



1 APR 1987

**SPECIFICATIONS**

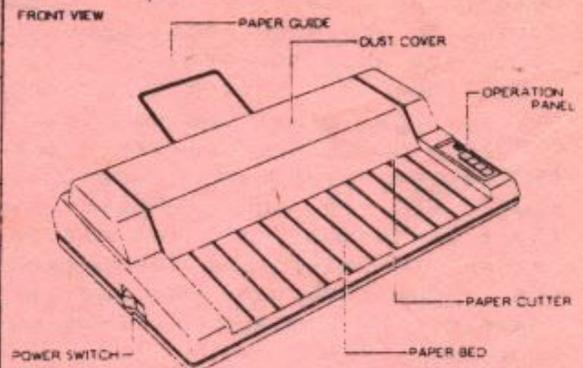
**PRINTER OF THE MONTH**

**MCP-80**  
**COLOUR PLOTTER PRINTER**

1. Printing/Plotting System	Ball Point Pen, 4 colour Rotary Select Type					
2. Mechanism	Hybrid X-Y Plotter					
3. Printing Speed	6 CPS (Character Size = S1)					
4. Plotting Speed	X, Y Axis : 57 mm/sec (2.05 ips) 45° direction : 81 mm/sec (3.80 ips)					
5. Stepping Speed	285 steps/sec					
6. Resolution	0.2 mm/step (0.00787 inch)					
7. Effective Plotting Range	SIZE	100mm	114mm	A5	B5	A4
	Step	410	480	650	820	960
8. Character Per Line	SCALE	100mm	114mm	A5	B5	A4
	S0	68	80	108	136	160
	S1	34	40	54	68	80
	S2	22	26	36	45	53
9. Accuracy	Repetition : 0.2 mm Max Movement : 0.3 mm Max Distance : 0.5% Max (X-Axis) : 1% Max (Y-Axis)					
10. Selectable Mode	Self Test : Prints 96 ASCII : Character Set in 4 colors Text Mode : Text Printing Graphic Mode : Image Plotting using the : various commands					
11. Dimensions	292(W) x 160(D) x 71(H) mm					
12. Weight	Type-I 1230 g (without Cable) Type-E 1140 g (without Adapter)					
13. Pen Life	250 m (825 Feet)					
14. Interface	o Centronics Parallel Interface 8 bit data/Strobe/Busy/Ack o Serial Interface (TTL Level) (RS-232C I/F Adapter is optional)					
15. Temperature Range	work : 5 to 35°C (41 to 95°F) storage : -40 to 71°C (-40 to 160°F)					
16. Humidity Range	10% to 80% relative noncondensing					
17. Power Supply	Type-I : Internal switching power supply Type-E : External AC Adapter DC 9V 1.2A center (-)					

INFORMATION ENTERPRISES'  
 PRICE R679.00  
 GST R 81.48  
 P&P R 7.00  
 TOTAL R767.48

**GENERAL VIEW**



**WANTED**

We'd like to get the newsletter back to what it was in the past as far as articles are concerned.

We offer between R10 and R15 (in IE gift vouchers) for every article published in the newsletter.

Articles should be written or typed neatly, illustrations should be done in black. (It can be on a Quill [QL] file)

Send articles to Gert Coetzee, P.O. Box 35644, Menlo Park, 0102.

I think that every good micro magazine should have at least one fair type-in program in it for its readers. Over the past few months there had been ZX Spectrum programs in this magazine, but no QL programs. Since the QL is also sold by Information Enterprises, why not start a monthly type-in program corner for the QL?

(Also see note in this newsletter regarding articles - Gert)

The programs can be send in by the QL users, checked by The ZX Mushroom Club and then published. If there is to be a type-in program in every magazine from now on onwards, it would be better to set a few standards for the programmer to make the program easier to type in and also easier for the publisher to alter the program if he wishes to.

Here are a few things that I think would be necessary for the programmer:

The programmer must -

1. check and dubblecheck his programs for errors and bugs before he posts it

2. not stack up the commands in one line in order to ease the reading of the program

3. place one space before each colon where there are more than one command in a line

4. renumber his program so that the reader can use the AUTO command for typing in and does not have to worry about the line numbers

5. use a structured programming style, in other words, do not use GOSUBs, GOTOs, but rather make use of PROCedures, REPEAT loops, IF, THEN, ELSE, END IF and SElect statements (this would make it a lot easier for the reader to understand the program and if the reader should use the wrong line numbers, it would not effect running of program)

6. insert spaces in front of the lines between loops and long IF THEN statements to make the program more readable (the reader does not need to type these spaces)

7. use the command fill\$(" ",x) rather than " " because of the difficulty to see how many spaces is used in the latter (the reader can just type x number of spaces if he wishes)

8. make sure that the program will run in monitor- as well as tv mode, or else state in wich mode the program should be run

9. bare in mind (if you have a monitor) that users with televisions will not be able to see the whole screen, you must redefine the windows a bit smaller and in the centre of the screen or you must use tv mode

## QL CORNER

### SIMPLE SIMON

- H.L. Doevendans

10. send in all your programs on microdrive so that it does not need to be typed in before printed in the magazine

11. name the important variables used so that the reader can understand and alter the program more easily if he wishes.

