

# IPSO Facto



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Editorial Office: 130 Stapleford Lane . Toton . Beeston . Nottingham . NG9 6GB  
Editor: Mike O'Regan Tel: (0602) 735482

## The Trauma Goes On

*I am still hearing daily tales of woe concerning the Series 3. A few new members have asked for a refund of their subscription after going through a number of machines which were all defective, and finally having their cash refunded.*

*Some of the defective machines are quite new (latest Operating System). Quite a few members are unsure of what to do about machines which exhibit various defects.*

*I have decided to write to Psion to get an official statement about the position and I will hopefully print this in the next issue.*

*Personally, my 1.58 256k Slice finally gave up the ghost completely, after a number of minor faults. I returned the machine to Psion with a note saying that I needed the replacement machine ASAP. I needn't have bothered - it took exactly 18 days to get a replacement!! And guess what? My new machine has a row of numeric keys which read "1 2 4 3 5 6 7 8 9 0". I had thought for the past five years that IPSO might get at least a fair deal from Psion - some hopes!*

*Worst of all, when my first machine failed I was in the middle of backing up the FOR SALE & WANTED database to a flashpak. This was the moment when it all went wrong, so I lost the file and its backup. I am therefore asking anyone who still has items*

*for sale or wanted to please let me have details again. I managed to partially reconstruct the file from memory, etc., but I would like to ensure that the list is complete.*

## An Apology

In last month's issue I printed an incorrect telephone number for **Widget Software Ltd.** The number should have been:

**0438 815444**

Unfortunately incorrect phone numbers are not picked up by a spell checker, so I must be more careful in future!

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# Beginner's Page

## Comms Made Easy - Part I

by Mike O'Regan

I have had numerous requests to try to explain some of the intricacies of COMMUNICATIONS as applied to the Organiser, so this is the first of a short series in which I will attempt to explain *simply* just how the Organiser communicates with the outside world.

First of all why would we want this kind of communication? Surely if the Organiser can "talk" to Data or RAMPaks and tell them to save some of its internal memory that is all that is required. Well, communicating with paks is very clever. As far as I know the Organiser is the only pocket computer which has the innate capability of directly "programming" EPROMs in order to use them as mass storage devices. Those little clicks which you hear when saving data to a datapak are not just gobbling up the power of your battery (unless you have a mains adaptor attached), they are also indications that the Organiser is "pumping up" sufficient voltage to physically alter the chip in that pak.

However, communication with data and RAM paks is not covered in this series. We are more interested in using the top port on your Organiser to connect it to other devices. Before we look in detail at serial interfacing (using the Comms Link) let me just remind you that this top port has been used to directly connect other bits of hardware to the Organiser for many years. The latest is the Speech Synthesiser reviewed in a recent issue of IPSO FACTO. Other well-known ones are the Psion Printer II, Bar-Code Reader (Wand), the Card Swipe Reader, Pager etc. All these devices are using the serial connections in the top port. An unusual connection is the Paralink, which will be mentioned later.

## Serial & Parallel Connections

Most computers (especially desk-top ones) have both serial and parallel connections - they have room for both - but most pocket computers have only one, which is usually serial. The Slice (and several other non-Psion machines use the same port for establishing both serial and parallel connections.

What's the difference, you may well ask. Well, simply explained, a parallel link is capable of sending and receiving more than one piece of data at the same time, whereas a serial link sends all its signals one-at-

a-time up just two wires - one for sending signals and the other for receiving them.

Typically, but by no means always, a parallel cable is in the form of a ribbon where you can clearly see all the wires running in parallel with each other. Such cables are usually provided with printers which are equipped with a parallel connection. Serial cables look more like a "cable" as we usually understand the term. Actually, serial cables can get along with only three wires - one each for data passing in both directions and a third to act as an earth. Simple as it seems this arrangement is remarkably effective - and can be very fast, depending mainly on the two machines which are being connected.

The Psion Organiser Comms Link is a serial interface. It is ideal if you want to have your Organiser talk to another computer, but not so good if your printer has a parallel interface. However, there is a solution. If you *only* want to connect your Organiser to a parallel printer, then the Widget PARALINK is what is required. This is a device which "fools" the Organiser into thinking that it has a parallel interface. It plugs into the top port, just like the Comms Link, but thereafter provides a standard parallel link with a printer.

If you want your Organiser to be able to connect to both a parallel printer *and* other serial devices (such as another computer port) then the solution is a Comms Link with a SERIES TO PARALLEL CONVERTER.

Unfortunately, the only available converter, (as far as I know), which was made by **Miracle Systems** and marketed by **Transform Ltd**, is not no longer available. The manufacturers say that this is because of lack of demand. These converters sometimes come up for sale second-hand and are well worth having.

Next month we will make a start with how to use the Comms Link.

Paralink is available from:

Widget Software Ltd  
121 London Road  
Knebworth  
SG3 6EX  
Tel:0438 815444

# Machine Code Page - 1

by Neil Draycott

Firstly thanks to all those members who spotted the mistake in last months' IPSO FACTO regarding the format control string, I had indeed forgotten to terminate the string. If A%(8) is changed to \$0039 then all is well again.

P.Hesketh was the first to phone and as a reward for his diligence I am working on an MC program of his suggestion for next month.

This months offering is an OPL program (with only a bit of MC) to allow the selection of any data file name on an XP machine in much the same way as the LZ does. The machine code is only there to check for the existence of a Pak without checking for the MAIN file (as LZ machines do not have to have the MAIN file present, unlike XPs).

The routine is a "child" program and must be called from another program. First a user supplied prompt is displayed and a list of files available on the current Pak can be scrolled using the cursor keys (with left/right moving to the start and end of the list), the INITIAL letter of a file name can also be used for selection (with each matching name in turn being displayed).

Selection is via the EXE key and MODE is used to change Paks. The entire file name is passed back to the "parent" procedure (as illustrated by the TEST program).

```
file$(p$)
LOCAL ps%,p%,f$(51,8),k%
LOCAL
a%(5),x$(10),x%,s%,l%
ONERR e::
```

```
REM XP VERSION OF THE LZ
REM METHOD OF NAMING AN
REM EXISTING FILE WITH
REM PAK CHANGE VIA MODE
REM LOADS UP TO 50 FILE
REM NAMES.
```

```
REM PARAMETERS;-
REM P$ - PROMPT
```

```
p%=PEEKB($a2)
a%(1)=$3f62
a%(2)=$2501
a%(3)=$39ce
a%(4)=0
a%(5)=$3900
ps%=USR(ADDR(a%()),p%)
```

```
loadf::
x$=DIR$(CHR$(p%+65)+":")
IF LOC(x$,":MAIN")=2
  x%=1
ELSE
  x%=2
```

```
[f$(1)=RIGHT$(x$,LEN(x$)-2)]
ENDIF
DO
  x$=DIR$(" ")
  IF x$<>" "
  [f$(x%)=RIGHT$(x$,LEN(x$)-2)]
  ELSE
    l%=x%-1
    GOTO cont::
  ENDIF
  x%=x%+1
UNTIL x%=51
l%=50
```

```
cont::
x%=2
CLS
[PRINT p$;" ";
CHR$(p%+65);":";]

```

```
k::
IF x%<=l%
  AT 1,2
  PRINT CHR$(15);f$(x%);
ELSE
  AT LEN(p$)+4,1
ENDIF
KSTAT 1
CURSOR ON
k%=GET
CURSOR OFF
```

```
IF k%=1
  RETURN
```

# Machine Code Page - 2

```

ELSEIF k%=2
  np::
  p%=p%+1
  IF p%>=3
    p%=0
  ENDIF
  ps%=USR(ADDR(a%()),p%)
  IF ps%=0
    GOTO np::
  ENDIF
  GOTO loadf::

ELSEIF k%=3 AND x%>1
  x%=x%-1

ELSEIF k%=4 AND x%<1%
  x%=x%+1

ELSEIF k%=5
  x%=1

ELSEIF k%=6
  x%=1%

ELSEIF k%=13
  IF f$(x%)=""
    RETURN
  ENDIF
  POKEB $a2,p%
  [RETURN CHR$(p%+65)+"":
+f$(x%)]

ELSEIF k%>32 AND l%>1
  s%=x%+1
  IF s%=51
    s%=1
  ENDIF

  s::
  WHILE s%<=1%
    [IF LEFT$(f$(s%),1)
=CHR$(k%) OR s%=x%]
    x%=s%
    GOTO k::
  ENDIF
  s%=s%+1
ENDWH
s%=1
GOTO s::

ENDIF

```

```

GOTO k::

e::
IF err=206
  RETURN
ENDIF
AT 1,2
[PRINT CHR$(15);" < ERROR
";err;" >";]
PAUSE 10
GOTO k::

test:
LOCAL f$(10)
f%=file$:"CHOOSE"
CLS
PRINT"FILE CHOSEN..."
PRINT f$
GET

```

Neil Draycott

Phone 0332 880663 (9.00am-5.30pm)

*Editor's Note: Square brackets [ ] are only used to mark the beginning and end of lines which will not fit in the column width. They should not be keyed in with listings. Also note that blank lines in listings are there for the sake of clarity and need not be entered.*

*Also note that Neil welcomes ideas and queries which provide the material upon which to base his Machine Code Pages.*

*Finally, may I remind everyone (and especially new members) that any programs which contain machine code sequences are particularly prone to "crashing". The safest thing is to make sure that you back up any important memory contents before attempting to run such programs. In fact, this is a good practice when entering any new program.*

# Progs & Procs - 1

## Organiser File Caloguer

by Russell Heath

This procedure will make a catalogue of all the files on a specified device on the Organiser. I seem to be acquiring a lot of datapaks with odd bits of code on them, so I needed a way of listing what was on each one. The result is FCAT, which prompts for the name of the file into which the catalogue is to be written. It then asks which combination of the three devices is to be read and the names they are to be assigned in the catalogue listing. The completed catalogue could then be printed.

```
fcac:
GLOBAL dev$(1)
LOCAL
f%,bname$(8),cname$(8),file$(8)
PRINT ">> FILE LISTER <<"
PRINT "Enter name of file"
PRINT "to list to:"
INPUT file$
CLS
CLOCK(1)
UDG
0,30,16,31,20,20,23,0,31
AT 1,1
PRINT
CHR$(0);REPT$(CHR$(2),14)
[REM Ask which device to
catalogue]
[f%=MENUN(2,"All,A+B,A+C,B
+C,A,B,C,Quit")]
IF f%=8
STOP
ENDIF
[REM first delete existing
file if any]
IF EXIST("A:"+file$)
DELETE "A:"+file$
ENDIF
CREATE "A:"+file$,a,name$
a.name$=MID$(DATIM$,5,11)
APPEND
[REM prompt for name of
datapak]
CLS
IF f%=1
```

```
PRINT "Name of pak B:"
INPUT bname$
PRINT "Name of pak C:"
INPUT cname$
dev$="A"
fldev:
a.name$=bname$
APPEND
dev$="B"
fldev:
a.name$=cname$
APPEND
dev$="C"
fldev:
ELSEIF f%=2
PRINT "Name of pak B:"
INPUT bname$
dev$="A"
fldev:
a.name$=bname$
APPEND
dev$r="B"
fldev:
ELSEIF f%=3
PRINT "Name of pak C:"
INPUT cname$
dev$="A"
fldev:
a.name$=cname$
APPEND
dev$="C"
fldev:
ELSEIF f%=4
PRINT "Name of pak B:"
INPUT bname$
PRINT "Name of pak C:"
INPUT cname$
a.name$=bname$
APPEND
dev$="B"
fldev:
a.name$=cname$
APPEND
dev$="C"
fldev:
ELSEIF f%=5
dev$="A"
fldev:
ELSEIF f%=6
PRINT "Name of pak B:"
INPUT bname$
```

# Progs & Procs - 2

```
a.name$=bname$
APPEND
dev$="B"
fldev:
ELSEIF f%=7
PRINT "Name of pak C:"
INPUT cname$
a.name$=cname$
APPEND
dev$="C"
fldev:
ELSE
CLOSE
ENDIF
CLS
AT 1,2
PRINT "List complete"
GET
STOP

fldev:
[REM this procedure
actually compiles the
list]
[LOCAL loc$(14),b$(4),
type%,ln%]
ONERR msg::
loc$=DIRW$(dev$+" ":"+ "*"*.*)"
WHILE loc$<>" "
    b$=RIGHT$(loc$,4)
    ln%=LEN(loc$)-4
    loc$=LEFT$(loc$,ln%)
    PRINT "Save",loc$;b$
    A.name$=loc$+b$
    APPEND
    loc$=DIRW$(" ")
ENDWH
RETURN
msg::
ONERR OFF
IF ERR=246
    CLS
    AT 1,2
    PRINT " pak missing"
    [PRINT "- insert &
retry"]
ENDIF
GET
STOP
```

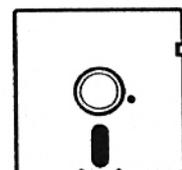
*Editor's Note: The author of this program says that, although it works, the code is not as efficient as it could be. In fact the listing could be considerably reduced with efficient programming. If you would like to try your hand at this please send me a copy of your amended program. The one which is judged to be the most efficient will get a small prize.*

## Submitting Programs

If you are submitting any programs for inclusion in IPSO FACTO, please try to send them on either a floppy disk (3.5" or 5.25" PC format) or on a datapak. Your datapak will be sent back to you by return (recorded delivery unless otherwise instructed). I can also format your pak, if you wish.

If you cannot manage any of the above, then a neatly printed listing is the next best thing.

If you have already submitted material for the newsletter and it hasn't yet appeared do not despair. Most submitted programs will be printed eventually



# Product News

## Notepad

Simon Titterington's NOTEPAD suite for the Slice has been updated. The latest version (V1.2) includes UNDELETE and PRINTOUT (Hard Copy) features. Please note that Simon has decided to charge £10.00 for the suite, whether supplied on disk or flashpak. If the flashpak version is required, you must supply your own, otherwise please state which size of disk you require.

NOTEPAD is available from:

Simon Titterington  
24 The Rise  
Kirkstall  
Leeds LS5 3EP  
Tel: 0532 785178

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## Cristie Handydisc

I have now had a chance to try out the Handydisc and I must say that I quite like it. Although data transfer is fairly slow, it works every time and the amount of data which can be stored on one 3.5in disk is fantastic. Only a couple of disks are required to store all the OPL programs you own.

The MS-DOS-like filing system employed enables you to keep related procedures in their own sub-directories, and these can be fed back into the Organiser using wild-cards.

One thing I was rather concerned about was that the Organiser software provided with the Handydisc actually changed the file structure of the material stored as it was fed in from the Organiser. This meant that standard OPL procedures which had been previously stored on a PC could not be loaded back into the Organiser via the Handydisc. Cristie said that this was because the Handydisc was designed to be a universal drive for all types of computers and that the Organiser driver was the best they could provide.

However, one of our members, who owns a Handydisc has produced his own interface software on datapak, which is specifically designed for the Organiser and works very well without changing any file characteristics. Anyone contemplating buying a Handydisc can contact me for details of this software.

## Personal Finance Paks (for the Series 3)

At the time of writing this, the **Widget Finance Pak** is not quite ready. The finishing touches are in progress and a comprehensive manual is being written by Vic and Gill Gerhardi. The program will be available on 1 May '92, at a price of £69.95 (incl VAT).

Meanwhile, yet another Finance Pak for the Slice has been announced by **Transform Ltd**. The first program is a **PERSONAL** package and this will be followed up with a more extensive package intended for small businesses.

I will be featuring full reviews of these programs as soon as they are available.

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## Third-Party Datapaks

You will have noticed (from the leaflet included with the last newsletter) that the **first independently produced datapaks** are now available for the Organiser. The paks are available from 16k to 128k, and feature special low-power circuitry and chips (which save your battery power).

The shells are particularly well-designed to be very easy to insert and remove from the Organiser. If you have ever broken your nails trying to remove Psion paks you will appreciate this. The shell backs are hinged to the body - another nice touch ensuring that you don't lose them when you have them in bits for erasing. The paks are coloured to indicate their size in addition to having this stamped on the shell. In case you missed the leaflet, **CHEAP-CHIP** paks are available only from:

Skyward Trading Co. Ltd  
72 Lincoln Road  
Peterborough  
PE1 3HD

Tel: 0733 893455 Fax: 0733 892512

Prices are:

128k datapak £88.99

2 x 64k datapaks £99.99

Special 3-pak (1-16k,1-32k,1-64k) £99.99

If you buy any of the above, you can claim **FREE MEMBERSHIP OF IPSO**, or a **FREE 16k DATAPAK** (if you have already paid your subs!)

# Haircut & Attitude - 1

by Martin Snook

Before

Sep 91

'Unquestionably the most powerful pocket-sized computer in the world', brags the Psion publicity in the launch of the new Series 3. And I'm sure they're right. The fully-featured word processor and qwerty keyboard are just what I ordered for Christmas.

However, I do have a question. A question which isn't critical and has nothing at all to do with the Series 3's unquestionable technical ability.

Dressed casually, and carrying a tabloid and mobile phone, I put him down as a cash-only businessman. It was just after 12. I was at the bar. He took his pint to a table a little way away. We were the only 2 customers so far.

He wasn't local. He was far too interested in the foreignness of his surroundings to be local. He kept looking around, taking in all unfamiliar detail, including me - the way I was dressed being the best indicator as to the sort of place he had wandered into.

England is fun because the English are so sensitive to their place in the hierarchy. Nothing pleases the English more... Nothing pleases me more than the chance to intimidate a complete stranger into believing in a perception of my superiority.

I think it was the Italian silk suit that did it, made him put me down as an Oxbridge-educated professional with my own inherited practice which earned me £350,000 a year. His perception, not my actuality. The way he had me put down put him down. He looked very miserable; I was enjoying myself.

Being sensitive to hierarchy may make you eager to intimidate, but it also works the other way. You can be easily intimidated by the perception of superiority in others - superior wealth, education, intelligence, beauty, or birth.

I looked over at my miserable stranger and caught the back end of a contemptuous smirk. The contempt was directed at me. I couldn't understand why. I felt sure I had him on 3 counts; superior education, wealth, and birth. What had happened to make him see his original perceptions as misconceptions? There is no doubt that he now felt superior to me. Why? The only change was in my hand - a Psion LZ.

So my question is - does the pocket-sized computer have an image problem? I think it has.

To be interviewed by a TV crew, at your desk, at your place of work, means that your work must be successful and you must be important. Always, somewhere in shot, you will see some sort of PC.

The mobile phone was made famous by your turks of the stock exchange who claimed to make more money in a lunch time that most people make in a lifetime.

So the PC and the mobile phone are perceived as potent tools of potent achievers.

Over the last year I have seen only 2 images of pocket-sized computers on television: **Mad Max** in *Brookside* and **Jimmy Nail** in *Spender*. Mad Max is not a sympathetic character: he is weak, affected, snobbish, and a failed would-be-yuppie.

Jimmy Nail used an LZ to do a crossword puzzle in one episode of *Spender*. It was a positive image, but still only suggested an expensive toy to solve an entertainment puzzle.

Neither usage portrays the pocket-sized computer as a potent tool of potent achievers.

In Portugal in the middle 70's, **BMW 1602s** and **2002s** were very popular with the wealthier Portuguese. They perceived the **BMW 2002** as the car with cachet.

In England, BMW had no image at all. But, a decade later, and the series 3 BMW had become the car with cachet for those of the upwardly mobile tendency.

A brand new 1991 **Harley Davidson** qualifies as American Retro. It still uses a low-revving, under-square, engine that was already out of date when 4 Scousers with haircut and attitude were singing 'She Loves You, Yeah, Yeah, Yeah'.

Technically neutral, image is very important to the success of the **BMW**. Technically inferior, image is everything to the **Harley**.

A technically good product is not enough, it also needs haircut and attitude. A **BMW**, plated with the latest letter of the alphabet class system, has haircut and attitude. A **Suzuki 250 RGV** will leave a **1300cc Harley** for dead. The **Suzuki** engine may be 4 times more efficient, but, when it comes to haircut and attitude, the **Harley** is more than 4 times more effervescent.

# Haircut & Attitude - 2

When I took out my LZ, it was to make a transfer between 2 accounts. The accounts program is 37 intimately connected OPL procedures. They are my first attempt at programming and I am immensely proud of them. They also saved my life, when, for a short period of time, I had to prepare 2 sets of accounts from 1 bank account.

To know how much he was worth at any time of the day or night would have been a great advantage to my cash-only businessman, yet, in his ignorance, he smiled with contempt at the 'silly little toy' I held in my hand.

I think the Series 3 would have received equal contempt. And that's even more of a shame.

Just as literacy has become more-or-less universal, a new sort of illiteracy has arisen - keyboard illiteracy. And it is very widespread. Fear of being outed - of being revealed as a keyboard illiterate - might, in part, account for the hostility shown towards silly little toys.

Portuguese cachet to English cachet; **Jimmy Nail** from uncouth brickie to coal-dust **Sonny Crockett**: image can be changed.

The image of a product is changed by the cachet of the people who use it. The BMW was perceived as the car of potent young achievers - and soon it acquired cachet of its own.

The image of a person is changed by the cachet of the product he uses. **Spender's Cosworth Sierra**. And soon **Oz** was a quasi sex symbol. I would not have believed it had I not seen it with my own eyes: but, yes, there is was, confirmation, the part of the Miami alligator played by an aging Geordie rocker with MS.

The Harley Davidson has recently overcome a greasy-hair and greasy-jeans, Hell's Angels, image to become the latest fashion accessory of Hollywood. Technical inferiority is an irrelevance to the Hollywood glitteratti.

I once thought **Mickey O'Rourke** a dipstick Hollywood actor whose best performance was his off-screen personality. I've changed my mind. I now think that that's a lot of what being a movie star is all about. I quite like his acting and even his romantic view of Irish Republicanism doesn't alienate me entirely. He is fond of Harleys. He has a haircut and attitude. To someone like me - who can't even ride a motorbike - he glamourises the Harley with his own haircut and attitude.....

Yes, I can see myself. Next year. Cruising down country lanes. The excitement. The promise in a girl's laughter. On a **Harley-Davidson Softtail Custom**. Or a **Harley Davidson Softtail Custom Springer**....

Either way I bet I'd be the envy of all who saw me - never mind the incongruity of this outrageous piece of Americana in the middle of middle England - I would have intimidated them into believing that I lead a more exciting life than they do.

I have been know to pay £3 for a bottle of beer with a twist of lime in its snout. I could get 3 pints for that in the *Rover's Return*. But it would be a fiction to believe that all I want from beer is strict utility and value for money.

The dirty realism fictions of English soap opera use characters that are slightly poorer than the majority of the audience that ritually tunes in. The English, with their sensitivity to hierarchy, feel much more comfortable looking down on people.

But dirty realism doesn't sell. I can't think of any TV commercial which has been shot in the style of a dirty realism soap. To succeed in selling, you have to make your audience believe that using your product will raise them up the hierarchy.

Despite its name and reputation, dirty reality is only one reality. I think it is a rather poor reality.

I am whatever I can make my audience believe I am. If I am prepared to pay for the cachet of drinking Sol, then perhaps it's because I think it makes my audience believe I can regularly afford such extravagant disregard for dirty realism utility and value for money, and so intimidate them into believing in a perception of my superiority.

For my birthday, I will treat myself to a Series 3. And I will still insist on getting it out in public. When I do I would like it to intimidate with its cachet. But I don't think it will. Not while its promotion still rests on dirty realism technical ability. I don't think it can. Not until it gets some haircut and attitude. With enough - with an unquestionable amount of - haircut and attitude, even a keyboard illiterate like my cash-only businessman might be persuaded to overcome his fear. Especially if he believes the cachet of the Series 3 will raise him up the hierarchy.

# Haircut & Attitude - 3

AFTER

Dec 91

I wrote the above in response to a plea from IPSO for contributions and before I bought a Series 3. I had almost forgotten about it. Four days ago my long-ordered Series 3 arrived. The last four days remind me of another four days, four days spent in New York.

When I was young, I lived in Brazil and went to an American school. In 1968, the Queen made a state visit to Brazil. This was fine: the Americans didn't have a Queen. Next year, 1969, and the Americans put a man on the Moon. From that moment on I knew it was hopeless to compete. From that moment on I was completely taken with the enormity of the idea that is America.

I spent 4 years at the American school. During that time, all my friends were American, all my reading American, all my influences American. But I had never been to America.

My most prized possession was a pair of jeans. I wore them until they were such rags that the maids refused to wash them any more and threw them out. I was furious: in a good light, you could still see, on the manufacturer's faded label, the unfadeable legend, 'Made in the USA'.

For 10 years those jeans were my only link with the reality of America. Then, one Christmas, I decided to fly back to England via New York. But New York wouldn't let me in: I had no visa. My girlfriend, an air stewardess, flew to the States almost every week. But she hadn't thought to tell me. No one had. Eventually - after a long wait in immigration - Pan-Am was fined \$1000 and I was 'paroled' for 4 days. I would get to spend 4 days in New York after all.

When we had left Rio it was 40 in the shade: New York had a wind-chill factor of -30. Because the trip was unplanned I had no warm clothes. New Yorkers stopped me on the street to ask me if I was cold. My girlfriend dragged me into stores every so often, just to warm me up.

Yes, I was cold, freezing cold when I thought about it. But I didn't think about it. Because inside I was warm. Warm with the growing realisation that America had not let me down. I'd spent 14 years building up a fictional ideal of America in my mind. The reality should have let me down. The reality was different, but not deflating different. New York was more, much more than I'd expected: New York was bigger than imagination.

The only way I could explain it to myself was by the fruit I saw in a fruit shop in Chinatown. Not just the apples, as you would expect in the Big Apple, but the grapefruits, and the melons, and the oranges were bigger, bigger and brighter than any other fruit I'd ever seen. In the Big Apple the fruit was fit for giants - or men who walk on moons. My parole ran out before I had a chance to see anything which might suggest a limitation. And, as I've never been back, America still remains to me an unexploded myth.

I managed to get to the age of 34 without ever having paid an electricity bill. Then, one day, a sudden death meant sudden responsibility for myself and for someone who was seriously ill. For seven years I had only taken responsibility for as far as I could spit - anything that happened outside my 'room' was nothing to do with me...

Is that really the price of petrol?

What on earth is a Switch card?

Whatever happened to those greaseproof paper credit card slips?

Is 7245 my pin number or my casino membership number?....

In a panic to get organised, I went out and bought an Organiser. A Pyson LZ, I asked for. I was so embarrassed when the salesman corrected my dyslexic pronunciation that I nearly bought a Sharp IQ.

For ten months, my Psion LZ and I were inseparable. However, as the months went by, I began to idealise and form a list of 'if onlys': if only the Notes would wordwrap, if only you could cut and paste, if only you could access more ASCII, if only you could... and similar if onlys for the other applications.

Part I of this piece was written before I bought a Series 3. It is skeptical, influenced by the limitations of the LZ, and afraid to believe in the promise of the Series 3. Before my parole runs out on the Series 3, I'd just like to say I was wrong. The Series 3 doesn't need haircut and attitude to succeed.

Like New York, the Series 3 is more, much more, than I expected: the Series 3 is bigger than my imagination.

I'm over the moon with it.

# IPSO Facto

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Editor: Mike O'Regan

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

Tel: 0602 735482

## Editorial

I must apologise for a slight omission in Issue 1 last month, which I will correct here and now. My grateful thanks go out to all our contributors, whether or not your submission has been published yet. The following contributed to Volume V:

**Kevin Ash, Steve Clack, Mike Davies,  
David Green, Jon Harrington,  
Brod Mason, Marcus Parker-Rhodes,  
Adrian Pegg, Glyn Pollington,  
Jamil Siddiq, R.J.N. Sims,  
Simon Titterington, Dean Wade,  
Andrew Walker.**

My special thanks to our Machine Code Editor, **Neil Draycott**, who has taken time out each month from his demanding business, not only to produce our Machine Code Pages, but also to answer numerous queries from members.



## Programming Competition

I am very encouraged that quite a few people have taken time out to enter my little programming competition (see Issue 1, Page 6 if you missed it). I did not specify a deadline for entries, so it is still open for a few days if you want to send in your version, if possible on pak or disk. I will announce the winner in the next issue.



## The Organiser II - has it a future?

When the Series 3 appeared Psion went to some lengths to assure us that the Organiser II would continue to be supported for the foreseeable future. Certainly IPSO will continue support for all models as long as there is a need (and there are half a million users out there!).

However, with big outlets like **Dixons** and **Argos** stopping their support of the Organiser in favour of the Slice there must be a question mark over the continuing supply of NEW Organisers. I have heard from several independent sources that Dixons are telling customers that the Organiser is now obsolete, which is mischievous to say the least.

I think it must be (at least in part) up to us Psioneers to help to keep the Organiser alive.

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# Beginners Page

by Mike O'Regan

## *Comms Made Easy Part 2 The Comms Link*

The Organiser Comms Link might not look much. However, it is a very potent hardware- software combination which does nothing in itself but opens up new worlds to the Organiser user. If you have never connected the Comms Link cable to your Organiser, you have missed out on quite a lot. Although the Organiser is a very powerful little computer in its own right, this power is greatly extended when you can couple up to other hardware through the Comms Link.

### *The Printer Connection*

Last month we saw that you could connect your Organiser directly to a printer with a parallel (or Centronics) interface, using either a **Paralink** or the Comms Link through a serial-to-parallel converter. In addition it is possible to use the Comms Link (with a Psion printer adaptor) to connect directly to a printer which has a *serial* interface. You need an adaptor because the Comms Link terminates in a 25 pin female socket and the printer's serial port is also female.

Connecting to a serial printer is not quite so straightforward as connection to a parallel one. As with any serial connection, you must ensure that the *parameters* of both the Organiser and the

printer match. Your printer manual should have a section on setting up the DIP switches to give you a certain combination of serial parameters such as BAUD RATE, PARITY, DATABITS, STOPBITS etc.

The Organiser is very flexible when it comes to matching any combination of parameters through the Comms Set-Up function. It also has a very convenient aid to matching the printer's parameters *automatically*. This is the AUTO option on the Comms Link menu. All that is necessary is to connect up the Organiser and printer, ensure that both are switched on and that the printer has paper in position. Then press AUTO on the Organiser.

The Organiser will then cycle through various parameter combinations and print these out on the printer. Some of the lines will be "scrambled" - unrecognisable characters. There should be at least one line which reads, for example, 9600, NONE, 8,1. This indicates that the printer is set up to work correctly on 9600 BAUD, NO PARITY, 8 DATABITS, 1 STOPBIT.

You can then use the Comms Link SETUP to set these parameters, which can be used thereafter whenever you connect your Organiser to the same printer.



*Next month, I will look into connecting your Organiser to another computer.*

# Machine Code Page

by Neil Draycott

## SCANNING DATAPAKS.

Several months ago I wrote about looking into Data/Ram Paks and the structure of both ordinary Data files (such as those used with the OPL commands NEXT, OPEN etc.) and Block files (such as Notebook files, Programs etc.) and mentioned some special cases such as erased files and "orphaned" Block files.

This prompted several members to write their own MC programs to scan a Ram or Data Pak and to report the exact number of bytes used and "wasted" on a device (wasted bytes are unrecoverable erased programs or data, or orphaned Block files - ie any files that will not be copied across to another Pak using the UTILS "Copy all" option).

At least one member (thanks to P.Hesketh for his suggestions) experienced difficulty in figuring out a logical path through the Psion file structure and so for some enlightenment...

