEC calculations you can imagine - and quite a few you never thought of. Features include bitwise logical operations, NOT, AND, inclusive and exclusive OR. Operator priority is selectable if required. Ordinary CALC memories can be utilised, especially to transfer values between the HEX and Organiser calculators. HEX can handle numbers up to 32

2. GRAPH - is 'sort of a programmers utility. By this I mean that it COULD be used by a programmer, but is probably just as useful to the 'non-programmer' simply for experimenting with and designing User Defined Graphics (UDGs). This facility is particularly important for the LIZZIES (which reset the UDGs each time the machine is powered up). When I first tried the GRAPH function I thought it was difficult to use, but after a couple of goes I found it easy. If you run GRAPH on a CM/XP the act of designing a UDG saves it for subsequent use. In this case it is not even necessary to make a note of the code. On the Lizzies, you have to make a note of the codes to incorporate in your UDG Command, but at least this is very easy to write. The display while you are using GRAPH shows all the current UDGs and, as you work on one you move a cross-hair cursor over an 8 x 5 matrix. Pressing the <EXE> key 'toggles' the dot on the display under the cursor. The effect is immediately visible, as is the code

as it changes. When the character has been designed, it is possible to further adjust things by using a sub-menu which allows you to restore the old character, invert all pixels, mirror the char, turn it upside down, or move the whole char left, right, up, and down one pixel at a time. A nicely designed feature.

3. ASCTAB - this option displays ALL the characters in the Organiser character set, whether you have a CM/XP or LZ. On the earlier models, the 'missing' characters are not displayed. The actual characters are on the top line, with the bottom line showing the ASCII code for the character which is lined up with the ^ cursor. Of course many of these are not normally available from the Organiser keyboard, but don't worry KPROG will soon put things right. It is possible to allocate ANY character (above ASCII 32) to ANY key on the Organiser keyboard, WITHOUT LOSING ANY OF THE EXISTING CHARACTERS. These characters, once allocated remain operative - even when the KPROG pak is removed. At this point it is pertinent to point out that SOME EXTRA CHARACTERS HAVE BEEN ALREADY ALLOCATED. I mentioned at the beginning of this review that AUTOBOOTING did more than just insert KPROG on the top-level menu. Autobooting AUTOMATICALLY inserts most of the popular extra characters on the A - L rows of the Organiser keyboard. Of course you can change these for any other character if you so wish. All these extra chars are accessed by pressing <SHIFT> and <CURSOR LEFT> followed by the selected key.

4. CONF - is definitely not a programmer's utility! It is nevertheless a very useful device. The features which are configurable are SOUND (on/off), AUTO-OFF (time in seconds), H-DELAY (controls speed of horizontal scroll), V-DELAY (vertical scroll delay - this one foxed me for a bit), FEPEAT DELAY and FEPEAT SPEED (self-explanatory), CLICK (an interesting one this - allows adjustment of keyclick - and the options are OFF, LOUD, and BEEP. OFF switches off keyclick only, leaving other sounds intact. BEEP replaces keyclick with a short tone. LOUD is loud) Finally all these adjustments, plus any changes to the top-level menu and any keyboard assignments, can be SAVED and subsequently LOADED, which is a very useful feature.

FILES - is a complete set of File utilities, including directory, erase, copy, rename and browse. The last mentioned allows searching back and forth in any file, including First, Last, Find, Again, and Position. An Info option displays the current record number and the total number or records in the file. FILES is hardly a 'programmers utility', but is certainly worth while, especially on the pre-LIZZY models.

5. SPACE - indicates the amount of free space on each device, including COPY-PROTECTED paks.

(continued on next page)

# Software Review - II

6. KEYS - is connected to ASCTAB in that it allows individual chars to be allocated to any key of your choice. It also allows KEY MACROS to be installed which can then be accessed by keying in <SHIFT>, <CURSOR RIGHT> and the relevant key. Macros can be up to 16 characters long. Control characters may be included in macros, by prefixing them with a \$.

LINK - this works in conjunction with the Organiser Comms Link and can TRANSMIT and RECEIVE all types of files, including data files, OPL files (including Object only), Diary, Comms Link, and Spreadsheet files.

ERRORS - lists all of the Organiser's ERROR messages. I suppose this could be seen as a genuine programmer's utility, if you are writing programs somewhere with no access to the Handbook (to be fair, this is acknowledged in the KPROG manual).

OPL NOTES - falls into the same category as ERRORS. It is also a repeat of information available in the Handbook, although there may be some further justification in this case, as the selection is limited to the less-easily-remembered features of OPL and are easier to find.

OFF - the final menu offering seems to be included on more and more menus, sometimes with good reason. However, I cannot see the point of being able to switch off from or switch on directly to KPROG.

KPROG is supplied with a very complete 36 page manual. All in all, KPROG is an interesting package, although personally I would hesitate to label it as a collection of programmers utilities, for the reasons mentioned above.

KPROG costs £34.95 and is available from:

Kirsta Products Ltd  
Unit 1 Block 2  
Victoria Industrial Estate  
Airdrie  
Scotland ML6 9BY  
Tel: (0236) 54626

## Letter to the Editor

Dear Sir,

Regarding the article by Colin McGlashan. Talk about talking down to people. This high-faluting attitude crops up time and time again from the computer literate. I feel sure the vast majority of us try very hard to make our Organisers carry out the tasks we require, and do not give up and let them rot in a bottom drawer.

Yours faithfully,  
Peter Dewhurst

## IPSO LONDON

The July meeting of the IPSO London group was on the same day as one of the total rail strikes. When I arrived I found that, as it was another blisteringly hot day, the meeting had informally started outside the nearby pub. I was very surprised when over twenty people, including five new members, found their way to the meeting.

I had not expected so many to attend so there was no theme for the evening. However, Mike Nash did his usual sterling job entertaining the beginners. I was able to take advantage of the smaller turnout to get to know the newer members.

The August meeting will be on the 22nd, a week later than scheduled, due to prior use of the room. Nick Abel, the author of the 'Convert' package, will be describing his existing product and also his 'Mk 2' version which is still under development.

I have several please this month. First, I need more speakers for the meetings. I can't expect people to turn up to listen to me every month! Secondly, Mike Nash would like someone to help with the beginners' classes. Mike is doing an excellent job but can't guarantee attending every month and would like the occasional rest anyway.

Finally, attendees will have noticed that we have had no tea or coffee for the last couple of meetings. This is because nobody has brought any. There is a good hot water supply available but someone has to bring the raw materials and cups. These are YOUR meetings, they need your participation to make them a success.

Jonathan Hurwitt  
Tel: 01 568 4138

## For Sale

Brother EP44 printer/typewriter with serial port works well with Psion Comms Link - £100

Data Organiser, Finger Organiser, Letter Organiser, Travel Pak, Oxford Concise Spell Checker, Textbase, - all at £15 each

Linkup adaptor for Brother etc - £7  
Konix Speedking Joystick and dual card for IBM Compatibles - £20 or will swap any of these small items for a Formatter or Compact Disks.

Phone Ronnie Mackay on (0408) 21870 (evenings)

# Progs & Procs - I

## Bank

by David Green

This program keeps track of Bank transactions. Each one is numbered, dated and timed. It gives an immediate balance with only two key presses from the main menu. Stord: "pays" standing orders on 1st of each month. Edit program to add, amend or delete. U: is from the Organiser Manual. Search: and Erase: are from the LZ programming manual and are repeated for those who do not have these manuals.

bank:

```
GLOBAL a,b$(30),m%,x
U:(0,6,9,8,28,8,16,31,0)
OPEN "C:BANK",A,i$,j$
IF MONTH>m0
STORD:
ENDIF
L1::
m%=MENU("Debit,Credit,Bal,Eradicate,Search")
IF m%=1 :BENTER:
ELSEIF m%=2 :BENTER:
ELSEIF m%=3 :BTOTAL:
ELSEIF m%=4 :ERASE:
ELSEIF mm%=5 :SEARCH:
ELSE STOP
ENDIF
GOTO L1::
```

benter:

```
tag2:
IF m%=1
PRINT "Debit Item:"
ELSE PRINT "Credit Item:"
ENDIF
AT 1,2
PRINT CHR$(0)
AT 2,2
INPUT a
AT 9,2
INPUT b$
IF m%=1
b$=b$+" "
ENDIF
A.j$=CHR$(0)+FIX$(a,2,-7)+" "+b$
APPEND
RETURN
```

btotal:

```
x=0
FIRST
DO
IF RIGHT$(A,j$,1)=" "
x=x-VAL(MID$(A,j$,2,7))
```

```
ELSE x=x+VAL(MID$(A,j$,2,7))
ENDIF
NEXT
UNTIL EOF
PRINT "Balance=";CHR$(0);x
AT 1,2
PRINT "and falling fast"
GET
RETURN
```

stord:

```
tag:
a=25.55
A.j$=CHR$(0)+FIX$(a,2,-7)+" SO:ABC LTD. "
APPEND
tag:
a=10
A.j$=CHR$(0)+FIX$(a,2,-7)+" SO:XYZ "
APPEND
tag:
a=125
A.j$=CHR$(0)+FIX$(a,2,-7)+" SO:INS. "
APPEND
M0=MONTH
RETURN
```

tag:

```
LOCAL a$(2)
a$=MID$(DATIM$,5,2)
IF a$="01"
a$="st"
ELSEIF a$="02"
a$="nd"
ELSEIF a$="03"
a$="rd"
ELSEIF a$="21"
a$="st"
ELSEIF a$="22"
a$="nd"
ELSEIF a$="23"
a$="rd"
ELSEIF a$="31"
a$="st"
ELSE a$="th"
ENDIF
A.i$=MID$(DATIM$,1,3)+"
"+MID$(DATIM$,5,2)+a$+MID$(DATIM$,8,3)+"
"+MID$(DATIM$,17,2)+MID$(DATIM$,20,2)
RETURN
```

Bank: procedures continued on next page

# Progs & Procs - II

```
tag2:
IF (COUNT<100) AND (COUNT>8)
A,i$="0"
ELSEIF COUNT<9
A,i$="00"
ELSE A,i$=""
ENDIF
A,i$=A,i$+GEN$(COUNT+1,3)+MID$(DATIM$,,1,3)
)+MID$(DATIM$,5,2)
IF MONTH<10
A,i$=A,i$+"0"+GEN$(MONTH,2)+MID$(DATIM$,1
4,2)+MID$(DATIM$,17,2)+MID$(DATIM$,20,2)
ELSE A,i$=A,i$+A,i$
ENDIF
RETURN
```

```
tag3:
A,i$=MID$(DATIM$,1,1)+LOWER$(MID$(DATIM$,
2,2))+ " "+MID$(DATIM$,5,2)
IF MONTH<10
A,i$=A,i$+"0"+GEN$(MONTH,2)+MID$(DATIM$,1
4,2)
ELSE A,i$=A,i$+A,i$
ENDIF
RETURN
```

```
U:(x%,a%,b%,c%,s%,e%,f%,g%,h%)
POKEB $180,64+x%*8
POKEB $181,a%
POKEB $181,b%
POKEB $181,c%
POKEB $181,d%
POKEB $181,e%
POKEB $181,f%
POKEB $181,g%
POKEB $181,h%
```

```
search:
LOCAL recnum%,search$(30)
top::
FIRST :CLS :PRINT "FIND:";
TRAP INPUT search$
IF ERR=206
RETURN
ENDIF
recnum%=FIND(search$)
IF recnum%=0
CLS :PRINT "NOT FOUND" :PAUSE 20
GOTO top::
ENDIF
DO
DISP(-1,"") :NEXT :recnum%=FIND(search$)
IF recnum%=0 :CLS
PRINT " NO MORE ENTRIES"
PAUSE 20 :RETURN
ENDIF
```

UNTIL 0

```
erase:
LOCAL recnum%,search$(30),k%
FIRST :CLS :PRINT "ERASE:";
TRAP INPUT search$
IF ERR=206 :RETURN :ENDIF
recnum%=FIND(search$)
DO
IF recnum%=0
CLS :PRINT "NOT FOUND" :PAUSE 20 :RETURN
ENDIF
ask::
KSTAT 1 :AT 1,2 :PRINT "ERASE Y/N"
k%=VIEW(1,A,i$)
IF k%<>%Y AND k%<>%N
GOTO ask::
ELSEIF k%=%Y
ERASE
ELSEIF k%=%N
NEXT :recnum%=FIND(search$)
ENDIF
UNTIL EOF
```

## Metronome

by Adrian Pegg

Metro is an electronic metronome for any musicians in our midst and is only suitable for the LZ models in its present form, although fairly simple modifications would be possible for XP and CM models. I offer the programs as a challenge to other members due to the fact that, while the program itself works extremely well, the amount of processing required to calculate the length of the bleep and the length of the corresponding silence slows it down so much that 120 beats-per-minute comes out at about 112! Of course the amount of slowing that takes place depends upon the number of times the sounding loop is executed, so that at 400 beats per minute the machine actually sounds only 330 times. Perhaps one of our mathematicians can come up with a suitable algorithm to reduce the gap between the bleeps by an amount corresponding to the required number of beats per minute.

The program has two procedures - Metro: and Mettim: The first prompt requires you to enter the number of beats per minute, and this can be any integer in the range 60-599. <ON/CLEAR> exits from the program at this point.

You are then given the option to emphasize first of 0,2,3,4,5,6,8 and 12. (*I would have liked 16 also Ed.*) This represents the first beat of each bar, and selecting 0 gives no emphasis.

(continued on next page)

## Progs & Procs - III

The program checks to see whether your sound is switched ON or OFF, If it is OFF the metronome now commences with a visual display only.

If it is ON the next menu allows you to choose whether to sound all beats or just an introduction. Selecting INTRO will require you to choose the number of bars introduction from 1 to 8. The sound will switch off after this number of bars, but the visual display will continue.

Once the metronome has started, you can stop it by HOLDING DOWN any key (except ON/CLEAR, UP-ARROW, DOWN-ARROW, or SHIFT). <ON/CLEAR> will pause and restart the metronome and start the beats-per-minute display counting in the direction specified. Pressing a key will restart the metronome at a new speed. If the maximum of 599 or minimum of 60 is reached before a key is pressed, the metronome will start anyway.

It should be noted that while the metronome is operating a key has to be HELD DOWN until it registers. This is because the 'gaps' between the bleeps are created by the line BEEP gap%,-1. The pitch is negative so it is a 'non-sound' but keypresses cannot be detected until it finished executing.

I hope this provides some further inspiration.

```

METRO:
GLOBAL
bpm%,bt%,gap%,l%,p%,h%,k%,st%,c%,x%,emp%,int
%,ci%,s%,cin%,m$(15)
UDG 0,0,1,1,1,1,1,1,1,1
UDG 1,0,16,24,12,0,0,0,0
UDG 2,1,7,15,31,31,15,7,0
UDG 3,1,7,9,17,17,9,7,0
m$=" METRONOME"
s%=PEEK($00A4)
POKEB $007C,0
l%=50
start::
DO
CLS
PRINT m$
h%=0
AT 1,3
PRINT"Beats per min";chr$(63),
TRAP INPUT bpm%
IF ERR=206
POKEB $00A4,s%
POKEB $007C,1
RETURN
ENDIF
UNTIL bpm%>59 and bpm%<600
AT 1,3
PRINT"Emphasise first of"
AT 1,4
emp%=MENUN(1,"0,2,3,4,5,6,8,12")
IF emp%=1

```

```

emp%=0
ELSEIF emp%=7
emp%=8
ELSEIF emp%=8
emp%=12
ENDIF
IF emp%>0
IF s%=0
PRINT m$
AT 1,3
PRINT"Select sound"+chr$(63)+" "
AT 1,4
int%=MENUN(1,"All,Intro")
ENDIF
IF int%>1
CLS
PRINT m$
AT 1,3
PRINT"How many bars INTRO"+chr$(63)
AT 1,4
cin%=menun(1,"1,2,3,4,5,6,7,8")
IF cin%=0
cin%=1
ENDIF
cin%=cin%+1
ci%=cin%
ENDIF
ENDIF
CLS
PRINT m$
AT 1,3
PRINT"Beats"
c%=emp%
st%=1
metim:
snd:
WHILE k%=0
h%=h%+1
IF h%=3
h%=1
ENDIF
IF c%=emp% and c%<>0
p%=150
x%=3
c%=0
ci%=ci%-1
IF ci%=0 and int%>1
POKEB $00a4,1
ENDIF
ELSE p%=200
x%=2
ENDIF
c%=c%+1
AT (15+h%),2
PRINT " ";chr$(0);chr$(1);" "
AT (15+h%),3
PRINT " ";chr$(x%);" "

```

## Progs & Procs - IV

```
BEEP l%,p%
BEEP gap%,-1
k%=KEY
ENDWH
WHILE KEY
GET
ENDWH
IF k%=3 or k%=4
mettim:
GOTO snd:
ELSE GOTO start:
ENDIF
```

```
METTIM:
DO
IF st%
GOTO st:
ENDIF
IF k%=3
bpm%=bpm%+1
IF bpm%>599
st%=1
GOTO st:
ENDIF
ELSEIF k%=4
bpm%=bpm%-1
IF bpm%<61
st%=1
GOTO st:
ENDIF
ELSE BREAK
ENDIF
st:
bt%=60000/bpm%
gap%=bt%-l%
AT 7,3
PRINT bpm%;" "
IF st%
BREAK
ENDIF
UNTIL key
k%=0
c%=emp%
ci%=cin%
POKEB $00A4,s%
st%=0
WHILE key
GET
ENDWH
RETURN
```

### A Collection of Quickies from Frank Cook

The next column contains a number of short useful procedures

The following procedure toggles SOUND on/off with a single keypress.  
Insert NOISE on your top level menu

```
noise:
POKEB $A4,-(PEEKB($A4)=0)
```

John Seymour's excellent QuickKey (Vol II, Page 65) is superb for loading diaries, spreadsheets, etc. The key sequence needs however to include something to ensure that the machine is set for the right Pak. This can easily be done if one installs the following procedure in the Top Menu, and starts the key sequence with "g"

```
grabA:
POKEB $A2,0
```

The UPPER\$ and LOWER\$ functions are some use in "edit" programs, but I find that my records largely consist of names, addresses etc. This very short procedure makes the initial of each word a capital letter, but puts the rest into lower case letters.

```
name$(a$)
LOCAL l$(255),r$(255),x%
r$=a$
WHILE r$<>""
r$=UPPER$(LEFT$(r$,1))+LOWER$(MID$(r$,2,255))
x%-LOC(r$," ")
if x% :l$=l$+MID$(r$,1,x%):r$=MID$(r$,x%+1,255)
ELSE l$=l$+r$:r$=""
ENDIF
ENDWH
RETURN l$
```

The following procedure acts rather like MEM: (Vol II, Page 90) but, all the information appears together on the screen and the figure for A: corresponds with that shown by "FREE" in the CALC mode.

```
vacant:
LOCAL d$(1),n%
ONERR nxt:
PRINT "Vacant: A";PEEKW($2065)-PEEKW($2040)-280;
n%=%B
DO
d$=CHR$(n%)
OPEN d$+":MAIN",a,a$
PRINT CHR$(9);d$;SPACE;
CLOSE
nxt:
n%=(n%+1)
UNTIL n%>%C
GET
```

# Feedback

## Discount Organiser Equipment

After my mention of a discount dealer in the last issue, I now have news of two other member-firms who offer discounts. You may send for complete price lists from either:

The HUB Resources Centre  
162 Greenford Road  
Sudbury Hill  
Middlesex  
HA1 3QS  
Tel: 01 864 6561

Rovoreed Limited  
The Coach House  
65a Grand Drive  
London  
SW20 9DJ  
Tel: 01 540 8573

---

## LIZZY NOTES

Has anyone noticed that their Lizzy switches itself ON of its own accord occasionally? About once a day my Lizzy clicks twice, and switches OFF again. I've sat and watched it for hours but to no avail. ...Pete Sipple

Can you tell us what 'Pager Setup Files' are? They get a passing mention in the LZ manual but no explanation. Is there an optional pager on the way? If so how much? I WANT ONE!!! ... Adrian Pegg

*I too was puzzled by the reference in the manual. I have asked Psion for an explanation, but they either don't know or they are keeping 'stumm' at the moment. Has anyone any news of this? Ed*

While printing out the contents of A:MAIN, using the routine PRMAIN, a DIARY Event caused an interrupt. The DIARY Event was accepted by pressing <ON/CLEAR>, with the result that a total reset occurred! ...Colin Dunbar

*Although I have not heard of this before, it sounds like yet another source of a 'fatal' crash. I would think that the moral would be to check the Diary for any imminent events before attempting any kind of communication, even with a printer. It is also good practice to check this out before proceeding with COPYING large files between datapaks (this can take quite a while, during which any interruption could mean that both copies are corrupted. Ed*

## SWINDON PSION ORGANISER USER GROUP

You may have seen references to our Swindon Group in past issues. The group has now gone much further than just being a spontaneous group of IPSO members in the Swindon area. They have formed a fully-fledged stand alone group with two Joint Chairmen, Jeremy Holt (who looks after the administration) and Simon Webb (who deals with the technical side).

