New order

Mark Whitehorn tries the Phenom Express, one of a new generation — neither PDA nor laptop.

When I was a boy (*here we go! — Ed.*) PDAs were just that; Personal Digital Assistants. Recent arrivals are now threatening to create a whole new class of machine, neither PDA nor laptop but something in between (Lap Assistants?… could be useful for TV's Eurotrash). I'll stick my neck out and say that these machines will be sold into the PDA market but will threaten the sales of laptops more than, say, Psions.

Consider the LG Phenom Express [Fig 1], a Windows CE machine on which I am typing these words. At 23.5 x 15 x 2.8cm, it will fit into no-one's pocket save a poacher's. The battery life of about five hours (rechargeable Li-ION) is laughable compared to that of a Psion. And the cost, at about £600, is just gross. So why would anyone even consider it? Well, the keyboard is wonderful;

85 percent of full size makes it a joy to use. It has a built-in fax modem (56K) and 32Mb RAM as standard. The touch-sensitive, back-lit, colour screen (19.5 x 7cm) is to die for and the whole machine is very stylish in a Star-Trekish sort of way. This machine is highly unlikely to attract the dedicated Psion user who lives to astound people by nonchalantly pulling a fully functional computer from a pocket or handbag. A Pilot user would be even more horrified: 'Have you seen the *size* of that thing?' But what of the corporation that wishes to provide computing for its mobile workforce? Not only does the Phenom do most of what you can expect from a laptop, it has one outstanding trick that will instantly endear it to corporations; it is almost impossible for the user to screw it up.

The oldest conversation in corporate laptop land is:
Road Warrior: 'Er… look, my laptop has suddenly stopped working.'
Technician: 'OK, let's have a look…'
Technician (accusingly): '…You've been fiddling with the setup haven't you?'
This is inevitably followed by the old lie.
Road Warrior (indignantly): 'Certainly not!'

The very fact that WinCE machines store applications in ROM means that as a last resort all the Road Warrior in the field has to do is press the reset button. True, the local data may be lost but by this stage it is probably lost anyway, no matter what the machine.

Given the applications in ROM, even the most fumble fingered cannot delete them. And given the built-in modem it is possible to provide a simple set of instructions to enable the specialist applications to be downloaded from a phone socket together with any corporate data.

No-one in their right mind would suggest that this immediately makes the laptop obsolete. I use mine as a portable OLAP server, which might stretch the Phenom somewhat, but combining this resilience with the price (risible for a PDA, breath-taking for a laptop) must make this class of machine well worth a closer look for corporate use.

☞ **Student's pet**
Chalk up another for the weird co-incidences attributable to our *Hands On* sections. I had already written the above before the following email arrived from Liz Jones <liz-jones@dial.pipex.com>: 'I need something portable with which I can take notes at lectures. I am interested in PDA's (e.g. the Nino) as opposed to palmtops as I cannot quite grasp how easy it would be to type on a keyboard that small and, as I am sure you can appreciate, I need to take notes fast during lectures! Nevertheless I would prefer a laptop but really the most I am willing to pay is about £500.'

It is almost impossible for the user to screw it up

I know the Phenom Express is over Liz's price limit but hopefully it is close enough to be worth consideration. If not, there is always the lower-spec Phenom [Fig 2] at around £350 (incl VAT).
• *Read more about the Phenom Express in our Reviews section, starting on p76.*
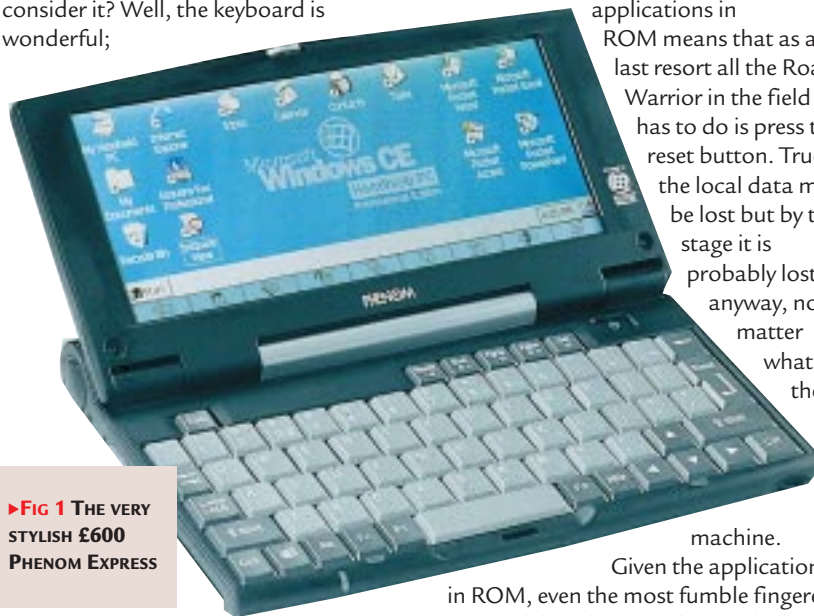
☞ **Programming with OPL**.
Last month I left you with:

```
PROC Penguin :
AT 5, 5
PRINT "Hello World"
PAUSE 15
ENDP
```

Your homework was to find out firstly whether the first number moves the words down or to the right? And secondly, what values you need to place these words in the centre of the screen? The answer is that the first figure moves the words to the right, the second moves the words down.

