Editorial

It seems fitting that this first editorial of Volume II should be written, as many of the previous ones, on the Organiser itself. Word-processing is, perhaps, a little used aspect of the Organiser, but I find it increasingly useful to be able to write text when and where I please. AUTOSCRIBE has been sold in South Africa and Sweden among other places.

I would like to welcome our new subscribers for whom this is the first newsletter. I hope I shall hear from many of you, with contributions. This month sees our first members from New Zealand, Oman, and Spain (where the Organiser is causing a minor sensation, according to my correspondent). I have received a review copy of Psion's new FORMULATOR and will be reviewing this shortly.

Finally may I remind all members, but especially those who have just joined, that IPSO is YOUR group and IPSO FACTO is YOUR newsletter The existence of both relies on your support, in the form of material for the newsletter, if only in the form of a problem you need help with.

Contents

```
================================================================================
=                    BEGINNER,S PAGE        MIKE NASH                          =
=                                   01-671 8644  (SUNDAY MORNING ONLY )         =
= SAE If you require a reply        6 HAZLEMERE COURT,                          =
though I will prefer to               26 PALACE ROAD                            =
= answer through the column        LONDON SW2 3NH                               =
= if possible .                                                                =
================================================================================
```

 What is a beginner ?

someone who doesn't know ON-CLEAR from EXE,   or
someone who can handle the PSION'S built-in features, quite well but has never
programmed before ?
 I hope that you the PSION-USERS will in the future provide the level
for this series of articles by your letters and phone calls .
  However just to start us off, some answers to questions which I had to
ask myself when I bought my PSION .
                          *   *
(1) BATTERIES GOING FLAT.
 This is usually due to SAVING to DATAPAKS ,which is probably the most
power-hungry process of the ORGANIZER . There are a number of solutions.
 All of them will cost you money, but will be cheaper in the long run than
continually replacing normal batteries :
  Buy a PSION mains adaptor .
  BUY a battery-charger and two rechargeable batteries.
  Buy a RAMPACK which has its own five-year battery.
 I use all of the above and would recommend the battery-charger as a first
step, with the RAM-PACK as being the next most worthy of consideration.
Remember that the RAM-PACK'S memory can be erased and reused just like the
ORGANIZER'S main memory ,without the trouble and expense of FORMATTING
DATAPAKS.
 The power consumption for SAVE to a RAMPACK is no more than for a SAVE to
the main memory of the ORGANIZER
(2) BOOKS ON THE ORGANIZER.
 There are two versions of the ORGANIZER manual which differ only in the
sample programs provided. PSION should be able to supply you with the old
one for 4.50 . A better bet is the "USING AND PROGRAMMING THE PSION
ORGANIZER " by MIKE SHAW (KUMA PRESS 9.95)
(3) Finally a little procedure to give beginners an idea of the hidden
contents of the PSION,S memory :-
  Choose the PROG option from the main menu,then NEW, and enter "princhar"
at the NEW prompt and press EXE. This is the name of the procedure that you
must now carefully type in.
When you have finished press MODE,then select TRAN, then SAVE. If there
are no ERROR messages, you can RUN the procedure. It will enable you to step
through the ORGANIZER character set by pressing any key. The number displayed is
the ASC11 computer code for the character shown.
     N.B. REMS ARE FOR INFO ONLY .DON,T KEY THEM IN.
```
PRINCHAR:                       REM leave out the ,:,
LOCAL n                         REM declares integer variable
n=32                            REM assigns variable start value
DO                              REM start of "DO-UNTIL " loop
n=n+1                           REM increments value of character code
PRINT "CHAR"+NUM$(n,3)+" "+CHR$(n)      REM  displays code and character
GET                             REM try leaving this one out
UNTIL n=255
PRINT " END"
GET
```

DAVID CHASTNEY-PARR (LETCHWORTH) has completed the mammoth task of transferring the Organiser Technical Reference Manual to Commodore format (4040 and 1541 format disk drives). Anyone with Commodore equipment who is interested should contact David on 0462 672993.

NICK FRANK (NEW-ZEALAND) has produced an extended calculator program to supplement or replace the CALC function, called RESULT. It offers a number of extra features not found on ordinary calculators which take advantage of the Organiser's computer power. For example, your can "backtrack" to view, and if necessary, correct the immediately preceding calculation step. You can also retrieve a calculation after your have cleared it, or return to a calculation after you have left it to use your Organiser for something else. You can also run your own programs from RESULT. I hope to have a copy of this program to fully review in a future issue. Anyone interested should contact:

> Nick Frank
> c/o Coopers & Lybrand
> PO Box 243
> WELLINGTON
> New Zealand

KEVIN DOHERTY (N.IRELAND) has 20 Model LA (32k XP) Organisers FOR SALE, as a result of a changed specification on a package he has produced (which now uses the POS Model). These Organisers are brand new and untouched, except for a three character serial number engraved on the back of the unit, and are offered to IPSO Members only at a cost of £115 each (incl VAT). Any member wishing to avail themselves of this offer should contact:

> Kevin Doherty
> 5 Northland Road
> Londonderry
> N.Ireland
> BT48 7HX   Tel. (0504) 363168

MIKE LEIGH (CUBSOFT) informs me that the final version of FNKEYS is now complete. Existing users will be hearing from Mike direct. FNKEYS will be on show (and available) at IPSOMEET.

IAIN McGILL has modified his MAINS ADAPTER by adding a Toggle Switch and LED to indicate that the unit is working properly. One or two members have had problems with Mains Adaptors - Iain says this should be a good safeguard against losing data because of a failed adaptor. Details of the modification, which Iain assures me is a simple job, are available from:

> Iain McGill
> 6 Swallow Close
> Milford
> Godalming
> Surrey GU8 5DJ   Tel. (04868) 20945

ANDY PORTER would like to know if anyone has produced a program to convert between Julian and normal dates, with 01.01.1970 being Julian date 0001. He would also like to contact anyone who has successfully linked and Organiser and Atari ST. Anyone who can answer either of these queries should contact:

Andy Porter
40 Churchbury Road
Eltham
London SE9 5HY   Tel. (01) 859 3798

Q.   LEE CRABTREE asks (and so have one or two other members) what happens to the Organiser Diary Function after 1999?

A.   If your trusty Organiser II is still functioning at the turn of the century, I am sure that Psion will offer to upgrade your ROM for another 100 years of operation. It is much more likely that you will have changed your Organiser for a Model III (IV, V, VI etc) long before the date arrives.

ALEC R. REED (MALAYSIA) has managed to make his Organiser "talk" to his BROTHER EP44, but not yet managed to pass files and procedures typed on the EP44 to be passed to the Organiser. Can anyone help? Replies to:

        Alec R. Reed
        PO Box 1045
        Miri 98008
        Sarawak
        MALAYSIA

STEPHEN FASS asks what ever happened to my promised reviews of EIDERSOFT NUMBASE and NUMBASE II. The answer is that, after several attempts to write the review of NUMBASE, I was obliged to admit that I could not do the package justice, with my "junior mixed infants" level of maths. I therefore ask any member who owns either of these two packages (and fully understands them) if they would consider writing a review of it for IPSO FACTO. Stephen also reminds us that the EPSON P40 and P80 printers are particularly good for use with the Organiser. The P40 is only 8" x 5" x 1.1/2", operates almost silently from a rechargeable accumulator and couples to the Organiser very well through the Comms Link (and a simple adaptor). P40s are available at the moment at about £45

Q.   DAVID E WRIGHT would like to know if the SAVE function (available for writing to MAIN from the top-level menu) can be used, with its facility for entering up to 16 fields by using the down arrow key, in an OPL program.

A.   The quick answer is NO. However, there are two other possible solutions. First you could write your own OPL program, which would allow prompts for each field. The second solution is to use the WIDGET PAK. (see elsewhere in this issue).

MARTIN BINA (SWITZERLAND) tells us he has found a bug in Psion's POCKET SPREADSHEET. It concerns the function NPV (net present value), which Martin says NEVER RETURNS THE RIGHT RESULT. As a student of Economics, he has checked this with THREE INDEPENDENT SOURCES, an Economics handbook, Psion's FINANCE PAK, and SUPERCALC 3 (a well-known desktop program). These three always gave the same result, but the Pocket Spreadsheet never produced a correct result. He has informed Psion, but, after 2 letters, has heard nothing in acknowlegement.

BFP from XOB

BPF is a suite of softwarer designed to transfer OPL listings from a BBC Model B or Master to the Organiser and vice-versa using the RS 232 link. The disk supplied is a standard 5.1/4" floppy either 40 or 80 track, and is booted by the normal SHIFT/BREAK. A menu is then displayed with give four choices:

SENDOPL PSIGET FILTER SETUP

The first option will, as its name suggests, send an ASCII file from the Beeb to the Organiser. The file length is displayed on the screen and this number counts down to zero when complete. The default speed is 9600 baud, but this can be changed by altering som *FX parameters in the programs (all of which are in BASIC)

The second option, PSIGET does the reverse, i.e. a file sent from the Organiser will be stored on the BBC disk. A local file name is asked for.

The third option removes control characters from a file before transmission. This is useful if any procedures were written using WORDWISE or VIEW.

The last option is just a page of information on the Psion setups for correct transfer, i.e. baud, parity, start/stop bits etc.

The software is very simple to use and is an effective way of transferring files prepared on a word-processor to the Organiser.

Available from: XOB   Price £8 (plus VAT & p&p)
                       Balkeerie
                       Eassie by Forfar
                       Angus
                       DD8 1SR   Tel (0307) 84364

WIDGET PAK

Since I first reviewed the Widget Programs (Vol.I, No 2) member MARK NEEDHAM has revised, updated and improved his programs, combining them on one pak. The lastest version offers just about every facility for those who want a ready-made database suite, offering advanced features like Alpha sort on a choice of field, printouts in various formats, (including labels), selected copying of parts of a database, sophisticated FIND on multiple fields, full editing, etc. In addition, fields can now be NAMED and will prompt with the name during data entry. Widget are offering an update service to those who bought the previous versions and will be demonstrating and selling the product at IPSOMEET. I will be doing an in-depth review of the Widget Pak in a future issue.

Programs & Procedures

Adrian Pegg's original NOTEPAD generated considerable interest among the members, so when Adrian spent a lot of time and effort to improve his program I have no option but to publish this very useful utility

Adrians Notes:

ADD   adds a new record to the database. Every entry is automatically date-stamped for future reference. Ten lines are available for each entry - each terminated with EXE. Entering a single letter which has been defined as a keyword replaces that single letter with the appropriate word (or phrase). Three symbols have been re-defined - semi-colon translates to a question mark, double-quote (") as apostrophe (') and dollar ($) as pound (£). Press EXE again to finish adding to the record, which may be up to 254 characters long in total.

FIND   Finds a previously ADDed record. Search can be for text, figures, or a keyword. Entering the letter representing the keyword required initiates the search. There are four options when a record has been found:

        1.   Pressing MODE provides the option to EDIT it. Responding Y means that EXE needs to be pressed for each line, before or after editing, to the end of the record. Pressing ON/CLEAR at this point clears the line. Keywords are again available, but only a single letter at the beginning of a blank line will produce them. New lines cannot be added at the end of a record.

        2.   Pressing DEL provides the option to DELETE it. Responding Y will delete the record and continue the search

        3.   Pressing EXE will continue the search

        4.   Pressing ON/CLEAR will return to the menu

LIST   steps throught the records in their current order, by pressing any key except ON/CLEAR, which returns to the menu. EDITing and DELeting are available as above. Remember though that an EDITed record is appended to the END of the datbase, and LISTing will therefore terminate after an EDIT.

MEMO   provides an instant way of paging through all records containing the keyword <Memo> (note the < and >)

INFO   gives you the number of records in the database.

OFF   switches the Organiser off - ON/CLEAR will then return immediately to the NOTEPAD menu. (Clever stuff - Ed.)

        Although the program will work perfectly without it, seven additional keywords may be added (the days of the week), by running the program CREATE, and entering a day of the week at each prompt. When this has been done, entering the single letter "d" while adding or finding a record, then using the up/down cursor keys and EXE will enable any day of the week to be returned as a keyword.

BLUDNERS
        There was a tiny omission in Ernie Bokkelkamp's PIN prog.(vol 1, page 76) Line 21 should read: ELSEIF c%>=%0 AND c%<=%9. Leave out the ONERR (line 3) and the ONERR OFF (last line but two) if it makes you feel more comfortable.

```
notepad:
global opt%,c%,i%,p%,in$(255),g$(1),k$(1)
if not exist ("a:pad")
create "a:pad",A,d$,a1$,a2$,a3$,a4$,a5$,a6$,a7$,a8$,a9$,a10$
else open"a:pad",A,d$,a1$,a2$,a3$,a4$,a5$,a6$,a7$,a8$,a9$,a10$
endif
onerr error::
start::
cls
opt%=menu("FIND,ADD,LIST,MEMO,INFO,OFF")
if opt%=0
close
return
elseif opt%=5
print"   Note pad"
at 4,2 :last :print pos;" RECORDS"
get :first
goto start::
elseif opt%=6
off
goto start::
elseif opt%=3
in$=""
goto memo::
elseif opt%=4
in$="<Memo>"
goto memo::
elseif opt%=1
cls
print"FIND N:";
input in$
if in$=""
goto start::
else keywd:
cls
endif
memo::
first
do
if find(in$)
c%=disp(-1,"")
REM *End Search*
if c%=1
goto start::
endif
REM *Delete*
if c%=8
cls
print "DELETE Y/N";
g$=lower$(chr$(view(2,a.a1$)))
if g$="y"
erase : back
endif
REM *Edit*
elseif c%=2
cls
print"Edit Y/N:";
g$=lower$(chr$(view(2,a.a1$)))
if g$="y" :p%=pos :at 1,1
edit a.d$
edit a.a1$
in$=a.a1$ :keywd: :a.a1$=in$
if a.a2$<>""
edit a.a2$
in$=a.a2$ :keywd: :a.a2$=in$
```

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```
endif
if a.a3$<>""
edit a.a3$
in$=a.a3$ :keywd: :a.a3$=in$
endif
if a.a4$<>""
edit a.a4$
in$=a.a4$ :keywd: :a.a4$=in$
endif
if a.a5$<>""
edit a.a5$
in$=a.a5$ :keywd: :a.a5$=in$
endif
if a.a6$<>""
edit a.a6$
in$=a.a6$ :keywd: :a.a6$=in$
endif
if a.a7$<>""
edit a.a7$
in$=a.a7$ :keywd: :a.a7$=in$
endif
if a.a8$<>""
edit a.a8$
in$=a.a8$ :keywd: :a.a8$=in$
endif
if a.a9$<>""
edit a.a9$
in$=a.a9$ :keywd: :a.a9$=in$
endif
if a.a10$<>""
edit a.a10$
in$=a.a10$ :keywd: :a.a10$=in$
endif
update
endif
if p%<pos-1 :position(p%) :endif
endif
endif
next
until eof
cls : print"SEARCH COMPLETED Press any key"
get$
goto start::
elseif opt%=2
last : next
cls
a.d$=left$(datim$,16)
print"ADD N:";
input in$
if in$=""
back
goto start::
else keywd:
a.a1$=in$
endif
input in$
if in$=""
goto end::
else keywd:
a.a2$=in$
endif
input in$
if in$=""
goto end::
else keywd:
```

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```
a.a3$=in$
endif
input in$
if in$=""
goto end::
else keywd:
a.a4$=in$
endif
input in$
if in$=""
goto end::
else keywd:
a.a5$=in$
endif
input in$
if in$=""
goto end::
else keywd:
a.a6$=in$
endif
input in$
if in$=""
goto end::
else keywd:
a.a7$=in$
endif
input in$
if in$=""
goto end::
else keywd:
a.a8$=in$
endif
input in$
if in$=""
goto end::
else keywd:
a.a9$=in$
endif
input in$
keywd:
a.a10$=in$
end::
append
endif
goto start::
return
error::
cls : print" *** ERROR ***"
if err=198
view (2,"Too many characters .... Please re-enter ....")
else print err$(err) : get
endif
goto start::
```

```
keywd:
local v%
qmark:
if len(in$)>1
goto endd::
endif
k$=lower$(in$)
if k$="d"
if exist("a:day")
cls :print"Set the day..."
open"a:day",B,b1$
first
do
v%=view(2,b.b1$)
if v%=3
if pos>1 :back
else last :endif
elseif v%=4
next
if eof :first :endif
endif
until v%=1 or v%=13
in$=b.b1$
close
endif
elseif k$="c"
in$="Call"
elseif k$="m"
in$="<Memo>"
elseif k$="r"
in$="Reminder"
elseif k$="u"
in$="<URGENT>"
elseif k$="w"
in$="Write to -"
elseif k$="x"
in$="Expenses:"
elseif k$="z"
in$="Mileage -"
endif
endd::
print chr$(14);
if len(in$)>15
print left$(in$,16);
else print in$
endif
return
```

```
create:
local i,b1$(10)
create "a:day",a,b1$
first
i=0
do
i=i+1
cls
print pos
input a.b1$
append
next
until i=7
cls
close
return
```

```
qmark:
local l%,m%,n%
l%=loc(in$,"$")
m%=loc(in$,"""")
n%=loc(in$,";")
if l%<>0
in$=left$(in$,l%-1)+chr$(237)+mid$(in$,l%+1,len(in$))
elseif m%<>0
in$=left$(in$,m%-1)+chr$(39)+mid$(in$,m%+1,len(in$))
elseif n%<>0
in$=left$(in$,n%-1)+chr$(63)+mid$(in$,n%+1,len(in$))
endif
if l%<>0 or m%<>0 or n%<>0 :qmark: :endif
return
```

Editorial

By the time you read this, **IPSOMEET** will be imminent (if not already over). As I write, we are expecting more than 100 members to attend, which is good going at such short notice. Some members who run small businesses which operate on Saturdays have expressed their regrets that they are unable to come along. I am expecting most of the software houses to put in an appearance (and put themselves in the firing line). The only notable exception is **CUBSOFT** (of FNKEYS fame). Although Mike Leigh is unable to attend, I will have the final version of FNKEYS on show, and Mike has agreed to special terms for anyone buying his program at IPSOMEET. Existing customers should have had their final version by now, along with an excellent 86 page handbook and quick reference card. I will be featuring a full review of FNKEYS in a later issue.

Recently, I have been rather overwhelmed by a flurry of phone-calls, some at very peculiar times, so perhaps it is time for a few rules. I am **not available on Friday, Saturday, and Sunday evenings, nor at any time during the daytime (at present)**. I am sure that many of you realise that my long-suffering wife will take messages at practically any time, but would ask that you keep within reasonable limits - I think 11.30 on a Sunday evening is a bit "off-limits". May I also take this opportunity to remind members - especially new ones - that I am not an Organiser expert, so long technical enquiries over the phone are likely to be met with long periods of embarassing silence. However, having said that, if you have any enquiry and can submit this in writing, I can usually find someone who knows the answer. We have had good response to published queries. One last point - IPSO does not provide detailed advice on long OPL routines - I do not have the time, even if I have the information required.

Contents

ORGANISER SOFTWARE FROM HARVESTER INFORMATION SYSTEMS LTD

When Harvester brought out its first software for the Organiser more than a year ago, I approached them about reviewing their programs in IPSO FACTO, but received no reply one way or the other. However, Harvester have now put things right. They recently contacted me and apologised for not replying, and immediately sent me review copies of all their current paks. I have already printed a short review of the Finger Organiser (submitted by a member who had bought the pak). I am currently looking at all the paks with a view to publishing reviews, as I often get asked for my opinion of these very popular items. Here is the first one.

IPSO REVIEW - GAMES ORGANISER from HARVESTER

Judging by the feedback from members, it seems that you either like games on the Organiser or you can't stand them. Harvester have taken a gamble with their Games Organiser, the latest in a string of software offerings.

Like all Harvester programs, Games Organiser is very attractively packed in a colourful box which contains the Games pak and a very witty instruction book, full of cartoons. First impressions are quite good.

Games Organiser consists of two straight games - SMASH and BATTLESHIPS, a "spoof" DECISION MAKER (which I still can't quite understand) and an ORGANISER ORGAN.

SMASH

This is a "space invaders" type of game, which can be played by one or two players. The object is to "hit" the invaders, which appear on the display as either letters, numbers, or a mixture of all the symbols, letters, and numbers on the Organiser keyboard. The game has eight levels which determine the speed at which the "invaders" flit across the display. You can even have two appearing from different directions at the same time. I found this game to be about right for small children (some neighbours kids picked it up quite quickly - but then became bored with the lack of challenge in a very short time). I feel that Harvester could have included some more difficult ways of zapping the aliens.

BATTLESHIPS

I have seen one or two versions of this old chestnut for the Organiser, and, quite frankly, none has really impressed me as being worth the effort of programming. This game is better played in the traditional way, with a couple of pieces of paper and pencils. The opening graphics (of battleships sailing across the screen) were the most impressive feature of this game.

DECISION MAKER

The object of this "game" still eludes me! The game does little except display a large Eye in the centre of the display with various exotic characters (from the Organiser's store of wierd ASCII characters). It doesn't seem to matter what the player's response to the cryptic question is, the result seems to be decided by a random process. Perhaps someone out there has figured this one out!

MUSIC

This section is the best of the Games Organiser offerings. It
contains a simple musical game, on the lines of the well-known SIMON. A
series of notes is played which the player must key in in the right order.
The series then repeats with an additional note added each round until the
player is unable to produce the right sequence, when the game ends and
displays the score. The sound may be switched out if you fancy a crafty
game in the office. The game has eight levels, which adjust the speed.
This is a bit confusing, as I found that the lower levels were more
difficult than the higher ones. It seems that it is easier to remember a
sequence of notes which is played faster than slower.

ORGAN is not really a game at all. It turns the Organiser keyboard
into a small organ, which, quite cleverly covers a range of three octaves,
including sharps and flats. Within a small range it is even possible to
alter the "warble" of the Organiser sound. For some reason, known only to
the programmer, all the sounds are exactly a tone lower than any standard
keyboard i.e. playing in the key of C on the Organiser will produce music
in B-flat. Another section of the Organ allows you to do a "step
recording" of a piece of music, save this as a file, and play it back later
at a range of speeds.
As far as it goes, GAMES ORGANISER is OK, but I would have liked to
have seen some more games (like Simon Webb's excellent Pontoon game - see
IPSO FACTO Vol. I) and maybe a version of Othello, and (would it be too
much to ask) Chess. DECISION MAKER really does nothing for this pak and
appears to be just a space filler.

GAMES ORGANISER comes on a stylish black and gold 32k datapak with a very
full, colourful A5 handbook. It is cleverly sold for £34.95 (the same
price as a blank pak!), so, if you tire of the games, you can erase the pak
and you have lost nothing. All Harvester software is available from all
good Psion dealers or directly from:

Harvester Information Systems Ltd
84-86 Gray's Inn Road
London WC1X 8AE
Tel: 01 831 2331

FOR SALE

A few items here for sale, surplus to requirements:

Organiser II Model CM (still with some warranty left £45
Unused Finance Pak with manual £10
Unused Harvester Letter Organiser with manual £15

Anyone interested should contact
Graeme Fowler on 0734 786939 after 6.30 p.m.

****

I must begin this second article by confessing to an error in the first
one. In the procedure **"princhar:"** I refer to the variable "n" as being an
integer. In fact an integer variable must always be followed by a "%" sign
so that in the procedure "n" should be replaced by "n%" throughout. Also I
have received some response regarding my advice on rechargeable batteries,
to the effect that people have lost all their data due to these batteries
losing their charge rather quickly. I was somewhat puzzled, as I, and many
other users have used these batteries repeatedly (recharged weekly?)
without mishap. I have come to the conclusion that very light users of the
Psion may have a problem because of power wasting below the 5.5 volt
minimum unnoticed, whereas people using the Organiser constantly will get a
LOW BATTERY warning at a higher (and safer) voltage especially if WRITING
to a datapak which requires 21 volts from the capacitor of the Psion! If
anyone has more information on this, please write in.

        Many of you will have noticed how most OPL programs are controlled by
menus. So this month I thought I would provide PROCMEN: as a sample menu
procedure. It will also introduce the IF-ENDIF structure. The REMs should
explain how it works. Now one tip on keying in programs in EDIT mode:
After you have entered PROCMEN: at the NEW: prompt, next key in
IFELSEIFELSEIFELSEIFENDIF as one line, then use the cursor key to go hack
until the cursor is on the 3rd character and press EXE. The result will
be:

                    IF
                    ELSEIFELSEIFELSEIFENDIF

Carry on using th cursor keys and EXE key until the IF-ENDIF structure is
spread over 5 lines. Then insert at the relevant points the contents of
the scructure, opt%=1 etc. Using the small screen of the Organiser, it
nearly always pays to insert the beginning and end of any IF-ENDIF, DO-
UNTIL, WHILE-ENDWH before entering the body of the structure, so that your
loops do not become entangled.

Do not enter REMS

```
PROCMEM:        :REM PROG NAME to be entered at NEW:
GLOBAL opt%     :REM integer variable for MENU (item number)
start::         :REM a label (place marker - works with GOTO)
opt%=MENU("CHARSET,OPT2,OPT3,QUIT") :REM chapter 34 of Manual
IF opt%=1       :REM refers to "CHARSET" in menu
PRINCHAR:       :REM object code for this procedure must be present
ELSEIF opt%=2
CLS
PRINT "NO PROCEDURE YET"
GET
GOTO start::
ELSEIF opt%=3
CLS
PRINT "NO PROCEDURE YET"
GET
GOTO start::
ELSEIF opt%=4
CLS
PRINT "****FINISHED****"
PAUSE 10
ENDIF
```

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THE ORGANISER AS AN INFORMATION RETRIEVER

My use of the Organiser is primarily for the functions of telephone number and address book, diary, calculator, and alarm clock.This is to assist in my job as an Export Sales Manager,(North America) spending weeks away from an office, and needing a comprehensive and rapid information retrieval system. I have written myself a couple of programs - Time Zone, Exchange rate (adapted from the Psion Magazine) and a "mark up/discount" program for my pricing structure, and am still searching for a suitable expenses program to suit my requirements, but my primary usage is, and I believe always will be, information retrieval. In this regard, my requirement is for **rapid** retrieval -I do not wish to spend time hitting the EXE key to scroll through the options, trying to find the telephone number I need.

So, in no particular order of importance, but to redress the balance a little against the "computer buffs" domination of IPSO!, some modifications, and tricks of inputting to FILE MAIN that I have found make information retrieval easier, and which may be of use to others.

1. Remove the COPY mode from the TOP MENU - this allows you to go directly into CALC by hitting the C. Also the RESET for safety! (Told you this was simple stuff!)

2. Telephone numbers: I spend a considerable time "on the road" and find telephone number cross-checking by area code a good method of making sure I call on all my contacts whilst in their vicinity.

In the States telephone numbers are Area code XXX, followed by XXX XXXX., e.g. 201 463 1051. Initially, I inputted just like that and found by interrogating just "FIND 201" I was retrieving, of course, every instance of 201 - not just tel. no.s. So a rapid modification of my SAVE,to "XXX-XXX XXXX" and I now interrogate by "FIND 201-", the dash makes all the difference, and I don't now pull up zip codes, credit card no.s and the like.

The same can of course be used in UK e.g."01 429-0479."

3.I find the retrieval of addresses/telephone numbers easier by putting in unique prompts that speed the process. However, the object is not to tax one's brain remembering the prompts, so it is wise to have a few permutations to ease this e.g.

I often need to call the British Airways Executive Club in London, and similarly in the USA.

I have found it useful to record the info as follows:

```
BA LON
EXEC:01-897 4488
-
-
-
-
-
-
-
-
-
-
-
-
-
-
-
    BA EXEC BA LHR BA RES BRITISH AIRWAYS LONDON
```

So any input of "FIND BA L" "BA EX" "BA LH" "BA LO" etc. pulls up the number I want.

My BA USA number is held uniquely by the input of FIND "BA U" "BA US " "BA USA" etc.

The above is, of course purely an example of hundreds of these inputs for different requirements.

The two simple points I should also make that took me a while to work out are

Firstly,The usefulness of the "SPACE" as an input - e.g. if I just input FIND "BA", my datapak returns currently 57 options, however FIND "BA (space)" returns only 6 options, and of course "BA(space)U" brings up only one. Of course, one can also use the full stop or any other symbol to help, however I personally find the SPACE quicker as I don't need to SHIFT to access the symbol.

2. Why all the "-" inputs? Well I found that I was constantly adding information to my original input. For example, I may wish to add a telex or fax no. , address and names. If in the above example I had put the prompts say on line 3, and then subsequently wished to enter more information I would have been forced to delete (locking up space) or put the information after the prompts which is untidy, and slow to retrieve information, haing to scroll past useless information

I have found the above as the simplest way of getting round the
Organiser's limitation of not being able to add information
and "push" a line down by a WP equivalent carriage return. The
keeping open of the line by the "-", and then deleting it when
I fill the line is I believe economical in space "locking up".
Any other ideas?

3. Finally, for those inputs where you need a rapid retrieval,
but cannot design a suitable unique prompt by use of the
above, the other method I have used is simply by the use of
either people's initials where this can be a unique
combination:

e.g. FIND "GR" brings up 64 responses on my Datapak at present,
but FIND "GRB" only one. Others can, indeed be just a two letter
input if their initials happen to produce an impossible word
combination in the English language: E.G. FIND "TJ"

Alternatively putting prompts based on triple letters has
proved useful e.g. FIND "AAA","CCC" etc. but can fall into the
trap of then having to tax your brain remembering the prompt!

So, a few tips, which are perhaps, fairly obvious , but if known
at the beginning of my Organiser usage would have saved me a
considerable amount of time.

I would be most pleased to hear, either directly, or through
IPSO any other tips from similar users. For example, a mistake
I quite often make is to try "FIND A:" and get an END OF PACK
because I should have inputted "FIND C:". I then have to
ON/CLEAR and input the Prompt again - frustrating. Is there any
way to modify Organiser so I can avoid this i.e. by being able
to change the MODE **after** I've received END OF PACK, Organiser
holding the prompt in memory?

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PROGRAMS & PROCESURES
　　　　This procedure has been requested by many members. Be VERY CAREFUL
when entering the whole of this program, otherwise you may crash your
Organiser. The best plan, as with all machine code routines, is to remove
anything of value in your Organiser INCLUDING datapaks, until you are sure
that the program has been correctly entered.

ASSEMBLY ROUTINE TO WRITE & COPY PROTECT A DATAPAK IN SLOT B
from Kevin Doherty

　　　　The assembly routine to alter the header is contained in the array
a%() and is called by the USR function. By pointing to the first address
in memory of a%(), we give the correct memory location of the routine.

```
PROTECT:
LOCAL in%,d%,a%(23)

REM assembly code to alter pack header
a%(1)=$3F62    :a%(2)=$2521    :a%(3)=$CE00    :a%(4)=$005F
a%(5)=$3F60    :a%(6)=$3F5D    :a%(7)=$C4D7    :a%(8)=$F721
a%(9)=$88CE    :a%(10)=$0000   :a%(11)=$5F3F   :a%(12)=$60CE
a%(13)=$2188   :a%(14)=$CC00   :a%(15)=$013F   :a%(16)=$6125
a%(17)=$08CE   :a%(18)=$0000   :a%(19)=$39CE   :a%(20)=$00F6
a%(21)=$39CE   :a%(22)=$00C0   :a%(23)=$3900


CLS
PRINT "  Insert pak in"
PRINT "     Slot B:"
PAUSE 40
CLS
PRINT " Press EXE to"
PRINT "write to pak"
in%=GET
IF in%=13
        d%=(USR(ADDR(a%()),1))   : REM calls assembly routine. Value 1
                                   passed to PK$SETP
        CLS
        IF d%
                PRINT ERR$(d%)
        ELSE
                CLS
                PRINT "    Pak B: now"
                PRINT "     protected"
        ENDIF
        GET
ENDIF
RETURN
```

TAKE CARE TO ENTER THE VALUES FOR a%() CORRECTLY, OR YOU COULD CRASH YOUR
ORGANISER AND LOSE ALL THE CONTENTS OF RAM.

MACHINE CODE PART IV - by Les Ball

     Now for a quick look at a couple of OPL commands and their use in
machine code. First the USR command. This command allows us to instruct
the Organiser to leave OPL for the time being and run a machine code
routine. We may, if we wish, pass pareameters to this routine and receive
parameters back when the Organiser returns to OPL. For now we will only
consider using this to get us into our routine without passing parameters.
To do this we need to give the command an address to jump to which, let us
suppose, is $4000. Our line of OPL would be: USR($4000,0) and the
Organiser would run would run the routine at that address (always supposing
that we had one of course) and then return to OPL. The 0 after the , means
that we are not passing parameters to the D register which, if your
remember, is made up of the A and B registers. In some cases we would wish
to do so and may wish to choose there parameters from OPL as for example
when accessing a pak. Then our , would be followed by a value such as 1
for pack B or 2 for pack C. If we enter our code directly into memory with
the POKEB command, we could write something like:

alarm:
POKEB $4000,$3F
POKEB $4001,$0D
POKEB $4002,$39
USR($4000,0)

Acceptable for such a short routine. However, if we have long OPL routines
in the machine and long code routines, the OPL language stack could easily
overwrite the machine code which would lead to "death" and the much feared
and dreaded "TRAP" - removing the battery is the only way out of that!
Here a word of warning. Whenever you experiment with machine code make
sure that any data you wish to keep is safe on a pak and out of the
machine. Don't be fooled into thinking that datapaks are completely safe,
because this is not so if you accidentally write to a pak which (take my
work for it) can happen. There are ways of protecting your code from being
overwritten by the OPL routines. Possibly the easiest way (because it also
applies to the Model CM) is to write your code, if it is not too long into
an array which brings us to our second OPL command which we need to know
about. Write the same routine again like this:

alarm:
LOCAL a%(2)
a%(1)=$3F0D
a%(2)=$3900
USR(ADDR(a%()),0)

This time the address of the routine has been passed to the USR command by
the ADDR command which gives the address of the a% array. Of course, we
don't need to know what it is. The code routine is protected because each
time this OPL routine is run, it sets aside the a% array and returns the
address whatever it is and will not be overwritten by other routines. In
this routine there are four codes while in the same routine using the POKEB
method we had only three. In fact, this is not true - the)) at the end is
only there to satisfy the requirements of the array and is never seen by
the machine code program. As soon as the processor comes across the $39,
it returns to where it was called from, in our case OPL.

Now run the routine. Not very exciting, but nice and easy. What this does demonstrate is the ease of accessing the Organiser software routines. The first instruction, $3F, the software interrupt instruction which puts all the registers onto the stack along with the address to return to for future use. Control then passes to another routine called a SWI handler (software interrupt handler). Our second instruction, $0D, passes a vector number to the SWI handler to index into a table of addresses which are the addresses of the ROM routines. The appropriate routine is then executed and the next instruction is requested. The next instruction in our case is $39, (return from subroutine),
and the program control is returned to OPL. Here is a a slightly more interesting routine for those who have RAMPAKS. The routine was provided by Psion.

```
ramform:
LOCAL a%(11)
a%(1)=$4F37
a%(2)=$3F62
a%(3)=$3225
a%(4)=$0D36
a%(5)=$4F36
a%(6)=$30C6
a%(7)=$013F
a%(8)=$6131
a%(9)=$334F
a%(10)=$3F62
a%(11)=$3900
USR(ADDR(a%()),1): REM 1=PAK B, 2=PAK C
```

```
4000,4F......CLR A
4001,37......PSH B
4002,3F,62...SWI 62 (PK$SETP) : turn on slot B
4004,32......PUL A : return stack to previous condition, ready to
                    return if necessary
4005,25,0D...BCS 4014 :no pack return
4007,36......PSH A : no jump, put back on stacks
4008,4F......CLR A : zero A
4009,36......PSH A : put 0 on stack
400A,30......TSX : point X register at stack pointer (address
                  containing 0)
400B,C6,01...LDA B £01 :number of bytes to save in register D (A
                       already contains 0) so total 1
400D,3F,61...SWI 61 (PK$SAVE) : save D bytes to pak from address
                       pointed to by X) as described before
400F,31......INS : drop the 0 on top of the stack
4010,33......PUL B : return stack to original state
4011,4F......CLR A
4012,3F,62...SWI 62 (PK$SETP)
4014,39......RTS : return
```

So far I have had no response to this series and I can only assume that there is little interest in using machine code in this way. It seems pointless to make you suffer unduly. Perhaps is might be better to let those who are interested (if any) correspond with each other. Please let me or Mike know!

IPSO FACTO

EDITORIAL

BIGGER, BETTER? IPSO FACTO

The more observant among you will have noticed that a change has taken place in the presentation of this magazine. Of the many suggestions which were received on renewal forms from members, one of the most frequent was a plea for more pages in IPSO FACTO. Another suggestion was that we print on both sides of the paper, thus saving costs. The truth is that the cost of actually producing photocopies is the same whether printed on one or two sides of the paper. There would however be a slight saving on postage, but this would be insignificant except for overseas mail.   With this issue I am attempting, through the use of a desk-top publishing program running on the ATARI ST, to provide roughly twice the amount of text on the same number of pages. The bulk of the text is printed in the equivalent of printers 10 point type. Please let me know what you think of the new layout.

NEW AMERICAN ORGANISER GROUP

During the month, we had a visit from one of our American members, MILTON DUNCAN, who brought interesting news of a brand-new Psion Interest Group which has just been formed in the States. The group has just published the first issue of its magazine, called the Journal of the Psion Interest Group. The magazine will be published bi-monthly and, if the first issue is anything to go by, will be an excellent forum for Organiser news etc. The intriguing part of it is that the Journal is distributed on the "shareware" principle. In other words, it is supplied to "subscribers" free of charge, with an invitation to those supplied to contribute any sum that they feel appropriate, and (a nice touch) also send donations to the AUTHORS of any items which they consider of value to them. I am not so sure that we are ready for "shareware" over here, but it is an interesting development in America.

I have sent copies of IPSO FACTO to the Editor and suggested that they might like to have a reciprocal arrangement with us to swap ideas, programs, members, etc. Anyone who would like a copy of their Journal should contact: Kent Peterson
Psion Interest Group
41 Greenridge Avenue
White Plains, NY 10605
USA
Might I suggest a small contribution to the cost of postage at least (or something for publication in the Journal).

Mike O'Regan. Editor

CONTENTS

IPSO REVIEW - RESULT
by Mike O'Regan

If you think that the Organiser's CALC function is not exactly what you thought it should be, then perhaps a new program called RESULT will fill the bill. This program was written by a chartered accountant, who says that he uses it personally every day. RESULT handles both basic arithmetic and a range of scientific and trig functions. In addition it offers a number of extra functions not found on ordinary calculators, which use the extraordinary power of the Organiser. For example your can "backtrack" to view, and if necessary correct the preceding calculation step. You can also retrieve a calculation after you have cleared it, or return to a calculation when you have left it to use your Organiser for something else. You can also incorporate RESULT into your own OPL programs.

