

zx mushroom club

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TELEX 3-2

MARCH 1988

Its nearly April and time for April Fools day! This year is certainly flying by, next thing when I look at my calendar, it will be Christmas again!

i see people are still complaining about all the advertising in the Newsletter. i should like to say that the Newsletter is designed in such a way as to inform you the Club members what is new and on the market. At the same time letting you know about availability and the price if you are interested in the product.

I have had a very good responce to the questionnaire and have a very good idea as to what you want to see in the Newsletter. I hope that I will be able to fulfill your wishes. I have also received quite a bit of feedback, but would like to receive more. Tell me what you think of the Newsletter and the Club. You may even get into the Newsletter if your letter is good! Quite a

honour, even if I say it myself! I would also like to receive some constructive criticism on the service that we give and products etc. I would also like some about the service and products that I.E. sells.

At the moment I am enquiring about subs to overseas magazines. If this is a viable proposition, then we will import them. Could you please drop us a note in the post telling us which Magazines you would like to see imported if possible.

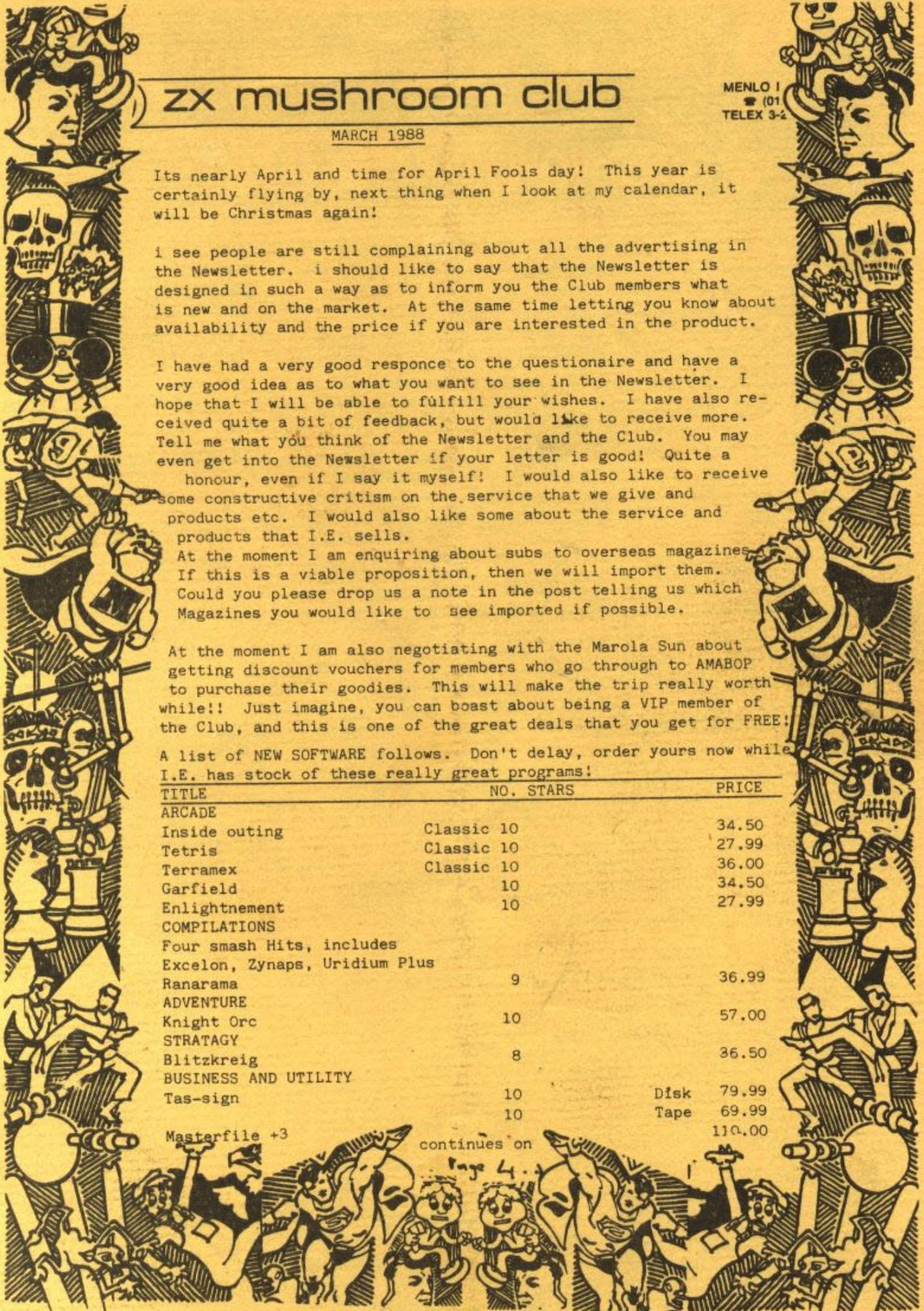
At the moment I am also negotiating with the Marola Sun about getting discount vouchers for members who go through to AMABOP to purchase their goodies. This will make the trip really worth while!! Just imagine, you can boast about being a VIP member of the Club, and this is one of the great deals that you get for FREE!

A list of NEW SOFTWARE follows. Don't delay, order yours now while I.E. has stock of these really great programs!

TITLE	NO. STARS	PRICE
ARCADE		
Inside outing	Classic 10	34.50
Tetris	Classic 10	27.99
Terramex	Classic 10	36.00
Garfield	10	34.50
Enlightnement	10	27.99
COMPILATIONS		
Four smash Hits, includes Excelon, Zynaps, Uridium Plus		
Ranarama	9	36.99
ADVENTURE		
Knight Orc	10	57.00
STRATAGY		
Blitzkreig	8	36.50
BUSINESS AND UTILITY		
Tas-sign	10	Disk 79.99
	10	Tape 69.99
Masterfile +3		110.00

continues on

Page 4.



Last month we looked at some of the other highlights of these two excellent programs. This month we will be looking at Jade Hamburgers closing points on these programs. I hope that this article has been of some use to you, even if it was in a very small way. If you can help with Jades query in this part of the review, please let us know.

WINDOWS

Windows are rectangular boxes which the user can manipulate in a number of ways. Both programs use this system. Firstly the window menu is selected and the user outlines the window box over a required area on the screen, then one can decide what to do with the window.

The AS can re-scale the window to various shapes, sizes and positions on the screen. The program can also flip the window horizontally or vertically, rotate the window 1/4, 1/2, 3/4 and invert the window. The AS can also take the window and reproduce a replica(s) any where on the screen. The AII can also clear the window, invert it and turn it (only 90 degrees at a time.). Apart from that the AII can give a mirror image of the window and thicken or outline pixels or lines within. A very powerful and useful feature which the AII has, is the ability to load in another screen and insert a portion of it, into the current window.

