zx mushroom club

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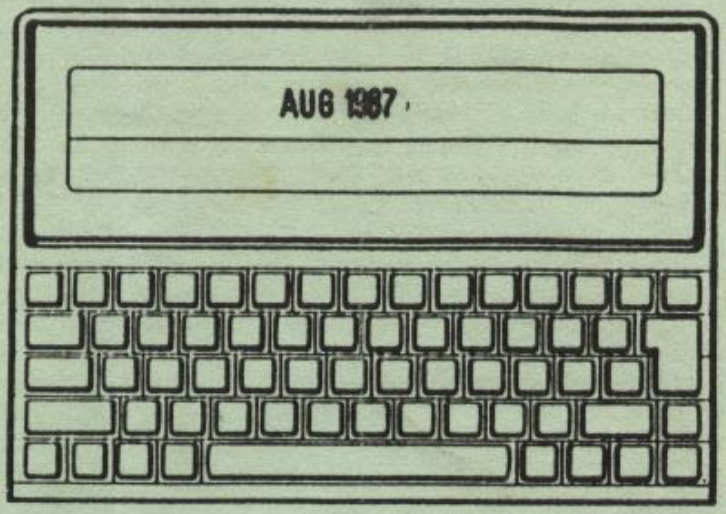
TELEX 3-21945 S.A.

NEW

THE Z88



Commands

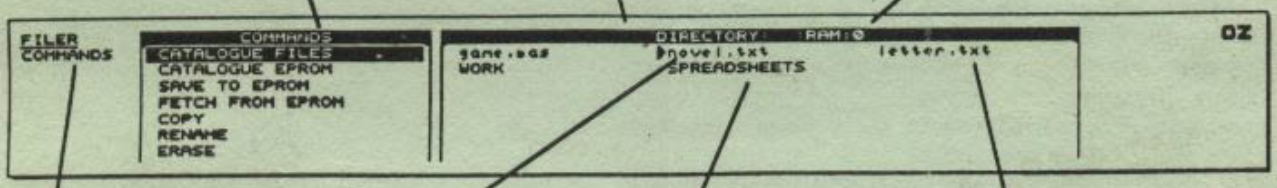
Allows a Filer command to be selected and executed.

Catalogue window

Lists all the files and directories in the current directory.

Directory

Shows the currently-selected device and directory.



Commands menu

Lists the Filer commands.

Selected file

Marker indicates files that have been selected.

Directory

Directory names are in capitals.

Filename

Files are in lower case, with an optional extension.

THE FOLLOWING WERE ON THE SHIPMENT WHICH IE GOT ON AUGUST 3rd.

Mitshubishi 3.5" Drives	499.00	Durell Big 4	34.99
Microl Use and Learn	9.95	Coin-Op Hits	33.99
QL to RS232 Printer Cable	29.99	Vera Cruz	30.73
View to a Kill	29.99	Hydro Fool	31.50
Light Force	29.99	Colossus 4 Chess	33.99
+80 Stock Manager	29.99	Glider Rider	31.95
Lord of the Rings	29.99	Short Circuit	27.99
Interface 2	32.75	Hard Ball	31.95
Multiface - Amstrad	185.00	The Pawn 128K	34.12
Multiface - 128+	185.00	Ace	33.99
Multiface One (Spectrum)	169.00	The Wafer	61.54
F15 Strike Eagle	16.35	Silent Service	33.99
Euro Racer	34.17	Gun Runner	31.50
Hit Pack 6 from Elite	33.99	Softaid	19.99
Dan Dare	31.95	4 Great Games	9.50
Their Finest Hour	34.17	Bombjack II	27.50
Little Computer People	34.17	Sectrum +	406.90
Leader Board	33.99	QL	649.00
Stars on 128	33.99	Cartridge (microdrive)	8.95
Gauntlet	30.80	Disciple Ver 3.0	375.00
Spin Dizzy	34.24	Multiprint from Romantic Robot	169.00
Ace of Aces	29.99		
Auf Wiedersehen Monty	31.50		

THE GREAT ESCAPE

Written by MICHAEL BISHOP

I have some tips on this great game from OCEAN. To start with go to room C, activate the RED+ box and you will find a bag of provisions. Take the bag and drop it near the guards. Get captured and when you are released get the bag again and drop it in room C. Activate the second box. You will find a pair of wirecutters. Drop the wirecutters next to the bag. Now go to room B. Take the key you find there and go to room E. Then go R,D,D,D,L,V. Take the German uniform and activate it. Keep drpping it and activating it until you have full morale and use it to keep it topped up. Go back to where you left the wire cutters and drop the wirecutters near a guard. Get captured. When you are released get the wirecutters and go and activate the next box in room C. You will find a bribe (this is not vital to the escape). Drop it in front of a guard, get caught and take it to room C. Activate the final box and you will find a compass. Top up your morale with the uniform and you are ready to begin your Great Escape.

Take the wire cutters and the bag of provisions and head down and across to the exercise area. As soon as it is exercise time go into the exercise area and cut the top fence near the gate and the watchtower. When you are through, drop the provisions and go back into the camp for the compass do the same for the compass. When you have got the compass out drop the wirecutters and pick up the provisions. If you have he compass and the provisions walk off the screen. A message appears saying that you have escaped and will cross the border safely.

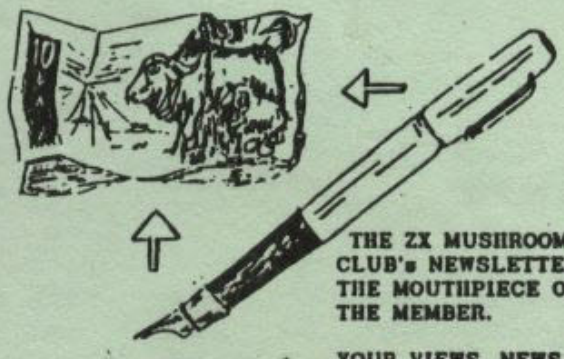
The items:

compass :- this is used in the escape. If you do not have it you will be recaptured.
torch :- used to explore tunnels
bribe :- activate and give to a prisoner; a diversion will be caused
provisions :- used in escape
papers :- can be used instead of provisions
lockpick:- usefull to unlock doors
spade :- clears blockage in tunnel
keys :- unlock doors
radio :- your guess is as good as mine
poison :- poisens food
food :- can be poisoned but what then?
uniform :- allows access to places out of bound

How do you get the subject in the bottom hut?

Our Editor in a festive mood at the annual INFORMATION ENTERPRISES ox-braai. Aked how he liked it, he muttered "Well done".

THE CLUB THAT MUSHROOMED INTO AN ENTERPRISE FOR INFORMATION.



THE ZX MUSHROOM CLUB's NEWSLETTER IS THE MOUTHPIECE OF YOU, THE MEMBER.

YOUR VIEWS, NEWS, REVIEWS AND ARTICLES SHOULD APPEAR IN THE NEWSLETTER.

THE NEWSLETTER WILL BE ALLOWED TO MUSHROOM INTO A MAGAZINE IN THE TRUE SENSE OF THE WORD IF YOU CONTRIBUTE TOWARDS ITS CONTENTS.

WE DON'T SEE THE R15* WE GIVE FOR YOUR CONTRIBUTION AS 'PAYMENT'. HOWEVER, IT SHOULD PERSUADE YOU TO PUT PEN TO PAPER AND SHARE YOUR KNOWLEDGE WITH YOUR FELLOW MEMBERS.

* R15 maximum, R5 minimum depending on length and contents in form of IE gift vouchers.

THE CLUB THAT MUSHROOMED INTO AN ENTERPRISE FOR INFORMATION.

THE CLUB THAT MUSHROOMED INTO AN ENTERPRISE FOR INFORMATION.

SL-80AI

SEIKOSHA

Versatility, excellent printing quality, the real 24-pin printer

Features

- *Fine letter quality printing by 24 pins*
- *Letter quality printing speed 54 cps*
- *Featuring EPSON LQ* and IBM* mode*
- *Quiet even for executive office (as low as 52 dBA)*
- *Variety of printing styles–Double-Width, Bold, Double-Strike, Italic, Superscript/Subscript and Underlining*
- *10 kinds of high resolution dot addressable graphic printing*
- *Automatic paper loading and ejection system*
- *Download character setting maximum 128 characters*
- *Switch margin setting by the front panel*
- *Built-in 16 K buffer*
- *Optional Automatic Cut Sheet Feeder*

Specifications

Printing

Printing Method:	Impact Dot Matrix Method Bi-directional (character printing) Uni-directional (graphic printing)
Print head:	24 pins
Printing Speed:	**45cps (LQ Pica)** **54cps (LQ Elite)**
Throughput:	53 lpm (Draft Pica)
Line Feed Pitch	1/6, 1/8, 7/72, 7/60, n/60, n/72, n/180, n/216
Line Feed Speed:	6.7 lines/sec (6 lines/inch)
Character Sets:	185 characters and symbols 49 international characters
Character Attributes:	Double-Width, Bold, Double-Strike, Italic, Superscript/Subscript and Underlining
Acoustics:	Below 52dBA (ISO/DIS 7779)

Media Handling

Paper Weight:	45 to 65 kg 15 to 20 lbs
Paper Width:	4 to 10 inches (fanfold and cut sheet)
Multipart Paper:	Max. original + 2 sheets (total thickness 0.2mm)

Interfacing

Parallel:	Centronics compatible
Buffer:	16K-byte buffer (2K-byte when download character is set)