Most conventional calculators only have a one-line display, no more than twelve digits long (ofter less). This limitation means that the running total of calculation cannot be displayed whilst a new entry is being keyed in. RESULT, however, uses the Organisers 16 digit two-line display so that the running total is displayed along the top line, leaving the bottom line free to display the next entry.

RESULT is very easy to use. Just plug in the pak to your Organiser (CM or XP) and put RESULT onto the top-level menu as normal. When booted RESULT shows a 0 on the top left. Calculations are keyed in exactly as they would be written down if doing the job with a pencil and paper. Unusually, the "real" multiplication and division signs are used - only the = is missing, with EXE filling this function. Some of you will be glad to hear that "markups" and "markdowns" can be entered in the form "100 + 10%". The percentage result is displayed first then the result of the sum. RAISE TO THE POWER OF is invoked by using the UP cursor key - RAISED AS A POWER OF uses the DOWN key. At any time any of the SPECIAL FUNCTIONS can be called by pressing the S key, followed by the initial letter of one of the following:

NEGATIVE
INVERSE
SQUARE ROOT
CUBE ROOT
LOG
ANTILOG
LN
EXP
ROUND (to nearest whole number)
UP (round UP to the nearest whole number)
DOWN (round DOWN to nearest whole number)

TRIG FUNCTIONS are called by pressing the letter T and thereafter keys representing SINE, COSINE, TANGENT, ARCSINE, ARCCOSINE, ARCTANGENT, DEG, RAD

Good use is made of the CALC memories, making them very easy to use in a practical way. For example the command M0C (or just MC) clears the contents of M0. The command LIST (from the Memory sub-menu) will list the contents of all 10 memories (and sum them if required).

One of the more intriguing facilities of RESULT is an AUTOADD mode. I once designed something similar on the HP41c and I have missed it since. When AUTOADD mode is invoked, any monetary figures (including two "PENCE" figures) will be automatically added together with having to use the EXE key. This is great for supermarket shopping, especially as a press of the EXE key when all the shopping is complete will display the number of entries made - excellent!

RESULT can be induced to return numbers to other procedures or top-level functions. This can be easily demonstrated by selecting CALC MODE from the Organiser's top-level and entering "100+RESULT". Pressing the EXE key will make the RESULT: program run and any of its calculation features may be used before finally returning to CALC by pressing the LEFT cursor key.

For anyone wishing to build quite sophisticated calculation facilities into their own procedures (which is not too easy to do with CALC!) RESULT is a doddle.
You may write a program using a special name - RPROG - which RESULT recognises. Two user-definable and six read-only variables have been provided for use with this procedure.

RESULT is supplied with a very extensive and easily understood 20 page manual. I found it very easy to get along with and very useful when a lot of figure work is needed (and I am at the Junior-Mixed-Infants level of maths!)

For any further information on RESULT please contact

Nick Frank
c/o Coopers & Lybrand
PO Box 243
WELLINGTON
New Zealand

Telephone from UK: 010 644 727787
Fax from UK: 010 644 724785

N.B. RESULT may shortly become available through IPSO (cost not-known at present).

PROGS & PROCS

STOP by George W. Heads

Following the timing procedure in Volume No 1, Page 10 by Will Chapman, I found this interesting but rather abrupt. I have therefore taken the liberty of adding a few lines to make this into a juseful, user-friendly stop watch. Hope you forgive me, Will, but I couldn't resist it!

STOP WATCH
Enter STOP in main menu - set cursor to STOP or depress S key - Press EXE key and the timing starts with a beep.

LAP TIMER
While the stop watch is running, press ON/CLEAR and the visual display will halt while the internal clock runs on to lap time. Continue pressing ON/CLEAR as many times as required. For final result, press EXE key, then the display and the internal clock will halt and a warning beep will sound. Depress EXE key to exit the program and return to main menu. Simple, but effective

```
STOP:
LOCAL st$(8)
st$=RIGHT$(DATIM$,8)
POKEB $20CA,0
POKEB $20C9,0
POKEB $20C8,0
BEEP 200,80
DO
AT 5,1 : PRINT RIGHT$(DATIM$,7)
UNTIL KEY=13
POKEB $20CA,VAL(RIGHT$(st$,2))+VAL(RIGHT$
(DATIM$,2))

POKEB$20C9,VAL(MID$(st$,4,2))+VAL(MID-
$(DATIM$,20,2))

POKE $20C8,VAL(LEFT$(st$,2))+VAL(MID$(DATIM
$,17,2))

BEEP 200,80
GET
RETURN
```

Note that the blank lines are not to be entered - they are just separators where the OPL line over-runs

---

CHIMING CLOCK by Mark Wilding

This clock will give one beep at 15 minutes past the hour, 2 at half past, 3 at a quarter to and 4 at the hour. I have given on arbitrary beep which is not too loud. At the hour you can make your own "chime". To turn off press ON/CLEAR and Q almost at the same time. Perhaps there is a simpler way. Please phone me if ther is, on 0672 40048

```
H:
LOCAL h%,m%,s%
h%=HOUR
m%=MINUTE
s%=SECOND
```

```
R::
DO
PAUSE 20
CLS
PRINT "TIME= ";h%;":";m%;":";s%
s%=s%+1
UNTIL s%>59
s%=SECOND
m%=MINUTE
h%=HOUR
IF m%=15
BEEP 88,8888
ENDIF
IF m%=30
BEEP 88,8888
PAUSE 20
BEEP 88,8888
ENDIF
IF m%=45
BEEP 88,8888
PAUSE 20
BEEP 88,8888
PAUSE 20
BEEP 88,8888
ENDIF
IF m%=0
BEEP 88,8888
PAUSE 20
BEEP 88,8888
PAUSE 20
BEEP 88,8888
PAUSE 20
BEEP 88,8888
ENDIF
GOTO R::
```

RED-FACE DEPARTMENT

I have recently TWICE referred to the author of the excellent game PONTOON (published in Volume I) as SIMON WEBB. The real author was, of course, another IPSO stalwart STEVE J.T. KNIGHT. Apologies to both members

---

PROC & PROG SUBMISSIONS

Submissions for publication should now be either in printed form, on datapak (I return these by recorded delivery), or on ATARI ST Format 3.5" discs. Please note that I no longer have a BBC Master, so discs of that format are no longer acceptable.

Editor

GENERAL PURPOSE DATA ENTRY PROCEDURES

by Peter Davies

These procedures from part of a data collection system in a factory producing high performance electrical devices (mainly for use in the protection and monitoring of power lines). The Organisers are intended for use by unskilled operators to collec quality data, which is transferred to an IBM microcomputer for weekly batch analysis using Psion Xchange software. To reduce data errors to a minimum ther is a lot a data vetting on the Organisers, checking for illegal values and combinations of variable. Plenty of opportunity is also given for "second thoughts". By using the variable p$, passed from the calling procedure, the following procedures can be used in a variety of situations, and in different combinations. p$ and r$ must be declared in previous routines, so qtest: is a small routine to try them out.

qtest: procedure to try out the following three

qconfirm: called at various points for confirmations
                of data entered.

qoption1:   also called from data vetting procedures when
                illegal data is found

qout: called at all exit points from the system

qlook: displays the name and number of records in
                each data file on slot B:, and finally the free
                space on B:

Our Organisers always have programs in C: and data in B:

```
qtest:
GLOBAL p$(16),r%
CLS
L1::
PRINT "ENTER p$, Q-QUIT"
INPUT p$
IF UPPER$(p$)="Q" :GOTO L2:: :ENDIF
qconfirm:
IF r%+1 :GOTO L1:: : ENDIF
L2::

qconfirm:
REM *** prompts for confirmation of p$ ***
REM *** returns r%=1 if redo ***
LOCAL v%
r%=0
L1::
CLS
PRINT " CORRECT  (Y/N)"
v%=VIEW(2,p$)
IF v%=121 OR v%=89 :REM Y or y pressed
CLS : RETURN
ELSEIF v%=121 OR v%=78 :REM N or n pressed
qoption1: :RETURN
ENDIF :GOTO L1::
```

```
qoption1:
REM *** redo/quit? ***
REM *** return r%=1 if redo ***
LOCAL v%
L1::
CLS
PRINT " R-REDO  Q-QUIT"
v%=VIEW(2,p$)
IF v%=114 OR v%=82 :REM R or r pressed
CLS :r%=1 :RETURN
ELSEIF v%=113 OR v%=81 :REM Q or q pressed
qout: :GOTO L1::
ENDIF
GOTO L1::

qout:
REM *** confirm quit ***
LOCAL z$(1)
CLS
PRINT " QUIT (Y/N)       ARE YOU SURE"
L1::
z$=UPPER$(GET$)
IF z$="Y" :STOP
ELSEIF z$="N" :RETURN
ENDIF
GOTO L1::

qlook:
REM *** prints data file names on B:, no. of records,free
space ***
LOCAL g%,c%,s%,x%,b$(10),a$(2),c$(10)
ONERR MORE::
MORE::
CLS
CURSOR ON
a$="B:"
x%=0
PRINT "DIR",a$;
g%=GET
IF g%=1 :GOTO RET::
ELSEIF g%=13
CLS
DO
b$=DIR$(a$)
IF b$=""
PRINT x%,
PRINT "FILES-NO MORE"
GET
GOTO RET::
ELSE
x%=x%+1
CURSOR OFF
PRINT b$
OPEN b$,a,c$
c%=COUNT
CLOSE
PRINT c%;
PRINT "R"
CURSOR ON
ENDIF
a$=""
g%=GET
UNTIL g%=1 OR b$=""
ELSE GOTO MORE::
ENDIF
```

```
RET::
OPEN "main",a,c$
s%=SPACE
CLOSE
PRINT "B: -",
PRINT FIX$(((INT(s%/100)
)/10),1,-4);
PRINT "K FREE"
GET
CURSOR OFF
ONERR OFF
```

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A CASE FOR THE ORGANISER
by Mike O'Regan

Since the introduction of the Organiser, there has been a need for some form of case for the instrument, especially as the display LCD panel was not protected when the Organiser's built-in case was closed. A few months ago Psion announced a leather slip-in case, with velcro fastener, but this had quite a short life. I now hear from a firm called SYSTEMSLINK Ltd that they have produced a purpose made leather case, which has been adopted by Psion as the 'official' case. The case is described as being designed to offer an executive appeal to the Organiser. .manufactured to the highest standards in black leather with a contrasting pale lining. The slim lines of the Organiser are retained allowing the case to be kept on the Organiser whilst in use. The covering flap is retained with Velcro. On the back of each case is an inconspicuous belt loop to allow the Organiser to be carried at the waist. The case costs £14.95, incl. VAT p&p and, for an extra 2.95 the case may be personalised with up to four embossed intials in gold or blind (where just the impression is made in leather). SYSTEMSLINK have written to me with the proposition that, if we were interested as a group, they could also engrave "IPSO" on the case if preferred. I have replied that I would see what the response was from members. I also told them that, personally, I prefer to stick to my present case, which many of you will know is a £3.95 W.H.SMITH Camera case. This is padded, is just the right size for the Organiser and has the added attraction that the little pocket on the front can hold up to ten datapaks (essential for my use), or 6 paks and a spare battery. I know that many members have adopted this case and even know of one who has shortened his COMMS LINK cable to make it fit the front pouch on the case. This case also has the option of a belt-loop or shoulder-strap.

USING THE PSION MAINS ADAPTOR
by Hugh Anderson

Use of the Mains Adaptor saves on battery consumption, but RAMPAKs can be inadvertently "sized" when the Mains Adaptor is used. ("sizing" a RAMPAK is the equivalent of "formatting" a disk). This is a very serious fault on the Psion Operating System and the only solution offered by Psion is to remove any RAMPAKs before connecting the mains adaptor and loading the COMMS software from the COMMS LINK. This is contrary to the instructions that come with the RAMPAKs, but the following procedure is suggested to avoid the loss of valuable data.
Ensure that the Organiser is switched OFF and that the COMMS software has been cleared. (No COMMS on the menu). Remove any RAMPAKs that are fitted. DATAPAKs can be left in place as they should not be affected. Fit the COMMS LINK and plug in the mains adaptor. Switch the mains adaptor on. The COMMS LINK may have already switched the Organiser on. Press the ON?CLEAR key to load the COMMS software. Refit the RAMPAKs and proceed as normal.

WARNING !! RAMPAKs can still be sized if used with an external power supply even when the above routine ifs followed. It is best to NEVER USE RAMPAKS WITH AN EXTERNAL POWER SUPPLY such as the mains adaptor.
The warning may appear to be dire, but is based on first hand experience. Having waited nearly two months for our mains adaptors to arrive we were horrified to see the message "SIZING RAMPAK IN C:" *(I know the feeling well. Ed.)* displayed by the Organiser when the mains adaptor was switched on. All the data had been deleted from the RAMPAK! After phone calls to Psion Support, and the loss of several hundred pounds worth of data, we established that there was a serious problem with RAMPAK security when using a mains adaptor. The procedure given in my warning was suggested by Psion Support, but a month or so later I wanted to transfer a letter, written on the Organiser, to an IBM compatible computer, so that I could keep it on floppy disk and remove it from the RAM PAK so I could erase the file and use the space thus released: I followed the procedure exactly, but when I pressed ENTER to load the COMMS LINK software (CL) on the computer, the Organiser promptly "sized" the RAMPAK giving me rather more free memory than I had bargained for. Fortunately, I did have a mistrust of using the mains adaptor with the RAMPAK and had copied the files on the RAMPAK into the Organiser's own memory (A:), so all was not lost, but this experience led to the last three lines being added to the warning. I understand that Psion are working on a solution to RAMPAK security, but in the meantime I would strongly discourage the use of any external power supply (such as the mains adaptor) when using RAMPAKs with the Organiser.

Editor's Note: This article is based on an extract of information which Hugh Anderson provides this to users of his software

SMALL AD

ORGANISER - BBC COMMUNICATIONS
by Mike Panchaud

Having purchased a COMMS LINK for my Organiser for use with my BBC B Computer, I spent some time getting it ot work correctly. So, for the benefit of other members, I will pass the information on.

A suitable adptor is avilable from Psion (or dealer) or you can make your own by connecting a 25 way D connector to a 5 pin domino DIN plug thus:

BBC RS 423	COMMS LINK
Ground 3	Ground 7
TX data 2	RX data 3
RX data 1	TX data 2
CTS 5	RTS 4
RTS 4	CTS 5

The most flexible way to pass PROCEDURES between the BBC and PSION is to use a word processor, such as WORDWISE+

For convenience, set up function keys with the following:-
*KEY 7 *FX5,1|M|M   (reset for a parallel printer)
*KEY 8 *FX2,1|M|M   (receive from serial port)
*KEY 9 *FX 5,2|M*FX6,10|M|M (transmit from serial port)

On COMMS LINK setup, set REOF to NONE, all other parameters can be left at the default setting. The default BAUD rate on the BBC and PSION is the same, i.e. 9600.

To send a procedure file from WORDWISE+ to PSION press f9, then Wordwise Option 6 (print). The computer thinks it is printing on a serial printer. Set Organiser to RECEIVE PROCEDURE. WHen transferred, go back to PROG MENU and EDIT and TRANSLATE as normal.

To receive a file from the Organiser, press f8, then ESCAPE to get into edit mode of Wordwise+. Now transmit file from Psion. To regain keyboard control on BEEB press BREAK.

Using this method allows you to write programs on a proper keyboard and computer screen, which is a lot quicker and easier than using the Organiser keyboard. If you have the FINANCE PAK, you can 'print the statement out' into the wordprocessor then printout to a parallel printer - great if you haven't got a serial printer. Also you can store all your programs and data files on a disc as a backup, just in case you get stuck in a loop or the battery dies and you lose all your data.

I hope this will be of some use and prove you don't HAVE to use a PC!

(I think you may have a problem with transferring data from the BBC to the Organiser to TRANS directly into an OPL proc. It is better to SPOOL the file. Ed.)

More Power to your ORGANISER
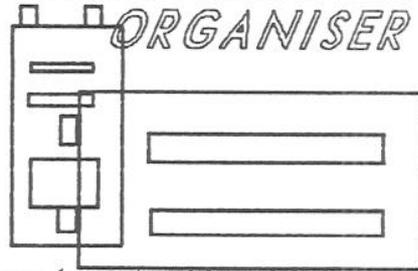
If you have trouble with batteries constantly passing out on you in the middle of some important data transfer, you may be pleased to know that a very powerful source of power is available for little more than the cost of a DURACELL. This is a 9v LITHIUM CELL, which is sold by good camera stores as a source of power for powerful photgraphic equipment. It is said that this cell should last about 4 times as long as a Duracell! (although I haven't tried one out personally).
Does anyone know where to buy these??

LOCAL IPSO GROUPS

A useful "spin-off" from IPSOMEET 88 was that a group of members from the LONDON area got together to form an embryo local group. Anyone from the London area who is interested should contact:

Jonathan Hurwitt
26 Swyncombe Avenue
Ealing, London
W5 4DS

Phone : 01 568 4138

We have some reasonable concentrations of members in Birmingham, Greater Manchester, Scotland, etc., so if anyone from any of these areas would like to be the contact with a view to forming a local group, please let me know and I will print your details. It is quite amazing what transpires when a few Organiser fans get together, even on a strictly informal basis!

BROWN'S LAWS OF OPL PROGRAMMING

1. The simplicity of finding the way of breaking the endless loop is in direct inverse proportion to the stress felt.
2. Similarly, one's faith in the RAM to hold information safely is also in direct proportion to one's knowledge of OPL.
3. The page detailing that COPY on the TOP MENU transfers only FILE information from MAIN is read following the loss of on's first ever program.
4. Similarly, the usefulness of the ON/CLEAR Q feature is not noted until the battery has been removed as a panic measure.
5. The pressing of the 'Y' button at the "OBJECT ONLY Y?N" prompt is precisely five minutes before one finds a glitch or thinks of an improvement.

BEGINNERS COLUMN
by Mike Nash

First, than you to David Cantor for writing in about the differences in performance between Alkaline and Ni-Cad batteries. In essence he says that Alkaline last much longer. I agree, but still prefer to carry two rechargeables in my pocket and one in the Organiser, because it's cheaper.

Mervyn Toogood writes in praise of ADRIAN PEGG's NOTEPAD but goes on to say that he can't get KEYWD: and QMARK: to work. I am afraid that Mervyn is making a common error of beginners who enter programs from magazine listings. "Sub-procedures" of NOTEPAD: are only intended to be used by NOTEPAD: when it is run.

I recommend beginners to STUDY procedures before entering them, as there is much to be learned about programming by so doing. Bear in mind that a procedure is just a list of instructions which the computer must perform in strict order unless interrupted by a DO UNTIL loop or other special command. The main PARENT procedure will almost always contain the GLOBAL variables and you should try and pick out which ones of these occur in the sub-procedures.

Finally, on this topic, if your entered procedure does not run, IMMEDIATELY LIST it to your printer so that you can look at what's wrong and so that if you are writing to me I will know what you are talking about!.

Because of the procedures which I submitted last year for the TANDY CGP 115 many people assumed (quite wrongly) that I am an authority on that handy little machine. Also a PIN-OUT published at that time for making an adaptor is not correct. So courtesy of KEN GARROCH's excellent page in POPULAR COMPUTING WEEKLY, here are the details of the RS232 connection between the Psion and the Tandy. I have attempted with the chevrons to indicate the flow/function of each line:

Organiser		Tandy
Protective ground	PIN 1	
RX	PIN 2	
TX data	PIN 3>>>>>>>>RX	
RTS	PIN 4	
CTS STATUS.	PIN 5<><><><>RTS/BUSY	
DSR	PIN 6	
Signal Ground	PIN 7=======Signal Ground	

Careful study of the base of the pins on each plug will reveal the PIN numbers engraved.

Next month I will carry on with PROCMEN:. Any short submissions suitable for inclusion in this procedure will be welcomed. Basically, a procedure should illustrate some aspect of OPL not already dealt with on the BEGINNERS PAGE.

Mike Nash   Tel: 01 671 8644
6 Hazlemere Court   (Sunday mornings)
26 Palace Road London

MACHINE CODE
by Les Ball

Thanks to all of you who wrote or phoned me regarding this series of articles. I will try and deal with the queries people put to me as we go along. I welcome suggestions queries or routines at any time. Now a word about the end of last month's article. The routine RAMFORM: puts a 0 on the first byte of the pak and in the case of a rampak, if the machine sees this, it assumes that the pak is blank and wants re-formatting. Unfortunately, if your run this routine with a DATAPAK in the slot, the 0 byte on top of a datapak fools the machine into believing that there is no pak in the slot and it is to all intents and purposes impossible to get the information off the pak. So please do not use this routine with a datapak!

At our IPSOMEET in April I was asked about DELAY LOOPS. In the OPL language we have the command PAUSE, followed by a number to determine the length of the pause. For most purposese this is adequate, but where a PAUSE of more than 1 and less than 2 is needed you have problems. This was certainly the case for one member who was writing a game and wanted a controlled delay between two screens of information. In machine code there are numerous ways of producing delays. Let us look at two easy ones. We will use the array system described previously, since it is a simple routine and a simple way of entering it.

```
LOCAL a%(5)
a%(1)=$8601
a%(2)=$4A26
a%(3)=$FD5A
a%(4)=$26F8
a%(5)=$3900
USER(ADDR(a%()),1)
```

Looking at the numbers in the array, a%(1)=$8601. $80 LOADS accumulator A immediate with, in this case 01. This determines the length of the array. We could, of course go up to FF. This is one of the values to play with. a%(2) - $4A26 - 4A decrements the A register by 1, so if we have used 01 it will now contain 0. If we have used FF, it will of course contain FE. 26 - BRANCH NOT EQUAL - checks the A register. If it is 0 no jump takes place, but if it is not, then we jump back to decrement the A register again, and this will repeat until the A register is 0. a%(3) - $FD5A - FD is a backward jump, but since we have not talked about how to calculate jumps, take my word for it at the moment. 5A decrements the B register. Subtract the 1 we put in this register in our last line of program. Again, you may lengthen the delay by putting other numbers into this register. Our last line, for example, could have been:
USR(ADDR(a%()),255), which loads the D register (remember A & B registers) with 255 or, more correctly, the B register with 255.
a%(4) - $2648 - 26 once again BRANCH NOT EQUAL, test the B register. If not equal to 0 jump back to the start of the program. If it does equal 0 then RETURN, hence a%(5) - $3900 - 39 RETURN FROM SUB-ROUTINE - 00 padding for array.   (cont)

MACHINE CODE (cont)

The next routine is even easier. This timne we will use the X register as a counter. Our source program would be:

LDX #nn where nn is a 16 bit number
DEX (subtract 1 from X)
BNE (if X does not equal) n branch back
RTS

With the shortest possible delay in X, i.e. 0001, the codes would be:

CE00 0109 26FD 39 (All codes are of course in Hex.)

OPL format:
LOCAL a%(4)
a%(1)=$CE00
a%(2)=$0109
a%(3)=$26FD
a%(4)=$3900
USR(ADDR(a%()),0)

These routines are perfectly safe as far as datapaks are concerned. However, do not forget to make sure that you have nothing in your Orginiser you with to keep, in case things go wrong, and I would suggest removing RAMPAKs before starting, since, if you have to take the battery out because of a crash while a RAMPAK is in, you may wipe the pak clean. I suggest you do not experiment if you have a RAMPAK in the machine.

Next time I will explain more about calculating JUMPS and then it is time to get on with looking at the Organiser itself and using its facilities and functions.

FNKEYS & GRAVITY

Mike Leigh informs me that he is extending his offer to members to get a copy of the excellent FNKEYS for the price of £39.95 until the end of May. Thereafter the full price of £49.95 will apply. Mike is also selling off remaining stocks of his game GRAVITY for £19.95, which is the price of the 16k pak, so if you don't like the game you could erase the pak and re-use it!!
For further information on either piece of software contact:

Mike Leigh
Cubsoft
6 Okeover Road
Salford
M7 0JX   Tel: 061 792 2871

Incidentally, Mike tells me that he has now despatched all his back-orders. FNKEYS was a long time in the incubator, but the final version seems to be worth the wait, according to feedback from members. The final handbook is some 86 pages long!!!

NEWS FROM THE BELGIAN FRONT

If the Organiser appears to be having a slow start in England, this is by no means the case in Belgium. I have some news of important applications which some of you may find interesting.

ELTRA, a large retailer of lighting equipment and electroware is using the Organiser as a tool to control incoming and outgoing goods and parts.

DUPONT DE NEMOURS, a known multinational is using the Organiser as a means for controlling outgoing traffic of goods

DYNAMIC SOFTWARE SERVICE designed a program for a large textile chanstore for keeping track of stock levels in their various outlets, using bar-code readers.

PLANT GENETIC SYSTEMS and the UNIVERSITY OF GHENT and ANTWERP use Organisers to collect data from plants and animals for later analysis.

BECKAERT, a multinational producer of steel wire is using the Organiser to control its production of cables.

ROGER CAPPON BVBA are using the Organiser as a timestudy logger. They developed sofware which enables them to give a stastic overview of chronometric tracing of cyclic working hours. This program is currently in use by VOLVO TRUCKS and BECKAERT.

ACEC, vocal communications department, are currently developing a device which translates ASCII code in digital phone pulses. This then allows for direct phone access, without a modem.

THE STUDYCENTER DIDACTICAL SOFTWARE-.within the UNIVERSITY OF LEUVEN, have a worldfamous aquatics units with high expertise in swim-research. They have developed en expert system on a PC to evaluate the potential of a swimmer and give advice on how to improve performance, with a high degree of precision. The main core of this program has been transferred to an Organiser, thus making possible data collection at the place of measurement (swimming pool or sports hall). A kit has been produced consisrting of an Organiser, a printer, the evaluation program and other utilities (timing and score for competitions) which will be of special interest to coaches, sports organisations and individual athletes. The same centre is developing the programs to apply them to cycling and other sports.

A dealer has developed together with the local distributor of MERCEDES cars, a program allowing for a fast calculation of the total cost of a model with all its options. The Organiser then prints out on an EPSON P40, the price offer. This program caused a stir at Belgium's biggest car fair.

ROY DICTUS has written a book in Dutch about the Organiser and there are plans to have this translated.

(I have more details, if anyone wants them.   Ed.)-

Editorial

Almost without exception, I have had good feedback about the new layout. Please bear with me in this period where I am trying out the facilities provided on my DTP. I am certainly managing to get more material into a smaller space - both this month and last month the 8 pages would certainly have taken twice that number using the old layout.

IPSOMEET 88

I really should have had a full-blown report of our first meeting in last month's newsletter, but, somehow, it got sidetracked on the way, so here (with apologies) is as much as I can remember of IPSOMEET 88.

A large number of "PSIONEERS" (thanks to WILL CHAPMAN for suggesting the name for Organiser Nuts), gathered in the Zingari Club, Long Eaton, not a stone's throw from "IPSO HOUSE" (as my postman calls our humble dwelling). By the time that the coffee was being served, about 120 members from all over the country had found their way to the Club. I had been worrying about whether or not to have a formal agenda, but I need not have worried - psioneers only need to be grouped together with others of the same species for spontaneous groups to form. By lunch time a group from London had already decided to form a London Branch of IPSO.

We had representatives from HARVESTER, WIDGET (himself!), and SOFTA (newly appointed as Psions Official Training Company). These three all gave impromptu presentations of their individual specialities.

A fine cold-buffet lunch was provided by local caterers Betty's Pantry.

I would like to take this opportunity of thanking all the members who managed to attend (especially at such short notice). Special thanks to LES BALL, TONI FINE, DAVID CHASTNEY-PARR, DAVID GRAY, and (not least) ny long-suffering wife URSULA, who all helped out unstintingly throughout the day.

I have had many letters of appreciation since IPSOMEET and thank their authors - sorry I can't answer each individually. We are all looking forward to the next meeting.

_____ STOP PRESS _____

To avoid disappointment, and to avoid me having to return cheques, can you please order P40 PRINTERS by PHONE ONLY. They are already beginning to be snapped up, and I only have 6!

Psion Interest Group - USA

I have been in touch with KENT PETERSON, who runs the American Psion Interest Group (see last month's editorial). We have agreed to have a reciprocal agreement that means we can publish each other's articles or programs without further restriction. I am looking at one or two interesting bits from the first Journal with a view to letting you have some of their material. One or two IPSO members have contacted KENT individually.

Mike O'Regan

Contents

IPSO now has members in:

ABU DHABI, AUSTRALIA, BELGIUM, BERMUDA, CANADA, CHANNEL ISLANDS, DENMARK, FINLAND, GERMANY, GIBRALTAR, HOLLAND, ISLE OF MAN, ISRAEL, ITALY, JORDAN, NEW ZEALAND, NORWAY, OMAN, PANAMA, PORTUGAL, SARAWAK, SOUTH AFRICA, SPAIN, SWEDEN, SWITZERLAND, TRINIDAD, TURKEY, USA

Dump
by Jim Dorrington

Like so many other Psion users, I too have got tired of losing data on my machine and so decided to do something about it.

I am an inveterate tinkerer. This, however, has its drawbacks in that inevitably I write a quick and dirty procedure with a careless loop buried in the middle which decides to go spinning off into infinity. Usually in a case like this CLEAR/ON-Q solves the problem, but once in a while I have to deprive the machine of juice and bang my head against the wall for 2 minutes while the EEPROMS discharge themselves. (Not necessary, just press ON/CLEAR with the batteries removed - Ed). Then I have to start again, having lost everything in the machine.

I decided that this was an entirely unsatisfactory situation, so I got to thinking wouldn't it be nice if I had a backup routine that would send all my volatile data, i.e. the 32k in the Psion RAM, down the COMMS Link onto my PC. Easier said than done! This is where I must thank Alan Richey, Les Ball, and B Saunders for the sterling work they have done with their programs - RENAME, MZAP, AND MEMORY, and David Chastney-Parr for his File Store Structure article.

When I started writing this program, my first problem was how do I find out just what files I have in RAM. The problem lies in the fact that the information in my 32k of RAM is composed of many different kinds of data - data files, procedures, comms setup files, diary files, etc. Each one of them had to be identified. Given that these are continuously changing, I needed some mechanism whereby I could scan the meory and pick out the file names. Well, the key (to get technical) is the fact that a file name is preceded with the two hex pairs $09 and $81 or $82 or $83 or $84 (the second hex pair being representative of the type of file the name describes). I'll explain briefly below just how the three procedures work:

The procedure DUMP calls up a mini menu with four options: SEND RESTORE MAKEOUT QUIT. MAKOUT scans the 32k RAM (actually it scans from $2400 to $7FF8) and builds up a list of names of files and procedures in a string array. It uses a sub-procedure CHKTYP to decide what type of data the current item is. Having completed the scan, it saves these files into a file called LOGFILE (see Fig. 1) and then returns you to the mini menu. You may be asking why I don't just write the new file names to LOGFILE as MAKELOG finds them. I started off by doing just this and for a long time couldn't understand why it was not working. Eventually the penny dropped. As the size of LOGFILE increased with the addition of each new file name, the rest of the data below LOGFILE is shoved further down the memory pile. Without getting too technical, this meant that MAKELOG was scanning for a moving target without a hope in hell of winning. Once this problem had been solved, LOGFILE could be safely written away. The idea then is to choose the SEND option. This option will read the names in LOGFILE and transmit them one

Of course the Comms Link must be attached and installed and CL must be running on the PC otherwise you will get the "DEVICE MISSING" error message.

One the SEND has executed, successfully, you a safe to start your new procedure development and, should the worst happen, and you get stuck in a loop, have no fear, pull the battery out, [press ON/CLEAR Ed.] and then recover your data.

To recover your valuable data all you have to do is the following:

1. Install the Comms procedure and link up to your PC.
2. Restore the DUMP procedure
3. Restore the LOGFILE
4. Translate the procedure
5. Run DUMP and choose RESTORE.

Lo and behold, all you data is automatically restored!

However there are a number of shortcomings in DUMP which I hope someone reading this will want to solve. The worst in my mind is that I don't automatically write the DIARY file away, as I can't find a file be the name of DIARY. Consequently I SAVE the current DIARY as DIARZ before running DUMP. MAKELOG finds DIARZ without any fuss and records it quite happily.

The other enhancement I would like to see would be the facility to apply DUMP to my datapak in B:. Anyone interested in solving this one?

```
LOGFILE

0 MAIN
4 P
3 CHKTYP
3 MAKELOG          Fig. 1
3 DUMP
2 DIARZ
3 MZAP
0 LOGFILE
```

PROCEDURES.

```
CHKTYP:
LOCAL byte%
byte%=PEEKB(p%+1)
IF byte%=$81
RETURN(0)
ELSEIF byte%=$82
RETURN(2)
ELSEIF byte%=$83
RETURN(3)
ELSEIF byte%=$84
RETURN(4)
ENDIF
```

(continued)

```
DUMP:
LOCAL  m%,  c%,d%,x%,remote$(8),local$(10),
type%,funct$(8)
mnu::
m%=MENU("SEND, RESTORE, MAKELOG,QUIT")
IF m%=1
funct$="SENDING"
ELSEIF m%=2
funct$="RESTORE"
ELSEIF m%= 3
MAKELOG:
GOTO mnu::
ELSE RETURN
ENDIF
PRINT funct$
OPEN "A:LOGFILE",A,type%,filenme$
c%=COUNT
d%=c%
AT 11,1 : PRINT "OF",c%
DO
  AT 9,1
  PRINT d%-c%+1
  remote$=a.filenme$
  x%=0
   DO
    x%=X%+1
   UNTIL ASC(MID$(a.filenme$,x%,1))=32 OR x%>8
   local$="A:"+LEFT$(s.filenme$,x%-1)
   type%=a.type%
   AT 1,2
   PRINT "A:";filenme$
   IF m%=1
    XTSEND:(remote$,local$,type%)
    IF type%=3
     XTSEND:(remote$,local$,1)
    ENDIF
   ELSEIF m%=2
    XTRECV:(remote$,local$,type%)
   ENDIF
   NEXT
  c%=c%-1
 UNTIL c%<1
 AT 1,2
 PRINT "FINISHED"
BEEP 100,100
GET


MAKELOG:
GLOBAL p%
LOCAL x%, type%,filenme$(8),logaray$(30,9),ac%
ac%=1
p%=$2400
DO
  IF PEEKB(p%)=$09
   IF PEEKB(p%+1)>$80
    IF PEEKB(p%+1<$85
     type%=CHKTP:
     p%=p%+2
     AT 1,1
     PRINT "SCANNING",ac%
     DO
      PRINT CHR$(PEEKB(p%+x%));
      x%=x%+1
     UNTIL x%>7
```

```
     logaray$(ac%)=filenme$+GEN$(type%,1)
     ac%=ac%+1
     filenme$=""
     x%=0
    ENDIF
   ENDIF
  ENDIF
p%=p%+1
UNTIL p%>$77F8
x%=1
AT 1,2
PRINT "LOGGING"
IF EXIST("A:logfile")
  DELETE "A:logfile"
ENDIF
CREATE "A:logfile",a,type%,filenme$
a.filenme$=""
APPEND
ERASE
DO
  AT 10,2
  PRINT x%
  a.type%=VAL(RIGHT$(logaray$(x%,1))
  a.filenme$=LEFT$(logaray$,x%,8)
APPEND
x%=x%+1
UNTIL x%>ac%-1
CLOSE
AT 13,2 : PRINT "END"
BEEP 100,100
GET
```

GET

by Mike Newman, Brussels, Belgium

This procedure is ued to replace the GET statement supplied by Psion, so as to overcome the problem of not being able to escape from an infinite loop containing a GET statement.

```
GET:
LOCAL c%,k%
c%=GET
IF c%<>1
  RETURN c%
ELSE
  PAUSE 5
  k%=KEY
  IF k%+0
    RETURN c%
  ELSE
  ESCAPE ON
  CLS
  PRINT "In infinite loop";
  PRINT "hit ON/CLEAR then Q"
  loop::
  GOTO loop::
  ENDIF
ENDIF
```

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Machine Code Page
by Les Ball

Last month I said we would look at the 6303 JUMP instructions. Since most of these are clearly explained in the manuals, I do not propose to do much more than discuss the types of jump available. First there is the UNCONDITIONAL JUMP instruction, which is followed by an addresss, which directs the program counter to another part of your program. This needs no real explanation. Next we have the JUMP TO SUBROUTINE which, as its name suggests, will allow you to direct the processor to branch to a subroutine and return. This works in the same way as the BASIC instruction GOSUB or the OPL instruction which calls another procedure. In other words, the program will return to the instruction following the addrerss you gave it to jump to for the subroutine. You will, of course, have to put at the end of your subroutine an RTS or RETURN FROM SUBROUTINE instruction just as you would insert a RETURN staement in OPL or BASIC. If you know where a particular subroutine is stored in ROM the JSR instruction is fine, since it will save you writing perhaps several hundred bytes of machine code. If you are writing your own subroutines, you may of course acces them in the same way. However, the snag is that this code is then not re-locateable unless all call addresses are changed. Those of you who have written BASIC programs and then tidied them up by using an automatic line renumbering procedure will doubtless have said a few choice words about having to go through the program and renumber your sub-routine calls. (most BASICs do this automatically nowadays. Ed). The same thing applies with machine code. If we use the BRANCH RELATIVE instructions of the 6303 our code then is relocateable, since the jump only depends on an address relative to where the program counter is. These are the jumps we have used so far. The snag here is that you can only jump forward 127 bytes

or backward 128 bytes, (7F or 80 hex). Let's take a simple example. Suppose we use the BRANCH ALWAYS instruction, which is, as its name suggests, unconditional. The code for this is 20. If we place our 20 at $4000, our next instruction at $4001 would be our relative address for the processor to jump to. The calculation for our jump actually starts from address $4002, or the address of your branch instruction (in our case $4000), plus 2, plus the relative number of bytes to jump. If you are calculating a backward jump, the place to calculate from is exactly the same, PC plus 2, therefore 4000 BRA, (branch always), 4001 80 (128 decimal) would take you back 128 bytes from $4002. OF course, adding to the 80 (for example 81) would not take you back 129 bytes but would bring you forward 1 byte. In other words incrementing this number over 80 brings you nearer to where you are, until you reach FF which would bring you back to $4001. INcidentally, don't try this, because obviously this would produce a loop and the machine will never get out of it until you remove the battery. By the way, if you are using subroutines provided by Psion in their ROM, you don't of course need to know the address of the code, nor do you need to do a JSR instruction to get to it. You can of course, if you know the address of the code. The addresses of many of the major routines are stored in a table, which is known as the vector table, the address of which is stored in $23E7. Each of the addresses in the table has a vector number given in the Technical Reference Manual as a decimal number. If you wish to access a particular subroutine, you only need to put $3F (software interrupt) followed the vector number.

The machine will then access this subroutine and return to you at the next byte after the vector number. This is what I did in the first very simple example, which sound the alarm. Before accessing these routines, however, it must be remembered that some of them require parameters to be passed to them and will not work without, or may of course cause a crash. A list of all the vector numbers and input and output parameters are given in the Technical Reference Manual.