My program for this month is a version of the Simple Simon game that was pretty popular a few years ago. Before you start typing you can just type AUTO, press return and then you need not bother about the line numbers.

You can leave out lines 110 to 190 out if you wish, but it would be better to type them in, in order to make the game look more attractive and professional when running.

If you wish to play the same tune over and over again, you can change line 290 to RANDOMISE 0.

If the program does not allow you enough time to play each note, you can increase the value of variable "tyd" (at line 330) to 400 to 800.

I used the following variables:

d(0 to 100)	dimensioned to store the value of each note
R(4 to 7)	dimensioned to store the paper colours
H1	hi score
g	score
pv_g	previous score
key1	input variable from keyrow(1)
t	note played
1, i, start, main, input_, delay	- loop variables

```

100 OPEN #2,scr_512x256a0x0 :CLS #2 :
CLOSE #2 :OPEN #1,scr_
110 INK 5 :UNDER 1 :PRINT "SIMPLE SIM
ON" :UNDER 0
120 PRINT "The object of the game, is
to try to\"correctly repeat the tun
e that the\"program plays each time
after it\"has finished playing."
130 PRINT \"The program will add one
note each\"time after you have corre
ctly\"repeated the previous notes."
140 PRINT \"If you fail to play the r
ight note in\"the specified time, th
e program will\"play the note that y
ou should have\"played and the game
will be over."
150 PRINT \"Each different note is ac
companied by\"a colour in a diffrent
corner of the\"screen."
160 INK #0,6:PRINT #0,"Press any key
to continue":POKE 163891,255
170 PRINT \"You must use the cursor k
eys to play\"a note, the keys you pr
ess should\"be directed to the corne
r where the\"colour must appear, thus
two cursor\"keys must be pressed at
the same time\"(to point in a diago
nal direction)."
180 PRINT "For example, if you want t
o play\"the note with the colour in
the top-\"lefthandcorner you must pr
ess up and\"left simultaneously. If
you should\"press left,right,up or d
own allone,\"nothing will happen."
190 INK 7: PRINT \"If you want to ret
urn to the above\"list during the ru
n of the program\"you will have to p
ress <esc> while\"the program is wai
ting for you to\"play a note." :POKE
163891,255
200 OPEN #4,scr_235x101a20x0
210 OPEN #5,scr_235x101a256x0
220 OPEN #6,scr_235x101a20x102
230 OPEN #7,scr_235x101a256x102
240 WINDOW #0,474,50,20,206 :BORDER #
0,5,4
250 DIM d(100),p(7) :hi=0 :g=0
260 p(4)=1 :p(5)=2 :p(6)=3 :p(7)=5 :h
i=0
270 BORDER #4,1,7 :BORDER #5,1,7 :BOR
DER #6,1,7 :BORDER #7,1,7
280 REPEAT start
290 RANDOMISE
300 FOR l=0 TO 100
310 d(l)=RND(4 TO 7)
320 NEXT l
330 tyd=200
340 PAPER #4,0:PAPER #5,0:PAPER #6,0:
PAPER #7,0
350 PAPER #0,0:INK #0,7,6:MODE 8
360 IF hi<g THEN hi=g
370 FOR l=4 TO 7
380 INK #1,RND(1 TO 7)
390 CSIZE #1,2,1:PRINT #1,\\FILL$( "
,4);"Score =":g\\
400 CSIZE #1,0,0:PRINT #1," Previo
us =":pv_g!" Hi-score =":hi
410 END FOR l
420 pv_g=g :g=0
430 CSIZE #0,2,1 :CURSOR #0,0,10
440 PRINT #0,FILL$( " ",6);"PRESS ANY
KEY TO CONTINUE"
450 POKE 163891,255 :CLS #0 :MODE 8
460 REPEAT main
470 FOR l=0 TO g
480 BEEP 6000,d(l)*10-15 :PAPER #d(l
),p(d(l)) :CLS #d(l)
490 FOR delay=0 TO 120 :NEXT delay
500 PAPER #d(l),0:CLS #d(l)
510 FOR delay=0 TO 40 :NEXT delay
520 END FOR l
530 FOR i = 0 TO g
540 FOR input_ = 0 TO tyd
550 key1=KEYROW(1)
560 SELECT ON key1
570 =6 :t=4
580 =20 :t=5
590 =130 :t=6
600 =144 :t=7
610 =8 :RUN
620 =REMAINDER :t=0
630 END SELECT
640 IF t>0 THEN EXIT input_
650 END FOR input_
660 IF t>0
670 BEEP 6000,t*10-15:PAPER #t,p(t)
:CLS #t
680 END IF
690 IF t(<)d(i) THEN wrong :NEXT star
t
700 FOR delay=0 TO 100 :NEXT delay :
PAPER #t,0 :CLS #t
710 NEXT i
720 PAPER #0,5,1 :CLS #0
730 FOR delay=0 TO 220 :NEXT delay
740 PAPER #0,0 :CLS #0
750 FOR delay=0 TO 150 :NEXT delay
760 g=g+1 :END REPEAT main
770 DEFine PROCEDURE wrong
780 FOR delay=0 TO 100 :NEXT delay
790 BEEP 0,255 :PAPER #0,2 :CLS #0
800 FOR delay=0 TO 220:NEXT delay
810 PAPER #t,0 :CLS #t :BEEP
820 FOR delay=0 TO 125 :NEXT delay
830 BEEP 8000,d(i)*10-15 :PAPER #d(i
),p(d(i)) :CLS #d(i)
840 PAPER #0,0 :CLS #0
850 END DEFine