Ink Ribbon

Type:	Special cassette type ribbon Black # SP-80051
Life:	2.5 million characters

Electrical

Power Supply:	120VAC, 60Hz version 220 to 240VAC, 50Hz version

Environmental

Temperature:	5°C to 35°C 41°F to 95°F
Humidity:	20 to 80% RH (non-condensation)

Physical

Size:	400 × 325 × 140 mm (W × D × H) 15.7 × 12.8 × 5.5 inch (W × D × H)
Weight:	6.7 kg 14.7 lbs

Option

Automatic Cut Sheet Feeder SP-CSF
(# SP-80009)

Character Specification Table

Character Font	Standard Character						Italic Cursive Character						Graphic						
	Standard				Letter Quality		Standard				Letter Quality		Single density graphic	Double density graphic	Double speed double density graphic	Triple density graphic	Quadruple density graphic	CRT graphic I	CRT graphic II
	Pica	Elite	Condensed	Condensed Elite	Pica	Elite	Pica	Elite	Condensed	Condensed Elite	Pica	Elite							
Character Structure (H × V = Space)	*12 × 17	*15 × 17	*14 × 17	*12 × 17	*26 × 17	*30 × 17	*15 × 17	*20 × 17	*21 × 17	*19 × 17	*47 × 17	*41 × 17	n × 8 or 24	n × 8 or 24	*n × 8	n × 24	*n × 8	n × 8	n × 8 or 24
Maximum Column Number	80	96	137	160	80	96	80	96	137	160	80	96	480 dot column	960 dot column	960 dot column	1440 dot column	1920 dot column	640 dot column	720 dot column
Character Spacing (Character inch)	10	12	17	20	10	12	10	12	17	20	10	12	–	–	–	–	–	–	–
Print Speed (Character Second)	135	108	97	102	45	54	135	108	97	102	45	54	810 dot column	602 dot column	960 dot column	960 dot column	602 dot column	720 dot column	810 dot column

* Including half dot

This months newsletter has been printed with the SL-80AI

GOOD VALUE at R863.50!!

THE VARIOUS OPTIONS AVAILABLE FOR CONNCTING A PRINTER TO YOUR SPECTRUM 128K+2

ZXL PRINT III
Centronics or RS232. Works only in 48K mode with screen copy on either type of printer.

MIRACLE CENTRONICS CONVERTER TO MIDI
LPRINT, LLIST in 48 or 128K mode, no screen copy. Centronics printers only.

RS232 CABLE TO MIDI
LPRINT, LLIST on RS232 printers only. Copy of you write your own software and some printers using Tascopy in 48K mode.

RAMWRITE
LPRINT, LLIST or COPY in 48K or 128K modes. To centronics printers only.

ROMANTIC ROBOT
ditto

AUGUST Printer Specials

Seikosha S 180 AI
100 cps Graphic Printer - a true economy printer, exceptional value for money at IE's low low price. SPECIAL PRICE R517.00

Seikosha SL-80 AI
See advert. Competes favourably with a daisywheel for letter quality. SPECIAL PRICE R863.50

Star Gemini 10X
120cps dot matrix. A sturdy reliable printer with an outstanding track record. SPECIAL PRICE R599.00

If you buy a Gemini this month, you can also purchase three spare ribbons for only R9.99!

WE INVITE YOU TO SHOP AROUND BUT PLEASE LET US GIVE YOU THE FINAL PRICE. WE WILL BEAT ANYBODY ELSE'S PRICE IN SOUTH AFRICA IF WE ARE GIVEN THE CHANCE. NOBODY CAN COMPETE WITH INFORMATION ENTERPRISES ON PRICE, OR SERVICE.

Manuals, tractor feed, ribbon etc. included in special prices - don't let the competition charge you extra!!

This month, for the whole month...

AMSTRAD PC1512, including 512K memory, 2 X 360K floppy drives, monochrome monitor, mouse, MSDOS 3.2, GEMM desktop, Gempaint, Dos Plus 2, Locomotive Basic 2, Joystick Port and both RS232 and parallel printer ports. Don't forget, if you are wasting your time comparing prices, it has an 8086 processor.

PLUS

The Seikosha 180AI Dot Matrix Printer:-

ONLY R2799 & GST & Postage

(or as above with colour monitor R3479)

-=-=-=-=-==-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=

1-off Saga Graphpad with Style Interface to clear. First come, first served. Essentially the same as a mouse but better. Was R424. Now only R329.

=-=

DK'TRONICS THREE CHANNEL SOUND SYNHESISER

* Only 5 in stock.
* With this add-on your Spectrum's insignificant BEEP can be heard throughout your neighbourhood.
* IE's normal price Only R89.00
* These remaining 5 only R72.00
* Plus a free tape containing MAZIACS, JUMBLY, INVADERS, ZIG ZAG.

=-=

WAR ON WANT - W.O.W.
14 Great Games on One Tape:-
Hellfire, Xavious, Hunchback II, Wizards LWWarrior, Sppectrum Chess II, Windged Warlords, Head Banger's Heaven, Rupert & the Ice Castle, Bug Eyes, Horace and the Spiders, Mr Freeze, Dr. Franky & the monster, Pedro, Cybertanks.

NORMAL PRICE R29.99
SPECIAL PRICE R19.99

NEWS

The QL is not dead. Two upgraded and improved versions are produced by two peripheral firms namely **Sandy** and **Cambridge Systems Technology** (CST). Sandy's new QL is called the Futura, features a full 68000 processor, three and a half inch hard drive and a new keyboard. Through a software emulator it is Atari ST compatible. According to director Arnie Gardner launch will be in August and final specifications had not yet been decided. The price of the Futura will be more or less R2100 and upgrades will be available to 20Mb hard disc. Sandy is aiming at selling 30000 units per year. CST's new machine is an upgrade of the QL upgrade launched by CST last September. Called the Thor, it has an AT-style keyboard, 32-bit processor, optional Winchester drive and new packaging. It costs about R3600.

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Saga Systems, manufacturers of the famous series Saga Keyboards for the Spectrum has gone bust! Depts are believed to approach £80000. Former Saga boss David White blamed impatient creditors for causing him to go out of businesss. Meanwhile Cheðn Keyboards, the company headed by former Saga Systems sales manager Chris Smith, is currently seeking a buyer for 1000 Saga II keyboards.

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The new Spectrum + 3 was used by Utilities firm Hi-Soft at the ZX Microfair in London in June to. An apparently eager public was told that it would be available from August 1st. The Spectrum +3 will cost approximately R870.00 and includes a 3.5" drive. Not all software available for the other two Amstrads will run on the +3. In the meantime, Locomotive Software has announced plans to make CP/M available on the new Spectrum +3. The CP/M software will be released at the same time as the +3, and will be bundled with Mallard Basic.

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A new South African release, THE 27th BLOCK is advertised in this month's newsletter. The advertisement boasts: "Move over, Rubik!" This should give you a good idea of the type of puzzle we are dealing with. The game is set in a three-dimensional block, consisting of smaller three-dimensional blocks. The idea is to sort them from small to big and leave a space in the 27th block. Retailing at R11.50 it is cheap when compared to some other releases.

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ZX COMPUTING's last magazine was published in July. ZX Computing was a popular U.K. magazine which dealt with the Spectrum. It was to ZX Computing that I first wrote when almost five years ago I felt as if I were the only Spectrum User in South Africa. This led to me corresponding with users from all over the world, finding out (from a person in PMB) about Information Enterprises and the subsequent establishment of The ZX Mushroom Club. Thats the way the cookie crumbles.

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The unemployed Paul Denton was fined £550 in July at the Bradford Magistrates Court in the U.K. after he advertised pirated games in the Bradford Telegraph and Argus.

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Amstrad's new MS-DOS based computer, called the PC1640 has taken owners of PC1512's in the U.K. by surprise. Computing retail chain *Computerland* has confirmed that it will not be taking Amstrad's new PC, and *Open University*, which has a commitment to the PC1512 after it bought 2000, expressed its concern about Amstrad's support for the PC1512. Meantime, AMSTRAD has announced a new computer called the PCW 9512 which is to be released in September. Still with AMSTRAD, Amstrad has formed an Italian subsidiary to handle all computer, hi-fi and video products.

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Microprose has announced what is thought to be the first publically planned Spectrum +3 product for late August. *Gunship* is intended for release on the +3 hopefully at the same time as the +3's release.

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DOMARK's good spirits at shipping out 20000 units of *Living Daylights* have been dampened by a loss of £3000 on the product at the hands of Creative Sparks Distributers. CSD was one of the major distributers of software in the U.K. and went into receivership on 13 July.

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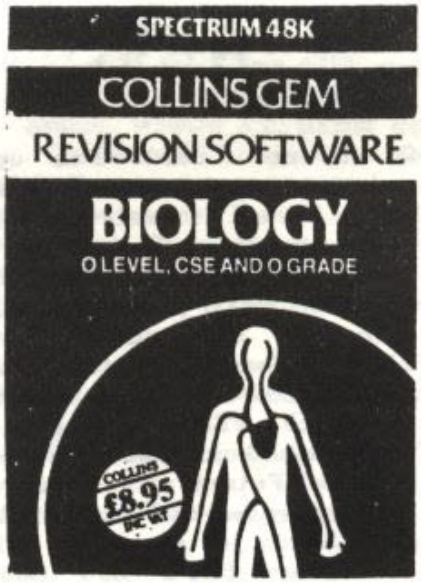
Speaking about the new Z88, Cambridge Computer's marketing manager Peter King said "... then after six months, everyone will be using it as a corporate tool and buying it in the thousands." He added that the serious home market will continue to be targetted but more emphasis will be put on areas such as insurance, architecture and banking in 1988. King also dismissed reports that some mail order customers were still waiting for their machines.