Several people have asked how they can access the MAIN MENU from OPL, or, more correctly, how they can access the routines, such as TIME or CALC from OPL. There are one or two ways of doing this, and this time I am giving an OPL routine which will do just that. This particular routine accesses the TIME program, but can be easily modified to search for CALC, or DIARY. I suggest that you play with this routine, but please rmember to remove any datapaks, RAMpaks, or information from memory that you do not wish to lose, just in case of accidents. This routine searches for the address of the MAIN MENU, which is contained in bytes $2000 and $2001. When the actual MENU address has been found, the routine them searches for the word "TIME". Each of the items on the MAIN MENU which is not an OPL procedure, is followed by a 2 byte address, which is the address of the routine. These are not of course displayed. The routine then finds the addresss which is located immediately after the word "TIME" and runs this procedure. If the item on the MAIN MENU is an OPL procedure, it is foilwed by a 0 (zero) and cannot be run in this way. In other words, don't try finding one of your own OPL procedures on the MAIN MENU and running it by this procedure, as this will not work. However we can do it by a process of key-stroke simulation and we will look at this next month.

Incidentally, I don't know what tools anyone else uses for looking at and modifying memory but imagine that most of you who are interested in this series of articles must have some way of doing this. I have written my own machine code MONITOR which is by no means the be-all and end-all of OPL procedures and is fraught with dangers if you do't know what you are doing, but it is a useful tool. Our Editor has a copy of this at present and some time in the future may comment on it, particularly if he known I am not around to read that particular article.

```
time:
LOCAL a$(4),a%,b%,i%,z%(2)
a$="TIME"
a%=ADDR(a$)
b%=PEEKW($2002)
DO
  i%=0
  DO
    IF PEEKB(a%+i%)<>PEEKB(b%+i%)
    GOTO NEXT::
    ENDIF
  i%=i%+1
  UNTIL i%=5
ESCAPE OFF
USR(PEEKW(b%+i%),0)
z%(1)=$3F46 :z%(2)=$3900
USR(ADDR(z%()),0)
ESCAPE ON
RETURN
```

```
NEXT::
b%=b%+PEEKB(b%)+3
UNTIL PEEKB(b%)=0
```
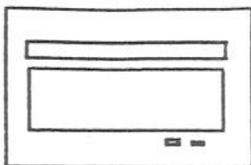
Epson P40 Printers

Since I first mentioned (prompted by other members) that the EPSON P40 Printer seemed to be an ideal partner for the Organiser, I have had numerous letters asking where these little printers can be bought. I saw a firm at the WHICH COMPUTER SHOW who were selling P40s on their stand for £120, and I told them what I thought of their price!.

Well, I have located a small supply of new P40s and I can supply these to members for £55. This price includes the printer, a mains adaptor, a roll of thermal paper, an adaptor to connect the printer to the Psion Comms Link, and a listing of a simple OPL driver for the printer plus instructions for setting up the protocols, etc. Please note that I have only 6 of these printers, so they will be sold on a strict "first come-first served" basis.

For those who do not know this printer, perhaps a short description is in order. The P40 is TINY. It measures 8" x 5" x 1.5". The printer has an integral Ni-Cad accumulator (which is recharged from the mains using the adaptor supplied). In operation it is almost silent, being a thermal printer (no ribbons). Paper is widely available - it is in rolls approximately 5" wide. The printer will print 40 characters across the width (PICA) or 76 chars (condensed) or 80 chars (supercondensed). As it is mains independent and slips quite easily into a briefcase, along with the Organiser and Comms Link, I personally find it an ideal solution, especially during program development

Cheques with orders, please.

The dreaded "TRAP"
by John Spillett

When programming the Organiser in machine code even a simple mistake can result in the dreaded message TRAP appearing in the display. The only action then possible is to remove the battery for a subsequent cold restart with the resulting total loss of data stored in RAM. A little investigation of how the Organiser and its CPU work will show how this disaster can be avoided.

When an invalid op-code is fetched or an instruction fetch is made from RAM locations assigned to the CPU internal registers (0000 to 001F) an interrupt (call the TRAP interrupt is generated and the control of the CPU is passed to the routine whose address is stored in memory locations FFEE and FFFF.

The address pointed to be FFEE and FFFF is in the area of memory allocated to the operating system ROM (read only memory). The operating system then refers to an address in RAM ($2046) for the location of further instructions. Normally this address in RAM will direct control of the CPU back to a routine in the operating system which will result in the dreaded TRAP.

The fact that the above process of VECTORING the TRAP interrupt is carried out through a RAM address enables us to intercept it and redirect it to a less harmful routine.-

I felt that the warm restart routine which starts at $8000 casus minimum damage (the time may be altered). The Organiser returns to the top level menu with no loss of data.

In order to redirect the TRAP interrupt to a warm restart, procedures using machine code should have the instruction:

        POKEW $2046,$8000
as the first line.

This will, however, NOT protect users from ALL MC errors, such as closed loops, etc.

You are strongly advised to backup drive A: to a datapak or RAMpak before carrying out any machine code writing or testing.

The Organiser & Viewdata Systems
by Adrian Pegg

Sadly, though not surprisingly, it is not possible to log on to remote VIEWDATA systems like PRESTEL or MICRONET using the Organiser in the way one can log on to scrolling systems such as TELECOM GOLD, but all is not necessarily lost, however, for VIEWDATA users like me.

Providing your comms software has the facility to save TEXT ONLY, it will be possible to transfer information across to the Organiser. I use an AMSTRAD CPC128,running HONEYVIEW/HONEYTERM software by PACE, and as there exists an option to SAVE TEXT TO FILE, a PRESTEL frame or series of frames can be saved to disc as text only. This can then be very easily edited (if required), using a word-processor and dumped to the Organiser as a data file.

The PRESTEL database is vast, particularly with its associated "gateways", so this opens up a wide range of exciting possibilities. One example would be to log on to PRESTEL, key *BR* for the British Rail gateway, find all the relevant timetable information for your journey and save it as a text file. Then by editing out the frame idents and any other unnecessary text, (ideally converting it to 16 chars per field), saving it again and then transmitting it to the Organiser in the usual way . . .well, you can imagine the advantages of having the most up-to-date information in your hand when you travel. The same could apply to any of the non-visual data available on this (or any other) VIEWDATA host: airline or shares information, weather, even news items or record charts! The possibilities are endless.

Should other PRESTEL/MICRONET users with to contact me, my mailbox number is 219996141, and I would be glad to hear from them.

Connection to External Devices

A new member would like to contact any other members with experience of connecting the Organiser to the following types of external devices:
1. Mains powered appliances of up to 2Kw
2. At least two, but up to seven stepper motors
3. DC servo motors with positional feedback (instead of some of the stepper motors)

Anyone willing to help should contact:
CHRIS PLEVIN on 01 221 0613

For Sale

Datapaks 128k and 64k, Comms Link, Diary Link, Mains Adaptor, Large (two at one) formatter, Harvester Superchip FNKEY, manuals for all
£150 the lot (including mailing if necessary)

Phone ROGER, on Wallingford (0491) 38013
Mornings (preferably) after 9a.m. or Evenings after 6 p.m.

Sources for Lithium Batteries

I mentioned in the last issue that these were hard to find and since then have obtained the following sources:

All Batteries
Tolpits Indurstrial Estate
Tolpits Lane   Phone 0932 770044
Watford
Herts
WD1 8QY

Computaware Trading Co
28 St Edmunds Road
Haywards Heath
W. Sussex

Other sources should be GOOD photgraphic dealers. The batteries are called KODAK ULTRALIFE ADVANCED LITHIUM BATTERIES and should cost around £4.

New Hardware

CAR CIGAR LIGHTER ADAPTOR for the Organiser very useful for copying to datapaks on the move
£17.80 (plus postage and VAT)

BATTERY CHECKER - which plugs into the top port on the Organiser and gives a good/bad indication.

MODEM which again plugs in directly to the top port. This modem is line powered, but draws a couple of milliamps from the Psion battery

The first item is available NOW. More news on the the other two items at a later date.

Contact: SIMON WEBB on (0793) 69 3601

Pocket Spreadsheet "NPV Bug"

It is true that if the example shown on page 94 of the manual is follwed precisely, you will get an answer of 124.80 units and that this answer is not correct. The correct answer is 145.43. This problem is caused, not by a bug in the operation of the Spreadsheet, but in the manual itself. The interest rate should be entered in decimal form i.e. as .1075 NOT 10.75% as shown in the manual. The final paragraph on page 94 says this. The figures used in the example would appear to be the equivalent of using a rate of interest of 1075%, somewhat on the high side for most purposes!

Diary Restore

CHARLES CROYDON had difficulty restoring a diary from a PC to the Organiser, and recieved the following reply from Psion Technical Support (ROWAN PRIOR)

"The biggest diary file you can transfer from your PC to your Organiser is 10.5k. The reason for this is because, when you transfer a dieary from your PC, into the Organiser's CURRENT diary, it will be copied into a buffer before going into the diary. If you transfer the diary into a datapak, then you can load a diary file of up to 23k"

CHARLES would also like to contact any member who has experience using BORLAND SIDEKICK PLUS with the Organiser. He can be contacted on (01 725 5483)

AUTOSCRIBE UPGRADED

AUTOSCRIBE, IPSO's own word-processor has been completely re-written to include text and blank line INSERTION as well as improving all the other features. AUTOSCRIBE II is now available directly from IPSO (see heading of this newsletter for address). The price is £35.00 (including postage recorded delivery)

Existing users of AUTOSCRIBE I may obtain the upgraded version by returning their original pak, plus £7.50 (incl. return postage)

Les Ball in Psion News

Our MACHINE CODE EXPERT (and well known International Advisor or Knotted-String Problems!), LES BALL has just been featured in an article in PSION NEWS (complete with colour photograph).

FAME AT LAST - LES was heard to exclaim when I last saw him.

BEGINNER'S PAGE
by Mike Nash

First, this month BEGINNER's PAGE claims the Ipso DUNCE'S CAP for last issue's error in giving the pinout for the TANDY CGP115.

Further I gave the credit for some info on batteries to DAVID CANTOR when it should have been RICHARD MEATYARD . In reparation I show the correct TANDY PINOUT & SETUP BELOW & I have passed copies of Richard's excellent article to our editor for publication at a later date . Thanks also to Ernie Bokkelkamp for his observations on batteries and the benefits of using the MAINS ADAPTOR. I recieved a letter from LAMA TASHI from Denmark to the effect that that his 16k XP does not clea the SPREADSHEET and COMMSLINK from memory. I can remember similar problems before I upgraded to a 32k XP ,and can only say that if pressing ON/CLEAR two or three times does not work then the only recourse is the dreaded RESET . I would also say that Lama's dealer should not have sold him a spreadsheet for a 16k XP without warning him of the problems caused by the limited memory available I would recommend an immediate upgrade to solve this problem with one warning . I have noticed that, for the first time Psion's product's are being heavily discounted in some London shops, and I wonder if this herald's something new coming on the scene . Time will tell !

Now follows a procedure to convert DECIMAL numbers to BINARY, which may help those of you who find it difficult, as I do to calculate these things in one's head . Observe the subprocedure for handling the input of the variable this is the sort of routine which every learner should try to appreciate the value of in conserving memory. Though only the integer version is included in the program, I urge readers to refer to IPSO FACTO PAGE 79 VOL 1 for the FLOATING POINT and STRING variable versions, and to emphasize how space can be saved by using subroutines, like these, especially where repetitive input of any variables are involved. Each time QN%: is called and has returned the variable input it is then cleared from memory until the next time, so that only the PARENT procedure remains in memory while the program is being run. DON'T INPUT THE REMS

```
QN%:(prmpt$)     REM input subprocedure
local n%
AT 1,1 :PRINT PRMPT$; chr$(63)
AT 1,2 :INPUT n%
RETURN n%

decbin:
GLOBAL minus%  REM sign indicator
GLOBAL i%  REM ARRAY INDEX & LOOP
             COUNTER
GLOBAL div%  REM divisor
GLOBAL bin%(17) REM array to store results
GLOBAL n%    REM decimal input
LOCAL bin$(16)  REM string holds binary result
START::
div%=16384 REM SETS FIRST DIVISOR
minus%=0  REM ASSUMES NUMBER IS POSITIVE
n%=QN%:("DEC < 32768") REM INPUT SUB
PROCEDURE : USE IT IN OTHER PROGRAMS
bin%(17)=n%
IF n%<0
```

```
GET
END::

binalg%:           REM binary conversion sub procedure
                   REM n% passes through this
process
IF n%=div%          REM 15 times,storing an "1"
in the array
bin%(i%)=1-ABS(minus%) REM if n% is equal or greater
than the
                   Rem divisor and a "0" otherwise
n%=0
div%=div%/2
RETURN n%
ELSEIF n%>div%
bin%(i%)=IABS(n%>div%)-ABS(minus%) Rem try test-
ing this statement
                        rem in CALC
using test numbers
n%=n%-div%              rem its a LOGICAL
rather than

div%=div%/2      rem divisor and a "0" otherwise
RETURN n%
ELSEIF n%<div%
bin%(i%)=0+ABS(minus%)
IF n%=0
bin%(16)=0+ABS(minus%)
ENDIF
div%=div%/2
RETURN n%
```

CORRECTED TANDY CGP 115 PINOUTS

ORGANISER		TANDY
PROTECTIVE GROUND	PIN 1	
RX	PIN 2	
TX DATA	PIN 3>>>>>>>>RX	
RTS	PIN 4<><<><<>BUSY	
CTS STATUS	PIN 5	RTS
DSR	PIN 6	
SIGNAL GROUND	PIN 7	SIG.GRND

Careful study of the base of the pins on each plug will reveal the pin numbers engraved.

Finally a big thankyou to TONI TUTHILL of HARVESTER SYSTEMS for helping MERVYN TOOGOOD with his software problem. It is nice to know that our suppliers are such a helpful bunch.

Mike Nash
6 Hazlemere Court
26 Palace Road
London SW2 3NH

Telephone: (Sunday mornings)
01 671 8644

IPSO REVIEW
FNKEY by CUBSOFT

I am sure that you have heard the expression "What did I do with the Organiser before FNKEY was around?"

When I first heard about it, (in IPSO FACTO), I was very dubious to say the least. At the time I was writing a series of programs for graphics for use with the Tandy CGP 115 plotter-printer (which sadly has been discontinued). This entailed a great amount of repetitive keying, e.g. PRINT, LPRINT, CHR$( ), IF, ENDIF, etc. Being curious by nature, I rang CUBSOFT and had a lengthy conversation regarding the virtues of FNKEY. To cut a long story short, with some trepidation, I decided to give it a whirl.

FNKEY arrived on a 16k datapak, with a very comprehensive instruction manual. One is led very gently through the loading processs and given some very humorous examples when you run a demo file which is included on the pak.

Basically, you can reproduce a series of characters, formulae, figures, or keystrokes, customised to your own requirements, by using only two keys (i.e. the "hot"key plus a letter A-Z). The "hot" key is the MODE key. For example, I can press "hot" then "C" and I will get "CHR$()" with the cursor in the brackets ready for inserting the number, or "hot" plus "I" will give IF ENDIF, with the cursor positioned on the E of ENDIF ready for use. It will also reproduce a series of keystrokes, e.g. to get from the MAIN MENU to the DIARY entry of the day it would normally require the entry of the following: DIARY, EXE, MODE, LIST, and EXE. This can be obtained by "hot" plus "D". To start a new program, I just press "hot" and "N" and "hey presto" I am in the new prog mode ready to start. The most used OPL commands can be recorded at will (e.g. LOCAL, GLOBAL, RETURN, DO UNTIL, IF ELSE ENDIF, PRINT etc.) which really cuts down programming time.

To start at the beginning, the program is run. At this stage it sits in the "low memory" of the Psion (with the 32k XP) so it doesn't take up any valuable RAM memory. Once it is installed, the system pak can be removed, and is only used again when you run the UTILITY part of the program. This is used mostly to allocate the memory and examine stored data, or store and retrieve definitions on datapaks, so for most of the time the ports can be used for other paks. Now to make a "recording" you proceed as follows:
Say we wanted to store the word "PRINT" under the letter "P". Start the recording by pressing the "hot" key, then the RIGHT CURSOR key. We are now recording. Whatever we key in will be recorded, so press PRINT. To stop recording, press "hot" plus RIGHT CURSOR a second time. Now to assign this to the "P" key we press "hot" plus LEFT CURSOR, followed by the P key. Now to try it out get some blank input space - SAVE A: will do - press "hot" then P and there you have the word PRINT!

On one BANK (which is 26 letters A-Z) you can program 26 separate items. It is possible to use 26 BANKS, making a possible total of 676 commands. In practice, you are only likely to use about 2-3 banks at the beginning, increasing as the imagination and ingenuity takes over. This should give you some idea how powerful the program is and shows how well thought out the facilites are.

I have only been able to scratch the surface, trying to explain its various uses, e.g. to re-insert UDGs that have been over-written by another procedure, inserting repetitive DIARY entries, inserting the date or time into text, currency conversion formulae, and many more uses. I use it also to access my bank balance on the FINANCE PAK by using "hot" plus "B". One very useful tip - it's in the manual - is for quickly computing VAT on an article:

Call up CALC from the TOP LEVEL MENU. Type in 100. Start recording ("hot" plus RIGHT CURSOR) then type "*1.15" and press EXE. The answer, 115, will be displayed. Stop the recording (by pressing "hot" and the RIGHT CURSOR again), assign by pressing "hot", LEFT CURSOR, and "V". To use the facility, type in a number, then "hot" and V, when the GROSS price (including VAT at 15%) will be calculated and displayed. Another very useful item is being able to access other characters which are not normally available through the keyboard (e.g. ?, !, &, @) and to be able to have them "on tap". To sum up, the program has been designed so that is can be used by novice and expert alike.

Lastly, I must mention one of the most important facilities, known as CUT & PASTE. This would require a whole chapter to itself, but suffice to say that, for editing text and figures, FNKEY makes it childs play to COPY or MOVE blocks of text about.

FNKEY comes with a very comprehensive instruction manual which, as I said, explains each step so that even the newcomer will have no trouble in following (I wish that the Psion manual had been written by the same company!)

FNKEY can be obtained from:
CUBSOFT
6 Okeover Road
Salford
M7 0JX

The price of £49.50 might at first seem a bit expensive, but, considering the wealth of facilities provided by this program, I consider it very reasonable priced.

DAVID GRAY

IPSO FACTO

THE NEWSLETTER OF THE INTERNATIONAL PSION ORGANISER USER GROUP

Volume II . No.5 . July 1988

Editorial

This month we have, for the first time a couple of DIY projects, a datapak formatter and a modification to the mains adaptor. It is remarkable that for a machine as popular as the Organiser, so little third party hardware has appeared. Some firms out there are missing a great opportunity.

I have been inundated with programs and procedures, hints & tips, etc., in various forms, some on disc, others on paks and yet others as listings. May I express my thanks to the many members who have taken the trouble to submit material for publication. Unfortunately, I can seldom spare the time to individually acknowledge contributions.

Another experiment during the previous month was a mail-shot to all UK members. If you have any objection to this, please let me know - it was in the nature of an experiment and I am satisfied of the integrity of the firm who advertised in this way. You will probably have noticed that the mail-shot was posted by us at IPSO - in other words there has been no disclosure of anyone's name and address. I feel that this method is acceptable. Let me assure members that there is no question of me passing on our membership list to ANY third party.

Finally, LES BALL would like to acknowledge that he used an article from the American Journal of the Psion Interest Group (with their permission) as the basis for this month's Machine Code Page.

Mike O'Keefe

Editor

Contents

Scrabble Scorer
by R.H. Simpson, Granada

This program suite came about because, when we played the game, players come under criticism for the length of time they spent considering their next move.

I set about making a time and this has developed into a program which has three functions: it decides on the order of play, it times each turn, and it keeps the score.

I have allowed 120 seconds for each turn, with a warning 30 seconds from the time-up. During this time, a player can indicate that he has finished his turn by pressing B for BREAK. When a player goes out, the play can be ended by pressing O for OUT during the interval of 5 seconds I have allowed after "turn of —" is shown. Each of the other players is asked for the value of his remaining tiles and the final score is calculated and displayed.

```
SCRABBLE:
GLOBAL n$(4,8),a%,n%,r%,c%,g$(8),s%(4)
LOCAL s$(8)
PRINT " SCRABBLE TIMER    AND SCORER"
PAUSE 40
CLS
PRINT "R.H.SIMPSON 1988"
PAUSE 40
CLS
PRINT "Enter number of players  ",
INPUT n%
CLS
AT 1,1 :PRINT "Now their names"
a%=1
DO
 AT 1,2 :INPUT n$(a%)
 a%=a%+1
UNTIL a%>n%
CLS
a%=1
DO
 r%=1+(RND*n%)
 s$=n$(r%)
 n$(r%)=n$(a%)
 n$(a%=s$
 a%=a%+1
UNTIL a%>n%
CLS
a%=1
DO
 AT 1,1 :PRINT "Order of play: "
 AT 1,2 :PRINT "a%,n$(a%)
 PAUSE 40
 CLS
 a%=a%+1
UNTIL a%>n%
CLS
PRINT "Press key when  you are ready..."
GET
START::
a%=1
DO
 SCORE:
UNTIL a%>n%
GOTO START::

SCORE:
CLS
PRINT "Turn of ";n$(a%)
PAUSE -50
```

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```
IF UPPER$(g$)="O"
ENDING:
ENDIF
TIMER:
s%(a%)=s$(a%)+c%
CLS
AT 1,1 :PRINT n$(a%);"- ";c%
AT 1,2 :PRINT "Total score: ";s%(a%)
GET
RETURN

TIMER:
LOCAL b%
CLS
b%+1
DO
 PAUSE 20
 AT 1,1 :PRINT "Seconds gone:";b%
 g$=KEY$
 IF UPPER$(g$)="B"
  GOTO ASK::
 ENDIF
 b%=b%+1
UNTIL b%>120
BEEP 1000,800
BEEP 1000,1200
BEEP 1000,800
BEEP 1000,1200
CLS
ASK::
PRINT "Score";CHR$(63),
INPUT c%
PRINT "Correct Y/N";CHR$(63)
g$=GET$
IF UPPER$(g$)="Y"
 RETURN c%
 ELSE GOTO ASK::
ENDIF

ENDING:
LOCAL c$(8),mp%(4),mt%
PRINT "Who is out";CHR$(63)
INPUT o$
IF o$="" : STOP : ENDIF
CLS : a%=1
DO
 IF n$(a%)<>o$
  AT 1,1 :PRINT n$(a%);" - points"CHR$(63),
  INPUT mp%(a%)
 ENDIF
 a%=a%+1
UNTIL a%>n%
CLS
AT 1,1 :PRINT "Final scores:"
a%=1
DO
 AT 1,2 :PRINT n$(a%);": ",
 IF n$(a%)<>o$
  PRINT s%(a%)
  ELSE PRINT s%(a%)+mt%
 ENDIF
GET
a%=a%+1
UNTIL a%>n%
GET
STOP
```

Program ZK: is a much improved version of the Organiser's own FIND command. First of all, you don't have to know in advance "where" (on which datapak) the data you are looking for is located. This program looks through ALL the paks in your Organiser in the MAIN files (the name of the file where you put all your information, using the SAVE command from the main menu). So first the program will look at pak A: (RAM memory) then at pak B: and then at pak C:, finally back to A: etc., until you press the ON/CLEAR key. If you have just one pak in B: or C: installed, or if you are using another program pak (such as the SPELL CHECKER) or no paks at all, this does not make any difference. The program checks for errors by using the TRAP and ONERR statements.

Another feature of the program is that you can go backwards throught the records you found according to your search criteria. Simply press the space key, and the program will go back to the previous match. This does not work through "boundaries" of paks though, but the whole search can easily be started again by pressing the "z" key. This is a very interesting feature, because, when you found the record you were looking for, you can press "z" and look for other records, press "z" again and so on. If you press the ON/CLEAR key, the records found accoding to your previous search-clue will appear again in many cases.

Personally, I think ZK: is a lot more flexible than FIND. You don't have the possibility of restoring the information, or edit it, but for this purpose I happily use FIND again. I have ZK always as the first item in the main menu of my Organiser, so after switching on I can immediately use it.

```
ZK:
REM v3.7
REM COPYRIGHT 1987
REM BAS BEIMA
GLOBAL a$(10),b$(3,1),b%,c%,d%,p%,p1%,n%
ONERR FT::
b$(1)="A" :b$(2)="B" :b$(3)="C"
IN::
PRINT "LOOK FOR",
TRAP INPUT a$
b%=1
LP::
n%=0
WHILE a$<>"XXX"
  TRAP OPEN b$(b%)+"MAIN",a,v$
  FIRST
  TRAP USE a
  p1%=0
  WHILE FIND(a$)
    p%=POS
    n%=1
    d%=DISP(-1,a$)
    IF d%=1
      RETURN
      ELSEIF d%=32
        IF a$<>""
          FIRST
          c%=0
          DO p%=POS
          NEXT
          c%=c%+1
        UNTIL FIND(a$)=p1%
```

```
          IF c%>1
            p1%=p%
          ELSE FIRST
          ENDIF
        ELSE BACK
      ENDIF
    ELSEIF d%=%Z OR d%=%z
ZK:
    ELSE
    NEXT
    p1%=p%
  ENDIF
  ENDWH
  CLOSE
  b%=b%+1
  IF b%=4
    IF n%=0
      PRINT "NOT FOUND"
      PRINT a$
      PAUSE 10
      GOTO IN::
    ELSE b%=1
    ENDIF
  ENDIF
ENDWH
FT::
IF ERR<>206 B%=b%+1
  IF b%=4
    b%=1
  ENDIF
  GOTO LP::
ELSE
  RETURN
ENDIF
```

The next program is TIP for people like me who have so many programs on their datapaks that putting them all in the MAIN MENU makes that menu totally incomprehensilble. It is simply a menu that takes you to other programs. Just make menus like this one (if necessary pointing to each other), put them in the MAIN MENU of your Organiser (using different initial letters, so you need only as few key presses as necessary)

```
QCHOICE:
LOCAL k%
DO
K%=MENU("FMAN,PONTOON,NOTEPAD,ZK,OFF")
IF k%=1 :FMAN: :ENDIF
IF k%=2 :PONTOON: :ENDIF
IF k%=3 :NOTEPAD: :ENDIF
IF k%=4 :ZK: :ENDIF
IF k%=5 :OFF :ENDIF
UNTIL k%=0
```

Beginners Page
by Mike Nash

First, than you to the growing number of people who have rung me or written to me in recent weeks. Unfortunately, on the phone, I am ofter so engrossed in conversation that I forget to ask for the caller's name! I shall try to do better in the future.

ROB FORSYTH has several queries to do with economical use of MEMORY:

1. When using LOCAL variables in different procedures, does it save memory to give them the same name?

A: NO, but remember that making variables GLOBAL where necessary will make your sub-procedures more compact and easier to link to the main program flow.

2. Is there any advantage in shortening variables to a minimum length, having used a longer descriptive form in the test versions of the new procedure?

A: YES, an excellent idea where large programs are concerned. Of course most of the procedures written for IPSO have quite long descriptive variable names because of the special need to make them easy to follow. It's worth re-mentioning too that there are certain conventions used in naming variables even in short form. For example, 'i%' is the loop counter and 'n%' would be a numeric variable. Remember to print or save the original descriptive version of your program before streamlining the working version!

3. Is there any way of FINDing numerical data without saving it to a file as a string variable e.g. FIND 1.2 vs FIND "1.2"?

A: Try something like FIND GEN$(n,w%), where n is a value you expect to find in a file record containing gloating point fields, and w% is the width of the field. If it works let me know because I haven't tried it!

4. How about an article about optimising the running speed of programs?

A: Well, I must confine myself to observing that the more FREE SPACE in Organiser' memory, the faster it runs, and that it is well worthwhile remembering that when the Psion runs a procedure it has to load an additional version of it into RAM, and that, if it calls a subprocedure it has to load that into RAM on top of the PARENT procedure BUT when the subprocedure is finished, it is wiped from RAM and the parent continues or calls another subprocedure, and so on. Therefore it pays to have a short parent procedure consisting only of GLOBAL variables and the names of the subprocedures to be called, to make the best use of RAM. The issue can be complicated when the subprocedure itself calls another procedure, in which case the procedures requiring runtime copies in RAM would number THREE and this obviously uses up MEMORY. It's also worth remembering to always, where possible, use integers in preference to floating point numbers in procedures, because integers use less space and time in processing than do floating point values.-

For a more technical expose of optimising PROGRAM SPEED I would suggest that LES BALL or some of our other MACHINE-CODERS may be able to contribute something in the future.

Finally, two questions from M.W. SMITH of NOTTINGHAM. First Mr Smith wants to know how to use FIX$ in the procedure below - N.B. note the two subprocedures:

```
N:(p)
RETURN(p+.004)/100*80

COSTIN:
LOCAL p,q$(1)
q$=chr$(63)
PRINT "price=";q$;
INPUT p
CLS
AT 1,1
PRINT "cost=";N:(p) REM try "cost=";FIX$(N:(p),3)
AT 1,2
PRINT "sell=";NL:(p) REM try "cost=";FIX$(NL:(p),3)
GET

NL:(p)
RETURN(p+.004)/100*80/100*133.33
```

For those who haven't tried it FIX$ defines the number of decimal places to use in displaying a numeric string. Its close cousin FIX e.g. FIX=2 could have been used at the strat of the procedure to define the floating point without converting it to a string.

Finally, Mr Smith asks how to RETURN the ANTILOG of a number - that is the inverse of the LOG. Stretching my mathematical knowledge to new limits, I have come up with the answer:

```
ALOG:(n)
RETURN 10 ** n
```

To check this, try log of your answer in CALC. You will find that LOG and ALOG are the inverse of each other.

Keep them coming! No problem too simple! (in fact the simpler the better)!

Queries to:

Mike Nash
6 Hazlemere Court
26 Palace Road
London
SW2 3NH

Phone (Sunday A.M. please)
01 671 8644

Machine Code Page
by Les Ball

Last month we used a procedure to FIND a particular routine on the TOP LEVEL MENU of your Organiser. Those of you who studied this routine will have learned (if you did not already know) that $2000 is where the Organiser keeps the address for its top-level menu. If this top-level menu has not been altered, it consists of the names of a number of machine code routines, i.e. FIND SAVE, CALC, TIME, etc. After each of these names are 3 bytes, the first two of which are the address of the routine. If, however, you have altered the top-level menu and inserted the name of your own OPL routine, this name will be follwed by a 0 (zero), which tells the machine to search for an OPL routine of that name. The procedure we used last month is fine if we wish to search for one of the pre-programmed functions, such as CALC or DIARY, but is unable to handle a search for, say, the COMMS CAPTURE MENU, such as TERM. Normally, if we wish to do this we would have to press a series of keys, for example ON/CLEAR to go to the top-level menu, SHIFT LEFT onto the OFF position, SHIFT LEFT onto the COMMS function, EXE into COMMS, C into CAPTURE, EXE into TERM. This is a series of 6 keys. We do not, however, have to do this manually. Like other computers the Organiser has what is known as a TYPE-AHEAD BUFFER. This is so, if you type very quickly, you do not press keys more quickly than the machine is able to handle them. On the Organiser, this is a 16 character buffer, running from $20B0 to $20BF. There are two registers associated with this buffer, which control its functions. One is KBB.BAK, located on zero page $73, which tells the machine whereabouts in the buffer it is, and KBB.NKYS, located on zero page $74, and this contains information about the number of key presses yet to be processed. Armed with this information we can produce a procedure which will get us where we want to be. Let us suppose that the key sequence discussed above is what we want to do. The procedure would be as follows:

