

PEGASUS NEWSLETTER NO. 3

SEPT '81

EXTENDED BASIC is now available and performing well. A number of machines have been upgraded and are now running. The current version fits into 12K (3 EPROMS) but the remaining 4K is allocated for (possible) additional extensions in the future.

For the existing Pegasus users who want to tidy things up, we have now a stock of carrying cases that are proving very popular. The case takes the keyboard, computer box, and power supply and locks these in place. There is room also for the RF modulator, cables and a compact tape recorder such as the SANYO 1150

Talking of tapes, read the technical section for news about tapes. Lessons learned the hard way!

The PERSEUS NETWORK CONTROLLER and a string of HERMES work stations performed superbly to the "Computers in Schools" seminar held at Epsom Teachers College early this month. A great deal of interest was shown by the teachers there.
(Written formal quotations only for PERSEUS systems)

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SOFTWARE NEWS

MONITOR 2.2

This version of the monitor has printer routines built in for interfacing to the Centronics standard parallel interface. Extended Basic uses these routines directly, so it will need Monitor 2.2

Three control codes allow either the screen, or the printer or both to be output devices. These routines greatly simplify Basic, FORTH and Pascal printing routines. Escape characters may be sent to a printer to allow various print modes.

For Monitor 2.2, the NMI button should be changed to a RESET button. This modification may be carried out through your dealer or information will be provided so that you may do it yourself. This change is not essential but will eliminate the need to power down to reset certain error conditions.

Other EPROM changes:

Some owners of WORD1.0 may have noticed problems with the CHANGE function. This problem was not in the original WORD but arose during the EPROM duplication process. If you have this problem, your EPROM will be replaced with WORD1.1 (no charge) upon receipt of your old EPROM.

A minor change exists in 1.1 in that the backarrow symbol for a new line has been changed to enable escape characters to be output from WORD.

Remember that the WORD Processor requires Monitor 2.2

If you get your system updated to 64K, your existing FORTH1.2 will be exchanged with FORTH1.3 which allows for the increased RAM. Compiled programs will enter from 2000 to 7F9E, and TEXT may be stored from 8000 to BC00 in a 64K system.

Basic Miniprograms

So you thought that Integer Basic meant you couldn't use anything other than boring whole numbers, didn't you? Well, that just ain't so! The "input" statement will accept more than 1 variable

```
10 INPUT A,B
```

if in use they are separated by a RETURN. You can do all sorts of amusing things: Take money, for instance. Use A for the folding stuff and B for what goes in parking meters. Add the lines:

```
20 ?"$",A,".",:IF B>9 THEN ?B
```

```
25 IF B<10 THEN ?"0",B
```

Then type RUN and insert some figures and behold the proof of the pudding. An amount such as \$123.45 will appear on the screen just to prove you weren't dreaming. When you think you've had enough time to master that, try this input method:

```
10 INPUT"@"A:PRINTCHR(5),CHR(21)," $",A,
```

```
20 INPUT". "B:PRINTCHR(5),CHR(21)," $",A,".",:IF B>9 THEN ?B
```

```
25 IF B<10 THEN ?"0",B
```

where PRINTCHR(5),CHR(21), will move the cursor up one and erase the line before printing the rest. To add 2 amounts of money, use statements 30,40 and 45 similar to 10, 20 and 25 for C and D. Now the tricky stuff

```
50 A=A+C:B=B+D
```

Sooner or later you will get a result which reads \$123.175 which should, as any primary school child knows should read \$124.75. The answer is, of course

```
60 IF B>99 THEN B=B-100:A=A+1
```

```
Then finish with
```

```
70 PRINT"$",A,".",:IF B>9 THEN ?B
```

```
75 IF B<10 THEN ?"0",B
```

```
80 END
```

Subtraction is only slightly more difficult

```
150 A=A-C:IF B>=D THEN B=B-D:GOTO170
```

```
160 B=100+B-D:A=A-1
```

Then 170,175 and 180 are the same as 70,75 and 80. Simple, isn't it? With an INKEY routine you could select addition or subtraction. Multiplication or division could also be done. If you can't do these wait for the next newsletter.

THANKS to "Whiskers" for the program idea and comments. We hope to have regular contributions from "Whiskers" and others each newsletter.

Dealer of the Month

Of special note this month is the commitment of our Christchurch dealer, Garry Filer. His own personal interest in the Pegasus had led to a very good rapport with his customers and the setting up of the first "Pegasus Users Group". With the Group, he has gathered a set of good software and hardware ideas for the Pegasus. We look forward to this group sharing their ideas with other users through this newsletter. If you do not have such a group in your area, why don't YOU put things in motion. Feel free to contact your dealer or Computer Machinery Ltd. about organisation of your local group.