Psion have designed the filing structure around the limitations of the hardware and with ease and speed of search in mind, this makes it very easy to design a program to scan a Pak (any type of Pak can be scanned, including FlashPaks?).

The first ten bytes contain the Pak header codes (as described in a previous article) and so scanning starts by reading the WORD (two bytes) at position 10 on a Pak (Pak position is numbered from 0). The very act of reading a word will position the Pak counter on the next byte if the Psion interrupts are used.

The second byte read (the low part of the word) will contain a code as to the type of record and the first byte (the high part of the word) will contain the number of bytes to advance the Pak counter in order to read the next record.

Another Psion interrupt is then used to advance the Pak counter and the next record can be read, this proceeds very quickly through the Pak until \$FFFF is encountered in a word.

The code for each type of record is:-

\$82 - \$8F = Name of a Block file (see page 45 for description of each type).

\$2 = Deleted Block file name.

\$80 = Actual Block file record or "orphaned" record.

This is a special case in which the next WORD contains the number of bytes contained in the Block file and therefore the number of bytes to advance in order to get to the next record.

\$81 = Name of a normal Datafile.

\$1 = Deleted normal Datafile name.

\$90 - \$FE = Actual normal Datafile record.

\$10 - \$7E = Deleted normal Datafile record.

It can be seen from this table that any code below \$7F is a deleted record. The actual amount of bytes either wasted or used is the amount advanced each time plus 2 (for the code byte and length byte). An orphaned record is a Block file of wasted bytes (without a name such a record cannot be located) and is never erased, the only difference between an orphaned Block file and a normal Block file is the lack of a name record.

I hope this sheds some light and I look forward to seeing a few procedures for scanning through Paks.

□□□□□□□□□□□□□□

FOR SALE

-----  
Bill Aitkens "Machine Code Programming" book  
(VERY scruffy) and original Psion  
Technical Reference (with COMMS, LZ and  
assembler, debug updates) on disk.

£20.00

Neil Draycott.

0332 880663 9.00am-5.30pm.

# Progs & Procs - 1

## Lizzy Hangman

This program, written to take advantage of the LZ four-line display, has cute moving graphics. It needs the Psion Thesaurus/Spell Checker to work, and uses the enormous vocabulary to ensure a challenging game. If you really get stuck, just press <ON/CLEAR> (but ONLY if you are really stuck!)

```
hang:
LOCAL c%,k%,r%,ln%,y$(14)
LOCAL x$(14),in$(14),bn$(26)
UDG 0,00,00,00,01,02,20,08,00
UDG 2,00,00,00,00,16,08,05,02,00
UDG 3,31,0,0,0,0,0,0,0,0
UDG 4,31,00,16,8,4,2,1,0
UDG 5,4,2,1,0,0,0,0,0
UDG 6,16,16,16,16,16,16,16,16
UDG 7,16,16,16,16,16,16,31,0
restart::
CLS :c%=0
PRINT "Wait..."
top::
in$=CHR$(rnd*26+$41)
in$=in$+REPT$("+",INT(rnd*7))
in$=in$+CHR$(rnd*26+$41)
in$=in$+REPT$("+",INT(rnd*7))
ONERR fail::
x$=spell$(4,in$)
IF KEY<>0 :RETURN
ENDIF
IF x$="" :GOTO top::
ENDIF
y$=x$
x$=spell$(5)
[IF x$<>" " AND
RIGHT$(x$,1)<>"s" AND
ASC(LEFT$(x$,1))>=$61]
y$=x$
ENDIF
in$=y$
y$=UPPER$(y$)
k%=LEN(y$)
x$=REPT$(CHR$( $f5),k%)
bn$=":"
KSTAT 1 :CLS
more::
AT 1,1 :PRINT x$
IF c%>=11
```

```
AT 16,3 :PRINT CHR$(0);"^"
ELSEIF c%>=10
AT 17,3 :PRINT
CHR$(5);CHR$(2)
ELSEIF c%>=9
AT 18,2 :PRINT "\"
ELSEIF c%>=8
AT 16,2 :PRINT "/"
ELSEIF c%>=7
AT 17,2 :PRINT "T"
ELSEIF c%>=6
AT 17,1 :PRINT CHR$( $e0)
ELSEIF c%>=5
AT 17,1 :PRINT "|"
ELSEIF c%>=4
AT 18,1 :PRINT
CHR$(3);CHR$(4)
ELSEIF c%>=3
AT 20,1 :PRINT CHR$(6)
AT 20,2 :PRINT CHR$(6)
ELSEIF c%>=2
AT 20,3 :PRINT CHR$(6)
AT 20,4 :PRINT CHR$(7)
ELSEIF c%>=1
AT 19,4 :PRINT "___"
ENDIF
REM -----print bn$
AT 1,2
IF LOC(x$,CHR$( $f5))=0
PRINT "That's it!"
AT 1,4 :PRINT "Try again?"
k%=GET
ELSEIF c%=11
PRINT in$
PRINT "YOU'VE FAILED!"
AT 1,4 :PRINT "Try again?"
PAUSE -10
DO
AT 16,3 :PRINT
CHR$(0);"^";CHR$(2)
AT 16,2 :PRINT "/T\"
BEEP 5,20
PAUSE -10
UDG
1,10,10,10,10,10,10,10,27
[AT 16,3 :PRINT"";CHR$(1);"
"]
AT 16,2 :PRINT
CHR$(3);"T";CHR$(3)
BEEP 5,400
```

# Progs & Procs - 2

```
PAUSE -10
k%=KEY
UNTIL k%<>0
ELSE GOTO kbd::
ENDIF
IF k%=%Y OR k%=13
GOTO restart::
ELSE RETURN
ENDIF
kbd::
k%=GET
IF k%=1 OR k%=13
AT 1,1 :PRINT x$ :PRINT in$
GET :RETURN
ELSEIF k%<65 OR k%>90
GOTO kbd::
ENDIF
IF LOC(bn$,CHR$(k%))>0
BEEP 96,96 :GOTO more::
ENDIF
ln%=LEN(y$)
IF LOC(y$,CHR$(k%))>0
bn$=LOWER$(CHR$(k%))+bn$
DO
r%=LOC(y$,CHR$(k%))
IF r%=0 :GOTO more::
ENDIF
[y$=LEFT$(y$,r%-1)+CHR$( $ff)+RIGHT$(y$,ln%-r%)]
[x$=LEFT$(x$,r%-1)+CHR$(k%)+RIGHT$(x$,ln%-r%)]
UNTIL r%=0
ELSE c%=c%+1 :BEEP 5,5
bn$=bn$+CHR$(k%)
ENDIF
GOTO more::
fail::
PRINT "      Install"
PRINT " Spelling Checker"
GET
```

## Editor's Notes

In order to save space, I try wherever possible to list procedures in two-column format. However, this does mean that sometimes the column width is not enough to take a long line of code. In this case I use SQUARE BRACKETS [ ] to mark the start and end of such lines. The brackets should not be keyed in (and in any case they are not available from the standard Organiser keyboard).

Potential programmers should note that the use of the letter l (lower-case L) and the letter O (upper-case o) should be avoided wherever possible in VARIABLE NAMES. These are easily mistaken for 1 (the figure ONE) and 0 (the figure ZERO), thus leading to confusion.

Finally, could the author of HANGMAN please get in touch. I would like to give you credit for the program!



## Write for IPSO FACTO?

If you look at Page 11 you will see that 15 members (from around 1200) sent in contributions to this newsletter during the whole of last year. While Neil Draycott and myself obviously contribute most of the material in IPSO FACTO, we both welcome feedback from members in the form of stories, articles, programs, even just plain questions. I like to feature as wide a range of material as possible so that we will can print something for everyone.

So if you have something to contribute please send it off to me. I prefer long articles or programs to be on disk (any format 3.5" or 4.25") or on datapak (which I will return immediately by recorded delivery). Submissions on paper are also welcome - do not worry about spelling or grammar as I have some computer aids to sort these things out.

# Feedback

## *Getting Organised*

*by Martin Broadribb*

Over quite a period it began to dawn upon me that I could really make use of a "pocket computer" of some description. Memory has never been one of my strong points and as life becomes ever more complicated I found that I was constantly listing various points on paper in an effort to keep pace with all that I had to remember and do, any way keeping a conventional diary and telephone directory.

A good Filofax would obviously have been one solution and would also have enabled me to combine notes, diary, and telephone number information - my three most-used points of reference - into a single source, although this seemed a very low-tech answer to such a simple problem this late in the 20th Century. It also posed the problem of the untidiness which manually updating records of this sort always creates, at least with my writing!

An electronic solution to my problem thus seemed attractive, but none of the machines which came to my notice - including the Organiser - seemed to quite fit the bill, although in retrospect I realise that this was in part due to the way in which they were all undersold. In particular I looked at the Organiser, but in the glass case in Dixons or in the Argos catalogue it seemed a very basic and uninteresting object with far too small a screen: a SHARP IQ (the advertisements for which had set me thinking along these lines in the first place) looked a far more attractive proposition, but it still did not seem to be quite what I was looking for...

Then the Series 3 came to my attention and seemed to be the answer to my quest. In the notebook format which I found attractive, it seemed to offer so much that I decided to buy one. This was obviously the pocket computer for me!

As often appears to be the case whenever I am interested in purchasing something, I soon discovered that the Series 3 was not to be found

anywhere, despite all of those rave reviews in every computer magazine which I picked up.

Feeling rather frustrated, I had the good fortune to come across the extremely helpful Rovoreed, who explained what was happening regarding the Series 3 production - I am still waiting for an answer from Psion - and made me feel rather glad that I had not been one of the "lucky" few who had actually managed to get their hands on one already.

Having decided that it had taken me long enough to make up my mind about buying a machine, to make a further wait immaterial I joined IPSO (thanks again Rovoreed) as a preliminary to Series 3 ownership, but was amazed to find out just how capable a machine already existed in the Organiser II. It certainly seemed to be far, far better than I had ever imagined and I was so impressed by what I read that I decided to buy an LZ64 as a stop-gap until I could obtain a Series 3. It duly arrived and proved to be as impressive as expected in operation, the current deflated price also being a bonus.

However, having lived for a little while with this 'stop-gap' I find myself wondering if I will bother to eventually buy a Series 3 after all. No doubt it is a superior machine (in the brochure, at least!) but, at present, it loses out on reliability and initial cost - not to mention availability - and having now actually seen one I feel that it lacks the design quality of the Organiser II and also has a much cheaper appearance. It certainly appears to do more, but then one of the strengths of the Organiser is the way in which its functions as a whole are much greater than the apparent sum of its parts.

As well as doing what I wanted it to do in the first place, my LZ has prompted me into finding other uses for it and I have a feeling that I may only be scratching the surface as yet. My working definition of good design is a combination of function and form which produces a practical and pleasing result and I feel that the LZ64 is just that, something which too few products - computers or otherwise - are ever able to achieve.

## Using SLINK on the SLICE.

If you are a Slice owner who longs for the easy days of Organiser & Comms Link, then SLINK is for you - with one or two reservations. If you are new to having your pocket computer talk to a desktop, SLINK is also a useful tool. It is not as comprehensive as MCLINK, but it is certainly much quicker, especially for "one-offs". The major drawback is that Psion seem to have included SLINK on the Serial Link disk as an afterthought, and there is no mention of the program either in the handbook or on the disk. The following should put things right.

### SLINKing OUT

This couldn't be easier, but I will explain in simple terms how to use SLINK to pass files from the Slice to a PC.

1. Connect up the Slice to the Serial Port on your PC.
2. Make sure that you are in the correct directory on the PC - I call my directory just LINK.
3. Key in SLINK <CR> on the PC before you do anything else. For this operation all other actions take place on the Slice.
4. Ensure that the REMOTE LINK is enabled on the Slice - last item on the RIGHT HAND MENU (from top-level).
5. Move the cursor to highlight the file which you wish to send.
6. Press PSION (hot-key) plus C (for COPY). You will see the COPY FILE dialog box appear with your highlighted file on the top line.
7. Use the DOWN ARROW to move the cursor to the 4th line down.
8. Now use the RIGHT ARROW scroll from INTERNAL to REM::C.

9. Press <ENTER> and your file will be transferred to the PC (into the LINK directory, of course). You will see a box appear on the Slice indicating the progress of the transfer, but no indication from the PC.

That's all there is to it. Don't forget to DISABLE the REMOTE LINK on your Slice, unless you are doing some more transfer work just now.

One point to remember if you are transferring Word Processing files to the PC. Unless the word processor on the PC can handle Word file formats, you will have to SAVE the file as a TEXT file before you transfer it.

### Program File Transfers

You can follow the above instructions to transfer both types of Program Files to your PC (OPL or OPO).!

### SLINKing IN

Steps 1 to 4 above apply. Note that the file(s) to be sent to the Slice should be in the LINK directory.

5. On the Slice use the DOWN ARROW to move to Line 2 (DISK). Don't worry about the top line at this stage - it will have the name of any highlighted file on the Slice.

6. On Line 2, use the RIGHT ARROW to scroll from INTERNAL to REM::C. You will see the top line change as you do this. It will probably end up reading NO FILES, when Line 2 reads REM::C. The next step is important.

7. Press the RIGHT ARROW KEY ONCE. Line 1 should now read A and the top line \APP\..

8. Still on Line 2 press the LEFT ARROW ONCE. You should find that Line 1 now shows the name of one of the files in the PC Link Directory.

9. Use the UP ARROW to move to Line 1 and the LEFT or RIGHT ARROW to scroll to the name of

the file which you wish to transfer. At this stage, Line 4 should read INTERNAL.

10. Move the cursor down to Line 3 and key in the name of the Slice directory which will receive the file as follows:

- a. \DAT\ for DATA files (see Note i below)
- b. \WRD\ for WORD files (see Note ii below)
- c. \AGN\ for AGENDA files etc.

#### Note i

It is also possible to receive DATA files direct into a database. To do this, go through Steps \* to \* above, then open a new file in DATA. Now use the MERGE IN option (left-hand menu). This has the advantage that you can set delimiters to match the incoming data. Note that most PC databases use a COMMA as a field separator. You can match this by entering the ASCII number for a comma (44) against the DELIMITER line. If you are re-loading a file which originated in the Slice database, then no adjustment is necessary.

#### Note ii

Before importing a word-processor file from the PC you should ensure that the format is suitable. If in doubt, you can always save the file on the PC word-processor as an ASCII file, which is always an acceptable format.

## New Software for the Slice

After a period of quiet following the release of the Series 3, Psion have at last produced some software for the new machine. I

mediately available is the SPREADSHEET (originally scheduled for a January release, this really was worth waiting for).

In May two other packages will be available CHESS and PROFESSIONAL FINANCE. (As yet there is no news of the Spellchecker/Thesaurus which will be a valuable addition to the power of the Word-processor.) All these three are

realistically priced, considering the price of blank flashpaks. The SPREADSHEET is £69.95 and the other two £49.95.

### Spreadsheet

I never really took to the Organiser Pocket Spreadsheet. The tiny Organiser screen just didn't seem right for a program which, on desktop computers, relied heavily on the screen being able to display as much of the working program as possible.

I suppose that if you are used to working with spreadsheets you are able to visualise the spreadsheet layout without ever seeing more than a few cells at a time. This new program is certainly capable of displaying as much as possible on the much bigger screen of the Series 3. It even has a small typeface mode to allow even more to be displayed.

The Spreadsheet offers:

- \* A full set of Lotus 1-2-3 functions (Hewlett-Packard eat your heart out!) which can be either used as stand-alone or fully integrated with Lotus on a desktop. The features include tables, databases and data graphing.
- \* Multiple worksheets with COPY & PASTE facilities between worksheets and word-processor.
- \* Multi-tasking - print out spreadsheets while working on other tasks.
- \* On-line HELP for functions and syntax mean that you don't need to consult the handbook too much.

Spreadsheets can have up to 256 columns by 8192 rows! - maximum file size 45k. You can have on-screen 2D or 3D graphs in the form of Bar Charts, Line & Scatter graphs, pie-charts, etc.

All in all the Spreadsheet is a very powerful package - Psion say (with pride) THE most powerful yet on a pocket computer. I have a copy to review fully at a later date.

### Chess

Let us hope that this is just the first of a number of powerful games which take full advantage of the Slice's extensive graphics capability.

# Page 3 - 3

Chess shows the full board on screen (in either flat or 3-D modes). It seems to be more powerful than most dedicated electronic Chess machines. Features include 50 classic games drawn from 150 years of International Chess, complete with commentaries!

Play can be on multi levels of difficulty. You can play the computer, or another human player, or let the computer play itself while you look on. If you are at the learning stage, Chess will help you with hints whenever you require them.

I am not a Chess player myself and will wait for a Slice version of Othello.

## Professional Finance

This package is billed as "the perfect problem solver and analyser for all those involved in the world of finance".

Formulae include Cashflow, Amortisation, Linear Pay Off, Break Even Point, Capital Growth, Depreciation, Actuarial functions.

The program has extensive conversion tables included and is extendable to allow custom calculations, etc.

*All three of these packages will be the subject of separate full reviews in later issues. Ed.*

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## Files & Things for Beginners

The file structure on the Slice is quite different to that on the Organiser. It has been modelled on the tried and tested PC format.

Files of all types are kept in "directories", sometimes called "folders", which can be compared with manual filing systems. So a folder can contain a number of related files. It can also contain one or more sub-directories or folders which can each contain a number of related files.

Once the system is understood, it is quite logical and keeps all your files in the appropriate place.

The key to files is the TAB KEY. You can look in any directory on any device from this point, and, having found a file or files you can mark them up for further processing.

It is a good plan to place the cursor over the right column on the top-level menu as a starting point.

Now if you simply press TAB you will find the appropriate directory with all the files listed together with the following information on each one:

- a. Filename (with extension)
- b. Size of file in bytes
- c. Time & date when file was last edited.

You can scroll up and down all the files in the folder - they are all neatly displayed in alphabetical order. If you wish to DELETE or COPY one or more files, this is the place to access them.

All you have to do is mark the files with a tick. To do this press the UP or DOWN ARROW while holding the SHIFT KEY.

After marking, press PSION and D (to Delete) or PSION and C (to Copy) and then proceed as with a single file.

*More on file-handling later.*

□□□□□□□□□□□□□□□□

## Two More Books for the Series 3

These are:

*Serious Programming on the Psion Series 3* by  
Bill Aitken

and

*Introduction to Using the Psion Series 3* by Rod  
Lawton & Isaac Davis.

Both cost £14.95. Reviews later.

# IPSO Facto

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Editor: Mike O'Regan

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

Tel: 0602 735482

## Editorial

### Organiser Flashpak Problem

Rovoreed inform us that they have had a number of 256k flashpaks which caused problems once they have been in use for some time.

The problems ranged from "write errors" to actually crashing an XP and corrupting the Formatter EPROM.

It seems that Psion must have been made aware of the problem some time ago, but never made it public.

The latest flashpaks display the number of the driver software that is installed. On the LZ it is shown in the top right hand corner of the screen (in the title), and on XPs it is shown as part of the "Remove" item in the Flash menu.

The current version seems to be 1.5, or as displayed on the screen "v15". This version of the software seems to fix the bugs mentioned above, which is good news (but now for the owners of old software who may have problems in the future).

Therefore, as part of their service, Rovoreed undertake to reformat any flashpak that has an old copy of the formatting software, thus providing a bug-free copy. There is no charge, except for 60p postage (in stamps if preferred).

The address is:

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



## Small Ads

We are still running the **For Sale & Wanted database**, but by popular request, I will publish these in the newsletter from time to time, hence the ads on Pages 20, 22, and 29.

### For Sale

Opus PC4 c/w 20Mb hard disk  
640k RAM, EGA Monitor, Mouse,  
Software, etc - £500 ono  
Free delivery within reason  
Phone: Mike O'Regan  
on 0602 735482

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# Beginners Page - 1

by Mike O'Regan

## *Organiser/PC Connection*

This month I will look at the subject of connecting your Organiser to a PC (Personal Computer - originally an IBM term), or another "desktop" machine.

Again, you may ask what is to be gained by this connection. Well, if nothing else, storing Organiser data safely and for the minimum cost is something well worth considering.

If you have another computer it probably uses disks as the storage medium - either "floppy" disks or a hard disk. Both of these are very cheap storage media - compared with the Organiser datapak/RAMPak storage system. If you use floppy disks to store your Organiser data in this way, it is possible to have more than a **megabyte** of data on each disk (whether your computer uses 3.5" or 5.25").

Older machines are sometimes limited to 360k per 5.25" disk, but this is still a large scale storage device in Organiser terms.

Disks cost as little as 30p - either size - and, as such are very attractive storage media. You can save ALL of your current data - programs and files - on just one or two disks!

## *Hardware Required*

The only extra item which you need to connect the Organiser to a PC is the **Psion Comms Link** (current new price around £45 - 2nd hand for around £25).

This is a cable which plugs into the Organiser's top port. The other end of the cable terminates with a FEMALE 25 pin socket which plugs directly into its male equivalent (the RS 232 port) on the PC. I

f you have one of the more powerful PCs, you may find that your Serial Port is a 9-pin, in which case you will also need a 25-pin to 9-pin converter, which you can buy ready-made for about £3.

## *Software*

The Comms Link software for the PC end comes in the form of a floppy disk (again either size); which is copied to any disk on which you wish to store data. If this is a hard disk, it makes sense to open a special directory to keep everything tidily in the same place.

The Comms Link plug which fits the Organiser also contains the Organiser's Comms Link "firmware" on a ROM. The COMMS option is automatically added to the main menu when you have inserted the plug and pressed <ON/CLEAR> twice.

Much has been written on Serial PARAMETERS, and some of this is very confusing for the beginner. Unfortunately, the Comms Link Manual is quite difficult to decipher in places and really does nothing to make the process of serial communication as easy as it should be.

Let it be said straight away that the Organiser is very good at "talking" to other devices through the Comms Link and there is a very full set of tools provided, once they can be understood. If you do not yet understand the various parameters which make up the Comms Link Setup do not worry. The default (standard) settings when you first use the Comms Link will almost certainly match those on your PC (if these are the standard set).

Without going into too much technical detail the main settings are as follows:

# Beginners Page - 2

- ♦ BAUD 9600
- ♦ PARITY NONE
- ♦ DATABITS 8
- ♦ STOPBITS 1

For some reason Psion have made the default PROTOCOL setting "NONE", although the Comms Link software requires this to be set to "PSION". Fortunately this is very easy to reset. All that is necessary is to go into the SETUP option from the Comms Link Menu, move the cursor down to the PROTOCOL line and press the RIGHT ARROW twice. The setting is now PSION and can be saved by pressing the MODE key then <EXE>.

Once the Setup is correct, your Organiser will remember the settings *even when the comms link is disconnected* unless you "hard reset" your Organiser.



## Connection to Other Computers

Psion seem to think that Organiser owners are rich enough to own either a PC or an Apple Macintosh, as the Comms Link software is currently only available for these two machines. However, this does not mean that connection to an Atari, Commodore Amiga, or a BBC, is any more difficult. It is just that, with these machines, you cannot use the Psion Comms Software (unless you have some sort of PC EMULATION).

Various 3rd party suppliers have come forward with suitable Comms software for most popular machines.

In the case of the BBC machines a simple adaptor is required to convert the 25-pin female end of the Comms cable to the "domino" DIN format of the RS 423 connection. This was available from Psion (price £12.95), but may have been

discontinued. A suitable cable can be made up from individual parts available from Tandy, Maplin, etc.

Incidentally, I have a magazine article which recommends using the ORGANISER (plus datapaks) as a CHEAP STORAGE DEVICE for a popular laptop computer! So there are more expensive storage systems than the Organiser ones.

(continued next month)



### For Sale

LZ64 Organiser - £55  
64k datapak  
Formulator  
Comms Link  
Mains Adaptor  
Phone: Tony Bourne  
on 0603 617504  
□□□□

LZ64 Organiser - £75  
32k datapak - £15  
32k RAMpak - £22  
128k datapak - £47  
256k datapak + formatter - £80  
Comms Link - £33  
Mains Adaptor - £5  
Write to : P.S. Robinson  
160 Firwood Ave  
Urmston, Manchester, M31 1PN  
□□□□

Psion Printer II - £110  
Phone: M. Cambridge  
on 0233 629069  
□□□□

Psion Finance II - £15  
Phone: A. Bingham-Ward  
on 0602 617444 (eve)  
or 0602 419066 x256 (day)

# IPSO Review

KEYB3, QBASE, & BACKUP - Reviewed by Mike O'Regan

## *Good News for Organiser Owners*

During the infuriating period while waiting for my defective Slice to be replaced I must admit to "re-discovering" my Organisers. I had about all forgotten just how slick the operation of the Organiser is - open up, switch on, press FIND, enter clue, and you have your data on the screen. Even the Slice takes a little more effort!

As if on command, during this period, a package dropped through my letterbox which spelled really good news for the Organiser User (myself included). The package contained a disk with three excellent programs for ALL models of the Organiser II. These are KEYB3, QBASE, and BACKUP, a trio of new offerings from Gene Code Software (details later). If you think you recognise one of these packages you are partially right - KEYB3 is a new version of the very popular KEYB2 (reviewed in Vol V, Page 40).

QBASE is an excellent and very complete data handling program, which has many features which do not appear in either the LZ built-in XFILES or any other data handlers yet produced.

BACKUP is as good as (if not better than) any existing Organiser-to-PC backup/restore program.

Here is a bit more detail on each of the packages.



### **KEYB3**

In case you didn't see the review of KEYB2 - or have forgotten about it - I will outline the features of the program. KEYB3 is a small memory-resident program which operates in the background of any Organiser application in any one of three modes:

#### **MODE 1: Shift Cap Keyboard.**

In this mode the keyboard operates in lower-case letters and caps are obtained by just pressing

SHIFT before the letter (as on a typewriter). This mode is really helpful when, for instance, keying in lots of text for a large database.

#### **Mode 2. Alternative Keyboard.**

In this mode you can access any ASCII character from the standard keyboard. A default set, which includes most of the useful keys, such as ?, !, ', &, etc is already available and the program lets you create your own "custom" keyboard, with any collection of ASCII characters of your choice. Creating sets is very easy.

#### **Mode 3. Standard Keyboard.**

This mode re-instates the standard keyboard.

Changing between these modes is simply a matter of pressing two keys - a short BEEP signals change of mode - and changing becomes instinctive and very fast with a little practice.



### **QBASE Data manager**

This program comes with a 20 page manual. The program suite is a must for any XP owner, and very desirable for LIZZY owners because of its outstanding features.

#### **File Handling**

QBASE allows, of course, any number of files to be opened and worked upon. XBASE on the Lizzy allows multiple data files, but the XP needs extra software (or specially written OPL routines) to handle any files other than MAIN (the built-in data file on each device).

QBASE shows all available files on screen for instant selection. Changing to another device is also easy, when its available files are similarly displayed. Once a file has been opened, it is possible to prepare one or more CUE SETS for the file. These are FIELD NAMES which enable you to get your data in the right fields.

They are also much more - each CUE can be one of three types: Text, Numeric, or Calculated. Text is self-explanatory.

# IPSO Review - 2

Fields set to Numeric accept numeric input without the need for pressing the shift key. Calculated fields are also numeric, with the added facility that these fields can be "summed" later using the Total feature. This is ideal for totting up such things as subscriptions, etc.

CUES can also be used in a sophisticated QUERY function, which allows *Field specific* selection using one of the following operators:

**EQUALS** - find records where the selected field EQUALS the search clue

**MORE** - find records where the selected field is MORE THAN or GREATER THAN or AFTER the search clue.

**LESS** - find records where the selected field is LESS THAN or BEFORE the search clue.

**INCLUDES** - find records where the selected field contains the search clue

**EXCLUDES** - find records where the selected field excludes the search clue

## File Information

The INFO option gives a quick overview of the number of records in a file and the total size in bytes.

### Other Options

Files can be re-named or deleted. Note that MAIN files may not be either re-named or deleted - a sensible safeguard, especially for XP users.

### Record Management

A very useful set of tools is provided which allow FIND to operate on either one or two clues. In addition to the QUERY options listed above it is also possible to select any record by its number, the FIRST, LAST, NEXT, PREVIOUS records.

A file can be SORTED into Alpha or Number order on any field, either ascending or descending. A nice touch is the ability COPY selected records to another file.

### Printing Options

It is possible to print (on a printer) selected records, using any number of user-defined

formats. Files of formats are automatically maintained. The user can define the following:

**Header** - to be printed at the top of each page

**Cues On/Off** - records can be printed with or without field names

**Orientation** - each record ACROSS or DOWN the page.

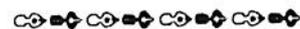
**Margins & Page Length**

**Typeface** - Elite, Pica or Condensed

**Fields Print/Skip** - set to print only the required fields.

## Summary

QBASE is a very comprehensive program, which is remarkable at the price.



## BACKUP

This program works entirely from the Organiser and allows Backup and Restore of ALL types of Organiser files, including data, Diary, OPL Text, OPL Binary, Comms Set-Ups, Spreadsheet, Pager and Notepad. It enables files to be "tagged" for selective transfer in either direction or ALL files to be selected. The program is very easy to use with comprehensive on screen information.



## How to Order Programs

All of the above programs are available for either XP or LZ models. They can be ordered either on floppy disk (for PC owners) or GENE CODE will copy them to your own datapak. If you order on disk, full instructions are provided, plus an OPL loader program, to simplify getting the programs into your Organiser or onto a datapak.

Prices are as follows:

**KEYB3 - £8.50**

**QBASE3 - £15.00**

**BACKUP - £8.50**

The programs are available from:

**Gene Code Software**

**16 Pelham Court**

**Kingston Rd**

**Staines**

**TW18 1AL**

**Tel: 0784 458736**

# Feedback

Dear Mike

I read with some interest, the "Feedback" article published in the last edition of IPSO. I felt the point he made was a significant one and thought I might write and add my feelings. Prior to the development of the Organiser, I had for years dreamed of the concept of such a tool. I was quite impressed when the likes of Casio began producing those little credit card size memory banks and toyed with one of those for a while. When Psion then introduced the Organiser, it was like a dream come true. I bought my first one, the same day that I saw it and within a few months was an avid user. Needless to say, when the LZ64 was introduced, I quickly sold my XP and went for the update.

During the time that I had the 64, I added two significant pieces of software to it. They were "X-Base" and "FN Key", both from Mike Leigh's "Cubsoft" stable. This gave me the absolute and ultimate tool. I always knew that the LZ64 was a very powerful instrument, but what I didn't know was what amazing extra utilities, which could be accessed with the additional software. I'm sure that there must be a good analogy to use in this situation, but I just can't think of it. A bad one however, might be owning a desk which you can write on and then one day finding it has drawers which open and contain all sorts of useful instruments to make life easier!

The next thing that happened of course, was Psion brought out the Series-3.

"Great" I thought, another update and promptly sold the LZ and bought a Series-3. The first thing I very quickly realised, was that the Series-3 was no update, it was a very different machine altogether! At first, I had a number of teething problems, or at least Psion did, which they have and are gradually sorting out. The Series-3 really is a miniaturised PC in many respects and this, I think, is what makes it so very different from the LZ64. I have found, that since having the Series-3, which does a great many things and performs a great many tasks, there are things it cannot do which the LZ64 could. I had a number of different bank accounts, created using the Notepad option and were very useful for everyday use. The Series-3 does not allow me anywhere near doing the same things. With the additional software, I could create macros and order, sub-order and sub-sub-order databases, but I can't on the Series-3. The size and manoeuvrability were perfect and of course it could be operated without putting it down. You may well ask then, why I made the change. I sometimes wrestle with the same question, but arrived at the conclusion that I could only really use one type of hand-held / palm-top unit and where I lost on the swings, I would gain on the roundabouts. Eventually, I decided in favour of the Series-3 but I would advise anyone who currently owns an LZ64 or an XP11, that unless you want to change to a different type of ball game altogether, consider adding "X-Base" and "FN Key" to boost the use of your Organiser because the Series-3 is definitely not an update!