The group meets every TWO months (every EVEN-NUMBERED month) at 7.30p.m. on the first Monday of that month. The chairman tells me that their meetings have attracted people from a much wider area than just Swindon, and he emphasised that membership is open to ANYONE with an interest in the Organiser. There is no charge for either membership or meetings.

For further information (including entry on their mailing list if required) write to:

Jeremy Holt  
14 Belmont Crescent  
Old Town  
Swindon  
Wilts SN1 4EY  
Phone: 0793 619664

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## FOR SALE

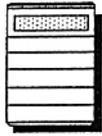
LA Model Organiser  
(incl Finance Pak and Harvester Data Organiser)  
£100 the lot (all boxed with manuals)  
Ring Worksop (0909) 564682 after 5.30 p.m. or  
0426 973698 anytime

CM Model Organiser with box and Handbook  
£50 o.n.o.  
Phone Nicholas Holmes on 01 260 1657 (daytime)

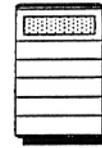
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## Personal Adverts & Local Groups

Just to remind you all that you may place PERSONAL adverts or news of your Local Group (or attempts to form one!), in this newsletter FREE OF CHARGE. However, may I also remind you that this service and others announced from time to time are strictly for the benefit of members only. Ed.



# IPSO FACTO



*The Newsletter of the International Psion Organiser User Group*

Volume III . No. 7 . September 1989

Editorial Office: 130 Stapleford Lane . Toton . Beeston . Nottingham . NG9 6GB . UK

Phone: (0602) 735482 . Telecom Gold Mailbox 72:MAG11839

## Editorial

See you at the



IPSO (all two of us!) will be at the  
PERSONAL COMPUTER SHOW  
EARLS COURT LONDON

on Saturday 30 Sep and Sunday 1 Oct '89

We will be pleased to see you on Stand 1339 in the Business Hall. We have once again been invited by our friends DENWOOD DESIGN to use their stand. On the other days of the show, Clive Sinden and Linda Isherwood, the Denwood directors (and long time IPSO members), will be pleased to show you their full range of real leather cases for various Organiser/Peripheral combinations and even sell you one if your precious Organiser is still "naked".



... and just in case you decide to visit the Show, have a look on the PSION STAND, Business Hall, Stand 1324 (just around the

corner from us. If you have a LIZZY, you may have been puzzled by references in the handbook to PAGER FILES. All will be revealed (I have heard on the grapevine) about one of the most significant and powerful Comms devices yet seen for any pocket computer, the PAGER. There are no further details at the moment, but, if you have problems getting near the Psion Stand, you may have an idea what its all about!

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## IPSO FACILITIES

It is obvious that copies of this newsletter are read by more than the member to which they are addressed, but I have recently had an increasing number of non-members contacting me with requests for various services which are normally only available to members. We try to offer a low level of technical support to members with problems but cannot to offer this to other Organiser users unless they are prospective members.

The problem is illustrated by an 8 page letter received from a chap in Switzerland which starts "A friend of mine in the UK has introduced me to your newsletter...." and then goes on to ask for further information on programs we have published in IPSO FACTO, complete with annotated photocopies.

I would like to take this opportunity to remind members that the contents of this newsletter ARE COPYRIGHT and that any unauthorised reproduction of our material affects my livelihood and the future of IPSO, so please be careful what you do with your copy.

The only members who are authorised to use extracts of our material are PIG in the USA and CURSOR ON in Switzerland

# Beginners Page

## Back to Square One by Mike O'Regan

The one feature which distinguishes the Organiser from the increasing opposition is perhaps the least used - ORGANISER PROGRAMMING LANGUAGE - OPL.

Over the next few issues I am going to try to encourage you beginners to have a go at the gentle (and addictive) art of programming.

Let me first say that, just because OPL is restricted to the Organiser, this is not to say that it is in some way a "mickey-mouse" language. This is by no means the case. OPL is, as far as I am aware, the only language specially developed for use with a pocket-computer, and as such is much better than the various cut-down versions of BASIC which are featured on the handful of pocket devices which have a language at all. (Neither the Microwriter AGENDA nor the Sharp IQ have ANY language at all, at the time of writing).

Anyway, enough of digression, let's get on with the task.

One of the most useful commands in OPL is PRINT, so for this first article I will look a little closer at this command.

### PRINT

At first glance it may appear that this command has something to do with a PRINTER. This is not quite true as Printers use a special form of the PRINT command called LPRINT (short for LINE PRINT). The PRINT command is used for printing information on the DISPLAY of the Organiser. As most programs result in information which needs to be read, it is obvious that the PRINT command is very important. Let us now have a few quick looks at PRINT in action.

If you have never written a program before don't worry - the bits we will use will in no way cause your Organiser to CRASH, if you follow the simple instructions.

First of all, ensure that PROG is on your TOP-LEVEL MENU (that's the one you see when you switch your Organiser on). If you have deleted PROG (because you didn't need it) you should now replace it by <MODE> and keying-in the letters PROG, followed by <EXE>. By the way, during this series, I will use the < and > to indicate that you should press the key between the two signs, so <EXE> means "press the key marked EXE".

Let us use the PROG (programming) section to enter a short program. We will be popping in and out of the various sections of the PROG menu, so perhaps a short description of the various features is in order.

NEW - is used to write a new program.

EDIT - is used to edit a program you have already written.

RUN - allows you to run a program. This is slightly different to running a program from the top-level menu, in that any running errors picked up by the machine while a program is running, will allow you to go directly into the program at the appropriate place to put things right.

The other features of the PROG Menu will not be used at this stage.

To write our little program, press N (for NEW). The display should show New A: - if it doesn't, <MODE> until it does!

Now key in the word TRIAL (the name of our program). You COULD call your program something else, but beware using a name which clashes with an existing program name. I always name any program TRIAL when I am writing and trying out (debugging) a new program. There are ways of changing the name to a permanent one later, as we will see. Anyway, key in TRIAL <EXE>.

The display will show TRIAL: - note that the Organiser has automatically added a colon (:) after TRIAL. All OPL program names have this colon which is always added automatically.

Press <EXE> to move the cursor to the next line (the first line of your program). Now key in:  
PRINT "My word" <EXE>.

Next press <MODE> and the display will change so that the top line now reads Tran Save Quit ... with the cursor flashing over Tran.

Press <EXE> twice (once to TRANslate it and once to SAVE it). Note that, if your program has any mistakes or is incomplete it will usually (but not always) be rejected at the TRAN stage. However, if you know that your program is not yet finished, you can bypass the TRAN stage and SAVE your listing until you want to finish it. Assuming all went well, you should be back at the PROG menu and your program is complete.

Now press R <EXE> (to Run A: TRIAL). You should see a quick flash, and then find that you are back at the PROG Menu. What has happened to our program? We will see next month.

# IPSO mini-Review

## FNKEY Version 3 reviewed by Mike O'Regan

I have always admired the ingenuity which went into the previous versions of FNKEY. However, because of the apparent complexities of the package, and not least the sheer bulk of the operating instructions, I have shied away from actually using it. If you have also admired FNKEY from a distance, then the latest version may go a long way towards changing your mind.

FNKEY Version 3 has been completely re-written and considerably simplified. This simplification has, however, not been achieved at the expense of losing any of the important features of the previous versions. Mike Leigh has managed to retain the essentials of FNKEY, while at the same time making it attractive to those of us who haven't got the time, inclination, or the brains to tackle such a complex package before.

As before, FNKEY is entirely memory-resident. For the uninitiated this means that, unlike most other programs, once FNKEY has been loaded into memory, the pak can then be removed. It needs to be replaced only if you wish to remove FNKEY from your system.

Theoretically, FNKEY will run on any model of the Organiser II, but in practice the memory requirement - small as it is - precludes its use on the CM Model.

FNKEY is installed in a simple, if slightly unusual, operation. After inserting the pak (in either B: or C:) the word KEY is inserted on the top-level menu.

Running KEY then allows simple configuration, following clear instructions in the manual, then FNKEY is ready to use.

In use FNKEY broadly follows the pattern of previous versions (see previous review on Page 36, Vol. 2). The one major difference on this new version is that only one bank of 26 keys is available at any one time. This is a welcome simplification and does not impose a restriction in practice, as complete banks can be SAVED and RESTORED as required. This not only saves memory, but is much easier to manage than the previous versions.

Sample banks are included, complete with full instructions, which not only illustrate FNKEY but are very useful in their own right.

As before, FNKEY allows access to all the characters not normally available from the keyboard. A complete set is available as default as soon as FNKEY has

been installed.

Apart from assigning macros to keys of your choice, Cut & Paste (regarded by many FNKEY users as its most useful feature) is also available in a new easy-to-use format.

All in all, FNKEY Version 3 is now a much more attractive program than it was before. Since I inserted it for review, I have found it to be so useful that it will now have a permanent place on both of my Organisers.

FNKEY is available now from

CUBSOFT,  
7 Okeover Road,  
Salford,  
M7 0JX

The price stays at £44.50 and upgrades are available to current FNKEY users (on return of the old pak) for £20.

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## FOR SALE

A small number of 128k Datapaks at £50 each  
Finance Pak - £10  
Widget Filemaster - £20

Phone IAN NICHOLLS on 01 441 7954

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16k Datapak - £10  
32k Datapak - £25

Both reformatted and as new (boxed if req)

Phone Robert Bailey on 01 435 4845

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Silver Reed EX3001F Electronic Typewriter.  
Many facilities including justification, 8k memory  
Parallel/Serial interfaces (so will work with  
Organiser through Comms Link or other computers  
as printer. Spare ribbon/correcting tapes included.

Very good condition - little used  
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and deliver within 100 miles of Leicester.

Contact Peter Johnson  
12 Maplewell Drive  
Leicester  
LE4 1BD  
or phone (0533) 357268

# PROGS & PROCS - I

## Countdown by Mike O'Regan

I wrote this game some time ago, as we like word games. This is meant to provide a two-player game which follows the pattern of the TV Game with the same name. I meant to complete the game by adding a procedure to check the words played by the two players to ensure that they are not playing any letters which do not appear in the computer-generated list. This is quite tricky, so I am throwing it open to you members. Anyone who can devise a foolproof check procedure for this purpose is asked to send in in. I will give a small prize to the proc I consider the neatest.

CDOWN is written for the LZ models, but can be easily adapted to run on the other models. (Lines maked with REM \*\* need changing/deleting). The running is practically self-explanatory. I have made a slight attempt to weight the letters chosen by the Organiser in favour of letters which occur more often in English. Players take turns at choosing the nine letters and then each has a timed 30 second period to find and key in their best attempt. The one with the longest word scores a point for each letter played. In the case of a tie, no-one scores (there is no point!).

```
CDOWN:
GLOBAL c$(33),v$(9),a$(18),b$(2,9),o%,c%
KSTAT 1
UDG 0,15,16,15,0,30,17,30,0:REM **
UDG 2,0,0,0,0,0,0,31:REM **
[PRINT REPT$(CHR$(0),6);REPT$(CHR$(2),8):
REM **]
CLOCK(1):REM **
c%=9
DO
[o%=MENUN(2,"Vowel,Consonant,Score,Reset,
Quit")] :REM **
IF o%=1
vow:
ELSEIF o%=2
con:
ELSEIF o%=3
cscore:
ELSEIF o%=4
reset:
ELSEIF o%=5
STOP
ENDIF
CLS
PRINT a$
c%=c%-1
```

```
UNTIL c%=0
c%=1
WHILE c%<3
AT 1,3
PRINT "Player",c%;"s word"
PAUSE -300
BEEP 200,200
INPUT b$(c%)
c%=c%+1
AT 1,4
PRINT REPT$(" ",20)
ENDWH
IF LEN(b$(1))>LEN(b$(2))
m0=m0+LEN(b$(1))
ELSEIF LEN(b$(2))>LEN(b$(1))
m1=m1+LEN(b$(2))
ENDIF
AT 1,3
PRINT b$(1),LEN(b$(1)),"letters"
AT 1,4
PRINT b$(2),LEN(b$(2)),"letters"
GET
CLS
cdown:
```

```
VOW:
LOCAL p$(1)
v$="AAEEEEIOOU"
p$=MID$(v$(RND*9)+1,1)
a$=a$+p$+" "
BEEP 50,50
```

```
CON:
LOCAL p$(1)
[c$="BBCCDDFFGGHHJKLLMNNPPQRRSSTT
VWXYX"]
p$=MID$(c$(RND*33)+1,1)
a$=a$+p$+" "
BEEP 100,100
```

```
CSCORE:
PRINT "Player 1",m0,"points"
PRINT "Player 2",m1,"points"
c%=c%+1
GET
CLS

reset:
m0=0
m1=0
c%=c%+1
```

# PROGS & PROCS - II

## Met & Revs

by Denis O'Regan

The following two programs were written by my son who is not only a professional musician, but a keen time-trial cyclist. MET is a precise, no frills metronome. (see last months prog). REVS is a utility for keen cyclists who wish to work out the pedalling rate required for a given speed when the chain-wheel and sprocket details have been entered. I am sure that any keen cyclists will understand.

```
met:
LOCAL sp,l%,c%,d%
PRINT "Speed req."
PRINT "(bpm)",
INPUT sp
DO
d%=KEY
l%=1
DO
c%=1
DO
BEEP 50,70
c%=c%+1
UNTIL c%>1
l%=l%+1
UNTIL l%>1
PAUSE INT(1200/sp)-1
UNTIL d%<>0
```

```
revs:
LOCAL mph,gea,ch,sp,rev,l%,c%,d%
PRINT "Speed"
PRINT "(mph)",
INPUT mph
PRINT "Chainset teeth"
PRINT "No.",
INPUT ch
PRINT "Sprocket teeth"
PRINT "No.",
INPUT sp
gea=ch/sp*27
rev=INT((mph*63360/60)/gea)/2
PRINT "Pedalling revs"
PRINT "=",rev,"(rpm)"
DO
d%=KEY
l%=1
DO
c%=1
DO
BEEP 50,70
c%=c%+1
UNTIL c%>1
```

```
l%=l%+1
UNTIL l%>1
PAUSE INT(1200/rev)-1
UNTIL d%<>0
```

## Backup

by Adrian Pegg

As a programmer I occasionally find myself confronted with the 'dreaded' TRAP error, which, for those who are lucky enough not to have come across it, is an error from which it is only possible to recover by removing the battery, re-setting the computer completely and losing all data in the A: memory in the process. After the umpteenth time of having to re-enter all my DIARY entries, NOTES, and bank account files, I decided there must be a better way and wrote this little program for the LZ

The Program (imaginatively titles BACKUP) copies all current datafiles (including MAIN, DIARY, NOTEPAD, and COMMS files) to a RAMPAK in slot B:. I suppose a datapak could be used instead, but if backups are to be made regularly (which is advisable) it would quickly fill up, as all of the old back-up files are deleted before each new back-up. The RAMPAK cannot be used to store any other DATAFILES as ALL datafiles on Pak B: are deleted before making the next back-up using the DELETEW command newly available.

OPL programs however, may be saved on it, indeed it is a good safety measure to run the working copy of BACKUP itself from it, as then it cannot be called accidentally without the proper pak in the slot.

A file called 'UPDATE' will be created on the RAMPAK. This will contain the date and time of the last backup and can be examined by OPENing it from the XFILES menu and the FINDing the first (and only) record.

I would recommend that back-ups are made regularly, especially before running a new program in case of inescapable loops etc., and before changing batteries. The RAMPAK should be carefully removed after each back-up and stored in a safe place.

Note that DIARY is backed up from a datafile and NOT from within the diary itself. Before backing up you should select SAVE from the Diary menu and save the Diary as a filename. This file can be deleted from A: after backing-up, if you need the space.

## PROGS & PROCS - III

The same applies to Notepads, but preparing for back-up is made much easier by the fact that selecting another notepad from the main menu automatically saves the current one. I've found it best to put a dummy notepad in my main menu (called 'KEEP' for example).

When preparing for back-up, I just select KEEP from the main menu, which makes KEEP the current notepad and automatically saves whatever notepad was current. (Don't enter any information in the KEEP notepad, though, or it will defeat the object!).

**WARNING!!!** It is entirely up to you to make sure you DO NOT PROCEED past the question "Back-up now? Y/N" without ensuring that the appropriate RAMPAK is in the B: slot. DELETEW is a very powerful command and will delete ALL database files on whatever pak is in B: when you proceed. Please be very careful, as disasters ARE possible through HUMAN ERROR!

Used with care, this program can be a lifesaver, but used carelessly the consequences could be dire.

N.B. THE FOLLOWING PROGRAM WILL NOT RUN ON EITHER AN XP OR A CM MODEL, NOR CAN IT BE ADAPTED FOR THESE MODELS AS THE ESSENCE OF THE PROGRAM INVOLVES THE USE OF NEW OPL FEATURES WHICH ARE ONLY ON THE LZ MODELS.

```

BACKUP:
LOCAL g%
CLS
PRINT "  Auto-Backup"
[PRINT "Backs up
DIARY/DATA/NOTES/COMMS files  to a
RAMPAK in B:"]
PAUSE -50
KEY
CLS
[PRINT "Notes + Diary must be saved as FILES in
PAK A:"]
PRINT "Continue Y/N"
g%=GET
IF g%=%Y OR g%=%y
ELSE RETURN
ENDIF
CLS
[PRINT "Only continue if  your back-up RAM-
PAK is in slot B:"]
PRINT "Back-up now";CHR$(63);"  Y/N"

```

```

g%=GET
IF g%=%Y OR g%=%y
ELSE RETURN
ENDIF
CLS
PRINT "  Auto-Backup"
AT 1,3
PRINT "Deleting"
PRINT "old back-up files. . .";
TRAP DELETEW"B:*.odb"
TRAP DELETEW"B:*.nts"
TRAP DELETEW"B:*.com"
AT 1,3
PRINT "copying  "
PRINT "Diary + databases  ";
TRAP COPYW"A:*.odb","B:"
AT 1,4
PRINT "Notes + Comms files ";
TRAP COPYW"A:*.nts","B:"
TRAP COPYW"A:*.com","B:"
CREATE "B:update",A,a1$,a2$
A.a1$="Updated at "+MID$(DATIM$,17,5)
A.a2$="on "+LEFT$(DATIM$,15)
APPEND
CLOSE
RETURN

```

---

### Notepad News

Fans of ADRIAN PEGG's original NOTEPAD suite may like to know that Adrian has produced a greatly enhanced version. New facilities include fully flexible record editing, with line insertion and deletion, 25 defineable and re-defineable keywords which can be inserted anywhere in a record, both as a time-saver and a quick way of finding specific information; XOFF is included to monitor alarms while you are away from the machine; and a datpak search link which enables you to look up further data at the touch of a single key. Current Notepad users will be able to use their existing A:PAD file of records with the new program.

For further details on this program, contact:

Psoftshare  
Gable Cottage  
13 Bower Road  
Queens Park  
Bournemouth  
BH8 9HQ

# GAMES GALORE - I

This month has seen the arrival for review a small spate of games for the Organisers. One set is unusual in that all the games were written specifically for LIZZIES, to make full use of the four line display. However, the other game proves that the XP is far from dead as a Games Machine. In fact, although YAHTZEE will run on a Lizzy, it looks better and loses nothing of its appeal as a competitive game on the XP. In fact this is one of the best games I have seen so far for the Organiser, so I will have a look at it first.

## YAHTZEE

On the Organiser version, Yahtzee closely follows the well-known board game of the same name. For those unfamiliar with the game, here are a few points (without spending too much time on the finer points of strategy - which are adequately explained in the accompanying booklet).

Yahtzee is one of the best DICE games. It is played with five dice, which appear on the Organiser display as five tiny (or, on the XP, not so tiny) UDGs. The Organiser "throws" the dice, allows you to hold any of them while the others are thrown in an attempt to get a better scoring combination, and also keeps the score.

So far all in line with the board version. But Organiser Yahtzee is much more helpful as it is replete with extra features which largely take the tedium out of the game and use the Organiser's features to help. This is how computer games should work.

For instance, at any stage before the third (and final) throw of each "turn" the player can re-arrange the dice in ascending order (great for spotting runs), or examine the (complicated) scoreboard which not only tells you which options are still free, but also what the score would be should the player choose that particular option. The game keeps records of the current six games as well as the overall HI-SCORE, which it retains in CALC memory M9.

My wife is something of an expert at Yahtzee, the board and computer versions, and she has given this version an unqualified "thumbs up". She has also given it a soak test, having played for many hours (and not a few batteries).

Yahtzee was written by Phil Tipping and is available from Psoftshare, Gable Cottage, 13 Bower Road, Queens Park, Bournemouth, BH8 9HQ for £5 if you supply your own datapak (with 6k free memory) or £17 including an 8k datapak. Thoroughly recommended.