```

**CORRECTION:** QL CORNER MARCH 87 pg.7

Line 32010 should read..

32010 IF KEYROW(7)=4 THEN **dump** instead of

32010 IF KEYROW(7)=4 THEN **loop**

The NEW IMPROVED ZXL PRINT interface is not a bit like the 'new improved' washing powder or toothpaste which we hear about so often. Nope, this interface is actually NEW and IMPROVED.

Firstly, it is now menu driven, meaning that one can have on-screen help at any stage. All interface commands may be accessed directly from help menus. Menu 1 is accessed by typing LPRINT CHR\$ 0;"?" <ENTER>. Menus 2 and 3 can be accessed directly from menu 1:-

```

-1-
LPRINT III Help Menu:
CHR$ 0;"0";"s" R5 232
CHR$ 0;"1";"p" Centronics
CHR$ 0;"2";"a" Mods to COPY
CHR$ 0;"3";"c" Communication
CHR$ 0;"4";"?" Help Menu
CHR$ 0;"5";"0" Text COPY
CHR$ 0;"6";"1" SEIK 250 COPY
CHR$ 0;"7";"2" SEIK 100 COPY
CHR$ 0;"8";"3" EPSON enlarged
CHR$ 0;"9";"4" LM 80 enlarged
CHR$ 0;"0";"5" EPSON small
CHR$ 0;"1";"6" CGP 116/MCP 40
CHR$ 0;"2";"7" SHADED EPSON
CHR$ 1;"n" 1-8 cont chr.
CHR$ 3;"0" CR only
CHR$ 3;"1" CR+LF
CHR$ 4;"0" 1 control chr.
CHR$ 5;"0" Tokens OFF (COPY ON)
POKE 23679,n No. of Colours UP/DOWN
SO T ON CR+LF S E: 1000 EPSON
BREAK - EXIT ENTER - NEXT PAGE

```

```

-3-
Communication Help Menu:
OUTPUT Mode (cursor - )
Cursor Right Xoff
Cursor Up Xon
EDIT caps shift 1 clr i/p buff
NOT symb shift S show i/p buff
AND symb shift Y print i/p buff
OR symb shift U o/p Tasword
ENTER o/p CR & sw. to i/p mode
BREAK exit to basic
STEP symb shift D edit ID
THEN symb shift G send ID out
EDIT ID Mode (cursor - )
STOP symb shift A o/p mode
ENTER CR & exit to o/p mode
IO symb shift F clear ID buff
INPUT Mode (cursor > )
Any Key switch to o/p mode
PRINT Buffer Mode
SPACE Halt
Symbol & Caps shift o/p mode

```

# NEW IMPROVED ZXL PRINT PRINTER INTERFACE

```

-2-
LPRINT III Help Menu:
Baud Rate Baud Rate Number
POKE 23729,
75
110
150
300
500
1200
2400
4800
9600
Bit Parity: Length: Add Even Zero Bit Zero
SO T ON CR+LF S E: 1000 EPSON
BREAK - EXIT ENTER - NEXT PAGE

```

The second big plus is that apart from driving RS232 printers, the serial port is capable of two way communication at 300 Baud rate. It can be used to access mail boxes (such as Alcatraz, Ideas BBS, Aladins Castle, Mactel, The Catalyst and Softel) or to interchange data between devices. (see menu 3)

Then, of course, is this interface not only a Serial interface, but also a Parallel.

You can get your new improved ZXL PRINT from Information Enterprises for only R145.

## NEW PRODUCTS

- QIMP** (L. Hirschbiegel) *R139.00*  
A flexible Icon Manager program.
- BASIC-ALLY** (Eddy Yeung) *Price on application*  
An indispensable aid for debugging SuperBASIC programs.
- JUNGLE EDDI** (Stefan Kuhne) *R49.00*  
Tarzan had better watch out!  
A fun arcade game.
- RAM DISK & PRINT SPOOLER** (Eddy Yeung) *R35.57*  
Useful QL utilities.
- NEMESIS** (Paul Brittain) *R49.00*  
Track down the most wanted man in the Universe. A riveting text adventure.
- SIDEWAYS** (N. Clift) *R69.00*  
Prints everything sideways. Invaluable for spreadsheets, diagrams, text etc.