*Paul Adkins*

# Progs & Procs

## Three Programs by Leonard C. Ainsbury

These programs were written with the Series 3 in mind, but will also work on the Organiser with one or two alterations. These consist of using VAL instead of EVAL and changing w% to 20 or 16, depending on screen size. Of course, you should leave out the PROC and ENDP on the Organiser versions and the three programs should be keyed in and translated separately. On the Series 3, all three programs can be entered at once and then translated together.

The first program is designed as a demo of the other two. The WRAP program returns a word-wrapped string. The second one returns the value of a string by finding an equals sign and calculating from there - returning a zero if the string has not value. On running, after the first display, enter your own string to try out, plus a final = and sum, if required.

```
PROC WRITER:
LOCAL s$(255)
DO
[WRAP:("Input a sentence that
goes over the edge of the
screen and has an EQUAL sign
and calculation at the end of
it=5*4")]
PRINT
TRAP INPUT s$
IF ERR
RETURN
ENDIF
CLS
PRINT
WRAP:(s$)
PRINT
[PRINT "VALUE=";fix$(RV:(s$)
,2,-12)]
```

```
GET
UNTIL s$=" "
ENDP

PROC WRAP:(x$)
LOCAL s$(255),w$(40)
LOCAL l%,w%,x%,s%
IF x$=" "
RETURN
ENDIF
s$=x$
DO
l%=LEN(s$)
IF l%>40
w%=40
DO
w$=LEFT$(s$,w%)
s%=LOC(w$," ")
IF RIGHT$(w$,1)<>" " AND s%<>0
w%=w%-1
x%=0
ELSE
x%=1
PRINT LEFT$(w$,w%-1)
s$=RIGHT$(s$,l%-w%)
ENDIF
UNTIL x%<>0
ENDIF
UNTIL l%<40
PRINT s$
ENDP
```

```
PROC RV:(s$)
LOCAL rv,v$(255),l%,r%
v$=s$
RV::
ONERR E::
rv=EVAL(v$)
RETURN rv
E::
IF ERR<>0
l%=LEN(v$)
r%=LOC(v$,"=")
IF r%
v$=RIGHT$(v$,l%-1)
GOTO rv::
ELSE RETURN 0
ENDIF
ENDIF
ENDP
```

## Series 3 Spreadsheet

It has been said many times that the Spreadsheet has sold more personal computers than all other packages put together. While I am sure this could be true for desktop machines, I don't think it applies to the Organiser since the Pocket Spreadsheet appeared. As I mentioned previously, this could be due to the Organiser's tiny display which seemed to weigh heavily against any serious use of a spreadsheet. There will be avid users who disagree with this statement and can probably prove that they use the Pocket Spreadsheet to keep track of all their business and personal finance, but I still think that such people are in the minority.

As the Series 3 has a much bigger display, which can be effectively made even bigger by using a small typeface on the screen, I think that the Series 3 Spreadsheet stands a much better chance of wide popularity. It is also a well-known fact that spreadsheets are greedy for memory (the Slice version will not work on the 128k machine!) so there is another advantage in this area.

## Hardware

The Series 3 Spreadsheet comes in a large pack (same size as the Slice's box) and so it has a full-size manual (nearly 200 pages) which is in line with its comprehensive nature. The program itself comes on a 128k ROM (that's right, a ROM, which cannot be erased and re-used as a flashpak) and is crammed with code - there is only 6k not used.

Before I forget, let me mention that the handbook (like the Series 3 Handbooks) is put together with something called PERFECT BINDING (which is just about anything but PERFECT). The pages are glued together in such a way that the book snaps shut as soon as you stop forcing the pages apart. If you really crease the spine (in order to keep the book open) it will sooner or later start losing pages. Why can't ALL handbooks be comb-bound

so that they can be opened flat when used - or are we not supposed to make frequent references to them! I have comb-bound all my manuals and they are much more practical. (Psion please note).

## Software

The Spreadsheet really makes use of the Series 3's features in a way which is far ahead of any other software I have seen so far. With its numerous HELP pull-down boxes, it rather reminds me of a cut-down version of Windows (the popular PC Graphics User Interface). In particular, the excellent GRAPHS are very impressive. And, when you have used the program for a little time, you begin to realise that it is not all for show, and that the Spreadsheet is a very powerful set of tools which can be used for many purposes.

## In Detail

The handbook is pitched just at just about the right level to be useful for those who are new to spreadsheets, while not being too tedious for the more experienced user. For instance, there are sections in Chapter 1 which simply explain both the spreadsheet concept and the Series 3 filing system. A small 'tutorial' on the pak would have been welcome, but there was obviously no room on the ROM. Perhaps someone out there would like to devise such one, if there is a demand, as an add-on.

## Installing the Program

There is no 'autoboot' on the Series 3, but it is quite simple to install the Spreadsheet. After the ROM is inserted it is only necessary to use the INSTALL APPLICATION option on the APPS pull-down menu. The action creates a new directory - SPR - where all your spreadsheet files will reside. Before you open your first file you will need 60-65k of free memory (I said that spreadsheets are greedy!) so, if you haven't got enough you will have to do some judicious pruning before you can start work.

Once you get in and open a file, you will be faced with a screen filled with 5 columns by 7 lines,

each column being 7 characters wide. You can, of course, alter the width of some or all of the columns to suit your data. If your eyes are really good, you can opt for the Small Font (found on the VIEW menu). This will enable you to see more of your data on screen - you now have 7 columns by 8 lines - but you could, I feel, suffer severe eye strain if you worked on this for long. I find it quite handy for a quick overview of a rather bigger section of my file, rather than working on it for prolonged periods.

## Moving around the screen

The four arrow keys are used, as in other Slice applications, for moving about the screen. Combined with SHIFT, these can be used for marking areas for replication, etc., which is all very easy a swift. The top line of the screen is reserved for keeping track of the current cell and displaying input. Numeric input is direct into cells, with oversize figures being displayed in SCIENTIFIC NOTATION. Alpha input is easy, although if your alpha string starts with a digit it must be preceded by a single or double quote. Formulae do not require much more effort, provided that each begins with an = sign and the formula is logical. A nice touch, (and a great improvement on the Organiser Pocket Spreadsheet) is that you can designate top lines and left-hand columns to be TITLES, and these then are constantly displayed no matter where you move your cursor over the working data. Replication uses the standard COPY and PASTE, as in other applications. Cell references are relative by default but there is an ingenious method of overriding this to make them absolute. To speed things up it is possible to switch off both automatic recalculation and Undo (a feature which allows the last entry to be undone).

## Advanced Features

The advanced features of this package are so extensive that a good half of the handbook is given over to their explanation. The Spreadsheet has very full TABLE and DATABASE facilities and there are some fully worked examples of these features in the manual. It might be asked

why there is a need for database functions when the Slice already has a database handling section built-in. The answer is that, using the Spreadsheet for database handling means that many more facilities can be accessed, including full statistical functions and very comprehensive criteria for sorting, etc. Complete sections are devoted to Dates & Times, Financial Functions, Maths, Trigonometry, & Logical Functions.

## Summary

The Series 3 Spreadsheet is, without doubt, the most important software development for the Slice so far. With all the built-in features it covers many areas which would normally require a custom database program, a finance pak, a maths pak, etc. This package has certainly earned at least a semi-permanent place in one of the slots of my Series 3.

The Spreadsheet costs £69.95 at retail stores. Remember that this software will not run on a THIN SLICE (128k model)

## Battery Check Program

by Rowan Prior (Psion Technical Support)

This program checks the actual state of both the main and backup batteries in an Series 3. It also detects the presence of a mains adaptor.

```
PROC batch:
LOCAL m%(3),w%(4),a%,k%,mb,bb,l%
GLOBAL mb$(5),bb$(5)
GLOBAL km%
REM Get high and low battery setting
a%=warn%:(addr(w%(1)))
IF a%
PRINT err$(a%)
GET
STOP
ENDIF
REM Read the battery itself
a%=bat%:(addr(m%(1)))
IF a%
PRINT ERR$(a%)
GET
STOP
ENDIF
```



# IPSO Facto

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Editor: Mike O'Regan

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

Tel: 0602 735482

## Editorial

### Mirror, Mirror. . .

As the competition to produce the most popular pocket computer continues, some diversity of types of machine is becoming more and more prominent. Sharp and Casio, who both have built all-round machines in the past are now concentrating on "personal organisers" which leave out much of the former facilities, such as built-in BASIC (however restricted). Then there are those machines which try to provide some sort of MSDOS compatibility. Most of these are regarded with various degrees of derision by the Computer Press, because, as yet, a pocket computer - even a very expensive one - cannot provide anything like the same facilities as a modest desktop, especially if compared pound for pound (and £ for £).

Machines like the Sharp IQ, Microwriter Agenda, Casios, etc, restrict themselves to a fairly narrow band of facilities, and buying these as add-ons is an expensive business.

The Organiser, in the past and still, following a path of worthwhile development, and now the Series 3 have both got a terrific advantage over all the opposition - OPL. OPL is not just another "com-

promise" language. It is looked on with envy by the opposition because not only is it friendly and powerful, but it is extremely flexible in the ways with which it can be made to interlock with the other important functions, such as databases, word-processors, calculator, etc.

The Psion Pocket Computers have a great future in front of them - and this is not just my (somewhat biased) opinion.



## New Software

Next month will see some reviews of not only the latest software for the Slice, but also some good inexpensive new software for the Organiser (which has been developed by members).

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# Beginners Page - 1

by Mike O'Regan

## *Using the Comms Link (cont.)*

So far in this series we have managed to connect the Organiser to another computer. It is now time to go about actually transferring some useful data between the two machines. One of the most popular uses of the Comms Link (and the one which I use most often) is to transfer either a whole or a partial data file from the desktop to the Organiser, so we will examine this first of all.

### *Transferring a Data File.*

As you are probably aware, the Organiser is capable of accepting and storing a data file which was created on another computer. Thereafter this file can be treated in exactly the same way as a data file which has been entered by hand directly into the Organiser.

One big advantage is that your source data file will probably be better arranged than the average "randomly entered" Organiser database. This is because most desktop database programs are quite strict in that they require you to actually design the format of your data before you are allowed to enter anything else. Not so on the Organiser; you can have one record which has Name, Address, Telephone Number in that order and the next record simply says "Bank Account No. nnn". In other words, as I have frequently pointed out, the Organiser encourages you to be rather cavalier in the way in which you enter data.

Apart from this feature of Organiser data, it is otherwise fairly restrictive. By this I mean that you are only allowed a maximum of 16 lines (fields) of data and a maximum of 254 characters per record. This is not as restrictive as it sounds, as many data files will easily fit into this pattern. If the records in your source data file have more than 16

fields, it should be possible to leave out some of these when the data is prepared for transfer to the Organiser. For instance, I regularly produce such an "extract" file each week, before transferring an updated Membership File to either the Organiser or Slice.

A good desktop database will not only allow you to select the fields required, it will also let you decide which ASCII characters you will use as field and record delimiters. Unless you have changed the default (standard) settings on the Organiser, they will be as follows:

- Field Separator: TAB (ASCII code 9)
- Record Separator: CR (carriage return) and LF (line feed) (ASCII codes 13 and 10, respectively).

On your desktop database the default setting for Record Separator should be the same as the Organiser. However the default FIELD separator is more likely to be a COMMA (ASCII code 44). This makes for all kinds of difficulties if your actual data contains any commas, as these will be interpreted as the start of a new field and everything that follows will be out of sequence.

If your data is "comma free" it is still a good idea to make a TAB the field separator, otherwise the file received into the Organiser will have the whole of each record on one line, with each field simply separated by commas. It is possible for the Organiser to be set so that incoming COMMAs are automatically translated into TABs. This is done in SETUP from the COMMS Menu, as follows:

1. In SETUP, use the <down arrow> to move down to the Rtrn line.
2. Press <EXE> and key in 44,9 <EXE>. The value changes to <HT>





# Machine Code Page - 2

After looking at the plus points of each method (one than one method at a time is normally used) and considering the Organisers' limitations and that most of my own records involve only numerical data, I decided to try coding the Half Byte method.



## Half Byte compression.

The maximum number that can be held in a byte is 255 because a byte is composed of 8 bits, if we consider a byte to be two sets of 4 bits each then the maximum number that can be held in 4 bytes is 15 (1111 in binary,  $1*1 + 1*2 + 1*4 + 1*8$ ). So for any series of 15 characters we can fit one character in the top 4 bits of a byte and 1 in the lower 4 bits. The 15 characters I am to consider are:

0123456789.,-x and space

because these are the most common characters in my numerical records.

In order to keep this example simple I have coded the compression routine in OPL but the machine code version is easy to code because there exists commands to shift bit patterns to the left and right. Using OPL commands I must find a way of shifting bits to the left, this can be done by simply multiplying a number by 16. To shift to the right simply divide by 16 and nominate an integer value to hold the result, any carry set by the result is simply ignored when putting it into an integer.

The resulting three programs TEST, NDZIP\$ and NDUNZIP\$ will compress and uncompress a single string of numbers (my telephone number), they are:

```
TEST:
LOCAL X$(20)
X$="0332 880663 x332"
X$=NDZIP$: (X$)
PRINT X$
PRINT NDUNZIP$: (X$)
GET
```

```
NDZIP$: (B$)
LOCAL A$(15), X%, Y%, Y2%, X$(255)
A$="0123456789.,-x "
X%=1
DO
  Y%=LOC(A$, MID$(B$, X%, 1))
  X%=X%+1
  Y2%=LOC(A$, MID$(B$, X%, 1))
  X$=X$+CHR$((Y%*16)+Y2%)
  X%=X%+1
UNTIL X%>LEN(B$)
RETURN X$
```

```
NDUNZIP$: (B$)
LOCAL A$(15), X%, Y%, Y2%, X$(255)
A$="0123456789.,-x "
X%=1
DO
  Y%=ASC(MID$(B$, X%, 1))
  Y2%=Y%/16
  Y%=Y%-(Y2%*16)
  X$=X$+MID$(A$, Y2%, 1)
  IF Y%
    X$=X$+MID$(A$, Y%, 1)
  ENDIF
  X%=X%+1
UNTIL X%>LEN(B$)
RETURN X$
```

The problems with the above programs are that the input string MUST be an even number of characters and ONLY the characters 0123456789.,-x and space are allowed in the input string. If these routines are used in saving data to a file and then reading it back, an almost 50% reduction of the space required to store a numerical only file will result.

# Machine Code Page - 3

I have extended my own library of compression routines to work on a mixture of text and numbers and to read entire file records from the file buffer and compress/uncompress them in one big gulp, I have also discovered that the encryption string (023456789 etc.) is an excellent path to file security.

Quite a large saving can be made by storing ordinary data files as block files, thus removing the header bytes normally required with each record. I hope this results in a flood of machine code file compression programs being submitted to IPSO over the coming months to allow the subject to be discussed at greater length.

□□□□□□□□□□□□□□□□□□□□

**FOR SALE**  
**Ex Marks & Spencer**  
**XP Organisers £20.00 each.**  
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**9.00am-5.30pm.**

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Psion Formulator  
Comms Link  
Mains Adaptor

offers to  
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## LZ64

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91 Storer Road  
Loughborough, Leics  
LE11 0EH  
(no phone calls please)

# Progs & Procs - 1

## Dodgem

by Marcus Parker-Rhodes

By popular request, here is another excellent game for the LZ, a worthy addition to the Yen and Wall stable.

You have a car (a black dot) which travels from the right into the traffic (squares) coming from the left.

You must dodge the traffic by using the UP and DOWN ARROW KEYS. When you reach the left side you are returned to the right side to face some heavier traffic.

The levels are labelled A to Z and to win you must get past Level A.

On the road you will find occasional objects (hashes) which, if collected, will give you ammunition for your Bazooka. The Bazooka is fired by using the LEFT ARROW KEY, and it clears the road ahead to the edge of the screen.

The MODE KEY pauses the game and tells you what level you are on.

Good Luck!

```
dodgem:
LOCAL j%,x%,a%,t%,th%,fl%,c%
LOCAL k%,v%,am%,r%,r1%,sc%,r
LOCAL p$(4,20),tmp$(1)
KSTAT 1
sc%=6 :a%=20 :t%=6
UDG 0,15,9,9,15,0,0,0,0
UDG 1,0,0,0,0,15,9,9,15
UDG 2,12,30,30,12,0,0,0,0
```

```
UDG 3,0,0,0,0,12,30,30,12
UDG 4,15,9,9,15,12,30,30,12
UDG 5,12,30,30,12,15,9,9,15
UDG 6,0,0,0,0,21,0,0,0,0
UDG 7,10,20,10,20,0,0,0,0
p$(1)="  Dodgem"+REPT$(" ",12)
p$(2)=p$(1) :p$(3)=p$(1)
p$(4)=p$(1)
rem----cycle-----
DO
k%=0
fl%=fl%+1
IF fl%=4 :fl%=1
ENDIF
th%=t%/2
rem---move car-----
IF fl%=1
a%=a%-1
rem---move road----
ELSEIF fl%>1
c%=0
DO c%=c%+1
IF k%=0 :k%=KEY
ENDIF
r=RND
REM (sc%*4)+3
x%=r*100
r%=x%*sc%+75
r1%=PEEK(ADDR(r)+c%)
r1%=r1%-(r1%/2)*2
IF x%=0 :tmp$=CHR$(7)
ELSEIF a%=1 OR sc%>25
tmp$=" "
REM r%<8
ELSEIF r%<200
tmp$=CHR$(r1%)
ELSE tmp$=" "
ENDIF
p$(c%)=tmp$+LEFT$(p$(c%),19)
UNTIL c%=4
ENDIF
rem---test hit----
IF a%=0 :GOTO testends::
ENDIF
tmp$=MID$(p$(th%),a%,1)
v%=t%-th%*2
[IF (tmp$=CHR$(1) AND v%=1)
OR (tmp$=CHR$(0) AND v%=0)]
a%=a%+1 :BEEP 1,fl%*20
```

# Progs & Procs - 2

```

[ELSEIF tmp$=CHR$(7) AND
am%<5 AND v%=0]
  hit::
  am%=am%+1 :BEEP 10,96

[p$(th%)=LEFT$(p$(th%),a%-1)+"
"+RIGHT$(p$(th%),20-a%)]
ENDIF
rem---test ends---
testends::
IF a%<1 :sc%=sc%-1
  tmp$=CHR$(v%+2)
  c%=1
  j%=1
  IF sc%=1
    exit::
    CLS
[PRINT REPT$(CHR$( $2f)
+CHR$( $5c),40)]
  AT 6,2 :PRINT" YOU WIN",
  PAUSE 20
  DO UNTIL KEY=0
    AT 9,3 :PRINT " ";am%,
    GET :RETURN
  ENDIF
ELSEIF a%>20
  IF sc%>=27 :GOTO exit::
  ENDIF
  sc%=sc%+1
  tmp$=""
  c%=20
  j%=-1
  ELSE GOTO show::
  ENDIF
  a%=20
  [p$(th%)=" Level "+CHR$(
(sc%+$3f)+REPT$(CHR$(6),12)]
  AT 1,th% :PRINT " "
  DO
    AT c%,th%
  PRINT MID$(p$(th%),c%,1);tmp$
    BEEP 5,c%**3
    PAUSE 1
    c%=c%+j%
  UNTIL c%=20 OR c%=1
  rem---print-----
  show::
  AT 1,1 :PRINT
p$(1);p$(2);p$(3);p$(4)
  AT 20,1 :PRINT am%
  AT a%,th%
  rem---test miss---

```

```

tmp$=MID$(p$(th%),a%,1)
IF tmp$=CHR$(1) AND v%=0
  PRINT CHR$(5)
ELSEIF tmp$=CHR$(0) AND v%=1
  PRINT CHR$(4)
ELSE PRINT CHR$(v%+2)
ENDIF
rem---GET KEY----
IF k%=0 :k%=KEY
ENDIF
DO UNTIL KEY=0
  IF k%=2
    [AT 14,4 :PRINT CHR$(16);
"PAUSE",CHR$(sc%+$3f)]
    k%=GET
  ENDIF
  IF k%=3 AND t%>2

tmp$=MID$(p$((t%-1)/2),a%,1)
  [IF (tmp$<>CHR$(0) AND
v%<>0) OR (tmp$<>CHR$(1) AND
v%<>1)]
    t%=t%-1 :ENDIF
  ELSEIF k%=4 AND t%<9

tmp$=MID$(p$((t%+1)/2),a%,1)
  [IF (tmp$<>CHR$(1) AND
v%<>1) OR (tmp$<>CHR$(0) AND
v%<>0)]
    t%=t%+1
  ENDIF
  ELSEIF k%=5 AND am%>0
  [p$(t%/2)=REPT$("-",a%)+RIGHT$(
p$(t%/2),20-a%)]
    am%=am%-1
  ELSEIF k%=%0
    OFF
    STOP
    RETURN
  ENDIF
  v%=t%-th%*2
  [IF tmp$=CHR$(7) AND v%=0 AND
am%<5]
    GOTO hit::
  ENDIF
  UNTIL k%=8 OR k%=13
  ESCAPE ON

```

**Note: Square brackets [ ] are only used to indicate start and end of long lines and should not be keyed in**

# Page 3a

## "OPO Overload?"

by Rick Andrews.

What do you do when you have lots of your favourite .OPOs taking up valuable System Screen space on your Series 3? I used to have that problem. (I've also had a few major problems; well, four to be exact, because this is the fifth 'Slice' I've had. The other four suffered the dreaded non-function function keys and other defects. It's taken six months for me to get a stable machine. Anyway, enough griping, this one's okay, touch wood, so on with the article).

Most of my programming ideas don't make it to become full-blown .APP applications. They stay as .OPOs, because they're smaller and I don't want to clutter up the System Screen with lots of weird icons. Okay then, your average run-of-the-mill .OPO lives in the \OPO sub-directory in internal ram or SSD. So you get to see it from the System Screen, and every time the system is updated, precious time and battery power is spent updating the list of .OPOs on all drives.

To avoid this 'OPO overload' problem, I copied them into another sub-directory, called \UTILS, because most of them are utilities. To run the .OPOs, I simply select the OPL balloon, hit Tab, cursor up to the root directory, hit Enter, select the \UTILS sub-directo . . .hang on, this is getting far too complicated.

What I needed was a utility handler, an application that knew about all my tools in \UTILS, and could offer them to me at the touch of a button. So here it is. A Screen-Space saving tool that can detect .OPOs in a UTILS directory on any disk.

The design is quite simple. I wanted to keep the System Screen clear, so it's a TYPE 0 application like 'Calc', with no list of filenames. It has to look at all three drives; Internal (M), A and B; to examine their UTILS directory, and it has to offer me a selection so I can choose which .OPO I require.

The DIR\$ and dCHOICE commands are really useful for those parts of the application, but I needed to load in the .OPO once I had chosen it, in order to run it. The LOADM command loads a module and the @(name\$): command runs it.

However, using LOADM gives one drawback; the main routine in each tool must have the same name as the .OPO file in which it lives. For example, my HexDump: procedure lives in "A:\UTILS\HEXDUMP.OPO".

I'll leave you to design and save your own icon, it's described in the Programmers Guide.

P.S. Don't you love palmtop computers? Its 2.54am, I'm in bed and I can't sleep. And writing articles is much better than counting sheep!

P.P.S. If you people are interested in this kind of stuff, I'll send in the code for my tools like DiskInfo, MapMem, and HexDump. Let Mike O'Regan know if you are.

P.P.P.S. Did you know there is a drive called ROM:: in your Series 3? And it contains a load of goodies, like the system fonts, the built-in applications and the Psion Logo from the System Screen. I'll let you discover how to get there! (Hint Control-Tab, Control-Enter).

Have fun!

# Page 36

```
REM Utils Application for Series 3 -
27 Nov 91
REM Rick Andrews.

APP Utils
TYPE 0
REM Put your icon here, or remove the
line.
ICON "\PIC\UTILS.PIC"
ENDA

PROC Utils:
REM Full pathnames of .OPOs found.
LOCAL name$(20,128)
REM String of .OPO names to offer
user.
LOCAL choice$(254)
LOCAL fname$(128)
LOCAL disk$(1)
REM Names of disks to search.
LOCAL dname$(4)
LOCAL done%,disk%
LOCAL c%,numtool%
REM (Constant) Maximum number of
toolnames.
LOCAL MAX%
REM Initialisation.
REM Total number of tools on all
drives.
MAX%=20
REM Names of disk drives to search.
dname$="MABC"
REM Check each disk for tools.
disk%=1 :done%=0 :numtool%=0
DO
disk$=MID$(dname$,disk%,1)
[fname$=ChkDir$(disk$+"\UTILS\
*.OPO")]
WHILE fname$<>" "
REM If the array is full...
IF numtool%=MAX%
done%=1
[GIPRINT ("Too many tools
found!")]
BREAK
ENDIF
numtool%=numtool%+1
name$(numtool%)=fname$
fname$=DIR$("")
ENDWH
disk%=disk%+1
REM If all disks have been checked...
IF disk%>LEN(dname$)
done%=1
ENDIF
UNTIL done%

choice$=BaseN$:(name$(1))
WHILE c%<numtool%
c%=c%+1
IF LEN(choice$)>240
GIPRINT ".OPO names too long!"
BREAK
ENDIF

[choice$=choice$+", "+BaseN$:(name$
(c%))]
ENDWH

IF choice$ = ""
ALERT ("No .OPOs found")
ELSE
DO
dINIT "Choose"
dCHOICE c%,"Tool",choice$
IF DIALOG
REM Load the chosen one and call it.
LOADM name$(c%)
@(BaseN$:(name$(c%))) :
UNLOADM name$(c%)
ELSE
BREAK
ENDIF
UNTIL 0
ENDIF

ENDP

PROC ChkDir$(path$)
[REM Ensure a disk and sub-directory
exist.]
LOCAL file$(128) :REM Full
filename.
file$=""
REM The DIR$ will produce an error if
the disk or directory is missing, so
the error has to be trapped using the
ONERR command.
ONERR nodir::
file$=DIR$(path$)
nodir::
ONERR OFF
RETURN file$

ENDP

PROC BaseN$(f$)
REM Extract filename from full
pathname.
REM And tidy it up by capitalising
the first letter.
LOCAL name$(8)
LOCAL tidynm$(8)

LOCAL dot%,slash%
LOCAL len%
```

# Page 3c

```
REM Find the '.' separator.
dot%=LOC(f$,".")
IF dot%=0 REM no dot
RETURN ""
ENDIF

REM Find the '/' separator.
slash%=dot%-1
DO
IF MID$(f$,slash%,1)="/"
BREAK
ENDIF
slash%=slash%-1
UNTIL slash%=0
IF slash%=0 REM Not found
RETURN ""
ENDIF

REM Extract the filename and tidy it.
len%=dot%-slash%-1
name%=MID$(f$,slash%+1,len%)

tidynm%=LEFT$(name$,1)
IF len%>1
[tidynm%=tidynm%+LOWER$(RIGHT$(name$,
len%-1))]
ENDIF
RETURN tidynm%

ENDP
```

□□□□□□□□□□□□□□□□□□□□

## For Sale

Series 3 256k  
128k & 256k flashpaks  
Serial LinkModem Adaptor  
Miracom WS4000 Modem  
Books  
all in mint condition  
This outfit cost £634  
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## New Software for the Slice

I have had news from several quarters that there is quite a lot of software available, for both the Series 3 and Organisers on Compuserve, a computerised Bulletin Board. This has been written by various authors, mostly in the USA. Some programs are freely available and some others are "Shareware" (where the author asks for a - usually small - donation, in exchange for having access to the latest updates, etc of the software. I am making further enquiries about this software, some of which is very attractive, with a view to publishing either the programs or details of how to get hold of them. Watch this space in future issues.

## Latest Version of the Series 3

Several members have informed me that they have recently exchanged their Slices (because of various faults) and that the latest machine has a V1.8 Operating System. When asked what had been changed, Psion said that there had only been hardware changes to correct screen defects. I have heard from another source (unconfirmed) that V1.81 is due out in July

# IPSO Facto

Vol. VI No. 5

July 1992

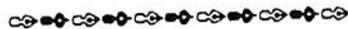
Editor: Mike O'Regan

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

Tel: 0602 735482

## Widget Offer

With this issue you will receive a Widget leaflet. Please note that the date of the offer on the front page of this leaflet of a free Sort Program with 256k, 512k and 1Mb flashpaks has been extended to 31 August '92.



## New Organiser Games

Just the thing to keep the kids quiet during that long car trip is a new suite of games for the LZ. These include Bingo, Dodgem, Dice, Keyboxes, Sprint, High-low, and FollowMe - all with smart graphics and optional sound effects

Phone: M.J. Shuckford  
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for details.

## For Sale

Psion Travel Pak - £15  
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LZ Organiser  
2 x 32k datapaks  
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John Silvant  
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LZ64 Organiser, Mains Adaptor  
Comms Link, Spreadsheet  
Formulator,  
Willow Personal Finance Pak  
Offers to: Brian Hills  
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## Wanted

The following items for LZ  
64k datapak, 32k datapak  
16k datapak, Mains Adaptor  
Comms Link, Indexer  
AutoScribe Plus  
Pocket Spreadsheet  
Transfile STCL  
Personal Finance Pak  
Maths Pak  
Phone Eugene Higgins  
on 0438 754228 (work)  
or 0438 728124 (home)

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# Beginners Page - 1

by Mike O'Regan

## *Using the Comms Link (cont.)*

In the last few instalments, we have been learning how to connect your Organiser to another computer, use the Comms Link Setup to get the parameters right, and actually transferring a data file in either direction.

So far we have covered only DATA FILES. However there are other files which can be transferred, such as OPL program listings or letters and documents written in a word-processor, such as AutoScribe. With OPL listings, especially long ones, there are obvious advantages to writing the complete listings on a computer which has a full-size keyboard and then using the Comms Link to transfer the files to the Organiser so that they can be TRANSLATED and used. I usually use this method to key-in long OPL procedures on my PC. In the past, I used AutoScribe extensively for writing many pages of IPSO FACTO with no problems. Since I had my Slice, this has taken over from the Organiser for this task - I can work rather faster on the Slice, mainly because of the extra punctuation characters which are available from the standard keyboard.

When it comes to OPL listings, it is advantageous to keep all these on a PC, and feed them into the Organiser as required. Not only does the PC provide very cheap storage, but this is also quite secure. Using the BACKUP program mentioned last month it is also possible to transfer TRANSLATED OPL procedures between both machines without having to translate these again on the Organiser before use.

### *OPL Programs*

If you choose to write an OPL program on your PC, then there are certain steps which you should take to ensure that the procedure will translate properly when you have transferred it to your Organiser. First you must ensure that the listing is EXACTLY as you would have keyed it into the Organiser. In other words, the very first line of the listing should be the procedure name and nothing else. It is as well to remember when keying in the rest of the program to keep the lines

reasonably short - your PC probably allows lines of up to 80 characters on one line, and, although the Organiser will accept lines of this length, you will find that checking them out or editing on the Organiser becomes very tedious.