```
CALL:(name of procedure)
POKEB $73,0    REM position 0 in keybuffer
POKEB $74,6    REM number of keys to be user - 6
POKEB $20B0,1  REM ASCII code for ON/CLEAR key
                   - go to TOP-LEVEL MENU
POKEB $20B1,5  REM ASCII code for SHIFT LEFT
                   - mover cursor to OFF
POKEB $20B2,5  REM another SHIFT LEFT to
                   COMMS option
POKEB $20B3,13 REM ASCII code for EXE key
                   - enter COMMS MENU
POKEB $20B4,67 REM ASCII value of letter C
                   - enter CAPTURE MENU
POKEB $20B5,13 REM EXE selects TERM from
                   CAPTURE MENU
```

This routine is intended purely as a sample of KEYSTROKE SIMULATION. It is assumed that the top-level menu has not been altered and that the COMMS LINK is installed. I have found this technique useful, particularly when putting a directory of a chip out to a printer, where is saves having to continually press the EXE key for the next item in the directory.

I have had one or two enquiries about protecting an area of memory so that a machine code routine can be left in for use at any time. On the 32k XP version this is easy. Locations $2065 and $2066 contain the address of the top of RAM and this is where OPL procedures are loaded from, downwards. $2065 would normally contain $7E and $2066 would be $FF, which means that the top of RAM is at 7EFF. If you POKEW $2065,$7DFF, you will have lost 256 bytes of RAM, at least as far as OPL is concerned. However your routines placed in this area will be safe. CAUTION: if you use this technique, do not stray into the area above 7EFF, since this is the machine stack and you are likely to cause all kinds of problems. Try tailoring the above procedure for your own requirements, but remember not to leave information in the machine, if yu do not wish to lose it, in case of mistakes.

LES BALL is available for queries in the evening on (0602) 289553.

Pak Formatter News
from Brod Mason

SOLIDISK TECHNOLOGY no longer stock the UVIPAK EPROM ERASER (formatter) mentioned in IPSO FACTO Vol L However these are available direct from the manufacturers, GROUND CONTROL Ltd of Southend, Tel (0702) 230324.

Psion datapaks as sold do not fit the eraser, but it is very easy to open up the paks and them the EPROM card will fit the eraser. In fact, three at a time will fit.

The eraser is supplied in 3 different models:

UVIPAK   £21.50   Standard Model
UVIPAK(T) £26.50   Standard model plus 15 min. timer
UVIPAK(TS) £28.50   Model T plus alarm.

Ground Control accept Credit Card Orders.

Technical Reference Manual

Please note that the Psion Technical Reference Manual is now available TO MEMBERS ONLY, on disks of the following formats:

5.25" IBM Format (3 x 360k disks)
5.25" BBC Format (please state 40/80/SS/DS)
5.25" Commodore 64 Format
3.5" IBM/Amstrad/ATARI (please state SS/DS

All versions are £6.00 (incl. post & packing)

You either love them or hate them - anyway here are a couple of reviews for quite different games for the Organiser

Gravity - Cubsoft
reviewed by Phil Coull

Gravity is a game for the Organiser written and sold by Mike Leigh of Cubsoft, famous for his other contribution to Organiser software, FNKEYS

Gravity is a version of the game originally, I believe, called MOLECULE, but I have also seen versions called BLACK BOX and ATOMS. No doubt other names exist as well.

It is a game of logic, based on a square grid, or "box". Within the grid are a number of stars, which have to be found in as few moves as possible. The only action you can perform is to launch space probes into the board and note the results. Fortunately, there are strict rules which govern the action of the probes when they come near a star:

1. A space probe travels in a straight line, unless it is deflected by a star.

2. When a space probe meets a star head on, it is absorbed (this can be changed to repulsed, if desired).

3. When a space probe meets the "corner" of a star, it is deflected 90 degrees away from the star.

4. Rule number 2 has priority over rule 3.

With this information, and careful, logical thought, the positions of the stars can be ascertained byu launching probes from the edge of the board and noting the result. Each probe sent costs you one point, so obviously, the better your powers of deduction, the fewer points you will amass, and the lower your final score will be.

As more pribes are sent, a picture builds up of the possible, (or if you're good - the certain) position of the stars. If you are sure of the position of a start, you can elect to remove it from the board, thus (hopefully) simplifying the process of locating the other stars. If your gruess is right, then the star is simply removed. If you are wrong, then the number of stars remaining on the board is added to your score.

With this short explanation of the game, it may not be apparent how addictive this game can become, with the familiar: "I'll just have another go" prevailing.

What exactly do you get with the package? The game is provided on a 16k datapak. There is a small 8 page handbook, explaining the rules and the specific implementation on the Organiser. There is also a wad of blank board layouts so you can record the progress of the games.

When you run the program, you have to answer a series of questions relating to the side of the board, number of stars, and whether you want the attract or repulse rule mentioned above. There is also a randomly generated seed string which you can override with one of your own. While the setting or noting of the seed string does not allow you toresume a game you have quit prematurely, it does allow you to recreate a game if you desire.

If you have the COMMS LINK attached, then there is a hard copy option, which enables you to print out more blank board layouts when the sheets provided run out (which I guarantee they will!). Although not mentioned in the handbook, you will need an Epson compatible printer to get printouts.

Once you have started the game, you can pres the mode key, which will present a menu, from which you can quit the game, see your score, or get a "post mortem" of the game, which shows you the position of all the stars.

As regards the actual implementation on the Organiser, obviously a complete board layout is impossible, which is why the sheets are provided, but within the confines of the Organiser screen, the use of user defined graphics, and the intuitive use of the Organiser keyboard, make this a very good implementation. In fact, I think that I would still write down my moves and results on a sheet, even if I used a "full-sized" version.

The current "knock-down" price is £19.95, which is excellent value for money when you consider that it is the same price as a blank 16k datapak. Also the pak is write-enabled, so you can use the rest of the pak for your own programs/procedures. If you really hate the game, you can always re-format the pak, and you have los nothing.

GRAVITY is available from:

CUBSOFT
8 Okeover Road
Salford
M7 0JX

Hangman - from Global Software
reviewed by Mike O'Regan

Whilst the Organiser is not exactly designed to produce GRAPHIC displays, this game makes full us of the limited facilities provided to produce a miniature gallows, which is the central feature of any version of HANGMAN.

I must admit to being an avid fan of word-games, both on and off the computer (I have spent quite a few hours relaxing with the excellent SCRABBLE available for the ATARI ST). Having also written versions of Hangman for other pocket computers (SHARP PC1500 and CASIO PB 700), I think I can understand some of the problems programming an Organiser version. The lack of DATA and READ statements in OPL is noticeable with such a program.

The first thing I did after unpacking the Hangman pak was to insert it into Slot C, enter HMAN on the top-level menu and pressed H. NOTHING!! I really should have read the very first line of the Instruction Leaflet provided, which says that Hangman will only run from device C:

Games Reviews - cont.

After duly inserting the pak in device B:, I pressed H and was treated to a nice moving display which culminated in the Global Logo. After a few seconds this was replaced by the question SOUND (Y/N). I chose Y to sample the sort of sounds provided, although I like to play my word-games silently as a rule. A tiny gallows appeared and a little man obligingly hanged himself to the invevitable first bars of the Dead March in Saul. I mad a mental note to switch off the sound in future, before the next menu appeared with the choice of PRACTICE or CHALLENGE. Thinking that PRACTICE was what I needed, I chose that option and went to the next menu - what level (1 - 5). Well I consider that I'm good enough for level 5, so choose that. I now find that PRACTICE is not quite so easy, all moves are timed - I hang myself in double quick time and try the CHALLENGE option. This is more like it. We start at level 1 and pass through to level 5 (if each level is successfully negotiated)

Now one of the peculiar features of Hangman is that it is often very difficult to guess a 3 letter word, but a doddle with a 7 letter (or longer). Thus it is not just a matter of starting with 3 letters and working through to longer words. However, Global have chosen to use word length as the criterion for level of difficulty. It is difficult to think of a reasonable alternative, except, perhaps to use words of increasing difficulty rather than length. There may be problems in implementing this on the Organiser.

I found after a little time that both versions of the game were quite acceptable, and the vocabulary chosen was consistent with the game being playable by children, as the manual states.

One curious feature of Hangman is the DIRE WARNING on the Instruction Sheet which implies that the pak is not to be copied to another pak, and any attempt to copy will BLANK THE PAK COMPLETELY.

HANGMAN is available from your Psion Dealer at £29.95 It is written on a 16k datapak, so if you decide that you want to reuse the pak, you will have paid £10 for the chance to try the game.

Rovoreed Bulletin Board

For those of you with email (electronic mail) facilities there is a Bulletin Board devoted to the Organiser available 24 hours a day. Details are as follows:

ROVOREED BULLETIN BOARD
300, 1200, 1200/75, 2400 baud
8 bits, no parity, i stop bit

I have heard that there are some goodies on this board, including a slick version of Mastermind by member JONATHAN HURWITT.

IPSO at P.C Show

With a bit of luck and a certain amount of planning IPSO should have a stand at the PERSONAL COMPUTER SHOW (previously PCW Show), sponsored by PCW Magazine and to be held at Earls Court, from 14 September to 18 September. We will be in the section reserved for User groups in the middle of the hall between the Business and Leisure Sections. The only proviso is that our stand must be manned at all times throughout the show and I will be asking for assistance from members who are interested in helping (especially from our newly formed London sub-Group - see below).

I will give more details as they become available and remind you all nearer the date. It sounds an ideal opportunity to meet some of you who couldn't make IPSOMEET 88.

London Sub-Group formed
report from Jonathan Hurwitt

The first meeting of the IPSO London sub-group was held on 2 June and was attended by 12 members. We discussed what the London sub-group should do and the general feeling was that there should be a short talk on a subject of interest followed by an informal session. It was also thought that there would be a natural division into 'advanced' and 'beginners' sections with one aiding the other as required. Members approching Psion for technical assistance have found the answers received to be of variable quality. It is hoped that the London group can be used to extract consistent information from Psion. The possibility of obtaining a guided tour of Psion's headquarters later in the year is also be explored.

The interests of those attending ranged from learning basic OPL file-handling to machine-code and communications. We found that the wheel was being re-invented, as two people had written similar de-luxe directory programs. A program and listing exchange at future meetings should help reduce this.

The next meeting will be from 8 p.m. on Thursday 14 July at 39 Twyford Avenue, London W3. I would apprecieate it if anyone wishing to attend could let me know first, so I have some idea of numbers. Please chat to me or my answerphone on 01 - 568 4138.

Finally, my thanks to David Gray for the use of his home for this and the next meeting. If anyone knows of a suitable venue for future meetings I would loke to hear from them.

Project
DIY Pak Formatter
by Pete Littlewood

Erasure of a datapak required exposure to ultraviolet light of the correct frequency - 2537 Angstroms. A suitable 6" tube can be purchased from R.S. for £9.00 + VAT, part number 424-478, (no doubt they are available from many sources, Maplins sell one, although I have no personal experience of them, but the price is £15.95).

What probably is not widely known is that this tube will replace exactly the one fitted in a small standard fluorescent torch. These are readily available quite cheaply. You should be able to buy one for around £5.00 or less (the last one I bought cost £2.50 from a surplus store).

The only modification the torch requires is the removal of the clear plastic cover over the tube. The exposure to UV light must be uninterrupted i.e. having no intervening filter of glass or plastic.

Then comes the DIY aspect of this project. The eraser should be contained in a suitable box so that no stray UV light can escape when in use. THIS IS EXCEEDINGLY IMPORTANT, BECAUSE EXPOSURE TO UV LIGHT OF THIS FREQUENCY IS VERY HARMFUL TO THE EYES AND SKIN.

The only other refinement which may be added is a time switch, although I find that erasure time is so short I haven't bothered with this on mine. It is probably easier to sneak the time out of the kitchen (don't tell my wife I suggested that!) (or use the timer available on many digital watches. Ed.)

The EPROM should be positioned 1" from the tube and exposure should be on average around 12 mins, although I have had them clean in only 2! The best time is generally found by trial and error. As a rough rule-of-thumb, gradually reduce the exposure time until the pak just cleans and then add around 50%, as it is possible for a pak to re-corrupt if it has not been exposed for long enough.

Editor's note: Be extremely careful to follow the above instructions to the letter if you decide to attempt this project. IPSO cannot be responsible for any damage to property or person resulting from the project.

Fitting EPROM Sockets on Datapaks

PETE has also volunteered to supply information to anyone interested on how to fit EPROM SOCKETS to datapaks. He says, however, that this is only recommended for those who are experienced with a soldering iron, and even then it is not for the faint-hearted, as there are some tiny devices on the board close to the pins which have to be de-soldered. His phone number, FOR THE BRAVE, is 05436 71045!

Improvement to the
Psion Mains Adaptor

I have had several letters complaining about the quality of the Psion Mains Adaptor, some saying that the problems with RAMPAK erasure etc. are because of its construction.

One of our members, IAIN McGILL, has come up with a modification which (he says) makes the operation of the MA much more reliable. These modifications ahould be within the scope of a reasonably knowledgeable DIY person.

Anyone wishing to have details can send me a SAE, plus 30p for photocopying, or they might care to contact IAIN directly for more details. He can be contacted on:

04868 20945

Tips for the
Organiser Emulator
from A.M. Deeley

These tips are applicable to the Organiser Emulator, Version 2.1, 1987 and might be restricted to systems using an EGA card as a display driver.
1.   When using the FIT command, observce two precautions:
Make sure to type the packname correctly
Do not use the interactive form of FIT - do type all parameters on the ca'ommand line, e.g. FIT <packname> <slot> [ENTER]
2.   Generally avoid any use of the HELP facility.

These precautions prevent a total system hand which can otherwise occur and which is indicated by the cursor displaying in both the command area and the LCD screen window at the same time. If this double cursor is seen then the system is likely to hand on the next keystroke.

Another useful tip is to those using the Emulator on hard disk systems:
If you wish to hold your Organiser .OPL .LND and .IPK files in a project sub-directory that does not contain the Psion Developer Kit Utilities, then try the following pair of MS'DOZ commands together to point to the Psion files from your project sub-directory,
APPEND C:\PSION\COMSLK;C:\PSION\DEVEL

PATH   C:PSION\COMSLK;C:\PSION\DEVEL;C:\DOS;C:\
You can then access these utilities from any other directory which prevents OPL files from becoming mixed up with the PC host software. Incidentally, due to the limitation on number of files in a root directory of an MS-DOS system, never work in the root directory, always in a sub-directory.
Generally, the Developer kit is very good - in its main feature of emulating a running Psion Organiser II program it is very accurate. I have had no problems at all in this key   area.-

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IPSO FACTO

Editorial

Sorry if the Publication Date is subject to some variation just now, but there are reasons, the details of which I will not burden you with.

By the time the next issue is out, we will have made final arrangements for our Stand at the PERSONAL COMPUTER SHOW and I will let you know all the details. The Show is at EARLS COURT from WED SEP 14 to SUNDAY SEP 18 (inclusive), for those of you who didn't know.

This page is always the last to be written, for obvious reasons, and this allows me any last minute adjustments necessary. Therefore, on Page 52, under "A Few Tips", I forgot the necessary ENDIF statment in the first Tip. By the way, the line halts the program, waiting for any key to be pressed. If that key is ON/CLEAR, the program breaks at that point.

As many members reminded me by phone, I forgot the essential bit of information about the ROVOREED BULLETIN BOARD, mentioned in the last issue - the PHONE NUMBER. It is:

01-542-4977 (24 hrs - 7 days)

Contents

London Group Meetings

The second meeting of the IPSO London Group was held on 14 July. It was attended by twelve members and one prospect. Nine of the members present also attended the first meeting.

I gave a demonstration of the Organiser Developer, baswed around my Mastermind program. My thanks to DAVID GRAY for the load of his Amstrad PC1512 as the screen on my PPC would only have been visible to about two people at a time. There was then a general informal discussion, much of which seemed to be about improved versions of the FIND command.

There seems to be three different levels of user at the meetings and I assume this is true of the membership as a whole. The first group comprises the complete nocives, who don't know much about the Organiser or possibly computing in general. These are the people who benefit most from MIKE NASH's Beginners page in I.F. and we are lucky he is able to attnd the meetings. The second group are those who want to extract the most from the standard facilities of the Organsier. GORDON BROWN's article in the June newsletter illustrates this approach. The final group contains the professional computer users who are programming in machine code to extract the last drop of performance and information from the Organiser

The next meeting will be on Thursday 18 August, from 8p.m. again, dure to DAVID GRAY's generosity, at 39 Twyford Avenue, London W3. If anyone wished to volunteer to give a short talk, please let me know on 01-568-4138. My apologies to anyone who tried to phone me before the July meeting and could not get an answer. British Telecom claim that the Gas Board cut through a phone cable, cutting off 800 people!!! I would also still like to hear from anybody who can offer or suggest a permanent venue.

Jonathan Hurwitt

Five small but useful programs from ANGELA MACAULAY (Portugal).

This is a back-to-front program and answers the question:
What percentage is "x" of "y"
This is useful for checking interest charges on outstanding balances on credit cards, interest charged by banks for changing currency, cashing travellers cheques, etc.

```
wp:
LOCAL per,va,res
CLS
PRINT "What %age is",
INPUT per
PRINT "of value",
INPUT va
res=(per/va)*100
PRINT res:"%"
GET
```

For travellers (and weight-watchers) abroad and confronted with scales which are only marked in kilograms. Type in the kilograms and you will get the conversion to Stones and lbs. Useful for excess baggage too.

```
kgs:
LOCAL kgs,st,lbs
CLS
PRINT "Kilograms",
INPUT kgs
CLS
st=int(kgs/6.35)
lbs=INT((kgs-(st*6.35))/.4536)
AT 3,1
PRINT st,"stones",lbs
GET
```

I have found this program useful for converting currencies, changing kms to miles (and vice versa), Fahrenheit to Celsius, etc. and also for converting recipe quantities where, for example, the recipe states "1 kg minced beef" and I only have 840 grams and I want to know how to adjust the quantities for the remaining ingredients.
It answers the formula:
"a" is to "b"
as "x" is to "?"

```
ratio:
LOCAL am,isto,as
PRINT "AMOUNT",
INPUT am
PRINT "is to",
INPUT isto
PRINT "as",
INPUT as
PRINT "is to",
PRINT isto/am*as
GET
```

This next program was brought about byu extensive travel on French motorways. It isn't common knowledge that, when you take a ticket on entering a French motorway, the time is (sometimes invisibly) stamped on the ticket. When you come to leave the motorway at the peage, it is therefore possible for the authorities to determine whether you have exceeded the speed limit on your journey.

If you have done so, you can be pulled into the side and fine on the spot!

In order to find out what you are averaging, you must, on taking your ticket, spare a second or two to enter your speedo reading and the time (24 hr clock)

```
init:
LOCAL sr%,time
PRINT "Speedo reads"
INPUT sr%
PRINT "Time (eg 21.55)"
INPUT time
M8=sr%
M9=time
```

Run init: to record your readings

Bowl along the motorway and at any point before the peage, acces the kms: program (listed below). It will ask for the current speedo reading and the time NOW (24-hr clock) and will return your average speed since your took the ticket. If you are over the top, pull into the next service station and have a coffee (or two)!

I have written thr program with a kilometer speedometer in mind. If however you are running on a mileometer, change "kms" to "miles" in the penultimate line. The speed limit on French motorways is 130 kph or 81 mph.

```
kms:
LOCAL sp,cs,ti,t1,t2,cb,av
PRINT "Speedo reads",
INPUT sp
ca=sp-M8
CLS
PRINT "Time now 24 hr"
PRINT "clock",
INPUT ti
t1=(INT(ti)*60)+100*(ti-INT(ti))
t2=(INT(M9)*60)+100*(M9-INT(M9))
cb=t1-t2
av=ca/cb*60
CLS
PRINT "Average=",INT(av)
PRINT "KMs per hour"
GET
```

Blunders Section

There were 3 mistakes in BAS BEIMAs excellent ZK: program (last issue). Please amend as follows:

1. Column 1, Line 15
"MAIN" should be "MAIN:"

2. Column 2, Line 8
"XK:" should be "ZK:"

3. Column 2, Line 27
Insert a space and colon (:) between 206 and B%

Apologies to all concerned and thanks to those who pointed out that the program as listed would not run!-

PRINTER DRIVER FOR EPSON P40
by Mike O'Regan

I wrote this little driver for the benefit of those members who bought P40s from IPSO (in the first place), but have had a few requests for the program from other members. Note that it is quite basic, and while it covers the various printstyles on the P40 (which are a sub-set of the normal EPSON options), there is no attempt to include graphics (which the P40 can also handle)

```
p40:
LOCAL o$
LPRINT CHR$(27);"R";CHR$(3); :REM set UK char set
o%=MENU("Bold,Cond,Scond,Enl")
IF o%=1
LPRINT CHR$(27);"E";
RETURN
ELSEIF o%=2
LPRINT CHR$(27);".";CHR$(1);
RETURN
ELSEIF o%=3
LPRINT CHR$(27);".";CHR$(0);
RETURN
ELSEIF o%=4
LPRINT CHR$(14);
RETURN
ENDIF
```

Use the following setup from the COMMS Menu to set the Organiser to the P40:

```
BAUD      9600
PARITY    NONE
BITS      8
STOP      2
HAND      XON+RTS
PROTOCOL  NONE
```

Set DIP switches on the printer to:
1 & 6 ON - all the rest OFF.

POLYGON PLOTTING ON THE TANDY CGP-115
by David Gray

The program below, for drawing a polygon is all menu-driven.

```
drawpol:
LOCAL c%,l%,n%,h%,v%,r%,a%,s%
CLS
s%=MENU("Black,Blue,Green,Red")
c%=s%-1
l%=0
s%=MENU("Triangle,Diamond,Pentagon,Hexagon,
Helptagon,Octagon,Nonagon,Decagon")
n%=s%+2
CLS
PRINT "H.Position:",
INPUT h%
CLS
PRINT "V.Position:",
INPUT v%
CLS
```

PRINT "Radius:",
INPUT r%
CLS
PRINT "Angle:",
INPUT a%
POLY:(c%,l%,n%,h%,v%,r%,a%)

```
poly: (c%,l%,n%,h%,v%,r%,a%)
LOCAL x,y,s,sa,ca,c,d%,xd,yd,xr,yr
c=COS(2*PI/n%) :s=SIN(2*PI/n%)
ca=COS(PI*a%/180) :sa=SIN(PI*a%/180)
x=1 :y=0
LPRINT CHR$(18);
LPRINT "C";c%
LPRINT "L";l%
LPRINT "I"
LPRINT "M";h%;",";v%
LPRINT "I"
LPRINT "M";INT(r%*ca+.5);",";INT(r%*sa+.5)
WHILE d%<n%
xd=x :yd=y
x=xd*c-yd*s
y=xd*s+yd*c
xr=x*ca-y*sa
yr=x*sa+y*ca
LPRINT "D";INT(r%*xr+.5);!",";INT(r%*sa+.5)
d%=d%+1
ENDWH
LPRINT "H"
LPRINT "M";'h%;",";-v%
LPRINT "A";
```

Missing Section from DECBIN: (Beginners Page - July)

This is the missing section of DECBIN: It follows on from the bottom of the first column:

```
n%=ABS(n%)
minus%=1
bin%(1)=1    REM sets sign-bit (minus)
ELSE
bin%(1)=0    REM sets sign-bit (plus)
ENDIF
i%=1         REM sets loop & bit array
COUNTERS
DO
i%=i%+1
n%=BINALG%:  REM call binary conversion procedure
PRINT div%,n%,i%,bin%(i%) REM test line - delete
UNTIL i%>15              REM when program
i%=0                    REM works properly
|DO
i%=i%+1
bin$=bin$+GEN$(bin%(i%),1)
UNTIL i%>15
CLS
AT 1,1 :PRINT bin$
AT 1,2 :PRINT " =",bin%(17),"= $";HEX$(bin%(17))
```
        [apologies all round, Mike. Ed]

SUMS
by John Comforth

SUMS is a basic arithmetic game.

Three random numbes appear on the screen, followed by an equals sign and a result.

The object of the game is to fill in the gaps between the 3 numbers with the correct arithmetic symbols which would produce the result shown.

Scoring is 10 per correct answer, plus a bonus, depending on speed. A penalty of -10 is awarded if the answer is not completed within the time limit. The time limit reduces with each round of ten questions. A wrong answer ends the game.

```
sums:
LOCAL a%,b%,c%,d%,g%(2),h%,i%(3),n%
LOCAL p%,r%,s%,t%,u%,v%,x%,y%,ti%,bs%
KSTAT 3
START::
ti%=10 :bs%=M9
CLS :PRINT "Best=";BS%,"TIME=";TI%
at 1,2 :PRINT "  DEL to quit"
GET
GO::
n%=1
DO
i%(n%)=INT(RND*7)+3 :n%=n%+1
UNTIL n%=4
r%=INT(RND*10)
a%=i%(1)
b%=i%(2)
c%=i%(3)
IF r%=0 :d%=a%+b%+c% :u%=43 :v%=43
ELSEIF r%=1 :d%=a%*b%+c% :u%=42 :v%=43
ELSEIF r%=2 :d%=a%*b%*c% :u%=42 :v%=42
ELSEIF r%=3 :d%=a%+c% :a%=a%+b% :u%=45 :v%=43
ELSEIF r%=4 :d%=a%+b% :b%=b%+c% :u%=43
:v%=45
ELSEIF r%=5 :d%=a%+c% :a%=a%*b% :u%=47 :v%=43
ELSEIF r%=6 :d%=a%*c% :a%=a%*b% :u%=47 :v%=42
ELSEIF r%=7 :d%=a%*b%-c% :u%=42 :v%=45
ELSEIF r%=8 :d%=a% :a%=a%+c% :a%=a%*b% :u%=47
:v%=45
ELSE d%=a%*b% :b%=b%*c% :u%=42 :v%=47
ENDIF
CLS
AT 11,1 :PRINT "$=";t%
PRINT a%,b%,c%;"=";d%
n%=1
g%=ti%*100
g%(2)=32
WHILE p%>100
g%(n%)=KEY
p%=p%-1
AT 1,1
PRINT a%;CHR$(g%(1));b%;CHR$(g%(2));c%;"=";d%
n%=n%+1
ENDIF
IF g%(2)=47 :y%=x%/c%
ELSEIF g%(2)=42 :y%=x%*c%
ELSEIF g%(2)=45 :y%=x%-c%
ELSEIF g%(2)=43 :y%=x%+c%
ELSEIF g%(n%)=8 :RETURN
```

```
ENDIF
IF n%=3 AND y%=d% :GOTO OK::
ELSIF n%=3 :GOTO WRONG::
ENDIF
ENDWH
AT 1,1 :PRINT "Too slow"
AT 1,2
PRINT a%;CHR$(u%);b%;CHR$(v%);c%;"=";d%
PAUSE 10
t%=t%-10
GOTO GO::
WRONG::
AT 11,2 :PRINT "Wrong"
AT 1,1
PRINT a%;CHR$(u%);b%;CHR$(v%);c%;"=";d%
IF t%>bs%
M9=t%
ENDIF
t%=0
GET
GOTO START::
OK::
AT 11,2 :PRINT "OK"
t%=t%+10+p%/100
s%=s%+1
IF s%=10
ti%=ti%-1
s%=0
ENDIF
PAUSE 10
GOTO GO::
```

THREE LITTLE SNIPPETS
from Chris Parker

```
div:(x,y)
RETURN INT(x,y)
REM This simulates the DIV function

mod:(x,y)
RETURN x-(INT(x/y)*y)
REM This simulates the MOD function

tas:(mach,temp)
RETURN mach*38.94*SQR*273+temp)
REM This returns aircraft True Air Speed in knots, given
Mach Number (mach) and Outside Air Temparature in
Deg. Celsuis (temp)
```

A NOTE FOR PROGRAMMERS
from the Editor

In the interests of clarity, can programmers please refrain from writing long, multiple statement lines. Not only do they waste memory (a COLON and a Space are 2 chars whereas a LINEFEED only 1), but, if it means that the program line runs on to more than one printed line, it can be confusing. Thanks!

I must begin this month's page with a plea: don't send me SAEs for personal replies, because I don't have the time to reply to everybody individually. The idea of supplying my phone number and a specific time when I am likely to be in, is to help those who can't wait for the next issue of IPSO FACTO to solve their problem without taking up too much of my time. Emough said! COLIN McGLASHAN writes to ask about date stamping files, and supplies a procedure which contains the following code:
(the REMS are my comments)

```
dstamp:
LOCAL m :REM should be an INTEGER to save space
m+MONTH :REM anyway why not use MONTH instead?
IF m<10 :REM this IF structure to to insert a leading 0
           when m is a single digit
PRINT 0;m;DAY;MID$(DATIM$,14,2)
ELSE PRINT m;DAY;MID$(DATIM$,14,2)
ENDIF
GET
```

I first thought of replacing the IF-ENDIF and contents with the line:
```
PRINT GEN$(YEAR-1900-2)+GEN$(MONTH,-2)+
GEN$(DAY,-2)+MID$(DATIM$(5,2))
```
This gives a YYMMDD format and leaves a space where the month or day is a single digit (the "-2" ensures the RIGHT JUSTIFICATION).
I have included the above inorder to take the opportunity to put GEN$ through its paces, but in fact a better answer to COLIN's original requirement of DATE-STAMPING FILES is as follows:

```
dstamp2:
LOCAL y%,m%,stamp%
y%=(YEAR-1900)*10000   :REM result=880000
m%=MONTH*100           :REM result=800
stamp%=y%+m%=DAY       :REM DAY=5
RETURN stamp%          :REM total=880805 5 Aug '88
```

Assuming that you have created or opened a file which has, as one of its FIELDS "datestamp%", you merely have to include, before any command to save or update any record, the line:
```
            datestamp%=dstamp2:
```

Your procedure will then treat dstamp2: as it would an OPL function and assign the date in the above format to the record.
The reason for choosing the YYMMDD in the way described is because the date can be shown as one number where each succeeding day increases the value by 1. This means that if you want to sore your records by date it is mathematically very easy. If you don't beleive me try putting the year in the middle!
Finally, thean you COLIN for pointing out the our Editor has mislaid part of Decbin: my binary conversion procedure in June's isue. I trust that this hint will do the trick!.

MERVYN TOOGOOD writes to say that he con't understand a syntax error in BAS BEIMAs ZK: procedure in the July Issue (page 39) [SEE CORRECTIONS TO BOTH PROGS IN THE PROGS & PROCS SECTION Ed.]

Thanks to CONDRAD ROE, a new member who is very keen and has sent me two letters chock-full of ideas which I may refer to in the future. One small error in CONRADs letters was the assumption that LABELS can be referred to from outside the proedure in which they reside. CONRAD also referred to my procedure PROCMEN: as an ideal sample MENU routine. However, I must admit that BAS BEIMAs QCHOICE: (page 39 July issue) is vastly superior in compactness and clarity, and well worth study by BEGINNERS who aspire to be PROGRAM-MERS. I venture to suggest one addition to the bells & whistles - that is to make the menu a parameter of QCHOICE: thus:
```
            qchoice:(m$)
```
where m$= "FMAN,PONTOON,NOTEPAD,ZK,OFF"
This elevates qchoice: to thew status of an IPSO "word" (some day someone is going to volunteer to catalogue and publish these I hope).

GEOFFREY KAYE, of IPSO-LONDON, approached me with a request for a Stopwatch for Darkroom use. I have since heard that GEOFFREY's requirements have been satisfied by Psion and JONATHAN HURWITT, who combines being the London leader with the hobby of photography. It just so happens that I was about to publish my CHESSCLOCK routine as a way ofshowing how to handle clock routines, but have now decided to throw this task to the User Group with a special challenge to the "advanced" beginners. My own Chessclock was written by studying WILL CHAPMAN's TIMER: routine (IPSO FACTO Vol. 1) and adding a MOVE counter and working out how to store White's time while counting Black's. Feel free to submit entries or queries on this subject over the next couple of months. The best (or most interesting) will be printed. As our Editor reads this I feel that he is even now pondering what IPSO can come up with in the way of reward for your efforts. [OK Mike you twisted my arm. There will be a small prize for the best entry Ed.] Entries should be up to one IPSO FACTO column in length (approx).
I got a call from LEW KAYSER this morning who had a problem because his Organiser kept switching off after 30 seconds. PSION had given him the necessary information to correct this, but unfortunately LEW was having difficulty in following th Manual's instructions on entereing a procedure for the first time. When LEW compared it to learning to dismantle his artillery gun in the way, I realised what a great unifier our Psion is, bringing together all ages and disciplines! Don't forget the next London Meet, LEW!

Finally, CHRIS DOCKER has a problem interfacing his CANON TYPESTAR 7 with the PSion becuase the screw lugs on the Organiser RS232 plug make it too wide for the CANON. TANDY supply a bright blue plastic plug (cat. no. 3993393) from which the lugs can be cut.

Mike Nash
6 Hazlemere Court
26 Palace Road
London SW2 3NH

Telephone: 01 6718644 (Sunday morning) or Telecom Gold MAG32832

Machine Code Page
by Les Ball

Since last months issue, several people have rung to ask what a Machine Code MONITOR is, or perhaps more correctly what I mean by a Machine Code Monitor. On some of the larger machines, a machine code monitor will allow you to look at the contents of memory, change them if you wish to, run sections of machine code, halt a routine when you want to, by putting in what are known as break-points, thus giving you the chance to examine the processor registers and allowing you to change them, should you want to do so. You can also (on some monitors) dis-assemble a section of code and change the contents of memory locations at will. On the monitor I have developed for the Organiser, not all these facilities are available, for example, the dis-assembly of code. The reason for this is that a very good dis-assembler is available from LANGDALE SYSTEMS and anyone who wants this facility would do well to get hold of this. I personally could not manage without this monitor however and, for the sake of those who have contacted me or may be thinking of doing so, I thought it might be useful to to take a look at the facilities of the Monitor this month. Obviously, the size of the Organiser display limits the number of memory locations you can look at at a time - I chose four. When you first run the Monitor it asks you for an address (in Hex). It is not necessary to use the shift key or the EXE key, although machine does expect 4 digits, and if you use less you must press the EXE key.

The address is then displayed in the top left-hand corner of the screen, followed by four hex digits, which are the contents of the four memory locations from that point. Underneath these are the ASCII representations of these codes. It is then possible to move backwards or forwards through RAM (or ROM) 1 digit at a time, four digits at a time, both of which will obviously give a continuous display, or 256 digits at a time, which enables you to move on quickly, but will not display the intervening digits. You can, if you wish, change the contents of the first location displayed. Once again, entries are in hex, and you do not need to use the shift key or the EXE key. When the display returns, the address has incremented, and you may continue to change the contents of the first location in the same way. Should you wish to jump to some other location you may change the address at any time. You can also jump to the address held by the first two bytes displayed. For example, if you look at location $2000, the first two digits displayed will hold the address of the TOP LEVEL MENU, and if you wish to jump to this address, there is a facility for doing so. If you do so, the bottom line, which whos the ASCII representation of the numbers, displays the text of the Top Level Menu, along with the addresses where the routines for these functions are held. There is a facility for searching for text or specific numbers, so that you can, for example, look where the days of the week are stored in ROM, or perhaps where a particular routine is stored in RAM, which you have written in OPL. You can if you wish also run a code routine from the address displayed. This is of course subject to knowing what you are doing and you will be asked whether you really wish to do this. You can also request a particular SOFTWARE INTERRUPT (SWI) routine and look at the code. With certain routines, for example the ALARM, you can actually run this as it does not require any input parameters. When selecting the number of the routine, these are entered in decimal

This is because, in the Tech Ref Manual, the numbers are referred to in decimal. Other facilities include making room for putting in an extra byte of code. This does not however change RELATIVE JUMPS and if you have them in your code you will have to alter them accordingly. You can also swallow up a byte of code in a similar fashion, but again JUMPS will have to be altered. It is also possible to print the contents of RAM or ROM, again with the hex codes and the ASCII representation.

I know our Editor has used this program for changing the TOP LEVEL MENU of his Organiser so that all the names of the applications software are now in GERMAN! and all the OPL routines are in lower case.

Mbase/Xbase

CUBSOFT have done it again! It seems that Mike Leigh specialises in powerful programs which reside in a tiny amount of RAM. This time it is a pair of databases. The biggest of these uses only 1.75k of RAM. Having a RAM resident program is rather like having a THIRD SLOT for datapaks (which we have all felt the need of from time to time. Both MBASE and XBASE appear to be extremely easy to use and, despite their small size, manage to include features not found on any other current database for the Organiser. I will be featuring a full review of these programs in a future issue. In the meantime, anyone interested can phone Mike Leight (Cubsoft) on 061-792 2871. Both programs are included on a single datapak which costs £35. A version which includes MINIKEY (a cut-down version of the famouse FNKEY) is also available at £40.

The address is:

CUBSOFT
6 Okeover Road
Salford
M7 0JX

Odds & Ends

JEREMY HOLT is a Solicitor doing research into the use of the Organiser in Solicitors offices. He would be most interested to hear from other Solicitors who use it, particulary for time-recording. JEREMY can be contacted at:

> 14 Belmont Crescent
> Old Town
> Swindon
> Wilts SN1 4EY
>
> Tel: (0793) 619664

IAIN McGILL sends us the following information on connecting the Organiser to a BROTHER M1109 printer (and which may be of help with other printers):

I had a query on my printer losing a couple of characters from the second and subsequent pages, only when printing out a document on CUT SHEET paper! I was getting fed up with misleading information from both Psion and Brither, but I have to admit that the Applications Dept at Brother did eventually suggest that the problem might be a case of incompatible wiring in the Psion printer adaptor. I separated the adaptor and found that it was wired as per page 151 in the Comms Link manual. After much soldering/desoldering of pins, and much juggling of little bits of knowledge, I surprised myself by sorting out the problem, as follows:

Note: The adaptor is NOT reversible after rewiring these pins.

On the Psion side of the adaptor - bridge 20 - 5
On the printer side of the adaptor - bridge 4 - 6 - 8

then connect the Psion to the printer within the adaptor:

> 2 - 2
> 3 - 3
> 4 - 4
> 7 - 7
> 20 - 20

A useable SET-UP setting on the COMMS LINK:

BAUD:	1200 (will accept up to 9600 satisfatorily)
PARITY:	EVEN
BITS:	8
STOP:	2
HAND:	XON-DTR
PROTOCOL:	NONE
ECHO:	LOCAL

For the remainder use default settings.
Set the printer DIP switches accordingly.

[Editor's note: Modifications to HARDWARE should only be undertaken with the greatest of caution, and then only by experienced people. IPSO cannot be responsible for any damage to persons or equipment, or loss of data, resulting from such modifications]

Dr F.J. GRIFFITHS is struggling with the problem of trying to interface the Organiser with an OXIMETER. and would appreciate help from any member with experience in this field. Dr Griffiths can be contacted at:

> 8 Ashridge Cottages
> Little Gaddesden
> Berehamsted
> Herts HP4 1 PW
> Tel: (044 284) 3402

A member would like to contact anyone who has successfully interfaced the Organiser to any of the IBM S-3X series computers. Replies to:

> John Gioannetti
> 19 h Commodore Court
> West Moorings-by-the-Sea
> Trinidad W.L
> Tel: Office 1-809-625-2416&7
>   Home 1-809-633-5791

The Editor (Mike O'Regan) would like to hear from anyone who has knowledge of a workable MIDI (Musical Instrument Digital Interface) connection for the Organiser. I would like to be able to program some MIDI equipped devices from the Organiser. See the newsletter heading for address.

DAVID OWEN is a Lawyer dealing with commercial disputes. He often has to carry out calculations relating to time. One such calculation involvel ascertaining quickly exactly hown many DAYS, HOURS, and MINUTES it is from one time and date to another. Another is the adding together of time expressed in DAYS, HOURS, and MINUTES. Anyone who thinks they can help DAVID should contact him at:

> 32 Meadow Road
> London SW8 1QB

MARK BRETT has sent me a copy of the Newsletter of the METROPOLITAN POLICE AMATEUR COMPUTING CLUB. This is a nicely produced 68 page journal which has been in existence for some time (volume 8). Thanks to MARK for mentioning IPSO in his article "The Continuing Adventures of the Psion Organiser". However, MARK, I don't know where you got the idea that we are known as "IPUG"! This was one of the acronyms which I considered at the start (and rejected). The name "IPSO" was used partly because (as all students of ANCIENT GREEK will know) the PS in "PSION" and "IPSO" is a single letter in the original Greek. By the way, it is customary to pronounce the "p" (unlike Anglicised words like "Psychology")

SOME GENERAL COMMENTS
from Peter Davies

SERVICE
I am not ever-impressed with PSION when returning defective items. They denied receipt of a recorded delivery item until after I had started an insurance claim and bought a replacement; then they suddenly "found" it.
They similarly denied receipt of an item six weeks after it was sent, and later "discovered" it. A replacement was promised within a fortnight, but two more telephone calls wewre needed after this time.

XCHANGE SOFTWARE
It is disappointing to find no Xchange compatible formats in the COMMS LINK and no mention of PSION's own software in the manual. As a user of Xchange and PC-Four it only increases my apprehension that this software will play an ever decreasing role in Psion's plans.

COMMS TO IBM XT
The COMMS LINK manual definitely calls for 9600 baud, but we found this extremely unreliable (about 1 in 7 success rate). Using 4800 cured all problems, and appeared to be no slower.
To download to Psion Xchange, the tab field separators must be changed to commas. 9,44 entered as TTRN on COMMS SETUP on the Organiser, when using COMMS LINK does the trick. The field names must be added to the file and Xchange gives a neat option with the TSL function. I use a TSL file which automatically imports the .ODB file into Quill, the word-processor, adds the field names and transfers the resulting file into Archive, the database.

DEVELOPER
This is far more practical for program writing (my mastery of the Organiser keyboard lies somewhere between poor and non-existent) and has good debugging facilities, but it is longwinded to creat an image file and download to a datapak.

Dr M.E. ERTL would like to hear from anyone who has developed or is developing a FRENCH-ENGLISH dictionary. He can be contacted as follows:

Ravenscroft
Coldharbour Road
Upper Dicker
Hailsham
Sussex BN27 3PZ
Tel: (0323) 844666

THE ELUSIVE DELETE CHARACTER
from Adrian Pegg

I have discovered that CHR$(8) does not perform in the way the manual says it should (page 196). It is supposed to be the DELETE character, but it acts only as a backspace. To check this out try this simple procedure:

```
test:
PRINT "Hello"+CHR$(8)
GET
```

The display should read "Hell" as the last character should have been deleted - IT DOESN'T! Does anybody know why, or how to access the DELETE character from OPL?

JIM ARMSTRONG has some useful observations:
As a partial answer to the irksome cost of replacing batteries, Jim has written the following procedure which allows the automatic shutdown period to be shortened:

```
shutoff:
LOCAL n%
PRINT "Minutes to"
PRINT "shutoff";CHR$(63),
INPUT n%
POKEW $20CD,INT(n%*60)
RETURN
```

For much of the time the Organiser tends to be used as a data retrieval device for phone numbers etc. Setting the shutdown delay to 1.25 minutes saves 2.75 minutes of power consumption per access [If you don't switch off yourself. Ed.] The time can be lengthened to the normal 5 minutes, or longer, when working at a desk with mains power.
Be careful when using NICKEL-CADMIUM rechargeable batteries, especially if writing to datapaks. Very rapid decay at the end of a charge is a normal chjaracteristic of these. The level of charge can be normal at the start of a file copy, and inadequate to hold the RAM before the opeation is completed.

A FEW TIPS
from the Editor

Here are a few tips. If you have heard them before, you may have forgotten about them, otherwise I apologise.

1. Many members complain that they accidentally write ETERNAL LOOPS into their programs. This can be simply avoided by writing the following line in a convenient position between the DO and UNTIL or the WHILE and ENDWH:
    IF GET=0 : RETURN
2. Use a COMMA instead of a SEMICOLON as a PRINT or LPRINT separator - this saves a char and still inserts a space before the next item.

IPSO FACTO

The Newsletter of the International Psion Organiser User Group

Volume II . Number 7 . September 1988

Editorial

THE PC SHOW

As most of you will know by the time you receive this issue, IPSO was not able to secure a stand in the User Group area at the PERSONAL COMPUTER SHOW. It seems that the area allocated to User Groups was not as large as it was thought, it seems that most of the other groups just reapplied for space immediately after the last years show, and it is 'first come first served'. However, I must thank DENWOOD MARKETING (of the beautiful leather Organiser cases fame) for offering us a corner of their (very expensive) stand so that we can at least hand out a few leaflets.

ORGANISER PRINTER

After many rumours, Psion have at last released a dedicated printer for the Organiser. I haven't yet seen one, but the specification is as follows:

It is a thermal printer taking 4in paper rolls (like the good old Epson P40). It will plug in - or rather the Organiser will plug-in to the printer! - without the need for a COMMS LINK. It runs at a staggering 19 CPS., will print 80 chars (condensed) across the paper. It is Epson compatible. The printer will be supplied with re-chargeable batteries and a mains adaptor and some thermal paper. There is also (unusually) an RS232 port on the printer. The price will be £195 + VAT. I still haven't decided whether to welcome this news or not. Perhaps I will withold further judgement until I have had a chance to lay hands on one.

With the printer out, can the ORGANISER III or at least the 128k RAMPAK be far behind!

MEMBERSHIP

We continue to grow (coming up to 800 before the Computer Show) with members, many of them very active, in many countries. One thing which has struck me is that most of our members in the more exotic countries seem to be expatriates of one kind or another - a German chap in Panama, several English members in Middle East Countries, Hong Kong, etc. Where would the "Empire" be to-day if we had had the help of the trusty Organiser in those days?

CONTENTS

Swiss Connection

CHRISTIAN DROEGEMOELLER would like to contact other IPSO members in Switzerland His address is:

Rue de Madeleine 37
Vevey
CH - 1800
Switzerland
(Home phone No: (21) 922-92-15

Machine Code Page
by Les Ball

I was recently asked whether it was possible ot examine the contents of a DATA or RAM PAK, using my MONITOR, or one of the other memory programs available for the Organiser. The answer is 'yes'. This month I am publishing two routines which will allow you to do this, but I would emphasize that you please follow the instructions carefully. First of all, make sure that there is nothing in the Organiser RAM which you cannot afford to lose.

Now we must make available space for the contents of the pak in memory and this is done by setting the pointers to TOP OF RAM, which I talked about earlier. These are held at $2065 and $2066. In this routine, these are set at $3EFF, which will leave you 16k of memory to put the contents of the pak into, starting at $7F00. These pointers are normally set at $7EFF and when you have finished using the routines, you must remember to put the pointers back. There is a facility for this in the routine, so you don't have to worry about remembering where to put them back to. If you forget to put them back, however, you will be told next time you try to use the machine that memory is full!

The second routine uses three of the ROM pak routines. The first turns on DEVICE B:. The second sets the pak address to read from, and the third reads the pak into memory. When this second OPL routine has been run, you will be returned to the program menu. From here load your MONITOR program and look at the contents of £3F00 onwards. If you have my MONITOR program, you can SEARCH for text, say the name of a particular routine, and see where is starts. You cannot, however, RUN the routine from memory. This is intended purely as a means to examine the contents of the pak.

The READ: routine will prompt you for a pak address, and if, inresponse to this, you put 0, the first 10 bytes of memory from $3F00 give you the pak header.

Now for an explanation of the code.
First we must select the pak to turn on. I have chosen pak B: although you may alter this if you choose pak C: We do this by loading the B REGISTER with a number (1 or 2) according to which device we wish to turn on. Looking at:

Line 1 (of the array)
A%(1)=$4F5F - 45 clears A register, 5F clears B register

Line 2
A%(2) contains $C601 - C6 LOADS the B register IMMEDIATELY, with the number following it, in this case 01, which will turn on device B:. This means that we will read from the pak in slot B:

Now we have to JUMP to the routine which turns on the pak:

Line 3 A%(3)=$3F62 - 3F is the SOFTWARE INTERRUPT (SWI) instruction, 62 the VECTOR number for that particular service.

Now we need to set a pak address. Since we may be loading data from a pak larger than 64k, we need to have a 24 bit address available. This address is contained in registers B and X. Registeer X contains the low 16 bits of the address, while register B contains the high-order byte.

In this routine, I have assumed that we are NOT looking at a 128k datapak, although you may alter this if you wish, as I have cleared the B register.

Line 4 contains A%(4)=5FCE - 5F clears the B register, CE loads the X register and A%(5) will contain the pak address (in this example 0000, although this will change as you will see below). We can now go on to pak B: service which sets the address having passed the parameters to the X register and the B register.

Line 6 A%(6)=$3F60 - 3F is SWI, 60 is the Vector to set the pak address.

We need to leave room in RAM, so that the machine can run the MONITOR program, therefore It Is possible to get 16k of code from the pak into memory if we start at $3F00 and this will leave room for the MONITOR to run below this.

We now need to load the D register (if you remember, this is made up of registers A and B) with $4000 and this parameter is passed on to the next pak routine which reads fhe contents of the pak from the address we have specified. So A%(7) contains 00 the low-order byte of the 4000, CE LOADS the X register IMMEDIATE. We are going to load this with the destination address of our code ($3F00 - see A%(9)) and we are now ready to jump to our pak routine.

A%(10)=3F (SWI), 5E READ contents of pak from address specified.

A%(11)=$3900 - 39 will return to where the routine was called from, 00 fills in.

The rest of the routine is probably self-evident. However, we are now asked for a pak address, which is input into A%(5).
this changes the original 0000 according to the address we wish to use. We then CALL our routine by calling the address of the array, and then RETURN.

Those of you who are machine code programmers will immediately spot that I have not made use of the facility provided by the pak routines to return ERRORS, but this should not normally cause problems. When you RUN this routine, you will be returned to the PROG menu and you can then use the MONITOR program.

When you have finished looking at the pak, be sure to run RAMSET: and reset top of RAM to its proper value, or you will be told you have run out of memory.

Machine Code Page - cont.