REVIEW

Collins Gem Revision Software Biology
(O Level)
R23.40 (£8.95)



This program comes on a cassette and includes a very good Collins Gem Basic Facts Biology dictionary pocket which deals with everything from Abdomen to Zygote.

It is packed in a neat box which contains the cassette and the dictionary and will fit neatly onto a shelve.

On the cassette are 8 programs. The first is a Tester program which gives quick tests on the following aspects: Plant structure, Transport in plants, Photosynthesis, Food and teeth, Digestion, Blood and Circulation, Breathing, Excretion, Human sexual reproduction, Nerve and senses, Flowers, Fruits and seeds, Ecology, Genetics and evolution. After a particular section is chosen, questions are asked e.g. A blood vessel which connects an artery to a vein.(9) _____ and the answer should be typed in. If you enter an incorrect answer, the first letter of the correct answer is given, the second time you are referred to the Gem Dictionary. At the end of a series of questions, a percentage is given and you are told which programs you should do to improve your knowledge.

Programs 2 to 4 deals with diagrams. Diagrams of flower structures, eye structure, section through a leaf, section thorugh the human kidney tubule, human digestive enzymes, the nitrogen and carbon cycles, the circulatory system, heart and digestive system are amongst those dealt with.

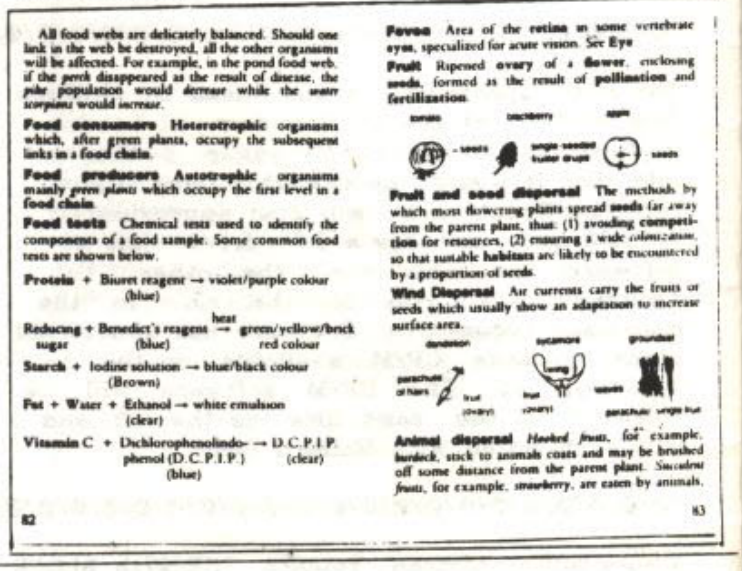
Programs 5 and 6 have more questions on photosynthesis, respiration, food and feeding, genetics, reproduction, transport in animals, plant and water and sensitivity.

Programs 7 and 8 comprise of games organised around a game of darts. Both programs cover Genetics, Food and Feeding, Water relations and Ecology.

These programs are of the best quality (certainly better than some other educational software I've seen), and deals with subjects tought to Standards 8 to 10 in South Africa. It will not replace a text book, but certainly will give you a fair idea of how up-to-date your knowledge is before you write a test/exam. I think it is ideal for revision.

The dictionary, on its own, is certainly worth a lot.

Also in this series : Chemistry, Physics and Computer Studies (these are not yet available through IE).



All food webs are delicately balanced. Should one link in the web be destroyed, all the other organisms will be affected. For example, in the pond food web, if the *perch* disappeared as the result of disease, the *pike* population would *decrease* while the *water scorpions* would increase.

Food consumers Heterotrophic organisms which, after green plants, occupy the subsequent links in a **food chain**.

Food producers Autotrophic organisms mainly *green plants* which occupy the first level in a **food chain**.

Food tests Chemical tests used to identify the components of a food sample. Some common food tests are shown below.

Protein + Biuret reagent → violet/purple colour (blue)

Reducing sugar + Benedict's reagent (blue) —heat→ green/yellow/brick red colour

Starch + Iodine solution → blue/black colour (Brown)

Fat + Water + Ethanol → white emulsion (clear)

Vitamin C + Dichlorophenolindo-phenol (D.C.P.I.P.) (blue) → D.C.P.I.P. (clear)

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Fovea Area of the **retina** in some vertebrate eyes, specialized for acute vision. See **Eye**

Fruit Ripened **ovary** of a **flower**, enclosing **seeds**, formed as the result of **pollination** and **fertilization**.

Fruit and seed dispersal The methods by which most flowering plants spread **seeds** far away from the parent plant, thus: (1) avoiding **competition** for resources, (2) ensuring a wide colonization, so that suitable **habitats** are likely to be encountered by a proportion of seeds.

Wind Dispersal Air currents carry the fruits or seeds which usually show an adaptation to increase surface area.

Animal dispersal *Hooked fruits*, for example, **burdock**, stick to animals coats and may be brushed off some distance from the parent plant. *Succulent fruits*, for example, *strawberry*, are eaten by animals,

83

SPECTRUM RUNNING TOO HOT

This is due to the power supply voltage being too high.
Fit a **"COOLA UNIT"**
(No need to open Spectrum)

ONLY R8,50 + GST

Available only from:
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MENLO PARK
0102

The Editor pictured with 150/150's microphone in his face during an interview with Mr Wartels in which he commented to the allegations made in an ecological study group's report that the sudden increase in the MUSHROOM CLUB's membership may harm the dung-beetle population. He calmly replied that our members are not kept in the dark and fed you-know-what to which Mr Wartels replied 'Oh you-know-what!'.

L A N G U A G E - this months feature.

	SPECIAL PRICE	NORMAL PRICE
German is Fun	9.99	15.99
French is Fun	9.99	15.99
Tense French	19.99	25.99
Linkword German	12.99	19.99
The German Master level A	9.99	12.99
The German Master level B	9.99	12.99
(buy both and get 10% discount)		
Intermediate English 1	16.99	24.99
Intermediate English 2	16.99	24.99
Junior Word Splitz	19.99	24.50
The Grammar Tree	19.99	24.50
(Alphabet Games	6.99	12.99)
(Speech Marks	6.99	12.99)
(Castle Spellerous	6.99	12.99)
(Early Punctuation	6.99	12.99)
(Capital Letters	6.99	12.99)
(R29.99 for whole pack)		
The Apostrophe	6.99	12.99
Wild Words	9.99	15.99
ABC Lift ff	9.99	15.99
(Snaffle	9.99	16.99)
(Word Wizard	9.99	16.99)
(Riddle of the Sphinx	9.99	16.99)
(R23.50 for the whole pack)		
Paddington and the Dissapearing Ink	9.99	17.99
Learn to Read Series 1-5	34.99	59.99
Learn to Read Individual	9.99	12.99
Word Games with Mr Men	35.82	49.00
The French Mistress	9.99	12.99

c o m p e t i t i o n

July Competition Results

**The correct answer is Jan Marais
The winners are Tony Cartwright, Mr. B. Laubscher and C.S. Hancox.
Congratulations!**

AUGUST COMPETITION

Send the answer to the folllowing question on the back of a post card to reach us before August 29th. There are three prizes: R15, R10 and R5 IE gift vouchers.

QUESTION: Name two of the locally produced products promoted by The ZX Mushroom Club.

«BACKUP»

THE ULTIMATE IN MAKING BACKUP COPIES OF YOUR SOFTWARE IS NOW AVAILABLE FROM

THE ZX MUSHROOM CLUB

ONLY R8.90 PER COPY
(PLUS R1.00 GST AND R1.#9 P & P)

A 100% MACHINE CODE UTILITY FOR 48K SPECTRUM IN AN ALL-IN-ONE PACKAGE, OFFERING:

1. LOAD, SAVE, VERIFY ALMOST ANY SOFTWARE, INCLUDING DEVIATIONS FROM STANDARD SPECTRUM AND HEADERLESS CODE.
2. DISPLAYS HEADER CONTENTS AND AN EDIT FACILITY TO ALTER IT, INCLUDING REMOVAL OF AUTO RUN. HEADERLESS CODE CAN BE GIVEN HEADERS AND VICE VERSA.
3. ANY NUMBER OF ITEMS CAN BE LOADED INTO FILE (UP TO 41.2K). INDIVIDUAL ITEMS CAN THEN BE RESHUFFLED OR DELETED BEFORE SAVING.
4. CODE CAN BE SLICED AT ANY DESIRED POINT AND SAVED IN SEPERATE PARTS.
5. A CAT FACILITY TO LIST TAPE CONTENTS AND MEASURE LENGTH OF HEADERLESS CODE.
6. SCREEN OUTPUT CAN BE ECHOED TO PRINTER. INFO DISPLAYED IS NAME, LENGTH OF PROGRAM AND VARIABLES, TOTAL BYTES AND ADDRESS OF FIRST BYTE.
7. TEN DIFFERENT TAPE BAUD RATE SETTINGS TO CHOOSE FROM.
8. COMPLETELY MENU DRIVEN WITH PROMPTS. EXTREMELY USER FRIENDLY.
9. ADDITIONAL CONTROLS TO MAKE BACKUPS, WHICH SUIT YOUR PARTICULAR REQUIREMENTS, E.G. ANY SPECIFIED NUMBER OF BEEP SIGNALS BETWEEN PROGRAMS AND YOUR OWN DESIRED TIME LENGTH BETWEEN ITEMS OR BETWEEN HEADER AND ITEM.

EXTENDING WHITE LIGHTNING - By D. Roux

Oasis software released a utility called WHITE LIGHTNING sometime in 1984. It was, and still is, an enormously powerful sprite manipulation language and very good fast-as-machine-code games can be written with it.