## GAMES1

This is a feast for the aficionado - a complete pak given over to games (the first specifically for the LIZZIES that I have come across so far).

GAMES 1 is a collection of games and "games utilities" (seeing that KIRSTA, the distributors, also specialise in utilities). These consist of six games and three dice throwing "games" (these last as a bonus, according to the ad. leaflet).

The first game is also the most ingenious. Full use is made of the whole four-line display and UDGs to produce the first Organiser version of the old favourite - 3D Noughts & Crosses. This is also another first for the Organiser (I think) in that this is capable of playing a demonstration game.

Personally, I have always had difficulty visualising a 3D game presented on a flat plane (as in this case). However, to give it a fair test, I watched a few games to get the hang of it and then had a go.

I think I am getting better, although the Organiser plays a mean game and I haven't managed to win yet.

If 3D Noughts & Crosses showed ingenuity in the display, the second game, WARI, is not so attractive, consisting of changing numbers around the edge of the display. The game itself is quite challenging, but I feel that a more attractive display would have held the attention longer.

MASTERMIND, on the other hand, makes good use of the display to brighten up an otherwise rather boring game. This version uses numbers for the game (the player can choose the range of digits to adjust the difficulty level). The number of tries is logged and the number of "cows" and "bulls" is indicated by rows of "rings" and "balls". A pleasant enough game, on which I can usually average a score of about 7.

BLOCKS is an infuriating game, which seems to be one which you can or you can't. Of course you may have gathered that I can't. I find it even more frustrating that the number of tries and the elapsed time are constantly displayed. ANGRAM and NOGRAM I found quite disappointing. Having written the bare bones of a similar program (see Progs & Procs) I was expecting something better. Countdown is a two-player game.

# GAMES GALORE - II

(cont. on next page)

Angram could only be played by two players if one calls out the letters as they are displayed. In fact all the program does is pick vowels and consonants and start a (single) countdown timer.

NOGRAM is even worse. It is trying to be the equivalent of the numbers part of Countdown, but it only produces a series of numbers (simultaneously), a target number, and a countdown clock.

The last three "games" are not really complete games - only one (CRAPS) has any sort of scoring system.

POKERDICE just throws the 5 dice (rather like Yahtzee), allows selective holding on the second and third throws and then displays the type of combination (pair of twos, full-house, etc.). You keep your own scores.

DICE has no pretensions - it simply "throws" an endless series of dice, in any combination of from 1 to 4. This is very handy when used with any game where dice are thrown. The dice are big enough for a number of players to see them!

GAMES 1 (is there more!) comes on a 16k datapak, complete with a full set of instructions. As mentioned in last month's leaflet, it is available from:

Kirsta Products Ltd.  
and the price is £29.95.

Kirsta will accept Visa/Access orders  
on (0236) 54626.

## IPSO LONDON

The London group's August meeting was relatively lightly attended. I hope this was due to it being the holiday season rather than lack of interest.

Nick Abel talked to us about his 'Convert' packages and later demonstrated them to those further interested. Nick's talk was very interesting and showed that his packages are complementary to Psion's Formulator and certainly less clumsy to use. However, this talk showed the problem of trying to demonstrate anything on the Organiser to more than one or two people. Nick was using 'Convert' to prompt him but, of course, we could not see it due to the Organiser's screen size. We thank Nick for his efforts and hope it wasn't too much of an ordeal.

[LES BALL and myself have successfully demonstrated the Organiser System to an audience of 100+ using an overhead projector system which showed the Organiser screen filling a 27" VDU. This gets around the problem of the small size of the Organiser display for large audiences. We borrowed the device from a local firm specialising in equipment for the visually impaired AT NO COST! (except distributing a few leaflets on their behalf.) Ed.]

Those attending the next meeting (September 19) will hear a talk from Bill Spragg on his uses for FNKEY.

Machine code will be the topic for October 17 when Mike Davies will show us how to access the Organiser's hidden places.

Jonathan Hurwitt

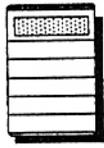
## Phantom Switch-On Uncovered

A reply to Pete Sipple's point in last month's LIZZY NOTES. ALL Organisers turn themselves on every thirty-four minutes and eight seconds, look to see if there are any alarms due in the NEXT thirty-four minutes and eight seconds then turn themselves off again. They all turn their screens on for a moment when they do this but the LZ clicks as it turns on and again as it turns off. The time period is re-initialised every time the Organiser is turned off so demonstrate this for yourselves by turning your Organisers on then off then waiting just over thirty-four minutes.....

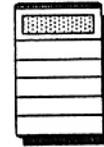
CLICK  
BLINK  
CLICK

(We are indebted to Jonathan Hurwitt for the above information. Ed.)





# IPSO FACTO



*The Newsletter of the International Psion Organiser User Group*

Volume III . No. 8 . October 1989

Editorial Office: 130 Stapleford Lane . Toton . Beeston . Nottingham . NG9 6GB . UK

Phone: (0602) 735482 . Microlink Mailbox MAG11839

## PSION EXPANDS

Psion has certainly expanded, with the new MOBILE COMPUTERS (MCs), which were announced (and prototypes displayed) at the PC Show.

If you haven't heard the news, the new machines are A4 sized "clamshell" computers, with full-size keyboards, and a very full range of facilities built in. There are three models, the MC 200, MC 400, and MC 600. The facilities (and prices) increase with the model numbers. The 200 has a half-height, full-width screen, which is a super-twist LCD display. The other models have a new type of display, called Retardation Film LCD. Quite simply, this is the best LCD display I have seen. This will form the basis of the GRAPHICS INTERFACE Range, the 200 and 400 models.

The MC is not just another "laptop" to take its place (and its chances) with the rest of the already overloaded market. On the contrary, MCs are breaking new ground with real innovative features.

A graphic interface, with pop-up and pull-down menus and panels implies some sort of pointing device (either a mouse or track-ball), both of which are quite difficult to implement in a portable device. Psion have solved this neatly with the TOUCH PANEL. This lets you control the pointer on the screen by simply touching a pad with the tip of a finger. This really must be tried to be appreciated. Well done, Psion.

Another Psion first (and exclusive) is the FLASH EPROM, something we have all dreamed of for the Organiser. It is a form of EPROM which can be erased and re-used without the assistance of a Formatter/Eraser, and doesn't need battery back-up. These devices (about the size of a book of matches) are used not only as mass storage media, but also to contain the machine's Operating System and built-in applications.

This is a great move, making it possible to upgrade your machine and keep it up-to-date as new developments appear by simply calling in at your local dealer and copying the new stuff directly into your machine from his master set!!

What is not clear at the moment is whether all or even most of the existing dealers will carry the MC range alongside the good old Organiser.

Several members have already asked me if IPSO will be supporting the new machines. The answer just now is "I am not sure". Certainly the 200 and 400 (which both feature built-in "extended" OPL) will be fascinating machines to program. However, it could be said that a Group which tries to cater for two ranges of different machines will not be able to do justice to either! WHAT DO YOU, THE MEMBERS THINK.?

Finally, thanks to all those members who took the trouble to seek us out for a chat at the PC SHOW, *especially those from as far away as Bermuda!* I am only sorry that we were so busy on the Sunday that I didn't get the chance to have a personal word with everyone who called.

## An Apology

I must apologise to **MIKE LEIGH (of CUBSOFT)** for not one, but two, errors in my review of FNKEY last month. Unfortunately they were not the kind of error which would be picked up by a spell-checker, and both were equally embarrassing to MIKE and his customers.

Firstly I got CUBSOFT's address as Number 7 OKE-OVER ROAD (it is Number 6). Secondly, I got the price of the new FNKEY wrong - it should be £49.95 (not £44.95). My sincere apologies all round!

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# Beginners Page - I

by Mike O'Regan

## Print Part II.

It was seen at the end of last month's page that our little program TRIAL didn't seem to produce anything in the way of a result. The reason for this has already been discovered by quite a few members. By the way, trying to finish off (or even correct) programs is one of the best ways of learning about a new language.

Anyway, back to our program. The reason why this program did not produce any useable result was that the OPL PRINT statement DOES NOT LEAVE THE MESSAGE ON THE DISPLAY, (unlike any other known language!). Therefore we have to put in at least one extra line so that we can actually read our message "My word".

One of the simplest ways to keep the message on the display is simply the command GET. This will halt the program and display the message UNTIL ANY OTHER KEY IS PRESSED. So now enter the EDIT option of the PROG Menu and key-in the name of our program - TRIAL. Now key-in the command GET <EXE> on the next line (after the line PRINT "My word"). Now <MODE> and TRANS and SAVE the program once more. If you RUN the program, and you should now see the message "My word" on the display. It will STAY THERE this time until you either press any other key (or the Organiser switches off automatically after 5 minutes). In this last case, when you switch on again, the message WILL STILL BE THERE (until you press any other key, as before).

There are OTHER WAYS of retaining the message on the display. For instance, if you only want the message to appear for a limited time you can use the PAUSE Command (which will time the display in 20ths of a second). We will look at PAUSE in more detail later.

I hope that, by now, you are getting used to the idea of EDITING programs - that is using the EDIT option from the PROG menu. Our little program TRIAL now "works" as we have seen. The only drawback so far is that it doesn't DO ANYTHING USEFUL (at least not yet).

Just before we move on to look at the concept of variables, let me just add a couple of small extra points about the PRINT line of our program. As it stands, our message appears on the top line of the display, on the left-hand side. It is quite simple to tidy up things so that the message is PRINTed in the MIDDLE of the line. All that is required is the right number of SPACES (using the <SPACE>). In this case,

as our message is 7 characters long, and the display lines are either 16 (CM or XP) or 20 (LZ) characters long, we need to do a small sum to work out the number of SPACES required to centre the message.

Don't worry, the sum is not difficult to understand. Just subtract the length of the message from the length of the line, then divide the answer by 2. So, taking the XP as an example for our message, this would be:  $16-7=9$ , divide this by 2 to give 4 (disregard the odd .5). Now position the cursor on the M of "My word" and press <SPACE> 4 times. Don't forget to TRANS and SAVE your edited program. If you now RUN the program, you will see the message in the middle (more or less!) of the display. If you want it REALLY centred, go back and insert an extra space between "My" and "word".

Our program so far is fine if we just want to display the SAME message each time we run it. But what if we would like a bit more control over the message, so that, if necessary, we can change it every time the program runs!

This is really quite easy to do, once you can grasp the principle of VARIABLES. The best way to get to grips with this concept is to imagine a VARIABLE as a box. This box has a label on it to identify its contents (like a bread-bin). On the Organiser, there are three kinds of boxes - the one we will use can contain ALPHA-NUMERIC information. This means that the box can be used to contain information consisting of letters of the alphabet, punctuation marks, and also the individual digits 0 to 9. The other two kinds of box are there to handle NUMERIC INFORMATION ONLY, and we will look at these later.

For now, let us look a little closer at an ALPHA or STRING VARIABLE. The first thing to be done is to tell the Organiser that we are going to use a variable (box) by DECLARING it. This is simply a little message to the Organiser to reserve a place for our box (and its contents). The way we do this is to add a line to our program, immediately after the program title (and NOWHERE ELSE!). This line starts with the word LOCAL or GLOBAL, followed by the NAME we have selected for our variable.

Within certain limits, you can use ANY name for your variable, but it makes sense to use a name which actually means something (especially in the early stages of programming. It is surprising how easy it is to forget just WHAT a variable is used for, especially if you are editing the program some time

# Beginners Page - II

later).

Briefly, the rules are that variable names must START with a letter of the alphabet and that the whole name must not exceed 8 characters.

As our variable is a STRING variable, it must also contain as its last character a DOLLAR-SIGN (which is used to distinguish it from the other two kinds of variable). The last thing required is a figure (in brackets) to tell the Organiser how much room to reserve for our variable - the maximum number of characters we will be using.

Now go back to our program TRIAL and position the cursor over the P of the word "PRINT". Now press <EXE> and a blank line will appear between the program title and the PRINT line. This is where we will insert the VARIABLE DECLARATION. Just type the following: LOCAL message\$(15) There is no need to press <EXE> at this point, as it will only insert a blank line and, in any case, we haven't quite finished editing our program. Your complete program should now look like this:

```
TRIAL:
LOCAL message$(15)
PRINT "My word"
GET
```

However that is enough for now, so <MODE> TRANS and SAVE for now, until next month.

*Beginners please note that I welcome feedback on this new series, preferably in writing, and especially if you do not understand any particular point. However, if you really get stuck, you can phone me at any time EXCEPT LATE EVENINGS (Thursday to Sunday) Ed.*

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*For Sale*

Organiser CM Model (boxed with Handbook)  
Phone: George with offers on:  
01 629 8322 (work)  
or  
01 690 4809 (evenings & weekends)

## IPSO LONDON GROUP

The September meeting of the IPSO London Group saw **Bill Spragg** describing his uses for Cubsoft's FNKEY package.

I'm sure nearly all IPSO members will have heard of FNKEY and will have also heard its devotees praising it. Those who use it know that the manual is, to put it politely, a bit impenetrable. Bill's talk cleared up the mystery for those present who had not yet tried FNKEY or had tried and been defeated. I think Bill also learnt a little himself from the other experienced FNKEY users present.

The talk for the October meeting will be by **Mike Davies** who will explain the rudiments of machine code.

Our guest for the November meeting will be **Mark Needham** of Widget Software who will be showing off his latest products. I also have a promise of a visit from **Advanced New Technology** for a future meeting.

There are more meetings in the future still waiting for guest speakers. All offers will be considered!

We had a very small London group meeting around the new Psion MC range at the PC Show. There were three or four of us giving the top two of the range a thorough examination. I also saw at least two other IPSO London members there during the rest of the day. The new machines were very impressive and I'm sure the editor will have a full report on them elsewhere in IPSO FACTO.

There were also several new products for the Organiser and it's obvious Psion are not abandoning it.

It was also very pleasing to see four stands, containing six companies, specializing in Organiser products.

If you have not yet attended a London group meeting and would like directions please phone me on 01-568 4138.

Jonathan Hurwitt

# Feedback

## Diverse Topics by Mike Beckett

My Psion II XP was received at my last birthday from my wife, who couldn't have known that it would be like giving whisky to a reformed alcoholic. Once I started to get into programming with the splendidly straightforward but oh so addictive OPL, my evenings and weekends have been consumed.

I'm always amazed at the variety of uses to which people put their Organisers, and amused at the number of ways in which centimetres are converted into gallons... Me, I'm now into databases and on-line data capture, very much as an amateur, so if there's anyone out there who's willing to discuss such matters I'd really like to meet/talk to them. I'm particularly in methods used to download data to PCs, use of barcodes and bar code readers etc.

I have used the Psion to replace the paper & pencil method of data collection from our production line, status information on around 300 batches can now be fed directly into the PC to allow Dbase III to analyse and install data capture on-line, and the Psion seems to provide the ideal low-cost solution, if only the download method can be effected economically.

The barcode reader seems to be attractive in that some of the disadvantages of the small non-qwerty keyboard can be overcome during data entry, but I now find that it's difficulty for our Dbase III programs to incorporate barcodes into the existing documentation.

The Organiser Developer is splendid in enabling the PC keyboard and screen to be used to develop and debug programs, and after initial experiments with older RS 232 link and an Apricot, the Comms Link and IBM PC is so very simple, and ideal for file transfer. But its so damned easy to get stuck on one small gap in comprehension of the handbook, generally because to a computer buff the explanation is unnecessary.

The opportunity to talk to someone about problems of interpretation can avoid hours of fruitless trial and error. Meanwhile right now I can't perform the "BLDPACK" process, nor can I access datafiles from programs during debug. I definitely need the very tolerant young computer literate guru who bails me out with great tact when explaining the obvious.

It may be heresy but Mike Shaw's file handling programs have been completely discarded in favour of the Cubsoft XBASE package. I use the MBASE function constantly because it's memory resident and very fast.

To be fair, Mike Shaw has in fact been invaluable. His

two books are essential reading to anyone who is struggling to learn new concepts of OPL programming from scratch.

The Psion printer is another example of Psion's attention to detail in the design of the packaging and hardware resulting in continual restatement of product image - splendid marketing. However, despite that, it's expensive and seems of questionable value where access to a regular printer is possible.

So in conclusion I'm interested in talking/meeting with Psioneers in the Alton/ Farnham/Camberley area,

I'm in the market for a couple of working XP IIs, Ver. 2.4 upwards and I'm also interested in bar code wands, Comms Link, and RAM/ DATAPAKS.

My phone no. (weekends) is: 0252 546439, at Coleford House, Coleford Close, Mytchett, Camberley, Surrey, GU16 6DX.

P.s. By the way, I notice in the leaflet accompanying the new RAMPAK a general warning about the dangerous effects of static electricity to ALL Psion equipment. The warning seems to be ignored by Psion themselves, since the primary packaging which they have supplied is made of materials which most effectively produce static. I hope Psion are not using the warning to avoid liability for equipment failure. I would certainly urge them to review their packaging to an industry acutely aware of the dangers of damage from static therefore are many low cost solutions available.

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## For Sale

Organiser, LZ64 Model, new boxed  
also

LZ Comms Link

2- 64k datapaks

3- 32kdatapaks

Power Supply

TextBase & Data Organiser

Cases, All new and boxed.

£360

also

Brother M1109 Printer, boxed, as new

£115

Phone Ronnie on 0408 21870 (evenings)

## Feedback - II

### Help!!!

Can anybody out there help me? I have recently purchased an LZ 64 and I am trying to get to grips with it as fast as possible. I am writing a file encryption/decryption routine which uses a procedure called XOR%:(INT1%,INT2%) (written in OPL). (INT1% and INT2% in range 0-255). The problem is - it is a central routine and is far too slow. Can anybody provide me with a short machine-code routine to do the same thing? Please write to me (address below).

I separately want to learn 6303 m/c (I already know Z80, 6502, 8086 and 8088) in order to program the Organiser direct - but can find no book on the processor (even 6800 family). Does anybody know where I can obtain such a book.

Lastly is there an Assembler/Disassembler available yet for the Organiser. Details appreciated.

Steven McDonald  
22 Mayfield Place  
Musselburgh  
East Lothian  
Scotland  
EH21 6HS

*Maybe our M/c experts can assist with the first paragraph above. A book on the HD6303X microprocessor is available (free of charge) from HITACHI (UK). A book on Organiser machine-code programming is being written at the moment by Member MIKE SHAW (who is also finishing off a book dedicated to the LZ Models). A DISASSEMBLER (on datapak) is available from LANGDALE SYSTEMS. An ASSEMBLER (to run on a PC is available from Psion Tech Support). Another ASSEMBLER (on datapak) is about to become available from a third party. I will be publishing more details of this when I get them (and possibly a full review)*

Ed

### PC - Organiser Comms

I find that I am using my PC more and more for writing/editing OPL programs. The system I use is very easy and works every time. I use my word-processor (1stWord-Plus) in its ASCII mode to write the procedure. I give it a filename extension of .OPL. When I have finished writing I save the file and then run it through an excellent program called IPSOCONV.EXE (kindly developed and supplied by a member, A.R.P. Spencer). This program looks through the OPL listing and puts it in the form which I use for publication in IPSO FACTO - OPL words in UPPER CASE and variables in LOWER CASE. I can use this program for procedures submitted by EMAIL in the incorrect format. I then use PROCMM to transfer the listing to the Organiser, which is then TRANSLATED and SAVED in the normal manner.

Ed.

### Swindon Group

The Swindon Psion Organiser User Group goes from strength to strength. The October meeting was attended by 18 people with the prize for the person having travelled the farthest going to **PETER HOUPPERMANS, of Maasmechelen, Belgium.**

The meeting discussed members' experience of the new Psion range of laptops (*tut, tut don't you mean MOBILE COMPUTERS. Ed.*) and it was decided to run a series of tutorials in OPL programming.

The new Barcode Printer made by Gaascom of Frome was demonstrated.

Plans for the new Swindon Computer Museum (which is being strongly supported by the Group) are progressing.

The next meeting is on Monday 4 December. For details contact:

Jeremy Holt on 0793 - 619664

### Swap required

I will swap my 4-Line Pocket Spreadsheet for a Comms Link

Phone Ken Conway on 0426 927330 (24 hr ansafone) or 0942 891656 (evenings)

### Wanted

Oxford Concise Spell Checker (used) details to:  
Karen Cheng  
213 Iayuen Street  
10th Floor  
Flat A  
Kowloon  
Hong Kong

### An Unusual TRAP

I suffered a TRAP error when deliberately selecting DICT (the Spell Checker) from the main menu, having already removed the pak. It was my own fault for messing about, but I wanted to see what would happen - the result was that three key presses were allowed before NOTHING else was accepted as input. After removing/replacing the battery, I got TRAP and a long number. OUCH! Adrian Pegg.