The AII has an extremely clever and helpful cut and paste mode. In the AS ,cut and pasting drawings is achieved with windows but the AII has a special icon for this. After selecting the scissors icon you are presented with your screen in a window about 1/4 the size of the screen. You can move your screen around in this window until the required part of your drawing to be used, is reached. You now have the option to load in another screen if desired and cut pictures from that and then paste them on your own screen. After this you must outline the portion of the screen (mans head, tree etc.) that you want a replica of. Next colour (fill) it in. When done, the coloured part can then be merged, inverted, blended etc to your original screen. This feature has its advantages over the AS as shapes with irregular borders can be cut and pasted with accuracy; not just shapes which fit into a rectangular window.

PRINTING

The AS and AII have screen dump abilities. The AS comes with a comprehensive customising program in order for the user to marry his printer and interface to the main program. The customized version of the program can then be saved. The AS allows for many different combinations and all the user has to do is consult his printer manual to answer the posed questions correctly.

Unfortunately the AII is not that easy to configure. It has no configuration program and as of yet I have not been able to get an Epson type, with ZXL Print 3 to work (Gert HELP!)

The AS has 5 different screen dump sizes, the ability to print screens sideways along your paper, and the option to print in a darker, double density mode. The AII can only print a large and a small dump. Both systems have "grey scale dump" facility which dumps the screen using an arrangement of dots of varying

density, to represent the different colours of the Spectrum on your printer. AS can also print double or triple height/width, the AII can not.

MISCELANEOUS

The instruction booklet of AS is very friendly and by the use of pictures, takes the user on a step by step guide through the programs functions. The AII insrtuction book has many pages and the user may take some time to fully grasp the systems capabilities, as the instructions were not as clear and easy to understand as AS's.

Both systems can load/save/merge any screen as a screen\$ so your drawings can be incorporated in your own progams by typing:
LOAD "" SCREEN\$

Text can be written on your pictures by both programs. The AII has 5 fonts to be used anywhere on the screen. The AS has only 1 font but like the AII has a font editor.
screen.

As a bonus the AII tape comes with a sprite and font designer program seperate as well as a screen compressor and page maker programs. These programs run independantly and are very useful. The page maker combines text from The Writer with screens from AII - nice!

CONCLUSION

I have tried not to be bias towards one particular program and I know you should be happy with whichever program you choose. I would just like to mention that the AII program I used had many bugs in it, and the system frequently crashed, but I'm sure this has been rectified in later copies of the program.

As a concluding statement I would like say that the AS is much more user friendly that the AII but lacks some of the Artist's extra features. Both programs are exceptional but what choice of program you choose depends on what you feel is more important: user friendliniss or extra features.

Jade Hamburger

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For those of you who would like to order things through the post using the POST OFFICE COD SERVICE, we will NOT accept your order if you have not sent your COD CONTRACT in. This contract is to be found on the back of the NOVEMBER 1987 newsletter. Take advantage of the one day specials, and send your contract in NOW! Remember that once your contract is on file, then you are eligible to make use of this service indefinitely!

So. send your contract in NOW!

All additional charges are indicated on the contract.

I am glad to say that the special offers that appear in the Newsletter are as a result of hard negotiations with I.E. and I hope that you will do your best to support them. I know that I do since their prices are unbelievably low. Really!

Those of you who are willing to help with question and problem people, please will you contact me as I need your help quite desperatly. The Club has grown so much that I am totaly bogged down sometimes and as a reslut can't get the Newsletter out on time. That is why the Newsletter was late last month.'

June
I will sign off now, to let you get on with more important things, like reading the Newsletter!

EXAMS...? DON'T

PANIC!!

Are you serious at your school studies? Well, you should be especially if you are in Std 9 or Std 10!

don't panic at the end of the year with those little tests that they call exams, get your work under your belt NOW! (Is that the right expression, well you catch my drift?!!)

With the following range of programs you will get a distinction at the end of this year! That is if you put in a little effort now and get the ball rolling. (Boy this is turning into a very flowery introduction!).

Well here goes to what is available:-

SUBJECT	TITLE	STD	PRICE
BIOLOGY	<u>Collins Biology</u>	9&10	19.99
	* comes with a dictionary * A-Z of Biology * Explains essential terms and concepts		
	<u>Biology</u>	8,9,&10	19.99
	* covers enzymes & hormones * the ear and eye * elementary canal & associated organs * Botanical terms		
MATHS	<u>Maths II</u>	9&10	19.99
	* Trigonometry * Percentage * Proportions * variation * Interest * Differentiation * Integration		
	<u>Tasmath</u>	9&10	19.99
	* Quadratic Equations * simultaneous Equations * Trigonometry * Theorem of Pythagoras		
	<u>Equations and Inequalities</u>	9&10	19.99
	* Linear Equations * Simultaneous Equations * Quadratic Equations * Inequalities * Quadratic inequalities		

- Geometry 9&10 19.99
- * Vertically opposite angles
 - * Alternate angles
 - * Corresponding angles
 - * Supplementary angles
 - * exterior of a triangle =
 - * circles: the angle between radius and tangent = 90 °
 - * questions with help facilities.

- Theorem of Pythagoras 9 19.99
- * lessons to help understand the Theorem
 - * exercises with answers to complement the lessons
 - * complete instruction manual

- CHEMISTRY Chemistry 9&10 11.50
- * Principles
 - * Properties of compounds
 - * Carbon Compounds
 - * Calculations and Theory

- Formulae and Compounds 9&10 18.50
- * Covers elements, reactivity, Moles H₂S, periodic table
 - * detailed manual

- Calpac Chemistry 9&10 19.99
- * Elements, compounds, mixtures and separations
 - * Structure, bonding and properties
 - * Redox, electrolysis and the activity series
 - * Acids, bases, salts

- PHYSICS Physics 8-10 19.99
- * Snells law
 - * Linear expansibility
 - * The gas laws
 - * Ohms laws and measurements

- O'Level Physics 9&10 16.50
- * Light and Heat
 - * Includes optical instruments
 - * Defraction and expansion
 - * Transmission of heat

- ENGLISH Shakespeare series 8-10 14.50 each
- * Macbeth
 - * Julius Caesar
 - * Romeo and Juliet
 - * Twelfth Night
 - * Merchant of Venice
 - * Henry IV
 - * Tests knowledge of characters, events, places

- Grammar Tree 6-10 19.99
- * Verbs, Adverbs, Verb phrases
 - * Transactive and interactive verbs
 - * Ideal for Afrikaans speaking scholars

A LITTLE STORY ABOUT ZX MUSHROOM CLUB MEMBERS

=====

This is a story about our members named Everybody, Somebody, Anybody and Nobody.