```
RAMSET:
LOCAL opt%
opt%=MENU("Set,Unset,Quit")
IF opt%=1
POKEW $2065,$3EFF
PRINT "RAMTOP now $3EFF"
GET
ENDIF
IF opt%=2
POKEW $2065,$7EFF
PRINT "RAMTOP now $7EFF"
GET
ENDIF
RETURN


READ:
LOCAL a%(11)
POKEW($2065),$3EFF
a%(1)=$4F5F
a%(2)=$C601
a%(3)=$3F62
a%(4)=$5FCE
a%(5)=$0000
a%(6)=$3F60
a%(7)=$CC40
a%(8)=$00CE
a%(9)=$3F00
a%(10)=$3F5E
a%(11)=$3900
PRINT "PAK ADDR:=$"
INPUT a%(5)
USR(ADDR(a%()),0)
RETURN
```

PLEASE NOTE: These programs manipulate operating systems regfisters. Do not run them in any order other than MOVEBASE:, NEWKEY, and OLDKEY. Failure to do so could result in a system crash.

```
MOVEBASE:
POKEW $2065,PEEKW($2065)-74


NEWKEY:
LOCAL k%,ta%,sb%,cn%(2)
k%=0
ta%=PEEKW($205E)
sb%=PEEKW($2065)
WHILE k%<72
  POKEB sb%+k%,PEEKB(ta%+k%)
  k%=k%+1
ENDWH
PRINT "1st char no:",
INPUT cn%(1)
PRINT "2nd char no:",
INPUT cn%(2)
POKEW sb%+k%,ta%
POKEB sb%+69,cn%(1)
POKEB sb%+70,cn%(2)
POKEW $205E,sb%
```

Notes: The full ASCII set for the Organiser is in the back of the handbook. Enter the DECIMAL version, of course. If, like me, you want an AMPERSAND (&) and an APOSTROPHE (') the numbers are 39 and 38 respectively.

```
OLDKEY:
POKEW $205E,PEEKW(PEEKW($2065)+72)
POKEW $2065,PEEKW($2065)+74
```

Extra Characters

The following routines are taken from an article in "The Computer Journal of the Psion Interest Group" (Vol 1. No.1) and were written by KENT PETERSON. For reasons of space I have not included the whole article, restricting the text to a short explanation of how the routines work and what they do. If anyone would like the FULL article please send me 50p (for photocopying) and an SAE.

The following three short programs will allow you to add any TWO CHARACTERS to those normally available from the Organiser Keyboard. I have modified the second program slightly to allow you to insert your own choice of characters. The first two programs allocate a space in RAM for your characters and let you specify which ones you want. The third program OLDKEY: will let you put things back to normal, if you decide you don't want the extra characters any more.

Note that your characters will remain intact until you either remove them with OLDKEY: or HARD RESET your Organiser. The characters are on the SHIFT LEFT and SHIFT RIGHT CURSOR keys (being unused, normally for other purposes).

Editor's Note

The programs and procedures published on these pages are usually listed as they were by their authors (excluding the silly mistakes which I introduce by accident when typing the listings!). The authors represent the full spectrum of membership from beginners to professionals. If you can see that some slight modifications to some of the programs would be advantageous, do not hesitate to let me know. I am sure that those who are less able at programming would welcome advice given in this way from those who are more experienced. At the same time, beginners should take the suggestions in the spirit in which they are intended and not be discouraged from submitting further programs. Programming in OPL is not difficult - it is the generation of NEW IDEAS which is the hard bit!

Treefind
by David Chastney-Parr

This artificial intelligence OPL program is based on a program called "TREE TRACKER", published in 1983 by Bob Chappell. Many will recognise the "ANIMAL" structure of the program, but in this case the questions and answers are already available for your use.

```
TREEFIND:
LOCAL a$(4),b$(12),b%,key%
PRINT "**Tree Tracker**"
PAUSE 50
REM This routine will enable the program to determine
which pak the program and file are on, but will only work
if the program ir RUN from the PROG Menu, so that the
current pak is set.
b%=PEEKB(140) : REM current pak
IF b%=1 :b$="B:TREELIST"
ELSEIF b%=" :b$="C:TREELIST"
ELSE b$="A:TREELIST"
ENDIF
IF EXIST(b$)
OPEN b$,a,tree$,query$,yes%,no%,answer$
ELSE PRINT "Create"
PRINT CHR$(34);b$;CHR$(34)
PAUSE 50 : STOP
ENDIF
b%=1
WHILE b%<>0
POSITION b%
IF a.tree$="*" : a$="tree"
ELSE a$="leaf"
ENDIF
CLS :PRINT "Does", a$,"have",CHR$(63)
KSTAT 1
key%=VIEW(2,(a.query$))
IF key%.89 OR key%=!£ :REM "y" OR EXE
b%=a.yes%
ELSE b%=a.no%
ENDIF
IF b%<0 :b%=b%-1
POSITION b%
CLS :PRINT "Tree is probably"
key%=VIEW(2,(a.answer$))
CLS :PRINT "Continue",CHR$(63)
KSTAT 1 :key%=GET
IF key%=67 OR key%=89 OR key%=13 :REM "C" or
"Y" or EXE
b%=1
ELSE STOP
ENDIF
ENDIF
ENDWH
CLS :PRINT "*** STUMPED ***"
PAUSE 50
```

The file can be created using SAVE from the top level menu, using the cursor down key to create the records and the EXE key to store the records. It's important that the order of the records is not changed by editing. After creating the file, which has 60 Records and 3,063 bytes. Copy A:MAIN to another device as B or C:TREELIST.

Filename TREELIST

Record One
TREE$ = "*"
QUERY$="triangular leaves"
YES%=2
NO%=4
ANSWER$="a Silver Birch or Downy Birch"

Record Two
""
"large teeth"
-1
-3
"a Black Poplar, a Lombardy Poplar or a Western Balsam Poplar"

Record Three
""
"small teeth"
-2
-3
"a Lilac"

Record Four
"*"
"round leaves"
5
7
"an Aspen or Grey Poplar"

Record Five
""
"wavy edges"
-4
6
"a Judas Tree or a Katsura Tree"

Record Six
""
"fan-shaped veins"
-5
-6
"a Cider Gum, a Snow Gum or a Common Alder"

Record Seven
"*"
"heart-shaped leaves"
8
10
"a "Foxglove Tree or an Indian-Bean Tree"

Record Eight
"*"
"large and opposite leaves"
-7
9
"a Black Mulberry or a Handkerchief Tree"

Record Nine
"*"
"large alternating leaves with regular teeth"
-8
-9
"a Common, Silver, Small-leaved or Large-Leaved Lime"

Record Ten
"*"
"oval leaves"
11
20
"a Holly"

Record Eleven
""
"spiky teeth"
-10
12
"a Common Alder, a Goat Willow or a Snow Berry"

Record Twelve
""
"a rounded end"
-11
13
"a Whitebeam or Wayfaring Tree

Record Thirteen
""
"a felted underside"
-12
14
"a Purging Buckthorn or a Dogwood"

Record Fourteen
""
"a sharply curving side vein"
-13
15
"an Elm, a Grey Alder or a Hazel"

Record Fifteen
""
"double toothing"
-14
16
"a Blackthorn"

Record Sixteen
"*"
"small leaves"
17
18
"a Box"

Record Seventeen
TREE$="*"
QUERY$="thoms"
YES%=-15
NO%=-16
ANSWER$="a Caucasian Elm or Keaki"

Record Eighteen
""
"saw-like teeth"
-17
19
"a Hornbeam, Beech or Buckthorn"

Record Nineteen
""
"parallel veins"
-18
-19
"an Italian Alder or Crab Apple"

Record Twenty
"*"
"long leaves"
21
27
"a Phillyres"

Record Twenty One
"*"
"thick shiny evergreen leaves"
22
23
"a Laurel or a Sweet Bay"

Record Twenty Two
"*"
"opposite leaves"
-20
-21
"a Snow Gum or Cider Gum"

Record Twenty Three
"*"
"blue-green leaves"
-22
24
"a Medlar, Cork Oak or Holm Oak"

Record Twenty Four
""
"a wooly underside"
-23
25
"a Willow"

Record Twenty Five
"*"
"very long narrow leaves"
-24
26
"a Sweet Chestnut"

Record Twenty Six
""
"saw-like teeth"
-25
-26
"an Almond, Cherry or Snowbell Tree"

Record Twenty Seven
"*"
"maple-like leaves"
28
38
"a Silver Maple or a Red Maple"

Record Twenty Eight
""
"a silver underside"
-27
29
"a Tulip Tree"

Record Twenty Nine
""
"only four lobes"
-28
30
"a Field Maple"

Record Thirty
""
"rounded lobes"
31
34
"a White Poplar"

Record Thirty One
"*"
"opposite leaves"
-29
32
"a Hawthorn"

Record Thirty Two
""
"a white underside"
-30
33
"a Fig"

Record Thirty Three
"*"
"thoms"
-31
-32
"a Snake-Bark Maple"

Record Thrity Four
""
"three lobes"
-33
35
"a Sweet Gum"

Record Thirty Five
""
"long pointed lobes"
36
37
"a Smooth Japaneses Maple or a Cappadocian Maple"

Record Thirty Six
"*"
"alternating leaves"
-34
-35
"a London Plane or a rare WIld Service Tree"

Record Thirty Seven
"*"
"alternating leaves"
-36
-37
"a Norway Maple or a Sycamore"

Record Thirty Eight
"*"
"lobed leaves"
39
44
"a Red, Scarlet or Pink Oak"

Record Thirty Nine
""
"long pointed lobes"
-38
40
"a Turnkey Oak or a Hungarian Oak"

Record Forty
""
"many lobes"
-39
41
"a Lucombe Oak"

Record Forty One
""
"shallow pointed lobes"
-40
42
"a Swedish Whitebeam"

Record Forty Two
""
"white hairs unmderneath"
-41
43
"a Sessile Oak"

Record Forty Three
""
"a distinct stalk"
-42
-43
"an English Oak"

Record Forty Four
"*"
"hand-shaped leaves"
45
47
"a Horse or Indian Horse Chestnut"

Record Forty Five
""
5-7 leaflets"
-44
46
"a Paper-Bark Maple"

Record Forty Six
""
"leaflets which are lobed"
-45
-46
"a Laburnum"

Record Forty Seven
"*"
"feather-like leaves"
48
0
"an Elder"

Record Forty Eight
""
5-7 leaflets"
49
50
"a Box Elder"

Record Forty Nine
""
"stalks on every leaflet"
-47
-48
"a Caucasian Wing-Nut"

Record Fifty
""
13-36 stalkless leaflets"
51
532
"a Stag's Horn Sumac"

Data for TREEFIND: (continued)

Record Fifty One
```
TREE$=""
QUERY$="leaflets which are not quite opposite"
YES%=-49
NO%=52
ANSWER$="a True Service Tree or a Honey-Locust"
```

Record Fifty Two
```
""
"leaflets with saw-like teeth"
-50
-51
"a Black Walnut"
```

Record Fifty Three
```
""
"13-18 stalked leflets"
54
57
"a Locust Tree"
```

Record Fifty Four
```
""
leaflets with a lot of teeth"
-52
-55
"a Tree of Heaven"
```

Record Fifty Five
```
""
"leaflets which are round"
-53
56
"a Varnish Tree"
```

Record Fifty Six
```
""
"leaflets with a long point"
-54
-55
"a Rowan"
```

Record Fifty Seven
```
""
"9-15 leaflets"
58
59
"a Common Ash"
```

Record Fifty Eight
```
"*"
"alternating leaves"
-56
-57
"a Manna Ash"
```

Record Fifty Nine
```
"*"
"opposite leaves"
-58
60
"a Walnut"
```

Record Sixty
```
""
"leaflets which have a distinct stalk"
-59
-60
"a Bitternut"
```

Note: David Chastney-Parr has kindly offered to put all the above data onto a pak for any member who sends him the pak and return postage. His address is:

> 6 Lytton Avenue
> Letchworth
> Herts
> SG6 3HT

Conversion
by Nick Barrington

For those who don't need the full FORMULATOR facilities, here is a little metric converter. It only requires the first letter, (or the first 3 letters in case of the last conversion)

```
CONV:
GLOBAL a,b,g%,d$(7),e$(3),f%,g$(6),h$(6)
ESCAPE ON
ONERR END::
START::
CLS
PRINT "Enter value:",
INPUT d$
IF LEN d$=0
GOTO END::
ELSEIF LEN d$<4
e$=RIGHT$(d$,1)
f%=LEN(d$)-3
WHILE ASC(LEFT$(e$,1))<65
e$=RIGHT$(e$,LEN(e$)-1)
f%=f%+1
ENDWH
MID::
g$=LEFT$(d$,f%)
a=VAL(g$)
IF e$="C"
b=a*1.8+32
h$=FIX$(b,1,6)
PRINT d$;"=";h$;CHR$(223);"F"
ELSEIF e$="F"
b=(a-32)*5/9
h$=FIX$(b,1,6)
PRINT d$;"=";h$;CHR$(223);"C"
ELSEIF e$="G"
b=a*4.54
h$=FIX$(b,1,6)
PRINT d$;"=";h$;"Litres"
ELSEIF e$="L"
b=a/4.54
h$=FIX$(b,1,6)
PRINT d$;"=";h$,"Gallons"
```

```
ELSEIF e$="M"
b=a/0.625
h$=FIX$(b,2,7)
PRINT d$;"=";h$,"Kms"
ELSEIF e$="K"
b=a*.625
h$=FIX$(b,2,7)
PRINT d$;"+";h$,"Miles"
ELSEIF e$="INS"
b=a*2.54
h$=FIX$(b,2,7)
PRINT d$;"=";h$,"Cms"
ELSEIF e$="CMS"
b=a/2.54
h$=FIX$(b,1,7)
PRINT d$;"=";h","ins"
ENDIF
GET
GOTO ST::
END::
```

IPSO Review
Portfolio from DIP
reviewed by T.D. Schomer

PORTFOLIO was the first software package that DIP released for the Organiser II and consists of about fifty programs on a 16k pak, all of which are interlinked. This pak is, however, copy and write protected so, if you do have a mishap with it, then the only solution is to return it to DIP.

PORTFOLIO, as the name suggests, is a personal share program, whose features include much more than buying and selling and profit calculations. It also incorporates a facility to input the current price for the shares and will store the latest twenty share prices as well as the original. Under the 'ACCOUNTS' section you are given the choice to input any dividends received, to enter prokers fees, to adjust any of the figures or to see a summary of your personal portfolio, giving its total value, the total cash, total dividends paid and the amount of gain and any fees already paid.

The VIEW option allow you to see at a glance each individual share adn to see its current price along with the gain and percentage gain and your high and low selling limits. This option also gives the original date and price the shares were bought at. The check option merely checks to see if the price of any of your shares has exceeded a preset warning limit.

The EDIT feature allows you to edit any details of any of your shares except their share history, you are, however, given the option of erasing this. The FILE option is a very useful feature as it allows you to load and save porfolios to datapaks. It also allow you to KILL all current shares (NOTE care must be taken using this option, as once you have KILLed the shares, you cannot retrieve them unless you have previously saved them). The DELETE option on this menu allows you to delete individual 'ghost' shares from the record, but not actual shares held, as these must be sold. The option of making a 'ghost' copy of the share details is given at this point to allow you to keep track of the shares you have sold - this may be useful as you may wish to see how prudent your judgement to sell was.

One major drawback of this software package is that it is very heavy on memory, with the model CM only being able to copy with fifteen different shares, whereas the XP can only copy with sixty at most. This might sound a lot, but if you use your Organiser for programs as well, these figures will drop quite quickly. A disk is available from DIP to help with this, but it costs an extra £20. The good news about this set-up is that on a PC you are allowed up to 65535 different shares which may be stored on disk. Another feature of the PC version is the ability to split files. This is useful when wanting to download files to an Organiser. The other LINK feature is the ability to print files direct to a printer to allow you to see the share history of a particular share, since, as far as I am aware, you cannot get this direct on the screen of the Organiser.

Generally, I found this an easy package to operate, since it is almost all MENU DRIVEN and I found it was very professionally written, as was the manual which I found was very clear and helpful, especially for those of us unitiated in the ins and outs of share dealing. The only drawback I could find with this piece of software is its price tag, which I presume is aimed at the more professional or business user. The PC disk may be of use to a lot of people, but is not available, to the best of my knowledge, without having first bought the program pak, thus making it quite expensive for what it is.

PORTFOLIO is available from all good Organiser dealers or direct from:

Distributed Information Processing Ltd
2 Frederick Sanger Road
Surrey Research Park
Guildford
Surrey GU2 5XN

London Group Meeting

Unfortunately, the August meeting of the London Group was too late to get into IPSO FACTO. As the meetings are now held later in the month this extra month gap in the reports will be permanent. I expect the October edition will also have the London Group's views on the PC Show.

The important news for this edition is the change of venue for the September meeting. This will be on:

THURSDAY 22 SEPTEMBER
at NEW SCOTLAND YARD,
VICTORIA STREET,
LONDON SW1!

For obvious security reasons, I MUST have the names any anyone wishing to attend, not less than THREE days beforehand, i.e. by the evening of MONDAY 19th. IF I do not have your name, you will not get in! Anyone who has attended a previous London meeting can assume their name is already on the list. Our host at the Yard estimates that there are 50 Organiser users with the 'Met', so it's a good chance to plug IPSO. Give me a call on 01-568 4138 if you wish to attend.

Jonathan Hurwitt

I hope that the above information reaches members in time for this most interesting Meeting. Ed.

Beginners Page
by Mike Nash

First, I must correct an error in last month's procedure DSTAMP2: The variables used were integer variables instead of floating point numbers as they should have been. The meant, of course, that the Psion would not reserve enough space for the numbers. Here is the corrected version of the procedure:

```
DSTAMP2:
LOCAL y,m%,stamp%
y=INTF((YEAR-1900)*10000.) : REM INTF() makes the number floating point - note the decimal point after 10000.
m%=MONTH*100 : REM this number can still be an integer, so it will save space to keep it that way
RETURN (y+m%+DAY)
```

Apologies for the error, which I attribute to the Pub closing before I had finished composing my procedure. The change in the licencing laws should solve this problem!

This month I thought I would try to give some insight into both the contents of the Psion memory and also deal with the use of LOGICAL COMPARISON operators, as an alternative to using IF ENDIF structures. Following from last month, I decided to write a function to return the short form of the day or month with the absolute minimum of OPL commands. I knew from my MEMORY DUMP that the string "JANFEBMARAPRMAYJUNJULAUGSE-POCTNOVDECMONTUEWEDTHUFRISATSUN" existed starting at memory address $EA3F. Now, as there are three letters in each month/day in the string, we know that the months comprise 36 characters and that the days start at the 37th character (or 36 memory locations after $EA3F. This means that to return "JAN" the function should end in RETURN CHR$(PEEKB($EA3F))=CHR$(PEEKB($EA3F+1))+CHR$(($EA3F+2)). However, we want to be able to return either a month or a day as necessary. Accordingly, I decided that I would use MINUS values for the days of the week and POSITIVE values for the months. Integers below -7 and above 12, and of course ZERO will return an error message "ERR" obtained 2607 bytes from $EA3F, at location $E010.

```
CAL$:(m%)
LOCAL n%
n%=(ABS(-(m%>=1 AND m%<=12)*(m%*3)-3)   rem ALL REM tests for value between 1 and 12
+ABS((m%<=-1 AND m%>=-7)*(((-m%*3)-6)+36)))  rem ONE REM test for value between -1 and -7
+(ABS(m%=0 OR m%<-7 OR m%>12*(-(2607)))  rem LINE REM tests for value below -7, above 12, or 0
RETURN
CHR$(PEEKB(-5569+n%))+CHR$(PEEKB(-5569+n+1))+CHR$(PEEKB(-5569+n%+2))  REM PEEKS and RETURNS
3 consecutive bytes of memory as characters
```

Below is a "dump" of the particular section of memory which was used in the program. Beginners please note that each line represents sixteen consecutive bytes of Memory. The numbers are pairs of hexadecimal digits. "4A" at the end of the first line, for instance, matches the "J" of JAN. To get an idea of how to interpret PEEKS and POKES, try PeekByting and PeekWording the section of memory shown below. PEEKB only looks at one byte, while PEEKW looks at two consecutive bytes and then shows them as "high byte" and "low byte" of an integer. Those of you who have bothered to try my DECBIN procedure of two months ago will find that chopping a binary number in half and then translating the two sections as separate hex pairs will effectively invert the HIGH/LOW process. Of course remember you can't POKE to this part of memory because it is ROM and is therefore READ ONLY.

```
EA30   7D 3A 7D 3A 7D 25 34 66 00 39 DD 6D 7E AC 7D 4A   }:}:}%4f.9m~}J
EA40   41 4E 46 45 42 4D 41 52 41 50 52 4D 41 59 4A 55   ANFEBMARAPRMAYJU
EA50   4E 4A 55 4C 41 55 47 53 45 50 4F 43 54 4E 4F 56   NJULAUGSEPOCTNOV
EA60   44 45 43 4D 4F 4E 54 55 45 57 45 44 54 48 55 46   DECMONTUEWEDTHUF
EA70   52 49 53 41 54 53 55 4E 0B 07 04 14 17 1A 02 01   RISATSUN........
```

Finally, I asked you all last month to refrain from sending SAEs as I prefer to answer throught this column. OF COURSE please continue to write to me. Your letters are the lifeblood of this column and provide me with the inspiration to continue and also give me an indication of what you want me to write about, so keep them coming!

Mike Nash
6 Hazlemere Court
26 Palace Road
London SW2 3HN

Tel: (SUNDAY MORNING) 01 671 8644

Editorial

Those of you with sharp eyes, will have already noticed that there has been a change in presentation of IPSO FACTO - I am now printing the magazine masters on a LASER PRINTER (or rather having them printed). This should make it a mite easier to read!

The PERSONAL COMPUTER SHOW has come and gone and many of you will know that we thoroughly enjoyed meeting so many members, from home and overseas. I found out later that some members were unable to locate us (we told Reception, but they did not pass on the message. The surprise of the show was the prominence of the Psion stand, which you couldn't miss as it was the first stand in the centre hall. We were lucky to be only about 25 feet away from them, so quite a lot of "cross fertilisation" took place. The new Organiser Printers were noteable for being unavailable at the show - Psion themselves only had THREE on the whole of the stand, and these took some hammer from the public, even though they were strapped down. The printer is very stylish, and I like the idea of a re-chargeable battery which also powers the Organiser when it is attached.

I must once more apologise for the late delivery of the September issue, but the Postal Strike did play havoc with our mailing. Some local members received their copies more than a week after other more distant members. The situation made me appreciate my Telecom Gold Mailbox!

Psion Technical Reference Manual

Some little time ago, Psion instructed me not to distribute the Organiser Technical Reference Manual IN ANY FORMAT. There are good reasons for this and I have agreed to inform any member who wants a copy that it will have to come through the Technical Support Department (John Phillips) at Psion. All those who have had a copy through various outlets, and who have not yet signed a non-disclosure agreement, should get in touch with me and I will send them one to complete and return to Psion.

Acknowledgement

LES BALL would like to mention ADRIAN PEGG'S NOTEPAD program as providing inspiration for him to develop his TALKING NOTEBOOK (mentioned in this issue).

Power Supply Modification

One of our members, who is a professional Electrical Engineer, has informed me that, under certain circumstances, modification to the Psion Power Supply could be dangerous. Will anyone who has had the leaflets on this modification please proceed with the utmost care - in fact, if they are not sure, it would perhaps be best not to undertake the madification.

Machine Code Page

There is no Machine Code Page as such this month. I have published an excellent routine (which includes a MC section) instead. LES BALL asks for some feedback on his series, especially ideas for further articles. His address and phone number are elsewhere in this issue. Please note that Les would prefer either a phone call OR a PRINTED letter (which he can read with his OPTACON).

London Group Meeting

The IPSO London Group Meeting will take place on Thursday 20 October, again at New Scotland Yard. If you have not yet attended a London Group meeting and wish to attend this one, please phone me on 01 - 568 - 4138 at least 48 hours before the meeting to get your name on the security list. We will have discussed whether to continue at the Yard at the September meeting and also whether to stick to Thursday as the day of the meeting. Due to publishing deadlines, the date of the next meeting has to be decided before the current one has taken palce, so I was not able to let democracy reign for the date in October. I hope that events will stop conspiring to prevent you receiving IPSO FACTO until after the meeting it announces! Thanks to DAVID GRAY for the use of his home for the first three meetings, and to all who came.-

Review - AutoScribe II

by Kent Peterson

If you want to do word processing on the Organiser II, you have only one choice - AUTOSCRIBE II from IPSO. The folks at Harvester would like you to believe that their program, The Letter Organiser, is a word processor, but let's get real. The Letter Organiser is a simple notepad, short on features and big on annoyances. If you're thinking, "He doesn't seem to like the Harvester Letter Organiser" you're right. A word processor should be a tool to let the user easily write down his or her thoughts. A word processor should not make me worry about how many characters I put in a paragraph or force me to write sentences that don't contain apostrophes or question marks. Harvester tries to get you to buy silly constraints like these, but now, thanks to IPSO, you have a choice.

AUTOSCRIBE II is priced at £35, and is sold on a copyable datapak. You install AUTOSCRIBE II by adding it as an option to your main menu. The authors of the program wisely chose a shorter name than AUTOSCRIBE II for the menu option, they call is simply WP (short for WORD PROCESSOR). I'll follow their lead and save on space by referring to the program simply as WP for the bulk of this review.

The documentation that comes with the program is a bit on the skimpy side, but I found it covered all of the operations adequately. WP opens with a main menu that looks like this:

```
NEW OPEN CLOSE
VIEW FIND PRINT
LOAD DELETE QUIT
```

Selecting NEW allows you to create a new document file in RAM or on either of the two paks. You will then be asked for the filename and the line length. The default is 66, but you may select whatever line length you desire. I found the default length of 66 to be slightly annoying. I use a line length of 70 for almost everything I write, so every time I create a new file I have to change the line length.

Once the file has been named and the line length has been selected, you begin typing text into the file. The top line of the Organiser's display is a status line. The left portion of the status line will display : CAP if you have CAPs locked on, NUM if you have NUMs locked on, N+C if you have NUMs and CAPs locked on, and MOD if you have typed the <MODE> key. (I'll explain how the <MODE> key is used a bit later on.) The rest of the status line displays the current line number and the character position on that line. This is very handy for maintaining one's orientation when in a long file or when trying to figure out the layout of a page.

As you type, the character position counter increments until you reach the end of the line. At the end of the line, WP implements a word wrap. This means that you don't have to pay attention to see if the word you are writing will fit on a line. If it doesn't fit, WP will bring it down to the next line for you. The word wrap function can take a little time (as can some other functions), but WP lets you type up to 16 characters ahead so you won't lose either your typing rhythm or your characters. If you get more than 16 characters ahead of WP, the Organiser will beep at you and you'll have to slow down.

Moving around a WP file is easy enough. The up and down arrow keys move you up and down a line at a time while the left and right arrow keys move you left and right a character at a time. For moving around in a long file, you can use the WP function FIND. FIND allows you to search for any sequence of characters in your document. When WP finds the character string, the staus line will display the line and character position while the line itself scrolls on the bottom line of the display. The character string is highlighted by underscores. Pressing any key stops the display and brings up this menu:

```
NEXT EDIT STOP
```

NEXT will search for the next occurrence of the string. EDIT will enter the WP editor at the point where the search string occurs. STOP returns you to the main menu.

WP has some additional facilities that are made available by typing <MODE>. Pressing <MODE> again brings up this menu:

```
# ' ? ! & @
CentLine DelLine
Resize
```

Selecting any character off the menu places that character into the document currently being edited. CentLine centres the current line and DelLine deletes the current line. Resize lets you change the selected line length. If you shorten the line length, WP will reformat the document. In addition to being able to select these characters and functions from the <MODE> Menu, you may select any of these by pressing <MODE> plus a key. For example, <MODE> followed by a / gives a ? and <MODE> followed by a <SPACE> centres the current line.

The VIEW option on the main WP menu lets you view the entire document. VIEW shows you the file a line at a time. Pressing any key other than <ON/CLEAR> moves you to the next line in the file. I would have preferred to have the up and down arrow keys function as next and back keys while viewing. As it is implemented, I don't find VIEW to be very useful. When in VIEW, pressing <ON/CLEAR> returns you to the main menu.

A word processor doesn't do you much good if you can't make a printout of your work. The PRINT function in WP lets yu print your document or send it to another computer. An option in PRINT allows you to set the left margin for the text. This is present at 6 characters, but you may change it to whatever margin you desire. While PRINT can be used to export a document from WP to another computer, LOAD is used to import a document from another computer to WP. The combined capablilites of LOAD and PRINT make WP very useful to me. Thanks to WP, I can take whatever document I am working on and port it from my bulky PC (or slightly less bulky laptop) to the Psion. Now I can write on whatever machine is the most appropriate to the situation.

Review - AutoScribe II (cont)

AutoScribe II is by no means perfect. My number one complaint is that some of the functions can be very slow. When you think about the amount of processing that takes place each time you hit a key, you begin to understand why some operations take a long time. On every keystroke, the display must be updated and the character count incremented. WP also has to check to see it if has to wrap the word down to the next line. The slowest operation is inserting text at the beginning of a large file. This operation is glacial because WP reformats the rest of the file as you insert the text. You quickly learn to avoid inserting text at the start of a large file and to break your document up into a series of smaller files to keep the speed at acceptable levels.

WP is missing some functions that are common in most other word processors. WP doesn't have search-and-replace or cut-and-paste and it lacks any kind of a merge function. I have heard that the Cubsoft package FNKEY can be used with WP to add some of these capabilities. I should be receiving a copy of FNKEY soon and I will print a full review of this impressive sounding program.

Even though AutoScribe II is not perfect, it is a true word processor and I recommend it highly. I use this program daily and it is solid value for the money. It really does work.

Kent points out that the entire review (as printed above - with the exception of the boxes) was written with AutoScribe II. Ed.

Bar-Code Printer for the Organiser

The Bar-Code Wand is one of the original add-ons for the Organiser which has enormous applications in those industries where bar-code is used. Up to now the Organiser has been restricted to READING barcode. A new program, just on the market allows the Organiser to WRITE its own bar-code on practically any dot-matrix printer (including the new Psion printer).

BARCODE PRINTER I has just received approval from Psion who have had an evaluation copy with the Technical department. It enables barcode printing to be done without the need for a PC. The bar-codes supported are EAN/UPC, Code 39 and 2/5 Interleaved (ITF). The procedures contain sophisticated error handling and are in an extremely easy to use format. They will run on any Epson compatible printer and provision is made for modification to accommodate those printers which have non-standard codes.

I have used the programs and they certainly make light work of printing useable bar-codes. I would like to see further development (on the lines of the HEWLETT-PACKARD 41 series) whereby, by the use of special bar-code and stick-on labels, it is possible to create special bar-code sheets and even a bar-code simulation of

keyboard, including all the words in the programming language. Wouldn't it be great to be able to write FAST OPL programs by reading in bar-code with a wand. I spoke to Psion about this some time ago, but they showed little interest. HEWLETT-PACKARD's Application paks carry bar-code listings of all the programs. Using a program such as BARCODE PRINTER I, it would be possible to print bar-coded program listings in this magazine!

BARCODE PRINTER I was written by Belgian member PETER HOUPPERMANS and is marketed in UK by:

GAASCOM Ltd
9 Magnolia Close
St Peters, Frome
Somerset

Phone 0373 66437

Price £85.00 (plus VAT)

New Organiser Serial to Parallel Converter

If you have another computer in addition to the Organiser, you will probably have a printer, and that printer most likely has a parallel (Centronics) interface. As we all know the Organiser Comms Link is a SERIAL device. Last year I mentioned that I had bought a serial to parallel converter to overcome this problem. I also mentioned that this little bit of kit was very choosy about which printers it would talk to (for instance, it would not drive an Epson).

At the PERSONAL COMPUTER SHOW I was glad to discover that the firm who produced the original converter had developed an improved version. I have tried this out and can confirm that it does indeed drive a wide range of printers (it hasn't failed yet!). At the price of £39.95, it is certainly cheaper than most serial boards (even if your printer will accept one).

The Converter is available from:

Transform Ltd
24 West Oak
Beckenham
Kent BR3 2EZ

Tel: 01658 6350

(see leaflet distributed with this newsletter)

Time Management System

I have had news of a suite of programs that enhance the time management facilities of the Organiser II

ViewDIARY produces a GRAPHIC DISPLAY of diary entries for six weeks from the current date. It directly indicates the approximate time of entries and can distinguish different type of entries, such as 'appointments' or 'notes and reminders'. The actual contents of the diary can also be directly displayed on a daily basis.

ViewDIARY is user configurable. It is ideal for quickly determining whether you are free on a particular day.

PrintDIARY prints a formatted listing of the diary through the Comms Link to a printer or another computer. It produces a selective listing, recognising different types of diary entry in a similar way to ViewDIARY.

ListDIARY lists diary entries consecutively to the Organiser screen, not unlike the Psion LIST option within the DIARY function. However, it always commences with the first entry in the diary (irrespective of the date) and indicates how soon before each entry the alarm will sound. Thus all diary entries (including those past or missed) can be viewed with the minimum of effort.

QuickCHECK displays the date, time, and the presence of an outstanding or imminent diary entry every time the Organiser is switched on. It also contains an optional LOCK and KEY system to prevent unauthorised access to data held within the Organiser. ListDIARY can be started from QuickCHECK with a single keystroke, so that diary information is immediately available.

None of the TimeMAN functions interferes with the normal operation of the Organiser diary or alarm functions.

The price for the software is £12 to IPSO Members (normally £15) who supply a blank UNSIZED pak. (i.e. a new or newly formatted pak NOT having been plugged into an Organiser) with an order. The software uses less than 8k of space on a pak. The pak will become non-copyable but writable and readable, so you can add your own procedures or data as you wish.

Otherwise TimeMAN is supplied on a 16k datapak (with about 50% free) at £32 to IPSO Members (normally £35)

TimeMAN is suitable for Organisers with operating systems release 2.6 and above (post Oct 1986)

Sorry, TimeMAN is only available in the UK, unless by special arrangement.

TimeMAN is available from:

J.Seymour
14 The Woodlands
Long Park
Chesham Bois

A Talking Notebook

Our columnist and machine code buff, LES BALL has finished the first of a series of programs which form the basis of complete Organiser systems for the visually impaired. The system needs an Organiser, a Comms Link and a small speech synthesiser. Although the addition of the speech synthesiser means that you have two pieces of equipment, both together are small enough to carry in a brief case along with whatever else you usually carry.

The Talking Notebook allows you to store information and retrieve it quickly and easily. The amount of information you can store is limited only by the number of data or RAM paks.

Currently, the program is designed to run with a DOLPHIN SYSTEMS MIMIC Speech Synthesiser, but it can be tailored to run with any text-to-speech speech synthesiser.

Program Features.

All input to and output from the Notebook is spoken by the speech synthesiser. When entering information, each key pressed is spoken, to enable you to check that you have selected the correct character. Should you make a mistake, you can delete the unwanted character or series of characters, if this is necessary, by using the DEL key. You are informed which characters are being deleted. While in entry mode you can:
1. Change the speed of the speech
2. Turn on or off spoken punctuation
3. Check you information before final entry

Information retrieval is achieved by providing the Organiser with a 'search clue'. This may be a word, a number or a phrase containing words and numbers. The more specific the clue the more accurate the search. When the information is found, the item is read by the speech synthesiser. At the end of the record, the speech will stop and the Organiser will wait for an instruction. You may elect to:

1. Repeat the information
2 Examine the record character by character, moving forward or backward, each letter being pronounced phonetically, if required.
3. Delete the record
4. Proceed to the next record (or complete the search)
5. Terminate the search.

The Notebook program also provides a Diary facility, details of which are contained in the instructions.

Talking Notebook is available from:

Les Ball
17 Deepdale Road
Wollaton
Nottingham
(Tel (0602) 289553
(contact for prices and further information)

Progs & Procs - 1

QuicKey
(Quickly written by John Seymour)

QuicKey is a procedure suite to enable the recording, labelling and playback of short keyboard macros. Each macro is up to 16 characters in length and is assigned to any ASCII printable character normally obtainable from the Organiser keyboard. Keyboard macros can be chained by recalling QuicKey within the last few characters of a preceding macro. The principle limitations of this program are:

It must be called as an OPL procedure (unlike the popular FNKEY), typically from the top lever menu. It thus cannot be used WITHIN a standard application like the DIARY.

There is a limit of 16 keys to be outstanding at any one time. (Thus macros can only be truly chained, with the new called macro as the LAST action of the calling macro)

However:

I am not charging anything for the software!

You can modify the code.

It is ideal, for example, for tidying the diary, backing up the diary to a RAMPAK, calling porcedures that aren't installed in a menu via PROG/RUN, or any other key sequences typically repeated from the main menu.

Every entry has a free text description associated with it. You can search for this text and thus you don't have to remember the functions of the 73 odd potential macros.

In Use.

QuicKey: is the first prompt from calling the main QKEY: procedure. From this prompt you can either type the key to immediatedly replay that key's macro, type ‹EXE› to enter FIND: mode, or type ‹MODE› to enter setup mode. Any other key, such as the DEL or arrow keys produces a beep. ‹ON/CLEAR› exits QuicKey.

From the FIND: prompt, type a clue to the macro you want (then ‹EXE›), or ‹EXE› to list all the macros currently defined (a bit like the main menu FIND). For each macro found, key ‹EXE› to execute it, DEL to delete it, ‹ON/CLEAR› to exit FIND mode, or any other key to find the next occurrence of a macro that matches the clue.

In setup mode, the 'Key to define:' is the character to assign the macro to; the 'Delimiter:' is a character NOT in the macro sequence to be used to indicate the end of input of the macro key sequence, if it is less than 16 characters. (if you were to type ‹EXE› this would be treated by QuicKey as simply the next character in the macro!). 'Key sequence:' is the prompt for the macro itself. As you are typing it, non-printable characters will appear as a small x on the screen. If the sequence is less than 16 characters, type your defined 'Delimiter' key to end the sequence. 'Key description:' is the free text description of what your macro does, and is used when

That's about it. The macros are held in a file called QKEY on A:, and this file may be dumped with the Comms Link.