The co-ordinate 1,1 would be the top left-hand corner of the screen (rather than the 0,0 you might expect as the origin of a graph).The figure which corresponds to the bottom right of the screen varies with the different Psions. The value 92,21 works for the Psion 5 but

only if you are printing a single character, since any others will try to print off the screen and generate an error.

You can, of course, work all of this out by altering the figures one at a time and running the program after each change. I feel almost embarrassed stressing the point that you should change only one thing at a time but experience suggests that people often try altering several values at a time and this leads to confusion.

It is also worth stressing that experimentation like this is considered to be a much better way of learning than reading the manual. For a start, manual reading is intrinsically boring. Secondly, most people's brains learn more from experience than from reading.

A reasonable set of values to centralise 'Hello World' on the Series 3 is 15, 5. On the Series 3a try 25, 9. On the 5 try about 37,10.

So the words are centralised. What's next? Well, what about a beep? Add the line:

```
PROC Penguin :
AT 37,10
PRINT "Hello World"
PAUSE 15
BEEP 30, 200
ENDP
```

and run the program. If you hear nothing, go to the System screen, open up the Control Panel and check that sound is enabled. Once again, try experimenting with the values. I find quite a difference between the noises made by a Series 3 and a 3a for the same values, but '30, 200' works on all machines and is a good starting point.

By playing around with the values, you should find that the first number (or 'argument') controls the duration of the noise, the second the pitch or frequency.

Rather oddly, the higher the pitch value the deeper the noise that comes out of the Psion. I suppose that if you think of the second value as wavelength rather than pitch it makes more sense, but it still seems counter-intuitive to me.

Suppose you wanted to have several noises, one after the other. Why? Well, you may be trying this on the train and you want everyone to think that you have a Psion which also works as a mobile phone... or, more seriously, you might want to find out more about programming.

You could do this by adding lots of lines, one for each noise:

```
PROC Penguin :
AT 37,10
PRINT "Hello World"
PAUSE 1
BEEP 1,500
BEEP 1,520
BEEP 1,540
BEEP 1,560
BEEP 1,580
BEEP 1,600
BEEP 1,620

ENDP
```

In fact, this sounds very little like a phone but it took me about five minutes to come up with even this list.

What's next? Well, what about a beep?

Constantly editing each line is a pain. Which brings us very neatly to a pair of common concepts in programming; constants and control structures. Try the following program:

```
PROC Penguin :
Local Pitch%
 Pitch% = 500
 Do
  BEEP 1, Pitch%
  Pitch% = Pitch% + 20
      Until Pitch% > 600
   ENDP
```

The important extra bits we have added are a 'variable' (in this case called Pitch%) and a control structure (the DO...Until bit).

Variables can be thought of as containers, or boxes, where the program can store numbers for later use. The program puts the value 500 into the variable called Pitch% and then, two lines later, uses Pitch% as an argument for the BEEP command. Since Pitch% contains a value (500), that value is actually passed to the BEEP command. Then, the line

```
Pitch% = Pitch% + 20
```

adds 20 to the 500 in Pitch%, bringing it up to 520.

The Do...Until control structure simply allows you to control which steps of the program are carried out and how frequently. The example above effectively says: Make the noise, increment the pitch value by 20, keep on doing this until the pitch value becomes greater than 600. So the BEEP line is carried out seven times.

Once you get your head around the way this is working, you suddenly realise that it is wonderfully easy to make major changes to the program just by altering one value. For instance, if you change the line

```
Pitch% = Pitch% + 20
To
Pitch% = Pitch% + 1
```

the BEEP will sound 81 times, each one only slightly lower in pitch than the

previous. True, this makes your Psion sound even less like a phone — more like a demented Bumble Bee in fact — but hey, it's fun.

You can put almost any line of code that you like within the Do…Until loop. As an experiment try adding the line

```
PRINT Pitch%
```

in between Do and Until. Then try any other experiments that appeal. It is possible to generate Do…Until loops that never finish, such as

```
Pitch% = 510
Do
BEEP 1, Pitch%
Pitch% = Pitch% + 20
        Until Pitch% = 600
```

The 'Until' condition is never met because Pitch% will never be exactly equal to 600. If you find that your program doesn't seem to want to stop running (which it won't if you run this code), pressing Ctrl Esc should stop it and get you back to the code.

☞ Connectivity corner

Reader Sandy N <sandyn@mora.demon.co.uk> contacted me: 'The first time I tried it, the link worked reliably. My next attempt was a disaster. No matter what I did I could not get the Psion to talk to the PC so I checked the manual to make sure the connector was installed correctly — it was [*but see Fig 3*].