There was an important job to be done, a monthly magazine to compile, and Everybody was sure that Somebody would do it. Anybody could have sent in articles, but Nobody did. Somebody got angry about it, because it was Everybody's job.

Everybody thought that Anybody could do it, but Nobody realised that Everybody would not take the trouble to participate. It ended up with Everybody blaming Somebody when Nobody did what Anybody could have done.

ooo000ooo

SAVE ANNE'S SANITY
GIVE HER SUPPORT
SEND ARTICLES FOR
YOUR MAGAZINE



PRINT YOUR OWN DOCUMENTS

=====

by Jacqueline Snell

If you are a small company and do not want to have your documents printed by a Printer then design your own forms. The "Remittance Advice" printed alongside might give you some ideas on how to design your own forms with just a little effort.

Requirements:

- =====
- * Tasword Word Processor
 - * Microdrive or cassette for saving data.
 - * 80 column printer
 - * Half and hour for typing

Advantages

- =====
- * One master copy to be typed. Change details for each creditor once only and thereafter only date and amount need be altered.
 - * A record of payment to the creditor for filing purposes and future reference.
 - * Print only lines 1 to 37 and this portion then accompanies the cheque. Use window envelope saves on time. No labels.
 - * A copy is made for the bookkeeper to enter details of expenditure into relevant general ledger.

Disadvantages:

- =====
- * No data base. Does not hinder me as I have approximately only fifty creditors to pay monthly.

REMITTANCE ADVICE
NAME OF YOUR BUSINESS

P O BOX 999
NAME OF TOWN
POSTAL CODE

TEL: Office:
Home:

DATE:

TO: _____ TEL: _____
 _____ TELEX: _____

r#1 ACCOUNT CODE: 0000000
 ** *****

DATE	DETAILS/INVOICE NO.	DEBIT	CREDIT	BALANCE
01/MM/YY	Balance owing	R	R	R
	Paid per cheque no	R	R	R
	Settlement discount ...	R	R	R
	Invoice No.	R	R	R
	Invoice No.	R	R	R
31/MM/YY	TOTAL AMOUNT DUE			R
	PAID PER CHEQUE NUMBER			
	REGISTRATION NUMBER: xx/xxxxx/xx			

FOR OFFICE USE ONLY: PAYMENT ANALYSIS

COST CENTRE	EXPENSE ACCOUNT	CATEGORY DETAILS	AMOUNT
			R
			R
			R
			R
			R
		TOTAL COST	R
		(To agree with amount due)	

PASSED FOR PAYMENT: _____
 ***** DR. UVW MANAGER DR. XYZ ACCOUNTANT

Mr Eckhard Muller of Magaliesburg, has sent us some very interesting information which will most certainly be of use to other spectrum users who have the following system:

- * Spectrum (of course!)
- * GP-50s printer
- * Tasword Two

The following information should also work with any ZX type printers.

Mr Muller does a lot of work on this very usefull little printer, the only great disadvantage was that he could not use full size printing on the printer. The belief that the printer can not handel full size printing is a falacy and this is how you get it right:-

- 1 Move cursor to column 32
- 2 Set right margin (extended mode D)
- 3 Change text window (extended mode c)
- 4 Write letter in large character size. Use normal features
- 5 Print text file (extended mode P)

You will now be able to print in normal character size on your GP-50s.

The BIGGEST Amstrad ever!

**Now,
the only
system**



Amstrad PC 1512 features

- Features:
- * 512K standard, upgradeable to 640K
 - * Mouse and joustick adaptor
 - * Serial and parallel printer ports built in
 - * Colour graphics card
 - * 4 system disks, including GEM Paint, GEM Desktop, and MS DOS 3.2
 - * Socket for 8086 Maths Co-Processor

It does everything you need it to do. Faster, more efficiently and more easily

ALL this for an amazing R1 799.00!!

AMSTRAD PC 1640 (At a price that won't make your mouse squeak*)

- Features:
- * 640K standard
 - * 80826 processor chip
 - * Mouse and joystick adaptor
 - * Socket for 8086 Maths Co-Processor
 - * Serial and parallel printer ports built in
 - * 3 Extra free slots
 - * Enhanced Graphics Card
Colour Graphics Card
Hercules Card
 - * Switchable between these cards!
 - * 4 system disks, including GEM Paint, GEM Desktop, and MS DOS 3.2

**THE
AMSTRAD**
the new
**Amstrad PC
features**

7

ALL this for only R2 799.00!!

MACHINE CODE

PART 2

Now we start with the really interesting stuff; the actual setting up of the SCREEN information from the data we've just read in from tape. What we're going to do is to put all the necessary characters into our own little 'dump' area (sort of like putting words into the spaces that we are going to provide), and then when we are done, we'll just print the whole lot in one small routine.

The SCREEN PICTURE AREA itself is going to lie in the addresses between where the tape header routine put the cassette information and the program i.e

ADDRESS	contents
29000-29017	Header information
29018-29091	Screen picture
29092-29288	The program

We'll worry about the complete contents of the Screen Picture Area later, what we're now concerned with is the moving of the Header information to the spaces I have provided.

ENTRY CONDITIONS: HL points to the Tape Header Info
: DE points to the space in the Screen Picture Area where I want certain words (or numbers, later) to go.

EXIT CONDITIONS: A copy of the characters will be moved to the : Screen Picture Area.

REGISTERS USED: A, HL, DE

A routine to move data around can be quite useful, and also be used quite often, so I am going to make it into a SUBROUTINE, and then have this next routine of mine CALL to it when I have set up the parameter information (see Entry Conditions). The subroutine itself will come a little later in the program.

HEX CODE	ASSEMBLER MNEMONIC	COMMENT
3A4871	LD A,(29000)	: check first byte of Header : information.'0' = BASIC
A7	AND A	: Is it a '0'?
201B	JR NZ,T1	: if not, then jump ahead
116671	LD DE,29030	: otherwise, point DE at the : Screen Picture address...
CD2B72	CALL MV	: ..and CALL the move sub- : -routine to move...
50524F4752414D	DEFM "PROGRAM	: .. this word
00	DEFB 0	: (end of word indicator)
118771	LD DE,29063	: Do it again for...
CD2B72	CALL MV	
4C696E65	DEFM "Line	: ..this word...
00	DEFB 0	
1819	JR T2	: ..and jump over the next bit



What the last section of program did was to move the words "PROGRAM" and "Line" to the screen picture, because the header is for a BASIC program.

This next section is for all other types of header, and is jumped over by the program for BASIC programs.