The only real problem, as far as I am concerned, lies in the editor. WHITE LIGHTNING is devided into 23 screens with 8 lines to program in in each screen. Adding the command --> at the end of the screen tells the compiler to move on to the next screen. Unfortunately, the editor can work on only one such a screen at a time and your editing has no effect on the general layout of the program. If, for example, you wish to include a sound routine and the screen where you want to add it to is full you are stuck; insert a new line and the bottom line is lost. It would have been very useful indeed if one could have an insert command which shifts the entire program down when you add a line.

I have produced a solution using PAD, a tempory workspace used while editing. Follow my instructions carefully and you should be able to extend your WHITE LIGHTNING to include such a command. Remember to type in everything very carefully: leaving out even a space causes an error meassage. (CR) means Carriage Return; when you encounter this, press ENTER.

Firstly, LOAD in your WHITE LIGHTNING program and answer no to load sprites or load source. Now type in the following:

6 LIST 0 EDIT 1 EDIT 2 EDIT 3 EDIT 4 EDIT 5 EDIT (CR)

After screen 6 has scrolled into view, type this:

0 VARIABLE BGN 0 VARIABLE ND 0 VARIABLE LNE (CR)
: NHZ -1 6 DO I H I 1+ RE -1 +LOOP ; (CR)
: IST CLS 1 INK (CR)
BGN @ ND @ DO I LIST NHZ I 1- LIST 7 H I LIST 0 RE -1 (CR)
+LOOP BGN @ LIST LNE @ 1- 6 DO I H I 1+ RE -1 +LOOP LNE @ E (CR)
7 INK CLS BGN @ LIST ; (CR)

The OK sign should now appear on the screen and your program can be entered from line 0 to 5 of screen 6. Now type

6 LOAD (CR)

Wait a short while for the program to be compiled. When the OK message type

6 CLEAR (CR)

Get a blank tape ready and connect the correct leads for saving. Type

WARM->COLD (CR)

to embed the new command. Type

PROG (CR)

to enter basic. Save the code with

SAVE "FORTH" CODE 24832,15896

In future, when you load WHITE LIGHTNING from tape, load the header of the original copy, stop the tape and continue loading the new code you have just generated.

The command IST for InSerT has been added. There are certain system variables whichh point to IST. These are BGN, ND and LNE. BGN holds the screen where you wish to add the line, ND holds the total number of screens from 0 to the end of your program and LNE holds the number of the line you wish to insert. Always add 2 to ND if the total is less than 24 as a safety measure.

→

For example: you want to insert a line at number 6, screen 5 and your program stretches up to screen 13. Type
5 BGN ! 15 ND ! 6 LNE ! IST

Unfortunately, this command executes very slowly. After entering it you could wait anything up to 20 seconds before the new program is listed with the blank line added. Don't worry if you see some flickering on the monitor while you wait.

All this aside, old WHITE LIGHTNING veterans will agree with me that it is extremely useful.

On the subject of WHITE LIGHTNING, try the following for some interesting noises:

```
: GO1 1000 0 DO 2 1000 RND BLEEP LOOP ; (CR)
: GO2 500 0 DO 2 I BLEEP 2 500 I - BLEEP LOOP
; (CR)
```

The commands can be executed with
GO1 (CR)
or with
GO2 (CR)

Do you have any problems with WHITE LIGHTNING? Why not send me a letter c/o THE ZX MUSHROOM CLUB and I'll see if I can help you.

FRONT

FOR THE QL BY GAP SOFTWARE

THE QL DESKTOP PUBLISHER

PAGE

NOW FROM IE FOR R98.00

FRONT PAGE was compiled using QLIBERATOR

Version 1.03 - mix text and graphics - unexpanded and expanded QL - mdv, flp, fdk, ram - A4 printout - udgs - inverse text - all QL text sizes - cut and paste - load and save screens - alternate character set - double pass print option - udg design - Epson compatible printers - line drawing - all included as standard

"A genuinely exciting product and incredibly good value" QL World 1/87)
"Shows small companies can still make magic" (Sinclair User 55, 11/86)
"..this stimulating program.." (Popular Computing Weekly 8/1/87)

QQQQQ
QQQ QQQ LLL
QQQ QQQ LLL
QQQQ QQQ LLL
QQQQQ LLL
QQQQ LLLLLLLLL

DIGITAL PRECISION is one of the major software houses supporting the QL. IE has a full range of their software in stock or on order at any moment in time. Most of this software is unparalleled in quality and is regarded as good value for money. Below the various programs have been listed together with their normal and special IE prices:-

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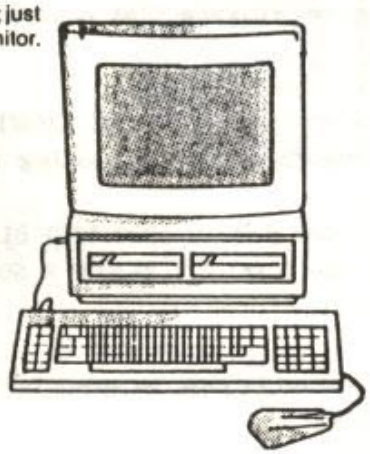

The Amstrad PC1512 is probably the most important British Micro to appear this year. It has been a calculated gamble from Alan Sugar, designed to penetrate a new market — the big business buyers of PC's - with a machine that appeals to their cost-consciousness, a gamble that has certainly paid off!

Not only is it faster than the IBM (8 MHz), it is also a smaller bbx and includes as standard functions and features that have to be bought (and paid for) seperately on a normal IBM-type machine.

What the Press have to say:
"King of the Clones" - Your Computer, Oct '86.
"If there is such a thing as the perfect PC Clone, this is it." - PCW, Oct '86.
"Waiting list for Amstrad" — Computerworld Sept. '86.

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WHAT YOU GET WITH YOUR STANDARD AMSTRAD PCX 1512:
HARDWARE:
- System Unit with 8MHz 8086 processor
- 512K RAM memory (expandable to 640K on the motherboard)
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- Serial and parallel ports
- Ergonomically designed 'Mouse' (Microsoft ™ compatible) with its own dedicated 'Mouse port'
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- Tilt & swivel, high resolution, anti-glare screen
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SOFTWARE:
- Microsoft MS DOS ™ 3.2 operating system
- Digital Research DOS Plus ™
- Digital Research GEM (Graphics Environment Manager) ™
- Digital Research GEM Paint ™
- Locomotive Software BASIC 2™ operating under GEM™
- Detailed clearly presented user manual.

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REVIEW

The Tomorrow War
South African Software
Price R 11.50

Background

The time is 2035, Libia dropped 12 hydrogen bombs over Japan and China, Northern Korea was destroyed, Vietnam reduced to a massive plain of smoldering ashes. Russia declared war and America followed within two days. When all forms of hostility finaly ceased in 2037, very little of the world was left. Australia, Europe, America and Russia were the only survivors. It is in this gloomy setting that Germany decided to unite all the countries again. Many of them would join out of free will, but a few would have to be conquered.

Gamesplay and Aims

The aim is to conquer the 16 countries involved by means of war or propaganda. Some countries are stronger in some aspects than other, some are generally powerful. After a few games you should find it relatively easy to become the dominant country - by sustaining people, if you have enough weapons and a high morale. The game is devided into 2 sections of planning: a section for preparation and a section for propaganda, and a section where war may be declared. Gameplay is devided into years and the game ends when Germany has no more money, no more people, have conquered the 16 countries or when 60 years have passed.

My comments

Being a strategy game, the minimum of graphics are used. All data is given in a 64 character wide screen format, something to keep in mind if you know that your TV does not behave when you use similar programs (such as Tasword II). The few graphical displays, such as the one of Europe are very good.

To play the game, one has to concentrate and take all the facts into consideration before making any decisions. A pen and paper comes in quite handy to keep trace of all the variables e.g. money, %'s , propaganda etc. etc.

Southern Africa is not included in the list of 16 countries to survive The Tomorrow War. Neither is South Africa the uniting country (Germany was chosen for this). Did the writers do this because of a lack of patriotism? Were they unsure as to call our country South Africa or Azania and therefor left us out? Or do they doubt the existence of South Africa/Azania by the year 2035? Or did they conclude that the Oranjewerkers would have established the Vaderland and that no foreign intervention such as a hidrogen bomb would be tolerated? Or did they seek legal advice and didn't want to be prosecuted for using they same propaganda techniques as you-know-who?

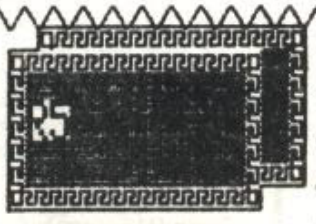
Anyway, apart from this apparent ommision, the game's quality is as good as any from abroad, and deserves a good support from South African strategists.

Packaging is done in an ordinary cassette case, the inlay is (copied) black and white and the instruction booklet is (printed) in small print. Overall, the packaging is not as impressive as the British counterparts, but then you do not pay that much (rather give up on packaging than game quality). It is also understandable if one remember that South African manufacturers cannot invest a lot in production since the market is smaller than in the U.K.

At the price, it is very good value for money.

- Gert Coetzee

The Budget



The coeplete home budgetting program. It is the latest in home accounting software and allows you to draw up a budget, bank reconciliation and it also has a cheque and expense recording facility. This program drastically simplifies all your income and expenditure problems.

Many copies have been sold already. To avoid dissapointment, order your copy now. It still costs only R6.33 + GST + P&P (Total R8.33)

The ZX Mushroom Club supports local software - do you ?