```
QKEY:
LOCAL k%
IF EXIST("A:QKEY")
 OPEN "A:QKEY",A,ky$,desc$,data$
ELSE
 CREATE "A.QKEY",A,ky$,desc$,data$
ENDIF
DO
 CLS
 PRINT"QuicKEY:";
 CURSOR ON
 k%=GET
 CURSOR OFF
 IF k%=13
  QKFIND:
 ELSEIF k%=2
  QKNEW:
 ELSEIF (k%<17) AND (k%>1)
  BEEP 70,70
 ELSEIF k%>=17
  PRINT CHR$(k%)
  FIRST
  IF FIND(CHR$($DB)+CHR$(k%))
   QKEXE:
   CLOSE
   STOP
  ELSE
   PRINT"Key Undefined"
   k%=GET
  ENDIF
 ENDIF
UNTIL k%=1
CLOSE
```

```
QKEXE:
LOCAL qdata$(16),c$(1)
LOCAL n%
n%=LEN(a.data$)
WHILE n%>0
 c$=MID$(A.DATA$,n%,1)
 IF c$=CHR$($7C)              )
  qdata$=CHR$($0D)+qdata$     ):REM See Note 1
 ELSE                        )
  qdata$=c$+qdata$
 ENDIF
 n%=n%-1
ENDWH
KBUF:(qdata$)
RETURN
```

Note 1.
$0D characters have been replaced by $7C characters by QKNEW: as the COMMS LINK doesn/t like $0D characters...

```
QKNEW:
LOCAL delim$(1),def$(1),k$(1)
LOCAL or%
DO
CLS
FIRST
PRINT"Key to define:"
CURSOR ON
def$=GET$
CURSOR OFF
IF (ASC(def$)<17) AND (ASC(def$)>1)
BEEP 70,70
PRINT"Key Undefineable"
GET
ELSEIF ASC(def$)>=17
IF FIND(CHR$($DB)+def$)
IF YNPROMPT:(a.ky$+" "+a.desc$,"Overwrite Y/N")
or%=-1
ELSE
or%=0
CONTINUE
ENDIF
ENDIF
a.ky$=CHR$($DB)+def$
CLS
CURSOR ON
PRINT"Delimiter:"
delim$=GET$
CURSOR OFF
CLS
PRINT"Key sequence:"
AT 1,2
CURSOR ON
a.data$=""
DO
k$=GET$
IF k$=delim$
BREAK
ELSE
IF ASC(k$)<17
PRINT CHR$($EB);
ELSE
PRINT k$;
ENDIF
IF k$=CHR$($0D)      :REM
k$=CHR$($7C)         :REM  See Note 2
ENDIF                :REM   (below)
a.data$=a.data$+k$   :REM
ENDIF
UNTIL LEN(a.data$)=16
CURSOR OFF
CLS
PRINT"Key description:";
INPUT a.desc$
IF  or%
UPDATE
ELSE
APPEND
ENDIF
BREAK
ENDIF
UNTIL ASC(def$)=1
```

Note 2. Replace $0D characters by $7C characters, as the Comms Link will misbehave if $0D characters appear in a data file. (The $7Cs are replaced again before the data   is   used)-

```
QKFIND:
LOCAL k%
LOCAL clue$(10)
DO
CLS
PRINT"Find:";
TRAP EDIT clue$
IF ERR=206
RETURN
ENDIF
FIRST
WHILE FIND(clue$)
CLS
AT 1,2
PRINT"Next,EXE,CLR,DEL"
k%=VIEW(1,a.ky$+" "+a.desc$)
IF k%=13
QKEXE:
CLOSE
STOP
ELSEIF  k%=8
IF YNPROMPT:(a.ky$+" "+a.desc$,"Delete Y/N")
ERASE
CONTINUE
ENDIF
ELSEIF k%=1
RETURN
ENDIF
NEXT
ENDWH
CLS
PRINT"   End of Key    Definitions File"
k%=GET
UNTIL k%=1


YNPROMPT:(line1$,line2$)
LOCAL n%
LOCAL k$(1)
CLS
n%=0
AT 1,2
PRINT line2$
k$=UPPER$(CHR$(VIEW(1,line1$)))
DO
IF k$="Y"
RETURN -1
ELSEIF k$="N"
RETURN 0
ELSEIF ASC(k$)=1
n%=n%+1
IF n%>3
RAISE 206
ENDIF
ENDIF
k$=UPPER$(CHR$(VIEW(1,"")))
UNTIL 0
```

QuicKey (cont)

```
KBUF:(keys$)

REM Puts up to 16 keys passed in KEY$ into the keyboard buffer
REM Excess keys are discarded
REM e.g. KBUF("123+CHR$(13)) loads the keys 1,2,3,EXE in sequence.
REM Note: Some Organiser functions/procedures themselves purge the keyboard buffer,
REM and may thus prematurely terminate the sequence.

LOCAL kcnt%,n%
LOCAL c%(12)
c%(1)=$0F17      :REM           SEI                      ;disable interrupts
                 :REM           TBA                      ;put parameter in A
c%(2)=$D674      :REM           LDA B,KBB_NKYS:          ;get number of keys in buffer
c%(3)=$C110      :REM           CMP B,#16                ;is buffer full?
c%(4)=$270D      :REM           BEQ NOPUT                 ;branch if yes
c%(5)=$CE20      :REM           LDX #KBT_BUFF            ;address of keyboard buffer
c%(6)=$B0DB      :REM           ADD B,KBB_BACK:          ;offset into buffer
c%(7)=$73C4      :REM           AND B,#$0F               ;wrap around
c%(8)=$0F3A      :REM           ABX
c%(9)=$A700      :REM           STA A,0,X                ;store ASCII key in buffer
c%(10)=$7C00     :REM           INC KBB_NKYS             ;increment number of keys
c%(11)=$740E     :REM  NOPUT:   CLI                       ;restore interrupts
c%(12)=$3901     :REM           RTS                      ;return
                 :REM           NOP                      ;(spare address)

n%=1
kcnt%=LEN(keys$)
WHILE n%<=kcnt%
 USR(ADDR(c%()),ASC(MID$(keys$,n%,1)))
  n%=n%+1
ENDWH
```

XOFF
by Adrian Pegg

This is one of those handy little programs you wish you had thought of yourself. As usual, it takes Adrian to show the way.

The Organiser DIARY facility is great, but, if you have set the alarm and are not there when it goes off, you could easily miss an appointment - I know, it has happened to me! If you put XOFF: on your Top Level Menu and use it to switch-off the Organiser (just key <X>), you will have a reminder of the DIARY entry you missed when you next switch the machine on!

```
XOFF:
LOCAL c%,dat$(20)
c%=0
OFF
BEEP 100,50
PRINT"READY"
PRINT"Press ON/CLEAR"
dat$=LEFT$(DATIM$,11)+MID$(DATIM$,17,5)
ESCAPE OFF
DO
c%=c%+1
IF c%>3000
GOTO MISSED::
ENDIF
```

(continued in next column)

```
UNTIL KEY<>0
ESCAPE ON
RETURN
MISSED::
ESCAPE ON
CLS
OFF
BEEP 100,400
PRINT"- ALARM MISSED -";
BEEP 50,300
PRINT dat$
BEEP 100,200
BEEP 50,400
GET
RETURN
```

Editor's Note to Programmers

For the sake of clarity (especially to beginners) would all OPL authors please observe the convention of using LOWER CASE for all variables and UPPER CASE for all OPL words. Many already do this, but, in order to help my proof-reader (and in an effort to avoid errors in programs), I would appreciate it if this can be born in mind when listing OPL procedures. THANK YOU.-

Beginners Page
by Mike Nash

In this issue I am going to deal with some basic questions raised by London IPSO member GEOFFREY KAYE, who has a habit of calling me back to earth when the contents of my page become too esoteric for the beginner. GEOFFREY showed me a set of procedures by ANGELA MACAULAY in the August IPSO FACTO (page 46), and wanted to know how he could RUN them repeatedly without having to retype the procedure name each time. There are in fact several ways of doing this, the first being to use CALC MODE to RUN the program. All that is required is to have an EDITED and TRANSLATED version of the procedure in RAM or on a datapak. Then key in the procedure name follwed by a ':' and press <EXE>. The procedure will run and return a value to the CALC screen. This value will be zero unless the procedure has been written using the RETURN command. In any case, you will find that, as with any sum in CALC, the procedure can be executed again just by pressing <EXE> twice. Another little trick worth repeating here is that procedures can be linked in CALC using arithmetical operators. Thus Angela's procedures can be run like this:

wp:+kg:*ratio:-init:/km:

Note that I have used different arithmetical operators to show that it does not matter which. There is one exception to this which is when RETURN is used to return a value to CALC. I will take this opportunity to print an improvement to my datestamp routine of the last two months:

```
D:
RETURN INTF((YEAR-1900)*10000.)+(MONTH*100)
+(DAY))
```

This, as you already know RETURNs the date in YYMMDD format. Today this is 881002 (10 Oct 88). However, if this is entered in CALC like this:

D:*d:-2

the answer will be 776164524001!

The second way of repeating procedures is to use a MENU procedure to call the procedure each time it is required:

```
OPTION:
LOCAL opt%
START::          :REM start pointer
opt%=MENU("kg/lb,ratio,date,quit")
IF opt%=1
KG:              :REM call procedure
GOTO START::     :REM RETURN TO MENU
ELSEIF opt%=2
RATIO:
GOTO START::
ELSEIF opt%=3
D:
GOTO START::
ELSEIF opt%=4
ENDIF            :REM THIS TIME WE DON'T
                 :REM GOTO START::. With no more
                 :REM instructions to execute,
                 :REM the program terminates
```

Finally, there is another, but much more dangerous way of repeating a procedure: THE LOOP!

Without doubt, this is the part of programming which generates the most grey hairs among programmers, beginners and experts alike. Loops work by testing conditions and repeating the task set by the programmer if the condition - also determined by the programmer - allows it. Usually, in plain language, the program can bew translated as:

"DO THIS TASK UNTIL I HIT THE SPECIFIED KEY"
OR
"DO THIS TASK UNTIL 10 SECS HAVE ELAPSED"
OR
"DO THIS TASK WHILE X IS NOT EQUAL TO Y"

The trick is to make sure that the condition which you set has allowed for the need to QUIT for instance, if you decide that you want to print "LOOPDELOOP";i%,(where i% is a value incremented by the loop) you could do it like this:

```
LUPY:
LOCAL i%
KSTAT 1    :REM sets keyboard to Uppercase
i%=0
DO
i%=i%+1
PRINT"LOOPDELOOP";i%
UNTIL GET=%Q   :REM "Q" to quit (or any other key)
```

UNTIL i%=100 :REM an alternative ending.

TWO ways in which things can go wrong are:

1. using this condition:
UNTIL GET=255 REM don't enter this!!

255 is the code for a character not on the KEYBOARD, so that no key that you press will satisfy the EXIT condition. Result - an endless loop!

2. using this condition:
UNTIL i%=100 :REM don't enter this

and FORGETTING to insert: i%=i%+1 which increments the variable until it meets the EXIT condition. If you are lucky this won't happen to you!

Mike Nash accepts queries from IPSO Members, in writing or by phone at the following address:

6 Hazlemere Court
26 Palace Road
LONDON SW2 3NH

or phone 01 671 8644 (Sunday morning only)

IPSO FACTO

Editorial

I would like to thank all those who have written to me appoving of the "new look" for IPSO FACTO, and especially those who have offered contructive criticism and advice to improve the newsletter evern further. I am already putting some of the suggestions into effect. I am also considering altering the format of the newsletter so that the final result is an A5, centre-stapled, double-sided publication. Let me know what you think.

Contents

Advertisements

From recent enquiries, there seems to be some confusion about members using IPSO FACTO to advertise. The simple rules are as follows:

I accept PERSONAL ADVERTISEMENTS from MEMBERS at any time and I will publish these free of charge, if possible in the next issue after receipt.

Members who wish to advertise their own COMMERCIAL PRODUCTS related to the Organiser may have their leaflets distributed with IPSO FACTO. The arrangements are that the advertiser provides the required number of leaflets and pays for their distribution at the rate of 10p per copy (paid in advance). I would like to remind any member who has products for sale that this is a very cost effective method of reaching not only individual members but also DISTRIBUTORS in countries overseas.

IPSO currently has 900 members in 31 countries!

Items for Publication

I have recently had to reluctantly turn down a small number of excellent OPL programs which had been painstakingly submitted for publication BECAUSE THEY WERE TOO LONG! In fact one program (listing only) ran to 10 pages of A4, which, even allowing for the fact that this would be reduced when published, would still to far too big. I would welcome your views on what to do do in these cases.

IPSO London Group

The September meeting of the IPSO Lond Group was poorly attended, as the result of the postal strike preventing IPSO FACTO getting to you to let you know the meeting details. This was the first meeting to be held at New Scotland Yard and was an interesting experience for all who attended. The main feature of the evening was a joint effort by Brod Mason and John Seymour who gave a demonstration of Psion's Diary Link software and how it interfaces to Sidekick on a PC. The PC used was an Amstrad PPC and this also gave us a chance to see the Vines PPC-to-TV adaptor at work.

There was a lively discussion on meeting venues and dates and on what we should do at the meetings. It was decided that there should be a main talk at each meting and also a beginners' talk afterwards. The first two beginners talks will be on files and input/output. The discussion on venue produced even more important results. It was decided to stay at "the Yard", and the October meeting will have been held there by the time you read this. But from November onwards we will meet at the same time as the Metropolitan Police Amateur Computer Club, which meets on the first Thursday of the monthe at 7p.m. There are several advantages to this - the first is that we gain access to the MPACC resources, such as a printer. Second, and more important, is that it solves the security issue of having more guests than police and so ensures that we can continue to meet at "the Yard". This means that the November meeting will be very soon after the October one and IPSO FACTO will again come out after the meeting, but from December onwards you will know we have a fixed date and time. As mentioned before, I must have the names of any new attendees a couple of clear days before the meeting. I look forward to seeing more of you at the meetings in the future.

Jonathan Hurwitt

Members (and prospective members) of the London Group can reach Jonathan on:

01-568-4138

Beginners Page
by Mike Nash

This month I have decided to start a FILE-HANDLING project, in order to introduce this topic to the Beginners in a more easily understood style than is found in the manual. At least that is the plan. If any of you don't understand what follows for the next two of three months, please write to me and let me know.

Files are really another form of variable, with the difference that they retain the value or text assigned to them during the RUNning of a procedure. AFTER that procedure has finished, the really useful thing about FILES is that Psion have provided a full suite of FILE MANIPULATION commands that enable you to SORT your files into different orders and to select data from them accoding to different criteria. More of this later.

I propose to write a program to control my financial transactions, as I feel that this is a subject that is dear to most of our reader's hearts.

In fact the analogy between an Organiser File and the stub on a chequebook is a close one. The whole chequebook is analogous to the file itself, while each individual cheque stub is equivalent to a single record within a file, consisting perhaps of FIELDS called DATE,AMOUNT, and NARRATIVE. Thus the structure of a file with these field names could be something like this after two records had been added:

	Record 1	Record 2
FILENAME	Checkstub	Checkstub
DATE$	10OCT88	20OCT88
AMOUNT	10.00	139.00
NARRATIVE	CASH	PSION XP

Actually the Organiser would not have to repeat the FILENAME for each record, and a good thing too, as this would be wasteful of memory.

OK let's get down to brass tacks and consider how to go about writing our program.

We need to have at least a rough idea of how many tasks the Psion will be asked to perform and what they are. Here goes:

CREAT/OPEN A FILE FOR CHEQUEBOOK DATA

AN INPUT ROUTINE TO ENTER THE CHECKBOOK DATA TO THE FILE.

A VIEW ROUTINE TO VIEW THE DATA

A PRINT ROUTINE TO PRINT THE DATA

Have I left anything out? Write and tell me if you think so.

Let's consider the first task this month - that is opening or creating a file. It's not as straightforward as it sounds because, in order to avoid confusing the Psion, one must allow for certain situations where the Psion will give you an ERROR message rather than doing what you want. For instance, if, right now, I tell the Psion to OPEN the file CHKSTUB, it will not do so because the file has not been created yet. This is what the CREAT command is for.

On the other hand, if, after CREATING the file, I use the same routine to access the file for Data input, it will tell me that the file already exists and so does not need to be created! Thus my file setup routine must observe the following sort of logic:

IF CHKSTUB EXISTS

OPEN IT AND SKIP TO END::

OTHERWISE

CREATE IT

END::

I shall publish the File setup in my next article when we shall also discuss the next step in writing our program.

Lately I have been somewhat disappointed by the lack of response to my column. I would appreciate some letters from you PSIONEERS. I realise that many of you think that YOUR contribution is insignificant and will not be missed. I decided to write this column as MY contribution to getting the IPSO Group started. In return, I hoped to add to my knowledge of the Organiser and computing in general by YOUR letters. At the moment, the second part of the Plan is not working too well!

SO WHAT ABOUT IT FOLKS??

Mike Nash
6 Hazlemere Court
26 Palace Road
London SW2 3NH

Tel: 01 671 8644 (Sunday morning) or
Telecom Gold Mailbox 72:MAG32832

Editor's Note
At least I appreciate Mike's efforts on your behalf. I would like to mention that I recieve many letters enquiring about items which could easily be answered by Mike.

In future, I will be passing these on to Mike. If he considers the query a "one-off" he will probably give a "one-off" reply, but anything of more general interest will be answered through his column.

Progs & Procs - I

Note that program lines which are longer than the width of a column are enclosed in SQUARE BRACKETS thus: [program line]

Telephone Call Timer
by R.J. Allen

With the ever increasing possibility of heart failure when the phone bill arrives, I decided I would like to keep track of how much my phone calls were costing. The result of this was the program CALLS:. The user is first presented with a menu where he/she is required to enter the type of call to be made (LOCAL, NATIONAL,MOBILE TELEPHONE, OR ABROAD). If a national call is selected, then the user will be asked for the distance. If an IDD call (International Direct Dialling) is required, then the user will be asked to input the charge band (this can be found in the front of the phone book). The Organiser will now be in standby mode. As soon as the connection is made (i.e. the other person answers), the counter in initialised by pressing any key. Th Organiser's own clock is interrogated so that the correct charge rate is used. If the call overlaps between say STANDARD and CHEAP rate, the Organiser automatically reselts the necessary values.

The display shows the current charge rate (PEAK,STANDARD,CHEAP), the current cost of the call and the number of seconds remaining before the next unit price is added to the callll cost. When the call is over, pressing "S" will tell you how many units have been used, at what price, and the total cost of the call made. I have made a test call and found the program to be accurate up to a point of being only 1.5p out, but over a period of time these would be evened out. The program will not work from any other phone than a home or office phone. Sorry to all those people with car phones. (would anyone like to update the program to cope with them?)

If the unit prices change, the program is very easily amended. Simply change the values unit & price from 5.06 to the new value, but remember to put in the unit price PLUS TAX.

```
CALLS:
LOCAL  d$(3),rates$(8),k$(1),band$(2),unit,time%,price
LOCAL  cost,nunits, m%,m2%,m3%,s%,h%,rate%,type%
LOCAL  count%,left%
POKEB $007C,0

setup::
count%=0
nunits=1
unit=5.06
price=5.06
m%=MENU("LOCAL,NATIONAL,MOBILE,IDD")
IF m%=1
type%=1
GOTO start::
ELSEIF m%=2
GOTO distance::
ELSEIF m%=3
type%=4
GOTO start::
ELSEIF m%=4
type%=5
GOTO idd::
ENDIF
```

(listing continued in next column)

```
distance::
CLS
m2%=MENU("<35(miles),>35(miles")
IF m2%=1
type%=2
GOTO start::
ELSEIF m2%=2
type%=3
GOTO start::
ENDIF

idd::
DO
CLS
PRINT "     Enter Band     ";
PRINT " (eg A,B, -> ";
INPUT band$
[UNTIL band$="A" OR band$="A2" OR band$="B"
OR band$="C" OR band$="D" OR band$="E" OR
band$="F" OR band$="G"]

start::
CLS
PRINT "Press Any Key To"
PRINT "      Continue"
GET
h%=HOUR
d$=MID$(DATIMS,1,3)

rate::
IF d$="SAT" OR d$="SUN"
rate$="CHEAP
rate%=1
ELSEIF h%>=18 OR h%<08
rate$="CHEAP"
rate%=1
ELSEIF h%>=08 AND h%<09 OR h%>=13 AND h%<18
rate$="STANDARD"
rate%=2
ELSEIF h%>09 AND h%<13
rate$="PEAK"
rate%=3
ENDIF

time::
IF type%=1 AND rate%=1
time%=360
ELSEIF type%=1 AND rate%=2
time%=90
ELSEIF type%=1 AND rate%=3
time%=60
ENDIF

IF type%=2 AND rate%=1
time%=100
ELSEIF type%=2 AND rate%=2
time%=34
ELSEIF type%=2 AND rate%=3
time%=26
ENDIF

IF type%=3 AND rate%=1
time%=60
ELSEIF type%=3 AND rate%=3
time%=23
ENDIF
```

CALL: (continued)

```
IF type%=4 AND rate%=1
time%=12
ELSEIF type%=4 AND rate%=2
time%=8
ELSEIF type%=4 AND rate%=3
time%=8
ENDIF

IF type%=5 AND band$="A" AND rate%=1
time%=9
[ELSEIF type%=5 AND band$="A" AND rate%=2 OR
rate%=3]
time%=7
ELSEIF type%=5 AND band$="A2" AND rate%=1
time%=8
[ELSEIF type%=5 AND band$="A2" AND rate%=2 OR
rate%=3]
time%=6
ELSEIF type%=5 AND band$="B" AND rate%=1
time%=7
[ELSEIF type%=5 AND band$="B" AND rate%=2 OR
rate%=3]
time%=6
ELSEIF type%=5 AND band$="C" AND rate%=1
time%=5
[ELSEIF type%=5 AND band$="C" AND rate%=2 OR
rate%=4]
time%=6
[ELSEIF type%=5 AND band$="D" OR band$="E" AND
rate%=1]
time%=4
[ELSEIF type%=5 AND band$="D" OR band$="E" AND
rate%=2 OR rate%=3]
time%=3
ELSEIF type%=5 AND band$="F" AND rate%=1
time%=3
[ELSEIF type%=5 AND band$="F" AND rate%=2 OR
rate%=3]
time%=2
ELSEIF type%=5 AND band$="G"
time%=2
ENDIF

loop::
k$=KEY$
IF UPPER$(k$)="S"
GOTO stop::
ENDIF
IF SECOND <> s%
s%=SECOND
count%=count%+1
IF count%=time%
price=price+unit
nunits=nunits+1
count%=0
h%=HOUR
d$=MID$(DATIM$,1,3)
ENDIF
PRINT CHR$(14);rate%,price;"p"
left%=time%-count%
PRINT "Seconds Left",
IF left%<10
PRINT "0";
ENDIF
```

```
PRINT left%;
ENDIF
GOTO rate::

stop::
POKEb $007C,5
cost=price/100
CLS
PRINT CHR$(14);nunits,"Units",CHR$(64),unit
PRINT "Cost =",FIX$(cost,2,5);"p"
GET

repeat::
m3%=Menu("REPEAT.QUIT")
IF m3%=1
GOTO setup::
ELSE STOP
ENDIF
```

(Editor's Note: This is one long procedure. The spaces between the various sections are for clarity only and need not be entered)

Red Face Department

NICK BARRINGTON's Conversion Program (Sep. Issue) contained several typographical errors which were not in the original listing. I thank all those members who pointed this out, apologise to the author, and offer a corrected listing to anyone who requires one. Simply phone or write for your corrected version.

I am currently taking steps to cut down (even eliminate) mistakes in procedure listings and intend to offer to put published procedures (especially long ones) direct onto members own datapaks. More news next month.

Printout Main File
by Mike O'Regan

I have had numerous requests for a routine to simply printout the contents of MAIN:, so here is one.

```
PRMAIN:
LOCAL dev$(1),title$(16)
beg::
PRINT "Which Device",
INPUT dev$
IF ASC(dev$)<65 OR ASC(dev$)>67
GOTO beg::
ENDIF
[OPEN dev$+":MAIN",A,f1$,f2$,f3$,f4$,f5$,f6$,f7$,f8$,
f9$,f10$,f11$,f12$,f13$,f14$,f15$,f16$]
FIRST
DO
[LPRINT a.f1$,a.f2$,a.f3$,a.f4$,a.f5$,a.f6$,a.f7$,a.f8$,
a.f9$,a.f10$,a.f11$,a.f12$,a.f13$,a.f14$,a.f15$,a.f16$]
NEXT
UNTIL EOF
```

Software Review
Robol Management Pack
reviewed by Glyn Pollington

Robol Software have produced at data organising package for the Organiser with the title of "Management Software for the Psion Organiser". It is however easier to use than say.

The basic concept is that of extending and enhancing the basic Organiser functions without making the machine too complicated to use. When the pak is first loaded, it self-installs into the TOP LEVEL MENU "MEMOS JOBS ADD" at the top, and "PRINT PDIARY BLCOP" at the bottom. These are the names of the main function calls used by Robol and will be further examined later.

The package comes on a 16k datapak with only about 10.5k used. However the rest is unavailable due to the fact that the pak is write as well as copy protected. A 17 page manual is provided which is both well thought out and easy to follow. The procedures themselves are very easy to use and I soon found that the manual was only needed when the time came to use a printer.

The ROBOL system provides three specialised files for the user (in fact , there are more files created but these are only accessed invisibly by the program). They are ADD which is an address book, MEMOS which allows the creation of "pigeon holes" into which data relating to that person may be entered, and JOBS which is more of a note-pad for both work and home, which allows for prioritising of tasks and each entry is datestamped.

The first time one of the above is called, the display shows the word NOTE! on the top line and a message of this sort: Data File C:Addr-not found. Create New File? Y/N" scrolling across the bottom. At this point, check that the pak you have in C: is the one you want to create files on. Robol does NOT use the Organiser's RAM. (The above assumes the Robol Pak in B:. If no second pak is fitted, an error message is generated and the program returns to the Top Level Menu).

The Address Book
Once the files have been created, information can be added. For the address file, the used is prompted to fill the six pre-allocated fields in the order:
NAME, POSITION, WORK TELEPHONE, HOME TELEPHONE, ADDRESS, BIRTHDAY. Any file can be skipped by entering nothing (i.e. pressing EXE). After entering birthday, the user is prompted by an all correct query whilst the entry scrolls across the bottom line. Here is my first moan! If an error is noticed at this stage and reply N is made, the WHOLE entry is lost and has to be retyped (It is better to say yes and edit later - thi is thirsty on memory though). Of course the entry can be edited as each field goes in but we all make mistakes....

To save time getting the data the address file, I wrote a short OPL routine to reconfigure my address back-up to fit into this file structure and then copied it straight in. Once the data is all safely entered, life becomes much easier. Selecting ADD from the Top Level Menu gives the SEARCH APPEND QUIT menu common to most sections of the ROBOL pak.

1:
```
Search Append
Quit
```
See A below

2:
```
1st Search Word:
```
See B below

3:
```
Next Er Mod Quit
Address data scrolls here
```
See C below

A: The Append option is normally used for inputting new addresses to the file, the whole file can be created from here, but, as I said earlier, this can be tedious. Selecting Search produces item 2 above:
B: After entering the first search string the use is prompted for a second and then the result of the search is displayed as in item 3 above:
C: Either or both Search criteria may be omitted by use of the EXE key. If no search data is entered, the whole file may be browsed. If the search is not successful, control returns to the Search Append menu.

The display at 3 above is the standard display method used by Robol, with a slight variation for memos. The data scrolls across the bottom lin with the L/R Cursor keys working as normal. The top line is a menu of further options: Next looks for the next entry to meet the search criteria, Er erases the current record (after confirmation), and Mod permits editing of the cuirrent record.

The Memo Pad

This is probably the most useful funtion for the busy manager, as it allow the creation of a number of "pigeon holes" such as SEC,MD,BOSS, etc and store away information relating to them at any time for later retrieval and actioning.

4:
```
Examine/Edit
Add/Delete-Box
```
See D below

5:
```
All SEC MD BOSS
PERS
```

D: This is the entry point to the world of ROBOL Memos. The Add/Delete funtion operates very simply and allows creation or erasure of pigeon holes. Selecting Examine/Edit prompts a menu similar to screen 5: Although All gives access to all pigeon holes anything added will be put into All. If a selective search is made the sidplay is similar to screen 3: (minus the Mod option), but if all the memos are being browsed the top line identifies the pigeon hole being examined.

I found the memo pad the best part of the package, easy to use and great for reminding me of what I have to say to people when I meet them. It is fairly important to Erase entries once their purpose is served or else things can get a bit cluttered. (cont.)

Software Review - cont.

The Jobbing List

Another good idea this. Jobs are divided into two types (home & work), datestamped as they are entered and, best of all, allocated a priority. The latter allows the user to look for the things that just can't be put off any longer (washing the cat and taking the car to the vet, etc!). A printout can be obtained each morning, listed in order of priority.

| 6: | Work-Jobs | See F below |
| | Home Jobs | |

| 7: | Add-Jobs Search | |
| | Printout Quit | |

F: Work and Home jobs work in exactly the same way but the files are kept separate and the printing is slightly different, but more of that later. Whichever is selected, the next menu is the same (7:). When adding jobs, first the description is entered, then the priority (A,B,C or D). Searching is the same as for Memos with a single search word and the display is the same as for addresses (3:).

The best thing about this section is that if just browsing by not entering a search word, the jobs are listed with the highest priority ones first. Also as deadlines approach, the priority of any job can be changed using the Mod option. Again, it is advisable to Erase entries as soon as the job has been done.

The Diary

This is a bit of a cheat really, because, although much is made in the intro to the booklet and there is even a chapter devoted to is, there is no diary function except PDIARY, which is a re-hash of the procedure published in Psion News No.1. For other diary functions, the user is directed to the Organiser Manual, Chapter 9!

Printing with ROBOL

To test the printer functions, I used my trusty steam-powered dot matrix printer (which has the advantage of running from the Comms Link default values, but the disadvantage of not being EPSON compatible), and everything worked fine first time. I was particularly impressed with the print layout with centralised headings and dotted lines to break down each section into clearly read chunks. The printing options are very good. As has already been mentioned, most of the application menus have a print option, but there is also a PRINT function loaded into the Top Level Menu. The latter prints everything (with the exception of Home-Jobs) in the order Memos, Work-Jobs, Diary. The manual recommends, and I agree, a daily printout of this sort as a the data is easily visable at a glance. Having criticised the Diary section, the PDIARY routine is very good with a small heading at the top of each year and all the entries neatly tabulated underneath (none of the problems of the Psion version).
The only way to print out Home-Jobs is from the Add, Search, Printout menu. The Top Level PRINT option only prints the Work-Jobs part. I suppose this is to provide some privacy at the office.

The Verdict

There is one part of the ROBOL pak that I have not mentioned, and that is called BLCOP. BLCOP is used for copying all the un-erased procs, files, diaries and Comms setups from one pak to another (B: to C:). I was unable to test this due to a shortage of blank paks, but I feel it would be of more use if the user could select just procs or files etc.

On the whole, I found the ROBOL pak a very well put together package that would be ideal for the businessman that wants more out of his Organiser but not the hassle of programming it himself. However, I feel that, for the hard core user, working with just three files may become a bit restrictive.

Robol Management Pack is marketed by:

Robol Electronics
54 Leyes Lane
Kenilworth
Warwicks
CV8 2QT

Tel: (0926) 56546

The price is £99.95

POKEing about a bit!
A couple of handy routines which directly address memory

Editing Numbers
by Nick Frank

The OPL command EDIT is fine if you wan to edit text, but what do you do if you want to edit a floating point number?

The answer is that you must first convert the number into a string, then edit the string, and then convert the string back to a number. The relevant part of a simple OPL procedure for doing this might look like this:

```
[. . .]
string$=GEN$(number,15)
KSTAT 3
EDIT string$
number=VAL(string$)
```

where string$ and number represent LOCAL or GLOBAL variables declared on the first line of the procedure. KSTAT 3 sets the Organiser's keyboard ready for a numeric entry, and string$ is assumed to have a declared length of 15 characters - long enough for any number.

This is fine as far as it goes, but is still a little awkward. Firstly, the procedure as it stands will only let you finish the EDIT by pressing <EXE>. You cannot "escape" by pressing ON/CLEAR. Secondly, if you accidentally incorporate a non-numeric character in the EDIT, you will find you are interrupted by a "STR TO NUM ERR" (error number 252). Finally, the cursor position starts off on the LEFT hand end of the number, whereas it would normally be more convenient to have it start on the right.

The following procedure, EDITNO, solves these problems. I have set it up so that it receives the number to be edited in the form of a parameter from another procedure and it then returns the edited number back again.

```
EDITNO:(number)
LOCAL n,string$(15)
n=number
KSTAT 3
START::
ONERR OFF
CLS
PRINT"EDIT:"
POKEB $73,0
POKEDB $74,1
POKEB $20B0,4
string$=GEN$(n,15)
TRAP EDIT string$
ONERR START::
n=VAL(string$)
ONERR OFF
RETURN n
```

The first of the tree problems is solved by the use of TRAP EDIT instead of EDIT. TRAP EDIT enables you to exit from an EDIT command by pressing ON/CLEAR. The original number is remembered as if no edit had taken place.

The ONERR START:: command has been included in order to trap a "STR TO NUM ERR". The original number is now redisplayed for re-editing if a non-numeric character has been entered during the EDIT.

Finally, the position of the cursor is moved from the left end of the number to the right end using a simulated pressing of the <DOWN> cursor key. This is achieved by the three POKEB commands. The <DOWN> cursor key returns a value of 4, and this is POKEd into address $20B0, which holds the first key of the key-in buffer. The value of 1 POKEd into address $74 tells the Organiser that one key has been pressed.

Caps Without Tears?
by John Campbell

John has been experimenting with the possibility of using the SHIFT key to produce CAPs, (while using a word processor on the Organiser), and has come up with the following partial solution - based on Kent Peterson's program, which we published earlier (MOVEBASE:, NEWKEY: and OLDKEY).

The program produces UPPER CASE letters instead of NUMBERS when the SHIFT key is pressed. The characters . , % : are obtained by using the LEFT and RIGHT cursor keys, MODE and SPACE (all with the SHIFT key). The revised version of Harvester's Letter Organiser (and AutoScribe Ed.) give ? ! ' & and #(£).

The way John works at present is to use this program and if he needs any numbers or other symbols (which is seldom) he uses OLDKEY to restore the original keys. John says he hopes some other PSIONMANIAC will come up with a better solution.