# Progs & Procs - I

## TIMERS

by David Green

These procedures will enable you to time THREE individual events simultaneously. As it uses the CALC memories, the Organiser may be switched off or used for other purposes whilst timing. Once entered, run all three timers to "initialise" or "set" memories. With a reduced display, this program may be adapted to provide up to TEN separate timers.

timers:

GLOBAL a,b,c,d,h,m,s,e\$(2),f\$(2),g\$(1)

U: (0,4,4,4,4,21,14,4,0)

DO

d=DAY

h=HOUR

m=MINUTE

s=SECOND

e\$=MID\$(DA-

TIM\$,17,2)

f\$=MID\$(DATIM\$,20,2)

a=d\*86400+h\*3600+m\*60+s

AT 2,1

PRINT "PRESS 1,2, OR 3"

AT 2,2

PRINT "FOR TIMER REQ:"

L1::

KSTAT 3

g\$=GET\$

CLS

IF g\$="1" :T1:

ELSEIF g\$="2" :T2:

ELSEIF g\$="3" :T3:

ELSE

AT 2,1

PRINT "Wrong key, try"

AT 2,2

PRINT "again:1,2 or 3"

GOTO L1::

ENDIF

b=INT(a/3600)c=a-b\*3600

AT 1,1

PRINT

"S";CHR\$(0),"T";g\$;"=";b;".";INT(c/60);".";c-

INT(c/60)\*60

AT 15,1

PRINT CHR\$(0);"F"

AT 6,2

PRINT "Hrs"

AT 10,2

PRINT e\$+f\$+"Hrs"

GET

UNTIL MENU("Again,Quit")<>1

T1:

a=a-M9

M9=M9+a

AT 1,2

IF M8<10

PRINT "0";M8;

ELSE

PRINT M8;

ENDIF

IF M7<10

PRINT "0";M7;

ELSE

PRINT M7;

ENDIF

M8=VAL(e\$)

M7=VAL(f\$)

RETURN

T2:

a=a-M6

M6=M6+a

AT 1,2

IF M5<10

PRINT "0";M5;

ELSE

PRINT M5;

ENDIF

IF M4<10

PRINT "0";M4;

ELSE

PRINT M4;

ENDIF

M5=VAL(e\$)

M4=VAL(f\$)

RETURN

T3:

a=a-M3

M3=M3+a

AT 1,2

IF M2<10

PRINT "0";M2;

ELSE

PRINT M2;

ENDIF

IF M1<10

PRINT "0";M1;

ELSE

PRINT M1;

ENDIF

M2=VAL(e\$)

M1=VAL(f\$)

RETURN

## Progs & Procs - II

### POWER FACTOR CORRECTION

by A.C. Spry

I have been trying for ages to find a formula for a power factor correction program for electrical contractors and desingers and these programs do the job. The program is for determining the required KVAR of capacitance to improve an existing power factor of say - .75 to one of .95 perhaps. Three inputs are required, the original power factor, the required power factor, and the Kilowatt input of the premises or installation. The phase to phase working voltage may also be input if required to determine the switchgear and cable capacity for the capacitors.

```

pfactor:
GLOBAL  a$(6),pf,rpf,x,kw,a,b,c,wv,t,g%,kvar,i
a$="Enter"
start::
CLS
PRINT "* POWER FACTOR *"
PAUSE 30
CLS
PRINT a$;" ORIGINAL pf > "; :INPUT pf
IF pf>1 OR pf<.5 : GOTO start::
ENDIF
CLS
PRINT a$; "required pf >"; : INPUT rpf
IF rpf<pf OR rpf>1 : GOTO START::
ENDIF
CLS
PRINT a$;"kw INPUT of premises>"; :INPUT kw
IF kw=0 : RETURN
ENDIF
CLS
PRINT " * computing *"
x=pf
ACOS:(x)
b=t
B=B*KW
X=RPF
ACOS:(x)
c=t
c=c*kw
kvar=b-c
PRINT "required cap."
PRINT INT(kvar);" kvar"
GET
CLS
PRINT a$;"phase to phase pd >"; :INPUT wv
IF wv=0 : GOTO END::
ENDIF

```

```

I=1000*kvar/(1.732*wv)
CLS
PRINT "current per phase =";FLX$(i,2,9);"A"
GET
VIEW (1,"switchgear + fuses should be rated AT
30% above current demand.....")
CLS
PRINT "MIN. fuse link rating>";INT(i*1.3);"A"
GET
END::
CLS
PRINT "ON to run prog again...."
g%=GET
IF g%=1 :GOTO START::
ENDIF

acos:(x)
IF x=0
a=90
ELSE
a=atan:(SQR(1-(x*x))/x)
ENDIF
IF x<0
a=a+180
ENDIF
t=TAN(RAD(a))
RETURN t

atan:(x)
a+DEG(ATAN(x))
RETURN a

```

### *Letter to the Editor*

Dear Mike,

I have just received September's issue of IPSO FACTO and I am concerned. I feel that the poor button pushers, with CM and XP Models are beginning to be pushed out in favour of LIZZY owners. I am an avid "procedure typer" and always look forward to each Issue's procedures, but it seems to be more and more the norm that procedures are being typed to suit the extended language available to LIZZY owners. I realise we must move with the times, but when I see the sentence "can be adapted to run on the CM and XP models" it grieves me. Can we please have hints as to how they can be adapted, or include the lines required to adapt them. Even though I'm grouching, I still await the Newsletters with anticipation.

Yours faithfully,  
Bill Peden.

(see next page for reply. Ed.)

# Progs & Procs - III

## Reply to Letter

I must apologise to Members like Bill, who are not really into adapting procedures in any way. In future, where procedures will run on all machines, I will give the alternative listings, and we must just accept the extra space needed for this.

However, there are some procedures which are written specifically for the LIZZY and use the new commands and statements available. It would not be possible to either exclude these procedures (because they will not run on the XP/CM models) or print alternative listings. I will endeavour to mark such procedures plainly, so that XP/CM owners don't even start typing them in.

Editor



Having just said the above, I must also admit to a couple of "boobs" in the CDOWN: proc in the last issue. Although I marked FIVE LINES as requiring modification (or removal) for XP users, I missed doing the same for another two lines as follows:

7th Line from the end of CDOWN:  
substitute: AT 1,1 for AT 1,3

5th Line from the end of CDOWN:  
substitute: AT 1,2 for AT 1,4

## Countdown Competition

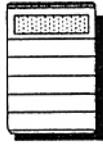
Incidentally, I have had THREE totally different solutions to my little problem with Countdown (as mentioned in the opening paragraph last month). I will be publishing the winner next month. Most encouraging!!

## Discount by Mike O'Regan

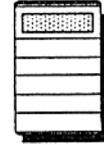
This little routine might appear trivial to some, but if you have LOTS of discounted prices to work out it is quite useful. The procedure works very simply. You are first prompted for the discount %age. Having entered this (and decimals are accepted) you will receive prompts for Price. The usual way of working is that you need a number of discounted prices for the same percentage discount so the discount %age is retained until you decide to change it (by entering 0 (zero) at the Price prompt. You can then enter another %age and carry on as before. However, if you reply to the Discount % prompt with a 0 (zero) the procedure stops. As it stands the procedure will handle amounts up to £99.99. To adjust for larger amounts, change the final "6" in the "PRINT "D/Price..." line.

```
disc:
LOCAL p,d
st:
CLS
PRINT "Discount %",
INPUT d
IF d=0 :STOP :ENDIF
pr:
CLS
PRINT "Price: ",
INPUT p
IF p=0 :GOTO st: :ENDIF
PRINT "D/Price",FIX$((p*(100-d)/100),2,6)
GET
GOTO pr: _____
```

I have received an excellent ASTRONOMICAL CALCULATION Program (at the PC SHOW from Belgian member ALAIN GEENRITS). Basically, you enter the map co-ordinates of your Observation location, which information is then retained in a file. It is then possible to use the program to EXACTLY calculate, for any chosen date, the SUNRISE, SUNSET, and TWIGHLIGHT times (if required), the MOON RISE and SET, AGE, and a graphic of the appearance, as well as the approximate co-ordinates for all major planets, with their RISE and SET times. The program is very well designed, (LIZZY ONLY, I'm afraid), and Alain has kindly translated all the menus and messages into English. This is obviously a serious program for ASTONOMERS, and any member can get either a printout or datapak copy of the program by writing to me at IPSO, (enclosing a PAK (if required) and SAE.



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## *Local Groups*

At the moment we have two well-established local groups (London\* and Swindon) and many of the members who have joined these have benefitted from the personal contact with other Psioneers. I have always thought that the Local Group principal could be applied in many other geographic areas, so I am listing below Towns or Cities within the UK who have currently 5 or more IPSO members. Of course this is only a rough guide as many towns are close enough together to form a useful, easily reached group. If anyone in the towns mentioned would like to have a go at setting up a local group then please let me know.

- Aberdeen 5
- Amersham 5
- Birmingham 7
- Bristol 12
- Bromley 5
- Camberley 5
- Cardiff 7
- Derby 6
- Edinburgh 7
- Enfield 5
- Glasgow 7
- Gloucester 6
- Guildford 5
- Huddersfield 5
- Liverpool 7
- London 143\*
- Manchester 10
- Milton Keynes 6
- Nottingham 25
- Portsmouth 5
- Redditch 5
- Sheffield 6
- Stockport 5

### Machine Code Page

I am still looking for someone to take over the Machine Code Page (which was started by Les Ball). Will anyone interested please get in touch. Ed.

## IPSO London Group

The October meeting was very poorly attended with only fifteen people there to listen to Mike Davies's talk on machine code and assembler programming. Mike covered the basics of assembler programming, how to use the various registers, how loops are written, how to access the operating system services and muchmore. He also showed how a simple program in OPL compared to the same program in assembler and how to load the machine code produced by the assembler into the Organiser. Mike put a lot of effort into his talk and I was very disappointed by the number of people attending.

November's talk will be from Mark Needham of Widget Software who will presumably be showing the latest versions of Filemaster and AutoScribe plus other products.

For December I hope someone from Psion will be coming to show us the new Mobile Computer range but this is not yet confirmed.

Jonathan Hurwitt (Tel:01 568 4138)

Any new members in the London Area can contact Johathan on the above number for more details of the London Group.

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# Beginners Page

## Part 4 of the New Beginners Section

by Mike O'Regan

So far we have talked about STRING VARIABLES and prepared our little program, TRIAL, by entering LOCAL message\$(15). This means that we have now reserved space for a little box marked message\$, which is capable of holding up to 15 characters. I say "up to" because the box can contain only one character, or indeed any number up to a maximum of 15. The number 15 has only been chosen so as to not take up a lot of memory space - it can be any figure up to a real limit of 254. It is also important to notice that "characters" can also include NUMBERS and punctuation marks, etc. The main point to remember is that it is not possible to use digits (numbers) to do any kind of arithmetic when used in this manner.

We will now press on and replace our program line PRINT "My word" with a couple of lines which will allow us to enter ANY MESSAGE EVERY TIME WE RUN THIS PROGRAM. We are now going to use our STRING VARIABLE for this purpose.

So now switch on your Organiser and choose PROG from your top-level menu. Now choose EDIT (you should only have to press <EXE> as the cursor is already over the EDIT option). Key in the title of the program we are editing - TRIAL. Notice that it doesn't matter whether you have entered this in upper or lower case, you will still get into the program for editing. Use the <DOWN ARROW> to get to the PRINT line. If you go too far so that the cursor is flashing over the GET line you can use the <UP ARROW> to move back up a line. Now if you press <ON/CLEAR> ONCE the line will disappear leaving a blank line. Don't press again or the lines will close up and we want to make use of this blank line. Again, if you HAVE accidentally pressed the <ON/CLEAR> twice, you can still get your blank line back by simply pressing the <EXE> key. Now with the cursor flashing over this blank line key in PRINT "Message:", <EXE>. Key this in EXACTLY as indicated, including the final COMMA (.). Your cursor should now be on the following blank line, so first we will key in another line while it is convenient, then the explanation. Key in INPUT message\$ <EXE>.

Our program is (or should be) now 5 lines long. First a little explanation of our new lines: The first line is known as a PROMPT. It is simply a reminder that the next line will be an INPUT line. Note that a prompt line is not mandatory - it is possible to input information without a reminder, but it is much more convenient to have a prompt. The line PRINT "Message:", not only puts the prompt on the screen - the final comma ensures that the cursor appears after the

prompt with a space after the Message:". If we had used a semi-colon (;) instead of the comma, then NO SPACE would be left. If neither a semi-colon nor a comma is used, then the input would start on the following line. The OPL Command INPUT is largely self-explanatory. However, if you try to INPUT more than 15 characters, the Organiser will BEEP a gentle warning and stop you. We now have once more a complete program which doesn't do very much. At this point let us have a little re-cap, for those who might be getting slightly confused. First of all I will LIST the program as it stands at the moment:

```
TRIAL:
LOCAL message$(15)
PRINT "Message:",
INPUT message$
GET
```

Now to round off this little session we will arrange for our program to perform a minor miracle. Once we have a little box which actually contains something we can do all sorts of "tricks" with our string variable. So as to keep things easy to grasp, the one we will use is very easy to understand. We are going to use an OPL statement called LEN. This is short for LENGTH, and it is capable of measuring the LENGTH of any STRING which we ask it to measure. Having done this, LEN can be used for all manner of things. At the moment, we will simply use it to show us how many characters we have INPUT. We will add a further 2 lines to our program, as follows: Position the cursor on the line GET and press <EXE>. This will open up a blank line where we now key in PRINT message\$ <EXE>, then PRINT LEN(message\$),"chars long". Now TRAN and SAVE your program. If you now RUN it, you will see the program stop with "Message" on the display. The program is waiting for you to INPUT your message. Type in your message (including spaces if necessary) and press <EXE>. You will see your message on the top line and "nn chars long" on the second line (where nn is the number showing the length of your message). The last line of your program, GET, will keep both lines displayed until you press any other key, when the program will terminate. Your program should finally look like this:

```
TRIAL:
LOCAL message$(15)
PRINT "Message:",
INPUT message$
PRINT message$
PRINT LEN(message$),"chars long"
GET
```

Next month I will introduce you to the joys of IF, ENDIF, and GOTO.

# Progs & Procs - I

## SEARCH (LZ ONLY)

by R.I. Gilchrist

This program will allow you to view any database using the format familiar to users of the Oxford Spell Checker or the WORLD option. Thus you can type in a progressive search clue and/or use the cursor up/down to look at matches. As it is written the program will use all four lines of the display to show the first four fields in each record. Default device is A: and default filename MAIN. Both can be changed as required. To enter a search clue press the DOWN ARROW. As you enter a progressive clue, the first two fields of matching records appear on the top two lines. At this stage you may use the UP and DOWN cursor keys to move in either direction though records which match. When you have found the record required, pressing <EXE> will display the first four fields. Wherever possible the contents of each field is centred on the display.

```
srch:
GLOBAL clr$(1)
[LOCAL c%,s$(20),i$(1),p%,o$(1),n%,try%,
f$(8),dv$(2)]
PRINT "Enter device",
[INPUT dv$ :IF dv$="" :dv$="A" :ENDIF
:dv$=dv$+"."]
PRINT "Enter filename",
INPUT f$ :IF f$="" :f$="MAIN" :ENDIF
OPEN dv$+f$,a,field1$,field2$,field3$,field4$
USE a
clr$=CHR$(26)
cntr:(a.field1$,1)
cntr:(a.field2$,2)
st:
cntr:(a.field3$,3)
cntr:(a.field4$,4)
CURSOR ON
o$=GET$
CURSOR OFF
IF o$=CHR$(13) :STOP :ENDIF
i$=CHR$(13) :REM harmless char
PRINT CHR$(25);
FIRST
AT 1,4
PRINT "Clue: "+clr$;
IF ASC(o$)>8 :s$=s$+o$ :ENDIF
WHILE 1
AT 7,4
PRINT s$+clr$;
IF i$=""
CURSOR ON
i$=GET$
CURSOR OFF
```

```
ENDIF
IF i$=CHR$(13)
IF p% :p%=0 :BREAK :ENDIF
i$=""
ENDIF
IF i$=CHR$(8)
IF LEN(s$)
s$=LEFT$(s$,LEN(s$)-1)
FIRST
ENDIF
i$=""
ELSE
IF i$=CHR$(4)
NEXT
i$=""
ENDIF
IF i$=CHR$(3)
n%=POS
c%=1 :try%=1
FIRST
agn:
p%=FIND(s$)
IF p%
IF p%<>n%
try%=p%
NEXT
GOTO agn:
ENDIF
ENDIF
POSITION try%
i$=""
ENDIF
IF ASC(i$)>8
s$=s$+i$
ENDIF
ENDIF
p%=FIND(s$)
PRINT CHR$(15);
IF p%=0
AT 1,1
PRINT " NO MORE ENTRIES"+clr$;
ELSE
cntr:(a.field1$,1)
cntr:(a.field2$,2)
ENDIF
i$=""
ENDWH
s$=""
GOTO st:

cntr:(text$,line%)
IF LEN(text$)>19 :RETURN : ENDIF
AT 1,line% :PRINT clr$;
AT 1+(20-LEN(text$))/2,line%
PRINT text$;
```

# Progs & Procs - II

## GUITAR

by Christopher J. Burton (ZIP Software)

GUITAR turns your Organiser into a musical instrument. GUITAR runs on any model of the Organiser II and allows you to play tunes using each key of the keyboard to represent notes of the musical scale.

Each of the Organiser four middle rows of keys represents a string of a guitar and each column a fret. Thus as you play successive notes along a row of keys each note is one semitone higher than the last. As you move up a column, each note is five semitones higher than the last. Those of you who have played a guitar or bass guitar will immediately recognise the pattern. The section of the guitar's fretboard represented by this mapping is the 5th to 10th frets on the lowest four strings.

For reference, the notes played by each key of the Organiser keyboard are tabulated below:

```
Keys A - F C C# D Eb E F
Keys G - L G Ab A Bb B C
Keys M - R D Eb E F# G
Keys S - X A Bb B C C# D
```

This may look complicated, but it is the standard tuning arrangement of the guitar and it works well on the Organiser. (*It is very easy to use for non-guitar players Ed.*)

Guitar is a fully chromatic instrument (i.e. all sharps and flats are playable as well as natural notes) and is therefore capable of playing any tune.

Playing diatonic scales, therefore, follows the TONE TONE TONE SEMITONE TONE TONE TONE SEMITONE pattern and it is a simple matter to transpose to another key. Experienced musicians will be aware of this. Others will have to practice, letting their ears be the guide!

To exit GUITAR, press the <ON/CLEAR> key

### Additional features

The cursor keys alter the pitch of GUITAR. This is known in music as transposition. This facility is useful if you are playing a tune which covers a wide range of notes or if you wish to play a tune on the same notes that you have practiced on but in a different key.

The functions of the cursor keys are:

```
UP           plays one octave higher than usual
DOWN        plays at the standard pitch
LEFT        plays 5 semitones higher than usual
RIGHT       plays 7 semitones higher than usual
```

```
guitar:
REM 191089 Musical Instrument program
REM (c) C.J. Burton
Global n%(33),t%(24)
PRINT CHR$(12);" GUITAR";
guitar1:
guitar2:
```

```
guitar1:
LOCAL i%,o%,r,f(12),v
PRINT CHR$(15);"Initialising...";
r=2**(1./12)
f(1)=440
DO i%=i%+1
  f(i%+1)=r*f(i%)
UNTIL i%=11
i%=0
DO i%=i%+1
  o%=(i%-1)/12
  v=2**o%*f(i%-12*o%)
  n%(i%)=(921600-78*v)/(2*v)
UNTIL i%=33
t%(1)=16
t%(7)=11
t%(13)=6
t%(19)=1
i%=1
DO i%=i%+1
  IF t%(i%)=0
    t%(i%)=t%(i%-1)+1
  ENDIF
UNTIL i%=24
```

```
guitar2:
LOCAL k%,d%,l%,s%
PRINT CHR$(15);"Ready...";
d%=PEEKB($77)
POKEB $77,0
l%=PEEKB($20C0)
POKEB $20C0,0
KSTAT 1
DO UNTIL KEY>0
PRINT CHR$(15);
DO
  k%=GET
```

(continued on next page)

# Progs & Procs - III

(guitar2 listing continued from previous page)

```
IF k%>=%A AND k%<=%X
  BEEP 80,n%(t%(k%-64)+s%)
ELSEIF k%=3
  s%=12
ELSEIF k%=4
  s%=0
ELSEIF k%=5
  s%=5
ELSEIF k%=6
  s%=7
ENDIF
UNTIL k%=1
POKEB $20C0,1%
POKEB $77,d%
```

## GrabA Extension

Since we published Frank Cook's very popular "quickie" GRABA: I have had a number of enquiries as to whether it is possible to adapt the procedure to do the same trick with devices B: and C:, so below are GRABB: and GRABC:

```
grabB:
POKEB $A2,1
```

```
grabC:
POKE $A2,2
```

Just to remind you, these little gems will make the current device either A:(grabA:) B: (grabB:) or C: (grabC:)

## Left by David Green

Here is another "snippet" which I use every day (especially with a nearly full RAMPAK!)

```
left:
OPEN "A:MAIN",A,f$
PRINT "A:",SPACE
OPEN "B.MAIN",B,f$
AT 10,1
PRINT "B:",SPACE
OPEN "C:MAIN",C,f$
AT 1,2
PRINT "C:",SPACE
GET
```

## Psion Printer II Control by Mike O'Regan

The Psion Printer II has remarkably few commands related to the production of text. One of these, the DOUBLE HEIGHT mode cannot be pre-set so that all following text is double-height - it must be included with the line(s) of text as required. However, the other styles can be selected from the menu on the following procedure. The reason for the QUIT is that it is possible to set the Underline mode with any of the others.

```
psptr:
LOCAL o%
st:
o%=MENU("Twenty, Forty, Sixty, Eighty, U/Lined, Q  
uit")
IF o%=1 LPRINT CHR$(14)
ELSEIF o%=2
LPRINT CHR$(15)
ELSEIF o%=3
LPRINT CHR$(23)
ELSEIF o%=4
LPRINT CHR$(22)
ELSEIF o%=5
LPRINT CHR$(21)
ELSEIF o%=6
STOP
ENDIF
GOTO st::
```

Note that I have omitted the semi-colons (;) after the CHR\$(xx). This saves time at the expense of a maximum of two linefeeds.