HEX CODE	ASSEMBLER MNEMONIC	COMMENT
116671	T1 LD DE,29030	: Address in the Screen Pic : area
CD2B72	CALL MV	: Move...
20204259544553	DEFM " BYTES	: this word (NB 2 spaces!)
00	DEFB 0	
118771	LD DE,29063	: ...and...
CD2B72	CALL MV	
41646472	DEFM "Addr	: ..this one
00	DEFB 0	

When you see the sub-routine you'll see one way of moving bytes around, but there are a few ways. Here is another:

HEX CODE	ASSEMBLER MNEMONIC	COMMENT
117471	T2 LD DE,29044	: Space in the Screen Pic : area
214971	LD HL,29001	: Characters in the Header : area
010A00	LD BC,10	: Number of bytes to move
EDB0	LDIR	: .. and there you go

Quite a neat routine, is this one ! HL must contain the "FROM" address, DE the "TO" address , and BC the number of bytes to move. The information we're moving here, by the way, is the NAME of the data block on cassette. However, if the name given on the cassette was null (i.e ""), then this is going to contain the single byte #FF, and nine blank spaces. (If you look in the Spectrum handbook, character #FF is the word "COPY"). For the moment, though, this is not a problem

Let's have a look at numbers. Later you'll see the routine to convert numbers to their ASCII values (I.E CODES 48 TO 57), so all this routine does is set the pointer to where the number belongs, loads HL with the two byte number, and call the sub-routine. Once again, DE points to the spaces provided in the Screen Picture.

HEX CODE	ASSEMBLER MNEMONIC	COMMENT
2A5571	T3 LD HL,(29013)	: This is the START address : or START line(if BASIC)
118D71	LD DE,29069	: set the pointer
CD3572	CALL NM	: CALL the sub-routine
2A5371	LD HL,(29011)	: This is the LENGTH
119D71	LD DE,29085	: set pointer again
CD3572	CALL NM	: and CALL again

Alright, now for the final part of the main program: the printing of the screen. As I mentioned earlier, the method I have used allows you to use the "AT" function used in BASIC, and all this does is simply print every character the is not a zero (0). The first time it meets a zero byte, it will return to BASIC.

HEX CODE	ASSEMBLER MNEMONIC	COMMENT
215A71	LD HL,29018	: The first byte of the : Screen Picture
7E	MORE LD A,(HL)	
A7	AND A	: is it a zero ?
2804	JR Z,EXIT	: if "yes" the exit..
D7	RST 16	: ...otherwise print it
23	INC HL	: point to next byte
18F8	JR MORE	: ...and do the same
C9	EXIT RET	: RETURN TO BASIC

Now for the two sub-routines.

The first is the MOVE routine.

ENTRY CONDITIONS: HL points to "FROM" address
: DE points to "TO" address

EXIT CONDITIONS: As soon as HL points to a "0" byte the routine
: is ended and control returned to where the CALL
: originated.

REGISTERS USED: HL, A, DE

HEX CODE	ASSEMBLER MNEMONIC	COMMENT
E1	MV POP HL	: This is the ADDRESS on the : stack to which the routine : will return, and it points : to the first byte of the : word we want to MOVE !
7E	LD (HL),A	: So we just keep advancing
23	INC HL	: it until we read a "0"..
E5	PUSH HL	
A7	AND A	
C8	RET Z	: ..and go back when it is
12	LD (DE),A	: Put the byte at "DE"
13	INC DE	: point at next address..
18F6	JR MV	:.. and keep moving

The second routine is a little more complex. The Z80 cannot divide two numbers directly, and one of the ways of doing this is to keep subtracting until you split the number into groups of 10,000's , 1,000's , 100's , 10's and units.

Believe me, it sounds harder than it really is !

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Next month we will enter the last of the three parts. So far you've entered the first two of the three parts: the main routine and the sub-routines. Look out for next months issue!

Z88 COMPUTER

STATE OF THE ART IN PERSONAL COMPUTERS

I have received a number of interesting questions about the Z88. Some of the most common have been:-

1. WHO CAN USE THE Z88?

I think that the next paragraph sums this up pretty well:

Businessmen

Do you go away from the office and wish you had your P.C. with you?

Engineers and Architects

Do you want a calculator on site, but at the same time want to record the results? (Loose papers on site are such a pest!)

University students

Do you do research in the field and want to store masses of information reliably at the touch of a button?

Everyone

Do you want a computer that is truly portable, powerful, talks to a P.C., that prints processes, produces, organises, diarises, indexes, analyses files, sorts and addresses, that gives you a 8 line display, at a price that can't be beaten?? The Z88 is very convenient power compared to your P.C. He is most certainly a buddy with a mind of his own and has set out to prove it!

2. IS IT WORTH SHELLING OUT R899.00 TO GET A Z88?

If you're often away from your P.C., BBC or QL, then the answer is most certainly YES. You can have instant access to a few spreadsheets in a meeting, type the minutes as the meeting progresses, then at home or in the office transfer the file to a P.C., BBC or QL for further progressing and print out.

You can also knock up a report or letter and even programs on the buss on your way to and from work, then transfer them at home. In short the Z88 is enormously useful, especially for those making long journeys with time to spare, the Z88 offers superb flexibility and in many instances would be worth buying for that application alone. The more I use the Z88, the more useful I find it to be, and as with any new sophisticated system, I am constantly finding new features!!

The Z88 is a passport to previously unknown freedom. First time buyers, it is the most intelligent buy around! And that is the truth, not sales talk. This is especially so when you take into account the memory expansion of 128K, 512k and 1MB wafers per slot, then the power of the Z88 is enormous. The build in software of the Z88 is very impressive and at the same time powerful.

3. HOW IS THE Z88 COMPATIBLE WITH THE IBM AND COMPATIBLES?

This is very easily achieved, simply through a piece of interpreter software called PC LINK, which consists of the following:-

- * 5 1/4" Disk with Impex cable
- * RS232 cable

What, you may ask, is IMPEX software?

This program allows files to be transferred to and from a Z88 computer and a IBM PC or compatible.

To run IMPEX 88, insert the IMPEX 88 disk in the disk drive and type A>IMPEXP88. The main menu which will then be displayed shows just how easily files can be

transferred between "Pipedream" and the IBM. Incidentally "Pipedream" is virtually identical to "View Professional", which many BBC users will know.

Z88 LOTUS (tm) WORDSTAR (tm) PIPEDREAM (tm) Conversion

- 1... convert Lotus WKS to PipeDream
- 2... convert PipeDream to Lotus WKS
- 3... convert WordStar to PipeDream
- 4... convert PipeDream to WordStar
- 5... send file to Z88
- 6... receive file from Z88
- 7... batch file receive from Z88
- 8... configuration
- 9... exit program

4. CAN YOU CONFIGURE OTHER PROGRAMS LIKE LOTUS AND WORDSTAR FILES ON PIPEDREAM AND VICE VERSA?

Yes, most certainly. This just goes to prove how powerful the Z88 is!! The concise, but easy-to-understand manual that comes with IMPEX88 has all the explanation and various facts of LOTUS and WORDSTAR file conversions, e.g.:-

- * slot contracts (LOTUS)
- * operators (LOTUS)
- * options page sheet settings (LOTUS)
- * column formatting (WORDSTAR)
- * page formats (WORDSTAR)
- * highlights (WORDSTAR)
- * JUST TO NAME A FEW!