You will probably use a word-processor to write the listings, and each word-processor introduces its own set of control characters which are aimed at allowing all kinds of refinements when the text is sent to a printer. However these characters will not be accepted by the Organiser, so any listings should be "saved as" ASCII or PLAIN TEXT files before you attempt to transfer and translate. You will find that your PC word-processor is able to produce these "no frills" files.

### *Text Files*

When it comes to transferring text files between the Organiser and a PC it is usual to transfer FROM the Organiser TO the PC. There is not much point in transferring in the opposite direction, although (with AutoScribe, for instance) this is possible. Text files written on the Organiser using one of the available word-processors have their own set of control characters and, if you transmit the complete file, it would require extensive editing to remove these unwanted characters. However it is possible to EXPORT the text file (essentially plain ASCII)

### *Diary & Notepad Files*

If you have an LZ and matching (4 line) Comms Link then you can transmit and receive both Diary and Notepad files. Diary files (on the LZ) are treated as normal data files and Notepad Files have their own option on the Comms Link menu. If you have an XP then Diary files are maintained by the Organiser in a special format which cannot normally be transferred to a PC unless special software (Diary Link or Genecode BACKUP) is used. As Notepad files are not used by the XP there is no option for their transmission on the XP (2 line) Comms Link. Note that, although a 2 line Comms Link CAN be used with an LZ for OPL and DATA files, it cannot handle Notepad files as there is no provision on the menu.

# Machine Code Page - 1

by Neil Draycott

## RUNMC

No, this is not about a rap band but about a little program that I find useful and that demonstrates some interesting features of machine code.

The two programs RUNMC and TESTMC will first install a memory resident program and then test the program for a fix-up address. The program RUNMC should only be used once (and will in fact warn you if a second run is attempted) and will install in high memory about 60 bytes of a memory resident program. This install bit of code will take your passed values off the stack and run any SWI directly from an OPL program without you having to write any machine code at all!

Some interesting features of RUNMC include the method of storing machine code commands using a long string variable and the reservation of enough space at the top of RAM by including the command LOCAL x\$(100) at the top of the program when in fact x\$ is never used.

Once RUNMC has been entered and run successfully, to actually use it the first fix-up address must be read, this is done by using the program TESTMC in all your OPL programs (if RUNMC has not been installed then TESTMC returns 0).

An example program using the memory resident code and TESTMC is one to sound an alarm;-

TEST:

```
[LOCAL fn%,d%,x% <<< THIS LINE
MUST BE INCLUDED IN ALL PROGRAMS]
LOCAL mc%
mc%=TESTMC:
IF mc%
  [fn%=13 < SWI NUMBER
  13, SOUND ALARM, NO OTHER
  PARAMETERS NEEDED]
  USR(mc%,ADDR(x%))
ENDIF
```

Or the following program to erase "DIARY" from the main menu:

```
TEST:
[LOCAL fn%,d%,x% <<< THIS LINE
MUST BE WRITTEN IN THIS ORDER]
LOCAL mc%,x%,p$(5)
mc%=TESTMC:
IF mc%
  p$="DIARY"
  x%=ADDR(p$)
  [fn%=103 < SWI 103,
  ERASE TOP MENU ITEM]
  USR(mc%,ADDR(x%))
ENDIF
```

The listings of RUNMC and TESTMC are:

```
RUNMC:
LOCAL x$(100)
LOCAL i%,cks%,op%
LOCAL p%,v%,vn%,vnmj%
LOCAL vnmi%,c$(100),h$(16)

vnmj%=1
vnmi%=2
vn%=vnmj%*16+vnmi%
PRINT "Installing..."

p%=PEEKW($2065)
IF PEEKW(p%)=%j*256+%r AND
PEEKB(p%+2)=vn%
  CLS
  PRINT "Version
";HEX$(vn%);CHR$(16)
  VIEW (2,"ALREADY INSTALLED")
  STOP
ENDIF

[c$="0D6A7200183CA605B70000EC02EE
003C3F003131250DDF4538"]
[c$=c$+"ED02DC45ED00CE000039384FE
D02CEFFFFF399B"]
```

# Machine Code Page - 2

```
h$="0123456789ABCDEF"  
i%=1  
p%=p%-LEN(c$)/2  
op%=p%  
DO  
[v%=(LOC(h$,MID$(c$,i%,1))-1)*16+  
LOC(h$,MID$(c$,i%+1,1))-1]  
POKEB p%,v%  
cks%=cks%+v%  
p%=p%+1  
i%=i%+2  
UNTIL i%>=LEN(c$)  
  
IF cks% AND $FF  
CLS  
PRINT "CHECKSUM ERROR";CHR$(16)  
GET  
STOP  
ENDIF  
  
POKEB op%+3,vn%  
v%=op%+4+PEEKB(op%)  
POKEW op%+9,v%  
POKEW $2065,op%+1  
CLS  
PRINT "INSTALLED";CHR$(16)  
GET  
STOP  
  
TESTMC:  
LOCAL x%  
x%=PEEKW($2065)  
IF PEEKW(x%)=%j*256+%r  
IF PEEKB(x%+2)=$12  
RETURN x%+3  
ENDIF  
ENDIF  
RETURN
```

The program works by using the address of x%, as long as the variables have been declared in the order fn%,d%,x% then the memory resident code can work backwards to find the value of the other variables. The header "jr" in the RUNMC code is used to force a checksum and the version number is just used as a secondary check on the correct installation of the code.

To run a SWI that requires A and B registers just set the value into d%, ie if a

value of 2 is required in A and 1 in B then just declare d%=\$0201. A bonus of the program is that the d% and x% registers are returned, so using the line x%=USR(mc%,ADDR(x%)) will return the resulting value of x%, d% will also then contains the value of the D register. With some interrupts the \$41 location also needs setting with a simple POKEW command and sometimes the RTB(run time buffer) requires values poking into it.

Many thanks to Jeremy Roussak, the original publisher of this program.

PS: In response to a letter from the Italian Psion users club regarding a possible real-time file compressor for the Organisers- I am currently working on it, watch this space!

Neil Draycott  
Tel: 0332 880663

## For Sale

Sharp PC4500 Laptop  
PC compatible  
2 x 3.5" disk drives  
Mains Power Unit  
(battery need replacing!)  
Bags of Software  
Manuals  
Carrying Case  
£120 ono

Phone: Mike O'Regan  
on 0602 735482

# Progs & Procs

## Three Short Programs

by Chris Docker

### Worth

The following short program will answer the question "What will £100 be worth in 10 years?" Enter the amount in today's money, the average inflation rate (say 10%) and the number of years. The bottom line shows the spending value after inflation. Pressing the appropriate key (W=worth today, I=inflation rate, Y= years) lets you change any parameters without re-entering the others. The program is especially useful when weighing up the value of various investments, by giving a comparison in real terms

```
worth:
LOCAL s,n,y%,g%,c%,w
PRINT "Worth today:", :INPUT s
PRINT "Inflation (%)", :INPUT n
PRINT "In ? yrs", :INPUT y%
AT 1,3 :PRINT "In",y%,"yrs"
D::
c%=y% :w=s
DO
w=w-(w*n/100) :c%=c%-1
UNTIL c%=0
AT 1,4 :PRINT "is
worth:",FIX$(w,2,8)
g%=GET
IF g%=%W
At 1,1 :PRINT "Worth today:",
INPUT s
ELSEIF g%=%I
AT 1,2 :PRINT "Inflation(%):",
INPUT n
ELSEIF g%=%Y
AT 1,2 :PRINT "In ? yrs",
INPUT y%
AT 1,3 :PRINT "In",y%,"Yrs"
ELSE RETURN
ENDIF
GOTO D::
```

This program allows you to quickly reset the horizontal scrolling rate from the very slow preset.

```
scroll:
LOCAL x%,m%
DO :CLS
PRINT "Normal Fast"
PRINT "Hi-Speed Slow"
m%+VIEW(4,"horizontal scroll
speed...")
IF m%+%N
POKEW $0069,$04
ELSEIF m%=%F
POKEW $0069,$03
ELSEIF m%=%H
POKEW $0069,$02
ELSEIF m%=%S
POKEW $0069,$06
ENDIF
UNTIL m%=1
```

The last program will calculate compound interest at any percent over any number of years.

```
intrst:
LOCAL i,y%,s
PRINT "Amount:", :TRAP INPUT s
IF ERR=206 OR s=0 :RETURN
ENDIF
PRINT "Years:", :INPUT y%
PRINT "Comp.Int.Rate", :INPUT i
DO
s=s+(i)%
y%=y%-1
UNTIL y%=0
AT 1,4 :PRINT "Total:",
PRINT FIX$(s,2,10)
GET
```

### Editor's Note:

I welcome any short programs for publication, even if you don't think you are the best programmer in the world!

# Page 3a

## Tree

by Rick Andrews

Have you ever lost a file on your Series 3 - or rather, forgotten where you put it? Or wonder why the internal drive is using 30K more than usual, only to find two copies of your phone list lying around. (Remember that sorted one you put into \MISC last week?) It can be a bit of a pain having to play hide-and-seek using the system directory (psion-\*) command, even more so with the early versions of the OS that don't have it! So I wrote this little utility to help. Here is an example of its output :-

```
A:\
+-DAT\
| +-PHONE.DBF
| +-MISC\
|   +-TX.DBF
|   +-WLIST.DBF
+-APP\
| +-ZLOTY.OPA
| +-UTILS.OPA
| +-SUSHI2.OPA
+-WRD\
| +-MISC\
|   +-QUOTA.WRD
+-OPL\
7 files
```

Could be useful, couldn't it? Fair enough, it doesn't show dates or sizes, but it is a start. You can see which files are where, how many sub-directories you have and get a picture of the layout of your disk. (Think you've seen this utility before? Its based on one from MS-DOS, but that one doesn't show filenames.)

Okay then, how does it work?

It starts by asking which disk is to be examined, then scans that disk using the OPL command DIR\$ which gives the names of the files and sub-directories belonging to a directory. i.e. the entries in the file system. An entries depth (how far down the tree it is) can be determined by keeping a count of how many sub-directories have been used to reach it. Both these bits of information are stored in arrays; called gaName and gaDepth. (I use the 'g' to remind me that the variable is global, and the 'a' for array.) The scanning a bit time-consuming (about .5 second per entry) so the name of the directory being scanned is "BUSYed" onto the screen, to let you see what is happening.

The scanning is done recursively - that is, the procedure Descend: calls itself. This is one way of ensuring that the entire tree is checked, and also allows the array of entries to be built up in a logical order, i.e. the directory, its children, and then its peers.

Having completely scanned the disk, the arrays are used to work out the shape of the tree (ShowTree:), by comparing the relative depths of entries.

This utility could be done with no arrays, which would reduce the amount of memory required at run time, but this method would involve repeated calls to DIR\$ to find the entry depth, making it very slow.

**P.S. By the way, the ROM:: drive I mentioned last time cannot be seen using the system directory command**

(psion-\*)). Try using Open File in World (for example) to see the names (like Agenda.App). Don't forget the Control -Tab, Control-Enter business to select the ROM:: drive. Then you can use a one-liner in OPL like COPY "ROM::AGENDA.APP", "M:" to copy it to the internal RAM drive where it is more accessible. Or you can look at it with a file viewer like HexDump. (I'll write an article about HexDump later.)

```
REM Tree utility for Series 3.  
REM based on MS-DOS (yeuch) utility.  
REM Rick Andrews May 1992
```

```
PROC Tree:  
REM Global array of names and depth.  
GLOBAL gaName$(99,12)  
GLOBAL gaDepth$(99)  
  
REM Max & actual number of entries.  
GLOBAL GMAXENT%,gEntry%  
  
REM Entry level used to calc depth.  
GLOBAL gLevel%  
LOCAL disk$(4),c%  
GMAXENT%=99  
gEntry%=1  
disk$="AMBC" :c%=2  
dINIT "Tree"  
dCHOICE c%,"Disk:","A,M,B,C"  
IF DIALOG=0  
RETURN  
ENDIF  
Descend:(MID$(disk$,c%,1)+":")  
BUSY OFF  
ShowTree:  
GET  
  
ENDP
```

```
PROC Descend:(path$)  
REM Search filesystem.  
LOCAL branch$(128),prev$(128)  
LOCAL dummy$(128)  
LOCAL dummyc%,curdep%  
gLevel%=gLevel%+1  
prev$=path$+"\ "  
branch$=DirChk$(prev$)  
IF branch$="NotDir!"  
AddEntry:(FileN$(path$))  
gLevel%=gLevel%-1  
RETURN  
ENDIF  
REM Show user how hard we're working!  
BUSY DirN$(path$)
```

```
AddEntry:(DirN$(path$))  
curdep%=0  
WHILE branch$<>" "  
REM do children (recursive!)  
Descend:(branch$)  
REM Do peers, by restoring dir state.  
dummy$=DIR$(prev$)  
dummyc%=0  
WHILE dummyc%<curdep%  
dummy$=DIR$("")  
dummyc%=dummyc%+1  
  
ENDWH  
curdep%=curdep%+1  
branch$=DIR$("")  
  
ENDWH  
gLevel%=gLevel%-1  
RETURN
```

```
ENDP  
PROC FileN$(p$)  
REM Get name of file.  
LOCAL a$(128)  
LOCAL off$(6)  
a$=PARSE$(p$,"",off$())  
RETURN  
RIGHT$(a$,LEN(p$)-off$(4)+1)  
ENDP  
  
PROC DirN$(p$)  
REM Get name of directory.  
LOCAL l%,c%  
IF LOC(p$,"\\")=0  
RETURN p$+"\ "  
ENDIF  
REM Scan backwards for '\\'  
l%=LEN(p$)  
DO  
l%=l%-1  
c%=c%+1  
UNTIL MID$(p$,l%,1)="\  
RETURN RIGHT$(p$,c%)+"\ "  
ENDP
```

```
PROC DirChk$(p$)  
REM Looking for directory.  
LOCAL d$(128)  
ONERR NoDir::  
d$=DIR$(p$)  
RETURN d$  
  
NoDir::  
ONERR OFF  
REM -42 = "Directory does not exist".  
IF ERR<>-42  
ALERT(ERR$(ERR))  
STOP  
ENDIF  
RETURN "NotDir!"  
ENDP  
  
PROC AddEntry:(name$)  
REM Store entry details.  
IF gEntry%=GMAXENT%
```

# Page 3c

```
[GIPRINT "Too many
entries - ignored"]
gaName$(GMAXENT%)="somelost"
ELSE
    gaDepth%(gEntry%)=gLevel%
    gaName$(gEntry%)=name$
    gEntry%=gEntry%+1
ENDIF
RETURN
ENDP

PROC ShowTree:
REM Display file system structure.
GLOBAL gTrunk%(20)
REM max depth 20 levels.
LOCAL level%,file%
LOCAL pause%,index%
gaDepth%(gEntry%)=0
PRINT gaName$(1)
index%=2
DO
    level%=gaDepth%(index%)
    IF level%=0
        BREAK
    ENDIF
    IF GetPeer%:(index%)
        gTrunk%(level%-1)=2
    ELSE
        gTrunk%(level%-1)=1
    ENDIF
    PRINT GetTrunk%:(level%);
    PRINT gaName$(index%)
REM If not a directory...
    [IF RIGHTS$(gaName$
(index%),1)<>"\"]
        file%=file%+1
    ENDIF
    index%=index%+1
    pause%=pause%+1
    IF pause%=8
        BUSY CHR$(4),2
REM Page symbol in top-right corner.
        pause%=0
        [IF GET=27 REM
'Esc' to abandon.]
            RETURN
        ENDIF
        BUSY OFF
    ENDIF
UNTIL level%=0
IF file%=1
    PRINT file%,"file"
ELSE
    PRINT file%,"files"
ENDIF
IF gaName$(GMAXENT%)<>" "
    PRINT "(Some entries
lost)"
ENDIF

RETURN
ENDP

PROC GetTrunk%:(depth%)
REM Get trunk shape.
LOCAL i%,trunk$(40),b2%
LOCAL tee$(1),pipe$(1)
LOCAL bend$(1),dash$(1),spc$(1)
pipe$=CHR$(179)
bend$=CHR$(192)
tee$=CHR$(195)
dash$=CHR$(196)
spc$=CHR$(32) REM Space.
IF depth%<=1
    RETURN ""
ENDIF
IF depth%=2
    IF gTrunk%(1)=2
        RETURN tee$+dash$
    ELSE
        RETURN bend$+dash$
    ENDIF
ENDIF
REM depth is 3 or more.
b2%=depth%-2
trunk$=""
i%=1
DO
    IF gTrunk%(i%)=2
        trunk$=trunk$+pipe$+spc$
    ELSE
        trunk$=trunk$+spc$+spc$
    ENDIF
    i%=i%+1
UNTIL i%>b2%
IF gTrunk%(depth%-1)=2
    trunk$=trunk$+tee$+dash$
ELSE
    trunk$=trunk$+bend$+dash$
ENDIF
RETURN trunk$
ENDP

PROC GetPeer%:(index%)
REM Any peers?
LOCAL curlev%,chklev%,i%
curlev%=gaDepth%(index%)
i%=index%+1
DO
    chklev%=gaDepth%(i%)
    IF chklev%=curlev%
        RETURN -1
    ENDIF
    i%=i%+1
UNTIL chklev%<curlev%
RETURN 0
ENDP
```

# IPSO Review - 1

## *Personal Finance for Series 3 from Widget Software reviewed by Nick Barrington*

Brilliantly simple, this program on a 128 flashpak is easy to use for the beginner, yet sophisticated enough to carry multiple bank accounts for a small business (as in my case).

It comes with a comprehensive manual of 116 pages (which needs small corrections and expanding in one or two places, but I gather that this is in hand).

It is a simple matter to install the '£ Bank' icon on the main system screen, and I have it so that 'Control+Calc' (both held down at the same time) take me straight in to the program.

Unlike the Finance Pak on the Organisers, the program is meant to stay resident and available immediately - not taking nearly 1/2 minute to load, as with the Finance Pak II.

For security, a Password should be entered in the same way as stated in the main handbook. Every time you swithc off the Series 3 or leave PF-3 by switching to another program, this pops up before you can get back into it.

This review cannot go into the full working and every facility of FP-3, as it is so comprehensive and clearly explained in the manual, but some description of what is offered may help.

It comes with a ready-made set of accounts, but these are very easy to alter to suit ones own account headings (I have Business,

Personal, Hica, Drawings, etc.), and likewise the transactions can be altered to suit (Bcheque, Pcheque - so that you can have different chequebooks for each account - and the usual Credit, Debit, Trans, etc.).

The really great thing about the program is the ease of use, with pull-down menus which work in the identical way as on the other inbuilt software. It takes only moments to get used to the short-cut keys (*Psion+B* for example to get an account balance - or all the balances listed by using the left arrow a couple of times and then pressing <ENTER>. *Psion+S* for a statement. . .)

Setting up standing orders is a piece of cake, with description, amount, frequency, date, and period all available.

Printing ou a statement is straightforward, as long as a printer is connected, and the Printer/Options has been set on the special menu (extreme right). It works with general printer settings, so there should be no problems with a wide variety of printers. The printed page gives far more information than a normal bank statement, and any dates (from-to) can be set by keying them in directly, as is the case when entering transactions.

The system is foolproof, as you get a short Beep if you wrongly hit a key or enter a figure outside the capabilities of the system.

A feature which I find very useful is the comprehensive FIND - or BROWSE as it is shown in the window. This is called by *Psion+F*, which has two screens. If the dates are right on the first page, pressing <ENTER> brings up a second selection of choices. One can just fill in the *search for* line with any string of figure to get the entry you are seeking, but when you have lots of

# IPSO Review - 2

entries it is quicker to enter the type of transaction and description so that the internal search is cut down. There are more choices available if you wish to whittle down the search time even more.

The fact that one can enter transactions on any date (even post-dated) is very useful for direct debits, etc. when notified on your bank statement), and they sort themselves automatically for printing out statements and when searching the accounts.

It is possible to delete or alter an item if entered incorrectly; first use the FIND screens to track down the entry, and then use DELETE to get rid of it. Re-enter it then with the normal transaction sequence - *voila*, it is that easy!

Reports are available to give you even more details about the account - the total annual telephone bill or whatever. As on some larger computer account packages, if one codes the entries, it makes sophisticated reporting easy, but you don't have to get this complicated.

Complete statements or a summary of any account are available at any time, and monitors can be switched on to show if your balance is going below (or above) a pre-determined level. It means you can keep track of your account as soon as you write a cheque and keep the bank manager at bay from writing you those annoying and expensive letters when you have gone overdrawn or slightly more than an agreed limit...

One important thing to remember is that your bank information is valuable and after any initial experimentation it is strongly recommended to create your new bank files of a flashpak on either Drive A or B. To back up the files is easy and explained in the handbook.

It can take up to 20k or so of space on the body of the machine for the pak to operate, and 'Memory Critical' (with amount of bytes free) will come up well before problems arise.

There is a wealth of other features to be found on FP-3 such as a currency calculator (using CALC memories), and Expense Manager which works out the VAT as well, impressive bar graphs, etc. One can confirm transactions once they have appeared on the bank statement (as an asterisk) and there is a facility to ARCHIVE the bank files. These cannot then be altered, but on current versions of FP-3 can still be SEARCHed if the default archive file name is used. This is useful as the program obviously runs quicker if there are less accounts/entries to handle.

Altogether it is a superb and comprehensive program package which is difficult to fault. It is crammed full of 'goodies' and there are no free bytes on the 128k pak at all! I use it every day.

*Yes I can (Psion+F) FIND that I bought my FP-3 on ... and it cost ... and was paid for by cheque no ... and it has already saved its cost on my accountancy charges!*

N.B. To run Personal Finance 3 you need a Series 3 with an operating system of Version 1.77 or later (check with PSION+V)

Personal Finance 3 is available from all good dealers or from the makers:

**Widget Software Limited**

**121 Knebworth Road**

**Knebworth**

**Herts**

**SG3 6EX**

**Tel: 0438 815444**

Editor: Mike O'Regan

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

Tel: (0602) 735482

## New Source for Organiser & Series 3 Supplies

One of our members has set up as a retailer for Organisers and Series 3s and is offering machines and accessories at discount. For full details, including Price List contact:

Stephen Yates  
24 Maple Grove  
Lichfield  
Staffs WS14 9XB  
Tel: (0543) 256165

## For Sale

Psion MC400, Version 2.1 (boxed as new with mains adaptor and manuals) - £299

MC400 Spreadsheet (c/w manual) - £50

2 - Re-chargeable battery packs for MC400 - £20 ea

2 - 1Mb Flashpak for Series 3 or MC400 - £145 ea

1 - SES RO1 heavy-duty rugged case for Organiser (as new) - £35

Phone: M.D. Shuckford on  
(0493) 856864 or 855648  
Mobile: (0860) 557374

### More on Games Pak

I omitted to mention that the Games Pak, available from M.D. Shuckford (details in the last issue) costs £12 for all the Games - you provide the (minimum 32k) datapak.

## PSION news

If you have not received the latest copy of Psion News, Issue 13, then you are probably not on the distribution list. In this case, contact Psion and they will add your name.

This issue is a bit short on the Organiser - it is full of the Slice, HC, and a revamped version of the MC400, called the MC WORD. I hope it has more success than its predecessor! Does the lack of Organiser material mean that Psion are losing interest in our beautiful CMs, XPs and LIZZIES - I hope not.

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# Beginners Page - 1

by Mike O'Regan

## *A Few SLICE Tips*

This month, by popular request, a few simple hints for Slice Users who are also beginners.

Let me say first of all that the two handbooks provided are quite good and certainly better than some of the Organiser manuals. One of the few reservations I have is that the books should have been comb-bound (as should all reference books). I have (carefully!) cut the spines off my handbooks and punched and comb-bound them. If you try this, be sure that you do not trim off any of the text, as there is not much space.

This may seem like spurious advice, but it is a good idea to actually read through the manuals, and not just when you first get the machine. You should go back from time to time and have another browse at least. It is surprising how much you will have forgotten, and, more important, how much you will understand on a second reading that you could not appreciate the first time around. Having said that, let us get down to a few specific tips.

### *Hotkeys*

Although the excellent pull-down menus are an attractive feature of the Series 3, you can save quite a lot of time by memorising and using the so-called hotkeys. Do not confuse these with the SOFTKEYS (which are on the Icon strip above the ordinary keys). A hotkey is just a shorthand way of accessing the

commands on the pull-down menus, and consists of holding the PSION key (the large key in the bottom left-hand corner of the keyboard) while pressing another key. These combinations are different for each of the Applications (System, Data, Word, etc.). For instance, on the System screen, if you press PSION+V, you will get a dialog box in the bottom right corner of the screen which tells you which operating system your machine has. This stays on display for a couple of seconds and then switches off. If you are writing text, using WORD, and you press PSION+V, you get an "unexpected name" message.

Most of the hotkey combinations are logical, hence C for Copy, D for Delete, X for eXit, etc. If you make a point of using hotkeys for the things you do most often you will be surprised how quickly you will memorise them.

### *The TAB Key*

When it comes to accessing files of all types, on all devices, the TAB key is invaluable. For instance, with this key you can easily COPY or DELETE not only individual files, but you can earmark multiple files and COPY or DELETE all the files you have marked in a single operation. TAB gives you access to the files and important information about them, such as when the files were written or last edited (by time and date) and the size of files in bytes. Note that you can only access files in this way from the System screen. This is because TAB actually produces a TAB in other applications.

# Beginners Page - 2

If you are not familiar with using TAB to access files then try the following:

1. Make sure that you are in the System Screen.
2. Decide which file you require information on and highlight it by moving the cursor over it.
3. Press TAB.

The screen will display a lot of information about the whole of the application files. For instance, if you had highlighted a DATA file, all the files in the DATA application are listed with their details. If all files cannot fit on the screen, you may scroll down in the usual way to access the remaining ones. Also notice that if the highlighted file is located on a device other than internal memory, TAB automatically accesses this device.

Now, supposing you wish to delete a number of TEXT files which are no longer required you can do this in different ways. For instance you could (from the System screen) highlight each file in turn and then use the PSION+D hotkey to delete each one. However, a much neater way is to use TAB and this has the additional advantage that you can use the file information to decide which files to delete. This could be important if you are trying to create space in Memory for some particular purpose. To do some multiple deletes use the following sequence:

1. Highlight a file in the required application, e.g. WORD

2. Select which files you wish to delete.

3. Move the cursor over each selected file by using the Up or Down arrow keys while holding a SHIFT key.

You will see a TICK appear to the left of the selected files. If you have accidentally ticked a file which you wish to retain then a further press of SHIFT will remove the tick.

4. When all required files have been ticked, press PSION+D.

5. A dialog box appears which asks you to confirm (or otherwise) that you wish to delete all tagged files.

6. On confirmation all tagged files will be deleted quite quickly.

If you bear in mind that the sequences described above can also be used with COPY you will begin to see how useful TAB is. Let me give you an example. I keep a number of DATA files (including a large file of the IPSO membership) on a flashpak. The IPSO file is copied from my desktop computer periodically and, because I use a flashpak on the Slice, the previous file must be deleted. The only way to do this successfully is to FORMAT the flashpak. Of course formatting would mean losing all the other files. Fortunately, the other files are quite small and so can be transferred temporarily to memory until formatting is complete when they can be replaced.

I use TAB to tag these files and copy them all at one go in either direction - very convenient with a lot of small files.

*More SLICE tips in later issues.*



# Progs & Procs - 2

## Call

by Ken Dudley

(adapted from Dean Wade's KALL)

The following programs comprise a Phone Call Charge Calculator, adapted for the Series 3. The program is installed as an Application (complete with BT icon) and is menu driven and self-explanatory.

```
PROC BT:
    gCREATE(0,0,22,24,1)
    gBORDER $204
    gAT 5,14
    gPRINT "BT"
    gSAVEBIT "BT"
ENDP

APP Bt
    TYPE 0
    ICON "\opd\bt"
ENDA

proc call:
GLOBAL h%,r
LOCAL m%
h%=HOURL
ONERR a::
IF NOT EXIST("CALL")
[CREATE "CALL",A,a,b,c,d,e,f,g,h,i,
j,k,l,m,n,o,p,q,r,s,t,u,v,w,x,y,z,ab,
ac]
ELSE
[OPEN "CALL",A,a,b,c,d,e,f,g,h,i,
j,k,l,m,n,o,p,q,r,s,t,u,v,w,x,y,z,ab,
ac]
a.a=220 :a.b=80.8 :a.c=80 :a.d=57.5
a.e=50.35 :a.f=37.95 :a.g=36.15
a.h=32 :a.i=27 :a.j=25.6 :a.k=23.95
a.l=19.2 :a.m=11.4 :a.n=10.8
a.o=9.3 :a.p=8.25 :a.q=8 :a.r=7.69
a.s=7.61 :a.t=6.87 :a.u=6.2
a.v=5.82 :a.w=5.21 :a.x=5.1
a.y=4.75 :a.z=4.45 :a.ab=4.935
a.ac=10
UPDATE
ENDIF
a::
CLS
DO
AGAIN::
ONERR Noproc::
gCLOCK ON,4
MINIT
[mCARD "Inland","Local",%l,"Up to
35m",%a,"National b1",%b,"Nat: b &
CI",%i,"Mobile",%m,"0898",%w]
[mCARD "International","Irish
Republic",%d,"Group 1",%e,"Group
```

```
2",%f,"Group 3",%g,"Group
4",%h,"Quit",%q]
```

```
m%=MENU
gCLOCK OFF
IF m%
@(CHR$(m%)):
ENDIF
IF m% AND $200
m%=m%-$200
@(CHR$(m%)):
ENDIF
UNTIL m%=%q
STOP
Noproc::
ONERR OFF
showerr:(err$(err))
GOTO AGAIN::
ENDP
```

```
PROC showerr:(msg$)
dINIT "ERROR"
dTEXT "",msg$,2
DIALOG
ENDP
```

```
PROC q:
TRAP CLOSE
IF ERR :GIPRINT ERR$(ERR)
ELSE :GIPRINT "File Closed"
ENDIF
ENDP
```

```
PROC l:
LOCAL h%,r
h%=HOURL
[IF DOW(DAY,MONTH,YEAR)>5 OR h%<8 OR
h%>17 :r=a.a]
ELSEIF h%=8 OR h%>12 AND h%<18
r=a.c
ELSEIF h%>8 AND h%<13 :r=a.d
ENDIF
t:(r):GET
ENDP
```

```
PROC a:
[IF DOW(DAY,MONTH,YEAR)>5 OR h%<8 OR
h%>17 :r=a.b]
ELSEIF h%=8 OR h%>12 AND h%<18
r=a.g
ELSEIF h%>8 AND h%<13
r=a.i
ENDIF
t:(r)
GET :ENDP
PROC b:
[IF DOW(DAY,MONTH,YEAR)>5 OR h%<8 OR
h%>17 :r=a.e]
ELSEIF h%=8 OR h%>12 AND h%<18
r=a.h
ELSEIF h%>8 AND h%<13
r=a.i
```

# Progs & Procs - 3

```
ENDIF
t:(r) :GET
ENDP
```

```
PROC i:
[IF DOW(DAY,MONTH,YEAR)>5 OR h%<8 OR
h%>17 :r=a.f]
ELSEIF h%=8 OR h%>12 AND h%<18
r=a.j
ELSEIF h%>8 AND h%<13
r=a.l
ENDIF
t:(r) :GET
ENDP
```

```
PROC m:
[IF DOW(DAY,MONTH,YEAR)>5 OR h%<8 OR
h%>17 :r=a.m]
ELSEIF h%>7 AND h%<18
r=a.s
ENDIF
t:(r) :GET
ENDP
```

```
PROC w:
[IF DOW(DAY,MONTH,YEAR)>5 OR h%<8 OR
h%>17 :r=a.p]
ELSEIF h%>7 AND h%<18
r=a.u
ENDIF
t:(r) :GET
ENDP
```

```
PROC d:
[IF DOW(DAY,MONTH,YEAR)>5 OR h%<8 OR
h%>17 :r=a.n]
ELSEIF h%>7 AND h%<18
r=a.q
ENDIF
t:(r)
GET
ENDP
```

```
PROC e:
[IF DOW(DAY,MONTH,YEAR)>5 OR h%<8 OR
h%>19 :r=a.o]
ELSEIF h%>7 AND h%<20
r=a.r
ENDIF
t:(r)
GET
ENDP
```

```
PROC f:
[IF DOW(DAY,MONTH,YEAR)>5 OR h%<8 OR
h%>19 :r=a.t]
ELSEIF h%>7 AND h%<20
r=a.v
ENDIF
t:(r) :GET
```

```
ENDP
```

```
PROC g:
[IF DOW(DAY,MONTH,YEAR)>5 OR h%<8 OR
h%>19 :r=a.w]
ELSEIF h%>7 AND h%<20
r=a.z
ENDIF
t:(r) :GET
ENDP
```

```
PROC h:
[IF DOW(DAY,MONTH,YEAR)>5 OR h%<8 OR
h%>19 :r=a.v]
[ELSEIF h%>7 AND h%<15 OR h%>16 AND
h%<20]
r=a.x
ELSEIF h%>14 AND h%<17
r=a.y
ENDIF
t:(r)
GET
ENDP
```

```
PROC t:(r)
LOCAL d%,r%,s%,t%,u%,v%,p,u,x
d%=-1 :t%=0 :u%=0 :v%=0 :x=p+1
DO
s%=SECOND
IF s%<>t%
d%=d%+1 :r%=r%-1 :v%=v%+1
IF v%>59
v%=0 :u%=u%+1
ENDIF
ENDIF
t%=s% :p=INT(d%/r+1)*a.ab/100
u=r
IF p<(a.ac/100)
p=a.ac/100 :u=r*a.ac/a.ab
ENDIF
IF x<>p
r%=INT(u+.5)
ENDIF
x=p
AT 11,1
[PRINT LEFT$(DATIM$,11)
,RIGHT$(DATIM$,8)]
AT 12,3
PRINT r,"Secs @ ";a.ab;"p"
AT 12,5
PRINT "Cost of call f";FIX$(p,2,4)
AT 11,7
PRINT u%;":":v%,
AT 23,7
PRINT r%,"Secs "
UNTIL KEY$=CHR$(13)
GET
CALL:
ENDP
```

# Page 3a

## HexDump

by Rick Andrews

Are you an engineer at heart? I remember being asked that question by a physics teacher at school. How were we pupils meant to know? Simple, he said. If you have ever taken the back off a radio, or stripped an electric motor just to see what's inside, you're probably an engineer.