```
newkey:
LOCAL k% ta%,sb%
k%=0
ta%=PEEKW($205E)
sb%=PEEKW($2065)
WHILE k%<72
POKEB sb%+k%,PEEKB(ta%+k%)
k%=k%+1
ENDWH
POKEW sb%+k%,ta%
POKEB sb%+46,58        :REM SPACE (:)
POKEB sb%+66,37        :REM MODE (%)
POKEB sb%+69,44        :REM <- (,)
POKEB sb%+70,46        :REM -> (.)
POKEB sb%+65,65 :REM A
POKEB sb%+60,66
POKEB sb%+55,67
POKEB sb%+40,68
POKEB sb%+50,69
POKEB sb%+45,70
POKEB sb%+64,71
POKEB sb%+59,72
POKEB sb%+54,73
POKEB sb%+39,74
POKEB sb%+49,75
POKEB sb%+44,76
POKEB sb%+63,77
```

```
POKEB sb%+58,78 :REM N
POKEB sb%+53,79
POKEB sb%+38,80
POKEB sb%+48,81
POKEB sb%+43,82
POKEB sb%+62,83
POKEB sb%+57,84
POKEB sb%+52,85
POKEB sb%+37,86
POKEB sb%+47,87
POKEB sb%+42,88
POKEB sb%+51,89
POKEB sb%+36,90 :REM Z
POKEW $205E,sb%
```

Machine Code Page

Looking into Datapaks
by John Spillett

The Psion Datapak, being an EPROM device, has the major advantage of permanent storage of data until the device is positively exposed to ultraviolet light in an EPROM eraser or Formatter.

Records or programs can however be "erased" using the Psion ERASE function. This flags the record and the Organiser subsequently ignores it when reading the datapak.

It is however possible to read all the contents of a Datapak, whether flagged "erased" or not, by using machine code routines in the Organiser operating system.

The following simple program enables a user to specifty a start address in a datapak and will then display a character representation of the contents. It operates on paks in drive B: (the upper of the 2 slots).

The program was primarily written to enable records or programs deleted or erased in error to be recovered and at least written down (or printed if you have a Comms Link and printer). It can be adapted to suit individual user's requirements.

```
Ppak:
LOCAL a%(9),z%,e%,c,x,b$(16)
POKEW $2046,$8000        :REM prevents TRAP error
KSTAT 1
a%(1)=$FD1F              :REM machine code is put
a%(2)=$40C6              :REM into a variable
a%(3)=$013F
a%(4)=$62FC
a%(5)=$1F40
a%(6)=$3F63
a%(7)=$4F3F
a%(8)=$5D18
a%(9)=$3900
R::
PRINT "Pak address:"
INPUT c%
a::
DO
z%=z%+1
x=USR(ADDR(a%()),c)     :REM machine code routine
IF x<17                     starting at the address of
x+223                       variable a% is run passing
ENDIF                       c to CPU register D
b$=b$+CHR$(x)
c+c+1                    If x < 17 CHR$(x) produces
UNTIL z%>=16                screen control characters and
PRINT b$                    confusion reigns!
e%=GET
IF e%=13                REM if <EXE> pressed
b%=""
z%=0
GOTO a::
ENDIF
IF e%=82                REM if R pressed
GOTO r::
ENDIF
RETURN
```

Explanation of Machine Code:

Code	Instruction	Explanation
FD 1F	STD	store the contents of CPU register D in RAM locations
40	8000	8000 and 8001
C6	LDA,B	store in CPU Register B
01	1	the number 1
3F	SWI	software interrupt to call a
62	PK$SETP	machine code routine from the operating system vector $62 selects routine PK$SETP which 1) sets the current pak as indicated by the B register (1=upper slot) 2)sets up the operating system to access this pak
FC 1F into	LDD	puts the contents of memory locations 8000 and 8001
40	8000	CPU register D
3F	SWI	
63 the	PK$SKIP	increments the counter in pak by the number in CPU register D
4F	CLR	CPU register A=0
3F	SWI	
5D	PK$RBYT	Put contents of current pak location into CPU register B and increment pak counter.
18	XGDX	swap contents of CPU registers D and X
39	RTS	return

New IPSO Group in Swindon Area

A new IPSO Local Group is being formed in the SWINDON (Wilts) Area. All members (and prospective members) in the area should contact:

Jeremy Holt on 0793 619664

for further information about their next meeting on 5 DECEMBER.

NOTE: IPSO encourages the formation of local groups and also specialist groups (e.g. medical, clergy, etc). Any member who would be willing to start a local or specialist group, for mutual advantage of members, should let me know. I will publish details of any meetings, given sufficient notice.
Editor.

Editorial

First let me wish all members, in all parts of the world a very Happy Christmas, with a thank-you from my wife and myself for your support throughout our second year of publication. This is the second Christmas edition of IPSO FACTO, but I must say that it doesn't seem such a very long time since the first edition. We hope to go on giving you the kind of service you like for many more issues. Which brings me nicely on to the subject of the format of your newsletter. From the considerable feedback I have had on the subject, it seems that the majority (of those who expressed an opinion - quote a 'with-it' phrase) would prefer the present format to continue, so that they can keep their copies in an identical looseleaf binder as a source of reference. To assist you in finding any particular item, I will be producing an index to Volume II at the end of February.

Pocket Computers compared

As an experiment, I have done a short comparison between the Organiser XP and a new(ish) Pocket Computer from the CASIO stable. If this is popular, I will do some more comparisons with the competition in future. As these other machines do not seem to get much publicity, even from their own manufacturers, it is quite likely that you may not of heard of them, but I feel it is always a healthy pursuit to, at least, look at what is being marketed in this field.

IPSOMEET 89

I am going ahead with plans for our annual meeting, which will probably be in April '89, and I hope to have something more definite to report by the time the next issue is due. One thing is certain - we will need a much bigger venue this year as we can expect at least five time as many members to attend as did IPSOMEET 88.

Contents

IPSO London Group

The October meeting was the best attended so far with some fifteen members, plus several Metropolitan Police Club members. There was no formal presentation, but another discussion to decide on an agenda for future meetings. It was decided that the November talk would be by Gordon Brown on 'Getting the most from the standard facilities of the Organiser". For the December meeting John Seymour would discuss the Diary. January's meeting will be a problem clinic and 'bring-and-buy', so bring along your problems and any Organiser bits and pieces you no longer need. From February onwards, Mike Nash will be presenting his Beginners' Talks and I also hope to get some guest outside speakers. There is a strong possibility that someone from Psion will attend later in the year.

The Novemeber meeting was less well attended, being only two weeks after the October one and also the first at the new date. There were, of course, many policemen and civilian employees of the police force, but many of these were not interested in the Organiser! The main sub-group in the police club seems to be the Commodore 'Amoeba' with five or six people bringing their machines and monitors with them. Gordon Brown gave his promised presentation (see above), concentrating on FIND and SAVE. This was very well received by the other attendees.

One consequence of our merger with the Met. Police ACC is that we will all need ID badges (as guests) so please bring a passport size photo (of yourself!) to the next meeting you attend. For all further information on the London Group please contact JONATHAN HURWITT on 01 568 4138.

Beginners Page

by Mike Nash

Since I wrote last month's article, MIKE SHAW's new book on file handling for the Psion has been published. It is an excellent book far easier to follow than this first, with a very disciplined and consistent format. I recommend it highly. However, in the book, Mr Shaw has included a banking program which tends to make my proposed finance program somewhat redundant.

Accordingly I have decided to do a program to hold names, addresses and telephone numbers as being an area which may appeal to a fair number of PSIONEERS.

Below is the routine to be a "utility routine" in that it can be used by any routine you write that requires files to be opened. For instance, if I call the procedure from my main procedure like this:

> filename$=fopen$:

fopen$: will return the location and filename to the main procedure. REMEMBER the main procedure has not been written yet, so you will have to wait until the next article or, better yet, experiment yourself!

Thanks to Neil Jones of Wales by the way for pointing out that a File Editing routine is something that will have to be included in our file handling project.

I was passed a letter by our Editor, from a Dr PAYNE who had an interesting query as to how OPL allows you to view the records of a file while stepping through the fields with the CURSOR KEYS.

In fact the DISP() function is what is required here, and though our project will cover this later on, I include a little routine below which will enable you to view any records which you hold in MAIN using DISP()

TERRY TRIFFITT enquired by phone as to whether there are any Sea Navigation routines available. I have since discovered that the FORMULATOR contains some nautical routines. Some of these are: TRUE & APP BEARING, SEA HORIZON, TRUE & APP SPEED, BAROMETER CORRECTION, DRIFT SPEED & BEARING etc. The nice thing about the FORMULATOR is that it is copyable, and the formulae for the calculations are accessible so that you could adapt them for your own procedures quite easily. Perhaps you will get one for Christmas, TERRY!

```
fopen$:
LOCAL  g%,l%              REM integer variables
[LOCAL b$(10),fname$(8),  REM string variables
dfnam$(10),dev$(2)]
POKEW $2046,$8000         REM J.Spillett's 'Untrap'
ONERR more::              REM start of routine to
l%=0                      REM change pack address
loc::
l%=l%+1                   REM by pressing "MODE"
IF l%>3
l%=1
ENDIF
more::
dev$=CHR$(64+l%)+":"      REM CHR$(64)=A
open::                    REM start of file opening
AT 1,1 :PRINT"FILENAME";CHR$(63)
                    (Cont in next column)
```

```
AT 1,2 :PRINT dev$
g%=GET
IF g%=2
GOTO loc::
ELSEIF g%=1               REM if ON/CLEAR QUIT
GOTO end::
ELSEIF g%>63              REM captures first letter
ELSE GOTO more::          REM of file name.
ENDIF
ONERR OFF
CURSOR OFF.
AT 1,2
PRINT dev$
AT 3,2
INPUT fnam$
dfnam$=dev$+fnam$
IF EXIST(dfnam$)          REM check if file exists
TRAP CLOSE
OPEN dfnam$,a,f1$,f2$,f3$,f4$,f5$,f6$,f7$,f8$,f9$
ELSE
TRAP CLOSE
CREATE dfnam$,a,f1$,f2$,f3$,f4$,f5$,f6$,f7$,f8$,f9$
a.f9$=""
APPEND                    REM these 3 lines are only
ERASE                     REM needed for early
ENDIF                     REM Organisers
RETURN dfnam$
END::
```

```
tdisp:
OPEN
["a:MAIN",a,f1$,f2$,f3$,f4$,f5$,f6$,f7$,f8$,f9$,f10$,
f11$,f12$,f13$,f14$,f15$,f16$]
DO
IF EOF
RETURN
ENDIF
DISP(-1,"")               REM you will be able to
NEXT                      REM choose with cursor
                               keys
UNTIL MENU("More,Quit")<>1
RETURN
```

MERRY CHRISTMAS TO ALL

Mike Nash
6 Hazlemere Court
26 Palace Road
London SW2 3NH

Tel: 01 671 8644

Telecom Gold Mailbox: MAG32832

Machine Code Page
by Les Ball

The following OPL listing is in response to many members' request for a procedure which can list ALL files resident in the Organiser, on all devices. As it stands, the procedure will DISPLAY the information, but changing the relevant PRINT statements to LPRINT will enable the information to be passed to a printer.

```
dir:
LOCAL code$(24).fn$(10),dv%,ft%,c%
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
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
11::
[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,$100+dv%)
GOTO 14::
13::
fn$=USR$(ADDR(code$)+1,dv%)
14::
IF LEN(fn$)>0
IF ft%=1
PRINT CHR$(13);"file  ";
ELSEIF ft%=2
PRINT CHR$(13);"Diary ";
ELSEIF ft%=3
PRINT CHR$(13);"OPL   ";
ELSEIF ft%=4
PRINT CHR$(13);"RS232 ";
ELSEIF ft%=5
PRINT CHR$(13);"PLAN  ";
ELSE PRINT CHR$(13);HEX$(ft%+$80);"     ";
ENDIF
PRINT fn$
IF GET=1
STOP
ENDIF
PRINT CHR$($7E);
GOTO 13::
ENDIF
```

```
eod::
IF ft%<15
ft%=ft%+1
GOTO 11::
ENDIF
16::
PRINT CHR$(13);"**END OF PAK**"
GET
RETURN
err2::
ONERR OFF
PRINT CHR$(16);err$(ERR)
PRINT "PRess space key"
GET
```

Editor's Note: Les would like to thank ERNIE BOKKELKAMP for this routine. He will provide a detailed explanation of the Machine Code parts of the program in next months issue.

Les would also like to thank those people who have contacted him about this page, and would still welcome any requests for subjects connected with machine code for future articles.

News & Reviews

A New Book for the Organiser

If you liked MIKE SHAW's first book, "USING & PROGRAMMING THE PSION ORGANISER II" you will be pleased to hear that MIke has followed up with another excellent book for Psion users called "FILE HANDLING AND OTHER PROGRAMS FOR THE PSION ORGANISER II"

This new book, which is the same format of the previous one, deals with the problems of FILE HANDLING in a unique way. Not only does the book contain some excellent programs, but it explains in great detail and simple terms exactly how the programs work and positively encourages the reader to experiment and adapt any of the routines to his own purposes. Each program - and there are 41 in the book - has sections labelled:

What it does
Space required (in bytes for Source and Object code)
How it works
Examples of use
Inputs
Returns
Non-OPL functions used (these are listed in the book)
Globals needed
Variables used, with descriptions of each
Notes on customizing
Test Program (where appropriate)

This approach will make the programs eminently suitable as learning material for beginners, who will (for once) understand EXACTLY what the program is about.

Quite apart from the obvious educational aspects of the book, the programs themselves have real practical value, with pride of place going to the two main suites - STOCK CONTROL/PRICES (this fills a longstanding gap in Organiser software) and the BANK ACCOUNT HAND-LER. Both of these programs are capable of being used without any modification, but with the added bonus thadt they can EASILY be modified to suit individual requirements which does not apply to any of the other available software in these fields.

Mike explains just why general purpose database programs cannot satisfactorily handle these topics, as most are geared up to only allowing TEXT fields, which cannot easily be used for manipulating figures.

If you feel daunted by the thought of keying in programs rather than buying them on a ready-made pak, do not be put off. Most of the programs in this book are less than half a page in length, with the emphasis on modular programming (short routines which are easily understood, debugged, or modified and which call each other). Many of the procedures are used in more than one set of programs.

Many of the queries we get at IPSO can be traced in one way or another to difficulties understanding FILE HANDLING, so there is an obvious need for a book which effectively deals with evey aspect of the subject in a way which is easily understood, even by the beginner.

It looks as if Mike SHaw's new book will join his previous one in quickly becoming THE standard reference book for anyone interested in getting the best out of their Organiser.

FILE HANDLING and other programs for the PSION ORGANISER by Mike Shaw is available from Psion Dealers, good bookshops or the publishers.

It costs £14.95 and is published by:

Kuma Computers Ltd
Pangbourne
Berkshire
England

A New CONVERSION Program

It seems that the Psion FORMULATOR programs sparked off interest in Conversion Programs in general. I have just received a review copy of a comprehensive program which is about to be marketed by NICK ABEL, one of our members. CONVERT has a wide range of conversions as follows:

Length,Area,Volume,Weight,Temperature, Velocity,Energy,Angle,Force,Power,Pressure,Days,Dates Currency, Yield, and Numbers.

Of particular interest are the Days/Dates, Currency, Yield and Numbers.

Days/Dates
Date-Date allows you to calculate the number of days between two input dates. What is unusual is that, in addition to the total number of days it is also possible to calculate the number of weekdays, weekend days, or the total excluding any day of the week. For instance, if Sunday is excluded, you can calculate the number of Shopping days between two dates.
Date-Days will give you the date of any input date plus a number of days, again with the choice of weekdays, weekend days, or excluding a particular day.

Currency
The default currencies are £, $, Yen, Franc, Mark, Lire, but any other desired currency can be added to the list. A file is created to contain the latest exchange rates for each currency. Currency is also used in the Yield section (see below)

Yield
This has wide ranging uses. When this option is chosen, a sub-menu offers the following:
length,area,volume,weight,energy,force, power,pressure,time,and currency.

Any one of these may be chosen as the first variable.

CONVERSION Review (cont)

Having chosen the first variable, pressing <EXE> will produce PER then a similar menu for the second variable. For example:

Choose CURRENCY from first sub-menu the PER WEIGHT. You then have the CURRENCY menu to choose which currency. Choose, for instance £ and you are prompted for Quan(tity). Input a quantity (no of £s) and at the prompt PER lb. The CURRENCY menu is then offered to pick an alternative currency (say MARK). At the PER prompt this time input kg. You will then be told that, for any commodity that costs £n.nn for lb.nn the equivalent COST in MARKS PER kg. will be nnMARKS. This means that YIELD has many useful combinations, based on any of the conversions available.

Numbers.
Choosing NOS from the main menu produces a sub-menu with the following options:

Hex,Dec,OCt,Bin,ASCII and ROMAN and OTHER

Conversions are possible between any pair of these. For example choose ROMAN and enter XXXIII <EXE>. Then choose ASCII and you will see displayed the ASCII character for CHR$(32) (XXXIII), a "!"

The OTHER option is interesting in that, if a BASE is chosen which is higher than HEX (base 16), CONVERT will add the extra ALPHA CHARACTERS required to express a number to the base chosen. Not being a mathematician, I cannot see much practical value in working in unusual number bases, but it is quite adept at using these.

Overall, CONVERT couldn't be simpler to use, being exclusively menu driven, so that there is almost no need for an Instruction Leaflet. Certainly this is the easiest Conversion program I have used. There were one or two small "bugs" in the program. Using NUMBER it was possible to enter "illegal" values for the option chosen. These would sometime result in an ERROR or sometimes in a (wrong) value being displayed. The author tells me that the production version of CONVERT will have these minor difficulties sorted out.

CONVERT is available on 16k datapak (unprotected) from:

Nick Abel
42 Laburnum Road
Chertsey
Surrey
KT16 8BY

Tel: 0932 565035

Price £30

AutoScribe News

After of prolonged period during which AutoScribe has been sold solely through IPSO, we have decided that it deserves a wider distribution. To this end, distribution for a further improved version of AutoScribe has been taken over by WIDGET SOFTWARE. To allow for the necessary expansion the package is now on a 16k pak so that upgrades for existing AutoScribe users will not be able to follow the pattern set by the previous two versions.

For further details on AutoScribe v1.2 please contact in the first instance:

WIDGET SOFTWARE LTD
121 LONDON ROAD
KNEBWORTH
HERTS

Tel: (0438) 912320

Software Unavailable

JOHN SEYMOUR has asked me to announce that, unfortunately, for reasons beyond his control, he is unable to proceed with producing his TIME MANAGEMENT SYSTEM (see IPSO FACTO, Page 64). JOHN apologises for any inconvenience to all those who contacted him after we published this short review.

Talking Calculator

Following on from his success with a TALKING NOTEBOOK, blind member LES BALL is putting the finishing touches to a companion program for the visually impaired, a TALKING CALCULATOR. Les is aware that SIMPLE 4 function talking calculators already exist, but he is making his program offer most of the facilities of a full SCIENTIFIC CALCULATOR. The program will need, of course, an Organiser and a small (DOLPHIN) speech synthesiser.

For further details contact Les on (0602) 289553

Notes for Software Authors

In the interests of helping MEMBERS, and widening the software base available for the Organiser, IPSO is always ready to assist software authors to get their programs on the market by reviewing worthwhile developments. This has been suggested as a possible solution to the "long program" problem mentioned last month. It may also be come possible in future to produce software compilations of long and short programs ON DATAPAK, with a suitable royalty paid to the authors involved based on the number

Progs & Procs - 1

TOUCH-TIME
by Ian Bullock

Many people must, like me, use their Organiser as an alarm clock and leave it on a bedside table. TOUCH-TIME is a simple program which tells you the time in the night without having to switch the light on or find your glasses.

If listed on the main menu as XTIME, it is accessed by pressing the X key (all you have to remember is that it is the key above EXE)

When in use, it clicks the number of hours, leaves a gap and then clicks the number of minutes in units of five. Hence, at 3.46 in the morning, Psion will click THREE times, pause, and then NINE times. It is only accurate to five minutes, but that is perfectly acceptable in the small hours of the morning.

The clicking noise is reasonably quiet, so one's partner is not woken up!

```
XTIME:
LOCAL h%,m%,c%
PAUSE 35
CLS
PRINT "    TOUCH-TIME:"
PRINT "        ";MID$(DATIM$,17,5)
h%=HOUR
m%=MINUTE
IF h%=0
h%=12
ELSEIF h%>12
h%=h%-12
ENDIF
c%=0
DO
BEEP 2,1
PAUSE 12
c%=c%+1
UNTIL c%=h%
PAUSE 25
c%=0
IF m%<5
OFF
RETURN
ENDIF
m%=INT(m%/5)
DO
BEEP 1,7
PAUSE 12
c%=c%+1
UNTIL c%=m%
OFF
RETURN
```

Editor's Note
In program listings, square brackets [] are used to indicate the start and finish of lines which are too long to fit into our column format.

TONES
by Adrian Pegg

This program is a utility to help other programmers find the SOUND he/she wants. On running TONES:, the top line gives the set values of sound LENGTH (L) and PITCH (P). These are altered up and down using the cursor keys (Cursor UP/DOWN operate on sound Length, while the LEFT/RIGHT operate to raise or lower the Pitch). The sound can be heard at any time by pressing <EXE>, and the bottom line of the display retains the values of the last sound heard.

```
TONES:
GLOBAL a%,b%,g%,p%,l%
CLS
POKEB $20C0,0
PRINT "SET: L100";
AT 11,1
PRINT "P400"
PRINT "SND: L";
AT 11,2
PRINT "P"
a%=100 : b%=400
PAUSE 5
tonesnd:
st::
DO g%=0 : g%=GET
IF g%=1
POKEB $20C0,1
RETURN
ELSEIF g%=3
a%=a%+1
GOTO ud::
ELSEIF g%=4
a%=a%-1
GOTO ud::
ELSEIF g%=5
b%=b%+1
GOTO ud::
ELSEIF g%=6
b%-b%-1
ENDIF
ud::
toneset:
UNTIL g%=13
tonesnd:
GOTO st::

TONESET:
AT 7,1 : PRINT "    "
AT 7,1 : PRINT a%
AT 12,1 : PRINT "    "
AT 21,1 : PRINT  b%
RETURN

TONESND:
l%=a% :p%=b%
AT 7,2 : PRINT "    "
AT 7,2 : PRINT l%
AT 12,2 : PRINT "    "
AT 12,2 : PRINT p%
BEEP l%,p%
RETURN
```

Progs & Procs - 2

Letter from Belgium
from Peter Houppermans

In IPSO FACTO (Nov 88) you published a routine for a MAIN file printout. Now this procedure showed one of the nasty points in the Organiser: if you want to list a file which contents is unknown to you - thus the number of fields is unknown as well - you end up typing numerous fieldnames, just to make sure you didn't miss some...

There is, however, a shorter and more elegant way of reading a record's contents, and that is by directly accessing the file buffer. The file buffer contains the whole contents of the current record and this means ALL fields. The fields are separated by a TAB character, and the whole record forms ONE string, with a maximum length of 254 characters (the last character is used to indicate the end of the record, so you cannot have 255 characters in a record).

As the fields are separated by a TAB character (CHR$(9) in OPL terms), it is quite easy to repace them by another character, which identifies the field separation more clearly. In my own programs and databases I use the 'I' character (CHR$(124)).

In order to put the contents of the chosen file buffer into a string, I use a VERY tiny machine code program (2 bytes long). This is the fastest way to do it. (by the way, the shortest possible machine code routine for the Organiser is ONE BYTE long (just the RTS instruction, ha ha).

Use of this subroutine

1. Open the desired file in your program. The number of fields is unimportant(!), so OPEN "<pak:filename->",A,a$ will do, even if you have the full 16 fields filled in.

2. Make the record you want to read the current one.

3. Call the subroutine SWAP$: in the following way:

record$=SWAP$:(l%,f$), where l% tells SWAP$ which logical filename buffer you want to access (0=logical A, 1-logical B etc) and where f$ indicates which character you want to replace the field delimiter with (you MUST specify one, and only one).

4. Check for errors, returned in the ERR register. (NOTE here's another trick!) My procedures sometimes use an extra set of error values to indicate something went wrong. I put those values directly in the ERR register by simply POKEing them there (the register is located at address $B3). By doing so, I prevent the errors from getting 'raised', so you don't need extensive error checking to use SWAP$:!

Error values used in this procedure:

220 : STRING TOO LONG : You attempted to replace the TAB by more than one characer (which might overfill the buffer string in SWAP$)

219 : BAD CHARACTER : You didn't specify a replacement for TAB

209 : BAD LOGICAL NAME : The logical file name is other than A,B,C, or D (so l% is not between 1 and 4)

196 : FILE NOT OPEN : SWAP$ detects that there is no file buffer available for the specified logical filename.

and finally the procedure itself:

```
SWAP$(log%,repl$)
[rem WRITTEN AND (C) 1988 BY PETER HOUPPER-
MANS]
rem TO BE PUBLISHED BY IPSO FACTO
LOCAL a%,buff$(255)
rem ZERO ERROR REGISTER
rem------------------------------------
POKEB($B3),0
rem CHECK FOR DATA ERRORS
rem------------------------------------
IF log%<1 or log%>4
POKEB($B3),209
RETURN
ENDIF
IF LEN(repl$)>1
POKEB($$B3),220
RETURN
ELSEIF PEEKB($B3)=0
POKEB($B3),219
RETURN
rem CHECK IF FILE IS OPEN
rem------------------------------------
IF PEEKW($2014+2*log%)-PEEKW($2016+2*log%)=0
POKEB($B3),196
RETURN
ENDIF
rem SWAP FILE BUFFER CONTENTS TO STRING
rem------------------------------------
a%=$1839 : rem XGDX,RTS
buff$=USR$(ADDR(a%),PEEKW($2014+2*log%))
rem CHANGE TAB CHARACTER
rem------------------------------------
IF  repl$<>CHR$(9)
a%=LOC(buff$,CHR$(9))
WHILE a%
[buff$=LEFT$(buff$,a%1)+repl$+RIGHT$(buff$,Len-
(buff$)-a%)]
a%=LOC(buff$<CHR$(9))
ENDWH
ENDIF
RETURN buff$
rem THAT'S ALL FOLKS!
```

Editor's Notes

1. Any queries about this program should be addressed to:

        Peter Houppermanns
        Trappenstraat 25
        3630 Maasmechelen
        Belgium

2. There is quite a neat routine for printing the contents of MAIN in the handbook to the latest version of the COMMS LINK.

Pocket Computers Compared

by Mike O'Regan

	Psion XP	Casio PB-1000
Pocketability	Reasonable, but rather thick, display not protected.	Good shape, slim, display protected when closed
Handholdability	Upright format makes it easy to hold in one hand and key in with the other. The case is not so handy when its open	Practically impossible to use in the hand. The folding LANDSCAPE format means using some support and using both hands on the keyboard.
Display	2 x 16 characters, 8 x 5 matrix	4 x 32 characters, whole display dot-addressable
Keyboard	ABC, no single shift for CAPS, no separate numeric keypad.	Full QWERTY, separate numeric keypad, shift key(s), CAPs lock, single key commands, very full character set, space bar.
Language	OPL, translates to Object code.	BASIC, non compiled but very full set of cammands and functions, including Plotter Printer commands and full Stats functions.
Memory	32k inbuilt, RAMPAK expansion	8k inbuilt, expandable to 40k via 32k RAM-CARD (non-removeable - no battery backup)
In/Out Facilities	COMMS Link, small, comms software inbuilt, serial interface only, very flexible interface protocols.	FA adaptor, large (more than twice the area of the computer itself!), powered, serial, cassette, and Centronics interfaces, limited serial protocols
Mass Storage	ROM and RAMPAKS x 2	Disk drive, large, not very pocketable, cassette interface - slow and inflexible.
Built-in features	Diary, Alarms, Calculator (limited), database, Clock/calendar.	Powerful Calculator, Database, Formula memory, Programmable Touchscreen facility
Software	Plentiful on PAKs	None yet available, relatively new machine.
Machine Code	Assembler (only in PC format), Disassembler available on DATAPAK.	Built-in Assembler - handbook supplied, full manual available.

Conclusions:

Some people (including, I suspect, PSION) are quite surprised at the success of the Organiser. Some big manufacturers (SHARP, CASIO, HP, TEXAS) have previously introduced 'pocket computers' in various formats, but with little success. In my opinion these computers have been held back by the lack of just those facilities which have contributed to the worldwide success of the Organiser. The Organiser's winning features are (again in my opinion):

1.   BUILT-IN FEATURES. No previous computer knowledge required.
2.   OPL - arguably the best language so far for the Pocket Computer.
3.   MASS STORAGE DEVICES - RAM and DATAPAKS do not increase the size of the machine. Any other mass storage device makes the term 'pocket computer' redundant.
4.   Plenty of software available, using the ideal medium of DATAPAK.

However, the CASIO has some excellent features which could be desirable on a future model of the Organiser, such as a large flexible display, full keyset, and built-in assembler.

Editorial

A Happy and Prosperous NEW YEAR to all Psioneers, including our sister Group, P.I.G. in the USA.

Membership Renewal

With this issue you will receive a Renewal Form. Please note that Volume III starts in March '89, so your subscriptions are for the 12 months commencing that month. You will also note that the subscription rates have remained static in spite of the increases in Postal Charges. I hope that, by prudent management of IPSO, these will not need to be increased in the foreseeable future.
Please pay your subscriptions NOW, so that I can go ahead with my plans for Volume III.

You will notice that the two regular pages, Machine Code and Beginners are missing this month. There are good reasons for this, but I hope that the absence is only a temporary one and trust that our stalwart contributors will re-appear in next month's issue.

Next month, with the final issue of this Volume, I will be issuing a detailed INDEX, so that you can easily find any of your favourite items.

Contents

IPSO Goes Full-Time

During the past few months, it has become more and more apparent that IPSO was growing into something which could no longer be properly run as a spare-time occupation.

With our membership now exceeding 1000 (in 34 countries) things had rapidly reached the point where I had to make the decision of employing some more help (in addition to my long-suffering wife, who has been working more-or-less full time for IPSO for some time), letting someone else take over the Group (WHO?) or devoting all my time to improving the facilities and extending our operations. I decided on this last course, after some extended soul-searching.

I hope, with your continued support, to be able to offer a better service to Members in future.

Progs & Procs - 1

Sym
by John Cornforth

This program creates symmetrical patterns on the Organiser display, based on a 5 x 4 grid. The program produces 4 random numbers, which are POKEd into the top 4 slots of CHR$(0). The bottom 4 are POKEd with the same numbers in reverse. CHR$(1) is then POKEd with the mirror image of CHR$(0) and the resulting pattern is printed across the two lines of the display. Patterns change every second (or faster if a key is pressed).

As written, the program will produce over a MILLION DIFFERENT PATTERNS. By substituting the REM figures listed on the lines marked with a star (i.e. by using the next two UDG chars) over a BILLION (or HEX FFFFFFFFFF) different patterns can be produced - ideal for knitting patterns!

Any pattern can be 'frozen' by pressing ON/CLEAR and then pressing Q will QUIT the program.

```
SYM:
LOCAL c%,l%,t%,m%(8),r%(8)
DO
POKEB 384,64
c%=1
DO
r%(c%)=INT(RND*32)
POKEB 385,r%(c%)
c%=c%+1
UNTIL c%=5:          REM 9*
DO
c%=c%-1
POKEB 385,r%(c%)
UNTIL c%=1
DO
m%(c%)=0
l%=16
t%=1
DO
r%(c%)=r%(c%)-l%
IF r%(c%)>-1
m%(c%)=m%(c%)+t%
ELSE r%(c%)=r%(c%)+l%
ENDIF
l%=l%/2
t%=t%*2
UNTIL t%=32
POKEB 385,m%(c%)
c%=c%+1
UNTIL c%=5:          REM 9*
DO
c%=c%-1
POKEB 385,m%(c%)
UNTIL c%=1
DO
AT c%,1
PRINT CHR$(0);CHR$(1) :  REM (0),(2)*
AT c%,2
PRINT CHR$(0);CHR$(1) :  REM (1),(3)*
c%=c%+2
UNTIL c%=17
PAUSE -20
UNTIL KEY=81
```

Grafix2 v1.0
by Ben Clay

Introduction
Yet another UDG editor. I could not find a UDG editor to allow fiddling with UDGs easily, so this was written on the Organiser in the bath one evening. Final mods (including the tedious changing of variables from upper to lower case) were put in using a PC. Object code is 633 bytes.

Operation
Following the opening display, which disappears automatically, you are presented with the 8 UDGs on the top line and asked to select one for editing. Once the selection is made, editing takes place with the 6 keys on the top row of the Organiser:

ON/CLEAR (or EXE) - finished editing and displays the finished character and the values that are used to define it.

UP/DOWN - allow you to select a row of the display for editing. The initial row is the top one. Note that the display doesn't change until you use . . .

LEFT/RIGHT - change the value that defines the selected row. the defining values change in BINARY

MODE - allows you to enter a defining value numerically rather than using the LEFT/RIGHT arrow keys

The program is fairly robust. The arrow key operation as described above wraps around and any erroneous intries will get you out - you can always continue editing as the UDGs are saved in the display chip.

```
GRAFIX2:
LOCAL c%,r%,l%,row%,k%
PRINT "GRAFIX2 c 1.0    (c)1988 Ben Clay"
PAUSE 30
ONERR DONE::
DO
CLS
i%=0
DO
PRINT CHR$(i%);" ";
i%=i%+1
UNTIL i%=8
AT 1,2
PRINT "CHR$(n)  n=",
TRAP INPUT c%
IF ERR<>0
GOTO DONE::
ENDIF
c%=c% AND 7
AT 1,2
PRINT "CHR$(";c%;")           ";
POKEB $180,64+8*c%
i%=1
DO
row%(i%)=PEEKB($181)
i%=i%+1
UNTIL i%=9
r%=0
```

Grafix2 (cont)

```
DO
POKEB $180,64+8*c%
i%=1
DO
POKEB $181,row%(i%)
i%=i%+1
UNTIL i%=9
k%=GET
IF k%=2
at 1,2
PRINT "VALUE?",
INPUT row%(r%+1)
row%(r%+1)=row%(r%+1) AND 31
AT 1,2
IPRINT "CHR$(";c%;")          ";
ELSEIF k%=3 : r%=(r%-1) AND 7
ELSEIF k%=4 : r%=(r%+1) AND 7
ELSEIF k%=5 : row%(r%+1)=(row%(r%+1) AND 31
ELSEIF k%=6 : row%(r%+1)=(row%(r%-1) AND 31
ENDIF
UNTIL (k%=1) OR (k%=13)
CLS
PRINT CHR$(c%)
r%=8
DO
at 3,1 : PRINT REPT$(" ",4*(r%-1));row%(r%);
r%=r%-1
UNTIL r%=0
k%=GET
UNTIL k%=1
DONE::
```

Scientific Calculator
by John Gioannetti - Trinidad

One of my hobbies is teaching "O" Level mathematics, on a one to one basis, to so-called problem students. I call it a hobby because, at around $5.00 U.S. per hour I will never live on it.

When I first bought my Psion, it was in the hope that it would replace my scientific calculator for looking up logarithm and trigonometric tables. Well, the Psion is great for this if you have time to key in a lot of brackets etc. The result was that I reverted to the old "Cambridge Elementary Mathematical Tables". This was really going back in time, and for someone who is as dyslexic as I am the results are more often than not chaotic.

Then the FORMULATOR came out, but this was still not what I needed. So after a lot of frustration X was developed.
The single letter X is intentionally short so that it is easily run from the Calculator by keying (SHIFT X and :). The result is returned so that it can be immediately used for further calculations. I have also written it so that the result is also stored in memory M9 for future downstream calculations.

The small x CHR$(235) is used to represent powers and the other special characters are obvious.

* NOTE that if you are using the Developer to enter and compile the source, there will be unusual character representation on the personal computer. However this is corrected on the Psion when the program is transferred.

** The program xx% gives some problems to transfer from a PC to the Psion via the Comms Link. Rename it xxx, and after it is transferred, you can rename it to xx%.