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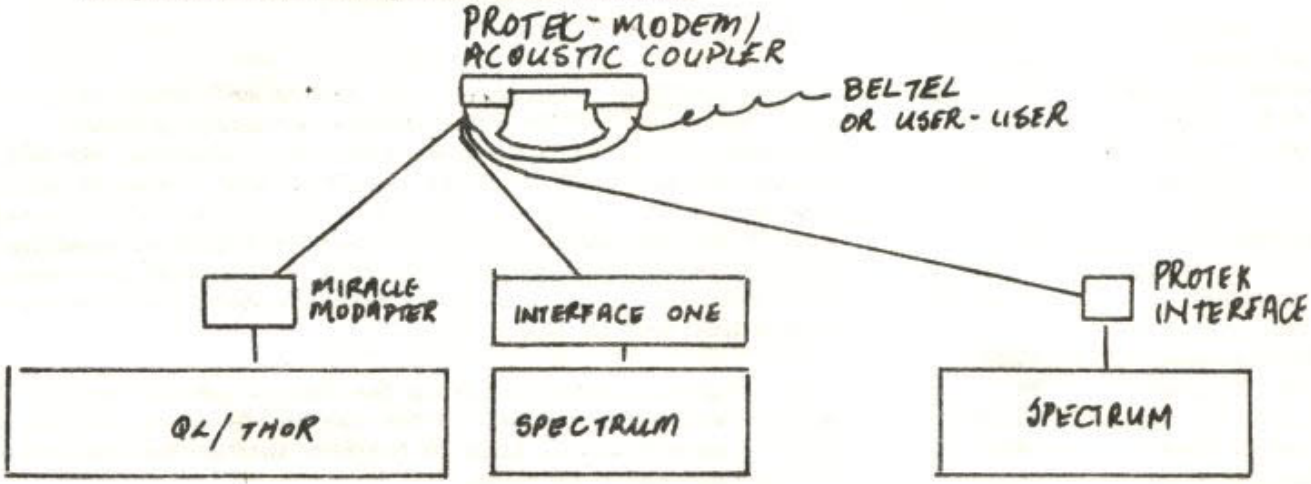

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THE QL IS DEAD(?), LONG LIVE THE QL

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Send in SAE for a copy of my review in a previous newsletter. (1986)

Hi-resolution screen dumps, lprint and llist can be achieved on the MCP 80 using the latest ZXL PRINT III on ordinary Specrum 48K or Spectrum+.

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BJS Homan	00291
P Jacobs	13220
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RF Edison	00582
Dr. AS Mahomedy	49390

I will be taking the next two months off.

The only affect this willl have on the news-letter, is that you will find less spelling mistakes!

In the meantime, you could do me a favour. Please send in your demand that my demand for an assitant editor be met, or else..

Lyell

QL EDUCATION

- Dr. Peter Comfort

All our children come home from school and when they are very young it can be quite tedious listening to their homework. This little program helps with spelling. My little daughter can't wait to do her spelling and I usually find her waiting for me when I get home and I am most impressed how it has increased her enthusiasm and skill at spelling. Just as important, she is developing a computer key board skill and she is quite at home with the computer. She is 8 and a half and in Std 1.

The program starts by asking for the number of words. The arrays are currently set up for ten words of ten characters each. Adjustments to Line 20 for the number and length of words can easily be done.

The program then asks you to type in the correct words. After these have been entered, the program then calls for the actual spelling list to be entered. This can be done by simply calling out the homework spelling words at random. When all the words have been entered, the program then lists each word that has been entered by the child. Correct words are printed in green, followed by "OK!" Incorrect words are printed in red followed by "Wrong!" At the bottom of he screen a score is given. If all the words are correct, the child is given a congratulatory message. A small menu then appears which gives the option of trying again, if there were any wrong spellings, starting a new game if fresh words are to be tested, or a bedtime message for quitting.

Naturally she is never allowed to quit before she gets the congratulatory message!

The program works by a simple string search routine. For those who do not own a QL or have no knowledge of SuperBasic it gives an example of "top down programming" and the advantages of being able to write procedures and functions etc.

Reading the main program drivers demonstrate how one can tackle the probblem by simply naming the steps involved.

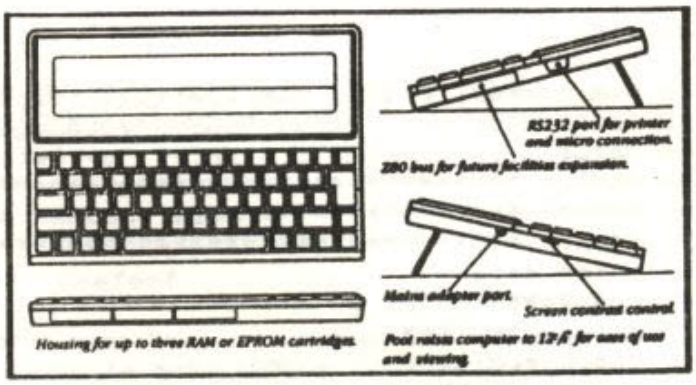
I wish to emphasise that it is a child spelling program and one would not be expected to enter large numbers of words as the techniques used in the program are not appropriate for a full spelling checker.

The number of searches that the computer has to do will be the square of the number of words entered, i.e. ten words will require 100 calculations and 200 will reauire 400 calculations etc.

The amount of time involved in doing string searches would therefore be inappropriate for a large number of words. Nevertheless it will certainly cope with any normal child's homework. I do hope that some of our parents find some use for this little program.

```
100 MODE 4
110 PAPER 1:INK 6
120 DIM store$(10,10): DIM spel$(10,10):DIM flags(10)
130 CSIZE 2,0:INK 2:PRINT "CHECK YOUR  SPELLING "
140 CSIZE 1,0:INK 4:AT 1,0:PRINT "by Peter Comfort":CSIZE 2,0:INK 6
150 REMark ******************************************************
160 REMark ************** MAIN PROGRAM DRIVERS **************
170 REMark ******************************************************
180 enter_data
181 CLS:PAPER 1:INK 6
190 enter_spelling
200 check_spelling
210 report_spelling
220 score
230 another_go
240 REMark ******************************************************
250 REMark ************ PROCEDURE DEFFINITIONS **************
260 REMark ******************************************************
270 DEFine PROCedure  enter_data
280 CSIZE 2,0:AT 3,0:INPUT "How many words ?(enter a number) ";n
290  FOR word=0 TO n-1
300   AT 5+word,0:PRINT "Word no.";word+1;" : ":AT 5+word,12:INPUT; word$
310   store$(word)=word$
320  END FOR word
330 END DEFine enter_data
340 DEFine PROCedure enter_spelling
350 INK 2:PRINT "Enter your spellings":INK 6
360 AT 2,0:CSIZE 1,0:PRINT "(All letters in small or large size)":CSIZE 2,0
370  FOR word=0 TO n-1
380   AT 5+word,0:PRINT "Word no.";word+1;" : ":AT 5+word,12:INPUT ;W$
390   spel$(word)=W$
400  END FOR word
410 END DEFine enter_spelling
420 DEFine PROCedure check_spelling
430  FOR a= 0 TO n-1
440   FOR b= 0 TO n-1
450    IF spel$(a)=store$(b) THEN flags(a)=1
460   NEXT b
470  NEXT a
480 END DEFine check_spelling
490 DEFine PROCedure report_spelling
500  FOR spelling= 0 TO n-1
510   IF flags(spelling)=1 THEN :INK 4:PRINT spel$(spelling);" is OK!":INK 6:NEX
T spelling
520   IF flags(spelling)=0 THEN INK 2:PRINT spel$(spelling);" is WRONG!":INK 6:N
EXT spelling
530  END FOR spelling
540 END DEFine report_spelling
550 DEFine PROCedure score
560 count=0
570  FOR s=0 TO n-1
580   IF flags(s)=1 THEN count=count+1
590  END FOR s
600 PRINT:PRINT "Your score is ";count;"/";n
610 IF count=n THEN AT 10,20:PRINT "CONGRATULATIONS"
620 END DEFine score
630 DEFine PROCedure another_go
640   AT 12,20:PRINT "1. Try again ?"
650   AT 14,20:PRINT "2. Another Game ?"
660   AT 16,20:PRINT "3. Bedtime ?"
670   AT 18,20:INPUT "Enter 1,2 or 3 ";number
680     SELect ON number
690      =1:FOR f1=0 TO n:flags(f1)=0:NEXT f1:CLS:GO TO 190
700      =2:CLEAR:RUN
710      =3:CLS:CSIZE 3,0:INK 4:AT 10,0:PRINT "Bye Bye Brown Eyes":AT 12,3:PRINT
 "Beddy Byes! ":CSIZE 2,0:GO TO 32767
720      END SELect
730 END DEFine another_go
```

THE Z88
A COMPUTER WITHOUT COMPROMISE!



GERT COETZEE's REVIEW AFTER EXTENSIVE USE OF THE FIRST Z88 IN SOUTH AFRICA

One of the advantages of being the Editor, is being 'in' on new developments - and in this newsletter I share with you another of Sir Sinclair's dreams which came true. Yup, I had me hands on the only **Z88** in the good old R of SA for 6 full days.

As you know, the inventor of the Sinclair series of computers owned Sinclair Research once upon a time. Then came bad times, and the company was sold to Alan Sugar's AMSTRAD. Sir Clive Sinclair founded a new company called CAMBRIDGE SYSTEMS (CS) and it was rumoured that CS would bring out a portable called the Pandora.

On 17 February this year on the Which Computer? show the **Z88** was unveiled. Now, only a short while later (by Sinclair's standards) it is clear to me what the Sir meant when he promised us a computer without compromises.