Batch Receive function

Selecting batch receive will allow several files to be sent from the Z88 in turn, terminated by an End Batch command from the Import/Export program. Onselecting this mode IMPEXP88 will give the following prompt

wait for incoming data

and the sequence of files may be transmitted. As easy as that! No problem!

Configuration

On selecting this option, the values currently set will be displayed:

Serial port is COM1
Baudrate is 9600
Databits are 8
Stopbits are 1
Parity NONE

The configuration option allows parameters used by the program to be examined, or altered. These are initially set to appropriate values with correspond to the default values set up in the Z88, and so you should not normally need to alter these.

Import/Export protocol

The Import/Export protocol is given for programmers wishing to interface the Z88 to a computer by writing their own interface software.

5. WHY 32K in 1988?

I guess the reason why so many people have asked this is because most computers are now 128K standard. The reason the the Z88 having so little memory for starters (you can expand up to 3MB if you want to) is that the computer is intended to be a PORTABLE COMPUTER. Your PC at home is the one with all the big memory. Think about it in this way, if you went on a journey for between say 2 - 6 hours, will you be able to fill all 32K up? If you do then you will not need a computer, since you are one yourself! Only kidding.

Another reason for the Z88's 32K starter is that the life of the batteries is longer than when you have 128k or 1MB for memory. If you have the latter, then the computer only gives you 1 minute to change the batteries when they are flat, compared to the

6 minutes that you get when using the 32K.

According to Sir Clive, the new Z80 CMOS chip is capable of switch banking the memory at a speed which makes the user feel that the memory is being directly addressed. (since the Z80 chip can only address 64K at a time, it pages when using a larger memory) This is a really amazing feature, because you will not notice any difference between 416K operation on the Z88 and a similar K on an IBM PC. (sometimes it is even quicker!)

The easiest way to imagine this is that it is similar to using the activity method which is utilized in the Z88 where activities are stored until all the memory is filled up. This concept is similar to using RAM-disks on the QL or IBM.

Another great advantage of the Z88 is that all the programs that you are likely to ever need are built into the ROM and can be called up individually immediately. This is really great since you do not have to wait at all for loading. Compared to the QL for instance, if you try to load another program once you have loaded Quill, the wordprocessor into memory, you can not do it since all the 128K memory is FULL and you will have to load the other program separately.

YES, the Z88 is a truly PORTABLE COMPUTER, with just the right amount of memory for just about ANY application!

In conclusion, the Z88's superb compatibility with IBM's, BBC's and QL's, make it an obvious choice if you are in the market for such a machine.

The Z88 is truly a stand-alone system, capable of holding its own against the opposition. This machine is most certainly very highly recommendable.

All this is not where the state of the arts technology stops, because there is still more to come! A spelling checker is in the pipeline and a package is being designed which will make the Z88 compatible with the Apple Macintosh.

YES, Sir Clive really knew what he was doing when he designed the Z88!

THE Z88, A COMPUTER WITHOUT COMPROMISE!

SHARE IN THE GENIUS OF

SIR CLIVE SINCLAIR

WITH THE NEW 100% PORTABLE Z88

IT COSTS JUST R899!!

ONLY R899!!
SPECIAL INTRODUCTORY OFFER

SPECIAL INTRODUCTORY PRICE

Place your order now by telephoning:

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FAX
(012) 465788

TELEX:
321945

For further details or MAIL ORDERS: PO Box 35644, Monks Park 0102, PO Box 35676, Monks Park 0102 or phone right now.



You get ALL of this and much, much more when you buy a Z88!

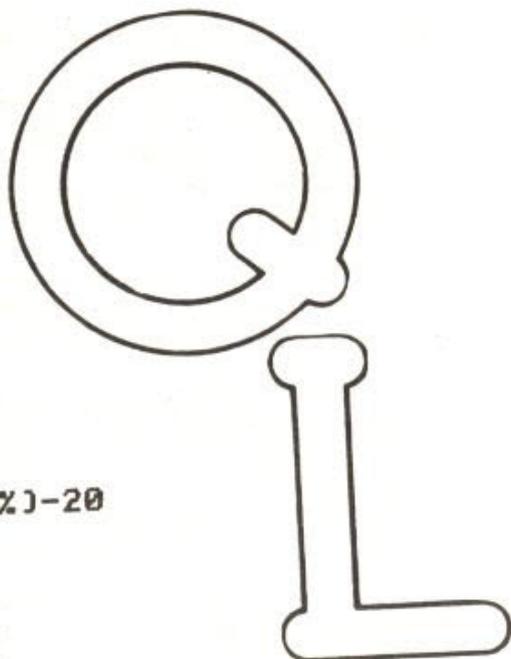
The Z88 is on a very special introductory offer at the moment, so get yours now, while the price is still right!