# QL

- QL TOOLSET** (B. Silver) *R69.00*  
Over 100 extensions to SuperBASIC. Easy file handling, bit manipulation, memory management, job control and screen graphics.
- PCB DESIGNER 1** (F. Sasche) *R359.00*  
A professional design package for printed circuit boards. Single-sided Eurocards. Includes autorouting option and camera-ready print-out.
- PCB DESIGNER 2** (R. Delimos) *R359.00*  
Double-sided boards up to 270mm x 150mm of any size can be designed with this easy-to-use package. Zoom facility. Print-outs suitable for direct tracing.

**YOUR  
QUESTIONS  
ANSWERS  
HELP  
LETTERS**

5. Re: 'Howzat' Cricket Game  
"Is there any way of adding additional S.A. information to the Data of this programme?" - Mr Rogers, Berario

The only way to do this would be to break into the program, and change the machine code. By the way, I've done something to this effect in the past by using the magic button on my disc drive interface. This (and the Multiface One, which works on the same principle), saves the program as code, which I loaded into Tasword. One can then alter text as needed.

'Notorious George' (Edgemoad) and James Weymouth (East London) want it on record that they've finished all five the S.D.S. keys in Dan Dare light years ago. Marvellous Mark (March newsletter) should therefor feel not-so-marvellous.

James Weymouth wants to know what he should say to the Taxi Driver in Sherlock Holmes. He also wanted to know which Lerm program copies programs from tape to tape.

All Lerm's programs copy games from tape to tape, the latest (and best) being Lerm TV8.

I still receive lengthy letters wherein I'm told of 'freezes', 'black squares' and other signs of blown or faulty computers. I'm then asked 'What could be wrong?', and 'Is it costly to repair?'. It is not possible to judge by description only what could be wrong with a computer, neither is it possible to say what a repair would cost based on a description of the problem.

Mr Wiekus Beukes (Sinoville, Pta) writes "... I could also explain to Club members who has wondered how the Software houses seems to achieve Multi-Colour on the Spectrum, how they do it. This is quite simple to do. All you have to do is to redirect the interrupt to your own machine code routine to print the next attribute to the screen. This will cause a change of attributes so fast (50 times a second) that it looks as if it is multi-colour. It is impossible to change the complete screen's attributes in this way, but you can successfully use this on a window 6-10 columns wide and 24 lines high without any problems.

"1) If I use a Multiface 1 with a MICRODRIVE and INTERFACE 1 can I save a program from cassette tape to microdrive cartridge when the program uses the entire RAM such as CITY HALL in VIEW TO A KILL without having to rearrange anything?

2) Can one perform "error trapping" on a SPECTRUM 48K as with machines using "ONERR GOTO/GOSUB" etc?" - Martin Boswell

1) The Multiface One has it's own memory to cope with the transfer of software from tape to microdrive or disc or another tape. This means that a program can be a full 48K, and it will still be transferable.

2) Spectrum Basic does not have error trapping. However, Beta Basic 3.0, which I strongly suggest any serious Basic programmer get, does have error trapping as shown in the following example:

```
100 ON ERROR 5000
110 FOR N = 1 TO 10: INPUT "x coord ";x;"y coord ";y
120 PLOT x,y
130 NEXT N
4999 STOP
5000 IF error=11 and lino=120 THEN
RETURN: ELSE POP: CONTINUE.
```

'error'=11 is the error code you will get if you try to plot a coordinate too big for the spectrum, 'lino' is the line number where the error will occur.

BETA BASIC 3.0 costs R49.99, and enhances Spectrum Basic with 26 powerful functions and more than 60 new keywords. IT IS DEFINATELY A MUST.

Betasoft in the U.K. publishes a bi-monthly newsletter, which for which THE ZX MUSHROOM CLUB holds the rights of distribution. For only R20.00 you could receive 6 copies of this excellent newsletter. Please use the order form on the last page for this purpose.

Also see this months' specials. ➤

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"Ek wil graag weet hoe om die groen, blou, wit en geel rekenaarskywe en die ligstaaf in Alfa Een in die hande te kry." - H. van der Merwe  
-----

"Ek gebruik 'n Spectrum 48K en 'n Tasman Interface saam met die Seikosha SP 1000 (Epson vergelykbaar) drukker. Ek wil nou graag VU-CALC gebruik saam met my drukker maar dit wil nie werk nie."

Die Tasman Interface werk m.b.v. sagteware, en die "COPY" sagteware vir U spesifieke drukker moet ingelaa word. Om 'n "screen" te "COPY", moet mens 'n RANDOMIZE USR 23296 intik, d.w.s. die bevel "COPY" op sleutel Z werk nie. Dit beteken dat mens in die Basic gedeelte van VU-CALC die COPY bevel met RANDOMIZE USR 23296 sal moet vervang, en die verbeterde BASIC dan weer voor die CODE moet SAVE.  
-----

# SPECIALS

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Postage - see order form

Please note:

1. all goods are new,
2. goods on this special have a Limited Warrantee. (send SAE for details) but all will be tested and supplied in a FULLY WORKING CONDITION ACCORDING TO SPECIFICATION.