PRESENTATION

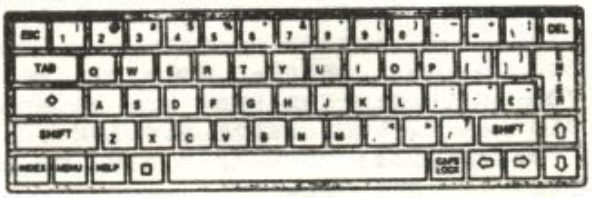
The **Z88** will sell (through INFORMATION ENTERPRISES) at R820.00. It is sold in a silver box, 35cm X 25cm X 5cm which has a handle - promising real! portability. One side of the box opens (*a la* briefcase) and reveals a subdevision seperating the compartments for the manual and **Z88** itself.

So far, I'm impressed.

HARDWARE

As all Sinclair owners could have guessed, the computer is black. Its vital statistics are 290mm (width) X 210mm (depth) X 25mm (heigth). The keyboard area makes out the front 100mm of the depth and the display area the back 9cm (the screen itself measures 30mm X 250mm). The basic **Z88** with batteries weighs 910 GRAMS! - hows that for portability?

The keyboard is described as having 'silent moving' keys. This however, is euphemistic way of saying it is made of the same latex (rubber) which was used for the original Spectrum. BUT PLEASE READ ON! When I saw this I wanted to cry, but got myself together and faced reality. I'm glad I did. The individual keys are not seperated by a metal overlay as on the Spectrum, which made pressing of the keys difficult at times, and touch typing tough. The keys are not as dose to each other as those on the QL. So, if it had to be latex, this is a good compromise. And let's face it, no other key mechanism would have fitted into such a portable portable. The underlying mechanism, as on all other Sinclair designs is a membrane. As SINCLAIR USER said in their preview "it isn't actively fingerhitting bad". In fact, my typing speed is 45 words per minuite, and the **Z88** handles it quite well.

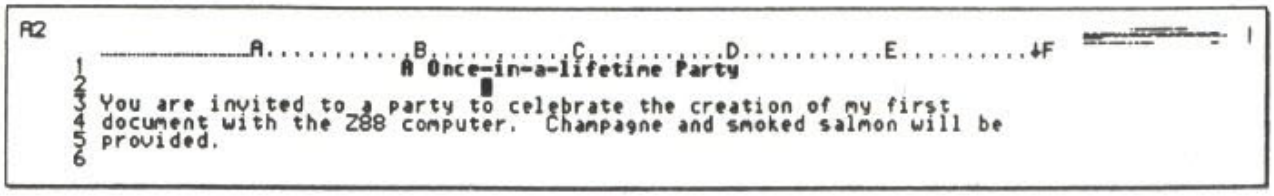


On the right hand side is a RS232 port and Eureka! I am glad to report that by the looks of it, it is a standard RS232!! The RS232 port can be used to print (any serial printer is supported through the built-in software), or to communicate with any IBM or IBM compatible through he built-in Import/Export software. This software can be used to export to, or import from any IBM compatible. A disk with converting software (R52.00) will be needed by the host computer and will make Z88 data compatible with Lotus 123, WordPerfect and WordStar data. The RS232 can also be used if the Z88 is used as a terminal (through the built-in Terminal software). This software uses the V52 protocol for communication between the Z88 and another computer, or the Z88 and another Z88. Another use for the RS232 port is ommunication through a modem (R347.00 from CS) which will be Prestel (and therefor Beltel) compatible - 1200/75 Baud. This seems like a bad choice - I doubt whether graphics will be handled satisfactory. The modem should rather have been 300/1200 Baud since most Text databases use this. Maybe some independent company will come up with such a modem.

Also on the right (covered) is a Z80 expansion bus which has all the possibilities of handling future peripherals by CS or independent companies. A useful peripheral could be a disk drive, preferably IBM compatible.

On the left hand side are a mains adaptor port, a reset button and a screen contrast control. The reset button is hidden and will only be used the day you buy the computer - no chance of accidentally pushing it. (Since the computer has a real time clock, it is never completely off, data is maintained through the 'sleep' state.)

The screen is a Liquid Crystal Display (LCD) screen. I found nothing wrong with it, except for the fact that the users eyes have to be in line (i.e. not at too large an angle) with the display. The backlit and supertwist type LCD may have been a better choice, but this takes up more space, costs more and needs more power. The letters on the display are quite clear, no flickering and in fact the best resolution I've seen on a computer/calculator of this size. One minor negative aspect is the lack of true descenders - y's, g's etc. sort of hang in the air -



On the rear there is a stand which can be pulled down to allow the computer to stand at an more acceptable angle. Also on the rear is the battery compartment. Four pen light batteries are needed. The batteries are said to last 20 hours in full use, or one year if when the computer is used the mains adaptor port (i.e. a power pack) is used. I would think that one should buy 8 rechargable batteries, a recharger and swop the batteries whenever the 'batteries low' signal is displayed. When batteries are swopped, depending on the memory expansions in the Z88, because of a special capasitor, you have up to 6 minutes to make the swop without data loss. If you have the mains adaptor plugged in, you can take your time - no fear of any loss.

On the front there is a door to the housing of up to three RAM or EPROMs - more about this later.

The Z88 uses four main chips including a custom chip which handles the display and a Z80 processor.

The basic Z88 comes with a 32K RAM, 15K which is available to the user (equivalent of 2000 words). This, however should not put you off..

STORAGE

As said before, on the front, up to three RAM or EPROM cartridges can be plugged in. These RAM and EPROM cartridges measure 35 X 50 X 7mm.

Ram cartridges are available in 32K (R66.00) or 128K (R165.00) units. This means that you can have 399K available as a maximum in RAM. This is enough to hold the equivalent of a 200 pages paperback novel, ready for immediate access and editing. The RAM cartridges can not be removed without loss of contents.

An alternative to these RAM cartridges are EPROM cartridges, available in 32K (R45.00) and 128K (R175.00) units. The difference is that these EPROM cartridges can be unplugged without loss of data. Should one want to erase the contents of such an EPROM, an U/V Eraser is neccessary (R105.00).

One saves and loads to RAM or EPROM as one loads or saves to tape or disk on other computers. EPROMs is said to have more advantages - it is not as delicate as disks and do not stretch or break as tapes do. As long as you do not expose them to ultra violet light no harm will come to your data.

Needless to say, you can have any combination of RAM or EPROM cartridges plugged in at once.

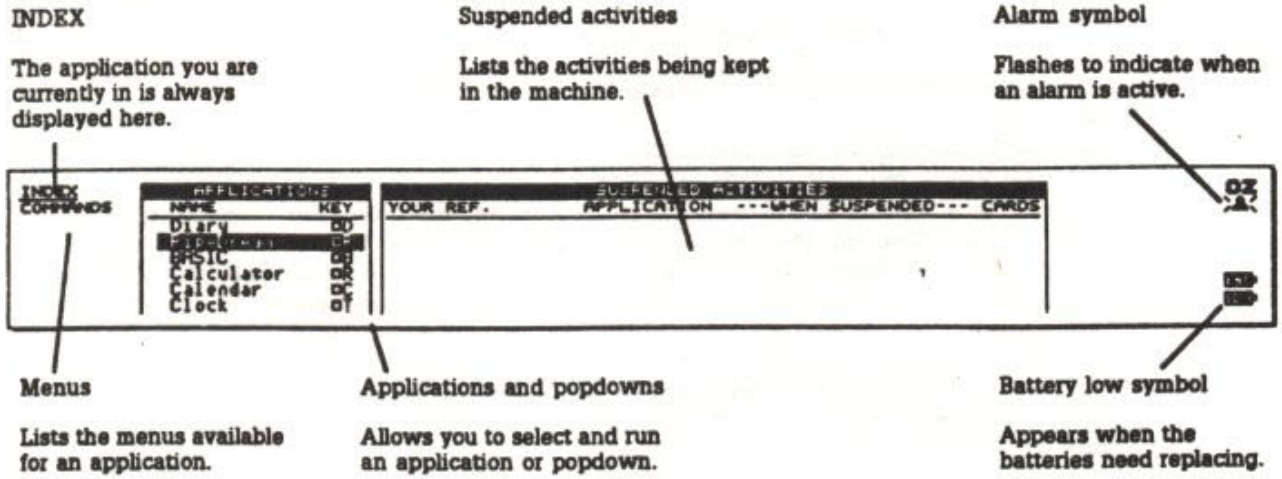
Already under development at CAMBRIDGE SYSTEMS are 1 Mbyte (megabyte = 1000K) EPROMs which will allow you to have up to 3 Mbytes plugged in for instant access. 3 Mbytes will hold the complete works of Shakespeare

SOFTWARE

Included on ROM and instantly accessable are a range of 12 applications. They are dealt with below.

The display screen for these applications is devided into four sections:-
(1) a large wide area of 8 X 80 characters which is scrolled both horisontally and laterally,
(2) a smaller screen map of the complete page in the case of the word processor, database and spreadsheet, which is changed and updated as these are used,
(3) topic screen - holding options / menus,
(4) status section - for alarm, memory and battery status.