## Notes for Programmers

I can accept procedures in various formats:

1. On data/RAMPaks  
(returned by recorded delivery)
2. On PC 5.25" or ATARI 3.5" format disks.
3. via Microlink Mailbox (MAG11839)

4. Listings (preferably printed)  
I have an excellent program (for PC) which converts procedures written in any style into the format preferred for publication - OPL words in CAPS and variables and other names in LOWER CASE, loops indented for clarity. Authors can get a copy from me by sending £2.00 to cover cost of disk and p & p. Ask for Tony Spencer's IPSOCONV.

# Feedback - I

## Letters

Dear Mike,

My Organiser XP recently suffered a mains spike or some such calamity whilst at work, rendering the COMMS LINK, Spreadsheet and a 32k datapak (with all my programs for work:\) unusable.

I returned the above items to Psion, together with the Power Supply, requesting that they advise me of the cost of repairs and that they return it before I next had to go offshore.

I was very pleasantly surprised to hear from them advising me that the Organiser and peripherals would be repaired under warranty: they were also returned to me in time to take to work.

Hats off to Psion for their superb support in this matter. I would be grateful if you could publish this in the next edition of IPSO FACTO as I feel they deserve a pat on the back.

Yours sincerely

P.A. Carroll, Derby

Dear Mike,

I have access to some Prestel pages devoted to the Psion. The page number is 390103 and says something like, "We will be searching available literature and bringing to your attention programs, software, accessories, tips, London Club meetings, etc". Naturally I will respect the copyright laws. I am a "beginner" programmer, so there will be quite a few simple programs to experiment with. Although I will not be running a beginner's course (I'm not good enough yet) most of the programs will have explanations aimed at the absolute beginner. For instance, one of the tips is how to convert a 2-line program to run on the LIZZY, (if the source code is available). I enjoy your newsletter enormously, even using the (now rarer) listing mistakes as a programming exercise!

My thanks and kind regards.  
A member (name withheld by request)

Dear IPSO,

Has any of our readers used the XP model with the "Letter Organiser" through an AMIGA computer, and is there any hardware that will let me connect the XP to a Panasonic KX-P1081?

Another small point, but has there ever been a program (preferably in the Beginner's Section) on electronics (calculations or data handling).

Also are there any Organiser experts in the wilds of Somerset (Yeovil area) who would like a yarn over a beer at a week-end, if so please give me a call (Friday/Saturday only).

Thanks for the assistance,  
Bob Dobson (Tel: 0935 840724)

Dear Mike,

Having been an IPSO subscriber since the early days, I look forward to reading each month's issue. I recently started this business and have already produced an agricultural program for the Psion which will appeal to those who are consultants or sell agrochemicals. I have not included details, as it is too specific for general interest, so be a good fellow and give it a mention in IPSO.

What is more interesting to a wider range of people is that I will soon be producing a weather station based on the Psion. In addition to data logging with possible control functions, it will look at the logged data and see if this fits a known disease pattern and alerts the user to take suitable action.

Yours faithfully,

Crichton Baxter, Chase Electronics, Tel: 0603 712965

Dear Sir,

The manual of the Psion Printer indicates how to print the screen ("to print the Organiser screen, hold down the SHIFT key and press the <--- key"). While this works nicely on the XP model, it does not work at all with the LZ or LZ 64. Can anyone help and tell me how to print out the LZ screen on the Psion Printer?

Ch. Zumstein, Basle, Switzerland

## Feedback - II

Dear Michael,

My 'ZIP Software' range of programs has changed a little since the article you wrote in IPSO FACTO (June '89), both in content and, more significantly, in that I supply the programs in copyable and modifiable form at no extra cost. This decision was made early on and has proved popular with my customers, many of whom are clearly interested in OPL programming. The programs are still priced at around £5 each, even when supplied in readable form.

The additions, which will be of particular interest to non-LZ model owners are:

**SEARCH** an expanded **FIND**, which searches every database file on the Organiser and displays each occurrence, tells you where it was found and allows deletion of item.

**KODE** an **EXPANDABLE** dialling codes directory

**BUZZER** sets an elapsed-time alarm.

In addition, the **LIST** database program had been extended to allow full data encryption, thus permitting safe storage of PIN numbers, etc. Purchasers of **LIST** may use the encryption subroutine in their own software.

The remaining programs are as you described them in the June IPSO FACTO. A catalogue is available from me giving full details of all ZIP Software programs. IPSO members may phone me on 0474 365206 or write to:

Christopher J Burton  
ZIP Software  
40 Lennox Road  
Gravesend  
Kent DA11 0ER

*(One of Chris's excellent programs appears in the Progs & Procs section. Ed.)*

## Contacts sought

Isa Patel would like to contact any other member in the **Loughborough area**. Isa's phone number is (0509) 267105

One of our members in the Bristol Area had a series of mishaps with his Organiser, the result of which was that he sold off his Organiser in frustration. However, if anyone in his area is willing to help with a little practical advice, he is prepared to buy another Organiser and try again. Will anyone who can help please contact:

Mr A.H. Frost  
4 Fitzroy Road  
Fishponds  
Bristol  
Avon BS16 3LZ (Tel: 659762)

## Problems

Dear Editor,

I have been a Psion owner for some time now, and a **LIZZY** user since their conception and have had a gremlin free affair with all of my little silver-grey friends until the other day.

After changing the batteries at around 5 p.m. (a long printing session had drained the **LIZZY**'s energy) everything seemed fine. Around 10 a.m. the following morning I turned the **LIZZY** on and, to my confusion, an alarm was sounded and indicated, but no alarm had been set. On pressing <ON/CLEAR> the screen displayed a low battery message, after only 17 hours!

This has happened since and I am sure I've read a letter from another member stating a similar problem with battery level problems. So come on all you super-OPLers, get your thinking caps on and sort out a proc to indicate power level.

I am quite sure that I'm not the only one who would eagerly await such an item, and insert it onto their **MAIN MENU**

Tony Lee (Tel: 01 630 9278)

*(Watch the Progs & Procs Section next month. Ed.)*

## MC Support

Dear Mr O'Regan,

In Vol III, No. 8 you raise the question of whether the IPSO Group should cater for both the Organiser and the MCs.

(continued on next page)

## Feedback - III

(MC Support continued)

The review you gave of the new MCs was interesting, and quite appropriate. However, I think the name of the Group gives the right answer, i.e. it is to do with the ORGANISER.

Mr Peden's letter in the same issue already highlights the problem resulting from the difference between the 2 line and 4 line versions of the Organiser. To cover more machines would not, in my view, be sensible.

Peter Salter, London

Dear Mike,

NO, NO, NO. Don't do it. IPSO FACTO has become complicated enough with the Lizzies. To add yet another series of machines to the magazine would make things even more difficult. Let the MC Users form their own group and leave the Organisers to themselves. Personally, I'd be happy for the Group to concentrate on the two-line machines (but perhaps that's just sour grapes on my part). The MCs are probably very commendable but they're not what the Organiser or the Group are about.

You asked for views and now you've got them. So there!

All the best,  
Ian McPherson, Cheltenham

Dear Mike,

Regarding the new MC range. Pending possible IPSO support, I would like to read articles on the combined use of MCs and Organisers. It would be nice to have an MC for home use whilst keeping the Organiser in my pocket at all times! I presume there is a COMMS LINK for two-way transfer of information?

Yours sincerely  
David Green, London

*(I have had some more letters on this subject, but not nearly as many as I expected.*

*Up to press the general view seems to be that we should confine IPSO's activities to the ORGANISER.*

*What do you think? Ed.)*

## For Sale

Brand new (boxed) Organiser Model XP £80 ono  
Brand new (boxed) 128k datapak £70  
2 - 16k datapaks £10 ea

Phone Nigel Gardiner on 0628 667986

Organiser (CM Model) with handbook and Auto-Scribe Plus. Software purchased in June and comes complete with box and handbook, all in mint condition. Any reasonable offer accepted.

Phone Nicholas Holmes on 01 260 1571

(daytime) or write to:

18 Balmoral Road  
Pilgrim's Hatch  
Brentwood  
Essex  
CM15 9PN

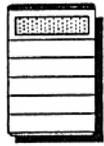
## Items for Feedback

Letters, problems, stories, small-ads are welcome for this section. I would remind you all that these facilities are offered free of charge to MEMBERS ONLY and are included at my discretion for the benefit of not only the writer, but the membership in general. Ed.

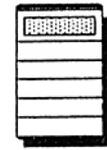
## Astronomy Programs

Peter Geenrits' excellent Astronomy programs, described last month have proved to be very popular, with many members writing in for both printouts and the programs to be copied to data/RAMPaks. If anyone else would like to avail themselves of this offer, not only is it still open, but **member Tony Spencer has now produced a version for the XP.**

If you want a (free) copy of these programs, please send a 32k pak, or a 5.25in disk (for PC format) or £1.00 if listings are required (12 pages!), plus a further £1.00 for postage & Packing (recorded Del) to the Editorial Office (address on front page)



# IPSO FACTO



*The Newsletter of the International Psion Organiser User Group*

Volume III . No. 10 . December 1989

Editorial Office: 130 Stapleford Lane . Toton . Beeston . Nottingham . NG9 6GB . UK

Phone: (0602) 735482 . Microlink Mailbox MAG11839

## *Editorial*

I am sorry that this issue is so late, but both of us have been struck down by the awful 'Flu Bug which has been sweeping the country. I am still not 100%, but hope that this reaches everyone in time for Christmas.

## *Mobile Computers*

After much thought, and a lot of letters from members, I decided finally that IPSO will not be supporting the MC Range. However, one of our members IS starting a separate User Group dedicated to the Mobile Computers. This will be known as the Independent Psion Mobile Computers User Group (probably shortened to IPMC User Group). The address and phone number for correspondence will be:

IPMC User Group  
4 Hoestock Road  
Sawbridgeworth  
Herts  
CM21 0DY  
UK  
Tel: (0279) 600430

The contact is Kevin Holloway.

The initial aim is to produce a monthly newsletter for a subscription of £12 per annum. It is intended to cover all aspects of the MC Range, including associated peripherals, application programming, and 3rd party software.

IPSO wishes this new venture every success and hopes that we can maintain friendly contact for the future.

## IPSOMEET 90

This is to give all members plenty of notice that we intend to hold an IPSOMEET as a two-day event on the week-end of 5/6 May 1990, so make an entry in your diary. More information will be available next month.

*A Happy Christmas to  
all our Members from  
Ursula and myself, and  
may we look forward to  
your continuing support  
in the New Year.*

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# Progs & Procs - I

## Battery Check by John Sikora

In July's newsletter (Vol III, No 5) Mike Nash asked if anyone knew how to give a percentage battery level of the Organiser. Well, I don't think that it is actually physically possible without the help of some hardware, which would be fairly complicated, but there might be another way. In the same newsletter John A. Gardner was talking about battery levels and the length of time they run for. This got me thinking that, if we know the power of the battery (in milliAmp or Amp hours) and the amount of power that the Organiser uses we can work out the length of time the battery should last.

I decided to measure the amount of current that the Organiser requires. With the Organiser off the current measured was 0.04 mA. On the top level menu the current was 3.7 mA and whilst running an OPL program increased to 9.7 mA. Using datapaks or the Comms Link considerable increases the current. By knowing which sort of battery you are using you can work out how long it should last (e.g. with an alkaline battery (540 mAh) and the Organiser running an OPL program in RAM A:, the battery should last for  $540/9.7 = 55.67$  hours continuously).

We now know how long the battery should approximately last. Now we need a program to tell us how long the Organiser has been ON for. The program calculates at what time the Organiser was switched ON then calculates the time it was switched OFF and every time this happens it adds it to a calculator memory. This enables the other programs to use the information. I used the calculator memories M7 to M9, which I use the least. M7 contains the total time the Organiser has been ON for, M8 gives the time last switched OFF and M9 gives the time switched ON.

We also need two small programs, one to convert the HOURS, MINUTES and SECONDS into a decimal number (i.e. 5 Hrs and 30 Mins = 5.5 hours) and another to change the decimal back to HOURS, MINUTES and SECONDS. These are called DECDEG: and DEGDEC:.

Last, not least, we have the BAT: and PER: programs. This gives a display of the battery level and the time the Organiser has been ON. The program can be used in the normal way under a different name, but each time you turn the Organiser OFF you need to remember to run the program instead of

pressing O (for OFF). This is where the excellent program ZAPOFF: by John Morris comes into effect. (published in Vol. III No 3). By creating a new OFF on the main menu you can calculate when the Organiser was switched OFF and then when it was switched on again, and its used is practically invisible. Switching OFF and ON times slightly increase, but you get used to them after a bit.

```
zapoff:
LOCAL i%,j%,l%,n$(16)
i%=PEEKW($2002)
DO
n$=""
l%=PEEKB(i%) :i%=i%+1
IF l%=0 :BREAK :ENDIF
WHILE l%
n$=n$+CHR$(PEEKB(i%))
i%=i%+1
l%=l%-1
ENDWH
i%=i%+2
UNTIL UPPER$(n$)="OFF"
IF n$=""
PRINT "OFF not found"
ELSE i%=i%-2
j%=PEEKW(i%)
PRINT "OFF code is",HEX$(j%)
POKEW i%,0
ENDIF
GET
```

```
OFF:
GLOBAL m%,x,h%,s%
CLS
h%=HOUR :m%=MINUTE :s%=SECOND
degdec:
M8=x
IF x-M9>1
M7=M7+.0833
ELSE
M7=M7+M8-M9
ENDIF
OFF
IF M8-M9<0
M7=M7+24
ELSEIF M7>30
BEEP 20,300
ENDIF
h%=HOUR :m%=MINUTE :s%=SECOND
degdec:
M9=x
```

(Cont on next page)

## Progs & Procs - II

The following two procedures can be used on their own for calculations with Hours, Minutes, and Seconds:

```
decdeg:
LOCAL a, xp
xp=ABS(x) :h%=INT(xp)
a=(xp-h%)*60 :m%=INT(a)
xp=((a-m%)*600+0.5)/10
s%=xp
RETURN
```

```
DEGDEC:
LOCAL xm, xs, xd
xd=ABS(h%) :xm=ABS(m%) :xs=ABS(s%)
x=(((xs/60)+xm)/60)+xd
RETURN
```

```
bat:
LOCAL z, t
GLOBAL m%, x, h%, s%
t=M9
AT 1,4
[PRINT " BAD ";CHR$(124);" OK ";CHR$(124);"
GOOD "]
AT 9,2
PRINT "Level"
[per:(100-M7*2,3,2) : REM this line to changed
upon heaviness of use and battery type. On XP
change to 80-M7*2]
z=M7
DO
h%=HOUR
m%=MINUTE
s%=SECOND
DEGDEC:
IF M9-x>0
x=x+24
ENDIF
x=(z+(x-t))
AT 14,1
PRINT FIX$((100-x*2),2,-6);"% "
decdeg:
AT 1,1
PRINT h%;":":m%;":":s%;
UNTIL KEY
```

**\*\* NOTE** XP display only consists of Percentage Bar and "Bad, OK, Good".

If you are a heavy user (e.g. using datapaks, programs paks and Comms Link) this number has to be increased. After you have used the program a few times, you will discover an average battery life for your usage. (e.g. you battery may only last 30 hours but the BAT: program still shows 30% free when the

battery ceases to work). To get the correct percentage, divide battery life (30) into 100 i.e.  $100/30 = 3.33$ . Insert this number in place of the 2\*. Always try to use the same battery type to get a good average battery life.

The BAT: procedure requires PER:, a procedure which produces a graphical bar as in the INFO on the LZ, and can be used on ALL models with some changes. d is the percentage value from 0 to 100 on the LZ (0 to 80 on other models), line% is the line the bar is to appear on and u% allow more than one bar with different values to appear on the screen at any one time. u% should be in the range 2 to 7.

```
per:(d,line%,u%)
LOCAL a%,b%,c%
UDG 0,0,0,0,0,31,31,31,31 :REM **
UDG 1,0,0,0,0,31,0,0,31 :REM **
PRINT d :beep 100,100 :get
c%=d
a%=1
DO
b%=0
DO
b%=b%+1
c%=c%-1
IF c%<1
BREAK
ENDIF
UNTIL b%=5
a%=a%+1
UNTIL c%<1
AT 1,line%
PRINT REPT$(CHR$(0),(((d>0)*-1)*d)/5)
IF b%=1
UDG u%,0,0,0,0,31,16,16,31 :REM **
ELSEIF b%=2
UDG u%,0,0,0,0,31,24,24,31 :REM **
ELSEIF b%=3
UDG u%,0,0,0,0,31,28,28,31 :REM **
ELSEIF b%=4
UDG u%,0,0,0,0,31,30,30,31 :REM **
ELSEIF b%=5
UDG u%,0,0,0,0,31,31,31,31 :REM **
ENDIF
AT a%-1,line%
PRINT CHR$(u%)
DO
IF a%=21 :REM 17 on XP
BREAK
ENDIF
AT a%,line%
PRINT CHR$(1)
```

(cont on Next Page)

## Progs & Procs - III

```
a%=a%+1
UNTIL a%=21      :REM 17 on XP**
```

PER: can be used on its own and you can also change it so that the bar reaches only halfway across the screen to give different displays.

When everything has been TRANSLATED and SAVED, the first thing to do is run ZAPOFF:. Now switch on again, go into CALC mode and set M7 to 0. Now run BAT:. If everything is OK then you should get a running total of the time used in the top left of the screen (about 1 minute), a percentage left of the battery in the top right (about 99.9%) and a graphical bar showing how good the battery is (GOOD). Unless you have just inserted a new battery, all these figures will be incorrect. You could guess how long the Organiser has been on for and put this figure into M7 (in decimal fractions of an hour), or, better still, wait until you are fitting a fresh battery.

Note 1. The accuracy of the program depends on how much you use datapaks, program paks and the Comms Link, as these devices use up considerable battery power. However, if you remember to reset M7 every time you insert a new battery, the program will tell you how long each battery lasted and you will then have an average battery life and place the value in the BAT: procedure where indicated. You should then have a battery level indicator which is fairly accurate. (as I have not had the time to test all battery types with the levels in use I cannot guarantee the accuracy).

Note 2. If you leave the Organiser to AUTO SWITCH OFF, then the program cannot tell and will total the time that the Organiser has been off as if it had been on all the time. Lines 6,7 and 8 of OFF: try to overcome this by checking the amount of time (that is the amount of time the program thinks) that the Organiser has been on for and if this is more than an hour it changes it to five minutes. Subsequently, if you use the Organiser without switching OFF for more than an hour then the program will say that you have only been on for five minutes. Change this amount to suit yourself. I find that an hour works best for me. Also remember that the program cannot tell that you have been using the mains adaptor. If you do you will have to subtract the amount from Memory M7.