# ANNOUNCEMENTS

The following two members' newsletters were returned. If you know their whereabouts please contact me: Mr William Ogilvie (address given PO Box 1051 Gaborone Botswana), Mr Francois Zinserling (address given Flat No 102, Hamilton Street, Arcadia, Pretoria).

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Your reference number is the number that appears in the first line on the newsletters' envelope label. Please mention this number in all your correspondence, or even better, include the label.

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This newsletter is typed using a QL with QUILL, and the original copy is printed using a SEIKOSHA SP1000.

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Members living outside the South African borders has to contribute 25c per newsletter towards postage.

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# AMSTRAD FC 1512

- \* AMSTRAD PC 1512 SD MON. - SINGLE DISC DRIVE, MONO MONITOR AND SOFTWARE. Information Enterprises' price R1739.
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# AMSTRAD

Last month we saw how the memory in the Amstrad is organized. We will now look at how this memory is used by the computer. This discussion might not seem relevant, but a good general knowledge of how your computer uses its memory could help you save some.

The first 100 bytes in the memory are used as a jumpblock. This handles functions like switching ROM's on or off as well as handling interrupts. Note that this is just a jumpblock and that the actual routines lay in the central 32K RAM.

The area immediately following, is used as a temporary buffer. This buffer normally contains the program lines currently being entered. The start of this buffer is stored in address AE7Fh and AE80h.

The area starting at 170h, is the general program space. This start of Basic address is stored in address AE81h and AE82h, and can be changed with pokes. In an unexpanded computer this area stops at address 43903.

Try: PRINT HIMEM to verify this.

The Himem value can be lowered with the MEMORY command. To change the "Lowmem" or start of Basic, the buffer and start of Basic have to be moved upwards.

eg. To free 100 bytes in the bottom of RAM type:

```
10 a=100:'Number of bytes
20 b=a+PEEK(&AE7F)+256*PEEK(&AE80)
30 c=a+PEEK(&AE81)+256*PEEK(&AE82)
40 POKE &AE7F,b MOD 256
50 POKE &AE80,b\256
60 POKE &AE81,c MOD 256
70 POKE &AE82,c\256
80 NEW
```

The variables b and c is the buffer address and start of Basic respectively. Note that this change only comes in effect after the NEW instruction has been executed.

Some peripherals like the disk drive lowers the Himem value. The space created could then be used by that peripheral.

The area of memory between 43903 and C000h are used by the computer for various purposes. The biggest part of this space is taken up by the Kernel jumpblock. This provides a means of communicating with the lower, or firmware ROM.

Last month we saw that all the system functions were in the firmware ROM. With the Kernel jumpblock, we can now access these functions without having to switch the firmware ROM on and off. To clear the screen for example, you could enter: CALL &BC14

Another advantage of this jumpblock is that, being in RAM, it can be changed. We can thus substitute our own clear screen program for example. This new clear screen program will then be executed each time you type CLS in Basic. However, more on this later, first some Basic tips.

When working on large Basic programs, it can become a tedious job to save the whole program every now and then. It would be ideal to save only part of a program. Only new lines could then be saved, which is very handy especially with tape systems. To be able to do this, type:

```
OPENOUT "program name"
LIST begin-end,#9
CLOSEOUT
```

Don't forget the closeout, as part of the program will not be saved.

The protection facility in the SAVE command can sometimes be useful. The only disadvantage is that a program cannot be edited once saved as protected. To do just this, include the following lines in your program, substituting your own password.

```
1 ON BREAK GOSUB 9990
2 POKE &AE45,1
      : (your program)
      :
9990 INPUT "Enter edit password ";a$
9991 IF a$="" THEN RETURN
9992 IF a$="my password" THEN
      POKE &AE45,0:STOP
9993 PRINT "Wrong password!!"
9994 GOTO 9990
```

Your program can now be saved.

eg. SAVE "program\_name",P

The program must be loaded with the CTRL/ENTER combination. To edit the program, press ESC twice and enter the password. Just RUN the program to put the protection back.

Now all you must do is remember the password!

So long for now  
SAD SAC

## MORE SPECIALS

### Beta Basic 3.0

	PRICE	GST	P&P
BETA BASIC 3.0	R46.99	R5.64	R1.50

BETA BASIC 3.0	R39.99	R4.80	R1.50
----------------	--------	-------	-------

with one years

Beta Basic

newsletters

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YOU SAVE R7.84!!

### TASMATH

NORMALLY COSTS R19.29 (+R2.31 GST)

SPECIAL PRICE R16.29 (+R2.04 GST)

POSTAGE R1.00 YOU SAVE R3.27

This educational software covers sections of the St. 9 and 10 sillabus.

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### Taswide

Normal price 1/2s R16.99, Special Price R12.99 (plus R1.56 GST) (+R1.00 p&p).