Whenever the INDEX key is pressed, the following screen appears:-



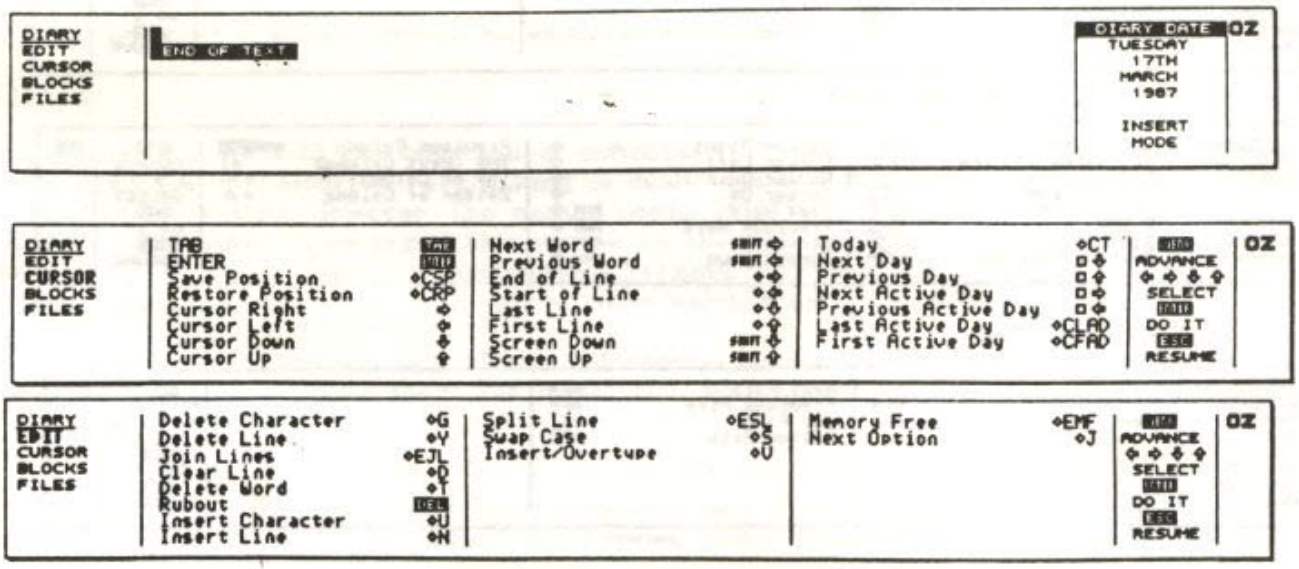
On the right a list of all possible menu's for the specific Application you are using appears. One can access menus by pressing the MENU key. Of course, it is not neccessary to go through all menus to get to a specific function. All functions have a code e.g. @B for Basic, @P for PipeDream, @W for width specification etc., etc. This can be typed in directly using the @ and @ keys and the appropriate code.

The next part of the INDEX screen displays all suspended activities (or if there are more than six, the first six, the others can be scrolled to). Activities are suspended if you press INDEX while you are busy using an Application - it is automatically suspended and listed here. You can continue with this or any other suspended application or start a new application by chosing with the cursor. Information regarding suspended activities displayed are type, reference and day and time when suspended.

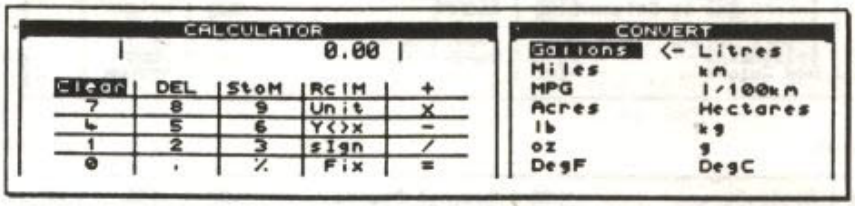
As said before, there is only 15K RAM on the Basic Z88 available. This 15K is used mainly to keep track of the suspended activities.

The 12 Applications are:-

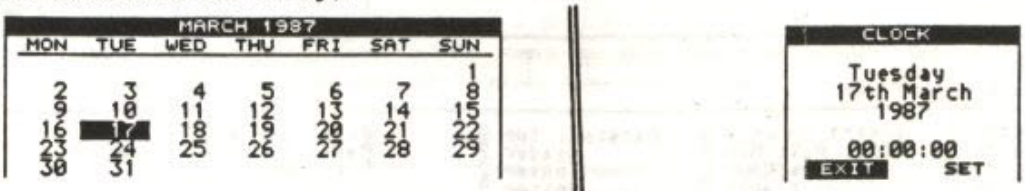
1 The Diary - make an entry; move between days; search for entries; use calendar & diary together.



2 The Calculator - Clear, Delete, 9 Memories, Swap x and y, X, -, /, +, change sign, %, =, Unit (for converting units e.g. gallons <-> liter), constants.



3 The Calendar - search for a day, display a month, display active days (the days which have entries in the diary).



4 The Clock - day, month, year, time.

5 The Alarm - set the alarm to go off on a spesific date at a spesific time - or a spesific date every year, or a spesific time every day, etc. etc.

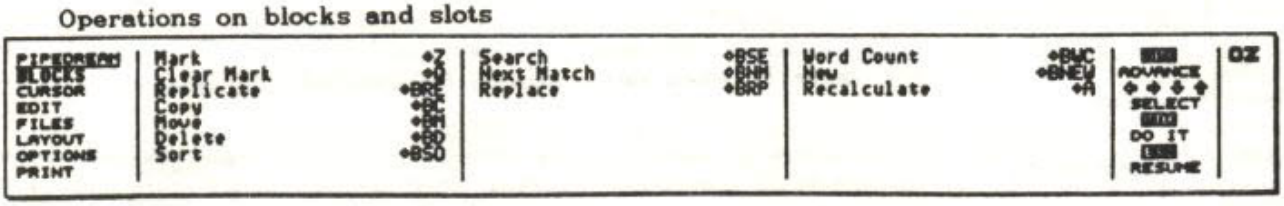
6 The Filer - to keep track of documents stored on EPROM or RAM cartridges: catalogue, move files, make copies, remove files etc. etc. If, at a later stage a disk is attached to the Z88 the same functions will be used.

7 The Panel - allows you to set up aspects of the Z88's operations to suit your own preferences. You can alter the rate at which keys on the keyboard autorepeat when you hold them down, the time after which the Z88 automatically switches to sleep, default device and parameters for the serial interface.

8 PipeDream - this is the all-in-one WORD PROCESSOR, DATABASE and SPREADSHEET. It features:-

Page display map displays a map of the text on the current page.

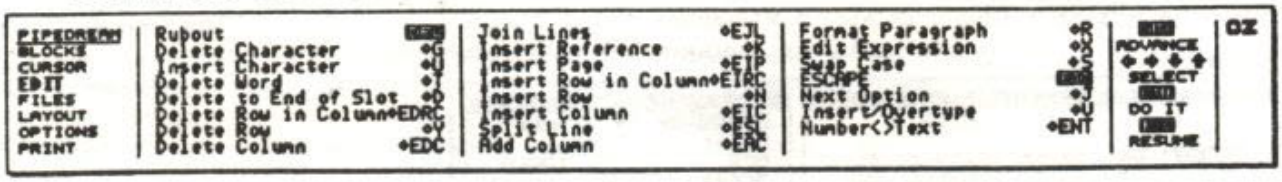
Operations on blocks and slots



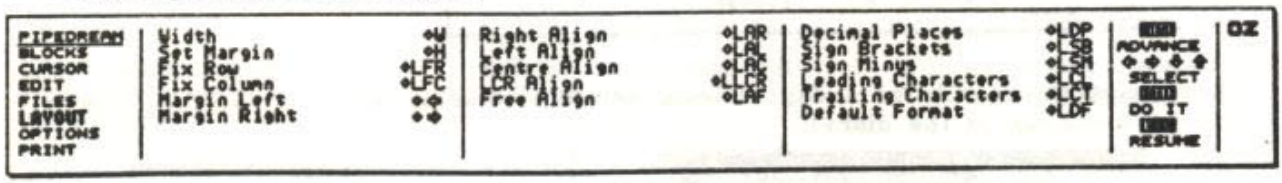
Moving Around the Document

Working with files

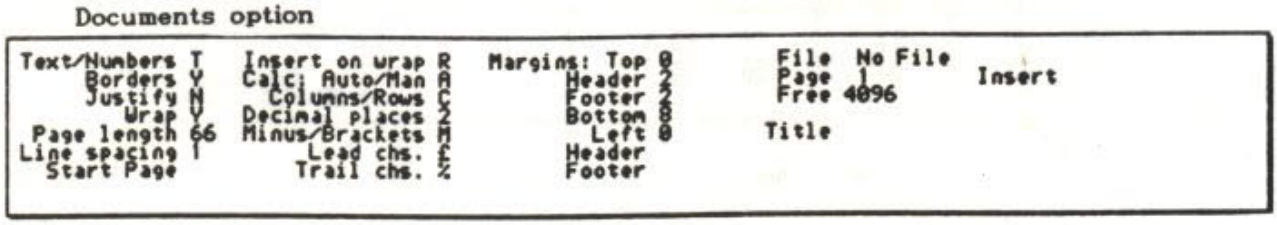
Editing text and expresssions



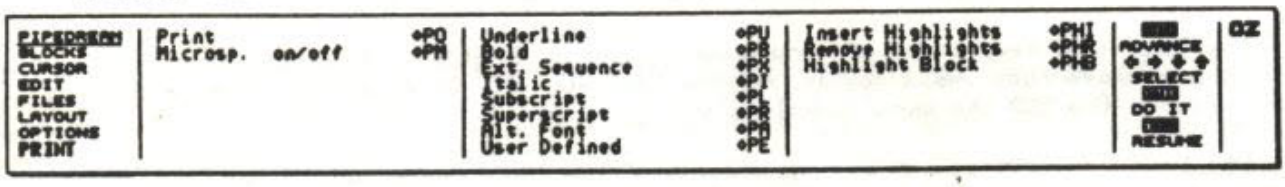
Altering the document layout



Documents option



Printing Documents



Expresssion slots:- any slot in a PipeDream Document can be designated as an expresssion slot, in which case the expression you type in it will be evaluated and the result will be displayed in the corresponding position in the document - thus acting as a spreadsheet within the word processor.