After a great deal of head scratching I checked the connector again and found that according to the connector polarisation, it was in *upside down*. I turned the connector around and, hey presto! — away it went. My understanding of the PsiWin manual diagram is that the connector goes into the Psion with the RS232 marking uppermost — it is very easy to insert the connector the wrong way round and there is little difference in the force required to insert it incorrectly.'

I agree with Sandy, the diagram does suggest that the 'RS232' marking should be uppermost and it will not work in this position. He goes on to (kindly) suggest that the manual might be correct and that he simply has one of a batch of faulty cables with incorrect marking. But both of the cables I have are like his, so I guess the manual is wrong. In fairness though, the manual also suggests in

SERIES 5

Serial port cover
Serial port
Serial connector
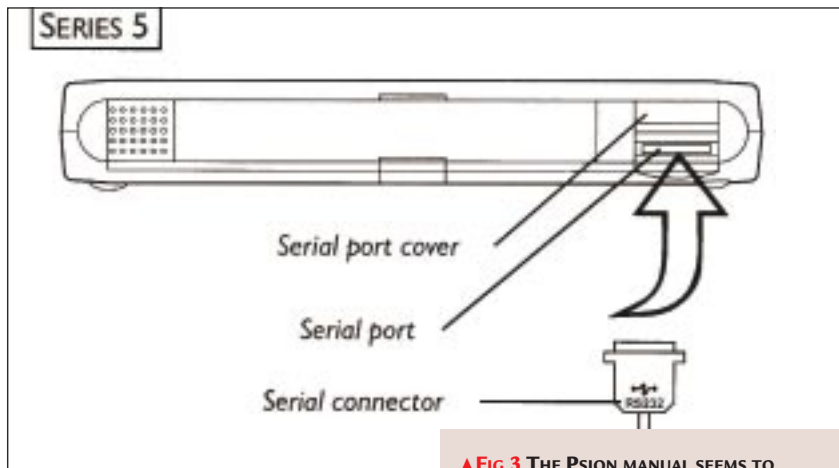
▲FIG 3 THE PSION MANUAL SEEMS TO SUGGEST THAT YOU INSERT THE RS232 CONNECTOR UPSIDE DOWN… TAKE CARE!
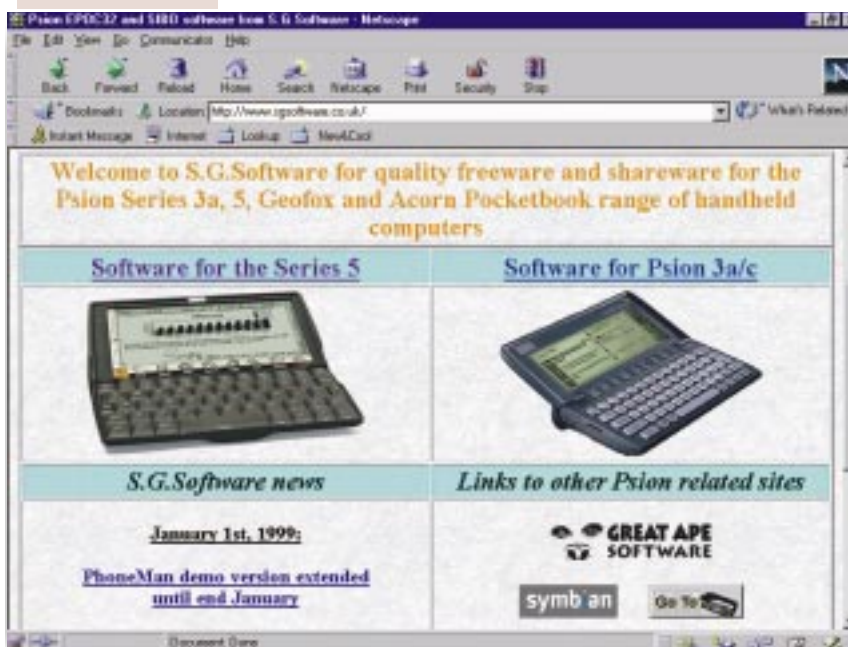
writing that you check the orientation before insertion. To make matters worse, the socket in the Psion 3c and 3mx is the other way up, meaning that the RS232 marker on the cable should be uppermost!

The bottom line is: check how your cable should be connected and then mark it yourself, perhaps with a blob of white paint.

I have received reams of email about connectivity and the Psion and a host of helpful replies about the issues raised in the previous couple of columns. The best of these are detailed and hence too long to include here so they are on our *PCW* CD-ROM as a text file called PDAPR992.TXT. Thanks to readers Neil Mellerick, Louis Berk, Adam Stevens, Kevin Snelling, Darren Griffin, Steve Williams and George Cooke for their contributions.

For instance, several readers have recommended SG Software's PhoneMan [Fig 4] for the Psion Series 5 which should help 'gorgeous@globalnet' Steve's aspiration to use a Psion 5 with an Ericsson SH888 (*PCW*, Feb). PhoneMan lets you download and manage your phone's address book. A time-limited version is available from www.sgsoftware.co.uk or the full version costs about £18. Further details are in our CD's text file.

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January 1st, 1999:
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