PRICE INCLUDES THIS AMAZING HOST OF BUILT-IN STANDARD FEATURES

PSI

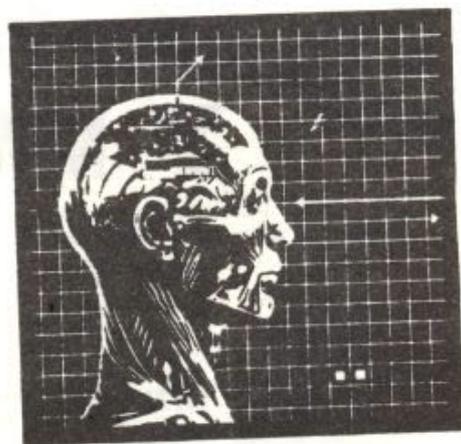
BY: J D FITZGIBBONS

PART 2



```
1410 END REPEAT GUESS-LOOP
1420 NUM-GUESSZ(NM)=DIGITZ
1430 END DEFINE
1440 :
1450 :
1460 :
1470 DEFINE PROCEDURE ANALYSE
1480 STRAIGHT-COMPARE
1490 TOTALZ=TOTALZ+STRAIGHT-COUNTZ
1500 AVZ=(100*TOTALZ DIV NUM-OF-REPEATS%)-20
1510 COMMENT$='PSI SCORE'
1520 SCOREZ(3)=AVZ:SHIFT
1530 IF SCOREZ(2)=0 :AVERAGE:RETURN
1540 IF SCOREZ(1)=SCOREZ(2):SAME:RETURN
1550 IF SCOREZ(2)<0 :NEGATIVE:RETURN
1560 POSITIVE
1570 END DEFINE
1580 :
1590 :
1600 :
1610 DEFINE PROCEDURE MORE
1620 FLASH 1:INK 0:PRINT
1630 PRINT:TO 6:'DO YOU WANT MORE Y/N?'
1640 EFLAGZ=0:IF 'N'=INKEY$(-1):EFLAGZ=1
1650 FLASH 0:INK 7:CLS#0:AT 11,0:CLS 2
1660 END DEFINE
1670 :
1680 :
1690 :
1700 DEFINE PROCEDURE STRAIGHT-COMPARE
1710 STRAIGHT-COUNTZ=0
1720 FOR NM=1 TO 10
1730 IF NUMZ(NM)=NUM-GUESSZ(NM):STRAIGHT-COUNTZ=STRAIGHT-COUNTZ+1
1740 NEXT NM
1750 END DEFINE
1760 :
1770 :
1780 :
1790 DEFINE PROCEDURE PRINT-RESULT
1800 FOR NM=1 TO 10
1810 INK 7:IF NUMZ(NM)=NUM-GUESSZ(NM):INK 0
1820 PRINT NUMZ(NM)!!
1830 END IF
1840 END FOR NM
1850 PRINT
1860 FOR NM=1 TO 10
1870 INK 7:IF NUM-GUESSZ(NM)=NUMZ(NM):INK 0
1880 PRINT NUM-GUESSZ(NM)!!
1890 END IF
1900 END FOR NM
1910 INK 7:PRINT
1920 PRINT'YOU SCORED :!STRAIGHT-COUNTZ
1930 PRINT'DEVIATION FROM AVERAGE'!AVZ!'%'
1940 IF NUM-OF-REPEATS%<15:RETURN
1950 CLS#0
```

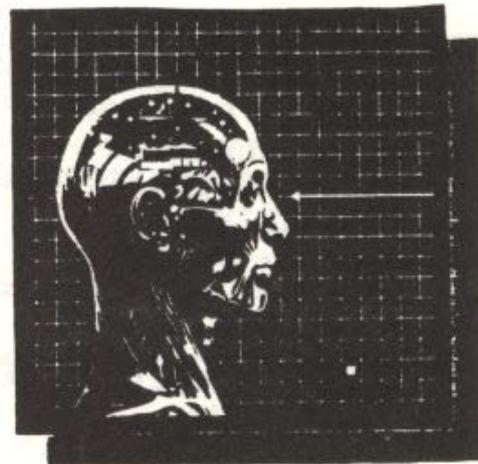
THINK!



```

1960 PRINT#0,COMMENT$
1970 PRINT#0,ME$
1980 END DEFINE
1990 :
2000 :
2010 :
2020 DEFINE PROCEDURE COLOUR
2030 COLOR%=RND(0 TO 7)
2040 PAPER#3,COLOR%:INK#3,COLOR%:CLS#3
2050 PAPER#4,COLOR%:OVER#4,-1:CLS#4
2060 END DEFINE
2070 :
2080 :
2090 :
2100 DEFINE PROCEDURE HEADING
2110 CSIZE 3,1:INK 0:OVER 1
2120 FOR I=10 TO 0 STEP -1
2130 IF I<3:INK 7
2140 CURSOR I+100,I+10
2150 PRINT'PSI TESTER'
2160 END FOR I
2170 CSIZE 0,0
2180 END DEFINE
2190 :
2200 :
2210 :
2220 DEFINE PROCEDURE AVERAGE
2230 ME$='THIS SCORE EXHIBITS NO PSI TENDENCES'
2240 END DEFINE
2250 :
2260 :
2270 :
2280 DEFINE PROCEDURE SAME
2290 ME$='SCORE UNCHANGED AT '&SCORE%(2)&'%'
2300 END DEFINE
2310 :
2320 :
2330 :
2340 DEFINE PROCEDURE SHIFT
2350 FOR NM=1 TO 2:SCORE%(NM)=SCORE%(NM+1)
2360 END DEFINE
2370 :
2380 :
2390 :
2400 DEFINE PROCEDURE PRIZE
2410 PFLAG%=0
2420 IF AV%>1 OR AV%<-1
2430 PFLAG%=1
2440 BEEP 0,1,1,3200,0,5,0,9
2450 CLS: AT 4,4:INK 2:FLASH 1
2460 PRINT'YOU HAVE DEFINITE PSI POWER'
2470 INK 7:CLS#0:CLS 2:AT 10,0:FLASH 0
2480 PRINT' CONGRATULATIONS! YOUR OBVIOUS
2490 PRINT' PSI POWER SHOULD BE CULTIVATED.'
2500 PRINT' HIT RUN FOR ANOTHER TRY'
2510 PRINT' IMMEDIATELY!'
2520 END IF
2530 END DEFINE
2540 :

```



THINK!

THINK!

Star gemini

160

THREE DAY SPECIAL!

For those of you who were waiting for the Star Gemini's price to drop even further, you have missed the chance of a life-time, because it is now back to its norma price of

R699.00

BUT, as a special favour for those of you who still want a quality printer at an unbeatable price, the printer will be going for the extra special price of only

R399.00

on the following 3 days ONLY! Take advantage of these offers and get your printer NOW!

18 March 1988

29 March 1988

16 April 1988



MAR	MRT	APRIL	APRIL
S	M	T	W
T	F	S	S
M	D	W	D
1	2	3	4
5	6	7	8
9	10	11	12
13	14	15	16
17	18	19	20
21	22	23	24
25	26	27	28
29	30	31	

15

```

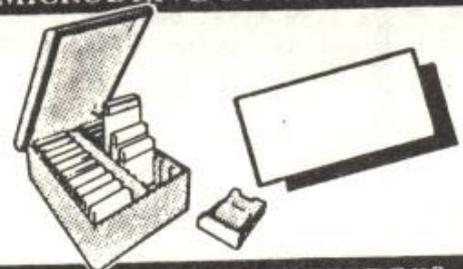
2550 :
2560 :
2570 DEFINE PROCEDURE UP^OR^DOWN
2580 ME$='DECREASED'
2590 IF SCORE%(2)>SCORE%(1):ME$='INCREASED'
2600 END DEFINE
2610 :
2620 :
2630 :
2640 DEFINE PROCEDURE NEGATIVE
2650 UP^OR^DOWN
2660 ME$='SCORE '&ME$&' FROM '&SCORE%(1)&'% TO '&SCORE%(2)&'%'
2670 COMMENT$='NEGATIVE PSI SCORES ARE SIGNIFICANT.'
2680 END DEFINE
2690 :
2700 :
2710 :
2720 DEFINE PROCEDURE POSITIVE
2730 UP^OR^DOWN
2740 ME$='SCORE '&ME$&' FROM '&SCORE%(1)&'% TO '&SCORE%(2)&'%'
2750 END DEFINE
2760 :
2770 :
2780 :

```

THINK!
PS!