9 BBC Basic - due to limited space I will not go into this. You might ask, why BBC Basic? Obviously Sinclair could not get permission from Amstrad to use Sinclair Basic in his new computer!

10 PrinterEd - altering the existing printer driver used in PipeDream for your own printer (incl. bold, underline, etc.)

11 Terminal - provides protocol for communication between the Z88 and another computer.

12 Import/Export - allows files to be exported or imported from/to IBM format.

MANUAL

The Manual is a 25 x 25 cm, ringbinded, softcover, 212 page, high quality paper, book. A far as the user is concerned, everything is dealt with in full details and the user is coached step by step. However, the manual comes short on information on the use of the Terminal Application. (I've typed this review on the Z88, and then I sent it over to the QL, not by using the ununderstandable Terminal software, but by using the Print Option, through a Z88 serial to QL serial cable which I made up, and it worked O.K.)

Not to mention the complete lack of any information on the hardware - nothing about the expansion bus, nothing about the RS232 bus. Nothing. Sulk.

MY FINAL WORD

YOUR COMPUTER said "definately looks promising and if supported properly could be a great success". SINCLAIR USER said about the preview model "it's black, it's cheap and it's not finished".

My own opinion is that the unit I had for review is definitely the final product - state of the art, high tech good stuff.

Earlier portable computers such as the NEC PCC8201 and TANDY MODEL 100 costed approx. R1500.00. For the same price you can get the basic Z88 (R820.00) plus three 128K EPROMs or RAMs plus an Eprom Eraser. So, as long as you realise the basic unit is not your final unit, the Z88 is cheap.

The Z88's use as a cheap portable terminal for the businessman you will download documents and data from your IBM in the office and look/word with it at home. Journalists, think of the possibilities - you can send your article through a modem straight to the editors desk. Salesmen can follow the trend set by Metropolitan - they use the Spectrum in the customers home to work out the details of a policy - the Z88 is even more portable. Researchers, when doing field work, data do not have to be written on forms, you can type in data on the Z88 and download it once you get back.

As it stands, it is limited (as is the case with all new computers) but it has impressive applications and a futuristic design. With sufficient backup in the form of add-on hardware such as modems and disk drives, 3 Mbyte EPROMS, software on PROMs the possibilities are endless.

As a very powerful word processor, diary and alarm clock and general desk-top organisiser I know that quite a number of our members will be interested in the Z88, as first or as second home computer.

Please note that the prices mentioned in this article can increase/decrease.

DEFINITIONS OF ABBREVIATIONS USED IN THIS ARTICLE

RAM - Random Access memory: memory which works like an erasable blackboard, allowing its contents to be changed, either by the user or operating system. The processor is able to use the RAM for programs it runs as well for storing data for immediate use. The Z88 uses a CMOS (Complementary Metal Oxide on Silicon) RAM - a RAM type which retains its memory after power-down, bbut even for this a very low constant voltage is still supplied.

ROM - Read only Memory: ROM can not be written to, neither can its contents be destroyed by overwriting or by depriving the chip of power - information is fixed by the manufacturer in the silicon.

PROM, EPROM: PROM - The best known erasable PROMs are the kind that you wipe under an intense ultra-violet light, but there are two other common erasable technologies, electronically *alterable* and electronically *erasable* (EAROMs and EEROMs).
Programs for the Z88 will come on PROMs (i.e. ROMs Programmed by Software Houses). The Z88 User will make use of either RAM or (electronically erasable) EPROMs.

YOUR ADVERTISEMENTS

The newsletter is read by over 4000 eyes. Send in your ad plus 20c per word to our postal address to reach us before the end of the month.

Spectrum R170; Keyboard R80; Recorder R45; Disk-IF R10; Printer-IF R90; Speech-IF R35; Lightpen-IF R30; Interface 1 R90; Epsom-IF R70. O.N.O. Bundled R600 o.n.o. Phone (012)463405.

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UPUS DISC SYSTEM for sale. Interface for two 5 1/4" floppy drives. 720Kb EACH!. Plus 1 40TDSDD drive + powersupply for 2 drives + Spectrum + EP44 Printer + cassette recorder. All for R400 o.n.o. Tel.: Felix 011-6486519 evenings.

-=

2 ZX81s; one with full-size Maplin Keyboard; 2 Memotech 64K Ram Packs; 1 Memotech Centronics Interface; 1 Memotech Rom-based spreadsheet; 1 Memotech Rom-based wordprocessor (All Memotech gear to fit ZX 81s); 1 Q-Save for 64K; plus oodles of original software (mostly utilities - toolkits, vu-file, vu-calc, but also chess, backgammon, flight and a few games.) Send s.a.e. for full details to R.Green, P.O. Box 93, Silverton, 0187 or Tel. (01213)4285 after 7 a.m.

-=

No commercial software may be sold through this section. Advertisements which contain commercial software will be edited. Only if we are convinced that software is part of a complete system which is sold, will we allow commercial software to be advertised.

-=

48K Spectrum with Saga Keyboard, Data recorder, 35 originals, 8 X 60 Min Tapes all for R750. Contact Stephen between 3 and 7 pm Monday to Thursday Tel(012) 573322.

-=

Swap your microdrive and interface 1 with software and books. Phone (011) 795-3557.

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Spectrum Books for Sale. Tel (011) 7876928.

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For Sale: 48K Spectrum in DK'TRONICS keyboard, with Interface One and Microdrive. Multiface One, ZXL Print II and Arro Parallel Printer Interfaces (Eprom driven), Kempston Joystick Interface, Joystick, Currah Microspeech Synthesiser, Sanyo DR-202 Data Recorder (Program search), Protek 2000 Modem, 40 Microdrive Cartridges, All with utilities, games etc. Tasword III, Masterfile. Plus Books, Magazines, Tapes, All Manuals, Instructions, etc. Worth at least R2500; I WANT ONLY R1250.00. Not interested in selling in bits. Phone D. Abramson (021) 7971704

-=

ZX-56-RUMMY. This new exiting card game is yours for only R7.00! (all handling costs and cassette are included). To obtain this multi-screen, high speed, difficult-to-beat card game, send your name, address and money to : Custav Oberholzer, 286 Mamanthane Street, Erasmusrand, 0181 (Black Jack and Solitaire can still be obtained - now only R7.00!)

-=

Spectrum 48K, Saga 1 Keyboard & reset button, Kempston Joystick and Interface, Multiface One, Light Pen, Microspeech, 25 tapes and book "Supercharge your Spectrum". All for R800 o.n.o. Phone (011)7641819 after 15h00.

-=

LPRINT III Interface R100 - Phone Anton at 436468 (012)

-=

FOR SALE: One ZX Spectrum+ R280, One Interface 1 R100. One Brother EP44 Printer compat. with above R200. Phone Mr van Niekerk 011-3181886 after 14h00

****

If a member living near Springfield has any knowledge of the Seikosha GP250X and ZXL PRINT, could you please contact Mrs. Thorburn at Rietvlei Farm, PO Box 57112, Springfield, 2132.

 ****

Mr Mohamed wrote "Does anyone have any Pokes for Space Harrier and Rambo? By the way, POKE 54421,0 will give you infinite missiles in 'Star Glider'. Please note this applies to those who have the necessary hardware (i.e. Multiface 1). Does anyone have any other pokes for 'Star Glider'?

ø-ø

THOUGHT FOR THE MONTH: A computer is only as good as the people who are employed to replace the people who were made redundant by the computer.

ø-ø

Mr. Mohamed asked whether it is possible for INFORMATION ENTERPRISES to distribute SINCLAIR USER.

IE did investigate this. If they import the magazines, they will do this by air, which will mean that members will receive their magazines in the month it is published in the U.K. However, the price will be more or less the same as the price currently charged by C.N.A. etc. (who import via sea). Any comments?

ø-ø

TOP 30

Title		Publisher
BMX SIMULATOR	1	CODE MASTERS
MILK RACE	2	MASTERTRONIC
BARBARIAN	3	PALACE
STORMBRINGER	4	MASTERTRONIC
FEUD	5	BULLDOG
OLYMPIC SPECTACULAR	6	ALTERNATIVE
FOOTBALL MANAGER	7	ADDICTIVE
I BALL	8	FIREBIRD
BRAINACHE	9	CODE MASTERS
SIX PAK	10	HIT PAK
WOLFAN	11	BULLDOG
KICK BOXING	12	FIREBIRD
RUN FOR GOLD	13	ALTERNATIVE
OLLIE AND LISA	14	FIREBIRD
VAMPIRE	15	CODE MASTERS
ARMY MOVES	16	IMAGINE
SHADOWS OF MORDOR	17	MELBOURNE HOUSE
ENDURO RACER	18	ACTIVISION
CURSE OF SHERWOOD	19	MASTERTRONIC
LEADERBOARD	20	ACCESS-US GOLD
GAUNTLET	21	US GOLD
SPEED KING 2	22	MASTERTRONIC
PAPERBOY	23	ELITE
BIG 4	24	DURELL
HEAD OVER HEELS	25	OCEAN
SABOTEUR 2	26	DURELL
TOURNAMENT LEADERBOARD	27	ACCESS-US GOLD
HYDROFOOL	28	FTL
180	29	MASTERTRONIC
INDOOR SOCCER	30	ALTERNATIVE