Well, this utility is for all you would-be software engineers out there! It allows a file to be examined as a hexadecimal and ASCII character dump, which is just the thing for trying to work out the format of a .WKS spreadsheet file, or nosing around in the ROM:: application files.

Here's an example:-

```
Hexdump of
LOC::M:\IPSO\HEX\HEXDUMP.TXT
0000 4865786475-6D70206279
Hexdump by
000A 205269636B-20416E6472
Rick Andr
0014 6577730D0A-0D0A417265
ews....Are
001E 20796F7520-616E20656E you
an en
0028 67696E6565-7220617420
gineer at
0032 6865617274-3F20492072
heart? I r
```

Each line displays the offset from the start of the file as a 4 digit hex number, 10 hexadecimal numbers separated by a dash, and 10 ASCII characters. If you're not interested in the hexadecimal values, there is an option to have an ASCII only dump, where the offset is followed

by 32 ASCII characters.

The HexDump utility is based on the IOREAD example program "ioType" in Psion manual, which reads bytes from the file into a string, and prints the string.

To get a hex dump, the hexadecimal value of each character in the string is displayed, formatted to be two characters so everything lines up. The ASCII dump is basically a copy of the string itself, but the string has been 'censored' to remove the unprintable characters. (There are eight of these in the Psion character set).

As it stands, this is a very simple utility, but there are several things to be added to make it that more useful, like allowing skips forward and backward using IOSEEK so you can examine interesting bits of the file without having to look through the whole lot again and again.

Or you could just LPRINT the dump to an LOPENed text file, and use Word to view it. This also gives the advantages of being able to search the dump file, and print it etc. The disadvantage is that the dump file can be up to four times bigger than the original file; not very useful if space is at a premium.

Talking about space, have you seen the small font used by the Spreadsheet program from Psion? If you have the SH3 application, you can use this font in your own programs. (If you haven't got it, go out and buy it right now, because its the best software for the Series 3 you can buy.) To get the font, just use the 'gLOADFONT'

# Page 36

command like this:

```
PROC example:
LOCAL id%
REM Change the 'b:' to 'a:' if
necessary.
id%=gLOADFONT("b:\app\sh3.app")
gFONT id%
gAT 10,10
gPRINT "THIS IS A TINY FONT!"
GET
gUNLOADFONT id%
ENDP
```

Using gINFO command gives the name of the font, its widths and height and other info.

One last thing, congratulations to the Psion Series 3 design team for winning that British Design Award given by the Design Council. Peter Norman, a Psion director, said "We try to add enchantment to a product - to make it a pleasure to use and to bring a smile when you turn it on or open it." Well, they have succeeded; I think its a real pleasure to use. And I'm smiling.

## *HexDump utility for Series 3. by Rick Andrews Aug 1992*

```
PROC HexDump:
LOCAL fname$(128),buffer$(32)
LOCAL ret%,address%,
LOCAL handle%,mode%
LOCAL line%,offset%,done%,esc%
LOCAL type%,buflen%
type%=1 REM Hex and ASCII dump.
fname$="LOC::m:\"
dINIT "HexDump"
dFILE fname$,"File",0
[dCHOICE type%,"Type","Hex and
ASCII,ASCII only"]
IF DIALOG=0
RETURN
ENDIF
```

```
IF type%=1
PRINT "Hexdump of",
ELSE
PRINT "ASCII dump of",
ENDIF
PRINT RIGHT$(fname$,25)
[REM Use share mode and open an
existing file.]
mode%=$0400 OR $0000
ret%=IOOPEN(handle%,fname$,mode%)
IF ret%<0
showerr:(ret%)
RETURN
ENDIF
offset%=0
[line%=2 REM Filename is on
line 1.]
IF type%=1
[buflen%=10 REM Hex and
ASCII.]
ELSE
[buflen%=32 REM ASCII
only.]
ENDIF
done%=0
esc%=0
address%=addr(buffer$)
WHILE NOT done%
[ret%=IOREAD(handle%,address%+1,buflen%)
IF ret%<0
[IF ret%<>-36 REM
Eof]
showerr:(ret%)
ENDIF
done%=-1
ELSE
POKEB address%,ret%
Dump:(offset%,buffer$,type%)
offset%=offset%+ret%
REM Handle a full screen.
line%=line%+1
IF line%>9
line%=1
[BUSY "m",3,1 REM
More]
IF GET=27 REM Esc
done%=-1
esc%=-1
ENDIF
BUSY OFF
CLS
ENDIF
ENDIF
ENDWH
ret%=IOCLOSE(handle%)
IF ret%
showerr:(ret%)
ENDIF
```

# Page 3c

```
IF NOT esc%
REM Don't return immediately.
GET
ENDIF
ENDP

PROC showerr: (val%)
PRINT "error", val%, ERR$(val%)
GET
ENDP

PROC Dump: (loc%, str$, type%)
LOCAL strlen%, i%, char%
LOCAL a$(32), h$(2)
PRINT
RIGHT$( "000" + HEX$(loc%), 4);
PRINT " "; REM One space.
IF type%=1
REM Do the hex dump.
strlen%=LEN(str$)
i%=1
WHILE i%<=strlen%

h$=HEX$(ASC(MID$(str$, i%, 1)))
IF LEN(h$)=1
PRINT "0";
ENDIF
PRINT h$;
i%=i%+1
IF i%=6 REM Midway dash.
PRINT "-";
ENDIF
ENDWH

REM Handle case where the line does
REM not have all its characters.
IF strlen%<10
WHILE i%<=10
PRINT " ";
i%=i%+1
IF i%=6
PRINT "-";
ENDIF
ENDWH
ENDIF
PRINT " "; REM One space.
ENDIF

REM Both types have an ASCII dump.
PRINT DumpASC$: (str$)
ENDP

PROC DumpASC$: (a$)
LOCAL strlen%, i%, char%
LOCAL r$(32)
strlen%=LEN(a$)
i%=1
WHILE i%<=strlen%
char%=ASC(MID$(a$, i%, 1))
REM Censor unprintable chars.
REM These are 7 to 13 and 255.
IF ((char%>=7 AND
char%<=13) OR char%=255)
r$=r$+"."
ELSE
r$=r$+CHR$(char%)
ENDIF
i%=i%+1
ENDWH
RETURN r$
ENDP
```

## For Sale

2 x LZ64 Organisers  
Phone: Nancy Poskett  
on 0483 36448

□□□□

Series 3 (256k) - £200(ono)  
(brand new in box)

Organiser Development Kit  
FNKEY

8k datapak

Harvester Finger Organiser

Contact: Jan France

363 Harrow View

Harrow, Middx, HA2 6QN

□□□□

SIBO C Development Kit  
for Series 3 and HC models

£100 (cost £400)

Phone: Neil Draycott

on 0332 880663

□□□□

AutoScribe+ with manual

Phone: Paul Adkins

on 021 422 3845 (eve)

Editor: Mike O'Regan

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

Tel: (0602) 735482

## Editorial

My SIXTH Series 3 is a GEM. Don't believe the stories put out by Psion about Versions 1.77 and 1.8 being identical (apart from the multi-language options). There are other obvious improvements, such as the recessed, better contrast display. The key action is also different - I find that the different touch means that I don't miss out so many letters when typing fast. And the key click is now slightly louder which all helps.

Let us hope that this version marks the end of a sorry trail of sub-standard machines.

## Autumn Bargains for Organiser Owners

Two of the best peripherals for the Organiser are on offer to members as follows:

**XBASE** - an excellent memory resident database handler for all Organisers. Available during the months of October and November at a bargain price of £34.95.

**FNKEY** - popularly regarded as the finest available single software package for the Organiser. Available during October and November at £49.95 from the supplier:

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

## Help Wanted.

If anyone can assist one of our members in compiling a Printer Driver for a Star LC10 Printer will they please contact, urgently:

Roderick Urquart  
on 081 660 6564

## Machine Code

Unfortunately, Neil Draycott has had to retire as Machine Code Editor, because of business commitments. I am sure you will all join me in thanking Neil for all his efforts producing our very popular Machine Code Pages for many Issues. I am looking for a volunteer to take over this task, so if anyone would like to have a go please contact me. Ed

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# (not quite) **Beginners Page - 1**

## *ASCII Table*

*by Rick Andrews*

Did you ever want to put a copyright symbol in a Word document? How do you do it? There isn't one on the keyboard. (Or is there !!?) Find the ASCII code of the copyright symbol by looking in the *Psion User Guide*. The code for copyright is 184. Then, in the document, press and hold the Control key and type 1 then 8 then 4. A copyright symbol appears. Magic.

Okay, but what happens if you're on the 07.59 Reading to Paddington at the time? You're not carrying your Psion manuals; they don't fit into your shirt pocket, whichever way you bind them. Could you ask your fellow passengers for an ASCII table? Well, you can, but even if they didn't think you were a weirdo, there's a chance that their table could be different.

Hang on, ASCII stands for **American \*Standard\* Code for Information Interchange**. What's the point in having a standard if the codes are different? Well, the ASCII standard only defines characters 32 to 127. The other characters (128 to 255) form the 'Extended character set' and these can be different. The whole character set is called the Code Page.

So, although there is no such thing as 'ASCII code 184', people know that you mean the character represented by the number 184 in the Code Page.

The Series 3 uses IBM Code Page 850, "Multilingual (Latin I)" which is described as 'containing characters for most of the languages using the Latin alphabet'. The IBM PC uses Code Page 437 by default (which doesn't have a copyright symbol), but different pages including 850 can be loaded.

Right... back on the train, assuming nobody is carrying a copy of IBM Code Page 850, what can you do?

That's where this ASCII table utility comes in. It displays all the characters, and their ASCII number in decimal and hexadecimal (Base 16). Different characters are viewed by scrolling a line at a time with the up and down arrows, or a screen at a time with Pg Up and Pg Dn.

There are some characters that can't be displayed because they clear the screen and the like, (characters 7 to 13 and 255), so they are just shown as dots.

Different layouts are available, like showing the ASCII code in decimal with the character, or the character on its own. These modes can be chosen from a menu, or by using the hot-key. The first character to be displayed on the screen can be selected by entering its ASCII code, or the character itself.

There is also a keypress function that displays the code of a key when pressed. It also shows the KMOD (keyboard modifier) status, for example Control or Shift. The codes displayed for the key press are generally

# (not quite) Beginners Page - 2

ASCII, but there are some exotic ones. Look at the code produced by adjusting the screen contrast!

For more information about ASCII codes and entering characters through the keyboard, see Appendix A of the Psion User Guide.

Finally, on a different but slightly related subject, does anyone know anything about a keyboard macro recorder for the Series 3? There was something about it in "What Micro" May 92 saying Psion were developing a system-level utility usable by all applications, but I've spoken to Psion Technical Support who said they haven't heard anything about it, but they helpfully suggested the reporter may have been getting confused about OPL. Hmmm. Also, I have heard that Cubsoft, the company that produced the fantastic FNKEY for the Organiser II, is unfortunately no longer planning a version for the Series 3. Is anyone out there developing this sort of thing?

## Series 3

REM ASCII table utility for Series 3.  
REM Rick Andrews Dec 91

```
PROC Ascii:
REM Main routine.
[LOCAL Width%(4) REM Screen widths
for each mode.]
LOCAL g%,Mode%,TopChar%,c%
LOCAL Exit%,Line%
LOCAL Char&, Char$(1)
Exit%=0
TopChar%=%A
Mode%=4 REM Dec+Hex+Char.
Width%(1)=20 REM Char only.
Width%(2)=8 REM Hex+Char.
Width%(3)=6 REM Dec+Char.
Width%(4)=4 REM Dec+Hex+Char.
CLS
```

REM Only switch gUPDATE off when you

```
[REM have finished testing the pro-
gram.]
gUPDATE OFF
DO
c%=TopChar%
Line%=1
DO
AT 1,Line%
c%=DispASC%:(c%,Mode%,Width%(Mode%))
Line%=Line%+1
UNTIL Line%>9
g%=GET
```

```
REM Test for Menu or hot-key.
IF g%=$122 OR (g% AND $200)
IF g%=$122 REM Menu.
mINIT
[mCARD "Mode","Char only",%C,"Hex &
char",%H,"Dec & char",%D,"All three-
",%A,"Exit",%X]
[mCARD "Position","At char 0",%Z,
"Enter number",%N,"Enter char",%R]
mCARD "Key","Show keypress",%K
g%=MENU
ELSE REM Must be hot-key.
g%=(g%-$200)
ENDIF
g%=g% AND $FFDF
IF g%=%C REM Char only.
Mode%=1 :CLS
ELSEIF g%=%H REM Hex and char.
Mode%=2 :CLS
ELSEIF g%=%D REM Decimal and char.
Mode%=3 :CLS
ELSEIF g%=%A REM All three.
Mode%=4 :CLS
ELSEIF g%=%X REM Exit.
Exit%=-1
ELSEIF g%=%Z REM to char Zero.
TopChar%=0
ELSEIF g%=%N
Char&=TopChar%
dINIT "Position"
dLONG Char&,"Number",0,255
IF DIALOG
TopChar%=Char&
ENDIF
ELSEIF g%=%R
dINIT "Position"
dEDIT Char$,"Char"
IF DIALOG
TopChar%=ASC(Char$)
ENDIF
ELSEIF g%=%K
KeyPress:
ENDIF

REM Test for non hot-keys.
ELSEIF g%=27 REM Esc
Exit%=-1
ELSEIF g%=256 REM Up
```

# (not quite) Beginners Page - 3

```
TopChar%=TopChar%-Width%(Mode%)
ELSEIF g%=257 REM Down
TopChar%=TopChar%+Width%(Mode%)
ELSEIF g%=260 REM Pg Up
TopChar%=TopChar%-(9*Width%(Mode%))
ELSEIF g%=261 REM Pg Dn
TopChar%=TopChar%+(9*Width%(Mode%))
ENDIF
```

```
REM Handle wraparound.
IF TopChar%>255
TopChar%=TopChar%-256
ELSEIF TopChar%<0
TopChar%=TopChar%+256
ENDIF
UNTIL Exit%
GUPDATE ON
ENDP
```

```
PROC DispASC%:(FromC%,Mode%,Wid%)
[REM Show ASCII table from char
FromC%,]
REM in mode Mode%, with Wid% chars
REM per screen line.
REM Return next char position.
```

```
LOCAL i%,Char%,Sep$(1)
Sep$=CHR$(254) REM Seperator.
Char%=FromC%
DO
IF Mode%=2 REM Hex+char.
PRINT RIGHT$("0"+HEX$(Char%),2);sep$;
ELSEIF Mode%=3 REM Dec+char.
PRINT GEN$(Char%,-3);sep$;
ELSEIF Mode%=4 REM all.
PRINT GEN$(Char%,-3);sep$;
PRINT RIGHT$("0"+HEX$(Char%),2);sep$;
ENDIF
```

```
REM All modes print a char.
REM Skip unprintable chars.
[IF ( (Char%>=7 AND Char%<=13) OR
Char%=255)]
PRINT ". ",
ELSE
PRINT CHR$(Char%),
ENDIF
i%=i%+1
Char%=Char%+1
IF Char%>255
Char%=0
ENDIF
UNTIL i%>=Wid%
RETURN Char%
ENDP
```

```
PROC KeyPress:
REM Display ASCII code of keypress,
REM also KMOD modifiers.
```

```
LOCAL g%,k%
CLS
PRINT "Press any key (ESC to exit)"
PRINT "Key code & Key modifier"
DO
g%=GET
k%=KMOD
PRINT g%,k%,
IF k% AND 2
PRINT "Shift",
ENDIF
IF k% AND 4
PRINT "Control",
ENDIF
IF k% AND 8
[PRINT CHR$(2);"Key", REM Psion sym-
bol.]
ENDIF
IF k% AND 16
PRINT "CapsLock",
ENDIF
PRINT
UNTIL g%=27 REM Esc.
RETURN
ENDP
```

Editors Notes: Just to remind you, the square brackets [ ] are used to mark the beginning and end of lines which will not fit on a single line and *should not be entered as part of the program listing.*

Which further reminds me that a pair of square brackets was missing from Rick's excellent TREE program on Page 47. Under the listing for Proc FileN\$(p\$) the line which starts with RETURN should be attached to the following line. Thus the correct line should be:

```
RETURN RIGHT$(a$,LEN(p$)-off%(4)+1)
```

Most people spotted this, but a few had to phone in for advice.

*For Sale*  
LZ64 Organiser  
64k & 32k datapaks  
4 line Comms Link  
Epson P40 Printer (c/w acces.)  
offers to: Michael Millington  
on 0383 514792 (day/eve)

# Progs & Procs - 1

## Snooze Alarm for Organiser II by Jerry N Furr

These two procedures will add a Snooze Alarm to your Organiser. Although written for the LZ, it is a simple matter to edit them for the CM or XP - on the PRINT lines need to be altered to allow for the two line, shorter display.

After translating both procedures, install SLEEP on the Top Level Menu and set a morning alarm, either using the ALARM or DIARY function. Before bed, instead of switching off the Organiser in the usual way, select SLEEP. Use EXE to finish your snooze and <ON/CLEAR> to pause the alarm to see the message.

```
snz:(s%)
LOCAL k%,t$(8),s$(8),t%
OFF : t$=RIGHT$(DATIM$,8)
OFF S%*60
top::
t%=t%+1 : k%=0
s$=RIGHT$(DATIM$,8) : CLS
PRINT "Snooze function"
PRINT "First Call",t$
PRINT "Call No ",t%
PRINT "Call at ",s$
DO
BEEP 100,100
PAUSE 5
BEEP 200,300
k%=KEY
UNTIL k%<>0
IF k%=13
RETURN
ELSE OFF s%*60
GOTO TOP::
ENDIF

sleep:
LOCAL m%
PRINT "Snooze function"
PRINT "Sleep for ..."
```

```
PRINT "... mins"
AT 13,2
INPUT m%
snz:(m%)
```

## LZ Exchange

by Christopher Grant Docker

For people who travel a lot, the standard currency converters tend to be more trouble than they are worth, but this program is quite practical and can be used with one hand whilst checking for bargains. It has two useful characteristics that set it apart.

1. It auto-repeats - press ON/CLEAR
  2. You can change currencies quite quickly - press 0 (zero)
- Currency details are stored in a temporary file.

```
exch:
LOCAL x,g%,m%,x$(8)
n::
KSTAT 3
CLS
IF EXIST("A:EX")
TRAP OPEN "A:EX",a,a$,a
ELSE CREATE "A:EX",a,a$,a
PRINT "CURRENCY (SYMBOL):",
KSTAT 1
INPUT a.a$
PRINT a.a$,"TO THE ",
INPUT a.a
APPEND
CLS
ENDIF
AT 1,4
PRINT "new currency: type 0";
AT 1,1
PRINT a.a$;" :",
x=0
TRAP INPUT x
```

# Progs & Procs - 2

```
x$=FIX$(x/a.a,2,6)
IF x=0
  GOTO c::
ENDIF
PRINT " ";x$
g%=GET
IF g%=1
  GOTO n::
ENDIF
RETURN
c::
m%=MENU("QUIT,NEW")
IF m%=2
  CLOSE
  DELETE "A:EX"
  GOTO n::
ENDIF
```

## Foto

by Christopher Grant Docker

Being a keen photographer, I have experimented with various programs of different complexities for keeping track of subjects, shutter-speeds etc. In practice, something very simple is needed. This program keeps track of details, logs them in order, adds the date, and provides a printout, if required. Pressing EXE at the prompt brings up a menu. The program creates a file "F" in the A: drive and this can be examined or edited etc. in XFILES

**LZ**

```
foto:
LOCAL m%

s::
IF NOT EXIST ("A:F")
  CREATE "A:F",a,a$,b$
ENDIF
TRAP OPEN "A:F",a,a$,b$
a.a$=GEN$(COUNT+1,2)+" "
"+MID$(DATIM$,5,11)
PRINT "PHOTO Subject:"
AT 1,3 :PRINT "(Saving to A:F)"
```

```
AT 1,4 :PRINT "null entry
aborts.."
AT 1,2 :INPUT a.b$
IF a.b$=""

m%=MENU("ABORT,NEW-FILM,PRINT")
IF m%=1
  PRINT "ABORT"
  BEEP 31,31
  PAUSE 19
  RETURN
ELSEIF m%=2
  CLOSE
  DELETE "A:F"
  GOTO s::
ELSEIF m%=3
  FIRST
  DO
    LPRINT a.a$;" :",a.b$
    LPRINT
  NEXT
  UNTIL EOF
ENDIF
ENDIF
a.b$=DAYNAME$(DOW(DAY,MONTH,YEAR))+": "+a.b$
APPEND
```

## For Sale

LZ64 Organiser  
4-line Spreadsheet  
3 x 128k datapaks  
32k datapak,32k RAMPak  
Finance Pak, Maths Pak  
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Offers to:

Mike Kapsalis on  
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# Machines Compared - 1

by Mike O'Regan

## *Organiser v. Series 3*

Now that the Slice has been around for a few months it might be fruitful to have a look at how it is shaping up when compared to the Organiser. For one thing, this will give Organiser owners an unbiased comparison to help them make up their minds if they are considering moving over to the Series 3. While both machines are in some ways quite different, in others they are bound to be similar.

When looking at the two machines, I have recognised that, as far as the Slice is concerned, it is early days still as far as development goes and that the Organiser has been around much longer - long enough to be regarded by many as the "industry standard" by which all other "organisers" are measured.

I will begin by some general comparisons and then summarise these in a kind of "league table", awarding (in my opinion) points out of 10 for each feature.

### ***Construction.***

Although the Slice is quite cleverly designed, it is not in the same class as the Organiser when it comes to sheer ruggedness. Many of the Slices troubles so far have been connected to hardware shortcomings, whereas the Organiser has never really had any problems in this direction - it featured rugged construction from Day 1 and any early software problems (which largely occurred before the arrival of the LZ) were long since ironed out. It remains to

be seen how the Slice holds up to continuous hard use over long periods.

### ***Layout & Display***

Some (perhaps most) would say that the Slice's QWERTY keyboard is a great advance over the Organisers ABC one. This is true to a certain degree, although you would need fingers like ET before you could attempt to touch-type on the Slice's keyboard. Having said that many "hunt and peck" two finger typists are quicker with the familiar layout of a typewriter.

The Organiser, however, being essentially a hand-held device (which the Slice most definitely is not!) would not really gain from having a different key arrangement. There are one or two drawbacks, particularly the lack of a full set of characters available as standard and the fiddly Caps/Lower case change. The actual key operation, with variable key-clicks, etc, is superior on the Organiser.

There is no question about the superiority of the display on the Slice, compared to the Organisers. Not only is it bigger, but it is dot-addressable. The 8 x 5 matrices of the Organisers made any attempt at reasonable graphics impossible, although some of the Games software, particularly on the 4 line LZs, makes the best use of these limitations.

### ***Built In Applications*** **Databases**

# Machines Compared - 2

The original Organisers, although very easy to use, were fairly limited in that they needed supplementary software to allow access to more than one file or do simple sorting, etc. The LZs filled in a few of these gaps, but still not fully.

All Organisers encourage their owners to build extensive data files with little or no thought to logical organisation. The Series 3, by allowing field names to be used as standard assists in logical data entry. However the simple SAVE and FIND system of the Organiser is less daunting to the complete computer novice and is still quicker and requires less key strokes than DATA on the Series 3. It is a pity that neither the multiple clue FIND facility nor the sorting feature of the LZ was included as standard on the Slice.

## Word Processing

Some say that the very idea of word-processing on the Organiser is ludicrous, but, right from the start, there were those (myself included) who were determined to develop software to enable reasonable text handling facilities. There are at least three major word-processing packages available for the Organisers, which says quite a lot for their adaptability.

However, after using both the Organiser and now the Series 3 for serious word-processing, I must admit that there is no contest in this area. The Slice WORD facility wins hands down on virtually every score, rivalling many desktop WP applications. It is enough to say (again) that I write most of *IPSO FACTO* on the Series 3, as it allows me freedom of

movement and the opportunity to work on files in almost any location. All that is lacking at the moment is an interlocking Spellchecker/Thesaurus, but I am sure that this will come.

## Agenda/Diary

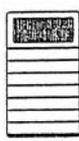
The Agenda is the Series 3 Diary. On the Organiser, there are two types of diary, dependant on model - the LZ version is the most accessible as the files are standard data format and can be easily manipulated through OPL. The CM and XP diary has a special file format which can only be accessed using extra software (e.g. Diary Link).

Agenda on the Slice suffered from bugs on early models, which seem to have been rectified on later ones. Agenda makes excellent use of the larger screen, with a months calendar and an overview of the next two weeks appointments visible on screen simultaneously. The entry screen, showing the selected day spread over two diary pages is also very functional. However, the Organiser diary scores some points on the speed with which appointments can be found.

## Time

Time on the Slice incorporates Alarms which are separate (and much quicker) on the Organisers. If you don't mind the extra work, however, alarms on the Slice are more extensive (apart from being limited to four against the Organiser's eight - I wonder how many people use all eight! Of course the analog or digital real-time clock is attractive on the Slice, and the "time to next alarm" is quite clever.

(to be continued)



# IPSO *facto*



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Editor: Mike O'Regan

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

Tel: (0602) 735482

## Editorial

### Ideas for New Programs & Utilities

Over the years we have published all kinds of programs for the Organiser, and I hope that this will be true in the future. You will see from the Series 3 Pages in this issue that Rick is asking for ideas for new programs. May I extend this to program ideas for the Organisers also, and I will see what can be done to satisfy everyone's needs in future.

Organiser users will see that there are no OPL procedures in this issue - I will try to ensure that this is put right in the next and future issues. It is just a matter of sorting out a reasonable mix to try to cater for different tastes.

□□□□□□□□

### Books Galore

In the last few weeks a number of new books have been released by Kuma, and I hope to review them all, starting with the next issue.

□□□□□□□□

### Swindon Group Wound Up

The Swindon Group, which started up from IPSO members in the Swindon area and existed for a number of years has now stopped meeting. Jeremy Holt would like to thank all his old members for their support.

## Series 3 User Group

The new user group which was announced in the last issue of Psion News, was rather short-lived and has apparently ceased to exist. I can assure Slice users that we will do our best to fill the gap.

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### Good News for Gamesters

The Series 3, with its excellent graphics possibilities in giving rise to a whole collection of new games. I will be giving you some details, possibly with a review in the next issue

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# Beginners Page

by Mike O'Regan

## The Essential Organiser

I have owned and used Organisers, both XP and LZ versions, since they first replaced the old Model 1 (which I also owned). At the moment, I have an LZ64, an LA (32k XP), and a Thick Slice (256k Series 3).

If I forget the Slice for now, it might be interesting to have a look at the peripherals for the Organiser which I own and use, both hardware and software.

By the way, my XP is something of a collector's item - it is one of a limited production of *clear plastic* machines. The whole Organiser (except the keyboard cover) is see-through - even a couple of matching datapaks! This is excellent for showing newcomers some of the complicated innards of the machine. It still works perfectly after many years.

## Hardware

To complement my Organisers I have the following hardware, listed in order of importance:

- a. Comms Link (4 line) PC software, with mains adaptor constantly attached.
- b. Widget Paralink - which "fools" the Organisers into thinking that they are equipped with a *parallel* port, allowing them to connect to a standard parallel printer.
- c. A Rovoreed Speech Synthesiser - often used for demonstrations to sceptics and others.
- b. Various datapaks, from 128k down to 8k
- c. 2 x 32k RAMPACKs for volatile data.
- d. A cheap padded camera case capable of holding all the above.

I am lucky in that, over the years, I have been sent various complementary copies of Organiser Software, most of which I still have. These include at least 3

word-processors/text handlers in addition to AutoScribe.

Software which is regularly in use is listed below:

```
GeneCode BACKUP
"          XFILES
"          KEYBD2
```

These live on a 64k datapak, along with a range of short utilities. 64k paks are particularly useful, as, if they need to be updated completely, the contents can be temporarily stored in the LZ RAM and then replaced after formatting the pak. Using the software mentioned above (Backup) I can instantly either backup the memory contents of either Organiser, or any RAM or datapak to my PC. My 4-line Comms Link has performed faultlessly over the years, and, if anything, is more user friendly than the Slice's 3-Link.