### QL Software

Description	Normal Price	Special Price
Project Planner	R123.49	R109.99
Super Backgammon	R 40.02	R 39.00
QL Bridge Player II	R 64.26	R 49.00
Super Sprite Generator	R70.86	R 59.99

GST EXCLUDED.

R1.20 P&P ON THESE ITEMS.

## EDUCATIONAL

Description	Price
Word Gammes with Mr Men	R35.82
Count with Oliver	R27.29
BBC-TV Mastermind	R35.82
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\* GST excluded

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ANIMATED STRIP POKER	R25.00
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PLEASE USE THE ORDER FORM ON THE LAST PAGE TO ENSURE SPEEDY PROCESSING OF YOUR ORDER.



Additions / Alterations to Information Enterprises' prices list as published on March 1st, 1987

Description	Type	Price (R)
Star Game	Game	34.24
Grange Hill	Game	34.24
Leader Board	Game	34.27
Classic Muncher	Game	7.25
Arkanoid	Game	27.29
Shockway Rider	Game	27.29
Bombjack II	Game	27.29
Nexus	Game	27.29
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Uchi Mata	Game	30.73
Curse of Sherwood	Game	7.25
How 2BA Hero	Game	10.73
Ceasers Travels	Educ	28.65
Word Games Mr Men	Educ	35.82
Look Sharp	Educ	27.29
Mastermind (as on BBC TV)	Educ	35.82
Count with Oliver	Educ	27.29
Crack it Towers	Game	35.82
Criddy Games	Game	35.82
Here and There with Mr Men	Educ	25.04
Quick Thinking	Game	25.04
QL Joystick Adaptor	Hard	20.35
QL Modaptor	Hard	139.72
QL Centronics Interface	Hard	99.00
Sigma 7	Game	27.29
Way of the Fist II	Game	30.74
The Writer	Util	51.26
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Glider Rider	Game	30.74
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Cluedo	Game	34.12
Monopoly	Game	34.12
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Saga Emperor Keyboard	Hard	159.00
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Afro Kit		20.35
Midi Interface	Hard	206.58
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RTTY Software	Util	153.12
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Qualitas for Tasword II	Util	25.99
Qualitas for Tasword III	Util	29.25

10.

## Please Note

IE promise to be the cheapest where possible. Contact IE first before buying somewhere else. Even with postage we will be considerably cheaper.

And do let us know what our competitors are up to!

## COMPETITION

If you order from Information Enterprises you may participate in this competition. The expiry date is May 2<sup>nd</sup>.

On GRAFITI, Monday 30<sup>th</sup> March an Afrikaans musician was featured. In the film inlay, he was shown using a word processor on a computer The ZX Mushroom Club supports.

QUESTION 1: Who was the musician?

QUESTION 2: Which computer did he use?

QUESTION 3: Which word processor did he use?

Prizes: The first, second and third correct entries to be drawn on the 2<sup>nd</sup> of May will receive gift (IE) vouchers of R15, R10 and R5 respectively. The winners' names will be published in the May newsletter. Prizes which aren't won this month, will be added to next month's competition.

Entry form: The entry form is added to the order form on the last page of this newsletter. Only entries on these forms will be accepted.

Hint: (LME UCARAES, PECSTRUM, WSATR DO2)

Information Enterprises reserves the right to make alterations to this list and the official price list without prior notice.

# ADVERTISEMENTS

# QL

SELL YOUR UNWANTED HARDWARE, BOOKS AL. MAGAZINES, OR OWN SOFTWARE (not commercial) BY PLACING AN ADVERTISEMENT IN THE NEWSLETTER. SEND THE AD AND A PAYMENT OF 20c PER WORD TO OUR POSTAL ADDRESS.

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Hardly been used: PRISM VTX 5000 Beltel Modem for sale at R275.00. Contact Gary Argyrou, tel 01211-20813, PO Box 2214, Brits.

48K SPECTRUM FOR SALE. INCLUDES PRINTER INTERFACE, 2 JOYSTICK INTERFACES, A SAGA 1 EMPEROR KEYBOARD AND LOTS OF BOOKS AND SOFTWARE. COST ABOUT 1400. SELL FOR R700 ONO. CALL 016-323343 AFTER 15H00 AND ASK FOR BENNIE.

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### GRAPHIQL+ R89.00

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### TECHNIQL R178.00

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### TECHNIKIT R89.00

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### SPECTRUM RUNNING TOO HOT

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# BETA DISC INTERFACE EXTENDED CATALOG