Enhancements. By opening a file called A:USE,a,n,d%,m% in OFF: and then, right at the end of the program put:

```
x=VAL(FIX$(x,3,6))
a.n=x
a.d%=DAY
a.m%=MONTH
APPEND
```

This then gives you a running total of how many times you have used your Organiser (or how many times someone else has used it!) and the exact time that it was switched on. (the times will be in decimal). This can then be read in XFILES or a program can be written to show the date and time in hours, minutes, and seconds, using DECDEG:

---

### SCORE by Mike O'Regan

I have written the following program many times (with only slight variations) and, whilst it may not be a shining example of elegant programming, it serves its purpose (of keeping and displaying, as required, the score for two or more players in a game such as Scrabble). The other merit which the program has, is that it can be written in about 3 minutes flat and is VERY EASY to understand. The one little refinement I will commend is the -Zero option on the menu, (note the MINUS sign) which can ONLY be selected by using the cursor, thus eliminating unfortunate mistakes.

```
score:
LOCAL opt%,score%
start:
opt%=MENU("Ulla, Mike, Score, -Zero, Quit")
IF opt%=1 : PRINT "Ulla", : INPUT score%
M0=M0+score% : GOTO start:
ELSEIF opt%=2 : PRINT "Mike",
INPUT score%
M1=M1+score% : GOTO start:
ELSEIF opt%=3
PRINT "Ulla",M0
PRINT "Mike",M1
GET : GOTO start:
ELSEIF opt%=4
M0=0 : M1=0 : GOTO start:
ELSEIF opt%=5 : STOP
```

You may of course substitute your own names on the menu, and it is possible to keep up to 10 running scores, using all ten CALC memories.

# Progs & Procs - IV

## RESTORE

adapted from BACKUP: by Adrian Pegg  
(published in Vol III, Page 53)

The following program is printed by popular request.  
It reverses BACKUP routine (see above) and restores  
all backed-up files.

NOTE: THIS PROGRAM ONLY RUNS ON THE LZ  
MODELS.

```
restore:
LOCAL g%
CLS
PRINT " Auto-Restore"
PRINT "Restores DIARY/DATA/NOTES/COMMS files
to A: (RAM)"
PAUSE -50
KEY
CLS
PRINT "Notes + Diary are restored as FILES in RAM
A:"
PRINT "Continue Y/N"
g%=GET
IF g%=%Y OR g%=%y
ELSE RETURN
ENDIF
CLS
PRINT "Only continue if your back-up RAMPACK is in
slot B:"
PRINT "Restore now";CHR$(63);" Y/N"
g%=GET
IF g%=%Y OR g%=%y
ELSE RETURN
ENDIF
CLS
PRINT" Auto-Restore"
AT 1,3
PRINT "Deleting"
PRINT "old files. . .";
TRAP DELETEW"A:*.*odb"
TRAP DELETEW"A:*.*nts"
TRAP DELETEW"A:*.*com"
TRAP DELETEW"A:UPDATE"
AT 1,3
PRINT "copying "
PRINT "Diary + databases ";
TRAP COPYW"B:*.*odb","A:"
AT 1,4
PRINT "Notes + Comms files ";
TRAP COPYW"B:*.*nts","A:"
TRAP COPYW"B:*.*com","A:"
RETURN
```

## For Sale

Organiser 32k XP plus Comms Link  
and CL Software for IBM PC  
US \$200, plus shipping.

SHARP PC-1360 Pocket Computer  
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Psion Organiser LA - 32k - £65.00  
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Cubsoft XBASE pack (unused) - £40.00  
Comms Link - £45.00

or £190.00 the lot!

All in excellent condition - complete with manuals

Phone: Jim on 0772 614185 after 6 p.m.

## Contact Wanted

The following new member would like to contact  
other members in Germany. Anyone interested  
should contact:

Oliver Schwabedissen  
Am weissen Stein 2  
6234 Hattersheim 2  
Tel: (06145) 30407

## Editor's Note

Entries for our FEEDBACK pages are welcome and  
provide an essential service for members.  
Remember that PERSONAL ADS. are printed free  
of charge. Charges for advertising commercial  
products are available from the Editor.

# Beginner's Page

## Part 5 of the Beginners Course

by Mike O'Regan

I have had some favourable feedback so far, so I hope that you are all finding this new course of some use. I am trying to make it very easy to understand, even for those who don't speak English very well, let alone are not fluent in OPL.

Before we move on, a word of explanation about the statement LOCAL, which we have used in our program to declare message\$(15). There are two kinds of variable, LOCAL and GLOBAL. We use LOCAL if (as in this case) the variable will ONLY be used within the procedure in which it is declared. If I had used GLOBAL, then the variable would also have been recognised by OTHER procedures (where is it NOT declared). There is some danger of variable names clashing if they are declared as GLOBAL, so the rule to remember is: ONLY use GLOBAL if it is required and use LOCAL in all other cases. I hope this is clear.

So far our procedure TRIAL, when you run it, will accept a "message" up to 15 characters (including spaces) in length. Any attempt to exceed this will get a gentle BEEP reminder from the Organiser to say "this is too long". When we have entered our message, the Organiser just displays it, and, on the next line, the actual length of the message in characters. It's not much, but it does give some indication of wonders to come.

Just before we move on to have a look at IF, ELSEIF, ENDIF, I will just mention a command called KSTAT. We can use this to point the input in a particular direction. For instance, if we have a variable which will hold a telephone number - let us call it telno\$. This is a STRING (not numeric) variable, so unless we do something to point the input towards digits, we will have to use the NUMERIC key (or SHIFT) to enable us to key in a telephone number (e.g. 01-364-9999). We can, however, avoid this by placing a KSTAT 3 on a line before the INPUT statement. This would automatically change the input into digits (or UPPER CASE alpha if the SHIFT is used). There are FOUR KSTAT commands as follows:

```
KSTAT 1 gives UPPER CASE ALPHA
KSTAT 2 gives lower case alpha
KSTAT 3 gives numeric (UPPER CASE ALPHA on
SHIFT)
KSTAT 4 gives numeric (lower case alpha on
SHIFT).
```

IF, ELSEIF, ELSE, ENDIF

We are now going to enter the heady world of conditional branches (or jumps) using the commands IF, ELSEIF, ELSE, and ENDIF. Conditional branching is

one of the most powerful (and misunderstood) concepts in computing. It is also probably the one command which separates the CALCULATORS from the COMPUTERS (although some powerful calculators have conditional features). Conditional is just what it implies. When a conditional command is reached in a procedure, the Organiser is able to make its own decision as to how the procedure will progress from there, according to the condition of the controlling factors at that point. A few simple examples will make the idea a little clearer.

Let us suppose that you run a little program each day to remind you of various payments which you must make during the month. We will suppose that you pay tradesmen on a certain day each month as follows:

```
Milkman - on the 5th of the month
Baker   - on the 10th of the month
Grocer  - on the 15th of the month
Coalman - on the 20th of the month
```

Our procedure could be as follows:

```
payments:
IF DAY=5
PRINT "Pay the milkman to-day" : GET
ELSEIF DAY=10
PRINT "Pay the baker to-day" : GET
ELSEIF DAY=15
PRINT "Pay the grocer to-day" : GET
ELSEIF DAY=20
PRINT "Pay the coalman to-day" : GET
ELSE
PRINT "No payments to-day" : GET
ENDIF
```

This rather silly procedure nevertheless illustrates a few important points. First, the Organiser makes its own decision based on something it already knows (if the CLOCK is set correctly) namely the day-of-the-month, DAY. Secondly, you MUST run the procedure EVERY day (even weekends) or you may miss a payment. If the DAY number does not match any payment, then the ELSE command takes over and prints the "No payments. . ." message. Finally ANY IF, ELSEIF, or ELSE combination of any degree of complexity must end with ENDIF. By the way, as before, the GET command is simply a way of "holding" the message on the display until you have read it.

Of course, if you really wanted reminders to pay traders regularly, then the Organiser's built-in DIARY (or even ALARM) would probably do the job so much better.

# Review - Games Pack

reviewed by Mike O'Regan

## Psion Games Pack

Written by A.G. Moore

It has been a long time coming, but the Psion Games Pack was worth waiting for.

There have been one or two third party games packs (and individual games such as the excellent Pontoon (see Vol I of IPSO FACTO)). However, I have not seen such a collection of interactive games, some old, some new, but all excellent implementations (within the confines of the Organiser's miniature "screen"). Even more surprising is that the Games Pack will run on any model Organiser. Naturally the LZ offers the most sophisticated displays, and the four lines are used to great advantage. The Games Pack "knows" which Organiser is being used and produces the appropriate version of each game.

The games are as follows:

- Psimon - A test of memory
- Solgor - A number puzzle
- Runner - An action game
- Sub - A submarine action game
- Slots - A fruit machine
- Poker - The card game
- Pontoon - The card game
- Tenpin - Tenpin Bowling (multi player)

Psimon - is the old favourite, SIMON, in an excellent version for the Organiser. It makes full use of UDGs for a large display and has five skill levels. For those who don't know the game, a series of ever lengthening letters are displayed at random, and you have to memorise the sequence and reproduce it as it gets longer and longer. I have played many versions of this game, and personally find that the "higher" levels (supposedly more difficult) are actually easier, as it is better to memorise a fast than a slow sequence.

Solgor - is a new twist on an old game. The object is to make a "random" sequence of numbers match a "template". The twist is that there is a random-random version, where the winning template is not displayed, but you have to figure this out from the feedback as you try it out. Not one of my favourites, this. I never quite got the hang of it, with my "junior-mixed-infants" maths!

Runner - is a really addictive game (always tempting you to improve on your previous high-score). The game is deceptively simple. It is just a matter of guiding a little running man to jump over a series of mov-

ing obstacles. You are helped by a number of "balloons" on which you can hitch a ride to clear a number of obstacles, but beware being let down at the wrong time. The obstacles consist of Robots, Slicers, and Barrels. The first two are fatal if you cannot avoid them, but with a bit of practice it is possible to "bounce" on the barrels, using them as a sort of springboard to help you clear the others. The game is divided into a number of stages to let you catch your breath before the difficulty increases. One of my (and my wife's) favourites.

Sub - is a sort of underwater Space Invaders. You can shoot jellyfish, sharks, and mines as you negotiate your way through an underwater scene. In the second stage you have a "seaweed maze" to tackle as well as shooting the monsters. Hitting a mine carries the highest score, but the mine disintegrates into lumps of schrapnel which you must also avoid. It amazes me how much action can be packed into even the two-line display on the XP version.

Slots - is one for the Fruit Machine addict. It is a most realistic (including the sounds) version of the real thing. The little fruit symbols actually seem to revolve as if on reels. You have hold facilities at intervals. The only thing with this game is that it just seems to go on for ever - you never seem to run out of coins, as with a real fruit machine.

Poker & Pontoon - are Organiser versions of the card games. In both games it is you against the Organiser and you start with £100 in your pot and can bet on your hand. Naturally, the LZ versions have more opportunity for displaying actual cards in miniature, but the games are otherwise identical, and quite challenging if rather sedate after the lively actions of Runner or Sub.

Tenpin - last but not least, this game is rather different as there can be up to four players (like the real thing). You can name each player and the game proceeds as in tenpin bowling with a novel way of bowling which allows quite a degree of control over straight, in-swingers, and out-swingers. I found this game quite addictive and a real challenge against other players, once the simple tactics have been mastered.

All nine games come on a single 32k datapak, but the Games Pack is so new that I can't yet tell you the price (this will be in the next issue).

(continued on next page)

## Feedback - I

### A Free Game for your LIZZY

Whilst on the subject of games, I have a very good version of Space Invaders written by member Neil Draycott. It makes good use of the four-line display on the Lizzy, but will not run on the two-line models, unfortunately.

With the great success of Alain Geenrits Astronomical Programs, which I offered on pak or disk (and which very many members took advantage of in this form), I am doing the same with this Space Invaders game. Rather than print a lengthy listing of the game, I am offering it on either datapak (your own) or PC compatible 5.25" disk. If you want the disk version, it will cost you £2.00 (including the disk, postage & packing). A pak version will cost you £1.00 if you send the pak, which includes returning your pak by recorded delivery.

---

### Swindon Expands

The Swindon Group continues to thrive. At its meeting in December, plans were announced to put all 4000 British Telecom dialling codes and a phone costing program onto a 64k datapak. This would have the advantage that the user would be able to check what locality a particular code was using the FIND facility. Any members interested should contact the Chairman. Work continues by Simon Webb on a voice synthesiser. The Group has revamped its communications facilities and now has its own Fax 0793 - 612813.

The next meeting will be on Monday 5 February 1990. For further information contact

Jeremy Holt  
14 Belmont Crescent  
Swindon  
Wilts SN1 4EY

or use the above FAX facility. (No phone calls please)

---

### Wanted

Comms Link for LZ64, also Mains Adaptor

Phone Chris Dawson  
on Derby (0332) 556381

### Help Wanted

The following member would like to contact any member who can help him with an OPL program to calculate AIBD-Yield to maturity. A computer programmed to solve the internal rate of return starting from a given market price, would use an iterative method, assuming various internal rates of return, until it found the internal rate of return that, to an acceptable degree of accuracy, equated present value and market price. I have bought the Finance Pak, which includes a yield-calculating program, but unfortunately one has to enter the number of days etc. and the result is not that accurate either. (zerobonds are impossible to calculate anyway)

Anyone who can help would contact:  
Peter Schwendinger  
Seestrasse 121  
8820 Waedenswil  
Switzerland

---

Have any Structural Engineers out there produced any structural design procedures (i.e. Timber, Steel, Brickwork etc.) for the Organiser LZ64. If so please phone:

Chris Dawson  
on Derby (0332) 556381

---

### For Sale

Transform Organiser II Fax Leather Case  
as new and still in box  
£45.00

Phone Michael Jones  
on 051 357 2922

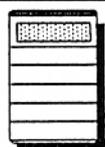
---

### Wanted

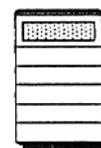
Hardware and software to transfer files and OPL listings between BBC Master and Psion XP.

Please write to:

J. Leaper  
NCISS  
BFPO 8



# IPSO FACTO



*The Newsletter of the International Psion Organiser User Group*

Volume III . No. 11 . January 1990

Editorial Office: 130 Stapleford Lane . Toton . Beeston . Nottingham . NG9 6GB . UK

Phone: (0602) 735482 . Microlink Mailbox MAG1 1839

## *Editorial*

As we approach the end of our third year of publication, I am glad to see that there is no significant reduction in the flow of material for this newsletter. I have in the pipeline some very interesting material. Will authors please be patient, as I try to get a balance in each issue between our main sections, Beginners, Programs, Reviews, and Feedback. On your Renewal Form (see column opposite) I have included a box marked "Suggestions". Please use this to let me know if you have anything to improve both the content of IPSO FACTO and our service to members. I am getting an increasing number of technical queries, by both phone and post, and can usually respond with either a solution or the name of someone who can help. I consider this all part of the service. All I would ask is that, if you phone, please do so at a reasonable time - members abroad, in particular should consider the time difference. Also I am out at least four evenings a week (after about 7 p.m.), so please bear that in mind.

## *Membership*

Although membership is steadily increasing, I feel that we could have many more members if existing ones introduced a friend. Most of our new members come through Psion or the User Group Section of Personal Computer World and I am indebted to both these sources. We also hope to have a mention in the new Psion Booklet which is about to be published. However, I think that personal recommendation is a very effective way to increase our membership.

## Time to Renew Your Subscription

With this issue you will find a Subscription Renewal Form for the next year, beginning March, so the next (February) issue is your last one unless you renew. You will notice that, after much soul-searching, I have reluctantly had to increase the UK subscription to £14. This was really unavoidable - I have managed to keep the subscription static for THREE YEARS, but higher costs, particularly higher postal charges have resulted in higher production costs. I hope this won't deter you from renewing - I still think we offer quite good value for money.

**PLEASE RENEW AS SOON AS YOU CAN TO ENABLE ME TO PLAN FOR THE COMING YEAR.**

On the bottom of your form you will see that I also want to know if you will be coming to IPSOMEET 90. The meeting is the first weekend in May (both days). We hope to have several stands selling Organisers and peripherals, a Bring & Buy Sale, Tutorials, etc. The cost will be £8.00 for the day, which includes refreshments morning and afternoon and a substantial buffet lunch.

The meeting will be held in the Nottingham area and the venue is only 5 minutes from Exit 25 on the M1 and has a car park. This is convenient for many members who travel from the North.

Please note that I may have to restrict numbers, if the response is more than we can handle, so please let me know promptly which day you prefer.

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# Assembler/Debugger

reviewed by Les Ball

## Introduction

For a long time the PC-based Assembler-Debugger has been the only practical means of writing long Assembler routines for the Organiser. This package is a very comprehensive full-blown cross assembler-debugger, which is fine if you are used to this kind of program, but takes a lot of getting familiar with.

An Assembler which is of necessity less comprehensive, but much easier to use and does not require the use of anything but an Organiser and optional printer is long overdue. Such a program has now arrived. The package I am about to describe is, to my mind, ideal for beginners and experienced assembler programmers alike.

Those who use the original Psion PC program will find this program particularly useful for developing ideas while travelling or when they do not have a PC to hand. Beginners will find the package friendly and easy to use.

This assembler-debugger, written by Rik van Hauwe runs on the Psion Organiser Model XP 32k and, as far as I know, 64k LZ (though I have not had a chance to try it on this model). The programs are menu-driven, and all the relevant routines support the use of a printer.

## The Mini-Assembler

The assembler supports standard 6303 pneumonics with a few useful assembler directives. There are two ways of entering assembly language, either directly, that is line-by-line (when the code is compiled immediately) or by writing a source file (which is converted into object code at a later date). This idea is similar to that of OPL, although the code is quite different, as is the source file.

When writing line-by-line assembly language any errors are detected and you are alerted to the error. This line must then be re-written. Once completed, you may test your routine with one of the other options in the package.

When using the source file facility, you may SAVE both or either your source and/or object, just as you do in OPL. These may be saved to a pak, or to RAM if there is room and you can, if you wish transfer these files between the Organiser and a PC. Once again, if any errors occur in compilation, you will be informed and returned to the line of the source file

where the error occurred - a very useful and neat facility.

All the 6303 BRANCH instructions are obeyed and addresses automatically calculated, and you may also use labels, the JUMP addresses of which are also calculated. You cannot, however, use the Psion variables like UT\$,\_41, etc. You have to specify a zero-page address, but this is not inconvenient, unless you have spent many hours using the PC assembler, where you may be used to doing so.

It has to be recognised that Rik does not claim that this package is a substitute for a full-blown cross-assembler (like the PC version), and that there are limitations, such as the use of Psion variable names and pak-handling routines, although many of these difficulties can be overcome with a little experience. The assembler directives allow you to include in your code a dummy byte, dummy word, or text (up to 20 characters).

## Disassembling

The easiest way to become familiar with assembly language pneumonics is to look at code which has been written by other people. The "un-assemble" portion of this package allows you to do this, either on screen or with the aid of a printer.

Branch and label addresses are de-coded for you as well as many of the Psion operating system calls, known as OS calls. The names of these calls can be found in the Technical Reference Manual.

With the disassembler you can look at routines anywhere in the machine, although for this to work properly you must start from an address which contains a correct code. That is to say, if you start from the middle of a routine without knowing what you are doing then instructions may be garbage (which is true of ANY disassembly). You will not do any harm, however, by looking at code.

## Dump

If you do not need to see the source code, but only want to look for text, or verify actual HEX numbers, then you may DUMP a portion of memory to the screen or a printer for examination. You will get an ASCII and HEX printout, enabling you to look for what you need.

# Assembler/Debugger - II

## Patch

Sometimes it is useful to change the contents of a memory location, providing that you know what you are doing, of course. You cannot change the contents of a ROM location, but you can change those of RAM. Do not do this, however, unless you are sure that you know what the result will be, since you could crash the machine and lose all data by having to reset it. The PATCH facility in this package allows you to look at any location within ROM or RAM and change the contents of RAM at will. You can do this by HEX numbers or ASCII characters.

## Step Mode

This portion of the package is its *piece de resistance*. It enables you to RUN a routine step-by-step, giving you the chance to examine the contents of the registers, including flags and stack pointer to see just what happens during execution.

This gives you an excellent de-bugging facility, but not only that. Beginners can learn a tremendous amount about assembly language programming by tracing a program.

You cannot run ROM routines in this mode directly, however. You need to copy them to RAM, which is a little bit tricky. Not that copying is hard to do, since the program allows you this facility, but ROM routines are usually quite involved and jump all over the place.

If only someone had published the Organiser ROM, life would be much easier.

Once you know what to copy, however, then you can step through the routine in RAM and learn about the machine and assembly language.

## Copy

This allows you to copy one area of memory, ROM or RAM, to another area of memory. The area you copy *to* must, of course, be RAM and you must know which part of RAM is free and available for you to copy to, since otherwise you might erase programs or data.

There are ways of reserving memory so that programs or data do not get written to, and this would be ideal for reserving spaces to copy to.

## Summary

All numeric entries to and output from the program are in HEX. You are guided through the programs by menus and there is almost no need for an instruction book. If you are like me, this is useful since I only read instruction books if I get really stuck. There is, however, and adequate instruction book for those of you who are sensible.

For anyone wanting to learn about the Organiser and its machine language, with the idea of doing things which OPL won't let you do, or simply doing it quicker, this program is a must. This could also be said for those people who want to write assembly language routines on the Organiser at any time it happens to be convenient. After all, that is what the Organiser is all about, surely - convenience and portability.