Extended Basic

We recommend the use of the ROM Expansion Board for switching from one language to another. For XBasic, a block of 4 EPROM sockets must be selected; only 3 are presently used with the fourth available for another EPROM. However if you wish to use XBasic solely with your 4K Pegasus, we can provide details to make an adapter to fit the 3 EPROMS into the socket beside the Monitor EPROM; you would have to remove this adapter for other EPROMS you wished to use. Please write for more information

The Pascal Bit:

In Pascal command mode, P(rint) is inoperative; but the Monitor 2.2 printer routines make this feature unnecessary. In Editor mode, D(own) and P(ind text) give problems. Use P(n+1) for D(n) - eg. use P4 in place of D3. There is no substitute for F(ind) except to print the lines until you locate the required text.

A set of commonly used Pascal functions can be stored on cassette and loaded when required before beginning the text of other programs. Two examples:

```
FUNCTION CHR(ASCII:INTEGER):CHAR;  
BEGIN  
  CHR:=ASCII  
END;  
FUNCTION ASCII(CH:CHAR):INTEGER;  
BEGIN  
  ASCII:=CH  
END;
```

WRITELN(CHR(65)) will print A and
WRITELN(ASCII('A')) will print the ascii number for A

FORTH USERS

Try these definitions to input a number up to 9 digits during a program.

```
O VARIABLE NUM 15 ALLOT
: NUM! 32 NUM C! NUM 1+ 9 EXPECT ;
: CONV 16 0 DO NUM I + C@ 0 = IF 32 NUM I +
C! LEAVE THEN LOOP NUM NUMBER ;
: INNUM NUM! CONV ;
```

NUM is a variable with 15 bytes allocated. NUM! enters a leading space, then uses EXPECT to input 9 digits into NUM. When EXPECT is ended with a RETURN, 3 NULLS are placed at the end. CONV changes the first of the NULLS to a space, then NUMBER converts the 9 digits (with a leading and trailing space) into a double precision number which is placed on the stack. This number may be printed with D. or used for other operations.

HARDWARE UPDATE

New EXPANDER BOARD

The PC artwork for the expander board is currently being finalized and we expect to have production in eight weeks. This board will be capable of holding the 64K RAM expansion, a 16 EPROM expander (with a software switch option), network interface circuitry, one spare PIA and a large wire wrap area. All or any of these features may be added to the board as desired, resulting in a standard 2 board system for all Pegasus expansions. More details next month.

Cassette Tapes

We have been experiencing some problems with the quality of the cassette tapes we were using. Although they were the best quality tape available, it was found that they sometimes exhibited substantial signal loss after a number of loadings. This is thought to be due to their multilayer composition, and as a result, we have now changed to a slightly lower quality, but single layer tape. Tests have shown that this tape will maintain its signal level (ie. load successfully) for far longer. It is wise to make a backup copy of any important programs on another tape.

PRICE LIST (25 Sept 1981)

Product:	Suggested Retail	Price to Schools
4K PEGASUS KITSET	698.00	521.00
4K PEGASUS with BASIC	998.00	815.00
64K EXPANSION BOARD	895.00	664.00
CARRYING CASE	48.00	48.00
ROM EXPANSION	135.00	103.00
GRAPHICS OPTION	62.00	48.00
PRINTER INTERFACE	53.83	38.45
EXTENDED BASIC	120.00	120.00
ASSEMBLER/DISASSEMBLER	70.00	70.00
PASCAL	100.00	100.00
FORTH	100.00	100.00
WORD PROCESSOR	70.00	70.00
GRAPHICS GAMES(CASSETTES)		
TANK, GALAXYWARS, SNAKE, DRAGON, STARTREK	12.00 EACH	12.00 EACH
N.Z. MAP GRAPHICS	12.00	12.00
ALPHANUMERIC GRAPHICS	12.00	12.00

Program of the Month

There has been a good response to the competition. One of merit is NOUGHTS & CROSSES by Guy Bullot of St. Heliers, Auckland.

The WINNER is MASTERMIND submitted by John ten Velde of Paeroa. Well done John. Because of the length of the programs, we cannot print them here. If you want either O & X's or Mastermind listings, send us a STAMPED ADDRESSED ENVELOPE and we will send them to you (no charge).

ROAD SHOW

We will be taking around the country our new network system, the 64K Hermes with the PERSEUS network controller. Watch this space in the next newsletter for details of when we will be in your area.

We welcome letters and comments for the newsletter. Our address is on the front page.