This months SPECTRUM FEATURE came from ANTON BRASMUS. The program will allow Beta Disc Interface Users to make an extended Catalogue. RUN the Machine Code program, the "catcode" CODE will be SAVEd to disc. Then type in the Basic Program, SAVE it and RUN.

```

5 REM MACHINE CODE FOR CATALOG PROGRAM
6 REM CODE IS POSITION INDEPENDANT
10 CLEAR 32767
20 LET check=0
30 FOR a=32768 TO 32868: READ b: POKE a,b
40 LET check=check+b
50 NEXT a
60 IF check>>10557 THEN PRINT #0:AT 0,0: FLASH 1:"ERROR IN DA
TA": FLASH 0: BEEP .5,40: STOP
70 RANDOMIZE USR 15363: REM : SAVE "catcode"CODE 32768,101
100 DATA 42,83,92,43,197,229,1,11,0,205,85,22,209,33,59,0,193,9
,213,235
110 DATA 115,35,114,35,235,1,247,255,9,1,9,0,237,176,225,35,237
,75,79,92
120 DATA 167,237,66,34,50,92,1,0,0,201,196,21,90,40,0,40,0,11,0
,245
130 DATA 42,75,92,126,254,90,40,11,254,128,202,112,6,205,184,25
,235,24,240,35
140 DATA 78,35,70,3,197,229,9,205,82,22,35,235,225,193,112,43,1
13,241,18,167,201

```

```

1 REM EXTENDED CATALOG FOR THE BETA DISK INTERFFACE
2 REM IT WILL NOT WORK WITH ROM V3.0
5 CLEAR 34999: LET address=35000: RANDOMIZE USR 15363: REM :
LOAD "catcode"CODE address
10 RANDOMIZE USR ADDRESS
15 BORDER 0: PAPER 0: INK 5: POKE 23624,5: POKE 23609,0: CLS
20 GO SUB 470
25 GO SUB 315
30 GO SUB 205
35 GO SUB 170
40 GO SUB 50
45 PAUSE 0: STOP
50 REM keyscan
55 POKE 23656,8: LET k$=INKEY$
60 IF k$="" THEN GO TO 55
65 IF k$=CHR$ 72 OF k$=CHR$ 17 THEN GO TO 50
70 IF k$="0" THEN GO SUB 140: GO SUB 375: GO TO 50
75 IF k$="1" THEN FOR z=0 TO 2: PRINT #0:AT z,0:" "
": NEXT z: GO SUB 140: PAUSE 2: PAUSE 0: CLS :
80 SUB 205: GO SUB 170: GO TO 50: REM ~ PRINT 31 spaces
80 IF k$="0" THEN GO TO 50
85 IF k$="2" THEN RUN 20
90 IF k$="=" THEN GO SUB 225: GO TO 50
95 IF k$<=x$(count-1) THEN BEEP .01,20: GO TO 105
100 BEEP .1,40: GO TO 50
105 FOR I=1 TO NUMBER: IF k$=i$(i) THEN GO TO 120
110 NEXT i
115 GO TO 50
120 LET file=i

```

```

125 LET g$=a$(file): IF c$(file)="B" THEN LET error=USR 15363:
REM : RUN g$
130 IF c$(file)="N" THEN LET error=USR 15363: REM : GO TO g$CO
DE
135 IF error=1 THEN CLS : PRINT "no files": BEEP .3,20: FAUSE
20: RUN 20
140 REM PRINT true catalog
145 LET xcor=0: LET ycor=3: LET tel=1: FOR i=1 TO number
150 PRINT AT ycor,xcor: BRIGHT 1;x$(i): BRIGHT 0;" ";a$(i): " ";
c$(i): LET tel=tel+1
155 LET ycor=3+INT ((tel/2)-.1): LET xcor=((tel/2)-INT (tel/2)
)-.5)*-30
160 NEXT i
165 RETURN
170 REM PRINT catalog
175 LET xcor=0: LET ycor=3: DIM i$(number,1): LET count=1: FOR
i=1 TO number: IF c$(i)="B" THEN LET i$(1)=x$(count): LET count
=count+1: PRINT AT ycor,xcor:i$(i): " ";a$(i)
180 IF b$(i)="192" THEN LET c$(i)="N": LET i$(1)=x$(count): LE
T count=count+1: PRINT AT ycor,xcor:i$(i): " ";a$(i)
185 LET ycor=3+INT ((count/2)-.1): LET xcor=((count/2)-INT (co
unt/2)-.5)*-30
190 NEXT i
195 LET last=count-1
200 RETURN
205 REM main menu
210 PRINT AT 0,0: INK 5: PAPER 1:"Disk Title:": PAPER 5: INK 1:
t$: PAPER 1: INK 5:" ";v$: "Free":AT 1,0:n$: "File"+("s" AND VAL
n$<>1)+" on Disk"
215 LET k$=CHR$ 18+CHR$ 1: LET z$=CHR$ 18+CHR$ 0: PRINT #0:AT 0
,0:"Press key to load program":AT 1,0:"Symbol Shift plus":AT 2,0
:k$+"t"+z$+"true-cat "+i$+"c"+z$+"at "+k$+"l"+z$+"oad_CODE "+k$
+"e"+z$+"rase"
220 RETURN
225 REM LOAD -CODE
230 GO SUB 140
235 PRINT #0:AT 0,0:"Press key to load program":AT 1,0:"Press 0
to return":AT 2,0:" "; REM 31 SPA
CES
240 LET k$=INKEY$: IF k$="" THEN GO TO 240
245 IF k$=CHR$ 32 OR k$=CHR$ 13 THEN GO TO 240
250 IF k$="" THEN CLS : GO SUB 205: GO TO 170
255 IF CODE k$>57 THEN LET label=CODE k$-55
260 IF CODE k$=48 THEN GO TO 240
265 IF CODE k$=57 THEN LET label=VAL k$
270 IF label>number THEN GO TO 240
275 IF C$(label)<>"C" THEN BEEP .1,40: GO TO 240
280 INPUT "ENTER ADDRESS TO CLEAR ":add
285 FOR z=65480 TO 65487: POKE z,CODE (a$(label,(z-65479))): NE
XT z
290 CLEAR add
295 LET a$="12345678": FOR a=65480 TO 65487: LET a$(a-65479)=CH
R$(PEEK a): NEXT a
300 INPUT "ADDRESS TO LOAD ":addr
305 RANDOMIZE USR 15363: REM : LOAD a$CODE addr
310 PRINT #0:AT 0,0:"MEMORY WILL BE CLEARED UP TO ":AT 1,0:"THE
ADDRESS YOU CLEARED": FAUSE 80: NEW
315 REM z$ slicing
320 LET ERROR=USR 15363: REM : CAT #14
325 REM CAT is a keyword on key 9