**Keybd2** is excellent for not only filling in the gaps in the characters available from the Organiser's standard keyboard, but for allocating small groups of keypresses to individual keys (macros).

**Xfiles** - I will not go into detail about Xfiles, which was recently reviewed. This package gives great flexibility when data handling on the Organiser, allowing any file on any device to be quickly accessed through multiple searches (on particular fields, if required) as well as any sets of field names. I find XFILES easy to learn and very powerful.

I still find the Organiser valuable for speedy access of database information, and especially for quick notes (using Notepad on the LZ) - this is something which is definitely lacking on the Slice, as a built-in feature.

# Machines Compared

by Mike O'Regan

## *Machines Compared - Part II*

### Time (cont.)

On the Slice I really like the Time panel which is optional with most applications (including self-written ones). This enables you to keep an eye on the time while writing, for instance a long Word document.

### World

This feature appeared first (in a simple format) on the LZ models, and the idea has been carried much further on the Slice, making good use of the graphic capabilities available.

The original World function on the LZ, although one of the first to appear on a pocket computer, was a bit limited as it did not allow editing and was quite soon out of date as the London dialling codes changed shortly after the LZ was introduced.

It is much better on the Slice, as there is provision for adding new town information. However, taken all in all, I consider that the ROM space taken up on both machines (a considerable amount) could have been better used to provide more useful features (such as a built-in Spreadsheet or Thesaurus/Spellchecker).

Once the novelty of showing off the world map, etc., has worn off the World feature has little practical use, unless you happen to be a habitual world traveller or international businessman. The distinct

impression is that this feature was included primarily to "keep up with with the Jones's" - and the Sharps, Casios, etc.

### Calculator

Calcs on both machines are better than average on other pocket machines, in that they can be extended through OPL to cover any special requirements. Most of these are available in any case on the Slices new Calc section.

It is nice to see that all ten of the dedicated Calc memories have been retained - they are invaluable when used as numeric variables which do not have to be declared and which are not automatically zeroed when a program in which they are used is run. Speed of use is about the same on both the Organiser and the Slice.

### Programming - OPL Facilities

OPL is now, quite rightly, regarded as one of the leading programming languages in its own right, and gOPL, the Slice version, is even more powerful.

I don't know of any other which makes the practical use of a GUI (Graphic User Interface) so easy. OPL is the one feature which gives both the Organiser and the Slice a considerable lead over any of the opposition.

A nice feature on the Slice is the ability to handle (copy, transfer, restore, etc) object-only (OPO) files. Those who have only programmed on an Organiser find that, initially, programming on the Slice is a bit peculiar. This is connected to its

# Machines Compared

ability to write Applications (collections of procedures) which are in a slightly different format to Organiser OPL listings. However, with a little experience there is no real problem and the enormous power of gOPL becomes apparent.

## Conclusion

The Series 3, in spite of many statements from various sources, is **NOT** a replacement for the Organiser. Over the last five years the Organiser has carved itself a niche as **THE** standard hand-held computer by which all others are measured. The extensive user base of some half-million machines will be active for some time to come. The Series 3, although a sophisticated computer in its own right is **NOT** a hand-held machine - just try to do anything significant with it held in one hand. It is a **POCKET** computer (obviously) which needs to be firmly supported so that the user can get both hands on the keyboard, even if only one or two fingers of each hand are actually used.

Finally, I am sure that all the Organiser owners out there will ensure that its life is prolonged as long as it deserves.

### *For Sale*

- 1 - LZ Organiser
- 1 - 32k RAMpak
- 1 - 4 Line Spreadsheet
- 1 - Widget Filemaster
- 1 - Finance Pak
- 1 - 16k datapak
- 1 - Formulator

offers for the above,  
preferably as 1 lot

to: **Kevin Jeynes**

on 0952 243529 (after 18.30)

## *Feedback*

Torino, 16 Oct.

Dear Mike,

As an old Psion Organiser II User, I would ask with strong voice to all Psion owners if they also would be delighted if Psion would try to put on its product planning an improved but still faithful version of Organiser II. This is because the Series 3 it's not at all the improvement of the Organiser pocket computer, but just another sort of palmtop that goes to set itself among the pocket computer stage and notebooks one.

I mean that, as a first thing, a pocket computer (to be so called) *must* have quick access to all data stored in it. After having tried a Series 3, I have to say that (moreover the fact that having to open the Series 3 every time as a book in balance on my left hand is not ergonomic at all) . Only with the Organiser I can get such quick access to all data using just one hand and a couple of fingers tips (as I keep my Organiser without the plastic cover - it's strong enough - I suggest everyone to try).

So why not to make a real upgrade of our Organiser? Moreover since so many persons have found in it their ideal pocket computer. We do not ask for very much:

- ♦ to be a little more thin
- ♦ to accept one SSD (from 256k to 4Mb)
- ♦ to have a dot-addressable display
- ♦ to have a couple of AAA batteries as power source (instead of too big 9v one)
- ♦ to have a little more working RAM area, at least 64k
- ♦ to keep its actual "open" structure that is no book opening.
- ♦ to work a bit better with numbers (to make right powers, square roots, trig functions, and have matrix possibilities

and no more.... do we ask too much!

Will any Organiser owners please write to IPSO FACTO and say if you agree with me. They might be obliged to listen to us!

Renato Buzzi

*What do you all think? Ed.*

# IPSO Review - 1

by Mike O'Regan

## *Three New Packages for the Series 3.*

The following new packages are now available for the Series 3:

- ♦ Paint
- ♦ File Manager
- ♦ Convert

All programs are available on either flashpak or PC format disk; details later.

### **Paint**

This is certainly the best graphics program yet for the Slice. Not only is it possible to draw pictures (size only limited by available memory), but the finished work can be either printed or passed to a PC in a variety of standard graphics formats. I have used the program to draw the Organiser and Slice graphics which are included in the title page header.

Paint allows drawing of boxes, lines, and ellipses, all of which can be altered in size and shape as required and moved about the screen. For fine-tuning it is possible to edit pictures at pixel level using up to 4x magnification. Areas of the picture can be cut, copied, or pasted either to other positions or to other pictures, via a clipboard.

Naturally, it is possible to produce standard icons for use with applications, by restricting the drawing area to 24 x 24 pixels. An excellent feature is that the

cursor size - both horizontal and vertical - can be specified. Shapes can be specified as either outline or filled with any one of nine patterns.

Text can be added in any position and/or style e.g. Bold, italic, double-height, etc. combination.

Normally graphics designed on the Slice cannot be passed directly to a printer, but PAINT allows direct printing to either a Laserjet (or compatible) or Postscript printer. It is possible to print to other printers through a PC. File formats can be Psion .PIC, .PCX, Windows .BMP, or .GIF.

Paint is supplied with an excellent 27 page handbook and the whole package is **highly recommended**.

### **File Manager**

This is the program which, in my opinion, should have been provided as standard with the Slice. It really makes file management simple for beginners, and, at the same time will be appreciated by those who are used to Toolkits on a PC. What's more, if the Serial Link is attached and SLINK running on the PC, fine control over file copying between the two machines is a piece of cake.

FM's control screen consists of information about all attached devices, plus the internal M: drive, at the top of the screen. By highlighting the required device it is possible to view all existing directories and sub-directories in "tree" format on the lower part of the screen. By

# IPSO Review - 2

using the ARROW KEYS it is possible to quickly highlight a particular directory and pressing <ENTER> will then display all files therein.

Then any of the files can be tagged for further treatment such as Copy, Delete, Rename, Move, etc. Similar facilities are available to process whole directories and their contents, including any sub-directories and their contents in a single operation.

Finally, it is easy to do similar operations on whole disks (as in DISKCOPY on a PC).

An extremely useful feature is the LOCATE FILE operation, which will find any existing files containing the SEARCH clue in their name no matter where they are located. This is really useful if you have a 1 or 2Mb pak with many directories, sub-directories, and files.

There are many other features, all covered fully in the 24 page manual, although FM is quite intuitive in use and the manual is rarely required.

his package has, in a short time, earned its place as a standard feature on my Slice.

## Convert

There have been more conversion programs for the Slice than any other, so far, so what is so different about this one? Well it is just the sheer number of possible conversions which must make it the most comprehensive on any machine. From 150 currency conversions (adjustable) from Afghanistan to

Zimbabwe and all points between to Men's, Women's, and Children's CLOTHES and SHOE SIZES in English, European, and US equivalents, there is just about every conversion you could imagine.

Of particular use to programmers is the numeric base conversions, covering Binary, Signed and Unsigned Decimal, Hex, and Octal.

With currency conversions, the default base currency is British, but this can be customised to allow any other currency to take over the base. If you do not require the full 150+ countries then you can cut these down to the size required. In the event that a particular currency is not included, then facilities exist for its inclusion.

This package must be the last word in conversion programs. Despite its size, it is still fast and easy to use.

## How to Obtain the Programs

All three of the above packages are available from:

Purple Software  
59 Shakespeare Road  
Walthamstow  
London  
E17 6AS

They are available on either Psion SSDs or PC format 5.25" disks (in which case you require 3-Link to copy the software to your Series 3).

Prices are as follows:

	On SSD	On Disk
Single prog	£49.95	£29.95
Any 2 Progs	£59.95	£39.95
All 3 Progs	£69.95	£49.95

All prices include VAT and p&p

(See also enclosed Information Sheet. Ed)

# Page Three a

## Stopwatch

by Rick Andrews

This month's Series 3 utility is a stop-watch that's friendly to batteries. The start time is written in a data file, so the computer can be turned off whilst timing long duration events.

Most stop-watch programs rely on the Series 3 remaining switched on because they \*count\* elapsed time; the one in the Psion Programming Manual, for example, will 'stop' and lose time if the computer is switched off, so to be of any use, you have to ensure the computer won't auto-switch off.

This stop-watch, however, stores the actual time that the activity commenced, (as the number of seconds since midnight 1 Jan 1970) in a datafile on the internal drive, so the elapsed time can be \*calculated\* when the utility is re-run.

Also, a short description can be stored in the data file, in case you forget what you're timing.

The utility is simple to use; the first time it is run, it waits until Enter is pressed, then immediately starts timing the event. A short description can then be entered. The elapsed time is displayed "ticking away" in double height. Here, the Menu key or hot-key allows the following:-

L - Lap. The lap time is displayed.

S - Stop or Start. Switches between running and stopped.

Z - Zero. Resets a stopped stop-watch.

X - Exit. Quits a stopped or running stop-watch. The start time and current details are saved in a data file, ready for the next time the utility is run.

K - Kill. Quits a stopped stop-watch. Deletes the data file and exits the utility.

D - Desc. Edit the event description.

The elapsed time and lap time displays also show the number of days if the event was started more than 24 hours ago.

If you exit (Psion-x) the utility which saves the event details, the next time the utility is run, the elapsed time is displayed straight away.

Finally, a question about utilities. I've almost run out of ideas for short S3 utilities that can be published here in IPSO FACTO. Do you have any ideas or a 'wish list'?

Please write to me at

164 Castle Hill,  
Reading, RG1 7RP.

```
[REM Battery-friendly Stopwatch  
Utility]
```

```
REM for Series 3.
```

```
REM Rick Andrews April 92.
```

```
PROC StopW:
```

```
GLOBAL gStart&
```

```
GLOBAL gPrevS&
```

```
GLOBAL gInit&
```

```
GLOBAL gElapS&
```

```
GLOBAL gDesc$(30)
```

```
GLOBAL gTimeId%,gDescId%
```

```
LOCAL file$(128)
```

```
LOCAL k%,done%
```

```
LOCAL save%
```

```
LOCAL mode%
```

```
LOCAL mode$(5)
```

```
gDesc$="(no desc)"
```

```
mode%=1
```

```
done%=0 :save%=1
```

```
mode$="Stop"
```

```
CLS
```

```
gBORDER $202
```

```
gAT 170,3
```

```
gCLOCK ON,$25
```

```
gAT 178,73
```

```
gPRINT "Stopwatch"
```

```
gDescId%=gCREATE(3,6,165,25,1)
```

```
gBORDER $201
```

```
gAT 5,11 :gPRINT "Event:"
```

```
gAT 5,20 :gPRINT "Started at"
```

```
gTimeId%=gCREATE(20,33,135,40,1)
```

```
gBORDER $201
```

```
gAT 6,15 :gPRINT "Elapsed :"
```

```
gAT 6,31 :gPRINT "Lap time:"
```

```
gSTYLE 8
```

# Page Three b

```
File$="m:stopwdat"
GetDets:(File$)
gUSE gDescId%
gAT 38,11 :gPRINTB gDesc$,120
gAT 62,20 :gPRINT
STime$:(gStart&)
gUSE gTimeId%
DO
IF mode%
gElapS&=(Now&:-gInit&)+gPrevS&
gAT 55,18 :gPRINTB
ETime$:(gElapS&),75
PAUSE -18
k%=KEY
ELSE
k%=GET
ENDIF
IF k%=$122 OR (k% AND $200)
IF k%=$122
mINIT
mCARD "Timer",mode$,%S,"Lap",%L
[mCARD "Reset","Zero",%Z,
"Kill",%K,"Exit",%X]
mCARD "Event","Edit desc",%D
k%=MENU
ELSE
k%=k%-$200
ENDIF
k%=k% AND $FFDF
REM Lap.
IF k%=%L
IF mode%
gAT 55,34
gPRINTB ETime$:(gElapS&),75
ENDIF
ELSEIF k%=%S
IF mode%=0
Restart:
mode%=1
mode$="Stop"
ELSE
Stop:
mode%=0
mode$="Start"
ENDIF
ELSEIF k%=%Z
IF mode%=0
Zero:
ENDIF
ELSEIF k%=%K
IF mode%=0
dINIT
[dTEXT "", "Delete Event and
Exit", $202]
dBUTTONS "No", %N, "Yes", %Y
IF DIALOG=%y
save%=0
done%=1
ENDIF
ENDIF
ELSEIF k%=%D
EditDesc:
REM Exit.
ELSEIF k%=%X
done%=1
ENDIF
ENDIF
UNTIL done%
TRAP DELETE file$
IF save%
Save:(file$)
ENDIF
gCLOSE gTimeId%
gCLOSE gDescId%
gCLOCK OFF
ENDP

PROC Restart:
gInit&=Now&:
IF gStart&=0
gStart&=gInit&
gUSE gDescId%
gAT 62,20 :gPRINTB
STime$:(gStart&),95
gUSE gTimeId%
ENDIF
gSTYLE 0
gAT 6,15 :gPRINTB "Elapsed",40
gSTYLE 8
GIPRINT "Started",1
ENDP

PROC Now&:
LOCAL a&,b&
[a&=DATETOSECS(YEAR,MONTH,DAY,
HOUR,MINUTE,SECOND)]
DO
[b&=DATETOSECS(YEAR,MONTH,DAY,
HOUR,MINUTE,SECOND)]
UNTIL (ABS(b&-a&)<2)
RETURN b&
ENDP

PROC Stop:
gSTYLE 0
gAT 6,15 :gPRINTB "Stopped",40
gSTYLE 8
gPrevS&=gElapS&
GIPRINT "Stopped",1
ENDP
PROC Zero:
```

# Page Three c

```
gElapS&=0 :gPrevS&=0 :gStart&=0
gSTYLE 0
gAT 6,15 :gPRINTB "Zeroed",40
gSTYLE 8
gAT 55,18 :gPRINTB
ETime$: (gElapS&),75
gAT 55,34 :gPRINTB " ",75
GIPRINT "Zeroed",1
ENDP
```

```
PROC STime$: (t&)
LOCAL date$(17)
LOCAL h%,mi%,s%,d%,mo%,y%,unused%
[SECSTODATE t&,y%,mo%,d%,h%,mi%,
s%,unused%]
date$=Hms$: (h%,mi%,s%)+ " "
[date$=date$+RIGHT$("0"+GEN$(d%,2
),2)+"/"]
[date$=date$+RIGHT$("0"+GEN$(mo%,
2),2)+"/"]
[date$=date$+RIGHT$("0"+GEN$(y%-1
900,2),2)]
RETURN date$
ENDP
```

```
PROC ETime$: (t&)
LOCAL time$(13)
LOCAL elap&
LOCAL eday%,ehour%,emin%,esec%
elap&=t&
eday%=elap&/86400
elap&=elap&-(eday%*86400.)
ehour%=elap&/3600
elap&=elap&-(ehour%*3600.)
emin%=elap&/60
elap&=elap&-(emin%*60.)
esec%=elap&
[time$=Hms$: (ehour%,emin%,esec%)
+" "]
IF eday%>0
time$=time$+GEN$(eday%,3)+"d"
ENDIF
RETURN time$
ENDP
PROC Hms$: (h%,m%,s%)
LOCAL t$(8)
t$=RIGHT$("0"+GEN$(h%,2),2)+": "
[t$=t$+RIGHT$("0"+GEN$(m%,2),2)
+": "]
t$=t$+RIGHT$("0"+GEN$(s%,2),2)
RETURN t$
ENDP
```

```
PROC GetDets: (f$)
```

```
IF EXIST(f$)
GIPRINT "Loading details",1
OPEN f$,A,time&,desc$
gStart&=A.time&
gInit&=Now&:
gPrevS&=gInit&-gStart&
gDesc$=A.desc$
CLOSE
```

```
ELSE
gPrevS&=0
dINIT "Stopwatch"
dTEXT "","Press Enter",2
dTEXT "","to start",2
DIALOG
gInit&=Now&:
gStart&=gInit&
GIPRINT "Clock started",1
EditDesc:
ENDIF
ENDP
```

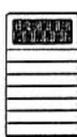
```
PROC Save: (f$)
CREATE f$,A,time&,desc$
A.time&=gStart&
A.desc$=gDesc$
APPEND
CLOSE
GIPRINT "Saved",1
ENDP
```

```
PROC EditDesc:
dINIT "Description"
dEDIT gDesc$,"Event",20
DIALOG
gUSE gDescId%
gAT 38,11 :gPRINTB gDesc$,120
gUSE gTimeId%
ENDP
```

~~~~~

## Editor's Notes on keying in procedures on

You can save many keystrokes by reducing variable names to 1 or 2 characters. They are written in fully in the above listings for the sake of clarity. It is also possible to use the FIND & REPLACE function (available within the programming section) to help your "shorthand". Finally, if you are dismayed at keying in long procedures, I can put them on your RAM/FLASH pak or send you them on 3.5" disk. The cost for both methods is £2.00. Paks will be returned by Recorded Delivery.



# IPSO *facto*



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Editor: Mike O'Regan

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

Tel: (0602) 735482

## Editorial

As we go to press, I am rather sad to report that my Series 3 (No. 6!) is showing some familiar signs of self-destruction (in spite of being gently treated). The re-inforced ribbon cable which connects the two halves of the machine has forced the soft-key strip into a sizeable bulge in the middle and the strip itself is splitting where it catches the edge of the keyboard section. It is about time Psion got it right - the machine is perfect otherwise.

Compare all the faults I have had on my six machines with my ten-year old Hewlett-Packard 41c, which still behaves impeccably, with absolutely no sign of its age!



### Program Ideas

Our ace programmer, *Rick Andrews*, would like to thank all those who contacted him with ideas for Series 3 programs. If Organiser users have any requests for particular programs, please get in touch and I will see what can be done.



### Another New Slice Book

At the moment I am eagerly awaiting a new book from Kuma, all about programming and handling all types of graphics on the Series 3. The press-release says that the book covers moving graphics among other things, and all the programs in the book can be ordered on floppy disk to save keying them in. I hope to review this book in the next issue.

## Series 3 New Products

By the time you read this, the long awaited Slice Thesaurus/Spell Checker/Anagram Solver/etc should be available. The good news is that it links into WORD, unlike the Organiser offering which wouldn't really link into anything. It also has a facility to add your own supplementary vocabulary (like all good spell-checkers). Price £49.95 incl.

Also announced is a multi-language translator, the Berlitz Interpreter, featuring English, French, Spanish, Italian, and German. Price £69.95 incl.



Finally two accounts packages, one for personal use and one for business. Price of either is £49.95 incl

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# Beginners Page - 1

by Mike O'Regan

## What Is A Computer?

If the title seems a little obvious, the answer (especially in the competitive world of the pocket computer) is by no means so. Curiously, the Psion Organiser has become so successful that it has spawned many would-be competitors, some of them actually having coined the name "organiser". The other confusing fact is that, although most of these "organisers" are more or less correctly named, the Psion Organiser is much more. It is, in fact, a fully-fledged computer system. What factors make it so different? Well, there are a number of significant ones:

1. Programmable
2. Expandable
3. Self-contained
4. Mains independent
5. Connectable

### 1. Programmable

As you all know, the Organiser (particularly the LZ) has a number of powerful built-in functions, such as the Database, Diary, Calculator, Notepad, Timers, etc. Some or all of these features are to be found in other "organisers", but the one which makes it stand out from the rest is OPL. Some other pocket machines have a built-in language of sorts (usually a version of BASIC) but OPL is unique in that it was specifically designed to make the best of the Psion Organisers. OPL is different in two other ways:

- a. It dovetails neatly into the other applications and
- b. It is a semi-compiling language.

a. As examples of using OPL with other applications, it is possible to access and use the ten CALC memories from OPL. It is also possible to run an OPL program from within the CALC application. With the Database, it is possible to access and modify, etc. information held in any datafile through OPL programs.

b. Languages which compile produce programs which run faster, take less room, and are less accessible to tampering than other translating languages. However most are difficult or impossible to modify, which is important when learning how to program. OPL has most of the best of both worlds - it is easy to modify, while retaining speed which compares well with fully compiling languages.

### 2. Expandable

If the Organiser was not capable of accepting add-on accessories, it would still be a powerful self-contained computer. The available peripherals expand the machine into a computer system. For instance, the Organiser can accept any one of a number of extra storage devices, namely RAM paks, datapaks, and now even a disk-drive which uses standard 3.5in diskettes. The Organiser's "top port" accepts a number of cable-less accessories, such as the Speech Synthesizer, Telephone Dialler, Pager, etc. This port (which opened the way to the totally flexible ports of the HC model) is, unfortunately missing from the Series 3.

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## 3. Self-Contained

Although, as we have seen, the Organiser is capable of being connected to many other devices in order to expand its capabilities, it is nevertheless complete within itself without the aid of any extras. Many users, no doubt, have just an Organiser without even extra storage devices, and, within the limitations of the danger of losing all internal data, it is perfectly adequate. Some other machines which appear to be self-contained actually need extra peripherals before they can perform tasks which the Organiser takes in its stride.

## 4. Mains Independent

Although many portable computers, including lap-tops as well as pocket computers, ostensibly offer mains-free operation, very few of them are capable of sustained use without being plugged in, especially when power-hungry devices, such as built-in disk-drives, are constantly in use. On the Organisers, RAM paks use very little power and datapaks only need extra power when they are being written to. Thus the Organiser can be said to be a truly mains-independent device for most of its operation.

## 5. Connectable

Any computer worth its salt should be capable of being connected to a wide range of other devices, including other computers, printers etc. Although the Organiser was provided with its own dedicated printer a couple of years ago, its great strength is that it can be connected to *any* printer. Many Organiser owners own, or have access to other (mainly desktop) computers.

Connecting the Organiser to another computer greatly expands its horizons. For instance the desktop can provide large scale and very cheap storage for both data and program files which are easily moved in either direction for simply the price of a Comms Link.

## Conclusions

From the above it can be seen that the Organiser - now some six years old, which is a long time in the computer world - is still not only the industry standard machine, but still very much alive and capable of holding its own in this fast moving world. As there is a user base of some half-million out there, it is highly unlikely that Psion will stop supporting the Organisers in the near future.

## *For Sale*

LZ64, Comms Link  
32k RAMpak, 64k datapak  
2-32k datapaks, 8k datapak  
AutoScribe+ v5.11  
FNKEY v4  
£250 the lot

Contact: Richard Masters  
on  
0937 546888 (work) or  
0904 708301 (home)

\*\*\*\*\*

Series 3 128k (ver.1.8)  
immaculate condition  
£160 ono  
Contact: Nancy Poskett  
on  
0483 36448

# Progs & Procs

## ORGANISER II - LZ

### Biorhythmic Compatibility

by Malcom Coulson

There is a lot of interest in Biorhythm programs and here is one with a twist - it compares the biorhythms of two people and comes up with their percentage compatibility for each cycle and an overall average. It is written for the LZ but would run on the XP if a little routine was written to simulate "DAYS" on the LZ (a suitable program is in Mike Shaw's "File Handling..." Book)

```
biocomp:
LOCAL xdate,ydate,diff
LOCAL phy,emo,itl
PRINT "    BIORHYTHMIC"
PRINT "    COMPATIBILITY"
PRINT "    CALCULATOR"
PRINT "    by M Coulson"
PAUSE 100
xdate=biodays:("first")
ydate=biodays:("second")
REM no of DAYS apart
IF xdate>ydate
diff=xdate-ydate
ELSE
diff=ydate-xdate
ENDIF
CLS
phy=bioper:(diff,23.0,23.0)
emo=bioper:(diff,28.0,14.0)
itl=bioper:(diff,33.0,25.0)
PRINT "Biorhythmic"
PRINT "Compatibility"
AT 1,3
PRINT "Phy =" ;INT(phy) ;"%"
AT 11,3
PRINT "Emo =" ;INT(emo) ;"%"
AT 1,4
PRINT "Int =" ;INT(itl) ;"%"
AT 11,4
PRINT "All =" ;
PRINT INT((phy+emo+itl)/3) ;"%"
GET
```

```
biodays:(t$)
LOCAL d,m,y
KSTAT 3
CLS
PRINT "Enter",t$,"d.o.b."
PRINT "Day   :";
INPUT d
PRINT "Month :";
INPUT m
PRINT "Year   :";
INPUT y
IF y<100
y=y+1900
ENDIF
RETURN DAYS(d,m,y)
```

```
bioper:(diff,cycl,opti)
LOCAL apart,share,miss
REM no of DAYS cycles are apart
[apart=diff-(INT(diff/cycl)*cycl)]
REM shared DAYS
IF apart<INT((cycl+1)/2)
share=cycl-(apart*2)
ELSE
share=(apart*2)-cycl
ENDIF
REM no of DAYS away from optimum
IF share>opti
miss=share-opti
ELSE
miss=opti-share
ENDIF
REM actual compatibility %age
RETURN 100-((miss/opti)*100)
```

Here are some to try out:

Prince Charles (14/11/48) & Lady Di (1/6/61) - 68%  
Ernie Wise (27/11/25) & Eric Morcambe (14/5/26) - 43%  
Richard Burton (10/11/25) & Elizabeth Taylor (26/2/32) - 69%  
Bing Crosby (3/5/03) & Bob Hope (25/5/03) - 59%

# IPSO Mini-Review

## BanKmaN LZ Software Review

There have been a number of money-management programs for the Organiser over the years, including two Finance Paks from Psion. *BanKmaN* takes a fresh look at the subject, in the shape of a simple-to-understand package capable of running a number of accounts.

It comes on 32k datapak, complete with a very extensive (50+ pages) manual which includes a tutorial on the basics. The manual forms a useful reference handbook, but I found that the operation of *BanKmaN* was quite easy and did not require any extra information to that displayed on the display after a short time.

*BanKmaN* allows you to set up a number of Analysis codes, with each code capable of handling transactions as either Income or Expenditure.

Standing Orders can be entered and *BanKmaN* handles the payments automatically on the correct date allowing for monthly, quarterly, six-monthly, or annual payments and even maintaining completion dates, account numbers and descriptions, etc.

Transactions outside any existing analysis codes can also be entered, complete with details. Month-end close-downs are under user control, so that close-down can be triggered on any day you wish.

Extensive reports are included, either displayed or printed with an automatic, clear layout to any Epson compatible printer.

The manual is very thorough, with many examples and suggestions for using the package.

*BanKmaN* is available from:

**Computer Solutions**  
Unit 9 Racecourse Industrial Park  
Mansfield Road  
Derby DE21 4SX  
The cost is £39.95



## Feedback

Glasgow 9 Nov '92

Dear Editor,

Having read the letter from Renato Buzzi, I thought at his suggestion I'd lend my comments regarding the Organiser II

Although I don't use my LZ64 for any special uses, I certainly agree that some of his suggestions would be very worthwhile and improvements would be more than welcome. It would probably be fairly simple for a new model to be even more pocketable and slightly thinner. My next big suggestion is that that battery compartment. I don't know if my machine just happens to be a "one off", but when it comes to inserting or removing the battery, it is an ordeal and I am sure that something other than this bottom opening would have been smarter.

Finally, Renato's suggestion regarding increased RAM etc are all very welcome.

Charles Trager

Editor's Note: About your battery problem, Charles, have you tried a loop of selotape with a protruding tab around your battery. This makes it fairly easy to handle.

# Progs, Procs, & Apps

## Series 3

### PICtoOPL

by Rick Andrews

Okay. Pictool. What on Earth is it? The name for four identical objects? No, that's quadruple. This is a Series 3 utility that copies a .PIC bitmap file and generates a \*second\* OPL program that can be run to reproduce the original bitmap. Hence PIC to OPL.

The picture is stored as a set of ASCII strings encased in a self-contained OPL program, ready for translating and running. It converts the ASCII strings into pixels and reproduces the picture. I guess this second program should be called OPLtoPIC!

This utility came into being when I realised there was no easy way for people to create icons from pictures sent into IPSO FACTO. I had started next month's utility which is an application, and I was wondering how the picture of the icon could be printed so that it could be recreated easily. After a bit of thinking in the bath, I remembered Ken Dudley's "Call" application in IPSO from last August where its icon was created from a separate OPL program. And, after a bit of aquatic lateral thinking, this is the result.

When PICtoOPL is run, it prompts for the name of a .PIC file. When a valid file is entered, it then prompts for the name of the new OPL file (the one that actually redraws the bitmap). The default name is "PIC" plus the first five characters of the .PIC filename. The bitmap is then scanned and the new .OPL file produced, containing the bitmap as a load of dashes and stars. This .OPL can then be sent into your favourite Psion magazine (IPSO of course), and when run, it reproduces the picture.

There is no reason why bitmaps larger than icons cannot be converted, except you have to bear in mind that people are going to have to type in the OPL program produced.

If you have problems with the second OPL program not translating okay, or if the

reproduced bitmap is wrong, double-check the original OPL program PICtoOPL. Remember that this first program 'types' the text of the second, so any mistakes in the strings that make up the second program may not show up until the second is run.

I've just thought of another use for this utility - if you're really desperate for a bitmap editor, you could edit the bitmap by changing the strings in the second OPL file before translating it!

As this utility is an application, I have also listed the .OPL program to create its icon. The file is called MAKEICON.OPL, and the icon is a pencil within the piece of paper with a folded corner, i.e. a script to produce a drawing. Firstly, create a \PIC directory on your default drive (use Psion with '+', and type "\PIC".) Enter and run the MAKEICON program to produce the PICTOOPL.PIC icon file in \PIC, then enter and translate PICTOOPL. Install the application on the System with Psion+I. You can then delete the MAKEICON.OPL file. The application is complete.

Finally, I'd like to say thanks to those of you who contacted me last month with ideas of utilities for publication. Some of those ideas will hopefully see the light of day in this magazine. As they say, watch this space.