From a purely personal point of view, this is the best piece of software I have seen for the Organiser and I take my hat off to Rik for his considerable programming skill and his efforts to make this program friendly and flexible. My sincere thanks to him for his co-operation and goodwill. I hope that other people will find this program as useful as I have done.

Les Ball

The Psion Assembler is available from:  
Transform Ltd  
7c Station Approach  
Hayes  
Kent  
BR2 7EQ

Tel: 01 462 4666

Price: £95 (plus VAT) = 109.25  
(Note: 10% discount for IPSO Members)

# Beginners Pages

by Mike O'Regan

## Variables

We have already mentioned in previous articles that there are basically three types of variables on the Organiser - string, integer, and floating point. We have already used string variables in a simple way, but there are many other powerful things which are possible with string variables (and the OPL commands which work with them). We will now have a closer look at some of the aspects of all three types of variable, with some simple procedures to illustrate the points raised.

### String Variables

Just to recap, string variables are declared on the very first lines of the procedure by entering the Command LOCAL or GLOBAL followed by the variable name. The name can be any combination of alpha and numeric characters, provided that the first character is alpha and the total length of the name is not longer than eight characters. There must also be a figure (in brackets) after the name indicating the MAXIMUM length of the variable (maximum is 254). So a typical string variable name could be:

```
name$(15)
```

which means a string variable called "name" which has been declared for use with a maximum length of 15 characters. Also remember that these characters can be ANY characters, including figures, spaces, punctuation, etc just as long as the total does not exceed 15. There may be a second figure within the brackets, separated by a comma, and this is used to indicate what is known as a string variable array. We will look at arrays in a later article, so for now we will only use a single figure.

We will now look at some of the OPL commands which can be used to modify a string which we have entered using the string variable:

### Left string, Mid string, and Right string

These commands are used to slice up a string, very much as a bacon machine slices bacon. If we were using a bacon slicer, it is possible to slice from either the left hand end of the roll, or from the right hand end. It is also possible to slice a chunk from the middle of the roll, and vary the thickness of the slice. All this is true of the OPL string slicing commands, as we shall see.

## Left string

This command is written LEFT\$, naturally enough, with the \$ sign indicating "string" as usual. LEFT\$ must be followed by some further information in the form of the name of the string to be sliced and a figure in brackets. LEFT\$ only tells the Organiser that we will be STARTING from the left hand end of the string. The figure that follows tell it how many characters to slice, starting from the left hand character. So if we had an expression such as LEFT\$(name\$,5) this would mean take the contents of the string variable name\$ and slice off 5 characters, starting from the first (or left-hand) character. It is also customary (but not essential) to give the sliced off portion its own string variable name. Here is a short OPL procedure to illustrate LEFT\$

```
slice:
LOCAL name$(15), lft$(10)
PRINT "Enter your string (max 15)"
INPUT name$
lft$=LEFT$(name$,5)
PRINT name$
PRINT lft$
GET
```

If you enter this procedure, TRANS, SAVE, and RUN it and then, at the prompt enter the words "FIRST WORDS" the result will be a two line reply on the display:

```
FIRST NAME (the full name$)
FIRST    (the first five characters from the left)
```

## Mid String

This is written in OPL as MID\$ and is just a little more complicated than the LEFT\$ shown above. With MID\$ we need an extra figure in the brackets to show just where our slice starts in addition to the figure which tells the Organiser how long the slice will be. So MID\$(name\$,3,5) means using the contents of string variable name\$ and starting at the third character, slice off the next five characters. We will use the procedure slice: above, suitably EDITed to illustrate MID\$, so go to the PROG menu on your Organiser and press <EXE> followed by the procedure name slice. Move to the second line and enter another LOCAL string variable as shown. Then move with the DOWN ARROW to the line "PRINT name\$". With the cursor flashing on this line, press <EXE> to create a blank line where you will insert the remaining additions. The procedure should be edited to read as follows:

(Continued on next page)

# Beginners Pages - II

slice:

```
LOCAL name$(15),lft$(10),md$(10)
PRINT "Enter your string (max 15)"
INPUT name$
lft$=LEFT$(name$,5)
md$=MID$(name$,3,6)
PRINT name$
PRINT lft$,md$
GET
```

TRANS, SAVE and RUN this and see what you get if you enter "FIRST WORDS" as before. There are two points to note from our procedure so far. First, in the LOCAL declaration I have set the length of both lft\$ and md\$ to be a MAXIMUM of 10. You are not obliged, however to use this maximum, just as with any other string variable. The second point is that, on the line before the final GET, lft\$ and md\$ are separated by a comma (.). This tells the Organiser to print both on the same line, separated by a space. If I had used a semi-colon (;) there would be no space between them. In any case your result should be as follows:  
FIRST WORDS (the full word\$)  
FIRST ST WOR (FIRST is lft\$, then a space, then ST WOR - md\$)

## Right string

This is written in OPL as RIGHT\$, and the information in the brackets which follow is exactly the same as with LEFT\$, except that the starting position is the right hand side and the counting is BACK from that point. Once again, we will EDIT the procedure string: to illustrate the point. Notice that this time there is another GET line, so that all THREE lines of output can be viewed on the display of an XP or CM. This line can be omitted on LZ machines, which can show all three lines simultaneously.

slice:

```
LOCAL name$(15),lft$(10),md$(10),rt$(10)
PRINT "Enter your string (max 15)"
INPUT name$
lft$=LEFT$(name$,5)
md$=MID$(name$,3,6)
rt$=RIGHT$(name$,5)
CLS
PRINT name$
GET
PRINT lft$,md$
PRINT rt$
GET
```

Don't forget to press ANY KEY when you have read the first line. I have added the CLS to clear the display, for

clarity. The result, if you have entered FIRST WORDS, should be  
FIRST WORDS (press ANY KEY)  
FIRST ST WOR  
WORDS

I will continue, with our look at Numeric variables in the next article.

## For Sale

Organiser LA Model with leather case  
Comms Link for PC (with software)  
2 x 32k RAMPAKS  
1 x Cubsoft XBASE  
1 x Cubsoft FNKEY  
1 x Widget AutoScribe Plus  
1 x Harvester DATA ORGANISER

Please contact Peter Humphris on  
Dundee (0382) 458629

Organiser LA Model in very good condition  
£85

Phone Chas Newport on:  
(0202) 623 438 (Home) or  
(0305) 251 071 (Work)

## Exchange Wanted

OLYMPIA NP30 Dot Matrix Printer  
9 wire printhead, 103 cps - 80, 96 136 cols  
Near Letter Quality  
Serial & Parallel interfaces  
Condition as new  
Will exchange for any of the following:  
Bar Code Reader, Magnetic Card Reader,  
Psion Printer, LZ Organiser  
or  
128k and 64k datapaks plus selected software  
(please contact for more details)

For any of the above contact:  
Clinton Whitehead  
on (0386) 853 156  
or FAX (0386) 853126

# Feedback - I

## Fresh Thoughts from a New Member from Graham Foster

I received my LZ64 just before Christmas and bought the Comms Link, 1 16k datapak, KPROG and the technical manual all at one go. Christmas was very expensive this year! Here are my first impressions of the equipment.

### LZ64

Being totally new to the Organiser, I had been very impressed by the solid construction and quality feel of the "LIZZY" (as you christened it). This is not to say that it was my immediate choice. I looked at the AGENDA, the PORTFOLIO and the CASIO "digital diaries". The latter I disregarded when I discovered it was not possible to back them up and that they would never be programmable. They are superb if you can accept these limitations and I would recommend them in place of an address book.

The AGENDA is greatly superior in styling to the LZ but wasn't recommended by ANYONE I could find! Nothing wrong with the product - just the support. It seems to be very poor. Also (at the time of writing) the programming language (ABC) is not available. It's also more expensive than the Psion. The "chord keyboard" is a good idea (especially compared with the frustrating A-Z Psion layout) but more of that later.

The PORTFOLIO is an excellent machine (*apart from its inability to signal BATTERY LOW - and loss of RAM contents - when used with Ni-Cads. Ed.*) If I had the money I would have bought it. It has a QWERTY keypad, more sensible screen, and is just as pocketable as the Organiser. My two reasons for not buying it (in order of importance) were:

- a. Cost - £250 before you get any "disks" for it, mains adaptors, adequate RAM or anything.
- b. Poor support. At this time ATARI took NINE WEEKS to send me the skimpy brochure. The User Group know nothing technical about the machine, and it still has some major bugs. In 12 - 18 months, (maybe) this will be the best choice - but not yet.

It was support from yourself and Rovoreed (who you recommended) that put the Organiser head-and-shoulders above the rest. Rovoreed gave the best prices I could find and excellent support and delivery. 10/10 to them!

### Comms Link

Not had a chance to use the IBM transfer facilities, but the facilities provided for non-IBM machines is OK. XMODEM with CRC checking rather than checksums would be preferable. Terminal emulation that under-

stood ADM3A or VT52 escape codes would be a good move (on a virtual 80 x 25 screen) but the Organiser does only have a 6303 processor in it after all.

### KPROG

My first encounter with a commercial package for the Organiser. KIRSTA are a good company, but I am of the opinion that all Organiser software is overpriced for what you get. KPROG needs a few changes:

- a. Whatever happened to OCTAL and BINARY. OCTAL is necessary for C string literals; BINARY is useful for Assembler bit-twiddling in devices. How come KPROG misses them out altogether?
- b. The restriction of not being able to use the defined keys and macros on the same key is annoying. Is this an LZ restriction? (*No, it's not the machine. FNKEYS manages it. Ed.*)
- c. The keyboard macros don't work in Note-pads, or Program Mode. They only work on single line entry, which makes them very restrictive.
- d. Errors and Tips are a bit of a waste of ROM space!

Considering this came as a highly recommended package, I am a bit disappointed. I would like to see a reply from KIRSTA on these points!

### Technical Manual

Brilliant. The best bit of reading I did over Christmas. It's a shame that the LZ addendum is not up to the same standards as the main document, and that it doesn't go up to the latest ROM version (mine is OS version 4.5 - are there any later?). I've written to Psion asking about the Pager, 64k & 128k RAM-PAKS and I will send you a copy of their reply.

I hope to write some useful software, using this information. Psion seem to have thought out the interfacing rather well.

### Problems with the LZ

- a. The very first example program in the LZ manual (to calculate the number of days you have been alive) doesn't work, as there have been more than 32767 days since 1900! Not a good start, Psion.
- b. The manuals are a bit weak in terms of realistic examples and sensible applications, but they are well presented and a useful size.
- c. Are you supposed to get a double-click when switching off the LZ (once on the "O" keypress and then another when the screen clears?)

(continued on next page)

## Feedback - II

d. No DELETE LINE function! not cut/paste text functions for any application.

e. The keyboard! (because it's non-QWERTY and doesn't implement a sensible alpha shift) *(You'll get used to the keyboard. I can type about 40 WPM on it, especially when working with AutoScribe - which has solved the SHIFT CAPS limitation. Ed.)*

I wonder if there is any interest in any of the following programs:

1. "Chord Keyboard" - I believe it's possible to write a keyboard scanning/decoding program that could use something like the AGENDA "chord" keypress system. It would probably disable FNKEYS, etc, but other programs should work. Any interest? Any suggestions as to how a re-organised chord keyboard should work? or be organised. *(I doubt whether this is possible, but I may be proved wrong - in any case the "chord keyboard" of the AGENDA, which I use extensively, relies heavily on the extended half-moon positions of these keys. Ed.)*

2. Compacted backup files - ASCII text is very inefficient. Is there any demand for backup routines that get 30-50% more information onto a datapak than the pak size indicates? There would need to be search routines for compacter data as well.

3. Copy protected datapaks are a pain. Would anyone be interested in utilities that allowed you to copy them onto a large (128k) datapak, and gave a mechanism for running them from there. This would mean that you could carry many more program paks about with you more easily. *(There are quite a few objections to this, not least COPYRIGHT. However, it is a subject raised quite frequently by members. Another limitation is that programs "stockpiled" on a large datapak run at a speed which is in proportion to their storage position on the pak - those at the end can be reduced so drastically as to be of little practical use. Ed)*

The above are my ideas to the moment. I would appreciate any feedback from users via IPSO FACTO or directly to my home address:

117 Yardley Ave  
Pitstone  
Nr Leighton Buzzard  
Beds

## Contacts Required

### Any Greeks Around?

I am a Greek for Kolomaki, Athens, at present serving of prison sentence (with another 2 years to serve). I am also (possibly) the longest Psion User in Greece, dating back to the Single Line Organiser I (I now have a LIZZY). As I,m allowed to have my Organiser with me it is a great comfort and makes time more bearable.

I would like to correspond with any Greek members of IPSO who would be interested to do so, purely on Psion matters.

Would anyone interested write to:

A. Artemiou - MM0706  
HMP Swaleside - D1/26  
Eastchurch  
Kent  
ME12 4AX  
UK

*(Editor's Note. Andy is a member of IPSO)*

## Programs on Datapak

After the enthusiastic response to our offer of NEIL DRAYCOTT's Space Invader Game on datapak (which still continues), I can now offer the game of HAMMURABI by MATEEN GREENWAY(LZ only, at the moment) to anyone sending a datapak or RAMPACK (with at least 8k free), plus £1.50 for handling and return post (recorded).

This is a version of the old game, where you have to manage the economy of a Sumerian City-State, feeding the population, buying land, planting corn, etc. If you want a copy, please say whether you want the full listings on your pak or just Object Code. This also applies to anyone else who wants a copy of for Space Invaders.

Some time ago, I offered to supply ANY program published in IPSO FACTO on a datapak, but the response was only lukewarm. However, I think that there might now be a need for this service, for those who haven't got time to key in long programs. Also, for those with access to a PC, I can offer programs on 5.25" disks.

I would welcome your views, and if there is a demand I will organise this as a further service for members, at a nominal charge.

## Lock by Neil Favager

The following program, which will run on any Organiser, is another, but quite elegant security routine. Use Lock from your top level menu to switch the machine off when you require the security to work. You will find that the program gives you THREE CHANCES to get the password right, before displaying your chosen message and switching off. Other refinements are that the password is not displayed during entry and as a further measure the SHIFT NUM must be pressed before entering the password, which is in the program as the SHIFT position of your chosen password. For instance, if you choose the password "LUPINS" you must enter a\$ (on the second line of the program) as "\*157\$;" (the SHIFT characters for LUPINS).

```
lock:
GLOBAL a$(16),b$(16),c$(1),a%,b%
a$="=%-4$7,4"
loop::
CLS
OFF
KSTAT 2
a%=3
DO
  b$=""
  c$=""
  b%=16
  CLS
  PRINT"Enter password:"
  DO
    c$=GET$
    IF c$=CHR$(13)
      PRINT REPT$(CHR$(255),b%)
      BREAK
    ENDIF
    b$=b$+c$
    PRINT CHR$(255);
    b%=b%-1
    UNTIL b%=0
    PAUSE 10
    IF b$=a$
      RETURN
    ENDIF
    a%=a%-1
    UNTIL a%=0
  CLS
  PRINT " ACCESS DENIED"
  VIEW(2,"Phone - Mike O'Regan, (0602) 735482...")
  GOTO loop::
```

n.b. enter YOUR message between the "" on the penultimate line.

## OOPT by Neil Favager

This is a "library module" which can be called from any other procedure. It allows a single-key selection from a set of options, and is an alternative to the OPL command 'Menu()'. In many cases it is a lot easier (and more compact) than using MENU() and it is a way of getting an answer to a prompt without allowing the user to break out with <ON/CLEAR-Q>. Note it converts the user's reply letter to uppercase before returning.

```
oopt$:(o0$)
LOCAL o1$(1),o2%
CURSOR ON
DO
  o1$=UPPER$(GET$)
  o2%=LOC(o0$,o1$)
UNTIL o2%>0
CURSOR OFF
RETURN o1$
```

Example usage:

```
CLS
PRINT "Quit (Y/N)";
IF oopt$:( "YN" )="Y"
  RETURN
ENDIF
```

---

## The Countdown Saga

For those members who have submitted solutions to my Countdown Competition (see page 52), do not think you are forgotten. I have been hanging on to see if any other entries arrived, as the ones so far came as a long-drawn out trickle. I am now reasonably satisfied that there are no more to come (except perhaps from new subscribers), so the final solution will be printed next month. Thank you all for being so patient. The prize (an excellent book on computing) will be sent to the winner.

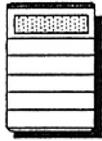
---

## For Sale

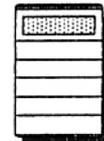
Organiser XP, with box, in excellent condition  
£85

write to:

Mr Sulhail Ahmad  
Holliers Farm House  
Hagley, DY9 0QP



# IPSO FACTO



*The Newsletter of the International Psion Organiser User Group*

Volume III . No. 12 . February 1990

Editorial Office: 130 Stapleford Lane . Toton . Beeston . Nottingham . NG9 6GB . UK

Phone: (0602) 735482 . Microlink Mailbox MAG11839

## *Editorial*

In this issue I am starting a new (and I hope regular) feature - Product News. This section has been included by overwhelming popular request. It is not meant to include full reviews of new products but merely keep you all in touch with what is new in the Organiser world. In order for this feature to be up- to-date and topical I am asking anyone who knows of new developments, both hardware and software, to let me have as much detail as they can, preferably on a 5.25in disk or by EMAIL to my Microlink Mailbox (as above).

## *Countdown Competition*

You may just remember that this competition was in the form of a challenge for any member to "devise a foolproof method ...of checking the letters played against the random letters chosen by the Organiser. I had some interesting solutions, but the most interesting came from A.R.P. Spencer. A prize, in the form of a book on computing, is on its way to the winner. Instead of printing the (rather long) full set of procedures in Ipsos Facto, I am working on tidying everything up with a view to making the finished game available in the same way as the very popular Space Invaders and Hammurabi programs. I will let you know when it is available, as I have to make some further adjustments first.

## *FNKEY Competition*

In conjunction with Cubsoft, I am running another competition of rather a different kind. This is to find out the most interesting application of Cubsoft's FNKEY program. Just write up your application and send it to me at IPSO (address above) and Mike Leigh and myself will pick out the TOP FIVE entries. All five will then receive a voucher for £50, redeemable against ANY Cubsoft products. The winners will be announced at IPSOMEET 90 (and any present will be able to select their prizes). Mike is hoping to have a brand new, super-fast WORD PROCESSOR available by then!

## *Membership Renewals & IPSOMEET 90*

Don't forget to renew your membership NOW (if you haven't yet done so), otherwise this is your last newsletter. It is apparent from the renewals so far received that quite a few people have overlooked the section on the bottom of the form, which asks whether you are interested in attending IPSOMEET 90. Anyone who has returned his form without completing this section, but who IS interested in coming should get in touch with me (either in writing or by phone). The (alternative) dates are Saturday 6 May or Sunday 7 May. I am determined that IPSOMEET will not be cancelled this year!

## *Machine Code Articles*

I have received some very interesting Machine Code articles (from two different sources) and the first of these will be published in the first issue of Volume 4. Both look very promising and will hopefully develop into a regular feature in future issues.

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# Product News

## Psion Products

There have been additions to the range of Bulk Datapaks available from Psion. These paks are meant for Software Developers and are supplied in black without labels or packaging, and in increments of 50 units.

One of these paks is a new type of pak, coded OTP (one-time program). This pak can only be programmed ONCE (using the Psion Copier or an Organiser). It cannot be erased using an EPROM eraser. The pak is cheaper than the equivalent standard datapak.

The full range of Bulk Paks now available is:

1001 0022 16k Bulk Datapak (50 off)  
1001 0023 32k Bulk Datapak (50 off)  
1001 0074 64k Bulk Datapak (50 off)  
1001 0072 64k Bulk OTP pak (50 off)\*  
1001 0073 128k Bulk Datapak (50 off)\*

\* new items.

Prices for Bulk Datapaks and OTP paks are available from Psion.

The Psion Games Pak is now available, priced £29.95

The new Spell Checker/Thesaurus (which is fully accessible from OPL!) will be available in April/May, priced £49.95

## Cubsoft Products

**XBASE:** There is an intermittent bug which can cause an LZ to crash. The problem occurs if the LZ is allowed to switch itself off while using the DATA command. The fault was due to an omission from the Psion LZ Technical Manual. For a nominal charge of £3, Cubsoft will upgrade any XBASE 2.0, 2.1, or 2.2 paks to Version 2.3, which fixes this bug. Alternatively, XBASE 3.0 (includes interchange of data with DBASE, LOTUS, etc.) is available at an upgrade cost of £10. XBASE Version 1.1 can be upgraded to Version 3.0 for £20.

**FNKEY:** Version 3.0 contains bugs which may crash any Organiser. Please return all 3.0 paks for a free upgrade to 3.1. FNKEY Version 2.0 etc., can be upgraded to Version 3.1 for £20.

Mike Leigh apologises for any inconvenience caused to users of his products.  
Cubsoft are on (061) 792 2871

## Widget/Terrace Products

There are two new versions of Nick Frank's excellent Scientific Calculator, RESULT.