Computer Accessories

MICRODRIVE STORAGE BOX



MICRODRIVE CARTRIDGES

- Single 8.95
- 10 cartridges 89.50
- 20 cartridges 179.00
- Box + 10 cartridges 95.00
- Box + 20 cartridges 155.00

DISK BOXES

New



- 3 1/2" box holds 40
- Transporter box R7.99
- Mail envelope R4.99

With the rate at which technology is moving, are you worried that your computer is being outdated? Or that you are not going to find a back-up service for your speccie?

Just to reassure you that the SPECTRUM race is still going strong, I have put the following table together to let you know just how things are doing.

MODEL NO.	IN PRODUCTION	NOT IN PRODUCTION	AVAILABLE AT I.E.	PRICE R
48K+	-	✓	✓	379.00
48K	-	✓	✓	279.00
128K	-	✓	-	-
128K+2	✓	-	✓	449.00
128K+3	✓	-	✓	799.00

INFORMATION ENTERPRISES also stocks the following computers:

These computers are the big buddies compared to the little speccie!

- AMSTRAD PC 1512
- &
- AMSTRAD PC 1640

BOOKS

	Normal Price	Special Price	P&P
LOGO PROGRAMMING	R29.99	R19.99	1.80

This is a practical guide for parents who like to know what they are doing when they teach their children something! As they say computers are the thing of the future.

This book looks in detail at Logos capabilities, showing how it is a stimulating way of introducing children not only to computers but also to mathematical and linguistic ideas. There are many simple, structured examples of Logo programs and a whole chapter for children to use on their own. With simple listings, illustrations and lots of ideas for going further with the programs, this book is ideal for anyone interested in Logo, children and computers.

Other features include:-

The building blocks of Logo

- 1 What is Logo?
- 2 Turtle Graphics
- 3 More turtle graphics
- 4 Making moving pictures
- 5 Numbers, words and lists
- 6 Tackling larger projects

Logo and teaching children about computing

- 7 Computing with children
- 8 Logo as an educational experience
- 9 Logo in the field of computing
- 10 Playing with Logo

THE SINCLAIR QDOS COMPANION

21.00 all inclusive

If you would like a copy of this book which is no longer available send a cheque or P.O. to the value of R21.00 all inclusive. This book deals with the following details relating to the subject:-

- 1 Introduction to QDOS
- 2 Multi-tasking
- 3 The 8049 Second Processor
- 4 Input/Output
- 5 Device Drivers
- 6 Exceptions, Interrupts and the Job Scheduler
- 7 QDOS Utilities
- 8 Extending SuperBASIC
- 9 External ROMs and Device Drivers



LOGIC 3

Advanced BASIC on the Sinclair ZX Spectrum

You loved the Beginner's course on special offer in September 1987. NOW continue with the educational process! You're never too old to learn something new, or too young for that matter! Especially ABP from I.E.

At the special price of only R37.00. P&P included!

The advanced course includes:-

e.g.

Chapter 3

- Naming variables in subroutines*
- Parameters*
- Summary*
- Documentation*
- Keeping a library*
- The standard library*
- Program structure*

e.g. **Chapter 6**

- Screen Mapping*
- The PLOT Command*
- The DRAW Command*
- Circles*
- INVERSE and OVER*
- Colour Graphics*

If the advanced Basic course is not enough then you **HAVE** to get the CENTURY COMPUTER PROGRAMMING COURSE.

Normal Price	R39.99
Special Price	28.50
P&P	1.50

This book features:-

The Century Computer Programming Course provides the Spectrum with a manual worthy of the machine. Designed to provide the Spectrum owner with a full course in BASIC, it includes nearly 200 programs, plus subroutines, and hundreds of hints and tips on getting the most from your micro and its peripherals.

All you need is an hour a day and your Spectrum. The Century Computer Programming Course provides the rest:

- ★ Step-by-step through the BASIC language
- ★ Understanding how a program works
- ★ How to design and structure programs
- ★ Debugging and tracing programs
- ★ Understanding how to use microdrives and printers
- ★ Each stage illustrated with example programs and exercises
- ★ A comprehensive program library, games to play while you learn, useful programs for home, school or college, subroutines to write into your own programs - all tested and ready to key in.

Designed by a team of educationalists, The Century Computer Programming Course is the ideal manual for the beginner, although the advanced programming techniques will equally appeal to the experienced Spectrum user.

CLASSIFIED

SPECIAL OFFER - SIX full length Quilled adventures. Only R22. Laurence Creighton 306 Mount Curtis, Main Road, Sea Point, 8001

FOR SALE: Serial 8056 Compact Printer, 80 column width, 56 characters per sec. Compatible with QL. Brand new, still in box. R250.00. Phone (0331) 42 3604

FOR SALE: ZX Spectrum 48K, R200.00. Timex printer, R100.00. Protek Modem, R130.00. Kemston Joystick Interface, R50 TAKE ALL FOR ONLY R450.00. Call Juri or Wicus (011) 760 2376

TE KOOP: CPC 6128 Amatrak Komper met Kleur monitor, Woordprosesseerder, Lightpen en games. R1 500.00. Bel A. Meyer (01531) 2707 Na Ure

FOR SALE: Seikosha Printer, R782.00. QL INCLUDING:- Thompson Screen, Software (1985), 4 Cartridges and interface, R883.00. Tel Mr F. Malan in Queenswood at 73 4069.

FOR SALE: 128K +2 Spectrum, RGB CRT 50 Sanyo Monitor, Opus Discovery Drive, Multiface 128, + 200 programs, 40 3.5" Disks. ALL for R1 650.00. Phone Danie at 0148 - 28239

NOTICE BOARD

Do you know the addresses of the following people? do you have their new address? Please help me to get our Club records in order. Thank you.

Mr C. Brits Potchefstroom, Mr A Theunissen Bellville, Mr J Pieterse Arcadia, Mr B Dyson Benoni, Mr R Gorringer Hatfield, Mr L Claassen Pickfontein, Mr E De Witt 102 Senett Court, Mr H Clayton Sinoville, Mr J Tredoux South-Paarl, Mr M Meyer East London, Dr B Bunton Lake Chrissie, Mr W Galloway Randburg, Miss A De Jong Cape Town, Mr A Smith Bronkhorst, Mr M Brown Pretoria, Micro Computer Club in Zimbabwe, Mr N van der Merwe Potchefstroom. Mr G Short Proclamation Hill, Mr R Lange Flamwood.

We would like to send these people their Newsletters, so please help if you can.

QUESTIONS

As we say our fondest farewells to the Hounorable Gert Coetzee at the end of last month, I now have inherited Gerts problem patients! Unfortunately Gert does not have time for the Club anymore as he has reached his final year in Medicine. Congrats Doc.