```

```

330 LET t$=z$(8 TO 15): LET n$="": FOR n=17 TO 20: LET n$=n$(z
$(n) AND (CODE z$(n)<=57)): NEXT n
335 LET v$="": FOR n=(LEN z$-10) TO (LEN z$-5): LET v$=v$(z$(n
) AND (CODE z$(n)>=32 AND CODE z$(n)<=57)): NEXT n: LET v$=STR$
(INT (VAL v$*256/1024))+ "K"
340 LET length=LEN z$: FOR i=36 TO length: IF z$(i-1)=CHR$ 13 AND
z$(i)=CHR$ 13 THEN LET pos=i+3: GO TO 350
345 NEXT i
350 LET number=VAL n$
355 IF number=0 THEN GO SUB 205: FOR z=0 TO 2: PRINT #0: AT z,0
" : NEXT z: PRINT AT 3,0: "Disk E
mpty!!!": FOR z=1 TO 5: BEEP .3,10+NOT (z/2-(z/2)): NEXT z: PAUS
E 2: PAUSE 0: RUN 20
360 DIM a$(number,8): DIM b$(number,3): DIM c$(number,1)
365 FOR i=1 TO number: LET a$(i)=z$(pos TO ): LET b$(i)=z$(pos
+11) TO ): LET c$(i)=z$(pos+9): LET pos=pos+15+(2 AND (i/2)=INT
(i/2)): NEXT i
370 RETURN
375 REM ERASE
380 DIM q$(number,8): LET nr=0
385 INPUT AT 0,0: "ENTER number" "0 to cancel, ERASE to erase": A
T 2,0: LINE g$
390 IF g$="0" AND LEN g$=1 THEN CLS : GO SUB 205: GO TO 170
395 IF g$="ERASE" THEN GO TO 435
400 IF LEN g$<>1 THEN GO TO 385
405 IF CODE g$>57 THEN LET label=CODE g$-55
410 IF CODE g$<=57 THEN LET label=VAL g$
415 IF label=number THEN GO TO 385
420 LET nr=nr+1
425 LET xcor=((label/2)-INT (label/2))-.5)*-30: LET ycor=3+INT
((label/2)-.1)
430 PRINT AT ycor,xcor: FLASH 1:g$: FLASH 0: LET q$(label)=a$(l
abel): GO TO 385
435 FOR i=1 TO number: IF q$(i)=" " THEN GO TO 455: REM
q$(i)=8 spaces
440 IF c$(i)="N" OR c$(i)="C" THEN RANDOMIZE USR 15363: REM :
ERASE q$(i)CODE
445 IF c$(i)="B" THEN LET error=USR 15363: REM : ERASE q$(i)
450 LET xcor=((i/2)-INT (i/2))-.5)*-30: LET ycor=3+INT ((i/2)-
.1): PRINT AT ycor,xcor: " " : REM 14 spaces
455 NEXT i
460 RANDOMIZE USR 15363: REM : MOVE
465 RUN 20
470 REM INIT VERANDERLIKES
475 RESTORE 480: DIM X$(35,1): FOR I=1 TO 35: READ X$(I): NEXT
I
480 DATA "1","2","3","4","5","6","7","8","9","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"
485 LET z$="": RETURN

```

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News  
2

On Wednesday

22nd....

Crime

Two software criminals were fined in January in separate actions following raids last year by the Federation Against Software Theft (FAST) in Britain. Clive Pimlott was fined a total of £500 plus £45 costs for being in possession of 700 counterfeit games. David Aldrich was fined £350 for being in possession of 55 software copies.

Z88 Computer

New, from Sir Clive Sinclair (not Amstrad-Sinclair) is the powerful Z88. The Z88 is a computer without compromise! Where laptops compromise on display and RAM capacity to achieve portability, and desktops seem to equate with power, the Z88 is a personal computer which makes no compromise. The Z88 is

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