```
x:
[GLOBAL j%,f$(1),a$(1),e$(1),s$(1),p$(1),o$(1),i$(1),x,y,
z,x%,answer]
f$=CHR$(33)
a$=CHR$(224)
e$=CHR$(227)
s$=CHR$(232)
p$=CHR$(235)
o$=CHR$(242)
i$=CHR$(247)
Lj%=MENU("1/x,x"+p$+"y,"+s$+"x,y"+s$+"x.x"+p$+"y/
z,"+i$+",x"+f$+"<Log10x,A.Log10x,Log"+e$+"x,A.Log"
+e$+"x.Log10"+i$+",Log"+e$+i$+",SIN"+o$+",LogSI-
N"+o$+",COS"+o$+",LogCOS"+o$+",TAN"+o$+"LogTA-
N"+o$+",Arc.SIN"+a$+"Arc.COS"+a$+",Arc.TAN"+a$+",
Quit")]
IF j%=0 OR j%=23
GOTO xend::
ELSEIF j%=1
AT 1,1
PRINT "1/x"
xx:
answer=1/x
ELSEIF j%=2
AT 1,1
PRINT "x";p$;"y"
xx:
xy:
answer=x**y
ELSEIF j%=3
AT 1,1
PRINT s$;"x"
xx:
answer=x**.5
ELSEIF j%=4
AT 1,1
PRINT "y";s$;"x"
xy:
xx:
answer=x**(1/y)
ELSEIF j%=5
AT 1,1
PRINT "x";p$;"y/z"
xx:
xy:
xz:
answer=x**(y/z)
ELSEIF j%=6
answer=PI
ELSEIF j%=7
AT 1,1
PRINT "x";f$
xx%
answer=x%
```

Progs & Procs - 3

Scientific Calculator (cont)

```
DO
x%=x%-1
answer=answer*x%
UNTIL x%=1
ELSEIF j%=8
AT 1,1
PRINT "Log10x"
xx:
answer=LOG(x)
ELSEIF j%=9
AT 1,1
PRINT "A.Log10x"
xx:
answer=10**x
ELSEIF j%=10
AT 1,1
PRINT "log";e$;"x"
xx:
answer=LN(x)
ELSEIF j%=11
AT 1,1
PRINT "A.Log";e$;"x"
xx:
answer=2.71828182846**x
ELSEIF j%=12
AT 1,1
PRINT "log10";i$
answer=LOG(PI)
ELSEIF j%=13
AT 1,1
PRINT "Log";e$+i$
answer=LN(PI)
ELSEIF j%=14
AT 1,1
PRINT "SIN";o$
xo:
answer=SIN(RAD(x))
ELSEIF j%=15
AT 1,1
PRINT "LogSIN";l$
xo:
answer=LOG(SIN(RAD(x)))
ELSEIF j%=16
AT 1,1
PRINT "COS";o$
xo:
answer=COS(RAD(x))
ELSEIF j%=17
AT 1,1
PRINT "LogCOS";o$
xo:
answer=LOG(COS(RAD(x)))
ELSEIF j%=18
AT 1,1
PRINT "TAN";o$
xo:
answer=TAN(RAD(x))
ELSEIF j%=19
AT 1,1
PRINT "LogTAN";o$
xo:
answer=LOG(TAN(RAD(x)))
ELSEIF j%=20
AT 1,1
PRINT "Arc.SIN";o$
```

```
xo:
answer=DEG(ATAN(x))
ENDIF
M9=answer
xend::
KSTAT 3
RETURN answer

xa:
AT 1,2
PRINT a$;"=?"
AT 5,2
INPUT x

xo:
AT 1,2
PRINT o$;"=?"
AT 5,2
INPUT x

xx:
AT 1,2
PRINT "x=?"
AT 5,2
INPUT x

xy:
AT 1,2
PRINT "y=?"
AT 5,2
INPUT y

xz:
AT 1,2
PRINT "z=?"
AT 5,2
INPUT z

xx%:
AT 1,2
PRINT "x=?"
AT 5,2
INPUT x%
```

Editor's Notes:

1. The "?" characters in the last 6 procedures are NOT AVAILABLE from the Organiser Keyboard unless you have used the EXTRA CHARS prog (page 55). If not they may be omitted.

2. Lines which exceed the column width are enclosed in square brackets [], (which are, of course not keyed in).

Feedback

Comms Notes
from Chris Rees

The Organiser Power Supply Unit
I have a horror story to tell! I was amazed to get the flat battery message whilst using my Orgnaiser powered by the MAINS PSU! To cut a long story short, the problem turned out to be that the "protection diode" in the PSU had been wired with reverse polarity, thus my PSU had never worked in the 18 months I had owned it. The error was soon resolved with the aid of my soldering iron and all is now fine. I wonder if this was an isolated instance, or whether there are other non-functioning PSUs out there. It is not at all obvious if the fault exists!

Pocket Stradcom
After wasting much time in frustrating (and non-productive) experimenting, DATAFLEX DESIGN provided the details of an RS 232 adaptor to enable the Organiser to function with the Pocket Stradcom modem. Details below:

Stradcom		Organiser
2	---->	3
3	---->	2
4	---->	5
5	---->	4,20
7	---->	7
20	---->	6

The numbers refer to the contacts on 25 way "D" plugs. It is important to note that the adaptor is polarised and cannot be connected either way round. E&OE

IPSO London Group
from Jonathon Hurwitt

The January meeting of the London IPSO Group was the largest to date with seventeen IPSO members plus several MPACC members attending. As expected, there was a wide variety of problems for our clinic. One member wished to modify a conversion program so that it would nto exit after the first conversion. He was shown different methods, such as a menu offering "Continue or Quit)" options and a simple prompt giving the same options. Another member could not get the OPL command RANDOMISE to translate. It toook us several minutes to spot the spelling error - it should be RANDOMIZE! Another request was for the ability to print a complete directory of all files, including OPL, Diary, etc on a pak. Fortunately, someone had a copy of MULTIDIR (written by Belgian member Peter Houppermans) which has this ability. The most esoteric query came from our most advanced member. I think it was "Why can't I save something in allocated RAM in 'A'?" If anyone understands this and has an answer, please let me know. The Bring and Buy Sale was not the success I had hoped. I suspect it really needs a larger number of people present. A possible feature for the next IPSOMEET? At the time of writing, we have had five very successful meetings at the 'Yard'. However, our numbers are growing slowly but steadily and I can foresee that we will eventually grow too many for the available accomodation. I would therefore like to start looking for an alternative venue now, while there is plenty of time. So if anyone in the London area knows of a suitable venue, PLEASE let me know

As usual, anyone wishind to attend one of our meetings please contact me on 01 568 4138 by the Monday evening preceeding the meeting.

Personal Tuition Required
to master new techniques with Organiser II and Printer. Preferably Central London

Please contact:
ERIC GOLDSWORTHY
Tel 01-821-9146

For Sale & Wanted

POCKET spreadsheet

Notes on Spreadsheets
by Colin McGlashan

The spreadsheet seems to be overlooked by most Organiser users. Perhaps it's seen as complex and specialised, useful only to accountants. In fact, it's simple and quick to use and its range of applications is limited only by the imagination. It can solve many problems in a fraction of the time needed to write an OPL program.

For example, MIKE SHAW's excellent new book on file-handling has a program for calculating BIORHYTHMs from a given birthdate and expressing them in precentages. It uses five procedures, and needs two 10-digit entries to obtain one day's results.

By contrast, a simple three-column spreadsheet will calculate a month's results in approximately 40 seconds, requiring only two formulae. The principal one is:

[=SIN(((MOD(no.of days alive, length of cycle)/length of cycle*360)*PI/1800)*10))*100]

I adapted that from Mike's OPL formula in about 15 minutes, and I'm a total dunce at maths.

The spreadsheet is set up as follows:

1. set FORMAT to integer
2. title columns B,C, & D PHYS, EMOT, INT
3. put the days of the month into column A
4. enter 23,28,33 (the lengths of the three cycles) into B34, C34, D34
5. enter date of birth as dd,mm,yy into B35,C35,D35
6. calculate no. of days by entering this furmula into B36:

=DATE(88,12,31)-DATE(D35,C35,B35)

(n.b. the figures in the first set of brackets represent the last day of the preceding month, expresseed as yy,mm,dd)

7. into B2, put the formula:

[=(SIN(((MOD(B36+$A2,B$34)B$34*360)*PI/1800) *10))*100

8. COPY B2:B2 to B2:D32 (the formula adjusts itself automatically)

The only snag with spreadsheets is that they use a lot of memory. The one above needs 7.5k. You need the 32k XP model, and it's best to leave the machine RAM clear - particularly if you want to use the Comms Link as well. The Organiser's irritating (useless?) INFO function doesn't recognise the spreadsheet, which means it returns 95% FREE when the spreadsheet is reporting OUT OF MEMORY.

The following brief procedure, listed in the next column (abbreviated from a Psion program) returns A: B: C: memory in bytes.

```
MEM:
LOCAL b%,c$(5),e$(2)
c$="MAIN"
DO
e$=CHR$(b%+%A)+":"
IF EXIST(e$+c$)
OPEN e$+c$,A,f$
PRINT e$;SPACE
CLOSE
GET
ENDIF
b%=b%+1
UNTIL b%=3
```

Editor's Note:
Beware of filling up resident RAM when using the Pocket Spreadsheet as it is possible to get into a position where you cannot even COPY the files you have created to a RAMPAK. A MEMORY FULL message can mean a HARD RESET under those circumstances. One moral is to ensure that any important spreadsheets you may have created should be SAVEd (from within the POCKET SPREADSHEET itself, of course) to a RAM or DATAPAK at regular intervals.

NPV Bug (continued)
from Martin Bina

Ref article in IPSO FACTO Vol 2, No1, Page 4
article in IPSO FACTO Vol 2, Not 4, Page 34

The function NPV DOES have a bug in it. It is true that the example gives the interest inm percent, whereas the manual states that the interest should be given in decimal. But either way the answer isn't right. The correct answer is: -161.07. This answer is, by the way, also given by the Financed Pak that Psion also sells.

The formula calculated by the NPV is:

The sun of C/(1+i)**t

where C is the cash flow, i the interest in decimal, t the period, / the divide sign and ** the 'to the power' sign. The period generally starts at zero.

For the example in the manual it gives:

Result (-161.07)=
[-1500/(1+0.1075)**0+360/(1.1075)**1+360/(1.1075) **2+360/(1.1075)**3+360/(1.1075)**4+360/(1.1075)**5

I have written to Psion about four times about the question and have never heard from them. If all owners of the Pocket Spreadsheet could write to Psion about the bug, maybe they would do something about it. If anybody hears something, please let me know.

MARTIN BINA, 41 Ch. sur Rang, GENEVA 1234 SWITZERLAND

Diversion

"Brown's Progress or The Best of MAIN"
by Gordon R. Brown

Following the publication of my article, "The Organiser as an Information Retriever" in the April 88 IPSO FACTO, I received a tremendous response from IPSO members for which, to all I am most grateful. The assistance received varied from datapaks arriving through the mail to helpful letters and phone calls. I am sure I woulds miss someone out if I tried to name everybody who helped, so hopefully without offending anybody, I will name only one - as he certainly is the furthest away - in South Africa - ERNIE BOKKELKAMP - who kindly sent me an Enhanced Find program, and then on asking, explained it! This I have found to be excellent, and has answered one of my main criticisms of the 'standard' Organiser II facilities.

I also received several calls/letters from users who seemed to be in the same league as myself, and thus as their self-appointed spokesman, and also to put my thoughts in some semblance of order for a talk I will have given at the IPSOLON meeting by the time you read this, I continue with "Brown's Progress".

As you will have gathered I am very keen to get my information out of the Organiser FAST. Thus I am a mug for any software that purports to assist this. So the FILEMASTER seemed an obvious start. I'm sure most readers will have at least read WIDGET's advertising literature, so I will not repeat it here. I certainly have found it to be of great use, primarily for the creation and management of new files, which is certainly beyond me. I was also taken with the SEARCH ability - the ability to FIND utilising multiple search strings. However, this has been a bit of a nine day wonder, as it only Searches A, B, or C in turn - very frustrating to have to re-input (up to) 5 search strings each time you change paks - and what happens if you make a mistake - END OF PAK - and start again! The same applies for SELECT.

I've also found that the FIND facility in VU (with me so far?) only works if you're at the beginning of the file - if you try to FIND, it only searches AFTER the record you're at - somewhat useless if you're halfway through the file. Surely it could automatically return to the beginning of the file and then start from there!

SORT - the ability to sort files alpha or numerically, or is it? Take three records, each having respectively on the first line 1,2, and 10. My simple brain tells me that, after sorting, the order would be as above. Well, no actually - 1, 10, 2 - it SORTs all the 1's before the 2's. Check Page 12 of the User Guide - Tips to Sort - cunningly it only goes "1, 2, etc!"

However, having started all these new files, it was now taking ages to access them - lots of keypresses (V,EXE,EXE,EXE,SPACE,F etc) or in English 'V' to access VU, EXE 3 or more times to move to the correct file, SPACE to open it, 'F' to FIND - and many variations on this theme.

So what next - FNKEY of course!" The maiden's answer to abbreviated keystrokes, so I was told. What I wasn't told by an enthusiastic devotee on the phone was the degree in Computing Science required to understand the accompanying handbook. Sublime to the ridiculous in comparison to the FILEMASTER Guide!

Anyway, having re-read the "blue book" for the fifteenth time, and by much trial and error, I think I have mastered the basics, and I repeat THE BASICS, of the excellent facilities that MIKE LEIGH has given us, which in Brown's order of preference are:

1.   Abbreviated keystrokes to open FILE, DIARY, manage, Print etc.

(Incidentally, the file was, of course, previously created by FILEMASTER - the ease with which I can not create and access a file with a combination of the two programs has led to me having to create a file simply to log the 20+ keystrokes I now have - Catch 22?)

2. COPY, CUT and PASTE

3. Extra characters "&" and "?"

I'm sure there's more, but I haven't found them, and I certainly haven't got the hang of the "banks"!

However, all is not rosy in the garden. I've found (and had confirmed by CUBSOFT) that at present the Abbreviated keystrokes (MODE plus and assigned key), cannot handle a requirement which needs two ON/CLEAR keystrokes in succession. Why do I need this - well to close a file, return to the file menu, return to TOP MENU and down into another facility, of course! I'm told that this may soon be resolved, and await my upgrade eagerly!

Well, so much for what the professionals have been able to sell me, and despite my criticisms, please don't get me wrong - I certainly admire what WIDGET/CUBSOFT and all the other programmers market, but do feel that on occasion they miss what I would consider to be blindingly obvious, perhaps due to them not having a real-life need and use of the Organiser and the software they're writing (The Ivory Tower approach?)

Well then, what about the IPSO programs. Well I'm sorry to admit that I am well behind on Machine Coding and even MIKE NASH's Beginners Page. But I have found several programs useful - particularly ANGELA MACAULEY's conversion programs, and most recently ADRIAN PEGG's XOFF, which I have had the temerity to slightly amend and rename OFFX, the reason for which I have below.

So this has been all good fun for a few months, but what has Brown managed to do for himself you ask? Well, precious little really. You may remember that my primary area of concern has been always to FIND a record within MAIN, with the minimum amount of scrolling through other records with the same string. This was to be best achieved by giving the record either a single or series of unique prompts, one of which my brain would remember.

(concluded on the next page, Gott sei Dank)

Diversion - 2 (etc)

"Brown's Progress" (cont)

Various means could be used to achieve this, such as the use of the SPACE, unique initials e.g. TJ or triple letters "AAA" etc. that could identify a record. "Easy stuff", you say and, certainly now, 9 months on from writing my first article I think "obvious", but it's easy to forget one's innocence on first buying the Organiser, and of course, if the TV ads are anything to go by, there are now tens of thousands of new users probably in a similar position.

Well the only new thing I've thought of in this area, and it's only minor, is the creation of a unique prompt by combination of two words, i.e. if wanting to FIND my own record, input Gordon(space)Brown, the n B being unique.

It's also a good idea to try out your ideas for unique prompts BEFORE you input them onto a datapak. That way you save yourself the embarrassment of thinking you've created a marvellously unique prompt such as "Mad", for your Grandmother's telephone number and then finding it calls up your girlfriend Madge's name as well - particularly if your wife doesn't know about her! (Only an example, I hasten to add)

I'm also very keen to get straight into a program/file etc from the TOP MENU without having to scroll through umpteen options - e.g. SAVE, SELECT, SORT etc. and so I tend to rename programs/facilities to a unique first letter. My exception that proves the rule, and my illogical brain, is renaming ADRIAN PEGG's XOFF to OFFX. The reasoning for this is purely to remind me when I automatically hit the O button for OFF, to OFFX instead - I'm sure I would forget about it if it was XOFF (my X key is already in use anyway!). Incidentally, this procedure has already proved its worth - I do MUTE my Organiser on occasions to give the office some peace, and OFFX prompts me to look at what I didn't hear! Thanks ADRIAN.

What I still haven't got is the ability to have a decent £ sign in a file, and no prospect of one apparently - anyone else reckon the Organiser ad is misleading? "Information on tap for under £100". Sure, I've got it in programs, courtesy of MUDG, but in a File? I wonder how Psion salesmen get around that if asked by a prospective buyer. I wonder if they care. Still, this wasn't meant to be a Psion PLC criticism article - I've got my shares for the AGM, for that!

I still need a decent expenses program - I couldn't get the one published in Your Computer to run - could anybody? - and finally, yes I know I should be able to write it now. I need an all encompassing MEGAGLOB-AL ENHANCED FIND which just looks at EVERY-THING and FINDS that elusive record I know is somewhere in there!

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Tel: 01 429 0479

Swindon IPSO Group
Notes from Jeremy Holt

After a very successful meeting in December, the next meeting will be on MONDAY 6 FEBRUARY 1989. Members (and prospective members) in the Swindon area are invited to contact Jeremy for further details. He is arranging for discounts on products for the members of the Group. The next meeting will be held at the address below.

Jeremy Holt
14 Belmont Crescent
Old Town
Swindon
Wiltshire SN1 4EY

Tel: (0793) 619664

For Sale

2 New & Unused 32k RAMPAKS (list £54.95)

Offered at £39 each

Contact Jeremy Holt at the above address

Help Required

Will anyone with experience connecting the Organiser to an AMSTRAD CPC 6128 please contact:

Mr B.J. SOUK
34 Esk Road
Carlisle
Cumbria
CA3 0HW

A member would like to hear from anyone with experience connecting SIDEKICK PLUS and the PSION Comms Link Diary Merge program. Specifically, what is required is the ability to merge a DIARY file held on 32k RAM with the diary of SIDEKICK PLUS.

Replies to:

Docteur TARPATAKI Paul Z.
20/B8 Av Claeterbosch
1070 BRUXELLES
Belgium

Tel: 02/522.84.07

Editorial

You will notice that the format of this newsletter is rather different this month. There are many reasons for this, but I will not bore you with the details. Suffice it to say that there are two extra pages (quite apart from the Volume II Index).

I will not apologise for the long feature by Chris Parker. The procedures are not too long and the documentation is excellent, so I am publishing the whole article, as received. This has meant that Mike Nash's Beginners Page has been slightly shortened (only the name, address, and phone number is missing and fans will be able to pick this up from previous pages).

RENEWALS & IPSOMEET

At the moment I am busy trying to calculate how many prospective attendees for IPSOMEET (and what day(s) to choose). So far the preferences seem to be about equally divided between Saturday and Sunday, with a fair sprinkling of "not committed to either". We are at present in favour of holding IPSOMEET over both days, so that everyone can be accommodated. Software houses will be able to choose either/or both days, but, obviously, members will be asked to restrict their visit to just one day. I will try to make both days as identical as possible as far as agenda is concerned. It will make the organisation easier if members who have not yet renewed could do so NOW - thank you! Remember that this is your last issue of IPSO FACTO unless you renew your subscription before the end of the month.

LOCAL IPSO GROUPS

I am getting quite a few requests for "names and addresses of other members in my area". This is usually with the idea of starting a Local IPSO Group. While I am all in favour of these groups - we have two successful ones in London and Swindon - I am not able to supply lists of names and addresses, as quite a few members have specifically asked for their details to be kept confidential. I will respect this of course. so what I will do when any member wishes to contact a group of other members for any purpose is to publish the request in IPSO FACTO so that anyone interested can contact the person who asked in the first place. There is one other way of contacting a clearly defined group within the membership and that is to ask me to post a targeted mail shot to each. I have done this with this issue, with a leaflet specifically aimed at Doctors. On another page I have mentioned a member who would like others to contact them in his area.

CONTENTS

Note; An Index to Volume II is enclosed with this issue. Please note that it is specific to Volume II. Anyone who has not got an Index to Volume I can get one on request.

EDITORIAL CONTENTS - VOLUME II

I would like to take this opportunity to thank all those who submitted material for publication over the pas year, with a special mention of MIKE NASH and LES BALL, who have both produced their pages month after month, sometimes against great odds.

I would also particularly like to thank those whose contributions have not yet been published. assuring them that they are not forgotten and that there are still many articles and programs in my IN tray. which will form the nucleus of the newsletter for some time to come.

However, do not let this deter you if you are considering putting pen to paper and letting me have a little something. I (and the other members) are especially interested in the experiences of beginners in getting to grips with the Organiser. "First programs" (from beginners) are most welcome. however trivial they may appear to the author. Keep 'em coming!

First, a thank-you to those of you who sent seasonal greetings to yours truly,
it was much appreciated.
This month I want to continue with our filehandling program, by creating the
main program structure, which will provide the "user interface",and call the
subprocedures such as the file opener etc. As some of you will already know,
 the best way to achieve this,is by the use of menus.

```
fadd:
rem  M W NASH JAN 1989 ADDRESS FILE HANDLER
LOCAL Q$(1)               REM reserve memory for variables
LOCAL opt%
GLOBAL dfnam$(10)
POKEW $2046,$8000        REM JOHN SPILLETS UNTRAP SEE IPSO
 OPT%=MENU("OPEN,QUIT") REM p 33 vol2
IF OPT%=1
DFNAM$=FOPEN$:            REM calls last month's file opener
opt%=menu("Input,Find,Print,Quit")
IF OPT%=1
ENTER::
Q$=CHR$(63)
A.F1$=QSTR$:("NAME"+Q$)  REM calls input utility
A.F2$=QSTR$:("HOUSE"+Q$) REM see below
A.F3$=QSTR$:("STREET"+Q$) : A.F4$=QSTR$:("TOWN "+Q$)
A.F5$=QSTR$:("COUNTY"+Q$) : A.F6$=QSTR$:("COUNTRY"+Q$)
A.F7$=QSTR$:("POST CODE"+Q$) : A.F8$=QSTR$:("TEL (H)"+Q$)
A.F9$=QSTR$:("TEL (B)"+Q$) : A.F10$=QSTR$:("NOTE"+Q$)
OPT%=MENU("APPEND,QUIT")
IF OPT%=1
APPEND                   REM saves input to file
OPT%=MENU("MENU,QUIT")
IF OPT%=1 : NEXT         REM goes to next record
GOTO ENTER::             REM then returns to input structure
ENDIF : ENDIF
ELSEIF OPT%=2 : REM find ,view and edit routines to be written
ELSEIF OPT%=3 : REM print routines to be written
ELSEIF OPT%=4 : ENDIF
ELSEIF OPT%=2
CLOSE         REM close file and return
RETURN : ENDIF
END::
QSTR$:(PRMPT$)  REM input utility
LOCAL I$(25)    REM use it for entering string data
KSTAT 1 : CLS
AT 1,1 : PRINT PRMPT$
AT 1,2 : INPUT I$
RETURN I$        REM returns data to calling routine
```

One of the things to note about QSTR$: is that i$ is limited to 25 characters
in length , this is because there are 10 fields in each address record, and
the maximum length of anyrecord in OPL is 255 characters, thus the length of
each field must be curtailed. If anyone has any suggestions about changing the
structure of the main procedure or adding new options please let me know .
Thanks to BARRIE G Terry for solving Terry Triffitt's problem ref MARINE ASTRAL
NAVIGATION ROUTINES. Barrie has discovered in the mag "Practical Boat Owner"
JUNE 88, a set of programs written for one of the CASIO COMPUTERS which he has
managed to adapt for the PSION. The only drawback is that the program runs to
several A4 pages long . However Barrie has offered to provide listings to
anyone who will send a 5 1/4" (IBM compat) and SAE . I will certainly be
availing myself of this and if Barry agrees will be able to send the listing by
electronic mail to our Editor for publishing.

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8 x 64k DATAPAKS

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CITIZEN 120D Printer, c/w parallel and serial cartridges. Ideal for use with Organiser (or any other computer!). All in excellent condition.

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Phone; G.A. Parry on 04865 2675

HELP WANTED

Will anyone who has used the Organiser Barcode Reader, with good or bad results, please contact a member who is planning to write a STOCKTAKE system;

Phone; M. Leigh on 061 303 2395 (home), or 061 205 2321 (work)

Anyone who has an Organiser program to accept TIME/DISTANCE VARIABLE and convert these both ways, e.g. from FEET PER SECOND to KM/MILES PER HOUR etc;

Phone; D. Wright on 051 924 4941

LOCAL GROUPS FORMING

An increasing number of members are discovering the benefits of belonging to a Local Group of IPSO (London & Swindon so far). There are quite a number of areas where there are sufficient members within a relatively small area to make the formation of such a Group a feasible proposition.

Groups do not need any formal rules – it is sometimes enough to just meet, once a month or so, on an informal basis. We have found in Nottingham that a couple of hours practical help to someone launching into the ranks of the Psioneer can be invaluable. Some people can teach themselves everything from books (and hopefully from IPSO FACTO), but others find it hard going, especially if the Organiser is the first foray into computing.

I will say no more, except that IPSO will support the efforts of anyone setting up a local group, pulblishing any interesting details and helping to get the people, in any area, together.

Meanwhile, would anyone in the BOURNEMOUTH AREA, who is interested in joining a local group, please contact;

Will Chapman

Phone; (0202) 33146

....and in the GLASGOW AREA, is there anyone who would like to undertake to help to form a Group (after several enquiries from members in that area). If so. please contact me at the Editorial Office.

IPSO TOOLS UP WITH PC

After working for over a year with my faithful ATARI 520ST , I have at last realised that there would be many advantages is being "PC compatible", not alone from the fact that most new developments for Organiser communcations are PC based. but also that many of our members. (and certainly contributors to IPSO FACTO) already have PC compatible machines.

I am now in a position to both accept and distribute Organiser related material via the inexpensive 5.25" floppy disk format. PC owning members may like to note that I have been using PROCOMM, a useful public-domain communications program for PCs. Indeed I have already supplied many members with a copy of this program. Anyone else who wants a copy should send me a 5.25in disk and return postage.

Meanwhile, I am not abandoning my faithful ATARI, so any ST owners amongst you can get a copy of another public-domain comms program, UNITERM. complete with instructions for making the Organiser/ Atari connection (which is very simple), by sending a 3.5" disk with return postage.

REMINDER – DON'T FORGET TO RENEW YOUR SUBSCRIPTION FOR THE YEAR MARCH '89 TO FEBRUARY '90 NOW!

PMAIN - (Print Main File) for the Organiser II - by C.J.Parker

Introduction

Like many others before me, I started entering data into my Organiser almost as soon as I bought it. A few months later I stopped using the database on my BBC computer and relied on my Organiser completely, after all, that is the computer I carry around with me and use all the time.

When, however, I wanted to print out sections of the MAIN file, I realised that the data should have been entered more logically in the first place- you cannot ask a program to print only surnames and telephone numbers unless the surnames and telephone numbers always appear in the same fields.

Field Descriptions

I then went through the tiresome business of re-entering my database using the following fields:

        1. Surname or Company Name.
        2. Telephone number.
        3. Christian names and birthdays.
        4. Address line 1.
        5. Address line 2.
        6. Address line 3.
        7. Address line 4.
        8. Post Code.
        9. Country.
        10. Title (private) e.g. Mr and Mrs J.E.
        11. Title (business) e.g. The Manager
        12. Account or reference number.
        13. Category and/or notes.

The first two fields are in that order so that you can see the telephone number on the Organiser screen when the data is recalled.

Christian names and birthdays are stored in the form: "Bob:12/8/58 Helen:3/3/65" so that, for example, all birthdays in August can be found by searching for "/8/".

Field 10 (private title) is normally printed before Field 1 so that the title and surname appear correctly on address labels.

Field 11 (business title) is printed first on address labels, on its own line.

Field 13

I now tag or categorise many of my records in field 13 using the following codes:

        <HOU House
        <CAR Car
        <INS Insurance
        <MON Money/finance
        <COM Computer contacts
        <XC Christmas card
        <PHO Telephone number only- not printed during label printing.
        <MIS Miscellaneous- records not conforming to the standard fields
             and therefore not printed on labels or phone lists.

This has the two advantages of being able to find all records on a particular subject very easily ("FIND B:<CAR") and allowing the printing program to exclude certain records.

Once the records (except ‹MIS records) were in a standard format, it then became a simple matter to write a printing program. I set out to write a program that could print my MAIN file in a variety of ways, such as sticky labels and telephone lists and also allow me to perform a certain amount of selection on the records which were printed. PMAIN is the result. I have tried to make it as flexible as possible and it could certainly be modified to suit any particular application.

PMAIN: Labels

The label printing section ("Labels" on the menu) has been designed to print two-abreast on labels measuring 100 mm by 36 mm (9 lines deep). It asssumes that the printer is set for Elite size print (96 characters across the page).

It prints on line 1: field 11 (business title)
                   2: field 10 and field 1 (private title and surname)
                   3: field 4 (address 1)
                   4: field 5 (address 2)
                   5: field 6 (address 3)
                   6: field 7 (address 4)
                   7: field 8 (post code)
                   8: field 9 (country, if required)

PMAIN: Phone

The telephone list section ("Phone" on the menu) simply prints fields 1,2 and 3 horizontally across the sheet.

PMAIN: All_Data

"All_Data" on the menu prints all records vertically down the page, preceded by the field description. For example:

            Surname/Company :Smith
            Telephone   :0678-123456
            Name/Birthday   :John:3/4/56 Jane:4/5/67
            Address 1   :1 The Smithy
            Address 2   :Westgate Road
            Address 3   :Brownington
            Address 4   :Herts
            Post Code   :GH5 6PP
            Country   :UK
            Title (private) :Mr and Mrs J.J.
            Title (business):
            Acc/Ref No.   :
             Category/notes :‹XC

PMAIN: Some_Data

"Some_Data" on the menu prints in the same format as "All_Data" but asks which fields you want to print first.

Matches

The next section of the program allows you to enter two MATCH parameters and one NON-MATCH search parameter e.g. search for "‹XC" AND "UK" but NOT "Herts" would search for everybody on your Christmas card list living in UK but not living in Herts.

Printer Configuration

The program now allows you to configure your printer the way you wish. It initialises to Elite size which permits 96 characters across a normal page, asks if you want to print in normal type or bold, and then asks for any other printer control codes that you would like. Here you could

override the Elite selection and set up your printer for any type of print that it is capable of.

Finally, the program displays a menu : BBC, Other-Comp, Screen.

If you select BBC, the program inserts a control code 1 (VDU 1) in between each printer control code. I use a small program on my BBC which "bounces" the output of my Organiser straight on to the printer: BBC basic requires a VDU 1 to be inserted before each control code to indicate that the code is for the printer only.

If you select Other_Comp, the control code stream is transmitted unmodified so that it can be "bounced" into a printer.

If you select Screen, the control code stream is suppressed completely as the program assumes that you are passing the Organiser output into another computer's wordprocessor i.e. the output appears on your desktop screen.

Throughout the program, you may escape by pressing ON/CLEAR when any menu is on the screen. If the program is waiting for an input, pressing the EXE key on the Organiser gives a sensible default value such as YES to a YES/NO question.

PMAIN procedures

The program consists of eight procedures (one large one and seven small ones) and they are now described briefly.

1. pmain: this is the core procedure which calls the other procedures when required.

2. plab: this is the first of two label printing procedures.

3. pl: this is the second label printing procedure.

4. q$: procedure to prompt for an input and return a string. This was adapted from the Input Routine procedure (q:) in the Organiser Operating Manual page 149.

5. eop: displays End Of Pack message.

6. error: error handling procedure.

7. getkey: accepts key input (exits if ON/CLEAR is pressed).

8. wait4: wait for a particular key to be pressed.

The procedures eop, error, getkey and wait4 are very useful OPL "words" written by Lawrence Blanchard and published by Personal Computer World in their November 1987 edition.

PMAIN variables

The following variables are used in the program:

a$,b$,c$,d$,e$,f$,g$,h$,i$,j$,k$,l$,m$: strings which hold each of the
        thirteen fields-maximum of 80 characters per field.
p$,q$,r$,t$,u$,v$,w$,x$: strings which hold the field data chopped to 50
        characters for label printing.
s1$,s2$,s3$: search parameters.
tot$:   one record as a single string.
fd$:   field descriptions.
p%:   flag to show whether field is to be printed or not.
c%,x%,f%,a%: counters.
i%:   left margin for label printing.
bbc%:   output destination MENU selection.

```
cc%:     control code MENU selection.
o%:      main MENU selection.
pc$:     printer control code stream.
nc$:     specifies whether country is to be printed on address lables or
         not.
```

FPrint listing

Finally, here is a listing of the FPrint program:

BBC FilePrint (FPrint) program to "bounce" Organiser output to a printer.

```
10REM FPrint : prints incoming files
20:
22MODE 3:PRINT'"File transfer to printer"'''"Ready..."
30ON ERROR GOTO 120
40:
50*FX2,1                  :REM RS432 receive
60*FX7,7                  :REM baud rate 9600 receive
70VDU2                    :REM printer on
80REPEAT
90A=GET
92IF A<128 VDU A          :REM exclude non-printable characters
110UNTIL A=26
120*FX2,0                 :REM RS432 off
130VDU1,27,1,64,1,3       :REM reset printer and switch off
140END
<EOT>
```

```
ERROR:
CLS
PRINT CHR$(16)
AT 1,1
PRINT ERR$(ERR)
AT 1,2
PRINT "Press space key"
WAIT4:(" ")
RETURN
```

```
PL:(z$)
LPRINT REPT$(" ",i%);z$;
IF c%>1
LPRINT
c%=1
ELSE LPRINT REPT$(" ",48-i%-LEN(z$));
c%=c%+1
ENDIF
RETURN
```

```
PLAB:
pl:(p$(1)) :pl:(p$(2))
pl:(q$(1)) :pl:(q$(2))
pl:(r$(1)) :pl:(r$(2))
pl:(t$(1)) :pl:(t$(2))
pl:(u$(1)) :pl:(u$(2))
pl:(v$(1)) :pl:(v$(2))
pl:(w$(1)) :pl:(w$(2))
pl:(x$(1)) :pl:(x$(2))
```

```
PMAIN:
GLOBAL p$(2,50),q$(2,50),r$(2,50),t$(2,50),u$(2,50),v$(2,50),w$(2,50),x$(2,50)
GLOBAL c%,i%,x%,f%,p%(13),fd$(13,16)
LOCAL bbc%,a%,nc$(1),pc$(32),a$(80),b$(80),c$(80),d$(80),e$(80),f$(80),g$(80)
LOCAL h$(80),i$(80),j$(80),k$(80),l$(80),m$(80),cc%,o%,s1$(16),s2$(16),s3$(16)
LOCAL tot$(254)
fd$(1)="Surname/Company "
fd$(2)="Telephone        "
fd$(3)="Name/Birthday    "
fd$(4)="Address 1        "
fd$(5)="Address 2        "
fd$(6)="Address 3        "
fd$(7)="Address 4        "
fd$(8)="Post Code        "
fd$(9)="Country          "
fd$(10)="Title (private) "
fd$(11)="Title (business)"
fd$(12)="Acc/Ref No.     "
fd$(13)="Category/notes  "
ONERR error::
TRAP OPEN "B:main",A,a$,b$,c$,d$,e$,f$,g$,h$,i$,j$,k$,l$,m$
o%=MENU("Labels,All_Data,Phone,Some_Data")
IF o%=0
RETURN
ELSEIF o%=1
PRINT fd$(9);"Print (Y/N) ?"
nc$=UPPER$(GET$)
IF ASC(nc$)=13 :nc$="Y" :ENDIF
CLS :PRINT "<PHO and <MIS   NOT printed"
PAUSE -30
c%=KEY
ELSEIF o%=2
DO :f%=f%+1 :p%(f%)=1 :UNTIL f%=13
ELSEIF o%=3
CLS :PRINT "<MIS NOT printed"
PAUSE -30
c%=KEY
ELSEIF o%=4
f%=0
DO
f%=f%+1
CLS
PRINT fd$(f%);"Print (Y/N) ?"
s1$=UPPER$(GET$) :IF ASC(s1$)=13 :s1$="Y" :ENDIF
IF s1$="Y" :p%(f%)=1 :ENDIF
UNTIL f%=13
ENDIF
c%=KEY
s1$=Q$:("Match:")
IF s1$="" :GOTO not:: :ENDIF
s2$=UPPER$(Q$:(s1$+" AND:"))
not::
s3$=UPPER$(Q$:("but NOT:"))
IF s3$="" :s3$=CHR$(161) :ENDIF
pc$=CHR$(27)+"@"+CHR$(27)+"M"
cc%=MENU("Normal,Bold")
IF cc%=0
RETURN
ELSEIF cc%=2
pc$=pc$+CHR$(27)+"G"
ENDIF
tot$=Q$:("Control Codes: ")
IF tot$="" :GOTO endcode:: :ELSE tot$=tot$+"," :ENDIF
p$(1)=""
DO
a%=a%+1
```

```
p$(1)=p$(1)+MID$(tot$,a%,1)
IF MID$(tot$,a%,1)=","
pc$=pc$+CHR$(VAL(LEFT$(p$(1),LEN(p$(1))-1))) :p$(1)=""
ENDIF
UNTIL a%=LEN(tot$)
endcode::
x%=1 :i%=5 :c%=1
bbc%=MENU("BBC,Other_Comp,Screen")
IF bbc%=0
RETURN
ENDIF
CLS :PRINT "Set printer thenpress any key"
GET
CLS :PRINT "Busy..."
IF bbc%=1
a%=0
DO
a%=a%+1
LPRINT CHR$(1);MID$(pc$,a%,1);
UNTIL a%=LEN(pc$)
ELSEIF bbc%=2
LPRINT pc$;
ENDIF
IF o%=3
LPRINT "Telephone list printed on ";LEFT$(DATIM$,15)
LPRINT REPT$("-",41)
LPRINT  .
ENDIF
FIRST
WHILE FIND(s1$)
tot$=A.a$+A.b$+A.c$+A.d$+A.e$+A.f$+A.g$+A.h$+A.i$+A.j$+A.k$+A.l$+A.m$
tot$=UPPER$(tot$)
IF LOC(tot$,s2$)<>0 AND LOC(tot$,s3$)=0
IF o%=2 OR o%=4
IF p%(1)=1 :LPRINT" 1.",fd$(1);":";A.a$ :ENDIF
IF p%(2)=1 :LPRINT" 2.",fd$(2);":";A.b$ :ENDIF
IF p%(3)=1 :LPRINT" 3.",fd$(3);":";A.c$ :ENDIF
IF p%(4)=1 :LPRINT" 4.",fd$(4);":";A.d$ :ENDIF
IF p%(5)=1 :LPRINT" 5.",fd$(5);":";A.e$ :ENDIF
IF p%(6)=1 :LPRINT" 6.",fd$(6);":";A.f$ :ENDIF
IF p%(7)=1 :LPRINT" 7.",fd$(7);":";A.g$ :ENDIF
IF p%(8)=1 :LPRINT" 8.",fd$(8);":";A.h$ :ENDIF
IF p%(9)=1 :LPRINT" 9.",fd$(9);":";A.i$ :ENDIF
IF p%(10)=1 :LPRINT"10.",fd$(10);":";A.j$ :ENDIF
IF p%(11)=1 :LPRINT"11.",fd$(11);":";A.k$ :ENDIF
IF p%(12)=1 :LPRINT"12.",fd$(12);":";A.l$ :ENDIF
IF p%(13)=1 :LPRINT"13.",fd$(13);":";A.m$ :ENDIF
LPRINT
ELSEIF o%=1 AND LOC(tot$,"<PHO")=0 AND LOC(tot$,"<MIS")=0
p$(x%)=A.k$
q$(x%)=A.j$+A.a$
r$(x%)=A.d$
t$(x%)=A.e$
u$(x%)=A.f$
v$(x%)=A.g$
w$(x%)=A.h$
IF nc$="Y" :x$(x%)=A.i$ :ELSE x$(x%)="" :ENDIF
x%=x%+1
ELSEIF o%=3
IF A.b$>"" AND LOC(tot$,"<MIS")=0
p$(1)=LEFT$(A.a$,26)
q$(1)=LEFT$(A.b$,26)
r$(1)=LEFT$(A.c$,35)
LPRINT p$(1);REPT$("_",28-LEN(p$(1)));q$(1);REPT$(" ",28-LEN(q$(1)));r$(1)
ENDIF
ENDIF
```

```
      ENDIF
      NEXT
      IF o%=1
      IF x%>2
      plab:
      LPRINT
      x%=1
      ENDIF
      ENDIF
      ENDWH
      CLOSE
      IF x%=2 :plab: :ENDIF
      eop:
      IF bbc%=1
      LPRINT CHR$(1);CHR$(27);CHR$(1);"@";
      ELSEIF bbc%=2
      LPRINT CHR$(27);"@";
      ENDIF
      RETURN
      error::
      error:
      RETURN




      Q$:(a$)
      LOCAL z$(16)
      ONERR I1::
      I1::CLS :PRINT a$,CHR$(16);
      INPUT z$
      CLS
      RETURN z$




      WAIT4:(W$)
      LOCAL K$(1)
      DO
      UNTIL CHR$(GETKEY:)=W$
      RETURN




      EOP:
      CLS
      AT 1,1
      PRINT "*******************END OF PACK***"
      GETKEY:
      CLS
      RETURN




      GETKEY:
      LOCAL K%
      K%=GET
      IF K%=1
      STOP
      ENDIF
      RETURN(K%)
```

AUTOSCRIBE II

THE ONLY WORD-PROCESSOR FOR THE PSION ORGANISER II

AUTOSCRIBE II is a completely rewritten version of the popular AUTOSCRIBE I. It is still the only COMPLETE word-processor for the Organiser.

AUTOSCRIBE II has the following features:

* Automatic word-wrap at the end of each line

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Autoscribe II is available from IPSO only at the all-inclusive price of £35.00. It is sold on a datapak which is copyable, so that it may be backed up or copied to the user's System pak.