Since the Club has been left in the hands of a Bumb Blond, you out there in the Big wide world have to help me out a little. This Blond is not so dumb though, I must warn you!

If you can help with any of the queries that follow, please send the answers to the Club.
THANK YOU

Do you know how to make a graphic "walk" across the screen? If you have an answer in program form, N van der Merwe from Potchefstroom would appreciate your assistance.

Those of you who have the ARRO RESEARCH printer interface, here is a baffler for you. do you know how to use the program LETT-HEAD with this interface. Mrs S. van der GOLF from Bloemfontein would very much like to use this very useful program, but can get nothing to her printer.

Do you have any information about the ZBOA PIO? Mr N. du Toit would like this info and more information about the outputs. Do you have this type of information? Please help then.

Have you played the game SEAS OF BLOOD? Do you have any tips and information about the game? Mr van copenhagen is stuck and would very much like to get on with this very facinating game.

Are you a programming boffin? Do you know how to fill ones own graphics with colour? Do you know how to fill circles? We have received a number of requests in connection with this as the Basic programming book mentions nothing about it. How would you like to write an article about it for the newsletter?

Ons het die volgende vraag van Mnr P. Steyn van Bonnievale ontvang. Hy wil weet of daar wel CPM programme beskikbaar in Suid-Afrika is. Hy stel baie belang daarin, maar het nie sulke programme op die rakke van rekenaar/software winkels gesien nie. Kan u met hierdie vraag help?

Tasman

SOFTWARE

THE TASMAN RANGE OF SOFTWARE

SPECTRUM
TAS-SIGN

New

For full details on the program look in last months newsletter. This program has the same features as those of the TAS-SIGN FOR THE PC!!

SPECTRUM	USE	PRICE	P&P
Tasword 2	Wordprocessor	29.99	1.80
Tasword +2	Wordprocessor for the 128k	54.00	1.80
Tasword +3	Wordprocessor for the 128K +3 (disk)	68.99	1.80
Tascopy	Screen copier	29.99	1.80
Tasprint	Style Writer (mdv)	37.50	1.80
Tasmerge	Mail merger	29.99	1.80

QL	USE	PRICE	P&P
Tasprint	Style Writer	68.99	1.80
Tascopy	Screen copier	61.99	1.80

IBM PC's	USE	PRICE	P&P
Tasword PC	Wordprocessor	79.99	1.80
Tasspell PC	spelling checker	79.99	1.80
Tasprint PC	Style Writer	79.99	1.80
Tassign PC	Sign maker	79.99	1.80
Tascopy PC	Graphics Processor	79.99	1.80

These titles usually cost 89.99. Take advantage of these special offers now and do not live to regret it!

MASTERFILE Plus 3

MASTERFILE plus 3 is now available for those owners of the new Spectrum +3. Those of you who are familiar with the masterfile that was available for the Spectrum 48K will be astounded at the improvements that have been made to the plus 3 version.

Firstly the program is not difficult to use anymore, and one rarely needs to refer to the 62 page manual. to the original Spectrum has to be added a disc drive, 64k RAM, and printer port. But just look what has been added to the original MASTERFILE, from this huge list of features, things like:-

- * Merge
- * Field calculation
- * Import & Export
- * Keyed files
- * Field Edit

19

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Analysis Sales/Purchase Ledger/Invoicing

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VU-CALC constructs, generates and calculates large tables for such diverse applications as financial analysis, budget sheets and projections. Turns the Sinclair Spectrum into an immensely powerful analysis chart.

ACCOUNTING ON YOUR SPECTRUM!

Income 703.74
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Jan 82 MONTHLY

Many people underestimate the Spectrum and its power as a computer. Watch out, just because he is small, this does not mean that he is not powerfull. the reason why I am saying this is because last week a Spectrum came in through the post for repair, but On the insurance slip the contence of the package was TOY COMPUTER!! how could she do this to the poor little spectrum?

Anyway, to cut a long story short, I have included a list of accounting programs which are available for both business use and home use. Beware those of you who think that the Spectrum is a TOY COMPUTER! If you would like more details about a particular program, please send a SAE.

TITLE	PRICE	P&P
Business Bahk Accounts	36.99	1.50
Farm and company Wages	49.99	1.50
Finance manager +80	29.99	1.50
Money manager	19.99	1.50
Personal banking system	22.99	1.50
Purchase ledger (kemp)	44.99	1.50
Small Business Accounts (kit)	30.99	2.00
VU-Calc	26.99	1.20

- * Table look-up
- * Date stamp
- * Visual 96-column screen/forms design.

Infact, FOUR times as much code as the original MASTERFILE!

The new Spectrum is no mere toy when driven by MASTERFILE PLUS 3. All your home/business filing can be accomplished with an ease and elegance which is the envy of big-system users. Even the PCW version can't do what the Even the PCW VERSION can't do everything the PLUS 3 can!

Special introductory price	R99.00
Normal Price	110.00
P&P	2.00

MASTERFILE PLUS 3 comes on disk.

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DESCRIPTION _____ PRICE _____
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<p>GENERAL ENQUIRIES</p>  <p>(012) 46 8226</p>		<p>ADVICE ON EQUIPMENT AND SOFTWARE</p>  <p>(012) 46 8226</p>
<p>TECHNICAL ENQUIRIES</p>  <p>PO BOX 35644 Menlo Park 0102</p>	<p>BY TELEX</p>  <p>321945</p>	<p>PAYMENT BY POST</p>  <p>Send cheques/POs made payable to I.E.* PO BOX 35644 Menlo Park 0102</p>

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SUBTOTAL: R _____

POSTAGE: R _____

TOTAL: R _____

SOFTWARE	Surface Mail	Air Mail
1 Tape	1.15	1.50
2 Tapes	1.50	1.85
3 or more tapes	2.30	2.80
Packs	1.85	2.30

HARDWARE		
Interfaces (all)	1.85	2.30
Disc Drive (single)	5.90	9.00
Disc Drive (double)	7.00	11.50
Expansion pack	3.45	5.75
A4 Printer	10.00	13.80
Timex Printer	4.45	5.90
Joystick	1.80	2.30
Monitor (green)	8.00	10.50
QL computer	8.00	14.50
Spectrum +	8.00	14.50
Spectrum + 2	10.00	13.80
Spectrum + 3	11.90	14.50

PARTS		
Membrane	2.30	2.80
All other parts	1.85	2.00

STATIONARY		
Box of paper (2000)	3.00	5.00
Alphacom paper (1)	1.00	1.50
Alphacom paper (2)	1.50	2.00
Alphacom paper (5)	3.00	4.00
A4 roll of paper	2.80	4.90

KEYBOARDS		
All keyboards	1.85	3.45
288 computer	5.00	7.50

POSTAGE AND PACKAGING

All items are registered for your protection. Remember to take your ID to the Post Office when collecting a parcel.