Named respectively 2L (two-line) and 4L (four-line), the new versions are written specifically for the XP/CM or the LZs.

Enhancements to the original program are:

1. New PRINTER option for adding to a printer, or printing out the calculator memories.
2. Scroll back and edit feature permits the review and correction of the calculation, up to 100 steps on the LZ or 52 steps on the two-line version.
3. A screen prompt may be specified for display at the start of a calculation. This facility is intended for use when the program is called from one of the user's own programs.
4. Improved handling of calculator memories.
5. Analyzing feature which permits each entry in the calculation to be "coded" to one of the calculator memories (version 4L only)
6. Updating CLOCK permanently displayed (version 4L only).

The program now has an extensive 31 page manual. The 2L version has a special version for the CM model which uses less memory in RAM. Upgrades from previous versions are available to either the 2L or 4L by returning the original pak, with £19.95 to cover the cost.

RESULT is available from either:  
Widget Software (Tel: 0438 815444)  
or Terrace Software (Tel: 0532 340143)

## Multi-Coloured Pak Shells

Pak shells (the outer casings of both DATAPAKS and RAMPAKS) have been available for some time in colours other than the boring old Psion GREY. The only problem for the small-time user is that they are not sold in singles, or even small quantities. One of our members has bought a quantity of coloured shells and you can get them from him at £1 each (incl postage & packing). Anyone interested should phone:

Neil Draycott on Derby 880663 (evenings)

# Feedback

## Kirsta Replies

After the letter from GRAHAM FOSTER in the January issue, the following reply has been received from KIRSTA, the suppliers of KPROG (who apologise for the length on the grounds that it always takes longer to answer a question than to ask one).

a) Octal and Binary: Although Octal can be used in C, it is never necessary - I use "0x0" for hex constants instead. I have never had occasion to perform arithmetic on characters, in Octal or otherwise.

Binary is indeed useful for programming device registers, but as a long time device driver writer, I find little need to manipulate these values - although a binary to hex conversion might perhaps be useful to save my usual habit of writing strings of "0" and "1"s!

b) Contrary to Graham's statement, you *can* use defined keys and macros on the same key. Press shift+MODE to get the macro, shift+left arrow to get the defined key.

Perhaps a little background may be useful here. If you look closely at the Organiser keyboard, you will find exactly four unused key strokes (other than long, fiddly, multi-key sequences). These are SHIFT with MODE, SPACE, left and right arrows.

On the original KPROG we used shift with left and right arrows to invoke user defined keys and macros respectively. Then the LZ came along. Shift+right arrow cannot be used on this, as it is pre-empted by the built-in software for accented characters. (If you are bored sometime, it can be amusing to see this in action. Try putting your Organiser into French, using the "Lang" option of the Utils menu, then pressing SHIFT+right arrow, followed by an A, in (say) "Rech", which is the French version of FIND. To get back to English, the main menu option you need is "Outils", followed by "Langue". Beware that switching languages will cause your customised main menu to be lost and you will have to set it all up again - unless of course you have saved it using KPROG!).

Anyway, on the LZ we had to find a new key for the macros. We selected shift+MODE, and left user defined keys on shift+left arrow. This is all well and good, until you use the Psion printer. This takes over two more of the "spare" keys. It uses shift+left arrow to do a "print screen" and shift+SPACE to feed paper. Therefore when an LZ is in the printer the only unused short key stroke is shift+MODE. Rather than introducing longer key sequences, which defeat the whole purpose, we decided to stick with shift+MODE, and apply the following rule: If a macro is defined you get that, as before. If there is no macro you get the user defined key instead. Of course, with no printer fitted shift+left arrow will always get you the user defined key, as before.

c) Macros in the program/notepad editor. This problem cropped up with the introduction of the LZ, and is actively being investigated. The problem is that, in the editor, (and in some other places) the LZ models flush the type-ahead buffer. You can see this happening if you edit a big program, and start inserting characters at the start. It is not difficult to type more quickly than the Organiser can insert the characters. In this state the Organiser simply loses the characters typed ahead. When "replaying" a macro KPROG "types" much more quickly than a human can, and hits the same problem.

d) There is not utility called "Tips", so I do not understand this reference. Under separate cover Graham has written to KIRSTA expressing similar sentiments about "Link", so perhaps this is what he means. I would strongly defend "Link" as a programmer's utility, as it allows the transfer of files which the usual Comms-link menu does not handle. This means I can write and edit OPL programs on the PC, and translate them using Psion's OPLTRAN program from the Developer Package (recommended). I can then, using KPROG and Psion's CL program on the PC, transfer the translated programs to the Organiser and try them out. This is much faster than transferring the OPL source and translating on the Organiser. It also allow me to write programs which the Organiser will not translate, such as those with control characters in strings (to save a few bytes compared to the use of CHR\$). As an Organiser programmer, this is the KPROG utility I use more often than any other - hardly a waste of ROM space!

e) "ERRORS" is used less often, but still has its place. The scenario at my desk usually goes like this: "Now, I'll use "TRAP" on this OPEN so that if anything goes wrong I can take some corrective action. What errors should I check? Well, 'NO PACK' and 'File not found' seem the most likely. All I need to do is compare ERR with the error numbers for those. I'll just look up the error numbers in the programming manual. Where is that programming manual? I had it here the other day . . . or did I leave it somewhere . . .". Moral: I often lose the manual, but *never* lose my Organiser. Since the Organiser is meant to be about information, what better use for it than information which I, as a programmer, will need? Even better, the "Errors" utility takes less than 1.5% of the pak space, and nicely fills in a "hole" in one of the machine code overlays which would otherwise be waste space.

I hope this answers Graham's questions!

Yours sincerely

John Morris

# Beginner's Section - 1

by Mike O'Regan

## Numeric Variables

Last month we had a look at some of the things which can be done with STRING VARIABLES. This month we will move on to NUMERIC VARIABLES, which are just as flexible as String ones.

I already mentioned that there are TWO types of numeric variables, INTEGER and FLOATING POINT. Without going into too much detail about the reason for these two, let me just say that Integer Variables handle INTEGERS, that is whole numbers without a decimal point and with no decimal fraction part. In OPL integer variables are marked with a % sign to distinguish them from floating point variables, thus "num%" is an integer variable and "num" is a floating point variable. Suffice it to say that integer variables are used by OPL in a slightly quicker way than floating point variables. They also take up less memory space. So the rule to remember is that it is best to use an integer variable where it will do the job.

Another point to remember is that the Organiser can only handle integer variables if they are in a certain range, namely -32768 to +32767. Any integer outside these limits will either be treated as a floating point number or rejected as being outside the range. There is a longer explanation of this on Page 85 of the XP/CM Handbook or Section 2-3 of the LZ Programming Manual.

One thing which confuses many people about variables is that it is possible in OPL to have an expression such as: num=num+1. Now if this is taken as an arithmetical expression it makes nonsense - in other words "num" cannot equal "num+1".

The way to get around this difficulty is to think of variables as BOXES. When we declare a numeric variable, we create an empty "box" with a label on the outside which reminds us what the contents will be called when we actually put something in the box. If a numeric variable "box" is empty it contains a zero (0) just to remind us. To put something in this box we simply say: num=10 (assuming our box is labeled "num"). The variable (box) now contains 10. If we now say: num=num+10 we mean "take out whatever is in the box marked "num", add 10 to it and pop it back in the box. If the box already had 10 in, it now has 20. The name is the same - just the quantity has changed. Of course if we had said: num=num-10 then the box would now be empty (containing 10-10 or 0).

There is another thing which is rather confusing, until you understand it. When your procedure contains a declaration, each time you run it the box is effectively

emptied. Let me illustrate this with a short OPL procedure:

```
numtry:
LOCAL num
PRINT "Num =",
PRINT num
GET
num=10
PRINT "Num now =",
PRINT num
GET
```

If you enter this procedure, TRANS, and RUN it you will see the line: "Num = 0". Press any key and you will see "Num now = 10". If you press any key and RUN the procedure again you will get exactly the same output - "num" will be 0 again and the 10 has disappeared. This is an important point. It means that every time you run the procedure ALL variables declared in the line starting LOCAL ... (or GLOBAL...) are set to zero. String variables are also zeroed and contain NOTHING - called a "null-string".

It also means that, if you want to retain the contents of a variable (box) so that you can recall this when you run the procedure again, you must "store" it somewhere else. There are two ways of doing this, either using the CALC memories (for numeric data) or creating a FILE and saving the values (either numeric or string) as records. We will look at these two options in a later article.

I will now write a short OPL procedure which illustrates the use of both INTEGER and FLOATING POINT variables (and has a practical application).

I use the procedure myself for preparing IPSO's banking. When I have entered all cheques, postal orders, etc. I use the procedure to produce a total and a cheque count. I have entered the "normal" cheque totals of 14, 16, and 24 to handle UK, European, and World subscriptions and left another option - Other - to handle other amounts.

Some points to notice are:

1. The procedure is not very "elegant" - there are many IDENTICAL lines. In a later article I will show you how to avoid such repetition. The main thing is that the procedure does the job it was written for.

2. The variables "pone" and "value" are used over and over again, and each time they are used the "box" is first emptied and then has a new value input. The variables "ptwo" and "total%" DO NOT

## Beginner's Section - 2

by Mike O'Regan

EMPTY until the procedure is finished. They are used to keep the totals of both cash and the number of cheques.

3. Because I have used a DO UNTIL LOOP the procedure will keep displaying the choice menu until you select Option 4 - Total. It then comes out of the loop and shows the cash total and number of cheques. The final GET simply holds this information on the display until you have read it and then press any key.

4. I have included this simple loop without much explanation. In the next article, we will examine LOOPS and Conditional Jumps..

```
payin:
LOCAL opt%,total%,value,pone,ptwo
DO
  opt%=MENU("14,16,24,Other,Total")
IF opt%=1
PRINT "14s:",
INPUT pone
total%=total%+pone
ptwo=ptwo+(pone*14)
ELSEIF opt%=2
PRINT "16s:",
INPUT pone
total%=total%+pone
ptwo=ptwo+(pone*16)
ELSEIF opt%=3
PRINT "24s:",
INPUT pone
total%=total%+pone
ptwo=ptwo+(pone*24)
ELSEIF opt%=4
PRINT "Value",
INPUT value
PRINT "Number",
INPUT pone
total%=total%+pone
ptwo=ptwo+(pone*value)
ENDIF
UNTIL opt%>4
PRINT "Total =",FIX$(ptwo,2,8)
PRINT "No. of cheques:",total%
GET
```

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### *Contacts Wanted*

Any member with experience of using the Organiser for TIME STUDY and ACTIVITY SAMPLING or perhaps willing to share in the development of such applications should contact:

John Vile on 021 472 8501

A member who is a student of Electronic Engineering would welcome contact with any member in the Bolton/Manchester area. Anyone interested should phone :

Ian Beeby on 0204 309755

# Progs & Procs - 1

Since I published the procedures `decdeg:` and `degdec:` (on page 75 as part of John Sikora's Battery Check program) I have had numerous requests for a short routine which will allow these procedures to be used for general conversion of Hours/Degrees, Minutes, and Seconds to Decimal Hours/Degrees and vice-versa. The following procedure will allow this. Please note that both `decdeg:` and `degdec:` are required for the program to run.

```
timcon:
GLOBAL m%,h%,s%,x,o%
DO
o%=MENU("Dec-DMS,DMS-Dec,Quit")
IF o%=1 PRINT "Decimal degs:",
INPUT x decdeg:
PRINT x,"=",h%;";";m%;";";s%
GET
ELSEIF o%=2
PRINT "Degs",
INPUT h%
PRINT "Mins",
INPUT m%
PRINT "Secs",
INPUT s%
degdec:
PRINT h%;";";m%;";";s%,"=",FIX$(x,4,7)
GET
ENDIF
UNTIL o%>2
```

## Main Menu Utility

by Neil Draycott

Those who have seen the Main Menu display on the LZ, but own an XP or CM may like to have a similar display on their machines - with options shown in Upper and Lower case. The following procedure will do this. All standard menu options will appear in Upper and Lower case and any OPL additions of your own will stay in CAPS.

```
lowmem:
LOCAL a%,b%,c%,d$(16)
b%=PEEKW($2002)
c%=$1839
WHILE PEEKB(b%)
d$=USR$(ADDR(c%),b%)
IF PEEKB(b%+LEN(d$)+2)>0 REM LINE 6
[d$=LEFT$(d$,1)+LOWER$(RIGHT$(d$,LEN(d$)-1)] REM LINE 7 ]
a%=1
WHILE a%<=LEN(d$)
POKEB b%+a%,ASC(MID$(d$,a%,1))
a%=a%+1
ENDWH
ENDIF REM LINE 13
```

```
b%=b%+PEEKB(b%)+3
ENDWH
REM d$=UPPER$(d$) <-----
REM To reduce all names to lower case leave out
lines 6 and 13 REM To restore the menu leave out
lines 6 and 13 and substitute the REM arrowed
line for line 7 ( un-REMed of course! ).
```

## Findw and Search

by A.R.P. Spencer

Since reading the review of the LZ Organiser in IPSO FACTO (Vol 3 p.18 et seq), I have been wondering whether it was possible to write OPL procedures for the XP to emulate some of the new LZ functions. The new function which most caught my eye was the `FINDW` function, using wild cards.

The listing `FINDW:` below emulates the LZ function on the XP. True it is a little greedy on RAM memory - but it cannot be helped. The procedure is used exactly as an LZ programmer would use `FINDW`, except for the addition of the colon - i.e. for the LZ, the function is `FINDW(clue string)` whereas for the XP the call is `FINDW:(clue string)`. For those who are not aware of what `FINDW` does, it is possible to find records in a file much the same as `FIND` but where the clue string can have wild cards (a "+" to represent a single wild card character, and a "\*" to represent a wild card phrase of zero to 255 characters length).

```
FINDW:(strg$)
LOCAL b$(255),c$(255),r$(255)
LOCAL a%,p%,l%,f,o%,c%,resflg%
LOCAL m%,minorst%,minrmst%
o%=POS
IF strg$=""
GOTO ret::
ENDIF
a::
b$=strg$
d::
IF ASC(RIGHT$(b$,1))=42
b$=LEFT$(b$,LEN(b$)-1)
GOTO d::
ENDIF
GOTO a::
ENDIF
IF LEN(c$)>0 :GOTO b::
ELSE GOTO c::
ENDIF
ret::
POSITION(o%) :f=0 :RETURN f
(continued on next page)
```

## Progs & Procs - 2

(continued from previous page)

```

e::
IF ASC(LEFT$(b$,1))=42
b$=RIGHT$(b$,LEN(b$)-1)
GOTO e::
ENDIF
c%=1 :m%=LEN(b$)
WHILE c%<=LEN(b$)
IF ASC(MID$(b$,c%,1))=42
m%=m%-1
ENDIF
c%=c%+1
ENDWH
minorst%=m%
m%=0
l%=0
st::
IF ASC(b$)=42 OR ASC(b$)=43
IF ASC(b$)=43
l%=l%+1
ENDIF
b$=RIGHT$(b$,LEN(b$)-1)
GOTO st::
ENDIF
c%=1
c$=""
WHILE c%<=LEN(b$)
IF [ASC(MID$(b$,c%,1))=43 OR
ASC(MID$(b$,c%,1))=42 ]
BREAK
ELSE
c$=c$+MID$(b$,c%,1)
ENDIF
c%=c%+1
ENDWH
b$=RIGHT$(b$,LEN(b$)-LEN(c$))
f::
IF ASC(LEFT$(b$,1))=42
b$=RIGHT$(b$,LEN(b$)-1)
GOTO f::
ENDIF
c%=1 :m%=LEN(b$)
WHILE c%<=LEN(b$)
IF ASC(MID$(b$,c%,1))=42
m%=m%-1
ENDIF
c%=c%+1
ENDWH
minrmst%=m%
m%=0
IF LEN(r$)>=l%+LEN(c$)+minrmst%
r$=RIGHT$(r$,LEN(r$)-l%)
IF l%>0
p%=LOC(r$,c$)
IF p%>1
IF LEN(r$)>=minorst%
resflg%=1
ELSE
POSITION(f+1)
ENDIF
GOTO a::
ENDIF
ENDIF
l%=0
ELSE

```

```

ENDIF
c::
IF LEN(b$)=0
POSITION(f)
RETURN f
ENDIF
r$=RIGHT$(r$,LEN(r$)-p%-LEN(c$)+1)
l%=0
st1::
IF ASC(b$)=42 OR ASC(b$)=43
IF ASC(b$)=43
l%=l%+1
ENDIF
b$=RIGHT$(b$,LEN(b$)-1)
GOTO st1::
ENDIF
c%=1
c$=""
WHILE c%<=LEN(b$)
[IF ASC(MID$(b$,c%,1))=43 OR
ASC(MID$(b$,c%,1))=42 ]
BREAK
ELSE
c$=c$+MID$(b$,c%,1)
ENDIF
c%=c%+1
ENDWH
b$=RIGHT$(b$,LEN(b$)-LEN(c$))
f::
IF ASC(LEFT$(b$,1))=42
b$=RIGHT$(b$,LEN(b$)-1)
GOTO f::
ENDIF
c%=1 :m%=LEN(b$)
WHILE c%<=LEN(b$)
IF ASC(MID$(b$,c%,1))=42
m%=m%-1
ENDIF
c%=c%+1
ENDWH
minrmst%=m%
m%=0
IF LEN(r$)>=l%+LEN(c$)+minrmst%
r$=RIGHT$(r$,LEN(r$)-l%)
IF l%>0
p%=LOC(r$,c$)
IF p%>1
IF LEN(r$)>=minorst%
resflg%=1
ELSE
POSITION(f+1)
ENDIF
GOTO a::
ENDIF
ENDIF
l%=0
ELSE

```

## Progs & Procs - 3

### POSITION(f+1)

In IPSO FACTO of November '89, I noticed the SEARCH routine for the LZ which prompted me to see it could be emulated on the XP. The SEARCH: listing below whilst not exactly emulating the published LZ procedure, does roughly the same thing on the XP. After inputting the filename to be searched (the filename must be in the full format <Device : filename> you are prompted to input the clue/search string. As each character is entered (you can use the "+" and "\*" wildcards), line 2 displays/scrolls the record holding the current clue string. The key presses allowed after the first character has been input are:

<ON/CLEAR> - quits the procedure (this at any time)  
 <EXE> - displays the record found  
 <DOWN CURSOR> - displays the next record containing the current clue string (if any)  
 <UP CURSOR> - displays the previous record containing the current clue string (if any)  
 <LEFT/RIGHT> - stops/starts/reverses the scrolling, i.e the VIEW keypresses  
 <DEL> - deletes the last character of the clue string and restarts the search.

### search:

```

LOCAL s$(20),f%,k%,m%,p%,n%,f$(10),r$(255),a%
aa::
PRINT "File name:"
INPUT f$
IF f$=""
    RETURN
ENDIF
IF NOT EXIST (f$)
    CLS
    AT 1,1
    PRINT f$
    AT 1,2
    PRINT "does not exist"
    GET
    CLS
    GOTO aa::
ENDIF
OPEN f$,a,a$
KSTAT 1
s$=""
CLS
b::
FIRST
a::
AT 1,1
PRINT "Clue:"+s$+REPT$(" ",11-LEN(s$))
IF LEN(s$)>0
    AT 1,2
    PRINT "wait... ";
    f%=FINDW:(s$)
    IF f%>0

```

### POSITION(f%)

```

a%=$1839
[r$=USR$(ADDR(a%),PEEKW($2016+2*PEEK(B
$b1)))]
k%=VIEW(2,r$)
ELSE
    AT 1,2
    k%=VIEW(2,"no more match")
ENDIF
ELSE
    k%=GET
ENDIF
IF k%>31
    s$=s$+CHR$(k%)
ELSEIF k%=8
    IF LEN(s$)>0
        s$=LEFT$(s$,LEN(s$)-1)
        GOTO b::
    ENDIF
ELSEIF k%=4
    AT 1,2
    PRINT "wait... ";
    IF LEN(s$)>0
        f%=f%+1
        POSITION(f%)
    ENDIF
ELSEIF k%=1
    CLOSE
    RETURN
ELSEIF k%=3
    AT 1,2
    PRINT "wait... ";
    IF LEN(s$)>0
        n%=f%
        m%=0
        FIRST
        d::
        f%=FINDW:(s$)
        IF f%<n%
            m%=f%
            POSITION(m%+1)
            GOTO d::
        ELSEIF f%=n%
            IF m%>0
                POSITION(m%)
            ELSE
                POSITION(n%)
            ENDIF
        ENDIF
    ENDIF
ELSEIF k%=13
    IF f%>0 :k%=VIEW(2,"Record:"+GEN$(f%,-3))
    ENDIF
    f%=0 :s$="" :CLS
    GOTO b::
ENDIF
GOTO a::

```