```
REM PIC-to-OPL Utility for S3.  
REM Rick Andrews Nov 92
```

```
APP PicToOpl  
ICON "\PIC\PICTOOPL"  
TYPE 0  
ENDA
```

```
PROC PicToOpl:  
GLOBAL rm$(4),q$(1)  
GLOBAL id%  
LOCAL picfile$(128),pbase$(8)  
LOCAL oplfile$(128),obase$(8)
```

```
rm$="REM"+CHR$(32) REM Comment!  
q$=CHR$(34) REM Double quote.
```

```
picfile$=GetPic$:
```

# Progs, Procs, & Apps - 2

```
IF picfile$=""
RETURN
ENDIF

pbase$=Base$:(picfile$)
oplfile$=GetOpl$:(pbase$)
IF oplfile$=""
RETURN
ENDIF

obase$=Base$:(oplfile$)
Convert:(pbase$,obase$)
gCLOSE id% :LCLOSE
ENDP

PROC GetPIC$:
REM Get filename of pic & load it
LOCAL file$(128)
file$="\PIC\*.PIC"
DO
dINIT
dTEXT "","Pic to OPL
converter", $102
dTEXT "","Choose bitmap to
convert", 2
dTEXT "","to OPL program
file", $202
dFILE file$, "File:", 0
IF DIALOG=0
RETURN ""
ELSE
id%=gLOADBIT(file$)
IF gWIDTH>244
ALERT("This bitmap is
"+GEN$(gWIDTH,4)+" pixels
wide.", "Maximum width is 244.
Please reselect.")
gCLOSE id%
ELSE
RETURN file$
ENDIF
ENDIF
UNTIL 0
ENDP

PROC GetOPL$(f$)
REM Get opl filename & create it.
LOCAL file$(128)
file$="\OPL\"
file$=file$+LEFT$( "PIC"+f$, 8)
file$=file$+".OPL"
DO
dINIT ""
dTEXT "","Name of OPL program", 2
dTEXT "","to generate", $202
REM Use edit box with query.
dFILE file$, "File:", 1+16

IF DIALOG=0
RETURN ""
ELSE
IF EXIST(file$)
TRAP DELETE file$
IF ERR
ALERT (ERR$(ERR))
CONTINUE
ENDIF
ENDIF
TRAP LOPEN file$
IF ERR
ALERT (ERR$(ERR))
CONTINUE
ENDIF
RETURN file$
ENDIF
UNTIL 0
ENDP

PROC Convert:(pic$,opl$)
REM Convert bitmap to Ascii.
LOCAL x%,y%
LOCAL line%(1)
BUSY "Busy"
AddHead:(opl$)
y%=0
DO
x%=0
LPRINT "p$(";
LPRINT
RIGHT$( "00"+GEN$(y%+1,3), 3);
LPRINT ")="+q$;
DO
gPEEKLINE id%,x%,y%,line%(), 1
IF line%(1) AND 1
LPRINT "*";
ELSE
LPRINT "-";
ENDIF
x%=x%+1
UNTIL x%=gWIDTH
LPRINT q$
y%=y%+1
UNTIL y%=gHEIGHT
AddTail:(pic$)
BUSY OFF
ENDP

PROC AddHead:(opl$)
LPRINT "PROC "+opl$+":"
LPRINT rm$+"Produced by
PICtoOPL.OPL"
LPRINT rm$+"IPSO FACTO Vol VI No.
9 - Nov 92"
LPRINT rm$+DATIM$
LPRINT "LOCAL x%,y%"
```



# IPSO Review

by Mike O'Regan

## Series 3 Review - Widget Games Pack 3

As I forecast, the excellent graphics facilities of the Slice have lent themselves to the appearance of this first Games Pack. Any Organiser Games enthusiast will know that the masters of games writing are *HB Consultants* (with excellent Games Paks still available for the Organisers (all models)). The Games Pack 3 comes from the same stable. The pack features five popular games - Bandit, Solo, Reversi, Poker, and Quad.

### Bandit

This is an impressive version of a "One-Arm Bandit" or "Fruit Machine" which I have tried on addicts and noted their complete approval. The machine features all the standard modes of the real thing, with Holds, Nudges, Ladders, etc. I

f you let a fruit-machine-addict-friend loose on this one, I recommend that you connect the mains adaptor or you will certainly have to pull them off the machine after 3 or 4 hours!

### Solo

Another popular game which features screen representations of playing cards. The title may fool you, as this is really a standard implementation of Patience and not the Solo gambling game. However, it is still quite compulsive and easy to play.

### Reversi

Otherwise known as *Othello*, this is one of my favourite games of skill and I am pleased that the Series 3 version is so powerful. Reversi has a world following (including World Championships!), so it is an established favourite.

The "rules" couldn't be simpler and can be learned in two minutes, but the tactics can take forever.

Reversi can be played on any of 4 levels - Novice, Beginner, Expert, or Genius. I count myself as a

reasonable player, so I normally choose the Expert level and it takes all my skill to win at this level. Genius level is OK if you have the skill (and the time - some computer moves take up to 3 minutes!).

If the Games Pack 3 only had Reversi it would be worth its cost (for me).

### Poker

Poker is a two-handed version of the standard card-game (you against the Series 3). It has the advantage that the Slice cannot "see" through your "poker face" when you are considering your next move. It is excellent for practising your Poker skills without having to lose "real" megabucks.

### Quad

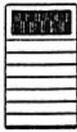
This is a new game to me, although it is something similar to Pentiles and other shape-fitting games. This is a game which starts at an hard level and gradually works up to "impossible" and it really makes you think. It is really good for developing your "spatial" skills. There is no rush, as with Arcade Games, but it is nevertheless absorbing. I have found several children who can consistently do better at this game than I can - what does this mean?

### To Sum Up

Games Pack 3 comes with a nice, 11 page, handbook (which is about all that is required - all games are self-explanatory to a large degree and you will not need to carry the book with you. The pack is available immediately from:

Widget Software Ltd  
121 London Road  
Knebworth  
Herts SG3 6EX

Tel: 0483 815444 Fax 815222  
Price: On Flashpak £49.95 (incl.)  
On 3.5" diskette £39.95



## *Editorial*

### IPSO Services

I am outlining our services, mainly for the benefit of new members. IPSO provides a FOR SALE & WANTED Service for members, free of charge. Items are kept on a database, and members may phone or write with items for sale or wanted at any time. I must stress that IPSO does not buy hard or software - we just put buyers and sellers in touch. May I remind **SELLERS** to inform me when items have been sold so that they may be removed from the database. This service is NOT for commercial type adverts which we cater for by distributing 'fliers' on behalf of software or hardware suppliers (there is a charge for this service). I am available for telephone queries during normal office hours, (except for Tuesday and Wednesday afternoon and evening). IPSO also provides a FREE datapak formatting service (please enclose £1.50 to cover Recorded Delivery postage only). We are also able to transfer programs from 3.5" or 5.25" diskettes to your data, RAM or FLASH paks (providing there is sufficient space available). Again, please enclose £1.50 for postage & packing.

May I take this opportunity of wishing all our members

*An Organised &  
Happy Christmas  
and  
A Healthy Slice of  
Luck  
in the New Year*

and thank all those who sent me  
Christmas Cards

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# Beginners Page - 1

by Mike O'Regan

## *Printers for Beginners*

In response to quite a few recent requests, I am having another go at explaining the ground rules for attaching and using printers with both the Organisers and the Series 3.

Psion have been rather reluctant to bring out dedicated printers for their machines, probably with good reasons. The *Psion Printer II*, which was designed specifically for the Organisers, came along relatively late in their history, and there appears to be no rush about producing a special printer for the Series 3 (the Printer II is, of course, not suitable for *any* machine except the Organiser).

Of course, if you look at the range of computers available, and then at the number which have dedicated printers, you may be quite surprised. In the desktop world, it is the exception to see dedicated printers. Only such machines as the Amstrad Word-Processor are supplied with a special printer (which will not work with any other machine) as part of the package.

In the pocket world, *SHARP* and *HEWLETT-PACKARD* have always had small printers associated with their machines (I can think of the *SHARP PC1500* which had one of the first revolutionary 4 colour plotter-printers available). However, most of these are a carry over from the desktop printing calculator in that they produce "till-roll" size output.

If a manufacturer decides to provide a special printer, which does not conform to existing standards, and which will probably not be of any use with any other machine, is taking a great chance. Hence the reluctance to do so.

If you think about it, the better choice is to make the printer connections on your pocket computer so versatile that you can literally connect to any printer. In this way, most users requirements can be met, not only in the use to which the printer is put to, but also quality of output and price.

### *Connection - Serial or Parallel.*

When Psion built the first Organiser IIs, it was pretty obvious that, not only was a standard interface (which used a standard cable) was not possible.

At this same time, and for the same reasons (lack of space), it was not thought possible to give the Organiser user a choice of two interfaces (most desktops have at least two!).

Psion's choice was a modified SERIAL interface for the Organiser. I say "modified" because the "top-slot" on the Organiser does not allow a standard serial cable to be used, especially as the Organiser does not have any communications software or hardware built-in. I have a heard quite a few complaints about the price of the Organiser Comms Link, mostly from people who don't really appreciate just what they are getting for their money.

# Beginners Page - 2

The Comms Link plug contains the hardware and software which make it into one of the most powerful serial ports in the pocket computer world.

The big drawback with the Comms Link, when it comes to using it for connecting a printer is that MOST reasonably priced printers have only a PARALLEL interface. This is where two "third-party" suppliers came into the picture - Transform with a serial-to-parallel converter (now sadly discontinued) and the Silvertree (now Widget) "Paralink". Either of these devices enables the Organiser to drive a parallel printer.

This problem has been addressed rather differently in the Series 3. The single port on the left side of the machine will accept either of the Psion produced serial or parallel interfaces. As the serial interface is more complicated (and flexible) it naturally costs more. Of course, if your printer has a serial port (some have both types) then the choice would be the serial interface, especially as it can be used to connect to other devices (computers, modems, faxes, etc).

## *Indirect Connection*

There is yet another option with the Series 3 and that is indirect connection.

Let me explain. I have my main printer - a Hewlett-Packard Deskjet+ - more or less permanently attached to my PC desktop. However, I frequently print letters and the like from my Slice without the necessity of disconnecting the (parallel) cable which connects the PC and printer. Supplied on disk with the Slice's serial link is a handy utility called MCPRINT

(signs of a hang-over from the MC laptop). When this is run, my Slice operates the printer as if it was directly connected to it, instead of the two connections - serial to the PC and Parallel between the PC and the printer. I

It just so happens that my Deskjet is equipped with both serial and parallel interfaces, but I have never had to use the serial one.

## *Will My Organiser/Series 3 drive a Laser Printer?*

I get this question fairly often and the quick answer is "Yes". There are a couple of laser printer drivers (Laserjet II and III) provided with the Series 3 serial software which can be installed from a PC into the Slice.

Laser Printers usually have both serial and parallel interfaces so you can take your choice. My Organisers have successfully driven a number of different laser printers, as well as a range of dot-matrix, thermal, ink-jet, and daisywheel printers over the years with no problems.

## *What is a good printer for the Psion?*

Another regular question which I usually answer with "How long is a piece of string?" I don't mean to be evasive, but there is not a straight answer. Before you can start to consider a machine you should ask a few pertinent questions:

1. *Is mobility essential?* - if so, and you must be mains independent, you are narrowing the field considerably, and probably paying for the privilege of mobility.

# Beginners Page - 3

2. *What about print quality?* - the cheapest dot-matrix printers are capable of producing acceptable quality at the expense of speed. The best quality is produced by laser or ink-jets, but the initial outlay and running costs are relatively high.

3. *What will you be printing?* - if all you require are printed listings of programs as an aid to program development, then almost any printer will suffice. If you are printing business letters, a better quality printer is essential to give the right impression. Finally, if you print lots of graphics (this newsletter is printed totally as graphics!), you really need the 300 dots-per-inch (DPI) of an ink-jet or laser printer.

3. *How much can you afford to pay?* - the final factor which will decide your choice is price. The good news is that all printers have come down in price. Not long ago a laser printer was way beyond the resources of even small business users. Now they can be bought for around £600. Don't forget that the running costs should be considered - ink-jet and laser cartridges require a considerable outlay at regular intervals, so you continue to pay for quality.



## Feedback

Dear Mike,  
I now have a Psion Series 3, Version 1.80F and a Canon BJ10ex printer. At last, thanks to simple menus and help screens, I am beginning to understand a little about computing. This is gratifying, as I bought the

computer mainly because it seemed to provide a simple introduction into the complexities of desk-top personal computers. I am now spending a lot of my spare time learning to use the word-processor and spreadsheet programs in the hope that they will help me to use the bigger machines in the office.

The Series 3 manuals are very good - they must be if I can understand them - but there is an urgent need for a beginner's book which includes lots of practical examples of using the machine. For example, I am having difficulty with setting up a document layout with the word-processor and printer, as I find the paragraph styles, emphases, font settings and style bar very confusing, especially when you then add the various page settings on the printer. I would welcome some step-by-step examples of how to set up, say, a standard letter (such as this one) and typical report, print the address on an envelope, make templates for forms, etc. Could you include something along these lines in a Series 3 Beginners Page in IPSO FACTO? And can you encourage someone to produce a hands-on instruction book for absolute beginners? I don't need to learn OPL programming or machine code at this stage, just how to make the most of all the facilities packed into such a small device, and how to do justice to an amazing machine.

This is the first time that I have not felt intimidated by a computer and I am a definite fan of the Series 3. The only minus feature is the price of SSDs. Is there any more news of the Cristy disk drive? If it works, it should sell like hot cakes - or make Psion reduce the price of their SSDs.

Thank you for keeping IPSO FACTO up to such a high standard. Your efforts are greatly appreciated, at least by this computer thickie.

Best Wishes  
Ken Mulhall

# Progs & Procs - 1

## SCRABBLE CHEAT

by Peter Walker

This program is designed for the LZ64. It exploits the Thesaurus and Spelling Checker to find appropriate words in the popular game of SCRABBLE. I cannot recommend that this be used during a game for two reasons. Firstly, your partners will consider you to be cheating with such a powerful assistant and secondly, it is so slow that you will seriously impede play, especially if the blank character is entered. However, it is a useful tutor when playing alone and a good demonstration of the power of the machine.

You need to load the 4 programs listed below: Q, TP, AN and WC. Additionally, the program CL must be run once to create the file SL.

The program requests you to enter your 7 letters. Use the wildcard character \* for a "blank". Only one blank can be entered. After that you enter your link letter, that is, the letter on the board that you have chosen to try to link to. You may press EXE alone, without entering a link letter, if you only want to use the 7 letters, such as laying the first word in the game. The program then attempts to find solutions, starting with all 7 letters (plus the link letter), then all the 6 letter combinations, then 5 etc. The file SL is used to decide the order in which the 127 combinations are attempted. The routine TP assembles the word to be tried and the routine AN

performs the anagrams. The routine WC handles the 26 separate attempts when a wildcard is included. The program cannot be used when you are left with less than 7 characters. After each session, the file WL can be reviewed where all the words which were found are stored.

I hope you find it educational and fun!

```
Q:
GLOBAL T%,W$(7),LK$(1)
LOCAL A%,F%
PRINT "PLEASE WAIT"
OPEN "A:SL",A,S%,H$
IF EXIST("A:WL")
DELETE "A:WL"
ENDIF
CREATE "A:WL",B,W$
CLS : PRINT "ENTER STRING" : INPUT W$
IF LEN(W$)<>7
DO
BEEP 250,30
PRINT "7 LETTERS!"
INPUT W$
UNTIL LEN(W$)=7
ENDIF
PRINT "ENTER LINK LETTER" : INPUT LK$
USE A
A%=7
WHILE A%>0
F%=FIND("$"+GEN$(A%,1))
WHILE F%<>0
T%=A.S%
PRINT T%,A%
TP:
IF T%=0
STOP
ENDIF
USE A
POSITION F%
NEXT
F%=FIND("$"+GEN$(A%,1))
ENDWH
A%=A%-1
FIRST
ENDWH
CLOSE
```

```
TP:
LOCAL B$(8),N%,M%
B$="" : N%=1 :M%=1
DO
```

(proc continued on next page)

# Progs & Procs - 2

```
IF T% AND N%
B$=B$+MID$(W$,M%,1)
ENDIF
N%=N%+N%
M%=M%+1
UNTIL N%=128
B$=B$+LK$
N%=LOC(B$,"*")
IF N%=0
AN:(B$)
ELSE
WC:(B$,N%)
ENDIF
RETURN
```

```
AN:(B$)
LOCAL A$(8),K%
PRINT "Trying ";B$
A$=SPELL$: (6,B$)
WHILE A$<>" "
USE B
K%=FIND("$"+A$+"$")
IF K%=0
B.W$="$"+A$+"$"
APPEND
CLS :PRINT A$ :AT 1,4
PRINT "Press any key.."
K%=GET
IF K%=54
T%=0
RETURN
ENDIF
CLS
ELSE BREAK
ENDIF
PRINT "Trying ";B$
A$=SPELL$: (7)
ENDWH
FIRST
RETURN
```

```
WC:(B$,N%)
LOCAL A$(8),L%
L%=65
DO
[A$=LEFT$(B$,N%-1)+CHR$(L%)+RIGHT$(B$,
,LEN(B$)-N%)]
AN:(A$)
IF T%=0
STOP
ENDIF
L%=L%+1
UNTIL L%=91
RETURN
```

```
CL:
LOCAL T%,R%,L%
CREATE "A:SL",A,S%,L$
T%=127
```

```
WHILE T%>0
PRINT T%
A.S%=T%
R%=64
L%=0
DO
IF T% AND R%
L%=L%+1
ENDIF
R%=R%/2
UNTIL R%<1
A.L$="$"+GEN$(L%,1)
APPEND
T%=T%-1
ENDWH
CLOSE
```

## DATE MANIPULATION on the LZ64 By Peter Walker

I have a program which I use for logging weekly financial transactions. I create a file with one transaction per record.

Each record in the file has the date in reverse order as the first field ie YY/MM/DD. It is fairly easy to generate such a date as a default when each record is created:

```
DC:(D%,M%,Y%)
LOCAL M$(2),D$(2)
M$=GEN$(M%,2)
WHILE LEN(M$)<2
M$="0"+M$
ENDWH
D$=GEN$(D%,2)
WHILE LEN(D$)<2
D$="0"+D$
ENDWH
[A.DT$=MID$(GEN$(Y%,4),3,2)+"/"+M$+"/"
"+D$]
RETURN
```

This routine when called by DC:(DAY,MONTH,YEAR), will set the field A.DT\$ to the form YY/MM/DD. (This

# Progs & Procs - 3

form of date is the only way that allows the records to be sorted into date order.)

What I wanted was to be able, via a one line menu to accept this date, edit it, or set the date back by 7 days. It is this last function I will concentrate on. I soon realised that one could use the DAYS function to produce the number of days since 1900, subtract 7 and then convert back. There is only one problem. There is no function to convert the number of days back to the respective Year, Month and Day. So I derived this routine to perform the function:

```
DSTR:
LOCAL D%,M%,Y%,N%,TD,ND
DC:(DAY,MONTH,YEAR)
D%=DAY :M%=MONTH :Y%=YEAR
DO
ND=DAYS(D%,M%,Y%)
CLS :PRINT A.DT$
AT 1,4 :N%=MENUN(1,"YES,BACK,EDIT")
IF N%=2 :D%=D%-7
IF D%<1 :M%=M%-1
IF M%=0 :M%=12 :Y%=Y%-1
ENDIF
TD=DAYS(28,M%,Y%)
D%=21+ND-TD
ENDIF
DC:(D%,M%,Y%)
ELSEIF N%=3
CLS :EDIT A.DT$
ENDIF
UNTIL N%<>2
CLS :PRINT A.DT$
RETURN N%
```

The routine works by subtracting 7 from the day. If the day is less than 7 then the month is reduced by one and the number days since 1900 on the 28th day of the previous month is used to determine which day in the month is 7 days less. The 28th day is used merely because every month has this day, I suppose the routine could use any day from 1 to 28. The point of the routine is that the variable number of days in each month

does not make it easy to derive directly which day is 7 less. Finally if the month is less than one, the year is reduced by one. Nothing exceptionally clever, but the fastest way to overcome the lack of an inverse DAYS function.

## *For Sale*

- 1 - Psion Printer IIc complete
  - 1 - Psion Formatter
  - 2 - POS 200 Organisers
  - 2 - ALPHA POS Organisers
  - 2 - Mains Adaptors
  - 1 - Dual Barcode pen/comms link
    - 1 - Comms Link
    - 1 - Barcode Pen
  - 3 - 32k RAM paks
  - 5 - 16k datapaks
  - 2 - 128k datapaks
  - 2 - Miracle serial/parallel adaptors
    - 1 - Widget FILEMASTER
- offers to David Runyard  
on 071 987 7271 (day)  
or FAX 071 537 3016  
or 0959 572342 (weekends)**
- 

- Organiser XP - £25
  - Organiser LZ32 - £60
  - 32k RAMPak - £25
  - 256k FLASHpak (boxed) - £110
  - 256k FLASHpak - £100
  - Paralink v1.4 - £30
  - FNKEYS v3.5 - £20
  - HARVESTER Superchip - £15
  - Mains Adaptor £6
  - Manuals XP-£2, LZ-£4.50, S3-£6
  - Mike Shaw's "First Steps.." Book  
(comb-bound) - £12
  - all plus postage
  - or £350 the lot, post free
- Phone David Kirby-Green  
071-727-1859 (after 6p.m.)**

# Page Three

## A Printing Calendar

by Adrian Pegg

I have frequently thought that it would be useful to be able to print a hardcopy calendar, but this is not possible to do from the Series 3 Agenda. The following code, entered into the Spreadsheet, generates a calendar for any month and can therefore be printed out, or pasted into the WP for extra manipulation and more fonts, - just set the tabs (centred tabs) to lay it out the way you want.

The sequence was made more complicated by the lack of a DOW (day-of-week) function in the Spreadsheet. As it stands, it will always generate the calendar for the current month, but any month and year may be entered as replacements for the formulae in Cells A2 and A4. First set the column widths as follows: A:A to 5, B:I to 3. This makes the calendar more readable.

Enter the following into the Cells listed:

```
(a1) 'MONTH      (a2)=MONTH(NOW)
(h1)=a4          (a3) 'YEAR
(a4)=YEAR(NOW)  (c4)=i3+1
(d4)=c4+1       (e4)=d4+1
(f4)=e4+1       (g4)=f4+1
(h4)=g4+1       (i4)=h4+1
(c2) 'Mon        (d2) 'Tue
(e2) 'Wed        (f2) 'Thu
(g2) 'Fri        (h2) 'Sat
(i2) 'Sun        (c3)=IF($A$7=1,1,"")
[(d3)=IF($A$7=0,"", (IF($A$7=2,1
(IF($A$7<3,c3+1,""))))]
[(e3)=IF($A$7=0,"", (IF($A$7=3,1
(IF($A$7<4,d3+1,""))))]
[(f3)=IF($A$7=0,"", (IF($A$7=4,1
(IF($A$7<5,e3+1,""))))]
[(g3)=IF($A$7=0,"", (IF($A$7=5,1
(IF($A$7<6,f3+1,""))))]

```

```
[(h3)=IF($A$7=0,"", (IF($A$7=6,1
(IF($A$7<7,g3+1,""))))]
(i3)=IF($A$7=0,1,h3+1)
(a6)=DATE(a4,a2,1)-1
(c6)=i5+1        (d6)=c6+1
(e6)=d6+1        (f6)=e6+1
(g6)=f6+1        (h6)=g6+1
(i6)=IF(h6+1<=$A$10,h6+1,1)
(a7)=MOD(a6,7)
(c7)=IF(i6+1<=$A$10,16+1,1)
(d7)=IF(c7+1<=$A$10,c7+1,1)
(e7)=IF(d7+1<=$A$10,d7+1,1)
(f7)=IF(e7+1<=$A$10,e7+1,1)
(g7)=IF(f7+1<=$A$10,f7+1,1)
(h7)=IF(g7+1<=$A$10,g7+1,1)
(i7)=IF(h7+1<=$A$10,h7+1,1)
[(a8)=IF(a2=4 OR a2=6 OR a2=9
OR a2=11,30,IF(a2=2,28,31))]
(c8)=IF(i7+1<=$A$10,17+1,1)
(d8)=IF(c8+1<=$A$10,c8+1,1)
(a9) 'LAST=
[(a10)=IF(a8=28 AND MOD(a4,4)
=0, 29,a8)]
(k1) 1          (k2) 2          (k3) 3
(k4) 4          (k5) 5          (k6) 6
(k7) 7          (k8) 8          (k9) 9
(k10) 10        (k11) 11        (k12) 12
(11) JANUARY    (12) FEBRUARY
(13) MARCH      (14) APRIL
(15) MAY        (16) JUNE
(17) JULY       (18) AUGUST
(19) SEPTEMBER (110) OCTOBER
(111) NOVEMBER  (112) DECEMBER

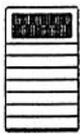
```

Once the data has been entered, select the range k1:l12 and name it MONTHS. This forms the lookup table for the title. Now you can enter the last formula:

```
(e1)=VLOOKUP($A$2,MONTHS,1)
```

I am sorry it is a bit long-winded. Perhaps another member can come up with a more elegant formula.

*Editor's Note: Square brackets, thus, [] are used to surround formulae which will not fit on a single common line - these brackets should not be keyed in. Cells are indicated by a letter and number in parentheses, thus, (i11)*



# IPSO *facto*



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Editor: Mike O'Regan

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

Tel: (0602) 735482

## Editorial

### RENEWAL TIME

Once again we are coming to the end of our publication year (our SIXTH!) and it is time to renew your subscription. I have enclosed a Renewal Form with this issue. You will notice that, in spite of the Recession, and for the third year, there is no increase in the subscription. I hope you will still consider it value for money. Please renew as soon as possible. Volume 7 starts with the March '93 issue.

### Apology

I am sorry that this issue is later than usual, due to an unfortunate combination of a bout of 'flu and my copier breaking down at the same time. I hope this has not caused anyone inconvenience.

### Slice & the Series 3

As I continue to get letters asking the derivation of our name "Slice" (including "thick" for the 256k and "thin" for the 128k), here is the short history:

1. When Psion was developing the Series 3, their code name for the project was PAN, which is Spanish for "bread".
2. Substitute "CERES" (Roman God of Bread and Harvests) for "SERIES" (pronounced identically) for another "bread" connection.
3. Slice is short, snappy, and descriptive of the thin pocketable nature of the beast.

## STOP PRESS

I have just obtained my SEVENTH SLICE, which I have nicknamed "No. 7" (recognisable as "Mad Jack's" Mule in the TV Series "Grizzly Adams" - and rather appropriate. I got this courtesy of a friendly dealer who agreed to me hand-picking it from his stock, thus ensuring that I have an even chance of this one outlasting the previous six. Seriously, it is getting to the stage where I am reluctant to recommend the Slice to friends because of its uncertain reliability. What a shame!!

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# Beginners Page - 1

by Mike O'Regan

## Organised Graphics

With all the hype about the Slice and its GUI (Graphics User Interface) it is easy to forget that the Organisers, all of them from the CM to the Fat LIZZY (LZ 64), are capable of a fair amount of graphics. It is also a long time since this Newsletter featured anything about graphics, so I am about to put this right.

### *Basics*

All graphics on all computers follow the same basic pattern - they are made up of a number of dots, called PICTURE ELEMENTS (PIXELS for short). Where the graphics on the Organiser differ from most is that it is not possible to have continuous graphics over the whole screen (as on the Series 3). This is because there are gaps between the MATRICES (sets of 8 x 5 pixels) which are used for characters and graphics on the Organiser.

If you haven't particularly noticed this, then turn up your Organiser's contrast to full and you will clearly see the blank lines between each character, which serve the purpose of spaces between each letter.

### *How the Organisers Standard Characters are formed.*

The alphabetic letters (both upper and lower case - that is Capital and Small letters), numbers, punctuation signs, etc. which form the standard character set are all formed from a variety of pixel patterns within the confines of the 8 x 5 matrix. Now you will notice that I have said 8 x 5, although in practice only 7 x 5

(7 high and 5 wide) are used to actually form characters. This is because the extra line is used for the UNDERLINE CURSOR and also to give a bit more space between lines. However, as we will see later, all eight vertical pixels are available for graphics.

### *Graphics & Binary Arithmetic*

If you are to understand the way that graphics are formed on the Organiser properly then you will need to understand the simple principles of a numbering system called BINARY. Do not let this put you off - binary is a very simple numbering system and equally simple to understand. So studying Organiser graphics has a bonus of actually being a simple introduction to binary in practical use.

All (digital) computers are basically sets of on/off switches and the two positions of each switch are represented by one of two digits - 0 (zero) for OFF or 1 (one) for ON.

Your Organiser uses a set of five switches for each line of a character or graphic pattern and eight of these sets stacked vertically to produce the whole character. With a bit of simple (decimal) arithmetic you should be able to work out that five on/off switches in a row are capable of 32 combinations - or 2 to the power of 5.

Use your Organiser on CALC if you don't believe me. Press 2\*\*5 <EXE> and get the answer 32. These patterns range from 0 (zero) - all pixels switched off to 31 - all pixels switched on. What the Organiser

# Beginners Page - 2

needs is some simple way of telling it just which pixels are switched on and which are switched off. This is where Binary comes in.

If you tried to devise a way to represent the on/off state of 5 switches placed in a row you could show each one which is ON by a 1 (one) and each which is OFF by a 0 (zero). So ALL ON would be 11111, ALL OFF 00000, ALTERNATE ON/OFF 10101, etc. All that is needed to convert these patterns of ones and zeros to Binary is to allocate each of the *columns* of digits a value which will enable each of these combinations to represent a unique sum between 0 and 31.

As decimal notation, digits on the left-hand side represent higher values than those on the right - hence, in decimal, 100 represents one hundred, no tens, no units. Of course in decimal we have the digits 2,3,4,5,6,7,8 and 9 in addition to the 0 and 1 to represent other sums.

In Binary, because our ON/OFF switches restrict us to ones and zeros only, the values represented by each column must be different. So from right to left in Binary the progression is 1, 2, 4, 8, 16, etc. So 100 in Binary signifies ONE FOUR, NO TWOS, NO ONES or decimal 4. So 11111 in Binary (showing all five switches ON) can be broken down as follows:

|                        |   |    |
|------------------------|---|----|
| 1 in the ONES COLUMN   | = | 1  |
| 1 in the TWOS COLUMN   | = | 2  |
| 1 in the FOURS COLUMN  | = | 4  |
| 1 in the EIGHTS COLUMN | = | 8  |
| 1 in the 16s COLUMN    | = | 16 |
| TOTAL                  | = | 31 |

It is time for a practical example, so let us examine the pixel combination which the Organiser uses to form a capital A. In Binary the top line is 01110 (decimal 14), the second line is 10001 (decimal 17), etc. Here are the Binary numbers for each line of a capital letter A:

```
01110
10001
10001
11111
10001
10001
10001
```

Notice how the shape of a letter A is traced out by the pattern of ones against a background of zeros. This is the basis of defining UDGs (*User Defined Graphics*) on the Organiser.

## UDGs on the Organiser

The designers of the form of OPL used on the Organiser decided that they would give us the ability to define a limited number of UDGs (8 only). Some computers allow most of their existing characters to be *re-defined*, giving an enormous range of possibilities. On the Organiser we are restricted to eight, but none of the standard characters is used for this purpose. Next month we will examine how to define UDGs through OPL.

### Wanted

Revoreed Speech Synthesiser  
and other accessories for Organiser II  
Also seeking complete computer system  
Offers, by letter only to:

Charles Trager, 7 Grandey St, Glasgow G41 3PT



# Page 3a

by Rick Andrews

This months Series 3 utility is MPG, an application that calculates the fuel efficiency of your vehicle.

You enter the current mileage from the odometer (milometer) and the amount of fuel you've put in at the garage. The fuel economy is then calculated & displayed in miles per gallon (hence the name of the utility). In case you're a metric kind of person, both the trip distance and the volume can be displayed as metric. The choices are Miles or Kilometres against Gallons or Litres, and the utility will automatically convert between the two. The details can be saved as a text (.TXT) file for printing. Note that the odometer reading is always entered in miles. The trip distance between readings can be displayed as kilometres. I have also built in a little evaluator that will convert any distance or volume to metric or imperial or vice versa.

The more readings entered into the database file, the more accurate the economy, as the efficiency of your engine is calculated as the \*average\* of distance against volume. As with any statistical calculation, the larger the set of figures, the more accurate the result.

Here is an example of the output:

MPG - Fuel economy database  
Filename: LOC::M:\MPG\ESCORT.MPG  
at Sun 20 Dec 1992 08:54:22

| Date     | Odometer | Miles | Gallons   |
|----------|----------|-------|-----------|
| 01/12/92 | 45014.0  | -     | 10.0      |
| Started  |          |       |           |
| 06/12/92 | 45137.0  | 123.0 | 5.5 BP    |
| Garage   |          |       |           |
| 11/12/92 | 45278.0  | 141.0 | 6.0 Shell |
| 16/12/92 | 45397.0  | 119.0 | 7.0 Esso  |

Economy is 20.7 Miles per Gallon  
Total distance is 383 Miles  
Total fuel is 18.5 Gallons

This utility was requested by a fellow *Ipsos Facto* reader, Kevin Ash, so I would like to thank Kevin for his ideas. I am not a car driver so I

would never have thought about doing this type of utility!

Now for something completely different...

There is a problem with the Series 3 Auto Switch off when a particular type of program is running (either in foreground or background). The problem is the S3 can't switch itself off, so if you leave it switched on by accident, you can kiss your batteries goodbye.

The types of programs that cause this behaviour are ones that continually scan the keyboard (e.g. using the OPL 'KEY' command) as opposed to waiting for a key to be pressed. (e.g. OPL 'GET', or 'DIALOG' etc.) I have seen several arcade-type games that prevent the auto switch off.

However, (and this is where it gets embarrassing!) my Stop-watch utility published a couple of months ago in *Ipsos Facto* has the same problem! I would like to thank Kevin Ash for pointing this out to me.

Here is a solution.

```
in the main STOPW procedure,  
insert after "GLOBAL gTimeId%,gDescId%"  
GLOBAL gSleep%
```

```
insert after "k%=KEY"  
CheckOff:(k%)
```

Then add this procedure at the end of the file.

```
PROC CheckOff:(press%)  
LOCAL timeout%  
timeout%=60 REM Seconds.  
IF press%=0  
gSleep%=gSleep%+1  
IF gSleep%>timeout%  
dINIT  
dTEXT "","Display paused",2  
dTEXT "","Press Enter",2  
DIALOG  
gSleep%=0  
ENDIF  
ELSE  
gSleep%=0  
ENDIF  
ENDP
```

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This checks how long the program has not been used for, and displays a dialog after 60 seconds. The computer can switch itself off automatically when this dialog is displayed. The dialog does not prevent the stop-watch from keeping track of time. If you want to let the stop-watch run normally for longer than 60 seconds, increase the timeout% variable.

Note that this fix is only required if you leave the Stop-watch running. It was designed to enable you to exit the utility and only run it when you wanted to see the elapsed time. This is the reason I didn't find the problem!

Kevin has also spotted a problem is the stop-watch is zeroed, and the program exited. The next time it is run, the start date is Jan 1 1970. To fix this defect, replace a line in the main STOPW procedure after the line "REM save details?"

old line is "IF save%"

new line is "IF save% AND gStart&>0"

Thanks Kevin!

P.s. If you need to know whether you have any unforgotten programs running in the background, you can cycle around all the running programs by pressing Shift+System repeatedly.

P.P.s Happy New Year!

```
REM Mpg utility - a fuel economy
REM database for Psion Series 3.
REM Rick Andrews Dec 92
```

```
APP Mpg
TYPE 4
ICON "\pic\mpg.pic"
PATH "\mpg"
EXT "mpg"
ENDA
```

```
PROC Mpg:
GLOBAL g%,k%
GLOBAL gFile$(128)
GLOBAL GSCRHT%
GLOBAL gMile%,gGallon%
GLOBAL gKFactor,gLFactor
GLOBAL gEconomy,gTotDist,gTotVol
GLOBAL gOpen%
LOCAL exit%,delta%,wid%
LOCAL finger%,oldFing%,oldCoun%
LOCAL ctrl%,choice%
```

```
LOCAL action$(1)
REM Init.
TRAP MKDIR "\MPG"
gUPDATE OFF
GSCRHT%=7 REM Screen height in lines.
gOpen%=0
gMile%=-1 :gGallon%=-1
gLFactor=4.546099 REM Ltrs in gallon.
gKFactor=1.609344 REM Kms in mile.
wid%=gCREATE(0,0,240,gSCRHT%*9+17,1)
gBORDER 0 REM Natural.
gSTYLE 0 REM prop.
gTMODE 3 REM Replace.
gAT 0,12 :gLINEBY 240,0
gAT 15,10 :gPRINT "Date"
gAT 58,10 :gPRINT "Odometer"
UnitHead:
gFile$=CMD$(2)
REM Handle initial actions.
action$=CMD$(3)
HandAct:(action$)
oldFing%=0
oldCoun%=0
delta%=-1
finger%=COUNT-GSCRHT%+1
exit%=0
DO
IF finger%<>oldFing% OR
COUNT<>oldCoun%
delta%=-1
oldFing%=finger%
oldCoun%=COUNT
ENDIF
IF finger%>COUNT-GSCRHT%+1
finger%=COUNT-GSCRHT%+1
ENDIF
IF finger%<1
finger%=1
ENDIF
IF delta%
Screen:(finger%)
delta%=0
ENDIF
GetEv:
IF (k% AND 4)
ctrl%=-1
ENDIF
IF (g%=$122 OR (g% AND $200)) REM
Menu/Hot.
IF g%=$122 REM Menu.
LOCK ON
mINIT
mCARD "File", "New file",%N, "Open
file",%O, "Save as",%A
mCARD "Changes", "Enter
data",%E,"Update",%U,"Delete last",%D
mCARD
"Economy", "Calculate",%C,"Evalulate",
%V
mCARD "Special", "Options",%Q,
"Version",%Z, "Exit",%X
choice%=MENU
```



# Page 3d

```
ENDIF
ENDIF
SETNAME gFile$
IF gOpen%
CLOSE
gOpen%=0
ENDIF
IF EXIST(gFile$)
TRAP DELETE gFile$
ENDIF
TRAP
gFile$,A,date&,dist,vol,note$ CREATE
IF ERR
ALERT ("Failed to create",gFile$)
okay%=0
ELSE
gOpen%=-1
Screen:(1)
Insert:
Screen:(1)
ENDIF
IF NOT okay%
STOP
ENDIF
ENDP
```

```
PROC Screen:(finger%)
REM Update screen.
LOCAL prevd,back1%
LOCAL place$(7)
back1%=finger%-1
IF back1%<1
prevd=-1
ELSE
POSITION back1%
prevd=A.dist
NEXT
ENDIF
POSITION finger%
Row:(prevd)
POSITION finger%
IF COUNT=0
place$="0/0"
ELSE
place$=GEN$(POS,3)+"/"
place$=place$+GEN$(COUNT,3)
ENDIF
gAT 200,10
gPRINTB place$,37
ENDP
```

```
PROC Row:(prevdst)
LOCAL row%,r%,dist,trip
LOCAL vol
dist=prevdst
row%=1
DO
r%=row%*9+12
gAT 3,r%
```

```
IF EOF
gPRINTB "",234
ELSE
gPRINT Day2Str$(A.date&)
gAT 55,r%
gPRINT FIX$(a.dist,1,-8)
gAT 105,r%
IF dist=-1
gPRINTB " -",38
ELSE
trip=A.dist-dist
IF trip<0
trip=trip+1000000
ENDIF
IF NOT gMile%
trip=trip*gKFactor
ENDIF
gPRINT FIX$(trip,1,-6)
ENDIF
dist=A.dist
gAT 144,r%
vol=a.vol
IF gGallon%
vol=a.vol
ELSE
vol=a.vol*gLFactor
ENDIF
gPRINT FIX$(vol,1,-5)
gAT 177,r%
gSTYLE 0 REM Proportional.
gPRINTB A.note$,60
gSTYLE 16 REM Non-prop.
ENDIF
row%=row%+1
NEXT
UNTIL row%>GSCRHT%
ENDP
```

Editor's Notes: I am publishing the whole of this application in "bite-sized chunks". This is the first part. *Note that all parts are needed for the application to work properly.* The next section will be published in next month's newsletter. Quite a bit of space is being allocated to this application, because, not only is it a very useful one, but it contains many examples of excellent programming in gOPL which will be of use to other programmers.

Finally, if you cannot wait for all the sections to be printed, you can send me a FLASH or RAM pak and I will copy the whole application to it. Alternatively, if you have access to a PC, I can supply everything on 3.5in or 5.25in floppy. The cover cost of this service is £2.50 (incl. p&p and diskette, if required) Ed.



# IPSO FACTO



130 Stapleford Lane . Toton . Beeston . Nottingham . NG9 6GB  
Co-ordinator: Mike O'Regan Tel: (0602) 735482

Volume VI, No 12

February 1993

## Editorial

### Renewals

If you have not yet renewed, please remember that this is your LAST ISSUE. Every year, as we start a new volume, I get a number of members writing or phoning to say that they have not received any of the new volume, sometimes after a delay of months. The answer, usually, is that they forgot to renew. Members who have joined in the last months of a Volume sometimes think that they are entitled to 12 issues from the date of joining. This is not so, as we always back-date the membership to the beginning of the CURRENT Volume, so that everyone is in the same place, and this has worked well over the years. By the way, I am noting all the comments made on Renewal Forms, including the Models owned by members. When most renewals are complete, I will publish a detailed breakdown of models now owned by members.

### New Models?

In common with all other computer manufacturers, it is obvious that Psion must keep up with the times by developing new models (Series IV?), although they are, as usual, playing their cards very close to the chest. It is sad that this need for commercial secrecy can lead to a continuing trail of defective machines as new models are introduced, obviously without adequate beta testing - witness the Series 3!

In the computer world, a couple of years is a very long time, so, already, the Slice is being referred to by the Computer Press as being "long in the tooth". Where does this leave

the Organiser? Well, it must be one of the longest-lived popular computers ever.

The Organiser has, over the years, established itself as the machine by which all other hand-helds are measured, usually to their disadvantage. What a pity that many dealers are following the example of Dixons, Argos, and the like by no longer stocking Organiser equipment. Maybe it is time that Psion had an advertising campaign to assure present users and attract new ones to the Organiser. What do you think.

## For Sale & Wanted

I am still getting queries from members about the cost of this service. Let me repeat that this service is FREE OF CHARGE TO MEMBERS. I will enter your details in our database, and, unless you tell me otherwise, will print them in the next newsletter. The service applies to PERSONAL items of interest to Organiser or Slice users - not trade items.

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# Beginners Page

## Organiser Graphics - Part II

Last month I started to have a look at the UDG (user defined graphics) facilities. This month, it is time to go a bit further. But first let me digress a little. The UDG facility is ONLY available on the Organisers - unfortunately the Slice has no such handy device for creating ready made graphics which behave in most ways like any other standard characters.

Of course the Slice has many more options when it comes to graphics, but it would have been nice to have retained the UDG facility - and even expanded it to enable the whole character set to be redefined as UDGs! (perhaps some enterprising programmer will write a UDG Generator for the Slice).

Actually UDGs are best handled on either a CM or XP. This is because the more adventurous menus on the Lizzy actually use UDGs for their display. This is a pity, as it means that any that you have designed yourself are overwritten every time you power up the LZ. Compare this with the XP/CM. Although there is no actual UDG command in XP OPL, and it is necessary to use potentially dangerous direct access to the machine's memory through POKEs, at least any UDGs you have designed stay put until you consciously change them.

Lizzy programmers have the extra "UDG" command available, which not only makes designing UDGs a little easier, but, being standard OPL, doesn't carry any of the risks connected with POKEing data directly to memory.

## UDGs on the LZ

If you look at Page 9-35 in your Programming Manual (if you can find it!) you will see the explanation of how UDG works. You simply have to enter the command "UDG" followed by NINE numbers, separated by commas, and that is all there is to it! The numbers following the UDG are as follows:

First figure: the number of the UDG - only the figures 0(zero) to 7 are allowed, giving you a range of eight UDGs

Second figure to Ninth figure These are the eight figures which define the eight rows of pixels, starting with the TOP row and working down. The numbers must be in the range of 0(zero) to 31. Zero represents a blank row and 31 a full row of five pixels all switched on.

When a UDG has been designed in this way, it is actually used in a program by using the PRINT command, thus "PRINT CHR\$(n)", where the "n" represents the appropriate UDG number (0-7).

## UDGs on the CM/XP

It appears that the provision of UDGs on these machines was a bit of an afterthought on the part of the machine's designers. There is no special UDG command, as there is on the Lizzy. Instead you are required to enter a series of POKEs to get the right data into the right part of memory for it to be retained until required.

Once you have defined a UDG in this way, it remains available for use (even when the machine has been switched off any number of times) until you either redefine the UDG or you do a HARD RESET of the machine.

You may think, especially if you are a Slice user, that UDGs are a very restrictive form of graphics with not much practical use. If you think this, you should have a look at the two Games Paks, produced by HB Consultants and also the Space Invaders game designed by Neil Draycott some time ago. These will open your eyes to some of the possibilities of UDGs.

If you want a fuller explanation of UDGs (with a UDG Generator program written for CM/XPs), this appeared in Volume I of Ipso Facto, Pages 54 and 55. If you haven't a copy, I will supply you with one if you send a stamped-addressed envelope.

# Organiser Progs & Procs

Miles per Gallon  
by Malcolm Coulson

CM/XP/LZ

I was particularly interested in the Slice program in the last issue for calculating MPG. This set me thinking of writing a similar one for my Lizzy. However, before starting, I questioned myself as to what I really needed the program to do for me. The following are my answers:

1. It should be as small as possible, both in program and file size
2. I only need any up to date figure of MPG and not details of all transactions, etc
3. It should give me an indication of whether the MPG is getting better or worse (shown by Up and Down arrows), thus giving warning of anything wrong with the car, or results of tuning, etc
4. I only need it for one car
5. It should be easy to enter information at the garage
6. Input of fuel should be in litres, as this is what petrol pumps now show, but output of MPG should, of course, be in MILES PER GALLON, as this is easier to understand.

Below is a listing of the program I ended up with. It will run on the LZ or XP/CM with the amendments indicated by REMs.

```
mpg:
LOCAL
m%,nfuel,node%,nmpg%,miles%
KSTAT 4
IF NOT EXIST
("A:mpgdate")
```

```
CREATE
"A:mpgdata",a,ode%,fuel,mpg%,a$
PRINT "Start Mileometer"
:REM shorten for CM or XP
INPUT a.ode%
APPEND
ELSE
OPEN
"A:mpgdata",a,ode%,fuel,mpg%,a$
ENDIF
start::
m%=MENU("add,display")
IF m%=0
STOP
ELSEIF m%=2
GOTO display::
ELSE
CLS
PRINT "Mileometer"
INPUT node% :REM add CLS
here for CM or XP
PRINT "Fuel (litres)"
INPUT nfuel
a.fuel=a.fuel+nfuel
miles%=node%-a.ode%
nmpg%=INT(miles%/(a.fuel/4.57))
IF nmpg%<a.mpg% :REM is MPG
increasing or decreasing?
a.a$=CHR$(170)
ELSE
a.a$=CHR$(169)
ENDIF
a.mpg%=nmpg%
display::
CLS
PRINT "MPG =",a.mpg,a.a$
GET
ENDIF
UPDATE
GOTO start::
```

I have a number of programs for the Organisers in the pipeline, but will always welcome any new material from readers, preferably on disk or pak, but clear listings are also welcome.  
Ed.

# Letters

Dear Ed,

You mentioned in the May 92 issue that you were going to investigate the existence of a Psion group on CompuServe. Since then, nothing! I had in fact already discovered CompuServe and was looking forward to reading articles in Ipsos on electronic mail, scripts etc.

For those not familiar with CompuServe, it is an American-based network, and whilst most of the members are American and Canadian, there are also members from all around the world including a growing number of members in the UK.

To access the network, you need a modem, and preferably the CompuServe Information Manager (CIM) software to facilitate finding your way around. You can access the network directly using your Psion, Mclink, and modem cable, although a PC is far more practical for everyday use.

You get access to around 1500 databases and services, electronic mail facilities, news and weather services etc., but the really fascinating part of CompuServe is the special interest forums. These range from photography, astrology, pets, travel - you name it and there will probably be a forum for it.

There are all sorts of computer-related forums, including the Palmtop forum. The Psion section of this is very popular, and there can be a dozen or more messages on the bulletin board every day.

Each forum has a message board where members "correspond" about ideas, problems etc. There is a library of software which can be down-loaded, - some is shareware, but a lot is free - and there is a facility for on-line conferencing (although this is rarely used).

Some of the software is very good stuff (Notepad and "Master of Ceremonies" for ex-

ample). You are also able to get advice from Psion staff (American or British) who are represented in the forum. Above all, it is great fun. It seems to me that there is scope for a CompuServe column in Ipsos - reviews of available software, round up of news and tips from the bulletin board, and advice on using the Psion with a modem. How about it?

Jim Davis CompuServe 100111,2100.

Editor's Reply.

Thanks to Jim for pointing out the delay in producing information from Bulletin Boards. However, I have had a generous offer from a new member, who subscribes to CompuServe and several other boards, to keep us up to date with software available. As Jim says, CompuServe software is of two kinds - Public Domain (PD) and Shareware. Whilst listings of PD software can be printed in this newsletter without restriction, Shareware distribution is subject to certain restrictions, which I am currently examining. I have already collected a number of programs, both PD and shareware, and there will be more details about these in future issues.

## For Sale

Series 3 128k - £125  
(as new with Reg.Card)  
Time Manager (cost £90) - £45ono  
Black Vinyl Binder (exc.cond) - £9  
contact Nancy Poskett  
on 0483 36448

All copies of IPSO FACTO  
(back to Number 1)  
Bound and in good condition  
£20.00 ono  
Phone 0332 880663 9 a.m to 5 p.m.

Leather case for Slice  
(new in wrapper) I got 2 for Xmas  
Phone Bob on 081 656 1358

# Page Three-a

MPG

by Rick Andrews  
(listing concluded)

```
PROC Day2Str$(day&)  
REM Convert days-date to a  
REM formatted string e.g.  
29/02/84  
LOCAL y%,m%,d%,d$(8),lday&  
LOCAL u% REM An unused para-  
meter.  
lday&=day&-25567  
lday&=lday&*86400  
[SECSTODATE lday&,y%,m%,d%,u%,  
u%,u%,u%]  
d$=RIGHT$("0"+GEN$(d%,2),2)+"/"  
[d$=d$+RIGHT$("0"+GEN$(m%,2)  
,2)+"/"]  
[d$=d$+RIGHT$("0"+GEN$(y%  
-1900,2),2)]  
RETURN d$  
ENDP
```

```
PROC Insert:  
Entry:(-1) REM Append.  
ENDP
```

```
PROC Delete:  
LOCAL choice%  
IF COUNT=0  
GIPRINT "No entries to de-  
lete!"  
RETURN  
ENDIF  
dINIT "Delete last entry ?"  
dBUTTONS "No",-%N,"Yes",%Y  
choice%=DIALOG  
IF choice%=%y  
LAST  
ERASE  
GIPRINT "Deleted"  
ENDIF  
ENDP
```

```
PROC ShowEcon:  
LOCAL dType%,vType%,econ$(30)  
IF COUNT<2  
GIPRINT "Need more readings!"  
RETURN  
ENDIF  
CalcEcon:  
IF gMile%  
dType%=1  
ELSE  
dType%=2  
ENDIF  
IF gGallon%  
vType%=3  
ELSE  
vType%=4  
ENDIF  
[econ$=GEN$(gEconomy,5)+" "+  
Type%:(dType%)]  
[econ$=econ$+" per "+LEFT$  
(Type%:(vType%),6)]
```

```
dINIT  
[dTEXT "","The fuel economy  
is",2]  
dTEXT "" ,econ$,$302  
[dTEXT "" ,"(Total distance is "  
+GEN$(gTotDist,6)+" "+Type%:  
(dType%)+")",2]  
[dTEXT "" ,"(Total fuel is "  
+GEN$(gTotVol,6)+" "+Type%:  
(vType%)+")",2]  
DIALOG  
ENDP  
PROC CalcEcon:  
LOCAL startD,lastD  
FIRST  
gTotVol=0  
startD=A.dist  
NEXT REM Skip first fuel reading  
DO  
gTotVol=gTotVol+A.vol  
NEXT  
UNTIL EOF  
BACK  
lastD=A.dist  
IF lastD>startD  
gTotDist=lastD-startD  
ELSE REM Clocked.  
gTotDist=1000000-startD+lastD  
ENDIF  
IF NOT gMile%  
gTotDist=gTotDist*gKFactor  
ENDIF  
IF NOT gGallon%  
gTotVol=gTotVol*gLFactor  
ENDIF  
gEconomy=gTotDist/gTotVol  
RETURN  
ENDP
```

```
PROC Entry:(append%)  
LOCAL dDay&,today&  
LOCAL done%,dial%,dial2%,write%  
[LOCAL eNote$(11),eDate&,eDist,  
eVol]  
LOCAL fuel$(7),title$(6)  
[LOCAL trip,clocked%,limit%,  
prevDist]  
IF gGallon%  
fuel%=Type%:(3)  
ELSE  
fuel%=Type%:(4)  
ENDIF  
REM Get default settings.  
LAST  
dDay&=A.date&  
today&=DAYS(DAY,MONTH,YEAR)  
IF append%  
title$="Enter"  
eDate&=today&  
ELSE  
title$="Update"  
eDate&=dDay&  
IF COUNT=1  
dDay&=0  
ENDIF  
eVol=A.vol  
eNote$=A.note$
```

# Page Three-b

```
ENDIF
eDist=A.dist
write%=0
REM Find the o/meter upper limit
limit%=-1
[IF (append% AND COUNT=0) OR
(NOT append% AND COUNT<=1)]
limit%=0
ELSE
IF append%
prevDist=A.dist
ELSE
BACK
prevDist=A.dist
dDay%=A.date&
LAST
ENDIF
ENDIF
IF NOT gGallon%
eVol=eVol*gLFactor
ENDIF
DO
eVol=Round2:(eVol)
dINIT title$+" reading"
dDATE
eDate&,"Date",dDay&,today&
[dFLOAT eDist,"Odometer",0,
999999.9]
dFLOAT eVol,fuel$,0.1,999.9
dEDIT eNote$,"Note",11
dial%=DIALOG
IF dial%
IF limit%
trip=eDist-prevDist
IF trip<0
trip=trip+1000000
clocked%=-1
ELSE
clocked%=0
ENDIF
IF trip>5000
[GIPRINT "Invalid odometer value:
Max = "+GEN$(prevDist+5000,8)]
ELSEIF (trip=0 AND append%)
[GIPRINT "Invalid odometer value:
Min = "+GEN$(prevDist+.1,8)]
ELSEIF clocked%
dINIT "Warning!"
[dTEXT "", "You have clocked
the
odometer", $102]
dTEXT "", "Is this correct ?", 2
dBUTTONS "Yes", %Y, "No", %N
dial2%=DIALOG
IF dial2%=%y
write%=-1
ENDIF
ELSE
write%=-1
ENDIF
ELSE REM No limit
write%=-1
ENDIF
ELSE
done%=-1
ENDIF
UNTIL done% OR write%
IF write%
A.date%=eDate&
A.dist=eDist
IF gGallon%
A.vol=eVol
ELSE REM Conv to gallon.
A.vol=eVol/gLFactor
ENDIF
A.note$=eNote$
IF append%
TRAP APPEND
ELSE
TRAP UPDATE
ENDIF
IF ERR
[ALERT("File function failed",
"Try again")]
ELSE
IF append%
GIPRINT "Appended"
ELSE
GIPRINT "Updated"
ENDIF
ENDIF
ENDIF
ENDP

PROC Update:
LOCAL choice%
IF COUNT=0
GIPRINT "No entries to update!"
RETURN
ENDIF
Entry:(0) REM Update
ENDP

PROC UnitHead:
gSTYLE 0 REM Prop.
gAT 110,10
IF gMile%
gPRINTB Type$:(1),30,3
ELSE
gPRINTB Type$:(2),30,3
ENDIF
gAT 151,10
IF gGallon%
gPRINTB LEFT$(Type$:(3),4),20,3
ELSE
gPRINTB Type$:(4),20,3
ENDIF
gSTYLE 16 REM Non-prop.
ENDP

PROC Option:
LOCAL mile%,gallon%
mile%=gMile%+2
gallon%=gGallon%+2
dINIT "Set options"
[dCHOICE mile%,"Trip distance
shown as","Miles,Km"]
[dCHOICE gallon%,"Fuel volume
shown as","Gallons,Litres"]
IF DIALOG
gMile%=mile%-2
```

# Page Three-c

```
gGallon%=gallon*-2
UnitHead:
ENDIF
ENDP

PROC HandAct:(act$)
IF act$="C"
New:(0) REM system
ELSE REM act$="O"
Open:(0) REM system
ENDIF
ENDP

PROC Help:
dINIT
dTEXT "","Help: Mpg", $302
[dTEXT "","Calculates fuel
economy from fuel volume"]
[dTEXT "","and odometer (milom
eter) readings."]
[dTEXT "","Use "+CHR$(24)+CHR$(
25)+" to move around the
file"]
[dTEXT "","The "+CHR$(2)+" and

Control keys increase move-
ment"]
[dTEXT "","'Save as' saves the
data as Ascii text"]
[dTEXT "","Use 'Options' to
change preferences"]
DIALOG
ENDP

PROC GetName:(Title$,type%)
dINIT title$+" file"
dFILE gFile$,"Name",type%
IF DIALOG
RETURN -1
ELSE
RETURN 0
ENDIF
ENDP

PROC Version:
dINIT
[dTEXT "","MPG - Fuel economy
database",$302]
[dTEXT "","Rick Andrews & IPSO
FACTO",2]
[dTEXT "","Version 1.0 - 21
Dec
92",2]
DIALOG
ENDP

PROC SaveAs:
LOCAL f$(128),dist
LOCAL trip,vol
LOCAL dType%,vType%
IF COUNT<1
GIPRINT "No entries!"
RETURN
ENDIF
dist=-1
f$="
WRD

MPG.TXT"
dINIT "Save as ASCII text"
dFILE f$,"File:",1+16
IF DIALOG
TRAP LOPEN f$
IF ERR
ALERT("Unable to open file",f$)
ELSE
BUSY "Saving"
[LPRINT "MPG - Fuel economy
database"]
LPRINT "Filename:",gFile$
LPRINT "at",DATIM$
LPRINT
LPRINT " Date ",
LPRINT "Odometer ",
IF gMile%
LPRINT Type$(1),
dType%=1
ELSE
LPRINT Type$(2)," ",
dType%=2
ENDIF
IF gGallon%
LPRINT Type$(3),
vType%=3
ELSE
LPRINT Type$(4),
vType%=4
ENDIF
LPRINT "Notes"
LPRINT
FIRST
DO
LPRINT Day2Str$(A.date&),
LPRINT FIX$(a.dist,1,-8),
IF dist<0
LPRINT " - ",
ELSE
trip=A.dist-dist
IF trip<0
trip=trip+1000000
ENDIF
IF NOT gMile%
trip=trip*gKFactor
ENDIF
LPRINT FIX$(trip,1,-6),
ENDIF
dist=A.dist
vol=a.vol
IF gGallon%
vol=a.vol
ELSE
vol=a.vol*gLFactor
ENDIF
LPRINT FIX$(vol,1,-5),
LPRINT A.note$
NEXT
UNTIL EOF
LPRINT
IF COUNT<2
[LPRINT "(Not enough entries to
calculate economy)"]
ELSE
CalcEcon:
LPRINT "Economy is",
LPRINT GEN$(gEconomy,5),
```

# Page Three-d

```
LPRINT Type$(dType%), "per",
LPRINT LEFT$(Type$(vType%), 6)
[LPRINT "Total distance is", -
GEN$
(gTotDist, 6), Type$(dType%)]
[LPRINT "Total fuel is", GEN$
(gTotVol, 6), Type$(vType%)]
ENDIF
BUSY OFF
LCLOSE
ENDIF
ENDIF
ENDP
```

```
PROC Eval:
LOCAL convert%, type%, quantity
LOCAL factor, answer
LOCAL qType%, aType%
convert%=1
type%=1
dINIT "Evaluate units"
[dCHOICE convert%, "Convert",
"Imperial to metric, Metric to
imperial"]
[dCHOICE
type%, "Type", "Distance,
Volume"]
[dFLOAT quantity, "Quantity", 0,
99999]
IF DIALOG=0
RETURN
ENDIF
IF type%=1
factor=gKFactor REM Distance.
qType%=1 :aType%=1
ELSE
factor=gLFactor REM Volume.
qType%=3 :aType%=3
ENDIF
IF convert%=1
[answer=quantity*factor REM I
to M.]
aType%=aType%+1
ELSE
[answer=quantity/factor REM M
to I.]
qType%=qType%+1
ENDIF
dINIT "Evaluate"
[dTEXT "", GEN$(quantity, 6)+" "
+Type$(qType%)+ " is", 2]
[dTEXT "", GEN$(answer, 6)+" "
+Type$(aType%), $102]
DIALOG
ENDP
```

```
PROC Type$(type%)
IF type%=1 :RETURN "Miles"
ELSEIF type%=2 :RETURN "Km"
ELSEIF type%=3 :RETURN
"Gallons"
ELSE RETURN "Ltr"
ENDIF
ENDP
```

```
PROC Round2:(value)
LOCAL tidy
```

## News of Graphics Book

As I go to press, the new Slice Graphics book from Kuma, entitled "Graphics Programming on the Psion Series 3" by Bill Aitken, arrived for review (complete with a diskette containing all the program listings). I will, hopefully be reviewing this important book in the next issue.

## New London Group for Slice

Anyone who is interested in joining a London Group for Series 3 owners should contact:

Patrick Byrne  
31 Angus House  
New Park Road  
London  
SW2 4LB

Tel: 071 738 6408 (work) or  
081 674 3715 (home)

## Wanted

Four-Line Comms Link  
(must be complete with IBM software)  
Tel: Alan Smith on 0273 514111 (day)  
or 0323 49146 (eves & wkends)

FNKEY for XP  
Contact: Ellis Weinberger  
Garden Flat  
57 Victoria Street  
St James, Exeter, Devon  
EX4 6JQ

## For Sale

Series 3 256k (still in warranty) - £160  
Psion Printer II (brand new) - £175 ono  
Mains Adaptor - £5  
Mike Shaw Book "Using ... Organiser II" -£2  
Tel: Rod Urquhart  
on 081 660 6564 (after 7 p.m.)